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## DUN Manager Introduction



DUN Manager is a Windows application designed to simplify and enhance windows networking, using both dial-up and routed connections. Features include single click start and hang-up of a dial-up connection defined by time or day of week; monitoring in a call status window of up to nine simultaneous connections or ISDN channels including those started by other applications and routed connections (such as leased line, DOD routers, ADSL or cable modems); start VPN call when online with dial-up; a flashing icon while online; warning icon when a routed connections drops; automatic disconnection options to avoid remaining online by accident (including playing sounds); block certain connection entries at specific times; reconnection for dropped calls but stopping at a specified time (ie 8am) or after a specified period; delayed hang-up until just before the next call cost increment; timed reconnection to drop and redial a call after a specified period (where short calls are free); alternate numbers on busy; check alive with redialling when call drops unexpectedly; auto dial support from browsers; a scheduler for automated connections and tasks including FTP uploads, FTP downloads, HTTP downloads, auto email, sync files, test server, check for mail and relay mail; detailed connection activity logs for problem finding; session logs with about 50 different call details including cost and data volumes (which may be exported to Excel for further analysis); session reports with several sub reports (telecom costs, ISP usage, successful and failed connections, and windows user); logging of non-RAS calls (such as fax); keep alive; dial and hang-up remotely using a browser; call waiting re-enable after connection; PC clock setting and time server; program launching by schedule on when online; performance graph showing data flow speeds; import and export connection entries for backup; various diagnostics including Trace Route, Ping Host, Finger and Address Look-Up and a Telnet terminal; telephone tariffs for 47 different countries, with 125 tariffs from 30 UK operators. DUN Manager may be purchased with single or site licenses and supports all 32-bit versions of Windows and may be run as a service on NT4, W2K and XP.

Help File for DUN Manager Release 2.7, 5th January 2002.

## DUN Manager Overview



DUN Manager from Magenta Systems Ltd sits in the Windows system tray as an icon, allows single click start-up and hang-up of a dial-up networking connection defined by time or day of week, monitoring in a call status window of up to nine simultaneous connections or ISDN channels including those started by other applications and routed connections using leased lines, dial-on demand routers, ADSL or cable modems. Redialling may be done if the initial connection speed is poor or alternate numbers dialled on busy. If one ISP is not available, DUN Manager can automatically try another using sequential default connections. How connections are started is fully configurable, as is whether a call status window appears. If a logon name or password has not been specified, a window appears before dialling starts to avoid a wasted call, or may be forced where the password is not saved for security. A performance graph shows the historic transmit and receive data speeds during DUN and routed connections, and graphs may also be viewed later for further analysis. Calls are redialled if authentication fails, or if check alive (using ping) fails. Dial and hang-up can be allocated to hot keys to avoid using the mouse. A VPN connection can be automatically started after an ISP connection to access a corporate LAN.

DUN Manager provides features to stop a connection being dropped (when there are no telecom bills), to deliberately drop an idle connection (to avoid large telecom bills) or timed reconnection to drop and redial a call after a specified period (where short calls are free), reconnection for dropped calls but stopping at a specified time (ie 8am) or after a specified period, blocking to prevent certain connections being used at specified times and keep alive will stop the ISP disconnecting due to idling. Data flow hang-up will drop the connection when it becomes idle, while timed hang-up drops after a specified period, in both cases with a warning sound and a short period allowing reset of hang-up checking to stay on-line. The disconnection periods and settings depend on the time or day of week.

The flashing system tray icon is a reminder while on-line, particularly for those with internal modems, a sound may be played periodically as a further reminder and a call status window can regularly appear. When a routed connection drops, a warning icon appears. Sound effects may be associated with start of dialling, successful connection, periodically while online as a reminder, as a warning of idle connections, and when disconnected. Sounds may be suppressed during the night.

The PC clock can be automatically corrected from an internet time server and DUN Manager will act as a time server for other PCs on the LAN. Other applications may be launched when a connection starts or hangs-up, hanging-up when an application completes. Call waiting can be disabled before a connection and re-enabled afterwards. A web server is built-in, showing the call status remotely in a browser for users on a network accessing the internet through a proxy server and allowing calls to be dialled or hung-up. The web server can also serve other local pages for a LAN.

A scheduler allows connections to be automatically started at specified times and repeated until a particular time. Once connected, the scheduler will run an application or perform various other specified tasks including FTP uploads (with auto zipping), FTP downloads (auto unzipping), HTTP downloads (such as virus identity updates), auto email, sync files (for backup), test web servers, check for POP3 mail with a notification window, and relay POP3 mail to another address. The FTP and sync files tasks may be used for automating uploads to web sites, transferring only changed files and removing old files, or downloading webstats, and include automatic zip and unzip. A Task Log records all files copied, uploaded or downloaded. Batch files are supplied to allow auto Sophos Anti Virus updating.

Auto dial support means that when an application attempts to open a connection to a remote server (by clicking on a web link), DUN Manager will automatically dial the default connection (which may depend on the time or day of week), optionally giving a warning prompt first. If DUN Manager is not running, it is automatically launched for auto dial. A minimum gap between may be specified between scheduled and auto dial connections, hang-up may be after a specified period or when they become idle, but then delayed until just before the next call cost increment.

An activity log stores all progress messages for each connection, the phone number dialled, session duration and performance statistics, and is designed to be useful to ISPs for resolving connection problems. Logging shows multi-link calls separately, and also non-RAS calls (such as fax, HyperTerminal and Ameol2). If the modem keeps connection diagnostics (K56K, X2 and V90) these can be automatically logged after each call. Old logs are automatically deleted after a specified number of days.

Connections entries may be exported and imported for back-up or to copy to other PCs. An ISP database allows entries to be created automatically.

A session log keeps about 50 different call details including cost and data volumes (which may be exported to Excel for further analysis). Session reports include several sub reports (telecom costs, ISP usage, successful and failed connections, and windows user). Each telephone number dialled can be defined with a different telecom tariff, to allow for discount schemes like BT Best Friend. The time left in seconds until an incremental call cost will occur is shown. DUN Manager includes telephone tariffs for 46 different countries, with 125 tariffs from 30 UK operators. Holidays may have special tariffs. The UK tariffs are taken from the Magenta Systems Ltd. UK Telecom Tariff Comparison web site:

<http://www.magsys.co.uk/telecom/>

DUN Manager also includes various internet diagnostic utilities, including Address Lookup, Reverse Lookup, Ping Host, Trace Route, Finger and a Telnet terminal for accessing remote servers. All these utilities save up to 50 previously used host names, easing subsequent diagnostic sessions.

DUN Manager is shareware, developed by Magenta Systems Ltd, in the UK, and supports all 32-bit versions of Windows. It may be run as a service on NT4, W2K and XP (only once registered). The advantages of a service are that it can be set to run immediately the PC boots without needing a user to logon, and that it can then only be stopped by an administrator logon.

DUN Manager may be evaluated for 30 days, but must be registered if usage is to continue. Until registered, after 20 days DUN Manager will display a nag screen for a short period after each connection which must be cancelled manually. Registration costs £25 (UKP) which is about US\$37 or €42 (euro) with discounts for site licenses, and is usually done from the Registration option within DUN Manager via email with an encrypted credit card number or by printing a page to be faxed or snail mailed. DUN Manager may also be registered via the web site at: <http://www.magsys.co.uk/dunman/>

## Installation

DUN Manager comprises a program file `DUNMAN.EXE` (about 1.5 Mbyte in size, four small DLL files and various optional tariff and ISP files). Installation will therefore not effect any other Windows applications. No software will be installed in the Windows directory. The only prerequisite is Windows 95 (any version), Windows 98, Windows ME, Windows NT 4.0, Windows 2000 or Windows XP, with TCP/IP networking and Dial-Up Networking (Remote Access Services) installed. DUN Manager will work on 486/66 PCs with 16 Mbytes of memory, but anything slower is not recommended. For Windows 95, it is strongly recommended that Microsoft Dial-Up Networking 1.2 or 1.3 upgrades are installed, these are available from the Microsoft web site, performance statistics may not be available with earlier DUN versions. Windows 98 and later had reliable DUN as delivered. Routed performance statistics are only available with Windows 98 and later, Windows NT4 SP4 and later, and Windows 2000 and XP and later.

DUN Manager is usually distributed as a ZIP file which should first be unzipped into a temporary folder. If you do not already have it, the **Winzip** application from <http://www.winzip.com/> (or from most magazine cover CD-ROMs, Tucows archives, etc) is strongly recommended. The program `SETUP.EXE` should then be run to install DUN Manager. About 2 Mbytes of disk space is required for the software and documentation, but more will be required if logging is used or email archived. If you have received an executable with a version number like `DUNMANS.EXE`, this should be run just like `SETUP.EXE` to install the software. The DUN Manager icon is placed on the desktop, allowing easy start-up.

If DUN Manager 2.0d or later is already running, it will be stopped automatically as installation commences.

A number of WAV sound files suitable for the events in DUN Manager may be downloaded from the DUN Manager web site in file `DUNSOUND.ZIP`, which should be unzipped into the `C:\WINDOWS\MEDIA` or `C:\WINNT\MEDIA` directory for convenience with the specific directory then set in. Preferences, General - Sounds.

On Windows NT4, 2000 and XP, 'DUN Manager Service' is added to the Services list, with manual start-up and the account of the current user (but no password). If this is a fresh installation, DUN Manager should first be run normally from within Windows, all the preferences and connections set-up and tested. Note that DUN Manager must be registered and show 'registration validated OK' before it may be started as a service. From the Services window, access 'DUN Manager Service' properties, change to automatic start-up and add the password for the account (it must be an administrator level account). The DUN Manager service may now be started from the Services window, if it fails to start look in the Application Event Log for the reason. On Windows XP, don't attempt to use the 'Administrator' logon or there may be an immediate blue screen dump, also XP accounts may have been set-up without passwords, but one must be added before it can be used to run a service.

Now that installation is complete, you should follow the steps for Initial Set-Up and Use.

## Command Line Options

DUN Manager has some command line options:

- |                          |   |
|--------------------------|---|
| <code>-monitor</code>    | Causes DUN Manager to run as a monitor for the DUN Manager Service, NT4 and later only. This command is set automatically if the Service is already running when DUN Manager is started from Windows. |
| <code>-novalidate</code> | This bypasses validation of DUN connection entries each time DUN Manager is started, and may be useful for those  |

that have connections with missing modems which currently brings up a warning box.

- boot Causes a boot delay when DUN Manager starts, defaulting to 10 seconds but set in Preferences, General - Start and Stop allowing windows to load it's drivers before DUN Manager attempts to access them, this is used when DUN Manager is started at boot-up.
- diag If the Activity Log is enabled, causes extra diagnostics to be written. This option may be set in preferences, but when used on the command line starts logging before preferences are accessed.
- unload This command causes DUN Manager to immediately exit without any warning, and may be useful if run from a scheduler. It is more efficient to use the same command with `DMREGCLR.EXE`.

## Uninstalling

DUN Manager may be removed from the Control Panel, Add/Remove Programs, or by running the program `UNINSTAL.EXE` in the installation directory. The uninstaller will remove all installed programs and files, and all registry entries including auto start-up and auto dial. It will not remove any log files that DUN Manager may have saved, but these can just be deleted, if not needed.

## Clearing DUN Manager Registry Settings

DUN Manager includes an application `DMREGCLR.EXE`, 'Remove DUN Manager Registry Details' which is primarily for use automatically when uninstalling DUN Manager, to remove all traces from the registry, also auto start and auto dial settings that could get left behind if not disabled before removing DUN Manager.

It may also be run manually, and offers options to 'Remove Connection Details' (just DUN Manager related stuff), 'Reset All Windows to Defaults' (resets the sizes and positions, useful if reducing screen resolution where windows may get lost off the edge), and 'Remove Connection Details and Preferences' which removes everything, including auto start and auto dial (for uninstall or if settings are really messed up). DUN Manager is stopped as soon as this program is started.

## Special Command Line Options

The application `DMREGCLR.EXE` has some special command line options:

- unload This command causes DUN Manager to immediately exit without any warning, and the DUN Manager Service to be stopped. It may be useful if run from a scheduler. It is used during installation to allow new versions of the programs to be copied.


- `-abort` This command will cause DUN Manager to stop running the existing scheduled task, if one is running.
- `-queue` This command will immediately cause DUN Manager to refresh the task scheduler queue. This is primarily designed for special applications where the DUN Manager registry entries may be updated by other applications.
- `-prefs` This command will immediately cause DUN Manager to reload all preferences. This is primarily designed for special applications where the DUN Manager registry entries may be updated by other applications.

Note these commands apply to both the interactive and Service versions of DUN Manager.



## Initial Set-Up and Use

Once Installation is complete, DUN Manager should be run by clicking the DUN Manager icon on the desktop, or selecting Start Menu, Programs, DUN Manager. Even if it is intended to use the DUN Manager Service, it is necessary to set-up and run DUN Manager first.

When accessed for the first time, the DUN Connections window will be automatically displayed and a  icon should appear in the System Tray (next to the time display) to indicate that DUN Manager is running. Moving the mouse pointer over the icon will display the current DUN status, while right clicking the icon displays a pop-up menu with all the DUN Manager options. The behaviour for single and double left clicking is configurable, but defaults to showing the DUN Connections and Call Status windows respectively.

All the DUN Manager properties and preferences will be set to default values and it is not necessary to change anything to allow DUN Manager to function. It is however recommended that you check the following list of settings before making any calls, to make sure certain minimal features are enabled:

Step 1 - DUN Connections click Defaults to set-up defaults that will be common to all connection entries. Connection Properties - Dialling for call attempts and hang-up if no answer, then Connection Properties - Disconnection for timed and data flow hang-up settings Connection Properties - Sounds for the various sounds that will be played when dialling starts, a connection goes online or hangs-up (but Install the extra WAV sound files first).

### Step 2 - Dial-Up Monitoring

When back in the DUN Connections window, all the currently defined connection entries should be seen. It is not necessary to access any entry properties at this stage, since the Defaults will be used. However, if the PC has both modems and ISDN, it might be useful to reduced the hang-up if no answer and modem negotiation setting for ISDN entries. If there are no DUN connections created yet, now is a good time to create a one (a modem or ISDN adapter must have been installed first). Clicking New Entry (for ISP) will display a list of ISPs, to ease entry set-up. If the ISP is not available, click New Entry (manual) instead. In both cases, a entry name must be specified, then the Telephone Numbers tab will appear. Logon and Device tabs are the other important properties.

### Step 3 - Routed Connection Monitoring

If monitoring routed connections such as a leased line, Dial-On-Demand router, ADSL or cable modem, first go Preferences, General - Call Monitoring and tick Routed Connection Monitoring, which causes Preferences, General - Router tab to appear where various parameters need to set-up.

Step 4 - Access Preferences, General from the icon right click menu or DUN Connections menu bar. If you are using ISDN or multiple modems, change Status Window Format to multi call and select when the window should appear automatically. The behaviour of the mouse left and right clicking on the tray icon can be defined, single to display the Call Status window and double to dial the default connection. Default Connection defines the connection entry that will run when the dial button in the call status window is clicked, or the tray icon is double clicked (although click action can be redefined and the Appearance tab). On the Misc tab, ticking auto run will cause DUN Manager to start-up whenever Windows is started without needing to put it in the Startup folder. On the Sounds tab, the sound directory should normally be set to the system directory and a general warning sound selected. Click the Performance tab and tick Enable Performance Statistics so that data flow hang-up will function and optionally enable the performance graph.

Step 5 - Access Preferences, Logs/Cost and tick both Session and Activity Log options, and Task Log if you will be using FTP, HTTP or Sync Files. You may want to change the drive or directory in which log files are stored, to keep them off the system drive. The Session Log is one line per call, allowing statistics to be generated, while the Activity Log is very useful to check why things are not working

correctly. If you want to set-up call costing, click the Cost Defaults tab and tick enable telephone call costing. Click the Tariff Details tab, then find and select the tariff file for your country. A list of available tariffs will then appear in the window near the bottom of the screen. Selecting a tariff and clicking View allows the details to be checked, while clicking Install will install it for use by DUN Manager. Only those tariffs installed in the top window can be used to cost calls. Now click the Telephone Numbers tab, where an empty list will appear. Call costing is done by checking the telephone number dialled by the connection against this list of full or partial numbers, with a specific tariff then specified for each. Clicking the Add button will display a list of all the telephone numbers specified in your connections, which may be ticked to add them to the main list. The first defined tariff will be selected by default, but clicking on the tariff name cause a drop down arrow to appear which when clicked displays all the other tariffs that may be selected for this specific number. You can also specify a tariff for the number \* which represents any other number not specifically listed. Partial numbers are also supported, ie 0845\*.

Step 6 - That completes the initial set-up of DUN Manager. You should be able to start a DUN session by right clicking the icon, the clicking the specific connection entry that you wish to start. The tray icon should change to show a dial and a sound should play (if specified in Step 1) to indicate dialling has started and the Call Status window should appear play (if specified in Step 3) showing call progress. Once the call successfully connects, the tray icon should change again to show a currency symbol, a further sound should play and the Call Status window should disappear. Exactly the same behaviour should be seen for a call started by another application. The call can be stopped at any time by right clicking the icon and clicking on Hang-Up, when a disconnection sound should be heard and the icon reverts to it's idle state. Details about the call will have been written to the Session Log, which may also be accessed from the icon right click menu.

Step 7- DUN Manager is distributed as shareware, which means it may be tested before being purchased. DUN Manager may be evaluated for 30 days, but must be registered if usage is to continue. After 10 days, a nag screen will appear for a few seconds after each connection or task finishes as a reminder to register DUN Manager, which must be cleared manually. After 30 days DUN Manager will terminate when each connection or task completes. There is no difference between DUN Manager running unregistered or registered, apart from the nag screen. The DUN Manager Service may not be started unless registered. When registered, a license key is provided as a small file that should be copied in the same directory as the software and will be checked automatically the next time DUN Manager is started or Preferences accessed.

Step 8 - If the DUN Manager Service is to be used (Windows NT4, 2000 and XP only), now exit the normal version of DUN Manager and start DUN Manager Monitor instead. The tray icon should be displayed with a red X to show the service is not running, and the right click menu will include an item 'Start DUN Manager Service'. Clicking this should cause the service to start with the icon reverting to normal with a couple of seconds. If the service does not start, look in the Service Application Event Log for the reason. DUN Manager must have been registered successfully to be started as a service, and all preferences set-up in Windows. The correct account password must also have been specified in Services.

## Single Call Status

This window shows the status of the current or last call. The default connection may be dialled, an active call hung-up or the disconnection options changed. Right clicking over the window displays a menu with further options, including viewing full call details or the performance graph for the call.

If the Connection Status window pops up with a message 'Click Dial to Start Auto Dial Connection', this means another application is attempting to access the internet. Clicking Reset will stop the connection.

For dual channel ISDN or with multiple modems, this window only shows details for the first call, and clicking Hang-Up will always stop all calls. Where multiple calls are used, it is recommended that the Multi Call Status window is used instead, this is configured in Preferences, General - Appearance.

### Connection Name

Shows the DUN connection entry used, followed by the account name. For non-RAS calls or incoming calls, the information is less precise. If the connection is over, it may be redialled by right clicking and selecting Redial from the menu. This allows a connection other than the default to be dialled from this window.

### Scheduler

If there are any tasks scheduled that will cause an unattended dial-up networking connection, the first will be show here with the time at which the connection will start. If a task has just started, it will be shown as running. However once a connection is made, this will show the next scheduled task.

### Status

Shows the current status of the connection and other activities that may occur during the connection. Preferences, Logs/Cost - Logging includes an example of the Activity Log that contains the same information presented as the Status. When connections fail, information is also provided about previous call attempts.

### Time Answered

Shows the time the telephone call was answered. Please note that this time may be slightly inaccurate (except with ISDN) because the modem only responds when negotiation is complete, so the start time is calculated by subtracting the time specified in Connection Properties - Device/Dialling. This time may also be adjusted during the connection if the PC clock is corrected. Right clicking and taking Full Call Details shows the session start time, answer time, online time and end time.

### Length

While the modem is calling, shows the dialling duration, but once the modem has answered this becomes the connection time from the Time Connected. Due to the time taken to authenticate passwords, the connection itself was probably not available until 10 seconds into the session.

### Timed Hang-Up

While the modem is calling, shows a countdown timer before the call will automatically hang-up where there is no answer from the remote modem, as specified in Connection Properties - Device/Dialling.

Once the modem answers. shows a countdown timer before the connection will automatically hang-up to avoid remaining online for long periods or before Timed Reconnection will occur. This only appears if the Timed Hang-Up Enabled box is ticked. The timer period is set in Connection Properties - Disconnection but may be changed for the current call only by right clicking, selecting Change Timed Hang-Up and entering a new period. Once the countdown reaches zero, a warning is sounded and a further short countdown of perhaps two minutes may occur before the connection hangs-up, allowing time for the warning to the reset by clicking the button, or disabled for this connection only, for instance if downloading a large file.

### Call Cost

Shows the current cost of the call, if costing is enabled. This is updated every five seconds. It may or may not include tax, depending on a setting in Preferences, Logs/Cost - Cost Defaults. If a figure is shown in brackets, this is the number of seconds left until a charging increment. In the UK, this will only appear until a call reaches the minimum cost, after which costing is per second. If multi-link or multiple connections are being used, the cost will be the total for all the modems or ISDN adapters active. The Multi Call Status and Session Log show the cost of each call separately.

### Data Received and Sent

Shows the total volume of data in characters received and sent for all calls during the current connection, if Performance Statistics are enabled. These values may differ very slightly from those in the Windows log due to data used during connection negotiation. Data volume is only available for outgoing RAS calls, not fax or incoming calls.

### Data Flow Received and Sent

Shows the current and peak (in brackets) flow of data in characters per second (cps) received and sent, if Performance Statistics are enabled. The peak value will often be higher than the modem's theoretical speed due to compression. Data flow is only available for outgoing RAS calls, not fax or incoming calls. Right clicking and selecting Performance will display the Performance Graph allowing historic data flow to be seen.

### Timed Hang-Up Enabled

If ticked, enables a countdown timer before the connection will automatically hang-up. The timer period is set in Connection Properties - Disconnection. The period may differ between connection entries, and at different times of the day or week. Once the countdown reaches zero, a warning is sounded and a further short countdown of perhaps two minutes may optionally occur before the connection hangs-up, allowing time for the warning to be reset by clicking the button, or disabled for this connection only, for instance if downloading a large file. Right clicking and selecting Change Timed Hang-Up allows the period to be changed for the current call only, perhaps as an alternative to disabling hang-up completely for the large file.

### Data Flow Hang-Up Enabled

If ticked, enables data flow checking so that an idle call will automatically hang-up, if Performance Statistics are enabled. Once the data flow falls below the specified minimum level for a specified number of minutes as set in Connection Properties - Disconnection, a warning is sounded and a further short countdown of perhaps two minutes may optionally occur before the connection hangs-up, allowing time for the warning to be Reset by clicking the button, or disabled for this connection only, for instance if reading a long web page. Data flow is checked every five seconds, but the minimum period is one minute so the first warning should sound after 65 seconds on an idle call. The warning will re-appear after the specified period unless data flow has restarted. A Disconnection property 'Delay Hang-Up Until x Seconds Before Charging Increment' may cause the hang-up period to be extended to make best use of a minimum call cost. The data flow settings for the specific call may be checked in the Activity Log.

### Dial

Clicking this button will dial the Default Connection if it is not already being used. The specific connection may differ at different times of the day or week. Holding the mouse over the Dial button will display the actual connection that will be dialled. If a warning countdown is displayed indicating a scheduled connection is about to start, clicking Dial will halt the countdown and immediately start the scheduled connection (which may be using a connection other than the Default).

### Hang-Up

If dialling or online, clicking the button will cause all connections to Hang-Up immediately. It is not possible to hang-up non-RAS calls nor incoming RAS calls. If the call status 'gets stuck' and does not end correctly after a call has actually hung-up, clicking Hang-Up six times will reset the call status window.

### Skip Wait for Answer

To better cope with hard to contact ISPs, this may be used to bypass the normal 30 to 45 second delay when it's obvious from the modem loudspeaker that the call is not going to be answered or connected. This will be useful where the telephone system does not return busy or unobtainable tones that a modem can recognise, but instead voice prompts like 'all lines are busy'.

### Abort

This button is used to stop a scheduled task part way through processing. Tasks that can be stopped are FTP Uploads, FTP Downloads, HTTP Download and Sync Files. Holding the cursor over the button will show the name of the task that will be stopped.

### Close

Clicking this button will cause the Call Status window to be hidden.

### Reset

The reset button has multiple purposes depending upon what DUN Manager is currently doing. During dialling, clicking this button will reset the 'Hang-Up If No Answer timer', if you can hear the modem has actually answered but is still negotiating. Once answered, it will reset the 'Redial on Failed Authentication' timer. Once online, it will reset an automatic disconnection or check alive warning, preventing the connection hanging-up. It also resets the Timed Hang-Up period back to full time. It does not reset the Data Flow, so further warnings may keep appearing unless data is flowing again. Reset also stops a scheduled connection while the countdown warning is displayed and stops an Auto Dial connection.

### More

A tick box that enables or disables extended Status details.

### Dial Number

Shows the telephone number dialled for the current call (the first if multiple calls). This number is usually displayed in long distance format, irrespective of dialling properties (such as an access code or charge card). Right clicking and selecting Full Call Details allows the Full Telephone Number dialled to be viewed, which will include any dialling (but not the actual card number). The Dial Number is not available for non-RAS calls. If a connection started by another application is being monitored, it is possible this number may not be accurate since the connection telephone number may have been overridden.

### Connect Speed

Shows the connection speed reported by the modem or ISDN adapter at the start of the connection. If the modem is not correctly installed, this figure may be much too high since Windows will instead report the COM port speed. With modems offering up to 56K speeds, the speed may vary during the call, depending on line conditions, to may be faster or slower than the initially reported speed. If multi-link or multiple connections are being used, the speed will be the total for all the modems or ISDN adapters.

### Connect Device

Shows the name of the modem or ISDN adapter used for the current connection. For multi-link or multiple connections, only the modem or ISDN adapter used for the first connection is shown.

### IP Address

Shows a pair of IP addresses, the first is the IP address allocated to the PC, the second is IP address of the router or access server to which the remote modem is connected. The PC IP address is sometimes fixed, sometimes allocated from a pool by the internet provider for each connection. The router IP address may be useful to the internet provider if problems occur on this connection, since it will help to identify the modem being used. The negotiated protocol will be indicated in brackets, usually PPP but with Windows 2000 there may be more information.

### Calls

Shows the number of separate telephone calls active, either dialling or connected. If more than one, this

means multi-link or multiple connections are active and it is recommended that the Multi Call Status window is used instead, this is configured in Preferences, General - Appearance.

#### Redial (right click menu)

For a call that has been completed, but not cleared from the Call Status window, right clicking and selecting Redial will cause that specific connection to be redialled.

#### Full Call Details (right click menu)

Right clicking and selecting Full Call Details allows about 50 different items about each call to be viewed. These are the same as items that are stored in the Session Log. During a call, the Call Details window shows a snapshot at the time it is opened, for the current call.

#### Performance Graph (right click menu)

Right clicking and selecting Performance will display the Performance Graph allowing historic data flow to be seen.

#### Change Timed Hang-Up (right click menu)

Right clicking and selecting Change Timed Hang-Up allows the Timed Hang-Up Period to be changed for the current call only, perhaps as an alternative to disabling hang-up completely for the large file.

## Multi Call Status

This window shows the status of up to nine simultaneous calls, one routed connection (always first) and up to eight dial-up connections. The default connection may be dialled, an active call hung-up or the disconnection options changed. Brief details about the calls are shown in the table, more details are seen by clicking on the call tab, while right clicking over a specific call row or tab displays a menu with further options for that specific call, including viewing full call details or the performance graph for the call.

The call table column widths may be adjusted using the mouse to drag the header column separator lines. The height of the window may be adjusted by dragging the bottom edge up or down, which will decrease or increase the number of calls that are visible simultaneously in the call table (which may be hidden completely).

If the Call Status window pops up with a message 'Click Dial to Start Auto Dial Connection', this means another application is attempting to access the internet. Clicking Reset will stop the connection.

If only a single call is ever made, there is an alternate smaller [Single Call Status](#) window that may be used instead, this is configured in [Preferences, General - Appearance](#).

It is not possible to dial or hang-up routed connections (such as leased lines, dial-on demand routers, ADSL or cable modems), so related options will never be enabled.

### Connection Name

Shows the DUN connection entry used, followed by the account name. For non-RAS calls or incoming calls, the information is less precise. If the connection is over, it may be redialled by right clicking and selecting Redial from the menu. This allows a connection other than the default to be dialled from this window.

### Status

Shows the current status of the connection and other activities that may occur during the connection. [Preferences, Logs/Cost - Logging](#) includes an example of the Activity Log that contains the same information presented as the Status. When connections fail, information is also provided about previous call attempts.

### Time Answered

Shows the time the telephone call answered. Please note that this time may be slightly inaccurate (except with ISDN) because the modem only responds when negotiation is complete, so the start time is calculated by subtracting the time specified in [Connection Properties - Device/Dialling](#). This time may also be adjusted during the connection if the PC clock is corrected. Right clicking and taking [Full Call Details](#) shows the session start time, answer time, online time and end time.

### Length

While the modem is calling, shows the dialling duration, but once the modem has answered this becomes the connection time from the Time Connected. Due to the time taken to authenticate passwords, the connection itself was probably not available until 10 seconds into the session.

### Timed Hang-Up

While the modem is calling, shows a countdown timer before the call will automatically hang-up where there is no answer from the remote modem, as specified in [Connection Properties - Device/Dialling](#).

Once the modem answers, shows a countdown timer before the connection will automatically hang-up to avoid remaining online for long periods or before Timed Reconnection will occur. This only appears if the Timed Hang-Up Enabled box is ticked. The timer period is set in [Connection Properties - Disconnection](#) but may be changed for the current call only by right clicking, selecting [Change Timed Hang-Up](#) and



entering a new period. Once the countdown reaches zero, a warning is sounded and a further short countdown of perhaps two minutes may occur before the connection hangs-up, allowing time for the warning to be reset by clicking the button, or disabled for this connection only, for instance if downloading a large file.

### Call Cost

Shows the current cost of the call, if costing is enabled. This is updated every five seconds. It may or may not include tax, depending on a setting in Preferences, Logs/Cost - Cost Defaults. If a figure is shown in brackets, this is the number of seconds left until a charging increment. In the UK, this will only appear until a call reaches the minimum cost, after which costing is per second. The cost of each call is shown separately.

### Data Received and Sent

Shows the total volume of data in characters received and sent for each call during the current connection, if Performance Statistics are enabled. These values may differ very slightly from those in the Windows log due to data used during connection negotiation. Data volume is only available for outgoing RAS calls, not fax or incoming calls. With Windows 9x and NT4, the same statistics will appear for both channels of an ISDN multilink call, with Windows 2000 separate statistics are shown.

### Data Flow Received and Sent

Shows the current and peak (in brackets) flow of data in characters per second (cps) received and sent, if Performance Statistics are enabled. The peak value will often be higher than the modem's theoretical speed due to compression. Data flow is only available for outgoing RAS calls, not fax or incoming calls. Right clicking and selecting Performance will display the Performance Graph allowing historic data flow to be seen. With Windows 9x and NT4, the same statistics will appear for both channels of an ISDN multilink call, with Windows 2000 separate statistics are shown.

### Timed Hang-Up Enabled

If ticked, enables a countdown timer before the connection will automatically hang-up. The timer period is set in Connection Properties - Disconnection. The period may differ between connection entries, and at different times of the day or week. Once the countdown reaches zero, a warning is sounded and a further short countdown of perhaps two minutes may optionally occur before the connection hangs-up, allowing time for the warning to be reset by clicking the button, or disabled for this connection only, for instance if downloading a large file. Right clicking and selecting Change Timed Hang-Up allows the period to be changed for the current call only, perhaps as an alternative to disabling hang-up completely for the large file. With ISDN multilink calls, only one link may be controlled.

### Data Flow Hang-Up Enabled

If ticked, enables data flow checking so that an idle call will automatically hang-up, if Performance Statistics are enabled. Once the data flow falls below the specified minimum level for a specified number of minutes as set in Connection Properties - Disconnection, a warning is sounded and a further short countdown of perhaps two minutes may optionally occur before the connection hangs-up, allowing time for the warning to be Reset by clicking the button, or disabled for this connection only, for instance if reading a long web page. Data flow is checked every five seconds, but the minimum period is one minute so the first warning should sound after 65 seconds on an idle call. The warning will re-appear after the specified period unless data flow has restarted. A Disconnection property 'Delay Hang-Up Until x Seconds Before Charging Increment' may cause the hang-up period to be extended to make best use a minimum call cost. With ISDN multilink calls, only one link may be controlled. The data flow settings for the specific call may be checked in the Activity Log.

### Dial

Clicking this button will dial the Default Connection if it is not already being used. The specific connection may differ at different times of the day or week. Holding the mouse over the Dial button will display the actual connection that will be dialled. If a warning countdown is displayed indicating a scheduled connection is about to start, clicking Dial will halt the countdown and immediately start the scheduled connection (which may be using a connection other than the Default).



### Hang-Up

If dialling or online, clicking the button will cause all connections to Hang-Up immediately. With ISDN multilink or multiple modem calls, ticking one or more boxes in the table will cause only those specific calls to hang-up on Windows NT4 and 2000. Alternatively, using the right click menu for a specific call will hang-up only that call. On Windows 9x, separate multi-channel links can not be hung-up. It not possible to hang-up non-RAS calls nor incoming RAS calls. If the call status 'gets stuck' and does not end correctly after a call has actually hung-up, clicking Hang-Up six times will reset the call status window.

### Reset

The reset button has multiple purposes depending upon what DUN Manager is currently doing. During dialling, clicking this button will reset the 'Hang-Up If No Answer timer', if you can hear the modem has actually answered but is still negotiating. Once answered, it will reset the 'Redial on Failed Authentication' timer. Once online, it will reset an automatic disconnection or check alive warning, preventing the connection hanging-up. It also resets the Timed Hang-Up period back to full time. It does not reset the Data Flow, so further warnings may keep appearing unless data is flowing again. Reset also stops a scheduled connection while the countdown warning is displayed and stops an Auto Dial connection. With ISDN multilink or multiple modem calls, ticking one or more boxes in the table will cause only those specific calls to be reset. Alternatively, using the right click menu for a specific call will reset only that call.

### Skip Wait for Answer

To better cope with hard to contact ISPs, this may be used to bypass the normal 30 to 45 second delay when it's obvious from the modem loudspeaker that the call is not going to be answered or connected. This will be useful where the telephone system does not return busy or unobtainable tones that a modem can recognise, but instead voice prompts like 'all lines are busy'.

### Abort

This button is used to stop a scheduled task part way through processing. Tasks that can be stopped are FTP Uploads, FTP Downloads, HTTP Download and Sync Files. Holding the cursor over the button will show the name of the task that will be stopped.

### Close

Clicking this button will cause the Call Status window to be hidden.

### General Information

The panel below the buttons will show a number of different things. If there are any tasks scheduled that will cause an unattended dial-up networking connection, the first will be show here with the time at which the connection will start. If a task has just started, it will be shown as running. However once a connection is made, this will show the next scheduled task. If a connection will be reconnected if it drops, a warning will appear. Various calls error may be shown here as well.

### More

A tick box that enables or disables extended Status details.

### Dial Number

Shows the telephone number dialled for the current call (the first if multiple calls) or Routed Connection. This number is usually displayed in long distance format, irrespective of dialling properties (such as an access code or charge card). Right clicking and selecting Full Call Details allows the Full Telephone Number dialled to viewed, which will include any dialling (but not the actual card number). The Dial Number is not available for non-RAS calls. If a connection started by another application is being monitored, it is possible this number may not be accurate since the connection telephone number may have been overridden.

### Link

If shown as other than 1, link indicates the second or third link of a multi-link call.

### Connect Speed

Shows the connection speed reported by the modem or ISDN adapter at the start of the connection. If the modem is not correctly installed, this figure may be much too high since Windows will instead report the COM port speed. With modems offering up to 56K speeds, the speed may vary during the call, depending on line conditions, to may be faster or slower than the initially reported speed. If multi-link or multiple connections are being used, the speed will be the total for all the modems or ISDN adapters.

### Connect Device and Port

Shows the name of the modem or ISDN adapter used for the current connection and the physical port being used.

### IP Address

For dial-up calls, shows a pair of IP addresses, the first is the IP address allocated to the PC, the second is IP address of the router or access server to which the remote modem is connected. The PC IP address is sometimes fixed, sometimes allocated from a pool by the internet provider for each connection. The router IP address (sometimes missing) may be useful to the internet provider if problems occur on this connection, since it will help to identify the modem being used. The negotiated protocol will be indicated in brackets, usually PPP but with Windows 2000 there may be more information.

### Redial (right click menu)

For a call that has been completed, but not cleared from the Call Status window, right clicking and selecting Redial will cause that specific connection to be redialled.

### Full Call Details (right click menu)

Right clicking and selecting Full Call Details allows about 50 different items about each call to be viewed. These are the same as items that are stored in the Session Log. During a call, the Call Details window shows a snapshot at the time it is opened, for the current call.

### Performance Graph (right click menu)

Right clicking and selecting Performance will display the Performance Graph allowing historic data flow to be seen.

### Change Timed Hang-Up (right click menu)

Right clicking and selecting Change Timed Hang-Up allows the Timed Hang-Up Period to be changed for the current call only, perhaps as an alternative to disabling hang-up completely for the large file.

### Function Key 5

This is a diagnostic key that adds some current state information about the call to the Activity Log.

### Function Key 6

This key adds the current Full Call Details to the Activity Log. Note that these may not be the final call details, but a snap shot at that point during the call.

## Full Call Details

DUN Manager keeps about 50 different items about each call. They may be displayed during the call by right clicking on the Call Status window and selecting Full Call Details. Once a call completes, the details are written to the Session Log and selected items may be displayed in the Session Log window, with the full details of calls available from the right click menu.

<u>Call Item</u>	<u>Notes</u>
Session Date: 31/01/00	When dialling started.
Session Time: 16:06:14	
Answer Date: 31/01/00	When the call was answered and
Answer Time: 16:06:15	charging began.
Online Date: 31/01/00	When protocol negotiation was
Online Time: 16:06:21	complete.
End Date: 31/01/00	When the call ended and charging
End Time: 16:08:17	stopped.
Duration (secs): 122	Call duration in seconds.
Duration: 2:02	Call duration in minutes and secs.
Time Correction: 0	Any time correction during call.
Negotiation (secs): 1	Modem negotiation time correction.
Connection: CIX ISDN	Connection entry name.
Conn Link: 1	Connection link for multilink calls.
Scheduler:	Scheduled task name, if any.
Dial Number: 0845 355 5222	Displayable telephone number.
Canonical Number:	Canonical telephone number.
+44 (845) 355 5255	
Call Attempts: 0	Call attempt number (see below).
Cost No Tax: 5.5p	Call cost less tax.
Cost With tax: 6.4p	Call cost with tax.
Remain Secs: 0	Seconds until charging increment.
Call Tariff: BT Bus Choices	Call cost tariff name selected.
Call Operator: British Telecom	Call cost tariff operator name.
ISP No Tax:	ISP cost less tax.
ISP With Tax:	ISP cost with tax.
ISP Tariff:	ISP cost tariff name selected.
ISP Name:	ISP cost tariff operator name.
Currency: p	Minor currency symbol.
Tax Rate: 17.5	Call costing tax rate, if any.
Call Status: Disconnected	Call status, varies during call.
Started By: Manually	How the call was started.
Hang-Up By: Manually	How the call was ended.
Comment: OK	General call completion comment.
Disconnection:	Any specific disconnection reason.
Connection User: magsys	Connection logon name.
Windows User: angus	Windows logon name.
Data Xmit: 46,183	Data transmitted in characters.
Data Recv: 492,968	Data received in characters.
Peak Xmit: 997	Peak transmit speed in chars/sec.
Peak Recv: 7,915	Peak receive speed in chars/sec.
Average Xmit: 378	Average transmit speed in chars/sec.
Average Recv: 4,040	Average receive speed in chars/sec.
Connection Speed: 64,000	Call connection speed in bits/secs.

Device Name: TJISDN-Line1	Call connection modem or device.
Device Port: ISDN1	Call connection hardware port.
Statistics Log: c:\dunman\ stats\stats-20000131- 160615.csv	Performance statistics log file name.
Discount: 0	Call cost discount.
Full Tel Nr: 0845 355 5222	Telephone number dialled.
IP Address	A pair of IP addresses, PC and server.
Timed Hang-Up	The time remaining until auto hang-up.

### Call Attempts

If Call Attempts is shown as zero, this means the call was dialled another application and that DUN Manager was just monitoring the call. In this case, the telephone number and connection user are taken from the connection entry, but the other application may have dialled something different.

Call Attempts to one or above indicate DUN Manager dialled the call, with each failed attempt being indicated. If Call Attempt is -1, this is the second or third link of a multilink call, and there should also be another call with the same connection and session start time.

## Change Timed Hang-Up

While online, the period before timed hang-up will occur may be changed by entering a new period here, in the format MM:SS.

This period will be lost if timed hang-up is deselected or reset.

## Connection Logon window

When dialling a connection, this window will appear if the box 'Do Not Save Password but Display Logon Dialog When Dialling' is ticked in Connection Properties - Logon. This is primarily designed for situations where security is required to stop connections being used without a password being entered each time.

The window will also appear before dialling starts when a connection does not contain a user name and password, to avoid needing to complete details while online. In Connection Properties - Logon 'Allow Blank Logon and Password' tick box to disable this check where a blank logon is allowed.

### Logon Name and Password

The logon name and password for the internet account need to be specified. Virtually all internet connections will require a valid logon name and password. The details specified here are not saved but only used for the current connection. To avoid needing to specify details each time, they may be saved in Connection Properties - Logon.

### Domain

For connections to networks for file and print sharing, specifies the domain on which authentication is to occur. This is not needed for most internet connections and should be left blank.

### Callback Number

Some internet accounts offer a callback service, so that after dialling and initial authentication of a connection, the outgoing call will be hung-up immediately and a return telephone call will be made which the PC will answer automatically, with the connection then going online. Sometimes this is done for security, with the callback number being determined by the account, but it can be to save the cost of the local telephone call in which case the number to callback may be specified here.

### Telephone Number

If specified, this is a telephone number to dial instead of the one specified in the connection entry. This may be useful with a laptop PC that is regularly used in different locations needing different telephone numbers. The telephone number should be entered as it will be dialled.

## Telnet

This window provides ANSI terminal emulation using the TCP/IP Telnet protocol to interact with a remote host computer. The window is resizable depending upon desired size and screen resolution. A number of terminal options are specified through a dialog box. A log of the Telnet session may be saved, currently always with the file name `EMULVT.LOG` in the DUN Manager program directory.

### Telnet Address

Specify the host address for the remote computer. This will only connect if the host supports the Telnet protocol. The last 20 addresses specified will be saved for re-use in the drop down list box.

### Port

The connection port for the remote computer, generally 'telnet'.

### Connect

This button initiates a connection to the remote computer. This may fail if an invalid Telnet Address has been specified or if the remote computer does not support Telnet.

### Disconnect

This button closes the connection.

### Options

Display a dialog box with various terminal appearance options. These may be defaulted appropriately by clicking the A11, Labo, RDV or USUS buttons.

Rows	The number of screen rows for the terminal emulation window, normally 25 rows. The font size will be adjusted to fit the rows into the defined window size
Cols	The number of columns for the terminal emulation window, normally 80 columns.
Lheight	The Line Height in points, usually 12 point.
Font	Display a Font selection dialog allowing the desired screen font to be chosen.
AutoCR	If ticked, a carriage return is sent when the cursor key is used to move down a line.
AutoLF	If ticked, a line feed is sent when the carriage return is sent.
Local Echo	If ticked, any typing in the terminal will appear locally. This is used when the remote computer does not echo text back.
Monochrome	If ticked, disables colours.
OEM Character Set	If ticked, use the OEM character set used by DOS.
Uppercase	If ticked, forces typing as upper case.

Function Keys	Defines the keyboard function keys are being compatible with SCO UNIX, VT100 or A11.
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## Performance Graph

This window shows the throughput performance of the current or earlier internet connections, and is resizable depending upon desired size and screen resolution. The graph plots receive and transmit data speed against time, provided that Performance Statistics are enabled in Preferences, General - Performance. The speed is shown in characters per second, while Preference settings determine whether the connection elapsed time is minutes or seconds and the time period covered by the graph. The volume of data received and transmitted is also shown.

Where more than one call is active for multilink, each may be chosen from the drop down list that shows the connection entry names. With Windows 9x and NT4, the same statistics will appear for both channels of an ISDN multilink call, with Windows 2000 separate statistics are shown.

Provided that 'Write Performance Statistics Log Files' is enabled in Preferences, General - Performance, it will be possible to view the performance of earlier connections, either from the Call Status window (if just finished) or from the Session Log.

Right clicking over the graph displays a drop down menu with various options (most of which are also available on buttons):

Stop Graph Scrolling	A toggle option to stop and restart graph scrolling. Scrolling is automatically stopped when manually scrolling the graph.
Earlier Performance	Scrolls the graph to show earlier performance.
Later Performance	Scrolls the graph to show later performance.
Jump to Start	Jumps to the start of the graph.
Jump to End	Jumps to the end of the graph.
Reduce Speed Axis	Reduces the vertical axis to show a wider range of speeds but with less precision.
Increase Speed Axis	Increases the vertical axis to show a smaller range of speeds with more precision.
Reduce Time Axis	Reduces the horizontal axis to show more of the call, but with less precision.
Increase Time Axis	Increases the horizontal axis to show less of the call with more precision.
Print Graph	Sorry, not yet implemented.
Copy to Clipboard as Metafile	Copies the visible graph window to the clipboard as a metafile, from where it may be pasted into a graphics application, and resized.

Copy to Clipboard as  
Bitmap

Copies the visible graph window to the clipboard as a bitmap, from where it may be pasted into a graphics application.

The performance log files contain data in comma separated variable (CSV) format, that may be subsequently imported into other applications (such as Excel) for further analysis or printing.

## Internet Diagnostics

This window provides a number of internet diagnostic tools useful for simple problem finding. In general the results for each tool appear both on the page tab and in the log window so they may be copied to the clipboard for saving or printing from a text editor. The window is resizable depending upon desired size and screen resolution.

The last 50 addresses or host names specified will be saved for re-use in the drop down list boxes. Old addresses or host names may be cleared by double clicking on one of the name boxes, and then confirming delete on the warning dialog.

### Address Look-Up

Given a host name such as `www.magsys.co.uk`, Address Look-Up will check the DNS records and return the IP address, if found. It will then do a reverse look-up on the address and return the host name, that will often be different. Note that a URL such as `http://www.magsys.co.uk` is not valid. Some host names will return two or more IP addresses, usually very common names such as `www.microsoft.com` that are physically shared between multiple servers.

### Host Look-Up (Reverse)

Given an IP address such as `194.153.31.4` or `3462929566`, this will do a reverse look-up and return the host name from the DNS records. A numeric format address will be first converted into the dotted format. To allow ranges of IP addresses to be checked, specify the first address and set 'Extra Following IP Addresses' to the number of further ones, maximum 99.

### Ping Host

Ping attempts to send 56 bytes of data to the specified host name, which is then timed for performance purposes and the result shown in milliseconds. In general, if a ping fails the host is not available. However some hosts deliberately ignore pings for performance reasons. The number of pings to send and the length of time to await a response may be specified.

When the internet is overloaded, packets of data may be deliberately discarded and the TCP/IP protocol will automatically resend such lost information but at the penalty of reduced effective performance. So when sending 10 or 20 pings to a host, you can check how many get lost, the more being lost the worse the connection. Ideally no pings should be lost. Also the ping time should be fast, typically 100 to 300 milliseconds for all hosts at your internet provider, perhaps 500 milliseconds for hosts in the same country, and no more than one second (1,000 milliseconds) for hosts overseas where physical distance causes timing delays. Note that ping times may be effected by other activity on your internet connection.

### Finger Host

Finger is a protocol that allow information about computer users to be obtained, provided those users have registered data on the computer. A Finger enquiry takes the form `user@host` with user and host being set appropriately. Finger is commonly used in UNIX environments but is rare for dial-up internet accounts.

### Trace Route

When performance to a host is poor, perhaps when a lot of pings get lost or a host can not be reached, trace route provides a means to find the route by which your packets are reaching the host. The shorter the route, the better. A sample trace route might be:

```
Trace Route to: www.cix.co.uk
Ping of 56 bytes took 170 msecs
 1    0ms  194.153.27.33      s33.pool.pm3-surb-1.cix.co.uk
 2   125ms 194.153.0.194      e0.pm3-surb-1.cix.co.uk
 3   146ms 194.153.0.193      e1-0.surbiton-1.cix.co.uk
 4   185ms 194.153.0.125      www.cix.co.uk
Host Reached in 4 hops
```

Trace route effectively involves pinging the host but stopping the pings before they reach the host and then doing a reverse look-up on the name. So the example above shows a dynamically allocated IP address at step 1, and then two routers before the host is reached in four hops. Reaching a small server in another country may however take 20 or more hops. Where problems exist, the trace route may suddenly stop when it reaches a certain router or the ping time may suddenly increase dramatically for instance if the router is overloaded and can not pass traffic. Note that some hosts and routers can not be pinged and may show 'Request Timed Out' or not return a host name. The timeout used is the same as on the Ping Host tab, the shorter the faster the trace route will appear but with perhaps more blank host names. Note that currently the log display may have the lines out of order, depending on how the order in which the reverse look-ups complete.

### IP Connections

Allows the list of current internet connections to the PC to be displayed. This includes both passive (LISTEN) connections and active outgoing connections to remote servers. The display is a snap-shot of connections and will be updated at the defined interval of seconds. However connections may be very short, sometimes less than a second, so even rapid updating will miss some. Each IP connection goes through various states, being opening, transferring data and being closed, but again these are so fast changing they will usually be missed. The display shows the connection type, local IP address and port, the remote IP address and port, and connection state. The ports reflect requests for particular services (mail, web, etc), but dynamic ports are mostly used for actual data transfer.

The main purpose of this diagnostic is to allow detection of IP connections when the PC should be idle, from certain badly behaved applications that may attempt to communicate with remote servers without authorisation. However it will not help in detecting the specific application.

This version displays the IP and port addresses with the port description (such as www-http, if known). A subsequent release will resolve the addresses to proper domain names to make it much easier to see what's going on. Port descriptions are read from the file 'ports.txt' which can be viewed with a text editor for more detailed information.

### Abort

Clicking the button will halt a look-up or trace route.

### Clear Log

Clicking the button will remove all text from the log window. This text is also lost when the window is closed.

### Copy Log

Clicking the button causes all of the current diagnostic log to be copied into the Activity Log.

## Activity Log

This window allows Activity Logs to be viewed. When the option is taken from the right click menu, an open file dialog initially appears, defaulted to the current Activity Log but allowing any other file to be selected. Clicking Open will display the specified log file. Activity Logs are only created if enabled in Preferences, Logs/Cost - Logging.

This window may be resized and positioned as required. There are various options on drop down menus, and on a right click menu:

Copy, Select All, Copy All - Allow text to be selected and copied to the clipboard

Find - Displays a Find Dialog allowing a search string to be located.

Top, Bottom - Cause the cursor to jump to the top or bottom of the log file.

Font - Displays a font selection dialog to change the log font.

Open Another Log - Displays the Open File dialog to select a new log to view.

Update Current Log - Causes the current log to be redisplayed (if it has been written since viewing).

ESC - closes the window.

## Task Log

This window allows Task Logs to be viewed. When the option is taken from the right click menu, an open file dialog initially appears, defaulted to the current Task Log but allowing any other file to be selected. Clicking Open will display the specified log file. Task Logs are only created if enabled in Preferences, Logs/Cost - Logging.

The Task Log is displayed in tabular format in the window, the columns and window may be resized and positioned as required. There are various options on drop down menus, and on a right click menu:

Open Another Log - Displays the Open File dialog to select a new log to view.

Update Current Log - Causes the current log to be redisplayed (if it has been written since viewing).

ESC - closes the window.

### Task Log Format

The Task Log is saved as a simple comma variable separated file, currently with 12 fields, as follows: "Date", "Time", "Task Name", "Task Type", "Success Total", "Fail Total", "Source File", "Target File", "File Size", "Comment", "Comp Name", "User Name"

The record for one single file copy looks like this:

"20010626", "124500", "Backup Dev/Web to PC07 2nd Drive", "Sync Files", "1", "0", "e:\magdelp\dunmon\help\dunman.rtf", "J:\Magdelp\dunmon\help\dunman.rtf", "625298", "OK", "PC07", "Administrator"

The totals for the task session would be:

"20010626", "124504", "Backup Dev/Web to PC07 2nd Drive", "Sync Files", "4", "0", "D:\Magenta\","I:\Magenta\","576005", "Totals", "PC07", "Administrator"

Detailed fields are as follows:

Date - 20010626	The date the log line was written, in the format YYYYMMDD.
Time - 124504	The time the log line was written, in the format HHMMSS.
Task Name	The name of the scheduled task that created the record.
Task Type	The type of scheduled task, ie FT Download, Sync File, etc.
Success Total	Total successful files relating to this record, always 0 or 1, unless Comment is 'Totals'.
Fail Total	Total failed files relating to this record, always 0 or 1, unless Comment is 'Totals'.
Source File Name	If a file record, the source file name, otherwise the source directory.

	May be blank if the record refers to an old target file deleted.
Target File Name	If a file record, the target file name, otherwise the target directory. May be blank if the record refers to a source file deleted after copy.
File Size	The size of the file copy in bytes. Blank for totals.
Comment	May be 'Totals', 'Old Target File Deleted', 'Source File Deleted After Copy', 'OK' or an error message.
Computer Name	The networking name of the computer.
User Name	The name of the user currently logged onto the computer.

## Session Log

This window allows the monthly Session Logs to be viewed and manipulated, and for Session Reports to be generated and printed.

The window is resizable depending upon desired size and screen resolution and which of up to 50 columns of information are displayed can be selected. The separator bars between the headings can be moved to adjust the column widths. The columns that may be displayed are the same as shown in Full Call Details.

For logs to be available, 'Enable Session Log' must be ticked in Preferences, Logs/Cost - Logging.

### Select Month

The drop down list shows all the months for which Session Logs can be found, allowing the desired log to be selected and displayed.

### Report

Clicking this button will generate a report for the specified month. Menu options are available for other reports. Details on the report content are shown below.

### Full Call Details (right click menu)

Right clicking and selecting Full Call Details allows about 50 different items about each call to be viewed. These are the same as items that are stored in the Session Log. During a call, the Call Details window shows a snapshot at the time it is opened, for the current call.

### Performance Graph (right click menu)

Right clicking and selecting Performance will display the Performance Graph allowing the data flow for the connection to be seen. This will only be available if 'Write Performance Statistics Log Files' is enabled in Preferences, General - Performance and the performance log file have not been subsequently deleted.

### Select Columns to View (right click menu)

Right clicking and selecting Select Columns to View will display the Log Column Selection from where the columns of information to be displayed in the Session Log window may be chosen. Note that the column widths are set to defaults that depend upon the data type after selecting new columns.

### Sorting the Log

Clicking on a header panel will cause that column to be sorted alphabetically or numerically, depending upon the content. Clicking the column a second time causes reverse sorting.

### Top/Bottom (right click menu)

Right clicking and selecting Top or Bottom will cause the log to jump to the top or bottom respectively.

### Export to CSV (File menu)

The File menu has two options to export Session Log call records to a comma separated delimited fields file, either to export all session log columns (50 odd) or just the columns selected for display. When either option is clicked, a date dialog appears allowing call records to be selected by date range for export into a single comma separated variable (CSV) fields file.

In the CSV file, all the session item names are written as the first record in the file, to ease import into Excel or Access for further manipulation. All dates are YYYYMMDD, time is HHMMSS, session duration is both seconds and timer HHH:MM, costs and currency are in separate fields, and blank fields still have delimiters. Note that DUN Manager converts dates and costs into more friendly versions for display.

### Faster Display (no sorting) (Options menu)



Allows the Session Log window to appear almost instantly since only sufficient log data is loaded for display, rather than the whole month. If this option is used, it is not possible to sort the columns by clicking on the headers).

#### **Last Call First (Reverse Order) (Options menu)**

Causes the Session Log to show each month in reverse order, with the last call at the top.

#### **Update Logs with New Call Costs (Options menu)**

Clicking this option from the Options menu updates Session Log call records by date range with new telephone call costs. The new costs are the same as would be calculated for new calls, according to the telephone number dialed. Currently there is no means to change costs for specific connection or telephone numbers, but this will be added in a future release.

#### **Update Logs with New ISP Name (Options menu)**

Clicking this option from the Options menu updates Session Log call records by date range with an ISP Name, according to the connection used. The ISP Name is used for reports. Only a partial connection name need be entered, sufficient to identify the ISP. The partial name is case sensitive. This is an interim option until ISP costing is properly supported in the next release.

#### **Convert Old Logs to New Format (Options menu)**

This option is used just once to convert the Session/Cost Logs created by DUN Manager 1.2d and earlier into the new Session Log format used by 2.0a and later. Note that many log columns will be blank because the new logs hold a lot more detail about each call. Because 2.0a/b created both logs, conversion will stop as soon as an identical call record is found, so no new records are lost. The old logs only held a total volume of data transmitted or received, so this is split 10/90% for the new logs. Once converted, the logs may be updated with New Calls Costs and New ISP Name, to allow better reporting.

#### **Reports - Single Month, Original Cost (Reports menu)**

Clicking this option from the Reports menu generates DUN Manager Session Reports for the selected calendar month, with the Start Day specified below (defaulting to the 1st).

#### **Reports - Date Range, Original Cost (Reports menu)**

Clicking this option from the Reports menu generates DUN Session Reports for the selected range of dates, with the Start Day specified below (defaulting to the 1st).

#### **Reports - Single Month, New Costs (Reports menu)**

Clicking this option from the Reports menu generates DUN Manager Session Reports for the selected calendar month with the totals reflecting new call costs as would be used for new calls, but without changing the actual logs.

#### **Reports - Date Range, New Costs (Reports menu)**

Clicking this option from the Reports menu generates DUN Session Reports for the selected range of dates with the totals reflecting new call costs as would be used for new calls, but without changing the actual logs.

#### **Set Month Start Day**

Clicking this option displays a dialog allowing a day of the month to be entered, from 1 to 31. This specifies the starting day for monthly Reports (typically the billing day). The date range reported is the previous 30/31 days from the specified starting day in the month currently being displayed.

## Session Reports

A sample DUN Manager Session Report looks similar to the following:

### DUN Manager Session Reports

Period: 02/02/00 to 26/02/00

Report at: 26/02/00 17:57:34

#### Telecom Operator Report

(Costs are Telephone Calls)

Name	Calls	Duration	Cost	With Tax
British Telecom	189	13:31:31	£11.94	£14.03
Telewest	802	92:03:24	£34.04	£40.00
Unknown	7	0:41	£0.00	£0.00

#### ISP Report

(Costs are ISP Time)

Name	Calls	Duration	Cost	With Tax	Data Xmit	Data
<b>Recvd</b>						
Cable Internet 902,551,680	691	77:00:40	£0.00	£0.00	105,214,518	
CIX 398,652,772	298	28:23:34	£0.00	£0.00	58,851,681	
Freemove 2,003,648	1	9:37	£0.00	£0.00	2,368,642	
Unknown	8	1:45	£0.00	£0.00	42,818	482,068

#### DUN Connections Report, Successful

(Costs are Telephone Calls)

Name	Calls	Duration	Cost	With Tax
Cable Dual Modems	6	16:02	£0.00	£0.00
Cable Hayes	14	4:24:16	£2.58	£3.04
Cable USR	429	71:49:05	£12.07	£14.18
CIX ISDN Telewest Dual	6	12:47	£0.32	£0.37
CIX ISDN Telewest	2	3:50	£0.07	£0.08
CIX ISDN	85	3:07:23	£3.74	£4.39
CIXIP Local	184	24:25:16	£24.12	£28.34
FreeServe Dunman	1	9:37	£0.09	£0.11
TAPI: AMEOL2	3	12:07	£0.27	£0.31

#### DUN Connections Report, Failed

(Costs are Telephone Calls)

Name	Calls	Duration	Cost	With Tax
Cable Dual Modems	3	0:00	£0.00	£0.00
Cable Hayes	7	2:01	£0.20	£0.24

Cable ISDN	2	0:34	£0.06	£0.08
Cable USR	230	28:42	£1.45	£1.70
CIX Colt	1	0:00	£0.03	£0.04
CIX ISDN Telewest Dual	2	0:00	£0.00	£0.00
CIX ISDN	1	0:04	£0.03	£0.04
CIXIP Local Too Slow	9	2:38	£0.33	£0.39
CIXIP Local	3	0:45	£0.12	£0.14

### Windows User Report

(Costs are Telephone Calls)

<u>Name</u>	<u>Calls</u>	<u>Duration</u>	<u>Cost</u>	<u>With Tax</u>
angus	989	105:23:29	£45.72	£53.72
Unknown	9	12:07	£0.27	£0.31

### Grand Totals

(Costs are Telephone Calls and ISP Time)

<u>Total Calls: Successful</u>	<u>Failed</u>	<u>Duration</u>	<u>Cost</u>	<u>With Tax</u>
733	265	05:35:36	£45.98	£54.03

**Telecom Operator Report** - for each separate telecom operator, totals the number of calls, duration and telephone call cost. The calls may have been successful or failed.

**ISP Report** - for each separate ISP, totals the number of calls, duration, and data transmitted and received. When ISP costing is complete, the costs will be reported here as well.

**DUN Connections Report, Successful** - for each separate DUN connection that successfully connected (or TAPI calls that were answered), totals the number of calls, duration and telephone call cost.

**DUN Connections Report, Failed** - for each separate DUN connection that do not successfully connect, totals the number of calls, duration and call cost. Note that the call costs for failed connections are not particularly accurate, since modems do not report when a call is answered but fails negotiation. This report is designed to annoy your ISP, showing how many failed connections you suffered.

**Windows User Report** - for each separate windows user (if more than one), totals the number of calls, duration and telephone call cost. This report is designed for where two or more people share the same PC, allowing internet usage to separately identified depending on who is logged onto the PC.

**Grand Totals** - finally the total successful and failed calls, duration, and total costs (both telephone calls and ISP costs).

## Log Column Selection

DUN Manager keeps about 50 different items about each call, but this is really too many to view in the Session Log table so this window allows which specific columns should be displayed. Items that are ticked will be displayed and exported. Clicking Default will reset the items to the DUN Manager default 11 items.

The items that may be selected are Session Date; Session Time; Answer Date; Answer Time; Online Date; Online Time; End Date; End Time; Duration (secs); Duration; Time Correction; Negotiation (secs); Connection; Conn Link; Scheduler; Dial Number; Canonical Number; Call Attempts; Cost No Tax; Cost With tax; Remain Secs; Call Tariff; Call Operator; ISP No Tax; ISP With Tax; ISP Tariff; ISP Name; Currency; Tax Rate; Call Status; Started By; Hang-Up By; Comment; Disconnection; Connection User; Windows User; Data Xmit; Data Recv; Peak Xmit; Peak Recv; Average Xmit; Average Recv; Connection Speed; Device Name; Device Port; Statistics Log; Discount; Full Tel Nr; IP Address; Timed Hang-Up. Further details about each items are in Full Call Details.

## DUN Connections

The DUN Connections window may be used as an alternative to the icon right click menu (which some users find hard to understand) and appears as a default for new installations of DUN Manager. It may be set to always open automatically when DUN Manager starts. All DUN Manager functions are available from menus in this window.

The window is resizable depending upon desired size and screen resolution and lists all DUN connections and shows the current state of those online or disconnected. The format is similar to the Explorer, Dial-Up Networking view. Right click and main menu items allow connection entries to be created, edited, copied, renamed or deleted. Editing Connection Properties is done with a window that combines all the standard Microsoft DUN properties with DUN Manager properties that are defined on a per connection entry basis, such as disconnection and reconnection options. This window also has menu picks and buttons that allow all other functionality in DUN Manager to be accessed.

DUN Manager provides connection entry properties that are consistent across Windows 95, 98, ME, NT4, 2000 and XP, unlike the Microsoft DUN Properties dialogs which are all different. It should not be necessary to access the Microsoft DUN Properties dialogs, except to set-up Windows 9x ISDN multilink (which can not be done in DUN Manager due to limitations with the RAS APIs).

'Default Properties' may be specified that are common to all connection entries, but which may be optionally overridden for specific connections. It is recommended that the 'Default Properties' are first set-up to handle most connections, and then only those things that are needed for specific connections changed. Note that 'Default Properties' are a subset of 'Connection Properties'.

### Connection Entry List

A list of all the Dial-Up Networking connection entries or Phone Books available for making Remote Access Server calls. Selecting a connection entry by clicking once enables various buttons and menu items. Double clicking allows Connection Properties to be edited. Right clicking displays a menu with further options, some of which are also available on the button bar. Note that this list may not display all the defined connection entries, some may be deliberately hidden, see 'Show Hidden Entries' below. Clicking PF5 refreshes the connection entry list, for any new entries created outside DUN Manager.

### Dial

Clicking this button will dial the selected connection entry.

### Hang-Up

If dialling or online, clicking the button will cause all calls to Hang-Up immediately. With ISDN multilink or multiple modem calls, selecting an entry first will cause only that specific call to hang-up.

### Status

Clicking the button causes either the Single Call Status or Multi Call Status window to be opened, depending upon a setting in Preferences, General - Appearance.

### Performance Graph

Right clicking and selecting Performance Graph displays a window allowing historic data flow to be seen.

### Default Properties

Clicking the button allows the Default Properties that will apply to all connection entries (unless overridden) to be edited.

### Edit Properties

Allows Connection Properties to be edited for the selected entry.

### New Entry (Manual)

Displays a dialog allowing a new connection entry name to be entered. Once a new unique entry name has been specified and OK clicked, the Connection Properties window appears. The defaults may then be edited and the telephone number, logon and password specified.

### New Entry (for ISP)

DUN Manager includes details of a number of ISPs, and allows new connection entries to be created for the ISPs with most of the necessary information such as telephone numbers defaulted. The Select ISP Name window will appear listing all the installed ISPs, from which one is selected and OK clicked. A dialog then allows the entry name to be changed, and finally the Connection Properties window appears with the telephone number, protocol, security and script tabs set-up (if required). The connection device (modem or ISDN) will be defaulted to that for the Default Connection, but may be changed.

### Copy Entry

Similar to New, except the new connection entry takes defaults from the selected entry. This includes the telephone number, logon and password (no password for Windows 2000).

### Rename Entry

Allows the selection connection entry to be renamed. A dialog appears allowing a new connection entry name to be entered. Once a new unique entry name has been specified and OK clicked the entry is renamed, including the telephone number, logon and password (no password for Windows 2000).

### Delete Entry

Allows the selection connection entry to be deleted.

### Windows DUN Properties

Accesses the Windows DUN Properties dialog. Although DUN Manager connection entry properties should normally be used instead, the Microsoft dialog has extra functionality which DUN Manager is unable to access, in particular multilink for Windows 9x and some advanced features in NT4 and W2K.

### Dialling Properties

Accesses the Windows Dialling Properties dialog that shows the current location of the user and allows it to be changed. The details of each defined location may be specified, such as the country and area code, any access codes needed for make local or national calls (typically 9), and allow a Calling Card to be selected to bill the cost of this call elsewhere.

### Refresh (PF5)

Refreshes the connection entry list, for any new entries created outside DUN Manager

### Show Hidden Entries

This is a toggle menu option, with a tick to show whether it has been selected. If not selected, some rarely used or high cost connection entries may be hidden, leaving just commonly used entries. The entries to be hidden are specified in Connection Properties and are shown in the connection entry list Hidden column as Y or N.

### Export and Import Entries

Allows connection entries to be exported to a file, and for the file to be imported and entries created. Exporting is primarily for back-up purposes but can also be used to share connections between PCs. Taking Export Entries displays the Export/Import Connections dialog. Taking Import displays a file open dialog appears so the file can be selected, the Export/Import Connections dialog then appears.

### Show Window on Startup

This is a toggle menu option, with a tick to show whether it has been selected. If selected, the DUN Connections window is always opened when DUN Manager starts.

### Function Key 5

Allows the connection entry list to be updated for changes made outside DUN Manager.

In addition to the specific functions listed above, the DUN Connections window has menu options leading to:

View Session Log

View Activity Log

Add Log Comment

Preferences, General

Preferences, Logs/Cost

Scheduler

Diagnostics

Telnet

Registration

About

## Export/Import Connections

Allows connection entries to be exported to a file, and for the file to be imported and entries created. Exporting is primarily for back-up purposes but can also be used to share connections between PCs. The export file is an INI format file but with the file extension ENT, and contains all the information accessed via Properties for the entry. Note that currently the Default Properties are not exported.

From DUN Connections taking File, Export Entries or Import Entries displays this dialog.

### Connection List

A list of connection entries which may be ticked to select those to export, or the entries found in the specified file for import. For import, details of when and who exported the connection entries are also shown.

### Replace Existing Entries

For import only, whether any existing entry should be replaced by entries from the file.

### Export Passwords

For export only, specifies whether the entry password is exported (it is encrypted so only DUN Manager can import it again). With Windows 2000, the password will only be exported if it was entered in DUN Manager.

### File Name

For export only, the file to which entries should be exported. It will always have an ENT extension. Clicking the open icon displays a file selection dialog.

### Start

Click this button starts the import or export of the selected connection entries. Any errors that occur will be shown in the status bar of the DUN Connections window.

### Select All

Clicking this button selects all the entries for import or export.



## Select ISP Name

DUN Manager includes details of a number of ISPs, and allows new connection entries to be created for the ISPs with most of the necessary information such as telephone numbers defaulted.

From DUN Connections taking Entries, File New Entry (for ISP) displays this dialog, listing all the installed ISPs, from which one is selected and OK clicked.

A dialog then allows the entry name to be changed, and finally the Connection Properties window appears with the telephone number, protocol, security and script tabs set-up (if required). The connection device (modem or ISDN) will be defaulted to that for the Default Connection, but may be changed.

DUN Manager includes ISP information for a number of UK ISPs. The ISP files are slightly modified versions of the `INSTALL.INS` files created by the Microsoft Internet Explorer Administration Kit (IEAK) widely used by ISPs to install and customise MSIE, either distributed on CD or downloaded from their web site. To be used with DUN Manager, the file should be copied into the `ISP` directory and renamed to the name of the ISP (leave the `INS` extension). DUN Manager will then display the new name in the ISP Index, and will create a connection for it. If the `INS` file contains logon details, these will be set-up as well. The files distributed with DUN Manager are slightly modified, primarily with Alternate Telephone numbers added, as described in the file `ISPINFO.TXT`. Any contributions of ISP files for benefit of other users would be much appreciated.

## Choose Telephone Numbers

This window appears when Choose Numbers is clicked from Connection Properties - Telephone Numbers, displaying all pre-defined telephone numbers for the ISP selected for the connection entry.

### Number List

Displays one or more telephone numbers, broken down to area code, local number and sometimes a description of the number.

### Add Numbers

Once one or more numbers have been ticked, clicking this button will cause all the numbers to be added to the connection entries, ignoring any existing duplicates. Duplicates may be removed manually.

### Replace Numbers

Once one or more numbers have been ticked, clicking this button will cause all the existing numbers in the connection entry to be replaced with the selected numbers.

## Connection Properties - General

### Hide Connection

Tick this option causes this connection entry to be suppressed from all DUN Manager connection menus, unless 'Show Hidden Entries' is ticked in DUN Connections. This may be used to suppress test or old connections, or maybe connections that incur higher cost than others.

### Internet Service Provider - Name and Account

Allows the name of the ISP being accessed by this connection to be specified. Clicking the down array will drop down a list of installed ISPs, or the ISP name can be entered. An account name may also be entered manually but is not currently used by DUN Manager. The ISP name is added to the Session Log, and allows reports to be generated totalling up time and cost for different ISPs. The ISP name is also used for the Choose Telephone Number option that displays a list of telephone numbers for the ISP.

### Connection Start Tasks

Specifies that one or more scheduled tasks should be run immediately that a connection starts. This is an alternate means of running tasks when connections are started outside DUN Manager, to having a task retrying every two minutes waiting for a connection. If the task is specified to repeat, it will do so (which may not be desirable). The desired task should be selected from the drop down box and the Add button clicked. Old tasks may be removed from the list using the Remove button.

### General Connection Entry Properties Errors

A number of error message can occur when a connection entry is saved.

<i>Must Specify a Telephone Number</i>	DUN Manager does not allow an entry to be saved unless a telephone number has been entered on <u>Telephone Numbers</u> .
--	--

<i>Must Select a Dial Device</i>	On the <u>Device/Dialling</u> tab, a modem or ISDN device must be ticked.
----------------------------------	---

<i>Too Many Devices Selected, Can Not Specify Multilink Here</i>	On Windows 95 and 98, only a single dial device should be ticked. Multilink must be set-up using the Microsoft DUN Properties dialog.
--	---

<i>Must Enter Logon and Password, or Tick Allow Blank</i>	On the <u>Logon</u> tab, the logon name and password should be entered, or the setting to allow them to be deliberately left blank ticked.
---	--

<i>You have ticked "Logon to Network" Which is Only Needed to Access a Remote LAN, not the Internet</i>	For Windows 95 and 98, on the <u>Protocols</u> tab Logon to Network is selected. This causes up to a one minute logon delay when accessing a normal ISP, but is only needed to logon to a LAN to share disks and printers. This is only a warning message, and clicking Yes, allows the entry to be saved.
---	--

<i>You have ticked "Data Flow Hang-Up Warning" But Performance Statistics</i>	Data flow hang-up needs <u>Performance Statistics</u> to be enabled.
---	--

*are Not Yet Enabled in Preferences,  
Services*

. This is only a warning message,  
and clicking Yes, allows the entry to  
be saved.

*Invalid IP Address*

On the Protocols tab, Specific Fixed  
IP Address or Name Servers have  
been ticked, but the IP addresses  
have not been entered correctly.  
Unticking the boxes will stop the  
error.

*Unable to Save Entry, One or More  
Properties is Invalid*

This is a general error message  
returned by Windows when it is  
unable to save a connection entry,  
but without any specific information  
about what is wrong. Trial and  
error will be needed to see what has  
been selected that should not be.

## Connection Properties - History

### Recent Usage History

This shows when each connection was last used, the duration and telephone number called. The number of past sessions saved may be defined (defaulting to 10) but this is not intended to replace the Activity and Session Logs. It is used to restrict follow-on Scheduled and Auto Dial Connections, to ensure a minimum specified gap between connections. But it may also be useful to know when a connection was last used, for instance with free ISPs that close accounts unless they are access regularly.

## Connection Properties - Device/Dialling

### Override Default Dialling Options

The Dialling Options panel only appears if 'Default Properties' are being edited or if this box is ticked. If editing 'Default Properties', 'Dialling Options' will then apply to all connection entries that do not have overridden settings.

### Redial Attempts for Failed Call

If the call fails to connect the first time, how many attempts in total should be made before failing the connection, typically four but up to a maximum of 999. Note however that if the remote modem answered but failed to negotiate a connection (perhaps due to a bad logon), each call may be charged.

### Hang-Up If No Answer (seconds)

Specifies the number of seconds that the modem may wait attempting to make a connection before the call attempt will be abandoned. A shorter time will cause less delay if the remote modem does not answer, but too short may drop the connection after it has answered but is still negotiating a connection. 45 seconds is a reasonable compromise for a normal modem, 10 seconds is enough for ISDN. While dialling, the Call Status window will show a countdown timer before the call attempt is abandoned, but the Reset button may be clicked to restart the countdown if from the modem speaker it appears the call is about to connect successfully.

Note that the Microsoft modem properties dialog also has 'Cancel the call if not connected within x seconds' which should be set a higher figure than DUN Manager.

### Delay Before Redialling (seconds)

Specifies the number of seconds that DUN Manager should wait before redialling a failed call attempt.

### Modem Negotiation Time (seconds)

In order to provide accurate call costing, the duration of a session must be known. Unfortunately, modems do not return a status string when the remote modem answers only when negotiation is complete (ie when the warbling noise from the modem speaker finishes). This setting allows the average modem negotiation time to be estimated and used to calculate when the call was actually answered. This can never be precise, but does allow session duration to be more accurate. If the modem has a speaker, the negotiation time can be timed by listening for the remote modem answering the call and then check when the Call Status windows shows Connected/Answered (which should be when the modem speaker goes quiet). The negotiation time to different ISPs may vary. The negotiation time will typically be from 10 to 20 seconds for normal modems, but zero or one second for ISDN.

### Minimum Required Connection Speed

With poor connections, the modem may connect with a very low speed that makes internet use difficult. This option allows a minimum connection speed to be specified, and will cause an immediate hang-up and new dial attempt if the speed is too low. Beware of setting too high a speed, otherwise your connection will never be made. Generally the minimum speed should be a little below the expected normal speed, so perhaps 24,000 bits/sec for a 28,800 bits/sec modem, etc. Also be aware that the failed connection will have been charged so this option can be expensive.

### Redial if Authentication Fails

Specifies that a call that fails to authenticate within a specified number of seconds of being answered is assumed to have failed. DUN Manager will then hang-up and redial, assuming any more dial attempts are allowed (see above). A decent ISP will authenticate in five seconds or less. Note the connection time may show longer than this period when hang-up occurs, because of the modem negotiation time correction. Clicking Reset during authentication will disable the timer, perhaps if the ISP is overloaded and authentication is taking longer than normal.

### Dial Device

Displays a table of all the installed modems and ISDN devices that are installed and available for use by DUN. The physical port and device type is also shown. The device to be used for this connection entry should be ticked.

For Windows NT4, 2000 and XP multi link connections, two (or more) devices may be ticked, ideally similar device types. For Windows 95, 98 and ME multi link, the Microsoft DUN Properties dialog must be used to select the second device (this can not be done in DUN Manager due to limitations with the RAS APIs).

The device table also shows the telephone number allocated to the specific device. DUN Manager assumes that multi link connections will always dial the same telephone numbers, and does not currently allow them to be set for different numbers, although this can still be done using the Microsoft DUN Properties dialog (but the second number will be lost if this dialog is specified again).

In a new device is installed in Windows, it is recommended that that Windows is restarted to allow the new device to be recognised by software applications like DUN Manager. DUN Manager only checks for installed devices when starting, and may get confused if devices are added or removed while it is running.

Note that if a device is subsequently removed, Windows will still start the, but will choose the device randomly (if there is a choice), perhaps with unexpected results.

## Connection Properties - Disconnection

These properties relate to the automatic disconnection features of DUN Manager, designed to avoid remaining connected unexpectedly for long periods (for instance overnight) particularly for those that pay their own telephone bills. There is also an option to delay hang-up where the cost of all call will not increase for a further period of time. An optional warning and countdown may be specified before automatic hang-up, to allow it to be stopped for particular session.

These properties are also used to block the connection entry and stop it being dialled at specific times of the day or week. This may be useful where a PC has both timed and untimed connections available, to stop people using the wrong one by mistake

### Override Default Disconnection Settings

Disconnection settings only appear if 'Default Properties' are being edited or if this box is ticked. If editing 'Default Properties', these settings will then apply to all connection entries that do not have overridden settings.

### Scheduled Connections

If a dial-up networking connection is started by the Scheduler, the disconnection settings specified for the task will override anything set here for the connection.

### Timed Hang-Up Warning

Allows a call to be hung-up automatically after a specified period, in minutes, irrespective of any data flow or other connection activity. This is really a fail safe for the Data Flow Hang-Up option, which can be fooled by applications deciding to start accessing the internet on their own. This option can also be disabled or enabled for a specific call from the Call Status window, which also displays the remaining period until hang-up and allows the period to be changed. This option is also used to block an entry and prevent it being dialled, effectively a special case of hanging-up the call before it is connected.

### Data Flow Hang-Up Warning (Idle Connection)

Allows an idle call to be hung-up automatically. If the volume of transmitted and received data in characters falls below a certain level over a specified period. Setting the level below which hang-up will occur may need some knowledge of what application are likely to be running.

### Disconnection Time Bands

It is common to need differing disconnection settings at varying times of the day or week, perhaps depending on the cost of telephone calls, or the likelihood of Windows being used. An unlimited number of time bands may be specified here.

### Band Start Time

Specifies the start time for the band, where 00:00 is midnight. The start times should be arranged in increasing order by day. DUN Manager has default start times of 07:00, 18:00 and 23:00 for weekdays, and 09:00 and 23:00 for weekends, roughly representing home use.

### Valid Days

Specifies the day of the week on which this time band is valid, or weekdays, weekends or every day. Clicking or typing in the Valid Day column will cause a drop down arrow to appear, allowing a list to be dropped down with the days of the week, weekdays and weekend options. Please be careful not to allow multiple choices, such as Monday and Weekdays, this is not validated and the first found will be used. Any other day setting overrides every day, so you can not mix it with specific days.

### Timed Hang-Up Minutes

The time in minutes after which the call will start the hang-up process, but following by the optional countdown (see below). The DUN Manager defaults are 5 minutes for weekday daytime (and peak cost



telephone calls), 120 minutes for the evening and weekend, and 30 minutes during the night (when most people are unlikely to remain online for long periods). Setting the time too short may cause a long download to be accidentally aborted, too long and that's extra time on the telephone bill. All these settings may be changed. The time may be changed while online from the Call window, which may be useful when a session is going to take longer than normal, but disabling timed hang-up completely is dangerous.

Setting timed minutes to the word 'Never' or -1 will cause the entry to be blocked and DUN Manager will prevent it being dialled. If another application starts a blocked connection, DUN Manager will hang it up as quickly as possible, on Windows 9x this should be before the call is answered, but on NT4/W2K/XP it will not happen until after answer (but at least only the minimum call cost is incurred).

### Data Flow Hang-Up Characters

Specifies the combined volume of data received and transmitted during a specified time, below which the call is considered to be idle, defaulting to 1,000 characters. The minimum data volume may need to take account of automated on-line functions, like email being automatically checked or the PC clock being reset (see below).

### Data Flow During Minutes

Specifies the time during which data flow should be checked, before the call is considered idle. The time may be set in fractions of a minute, ie 2.5 is 2 minutes 30 seconds. The DUN Manager default is two minutes peak, 10 minutes evening and five minutes at night. Data flow is checked every five seconds. If the period is set to 0.25 minute (the minimum), the hang-up process should start 20 seconds into a connection with no data flow. Note that PC clock setting may occur 35 seconds into a connection, so set a minimum data flow of 3,000 bytes to ensure this is ignored. The maximum data flow period is about 45 minutes, although much shorter periods may rather more sense.

### Countdown Seconds

If the PC is being used interactively, it may be useful to stop automatic hang-up. If Countdown Seconds are non-zero, when the timed hang-up time expires or data flow becomes idle, the Single Call Status or Multi Call Status window will appear showing a red warning message, a Sound will optionally be played and a countdown will start for the specified number of seconds, during which automatic hang-up may be cancelled by clicking the Reset button. If data flow restarts during the countdown, it will be reset automatically. DUN Manager defaults to a 70 second countdown, but this may be reduced or increased. For unattended PCs such as servers, the countdown should usually be set to zero.

### Test Period

For assurance that the disconnection start time and valid days have been set in a logical manner, a Test feature is provided. A sample connection starting time and date (selected from a calendar) may be specified, and clicking the Test button will display the time band that would be chosen for this call. It is recommended this is repeated for several different times.

### Delay Hang-Up Until x Seconds Before Charging Interval

This option will only be effective if Call Costing is enabled. It causes the hang-up countdown setting specified here to be increased until a specified number of seconds before the next charging increment is due. Note that a call's cost is only calculated every five second and hang-up may take up to five seconds, so it's recommended that hang-up is 10 seconds before the increment. In the UK, this is only worthwhile for very short calls that are less than the BT minimum cost. Most BT competitors are now adding a connection charge to calls, so there is no charging increment. This option will be useful where DUN Manager is used to monitor a proxy server supporting dial on demand, where a call is initiated when a user on the network needs internet access but has no knowledge of whether a call is active.

### Microsoft Modem Properties

Note that the Microsoft modem properties dialog also has 'Disconnect a call if idle for more than x minutes', however this should generally be disabled when DUN Manager is being used. Many users believe it to be unreliable.



## Connection Properties - Logon

These properties always appear when editing a connection.

### Logon Name and Password

The logon and password for the internet account, as supplied by the internet provider. Virtually all internet connections will require a valid logon name and password. On Windows 95, 98, ME and NT4, the number of asterisks in the password field indicates the number of letters in the password. With Windows 2000 and XP, approximately 16 asterisks will always appear irrespective of the length of the saved password - this is a Windows 2000 and XP design 'feature'.

### Domain

For connections to networks for file and print sharing, specifies the domain on which authentication is to occur. This is not needed for most internet connections and should be left blank.

### Callback Number

Some internet accounts offer a callback service, so that after dialling and initial authentication of a connection, the outgoing call will be hung-up immediately and a return telephone call will be made which the PC will answer automatically, with the connection then going online. Sometimes this is done for security, with the callback number being determined by the account, but it can be to save the cost of the local telephone call in which case the number to callback may be specified here.

### Do Not Save Password But Display Logon Dialog When Dialling

Where a PC may have multiple users, for security purposes it might be preferred that the password is not saved, but entered each time a call is made. If this box is ticked, the password will not be saved and the Connection Logon dialog will instead appear before dialling starts allowing the password to be specified.

As well as logon name and password, the Connection Logon dialog allows a new telephone number to be specified, so ticking this option creates a general purpose connection that may be used to perform one-off access to most ISPs.

### Restore Password If Lost

In some circumstances (see below), the password may get lost on Windows 95 and 98. Setting this option causes DUN Manager to also save the password and use it when Windows fails to provide the connection password. Note that DUN Manager does not restore the password for connections started by other applications or Windows.

### Allow Blank Logon and Password

It is very rare for an internet connection to be possible without needing a logon and password, so DUN Manager will specifically prevent dialling if either of these details are blank, unless this option is ticked.

### General Comments

Allows multi-line general comments relating to the connection to be saved.

### Password Problem Solving

Some Windows 95, 98 and ME users have problems with DUN being unable to save passwords. Microsoft has Knowledge Base articles that describe various reasons that passwords are not saved, with article numbers Q135197, Q137361, Q141858 and Q148925. At the time of writing, these may be accessed on the Microsoft web site using the following links:

Web: <http://support.microsoft.com/support/kb/articles/Q135/1/97.asp>

Web: <http://support.microsoft.com/support/kb/articles/Q137/3/61.asp>

Web: <http://support.microsoft.com/support/kb/articles/Q141/8/58.asp>

Web: <http://support.microsoft.com/support/kb/articles/Q148/9/25.asp>

Note however that URLs do change over time, but searching for the original article numbers should always work.

The main suggestions in these articles are as follows:

1 - If you are not currently logged on to Windows 95 or 98. If you click Cancel in the logon dialog box that appears when Windows is starting, your password cache list file is not opened, and your passwords cannot be saved. Password cache list files are associated with individuals. If you do not log on, Windows does not know who you are, and cannot open your password cache list file.

2 - If you have installed Dial-Up Networking but the Client for Microsoft Networks or the Client for NetWare Networks has not been installed.

3 - If the user name contains characters that are not allowed in a file name. For example user/name would result in a .pwl filename of user/name.pwl which is illegal.

4 - Your password list (.pwl) file is damaged. Rename your .pwl file, type the following line at a command prompt, and then press ENTER

```
ren c:\<windows>\<username>.pwl <username>.xxx
```

where <windows> is the name of your Windows folder and <username> is the user name you use to log on to Windows. After renaming your .pwl file, restart your computer.

5 - The Rna.pwl file (if it exists) is damaged. Rename as above.

6 - Password caching is disabled. To check, use Registry Editor to view the following registry key:

HKEY\_LOCAL\_MACHINE\Software\Microsoft\Windows\CurrentVersion\Policies\Network. If password caching is disabled, the DisablePwdCaching DWORD value has a value data of 1. To enable password caching, change the value data to 0. If the DisablePwdCaching value does not exist, add this DWORD value with a data value of 0 to the registry key listed above.

You may need to remove this value altogether, and then restart your computer to make caching work.

7 - Automatic logon is enabled. To disable automatic logon, delete the AutoLogon binary value from the following registry key:

HKEY\_LOCAL\_MACHINE\Software\Microsoft\Windows\CurrentVersion\Network\Real Mode Net.

8 - One or more of the files associated with Dial-Up Networking is missing or damaged. Install the latest version.

9 - User profiles are disabled, but the ProfilesList key is present in the registry.

## Connection Properties - Misc

These properties always appear when editing a connection, although some items only appear for Windows NT4, 2000 or XP.

### Auto Dial (not settable)

These items show the DLL and function that will be called when Windows initiates an Auto Dial connection. If Auto Dial is set in DUN Manager, the DLL file name will be `dundial.dll`. If another DUN package is installed, it may be different.

### Phonebook Location

For Windows 2000 and XP, this shows whether the connection entry is in the current user's phonebook (only available to the current user), or the all users phonebook (available to all users). If a new entry is being created, the desired phonebook may be specified here.

### Idle Disconnect

Please don't rely on this facility, but use Disconnection options instead. This idle option is part of RAS, and should be set to None here to allow DUN Manager settings to be effective.

### Use Global Device Settings

For Windows XP, specifies RAS should ignore the device settings specified in the phone-book entry. Instead, RAS uses the device settings specified in the modem control panel applet.

### Redial If Line Dropped

For Windows XP, specifies that RAS automatically attempts to re-establish the connection if the connection is lost. This is not supported by DUN Manager, use Reconnection settings instead.

### Secure Local Files, Preview Phone Number, Shared Phone Numbers, Preview User Pw, Show Dialling Progress, Phonebook Entry Type

These are all options relating to the way that Windows 2000 dials calls, and are ignored by DUN Manager.

### VPN Strategy

The VPN strategy to use when dialling a VPN connection.

## Connection Properties - Multi Link and VPN Server

These properties always appear when editing a Windows NT4, 2000 or XP connection, but BAP or VPN are mutually exclusive depending upon device settings.

### Multilink Bandwidth Allocation Protocol (BAP)

BAP is sometimes called Bandwidth on Demand (BOD). It relates to the ability of multilink connections to start an additional channel when the capacity of the first channel is fully used, or to drop the second channel when the bandwidth no longer justifies the extra cost.

### Don't Negotiate Multilink for Single Link

For Windows XP, specifies the default behavior for the RAS client is not to negotiate multilink.

### Multilink Devices Use Same Number

For Windows XP, specifies RAS should use the same set of phone numbers for all subentries. RAS uses the set of phone numbers assigned to the first subentry. This flag has an effect only in the context of multi-link connections and is defaulted true since DUN Manager only supports this option.

### Dial Mode

Determines whether one or all channels of a multilink connection are initially dialled. On NT4, the second channel may then be started manually from Dial Up Monitor, but this seems have disappeared from W2K. DUN Manager does not yet allow the second channel to be started except at the beginning of the connection.

### Dial, Hang-Up Percent and Seconds

Specifies a percent of the total bandwidth available from the currently connected subentries. RAS dials an additional channel when the total bandwidth used exceeds Extra Percent of the available bandwidth for at least Sample Seconds, or RAS terminates (hangs-up) an existing channel when total bandwidth used is less than Extra Percent of the available bandwidth for at least Extra Sample Seconds. These BAP options are only supported by Windows 2000, and not DUN Manager.

### VPN Host Name or IP Address

When using a Virtual Private Network device, specifies the internet host name or IP address of the VPN server to call.

### VPN Prerequisite Entry

For Windows XP, specifies a phone-book entry which should be dialled by RAS prior to establishing the VPN connection specified by these. This is not supported by DUN Manager, instead use the Default VPN Connection which does the same thing for all windows platforms.

### VPN Prerequisite Phonebook

For Windows XP, specifies the full path and file name of a phone-book (PBK) file for use by the Prerequisite Entry for VPN connections.

### Phonebook File Name

For Windows 2000 and XP, shows the physical file name in which the connection entry has been saved.

## Connection Properties - Protocols

### Network Framing Protocol

Specifies the framing protocol used by the server. PPP (Point-to-Point Protocol) is most common for internet access, SLIP (Serial Line Internet Protocol) is used mainly in UNIX environments, and Asynchronous NetBEUI is a Microsoft proprietary protocol implemented in Windows NT 3.1 and Windows for Workgroups 3.11 (not supported in Windows 2000).

### Protocol

Specifies the network protocols to negotiate. The TCP/IP protocol is that used by the internet, IPX is mainly for use with Netware LANs, while NetBEUI is for Microsoft LANs, but is not often used now. Unless a LAN server is being accessed, untick IPX and NetBEUI since they will slow down negotiation of an internet connection. Unless TCP/IP is ticked, internet connections will fail.

### SLIP Frame Size

Specifies the SLIP network protocol frame size. The value should be either 1,006 or 1,500.

### TCP/IP Settings

For most internet access, all these TCP/IP settings may be left unticked, and DUN will automatically negotiate the necessary IP addresses dynamically with the remote server each time a connection is made.

### Specific Fixed IP Address

If ticked, RAS tries to use the specified fixed IP address for the dial-up connection. The IP address will have been notified by the ISP or your network administrator. Very few ISPs now allow fixed addresses. An IP address set here or retrieved from a server overrides the IP address set in the network control panel.

### Specific Name Servers

If ticked, RAS uses the specified primary and secondary Domain Name Server (DNS) and Windows Internet Name Server (WINS) IP addresses. These IP addresses will have been notified by the ISP or your network administrator, or may be on the ISPs FAQ list. Specifying the DNS addresses might sometimes be necessary to make a connection function.

### Internet

Windows XP, specifies that the connection is to the Internet.

### Header Compression

If ticked, RAS negotiates to use IP header compression on PPP connections. It is generally advisable to set this because IP header compression significantly improves performance. Some servers may not correctly negotiate IP header compression.

### Remote Default Gateway

If ticked, the default route for IP packets is through the dial-up adapter when the connection is active, otherwise the default route is not modified.

### TCP Window Size

For Windows XP, specifies the TCP window size for all TCP sessions that run over this connection. Setting this value can increase the throughput of high latency devices such as cellular phones.

### DNS Suffix

For Windows XP, specifies the Domain Name Service (DNS) suffix for the connection.

### Network Logon

For Windows 95, 98 and ME only, if ticked RAS logs on to the network after the point-to-point connection is established. This option is only used if accessing a LAN server to share files and printers. It is not necessary for the internet, and will indeed slow down call negotiation by up to one minute..

#### Disable LCP Extensions

If ticked, RAS disables the PPP LCP extensions defined in RFC 1570. This may be necessary to connect to certain older PPP implementations, but interferes with features such as server callback. Do not disable the extensions unless specifically required.

#### Software Compression

If ticked, software compression is negotiated on the link. Setting this flag causes the PPP driver to attempt to negotiate CCP with the server. This should be set by default, but clearing it can reduce the negotiation period if the server does not support a compatible compression protocol.

#### Terminal Before Dial

If ticked, RAS displays a terminal window for user input before dialling the connection. Rarely needed.

#### Terminal After Dial

If ticked, RAS displays a terminal window for user input after dialling the connection. Do not use this if a dial-up networking script is to be associated with the connection, because scripting has its own terminal implementation.

#### Modem Lights

For Windows 2000, causes a status monitor to be displayed in the Task Bar.



## Connection Properties - Reconnection

These preferences relate to the automatic reconnection features of DUN Manager, designed to keep connections running for long periods. They are mutually exclusive with the Disconnection options which are designed for the opposite purpose. Reconnection Restrictions are however provided to eventually stop the connection, for instance if a free or low call cost period is about to come to an end.

In addition to the Reconnection Restrictions set here, it is also recommended that a Scheduled Task is specified that will hang-up a call at a specific time or day, for instance at 7.55am on a Monday morning if use has been made of free telephone calls during the weekend.

If Reconnection is enabled for a call, a warning message appears in the Call Status window when the calls starts (although it may be overridden by subsequent status messages).

### Override Default Reconnection Restrictions

Reconnection Restrictions only appear if 'Default Properties' are being edited or if this box is ticked. If editing 'Default Properties', these restrictions will then apply to all connection entries that do not have overridden settings.

### Reconnect When Connection Drops

Allows automatic redial if a call unexpectedly hangs-up, perhaps due to the ISP dropping it or line noise. If you pay for phone calls, be careful using reconnection since you may have some very long calls. Connections started by the scheduler will be reconnected if so specified. 'Redial Attempts' are reset before reconnection to allow for real failed call attempts. There is no warning screen before redialling.

### Timed Reconnection (hang-up and redial)

Timed reconnection is useful for those whose telephone or internet billing increases after a specific period. Some countries offer the first 30 minutes at low cost, and then significantly increase the cost for longer calls. In the UK, some telephone operators offer the first 10 minutes of off-peak calls free, with charging starting from the 11th minute.

If this option is ticked, after the specific period in minutes, the connection will automatically hang-up and then redial. Another option allows the Call Status window to appear showing a reconnection warning, a sound will be played and there is a 'Countdown' period during which automatic reconnection may be cancelled. The Countdown is from the Disconnection options. Clicking Reset in the Call Status window will reset the timed reconnection period to the start, or it can be disabled by unticking 'Timed Hang-Up Enabled'.

Please note that currently DUN Manager times the reconnection from when the connection is authenticated, not when the modem answers (and billing starts). So the reconnection and countdown times together must be at least 30 seconds less than the free charging period, for the call to hang-up without a cost being incurred.

### Maximum Session (hours)

The maximum cumulative reconnected session times may be specified in hours, but this is only used to stop a further redial attempts, not to cause hang-up.

### Reconnect Delay

Specifies the delay in seconds before redialling will start.

### Reconnect Connections Started by Other Applications

To avoid unexpected connections, reconnection is normally only available for connections started by DUN Manager. Ticking this option will cause reconnection for calls started by any other application as well.

!!! Beware that setting this option will prevent other applications hanging-up the call, it can only be

stopped by the various Hang-Up options in DUN Manager.

#### Stop Reconnection at a Specific Time

To prevent long connections, this option allows hang-up at a specific time, overriding any timed disconnection. This will typically be before a higher call cost period starts (ie 7.55am) or at the end of the working day. A Scheduled Task can also be used stop reconnection at a specific time of day or week.

## Connection Properties - Keep/Check Alive

While online, Check Alive performs periodic pings (accesses) of a remote host to check that the connection is actually working, and has not been frozen by the ISP's access server or router. This is only applicable for calls dialled by DUN Manager. No pinging is done if the combined transmit and receive data flow speed is more than 500 chars/sec (to avoid a potential problem where there is so much data flowing that the ping times out and potentially causes hang-up).

### Override Keep/Check Alive Settings

Keep/Check Alive Settings only appear if 'Default Properties' are being edited or if this box is ticked. If editing 'Default Properties', these settings will then apply to all connection entries that do not have overridden settings.

### Check Connection is Alive by Pinging Host, Redialling if Lost

Enables the Check Alive facility.

### Ping IP Addresses or Host Names

Two servers can be specified for pinging, by IP Address (to avoid DNS lookup problems) or by Host Name (which also tests DNS). The second server is only checked if access to the first fails. The server should be local at the ISP, perhaps the mail or web server. If you need to reach a specific server, make sure Maximum Hops (below) is increased to 24 or more, to prevent the ping stopping early. The IP address can be found for a domain name using 'Address Lookup' in Internet Diagnostics (you need to be online at the time).

### How Often to Check

Specifies the interval in seconds between ping attempts. The first check attempt is two seconds after connection, and then as specified (defaulting to every 60 seconds).

### Number of Ping Attempts

If check alive fails, the ping is retried a specified number of times (alternating with the second IP address, if specified). A ping that fails is retried immediately, which effectively means every three to four seconds since this is the timeout waiting for response. So if 10 retries are specified, it will be at least 30 seconds before the warning is displayed or hang-up occurs.

### Show Warning Before Hang-Up

A warning countdown may be optionally displayed when check alive fails. Note this is jerky because ping attempts continue while the warning is displayed and the three second timeout blocks the screen update. When the warning period expires, the call hangs up and will be redialled if there are any dial attempts remaining. Clicking Reset will disable Check Alive for the remainder of this call.

### Maximum Hops (TTL)

It is not necessary to actually ping the real server, so the number of 'hops' is usually limited to three which is quite sufficient to check the ISP dial-up access server (ie modem rack and router) is working. Note this means the responding server is not the one specified above, but one so many hops away. The domain name of the reached server is kept in the Activity Log.

### Keep Alive

Some internet providers have their modems set-up to automatically drop idle calls. This is most common when calls are unmetered and there is no incentive for the user to hang-up to save money. To keep the connection alive, a host may be periodically pinged or a page request made to a specific web server. Pinging does not use much bandwidth, whereas a web request may be to a large image that will cause reasonable activity.

Please do not use the defaults provided, but change them to servers at your own internet provider so as

not to cause unnecessary internet bandwidth. The interval at which keep alive should be done should be just less than the timeout at your internet provider, perhaps 10 minutes. The Activity Log file shows when each keep alive request occurred, whether it was successful and how long the request took. For web requests, the http result code is shown, typically 200 for a successful request. The timings may be of some use for long term performance estimates, although they do not take account of the level of activity on the connection. The keep alive result is also displayed in the Call Status window.

## Connection Properties - Script

In the early days of the internet, many access servers needed manual authorisation on a command line to identify the calling user, before the proper PPP connection was established. The authorisation could be done using a terminal window and entering the details on a command line, or more commonly using a script that automated the authorisation process.

Most current access servers use Password Authentication Protocol (PAP) which sends the authorisation logon, password and IP addresses automatically, so a script is not required.

If PAP is not supported, the ISP will usually supply a suitable script that should be specified on this tab. Sometimes the script will include macros that take the logon information from RAS, otherwise it may be necessary to customise the script by adding your logon and password using the editor.

## Connection Properties - Security

It should not be necessary to set any security options on this tab, indeed very few ISPs support encryption and specifying Data Encryption will cause a connection to fail. Encryption is more commonly used when accessing LANs. X25 packet switching is now in decline, but still sometimes used for short connections, such as credit card authorisation.

### Require Encrypted Password

If ticked, only secure password schemes can be used to authenticate the client with the server. This prevents the PPP driver from using the Password Authentication Protocol (PAP) plain-text authentication protocol to authenticate the client. The Challenge Handshake Authentication Protocol (CHAP) and Shiva's Password Authentication Protocol (SPAP) are also supported. Do not set this option for increased interoperability, and do set it for increased security.

### Require MS Encrypted Password

If ticked, only the Microsoft secure password schemes can be used to authenticate the client with the server. This prevents the PPP driver from using the PPP plain-text authentication protocol, MD5-CHAP, MS-CHAP, or SPAP.

### Require Data Encryption

If ticked, data encryption must be negotiated successfully or the connection should be dropped. Very few ISPs support data encryption.

### Use Logon Credentials

If ticked, RAS uses the user name, password, and domain of the currently logged-on user when dialling this entry. This flag is ignored unless Require MS Encrypted Password is also ticked.

### Don't Use RAS Credentials

For Windows XP, if ticked RAS should use the default credentials to access network resources.

### Use Pre-Shared Authentication Key

For Windows XP, if ticked RAS should use a pre-shared key for authentication.

### Encryption Type

For Windows 2000 and XP, specifies the type of encryption to use for Microsoft Point to Point Encryption (MPPE) with the connection. This can be 40-bit or 128-bit encryption. This doesn't affect how passwords are encrypted. Whether passwords are encrypted and how passwords are encrypted is determined by the authentication protocol, ie, PAP, MS-CHAP or EAP.

### Custom Auth Key

For Windows 2000 and XP, this specified an Extensible Authentication Protocol (EAP) authentication key

### Require EAP

For Windows 2000 and XP, if ticked, an Extensible Authentication Protocol (EAP) must be supported for authentication.

### Require PAP

For Windows 2000 and XP, if ticked, Password Authentication Protocol must be supported for authentication.

### Require SPAP

For Windows 2000 and XP, if ticked Shiva's Password Authentication Protocol must be supported for authentication.

#### Require CHAP

For Windows 2000 and XP, if ticked, the Challenge Handshake Authentication Protocol must be supported for authentication.

#### Require MS CHAP

For Windows 2000 and XP, if ticked the Microsoft Challenge Handshake Authentication Protocol must be supported for authentication.

#### Require MS CHAP2

For Windows 2000 and XP, if ticked version 2 of the Microsoft Challenge Handshake Authentication Protocol must be supported for authentication.

#### Require W95 MS CHAP

For Windows 2000 and XP, if ticked Windows 95 Microsoft Challenge Handshake Authentication Protocol must be supported for authentication.

#### Don't Allow File and Print

For Windows XP, if ticked remote users should be prevented from using file and print services over the RAS connection.

#### Don't Allow Client for MS Networks

For Windows XP, if ticked remote users should be prevented from logging onto the PC over the RAS connection.

#### Disable NBT Probing Over IP

For Windows XP, if ticked NBT probing is disabled for this connection.

#### X25 Pad Type

Identifies the X.25 PAD type. Under Windows NT, the X25 Pad Type maps to a section name in PAD.INF.

#### X25 Address

Identifies the X.25 address to connect to.

#### X25 Facilities

Specifies the facilities to request from the X.25 host at connection.

#### X25 User Data

Specifies additional connection information supplied to the X.25 host at connection.

## Connection Properties - Sounds

These preferences related to audible and visual prompts that the PC is making calls to the internet. WAV sounds will only be available if a sound card is installed in the PC.

### Override Default Sounds

Sound settings only appear if 'Default Properties' are being edited or if this box is ticked. If editing 'Default Properties', these options will then apply to all connection entries that do not have overridden settings.

### Play Sound When Dialling Starts

Allows a WAV sound file to be specified that will be played when the call starts dialling. This may be useful where applications (such as Internet Explorer) have been known to start connections unexpectedly, and may allow the connection to be cancelled before it costs money. Clicking on the ellipsis at the end of the edit field displays a dialog allowing sound files to be easily tested and selected.

### Play Sound on Connection Online

Allows a WAV sound file to be specified that will be played when the connection finishes authentication and goes online. Clicking on the ellipsis at the end of the edit field displays a dialog allowing sound files to be easily tested and selected.

### Display Connection Status Every x Minutes

As a gentle reminder that you are still online, the Call Status window may be automatically displayed every so often, perhaps every 10 minutes.

### Play Sound to Remind Online Every x Minutes

Allows a WAV sound file to be specified that will be played as a gentle reminder that you are still online every so often, perhaps every 5 minutes. Clicking on the ellipsis at the end of the edit field displays a dialog allowing sound files to be easily tested and selected.

### Play Sound on Disconnection Warning

Allows a WAV sound file to be specified that will be played when the Data Flow or Timed Hang-Up Warning is first displayed. Ideally this sound wants to be sufficiently noisy so it draws immediate attention to the PC, allowing the warning to be cancelled if required. Clicking on the ellipsis at the end of the edit field displays a dialog allowing sound files to be easily tested and selected.

### Play Sound on Hang-Up

Allows a WAV sound file to be specified that will be played when the connection hangs up. Clicking on the ellipsis at the end of the edit field displays a dialog allowing sound files to be easily tested and selected.



## Connection Properties - Telephone Numbers

These properties always appear when editing a connection and relate to the different Dial-Up Networking connections used to access different ISPs. Some people may only need a single connection, others have multiple connections for different internet accounts. Note that all the settings on this page relate to a single connection, and must be specified separately for each different connection.

### Use Country and Area Codes

If ticked, the Country/Region, Country Code, Area Code and Local Number are used to construct the phone number. The number that will be dialled will depend upon the current Dialling Properties and Location, which may be checked by clicking the Dialling Properties button. For instance, the number dialled may include a pulse or tone dial prefix, extra digits to access an outside line, an international dialling prefix if to a country other than the current location, or extra calling card digits

More commonly, if the current location is the same area code as the connection, the call will be dialled as a local number without the area code. The main benefit of Dialling Properties is that the current location may be easily changed if the PC is moved between locations, with the correct number always being dialled. If 'Use Country and Area Codes' is not ticked, the Local Number will be dialled as specified, with no extra digits.

### Country/Region

Allows the country/region for the telephone number to be selected from a drop down list. The country code is shown bracketed after the country name. The Country Id is also shown, but can not be changed.

### Country Code

When a new country/region is selected, the country dialling code will be changed automatically to correspond.

### Area Code

Specifies the area code for the telephone number. If the dialling location does not have an area code (such as Singapore), leaves this empty. Do not include parentheses or other delimiters in the area code, for example, "206" is a valid area code; "(206)" is not. Generally, the long distance access code is also excluded, so in the UK most internet number will have the area code 845 not 0845. However dialling properties is able to recognise the extra 0 and remove it before dialling.

### Local Number

Specifies a telephone number. The way RAS uses this number depends on whether Use Country and Area Codes is ticked. If so, RAS uses the current Dialling Properties and Location to combine the Local Number with the country and area codes as detailed above, otherwise the Local Number will be dialled on it's own, with no extra digits.

Although in general it is better to make use of Dialling Properties, there are some circumstances with multiple connections where it may be necessary to specify the Local Number as the full number to dial. In particular, DUN Manager call costing works by looking at the Display Number (see below) which does not include Dialling Properties such as the access code for an outside line. So one such instance is where the modem is used on an internal extension from which an access code must be dialled, but where different access codes may lead to the call needing to be costed differently (with different telephone operators). Likewise, if an indirect access code needs to be dialled to access an alternative telephone operator from some connection entries but not others, the full dial number with access code should be specified.

### Alternate Telephone Numbers

Some internet providers have two or more telephone numbers, that may have differing availability. Ticking Alternate Telephone Numbers causes the Local Number to be replaced by an unlimited list of

Local Numbers. These will be dialled in rotation until the call successfully connects or the maximum number of dial attempts is reached. Up and down arrow keys allow the alternate number order to be changed. First select a number, then click the arrow to move it. Duplicate alternate numbers are allowed, perhaps to give a main number two chances to answer before a real alternate is dialled. The alternate numbers are treated as Local Numbers so the number dialled will depend on whether Use Country and Area Codes is ticked. On NT4 and Windows 2000, DUN Manager uses the same alternate number list as DUN (DUN on Windows 95 and 98 does not support alternate numbers).

#### Promote Alternate

When using alternate telephone numbers, the Promote Alternatives option causes the first number that successfully connects to become the top number for the next session, and the old top number drops the bottom of the list of alternates.

#### Use Different Numbers for Different Multilink Channels

Currently DUN Manager always dials the same numbers for all channels of a multilink connection, so this option can not be set.

#### Dialling Properties Button

Clicking this button will display a dialog that shows the current location of the user and allows it to be changed. The details of each defined location may be specified, such as the country and area code, any access codes needed for make local or national calls (typically 9), and allow a Calling Card to be selected to bill the cost of this call elsewhere.

#### Choose Numbers Button

If an ISP has been specified on the General tab and an ISP file exists, the Choose Telephone Numbers window will appear listing one or more telephone numbers for the ISP, allowing them to be specified automatically.

#### Display Number, Canonical Number and Dial Number

These fields show the telephone currently being entered, but in different ways according to Windows telephony Dialling Properties.

Display Number is always in national dialling format, and is the number used on the DUN Manager dialogs and lists, for Call Costing.

Canonical Number is the full telephone number, if Use Country and Area Codes is ticked there is + symbol followed by the country and area codes, and local number, otherwise just the local number. DUN Manager keeps this number in the various logs, but does not usually display it.

Dial Number is the telephone number that will be dialled, taking into account Dialling Properties and the current location, access codes and charge code properties (except that for security purposes the charge card name is shown, not the card number).

## Connection Properties - Clock Setting

These preferences relate to the automatic setting of a PC clock from an internet time server. PC clocks are inherently unreliable, and often drift considerably, perhaps minutes per day. Keeping your PC clock accurate is useful when sending email or reporting connection problems to your internet provider.

Note that DUN Manager also includes a Time Server. This allows other PCs on a LAN to correct their clocks from the PC running DUN Manager, which in turn corrects its clock from a remote time server. The Time Server is enabled from Preferences, General - Servers/Security.

Three different time protocols are available:

Time/TCP	Time Protocol as defined in RFC868 using TCP. This is the original time protocol, but is not supported by some modern time servers (like CIX).
Time/UCP	Similar to above, but using UDP instead of TCP, but this means the time request may be lost.
SNTP	Simple Network Time Protocol as defined in RFC 2030, using UDP, but will work with version 2 and later servers. Note that round trip timing is ignored, so time setting is no more accurate than Time/UDP.

Note that due to possible delays in the internet, it is not possible to set the PC clock with precise accuracy. Currently any difference of two seconds or less is ignored.

Please also note that changing the PC time while online can potentially cause interesting side effects in some applications, particularly those that use the start and ending time to find the duration of an operation.

There will also be a sudden jump in the time stamps in the DUN Manager Activity Log. The session start time is automatically corrected by the same time difference made to the PC clock, so that session duration and call costing will be accurate, but previously written lines in the Activity Log can not be changed and so will be inaccurate. The Session Log is written after the session completes, so will have the adjusted session starting time.

### Time Server Name

Specifies the host name of the internet time server from which the current time should be obtained. Most ISPs provide a time server, and you should normally use one as close as possible, to avoid delays in the internet. The drop down box lists over 170 different time servers around the world, but you can still specify your own.

### Time Protocol

Specifies the protocol for the internet time server, Time/TCP/ Time/UDP or SNTP, as detailed above. Note that some time servers may only support one or two of these three protocols, so test it to be sure.

### Prompt If Excessive Time Difference

If the internet time server is faulty for some reason, it does not make sense to use an incorrect time. So an acceptable time correction interval may be specified in minutes, beyond which a dialog will appear allowing confirmation that the correction should be performed. Note that the confirmation dialog only remains displayed for one minute, after which clock updating is abandoned. Setting zero means no warning dialog will appear.

#### Update Clock Interval

The number of hours between clock updates, typically four to six hours.

#### Last Clock Check and Correction Information

Shows the date and time when the clock time was last checked. and the correction required. The correction information is also displayed in the Status Window.

#### Get Server Time

Clicking this button, while online, will cause an immediate check of the internet time server and display the reported time and local PC time, both in GMT or UTC (which is the internet and Windows time standard, the displayed time in Windows is normally corrected by time zones). Due to delays in the internet, there may be a second or two difference between the internet and PC clocks.

#### Correct Time Now

Clicking this button will cause an immediate time correction to be performed, similarly to that normally performed periodically while online.

## Preferences, Logs/Cost - Logging

DUN Manager has three separate forms of logging: an Activity Log that keeps details of every step during a connection as an aid to fault finding and detailed call analysis (typically 10 to 100 lines per connection); a Session Log that contains about 50 items of information once a session has completed (a single line per connection); and a Task Log that keeps details of FTP, HTTP and Sync Files copies, downloads and uploads, one line per file, and one totals line per session.

The Activity Logs are designed to be kept for a relatively short time and may be automatically deleted after a specified number of days. A new Session Log is created each month, and old ones are never deleted.

Activity Logs are viewed through [View Activity Log](#), Session Logs through [View Session Log](#) and Task Logs through [Task Log](#). DUN Manager includes facilities to view and process [Session Logs](#), including totalling up monthly usage and costs, and recalculating costs according to different tariffs.

A sample Activity Log for a short session might look something like the following:

```
02/02/00
18:18:02 Starting Connection to CIX ISDN as magsys
18:18:02 Started Manually
18:18:03 Serial Port Opened
18:18:03 Connecting/Dialling
18:18:03 Connection Phone Number 0845 079 5222
18:18:03 Using Device TJISDN-Line1 on ISDN1
18:18:04 Waiting for Answer
18:18:05 Adjusted Call Answer Time to 18:18:04 Allowing for
Negotiation Time of 1 secs
18:18:05 Connected/Answered
18:18:05 Connection Speed 64,000 bits/sec
18:18:05 Connected/Answered
18:18:06 Connected/Negotiation
18:18:06 Start Authentication
18:18:06 Validating User and Password
18:18:11 Login Authenticated
18:18:12 Connected/Online
18:18:12 Successfully Connected to CIX ISDN
18:18:12 Local PC IP Address 194.153.27.40
18:18:12 Connected to IP Address 194.153.0.194
18:18:12 Protocol: PPP
18:18:12 Connected/Online
18:18:40 Contacting Network Time Server time.cix.co.uk
18:18:40 NTP Host: UTC/GMT Time 02/02/00 18:18:43
18:18:40 Local PC: UTC/GMT Time 02/02/00 18:18:40
18:18:40 Clock Correction Needed is +2 seconds
18:18:43 Clock Corrected from 18:18:41 by +2 seconds
18:18:43 Adjusted Connected/Answered Time from 18:18:04 to 18:18:06
18:27:41 Manual Hang-Up Triggered
18:27:41 Hang-Up Started Manually
18:27:41 Connected/Online
18:27:42 Call Cost 9.2p, with tax 10.8p - BT Bus Choices 1 Key
Numbers, Local or Local Rate from British Telecom
18:27:42 Performance Statistics Written to
c:\dunman\stats\stats-20000202-181804.csv
18:27:42 Disconnected
18:27:42 Session Duration 9:36
18:27:42 Session Data Transmitted 1,949,069 chars
18:27:42 Session Data Received 915,052 chars
18:27:42 Transmit Speed (chars/sec): Peak 7,862, Average 3,383
18:27:42 Received Speed (chars/sec): Peak 8,016, Average 1,588
18:27:42 Session Completed
```

Some of the logging detail is optional, and other activities like Keep Alive or web pages served will also

appear in the Activity Log, as will errors during connections and any diagnostics requested from the modem after a connection. Some of this information is also maintained in Windows modem and network logs, but there are major shortcomings such as no telephone numbers or connection names in the modem log making it hard to work out what was really going on when there are problems.

### Enable Session Log

A tick box that determines whether a log should be maintained of all sessions and session attempts. Unless a specific Log Directory has been specified, Session Log files are automatically created in a sub-directory LOGS in the DUN Manager program directory, with file names in the format Sessions-YYYY-MM.log where the date reflects when the month log was created. The raw log format is about 50 columns of comma separate variables which can easily be imported into other applications such as Excel or Access. All the session items names are written as the first record in the LOG file, to ease import. All dates are YYYYMMDD, time is HHMMSS, session duration is both seconds and timer HHH:MM, costs and currency are in separate fields, and blank fields still have delimiters. Note that DUN Manager converts dates and costs into more friendly versions for display.

### Enable Activity Logging - Detailed Connection Information

Tick to enable the Activity Log. None of the other logging options are effective unless logging is enabled. Unless a specific Log Directory has been specified, Activity Log files are automatically created in a sub-directory LOGS in the DUN Manager program directory, with file names in the format Activity-YYYYMMDD-HHMMSS.log where the date and time reflect when the log was created.

### Enable Task Logging - Files Uploaded or Downloaded

Tick to enable the Task Log. Unless a specific Log Directory has been specified, Task Log files are automatically created in a sub-directory LOGS in the DUN Manager program directory, with file names in the format Task-YYYYMMDD.log where the date reflects when the log was created. Task Log information is only maintained if the 'Update Task Log' option is also ticked for a specific task on the Scheduled Task Properties - General 2 tab.

### Logs Directory

Defines the directory in which Activity, Session and Task log files will be written. If left blank, logs will continue to be placed in the directory LOGS in the DUN Manager program directory. But using a specific directory may ease backup by allowing logs to be placed elsewhere.

### Activity File Creation

Determines how often a new activity log files should be opened:

New Log Daily	A new log file will be created before the first session each day.
New Log Weekly	A new log will be created before the first session seven days later than the previous log file.
New Log Per Connection	A new log file will be created for each separate session.
New Log When Started	A new log file will be created each time DUN Manager is started.

### Task File Creation

Determines how often a new task log files should be opened:

New Log Daily	A new log file will be created each day at midnight.
New Log Weekly	A new log will be created at midnight seven days later than the previous log file.

### Logging Specifics

A number of tick boxes specifying the level of detail maintained in the Activity Log file.

PC Local Information	Saves the Windows registered user name, company name and software version to the log file.
Progress Messages	Saves each separate progress message that dial-up networking returns to the log file. This level of detail may not always be necessary.
Performance Statistics	Saves the connection performance statistics to the log file.

### Delete Activity Logs

After a while, the Activity Logs may start taking up considerable disk space. This option sets a specific life for the log files, in days, after which they will be automatically deleted. Setting zero days means log files will not be deleted. Note that the deletion is done by checking the file date stamp, not the file name, so if a file is deliberately edited the life may be extended.

### Reopen Activity Log

Causes the current Activity Log file to be closed and a new file immediately opened. This may be done to allow the previous log to be sent by email to your internet provider. Also note that text being written to the log file is buffered during a connection, so viewing the file with a normal text editor while a connection is open will not show the last couple of logged lines. Once a connection is closed or viewed through [View Activity Log](#), the log is written and closed and so is always up to date.

## Preferences, General - License Key

Upon registering DUN Manager you will receive an email containing your Registration License Key and Order Number, both in the body of the email and as a small text file MIME attachment (`USERREG.TXT`), looking something like the following:

```
[DunManager]
RegistrationKey: rZgVh0jOi0pXkcUwWeSytbuTo/E1607
OrderNumber: 000000
WinName: Angus Robertson
OrderDate: 1998/04/23
```

It may be necessary to manually decode the MIME attachment if it not done automatically by your email client. It is also possible to use a text editor such as Notepad to create the `USERREG.TXT` file and just copy/paste the block of text into it.

The `USERREG.TXT` file should then be copied into the DUN Manager software directory, and this tab accessed. DUN Manager should automatically load the registration information so that the key and order number appear on this screen. The key date is also displayed, to assist in checking for an obsolete key. If DUN Manager can not find the `USERREG.TXT` file, you can also copy/paste the Key into the License Key field.

Note that the key is not checked immediately, instead a message "Registration Will Be Validated a Few Minutes Into Your Next DUN Connection" appears. The key has only been validated once the message "Registration Validated OK" appears and validation has only failed if a nag window appears after a connection. DUN Manager periodically revalidates the license key with the "Registration Will Be Validated a Few Minutes Into Your Next DUN Connection" appearing again. This is quite normal. The license key is also checked during routed connections and when running scheduled tasks, for those not using dial-up.

If a license key fails to validate and the nag window appears, please first check that the latest license key supplied by Magenta Systems appears correctly on this screen. It should be checked against the version in the body of the email, in case a problem occurred sending or decoding the attachment.

The License Key is based on the Windows registration details on the PC from which the form was completed. If your registration details are currently blank, meaningless (like Pre-Installed User) or otherwise incorrect, it is suggested that you use 'Update Windows Registration Details' utility available from the Magenta Systems web site at: <http://www.magsys.co.uk/apps/> to change the registered windows user name to something meaningful, before registering DUN Manager, to avoid needing to request a new license key later.

If you change PC or re-install Windows, it is recommended that the Windows registration details are re-entered identically to when DUN Manager was originally registered. If you enter different details, the old key will probably not work. You can therefore request a 'New License Key for Existing Licensee' using the Registration option. There is no charge for a new key.

A registered copy of DUN Manager may be used under multiple operating systems on the same PC, and on a home and portable PC provided that they are not generally used at the same time. and that the windows registration details are the same. The 'Update Windows Registration Details' utility mentioned above may be used to standardise the details.

The Dump key will save the window as a BMP image, if registration has failed. Please only send this image, compressed into a zip file, to Magenta Systems if specifically requested to do so. In the past, when ever this Dump feature has been used, the key proved to be different to the supplied by Magenta Systems, or registration had never actually failed.





## Preferences, General - Performance

These preferences apply to performance statistics, specifically the volume of data being transmitted and received by the modem or ISDN device. This information may be presented as a volume and flow speed in the Call Status window, the Activity Log, a Performance Graph and a Performance Statistics Log File.

### Enable Performance Statistics

Ticking this box enables collection of performance statistics and causes them to be displayed in the Call Status window.

Statistics Collection Interval	Specifies the interval between statistics collection in seconds, typically one or two seconds but may be longer on slower PCs or if processing statistics is found to be causing excessive CPU usage (very unlikely).
Speed Average	Specifies the number of collection intervals over which the data flow speed should be averaged, in order to smooth peaks causing by inaccurate timings, generally two or three intervals.

### Write Performance Statistics Log File

Ticking this box causes DUN Manager to create a separate performance statistics log file for each connection. The log file contains data in comma separated variable format, that may be subsequently imported into other applications (such as Excel) for further analysis or printing, or may be selected from the Session Log and viewed again in the Performance Graph window. A sample file may look similar to the following:

```
"04/02/00 12:50:19","Connection: CIX ISDN, Duration: 63 secs "
3,220,139,0,0
5,266,159,0,0
7,1478,1050,572,421
9,3490,5502,979,2166
11,5303,11806,884,3076
13,7306,14481,972,1298
15,10086,21888,1379,3675
17,11173,36933,522,7233
20,12714,53301,757,8043
22,14048,69441,649,7854
24,15034,84871,489,7657
```

The first line (or record) contains the connection date and starting time, connection name and duration. Each subsequent line contains five data items (or fields):

- 1 - time in seconds into the connection
- 2 - total volume of data transmitted, in characters
- 3 - total volume of data received, in characters
- 4 - averaged data transmitted, in characters per second
- 5 - averaged data received, in characters per second

In the sample above, the statistics collection interval was two seconds, with the graph data updated every interval, so effectively new data every two seconds. When using a modem, data may not appear for up to 30 seconds, until the call is answered.

### Statistics Logs Directory

Performance Statistics Log files are automatically created in the specified statistics directory or a sub-directory `STATS` in the DUN Manager program directory, with file names in the format `Stats-YYYYMMDD-HHMMSS.csv` where the date and time reflect when the log was created.

### Delete Statistics Logs After x Days

After a while, the Statistics Logs may start taking up considerable disk space. This option sets a specific life for the files, in days, after which they will be automatically deleted. Setting zero days means files will not be deleted. Note that the deletion is done by checking the file date stamp, not the file name.

### Use Total Counters, Not Ports

This bypasses any checks for separate channels in multi-channel calls, showing the combined statistics for all calls on each separate call. While this is primarily for cases where port detection fails, it is also useful for Windows 2000 users who prefer combined statistics for both ISDN channels (W2K is the only OS with separate statistics for separate channels).

### Use PDH.DLL

On NT4 only, this option forces statistics from the DLL instead of the normal method (although this is normally automatic).

### Enable Performance Graph

Ticking this box enables the Performance Graph window in which a calibrated X/Y graph will be plotted showing received and transmitted data flow speeds during the connection.

Graph Data Update	Specifies the number of collection intervals between updates to the graph plots, setting two intervals where the statistics collection interval is two seconds means a graph update every four seconds. The slower the updates, the less CPU required to support the graph window, although this should not really be a problem on modern PCs.
Graph Data Duration	Specifies the number of minutes of data displayed on the Performance Graph, typically five minutes. The graph scrolls horizontally to view data outside this period.
Graph Time Units	Specifies the time plotting units as either seconds or fractions of a minute.
Graph Colours	Two combo boxes allowing the colours used for the transmit and receive graph traces to be selected.

### Play Sound on Data Flow

Allows a WAV sound file to be specified that will be played when a specified volume of data has been transmitted or received, to confirm the connection is still download a file, for instance.. Clicking on the ellipsis at the end of the edit field displays a dialog allowing sound files to be easily tested and selected.

### Windows 95/98 Problems

How performance statistics are made available has changed between different versions of Windows 95 Dial-Up Networking, and on some PCs there may be a problem initialising performance statistics is a Dial-Up Adapter can not be located. This tab shows a list of one or more adapters found and enabled for

performance statistics. If the list is blank (on Windows 95 or 98), it will not be possible to enable performance statistics..

If no adapters are found, this is usually solved by installing the latest version of Dial-Up Networking, either version 1.2 or 1.3 which are available from the Microsoft web site. The version of DUN installed may be checked on the License Key tab.

It may also be necessary to make sure that Connection Properties, Server Types, Record a Log File is ticked, and in Modem Properties, Options, Display Modem Status is ticked. You may need to reboot after these changes and then make a connection, at which point the correct registry keys should be created allowing performance statistics to initialise correctly.

## Connection Properties - Servers

This tab contains the names of the various servers at the specified ISP:

SMTP (Send Mail)  
POP3 (Receive Mail)  
Email Address and POP3 server logon  
NTTP (Usenet News)  
HTTP Proxy (cache)  
FTP Proxy (cache)  
Socks Proxy  
URL - ISP Home Page  
URL - ISP Help and Support Page

Normally these will be completed automatically when an entry is created for a specific ISP or when the Choose Numbers button is clicked. Currently, DUN Manager does not make any use of these server names so you don't enter them manually. But future releases may use the servers information so it's useful to keep.

## Connection Properties - Launch Programs

### Enable Launch Programs

If ticked, allows this entry to launch one or more programs when online.

### Select Programs

The list on this tab is taken from Preferences, General - Launch Programs where programs are actually defined. Each program to be run for this connection entry should be selected with a tick.

## Preferences, General - Launch Programs

These preferences related to DUN Manager automatically start-up up other windows applications either when a session is connected or hangs-up. Launch Program may be used to run email checking or other similar applications. The program may also be optionally closed when the connections is over.

Note that once programs have been specified here, they must be selected in Connection Properties - Launch Programs for each separate connection entry for which they should be launched.

### Creating and Editing Programs

A list is shown of all the programs that have been previously defined to be launched by DUN Manager, and buttons allow new programs to be added, old programs to be tested, edited or deleted.

### Program Details

When creating or editing a Launch Program, a panel appears with the following details:

Name	A title for the program, used for identification and logging purposes.
Program File	The program to be launched, including the full path. Clicking the open icon after the field displays a dialog allowing the program to be easily selected.
Parameters	Any necessary command parameters that should be used when launching the program.
How Often To Run	Whether to launch the program when a session is connected, before hang-up or after hang-up.
Not If Already Running	A check is made to see if the program is already running, to avoid running it twice.
Close Program After Hang-Up	If the program was launched at the start of the connection, this option ensure it will be closed after hang-up. Some programs may however display confirmation dialogs before they actually close.
Aggressive Program Close	This option may be need to close some stubborn programs, mostly those sitting in the system tray. This should only be used if really necessary, since programs closed in this way (with a WM_QUIT message) may not save settings on exit or close down cleanly.
Hang-Up After Program Closes	When used with a program that launches at the start of a connection, the connection will automatically hang-up when the program is closed. Used with a program that launches immediately before manual hang-up, hang-up is suspended until the program is closed. In the latter case, note there is no timeout, so the

program must complete or hang-up started manually a second time. DUN Manager checks if the program is still running every three seconds, to reduce system overhead. Two or more programs can be launched, with hang-up only when all complete.

Run Minimised	A tick box that allows the program to be launched in minimised state so a window does not appear but it may be restored from the task bar.
For Connection	Allows a program to be launched for only a specific connection, leave blank for no such restriction.
Run Hidden	A tick box that allows the program to be launched in hidden. Note this option is very important when using the Service version of DUN Manager, see below.

Note that not all applications can be launched minimised, in particular this does not work with most Delphi applications (ie anything from Magenta Systems). This is because only the first window created is minimised by Windows, and with Delphi applications the first one is a special hidden window, not the one the user sees. Also, DUN Manager may have a problem stopping applications that are launched minimised.

#### Service version Issues


When using the Service version of DUN Manager, there are certain limitations running programs. This is because the service version runs in a 'hidden' window and programs are launched by default into this window, becoming hidden as well. If the program requires any user interaction, it will effectively wait for ever and can only be stopped using Task Manager to crash the task.

The Service version will only attempt to run programs specified as 'Run Hidden' (see above) itself. When using the Service and Monitor versions of DUN Manager together, non-hidden programs will be run by the Monitor version instead. If the Monitor version is not running, the program is ignored. For the Service version, 'Hang-Up After Close' is supported for interactive programs, but not 'Close After Hang-Up' (which is much more complicated).



## Preferences, General - Appearance

These preferences mostly relate the appearance and basic functionality of DUN Manager.

DUN Manager appears as  in the system tray. Left clicking on the icon is fully configurable, see below. Right clicking on the icon always display a multiple column pop-up menu, the left columns being all defined dial-up networking connections, the right column being the various DUN Manager functions.

### Left Single or Double Click Icon

Single or double clicking of the icon can cause the following functions:

- Ignore (do nothing)
- Call Status Window (displays or hides the window)
- Dial or Hang-Up (if off-line then dial the current Default Connection, if online then hang-up all calls)
- Performance Graph (displays the graph window)
- DUN Connections (displays the DUN Connections window from where all other DUN Manager functions may be accessed)

The recommended settings are single click for the Call Status window, Double Click for Dial/Hang-Up. Note that double click can sometimes be interpreted as single click.

### Animated Icon and Speed

If ticked, the system tray icon will be animated while a session is connected, effectively flashing a currency symbol and an interval that defined in milliseconds, 1,000 being recommended but it could be slower or faster.

### Connected Icon

Defines whether the icon should show a £, \$, € (euro), be red or a special extra symbol while connected. See below for more details. Please note this symbol has nothing to do with buying DUN Manager!

### Show Call Status Window

Three tick boxes that determine whether the Call Status window should automatically be displayed While Dialling, While Connected or After Hang-Up. The usual default is for display only while dialling, but even this is not really necessary. Note if the Call Status Window format is set to None (see below), no window will appear.

### Show Performance Graph

Two tick boxes that determine whether the Performance Graph window should automatically be displayed While Connected or After Hang-Up. The usual default is no display.

### Call Status Window Shows All Tasks

If unticked, the next scheduled task shown in the Call Status window is the first one that will dial a connection. If ticked, the actual next task to be run is shown. This is of primary benefit to those with untimed connections.

### Call Status Window Format

There are two different Call Status windows, so this option determines whether the Single Call Status or Multi Call Status windows are displayed, or no window perhaps for a server or internet kiosk. If only a

single modem is available, the former window is smaller than the latter, but the multi-call window is better for monitoring ISDN or multiple modems.

### Show Abbreviated Status

Enables an abbreviated status 'mini window' that shows the same text as the system tray icon hint but without needing to move the mouse over the icon. It may be minimised to the task bar, which will then show an even shorter version, usually cost and duration. Clicking in the mini window (on the narrow bar below the words) displays the DUN Connections window. The 'mini window' may always be displayed, or just when dialling and online.

### Customising the DUN Manager Icons

A facility is available to allow the system tray icons to be changed or customised. When DUN Manager is started, checks are made for icon files in the application directory, and if found these are used instead of the default icons supplied. It is possible to replace just a single icon, or all of them.

To create or modify icons, you will need a suitable image editing tool, such as those supplied by Microsoft or Borland, or available from shareware sites. Magenta Systems is unable to supply such tools nor advise on their use. The DUN Manager 'idle' icon is supplied in a file called `ICONDEFAULT.ICO` and this may be edited to create a new 'connected' icon perhaps with a different currency symbol, and used to replace the new 'Extra' icon by naming it `ICONEXTR.ICO`.

There are eight icons in total, named `ICONIDLE.ICO`, `ICONDIAL.ICO`, `ICONTERM.ICO`, `ICONUK.ICO`, `ICONUSA.ICO`, `ICONEURO.ICO`, `ICONRED.ICO` and `ICONEXTR.ICO` for idle, dialling, hang-up, and the four currency symbols and the red phone. If you create a new set of icons, please send them back to us for possible inclusion in new release of DUN Manager.

## Preferences, General - Default Connection

These preferences set the Default Connection that will be dialled when the Dial button is clicked from the Call Status window, or the system tray is double clicked (if so specified in [Appearance](#)).

It is possible to allow different connections to be made the default at different times of the day or week, or sequentially, so when one ISP is not available a different one is tried. This will benefit users with two or more different ISPs offering better value at different times, such as untimed access in the evening or at the weekend. Sequential connections may also be useful for users of the BT ADSL USB service which uses RAS to login to one of eight different gateways, some of which may be down.

After the Default Connection has been started, a VPN connection may be specified to immediately follow. This will be useful where a local ISP is first called, followed by VPN to a remote network.

The Default Connection is also used by [Auto Dial](#) and optionally by scheduled tasks.

### Default Type

Determines whether the default connection is single (always the same), multiple (based on day and time, dual (single then VPN), multiple sequential (one after another), multiple then VPN, or none.

### Connection to Dial

Defines which default connection to dial. A drop down list of all the DUN connection entries is available for selection.

### VPN Connection

Defines which VPN connection to 'dial' once the default connection is online. A drop down list of all VPN connection entries is available for selection.

### Default Connection Time Bands

Allow the default connection to be changed for at varying times of the day or week, perhaps depending on the cost of telephone calls. An unlimited number of time bands may be specified here.

### Band Start Time

Specifies the start time for the band, where 00:00 is midnight. The start times should be arranged in increasing order by day. DUN Manager has default start times of 07:00, 18:00 and 23:00 for weekdays, and 09:00 and 23:00 for weekends, roughly representing home use.

### Valid Days

Specifies the day of the week on which this time band is valid, or weekdays, weekends or every day. Clicking or typing in the Valid Day column will cause a drop down arrow to appear, allowing a list to be dropped down with the days of the week, weekdays and weekend options. Please be careful not to allow multiple choices, such as Monday and Weekdays, this is not validated and the first found will be used. Any other day setting overrides every day, so you can not mix it with specific days.

### Connection

Defines the default connection of this band. A drop down list of all the DUN connection entries is available for selection.

### Test Period

For assurance that the default connection start time and valid days have been set in a logical manner, a Test feature is provided. A sample connection starting time and date (selected from a calendar) may be specified, and clicking the Test button will display the time band that would be chosen for this call. It is recommended this is repeated for several different times.

### Multiple Sequential

This allows two or more connection entries to be specified for use as the default, which will be dialled in a specified, sequential order, once any allowed retry attempts have been exceeded for each specific entries.

A list of all the connection entries is shown, those to be used as a default should be ticked and the arrow buttons used to move them up or down the list to change priority. Clicking Apply will move any ticked entries to the top.

If three connections are specified for sequential attempts, each with two attempts, there will be six call attempts in total before the call fails. This feature may be useful when a particularly busy ISP can not be accessed, so a more expensive one can be used instead.

## Preferences, General - Start and Stop

These preferences define how DUN Manager starts and stops, and start-up scheduled tasks.

### Auto Run DUN Manager When Windows Starts-Up

Ticking this box will cause DUN Manager to be added to the 'Run' key in the registry, and it will then be automatically started when Windows boots up. If there is already a shortcut for DUN Manager in a personal or all users Startup folder, these are automatically removed to avoid two copies running. Unticking the box will stop DUN Manager auto running. This option should be disabled before DUN Manager is uninstalled or deleted. The specific program that will be auto run is also shown, if incorrect (perhaps because DUN Manager has been installed in more than one location), click the Reset button to force it to become the currently active version of DUN Manager.

If the DUN Manager Service is used, automatic service start-up is specified through the Services windows. This Auto Run option will start DUN Manager Monitor, if the service is already running.

### Boot Delay (after IPL)

Defines a delay in starting DUN Manager after a PC boots. This may be necessary to ensure that networking and communications drivers get correctly loaded before DUN Manager attempts to access them. The default boot delay is 10 second boot delay, but experimentation will be needed to what delay is really needed. Note the boot delay is only effective if DUN Manager is started with the command line option `-boot`. This is added automatically when ticking the 'Auto Run DUN Manager When Windows Starts-Up' option below.

### Auto Start Default Connection when DUN Manager Starts

Ticking this box causes the Default Connection to be started immediately that DUN Manager starts. It may be useful where a PC could be rebooted while unattended, but please make sure Disconnection Settings are used unless you have untimed telephone calls.

### Leave Connection Open when DUN Manager is Exited

Ticking this box will prevent an active connection being automatically closed when DUN Manager itself is closed by Windows during shut down. It also suppresses the dialog box warning of an open connection during a normal DUN Manager exit. The call will be logged with a length up to the time that DUN Manager exits. This feature will help where data is specifically sent to a server when Windows shuts down.

### Exit DUN Manager After Any Hang-Up

If ticked, DUN Manager will exit after a successful connections. This is designed for users that prefer not to leave DUN Manager running all the time, but just start it occasionally. It is NOT recommended for most users.

### No Exit Warning

Ticking this box bypasses any exit dialogs when closing down DUN Manager.

### Start-Up Tasks

Specifies that one or more scheduled tasks should be run immediately that DUN Manager starts. This is a more reliable means of ensuring a task starts immediately DUN Manager starts, that using the normal scheduler, but is really only useful for PCs that are regularly powered on and off, or where DUN Manager is only run occasionally. If the task is specified to repeat, it will do so (which may not be desirable). The desired task should be selected from the drop down box and the Add button clicked. Old tasks may be removed from the list using the Remove button.

## Preferences, General - Call Monitoring

These preferences relate to the monitoring of RAS and TAPI connections.

### RAS Polling (Ignore TAPI)

This should only be set for installations where DUN Manager has ignored RAS connections started by other applications or when there are problems co-existing with other communication applications such as PC Anywhere and fax packages that need to share modem and ISDN devices

If ticked, DUN Manager will no longer passively monitor modem and ISDN devices for calls using TAPI events, but instead rely solely on RAS to report calls. This passive monitoring is what has caused some other applications to become confused, declaring the port was in-use, when in fact well behaved applications such as Hyper Terminal could still use it. It may also be useful with some ISDN devices that do not report TAPI events correctly, and may also ease or resolve other rare hardware problems. Currently, only an ISDN multilink call is only monitored and costed as a single call, and both channels will hang-up together.

There are several downsides without TAPI monitoring, but users that need to co-exist with other applications will probably consider them acceptable. Specifically, no modem connection speed is available for NT4, non-RAS and incoming calls can not be monitored, and calls originated by other applications on NT4 and W2K will not be monitored until successfully connected, ie when the modem completes negotiation. So busy, no-answer or failed negotiation calls started by other applications will no longer be logged by DUN Manager on NT4 or W2K. Monitoring calls without TAPI is how DUN Manager Release 1.0x worked, TAPI was added in 1.1x.

### Session Recovery Interval

If DUN Manager is terminated unexpectedly, perhaps by the PC being reset, power failures or being 'killed' in an unfriendly manner by Task Manager, there is no opportunity to update the session log on disk and details of the current session may be lost. This option allows session information to be saved to a recovery disk file, typically every 60 seconds, with the file being deleted when the session completes normally. When DUN Manager is started, it checks for these recovery files, and if found adds the information to the Session Log. Choosing the recovery interval is a trade off between reducing disk activity and losing data.

### Non-RAS Call Monitoring

Three tick boxes that relate to the monitoring of calls made by applications other than Remote Access Services (or DUN). Non-RAS calls that can be monitored are those using TAPI, such as HyperTerminal, Ameol2 (direct dial) and most windows fax applications. It also includes incoming calls that are answered by TAPI, typically fax but also the RAS Dial-in Server. The tick boxes determine whether the Status window will be automatically shown for non-RAS calls (it is always updated even if closed), whether the system tray icon should indicate a call and also play connected sounds, and if non-RAS calls should be kept in the Session Log. All calls are kept in the Activity Log.

### Polled Monitoring DLL

This option is designed to support an external monitoring DLL for specialist use when DUN Manager is used unattended. Such a DLL might be triggered externally to launch specific connections and/or tasks.

## Preferences, General - Router

These preferences relate to monitoring routed connections, that is internet access without using dial-up networking (RAS) on the PC. A routed connection may be permanent such as a leased line, ADSL or cable modem, or dial-on-demand (DOD) typically using an ISDN router. Note that DUN Manager can offer no control over routed connections, it just monitors whether internet access is currently available.

For 'permanent' connections, a warning icon will appear in the system tray when internet access is lost, while DOD connections are treated similarly to dial-up with the flashing icon while online. In both cases, the call status window will show how long the connection has been active and it will be appear in the Session Log when over. To avoid complications, connections over three hours long are restarted for logging purposes at midnight, so ideally there will be one log line per day.

**WARNING** - if this option is used to monitor dial-on-demand routers, it's essential the router is configured to prevent the check pings causing an internet connection to be established. This is normally done with a call filter in the router, but may not be possible on all routers. Bay Netgear and Zyxel Prestige routers both allow such call filtering. Magenta Systems will not accept any responsibility for DUN Manager causing unnecessary DOD calls. If you don't know how to configure the router, please don't use router monitoring with DOD.

### Routed Connection Monitor

Ticking this option will cause a new Router tab to appear, on which the settings for monitoring routed connections (leased lines, dial-on demand routers, ADSL and cable modems) may be specified.

### Ping IP Address or Host Name

The IP addresses or host names of two servers that can be pinged to check whether internet access is available should be specified. These should ideally be routers or servers at your ISP, to avoid unnecessary network traffic. Using host names will also test that DNS is working. If the first host is unavailable, an immediate ping is triggered for the second. If this is successful while online, the second server will continue to be checked.

### How Often to Check

Specifies how often to ping the server while offline and online. Set the ping polling interval while offline to a short time, typically every five seconds, to detect new connections quickly (and because there is no network traffic generated), but longer while online, every 30 to 120 seconds (to avoid excessive network traffic).

### Ping Timeout (seconds)

How long to wait for the ping echo before it's considered to have failed, typically five seconds.

### Failed Ping Attempts Before Offline

Typically five failed pings should be allowed before the connection is considered to be offline, since heavy PC or network traffic may cause a ping to timeout. This is related to the ping timeout above, since five pings with five second timeouts means about 30 seconds to detect the offline connection.

### Maximum Hops (TTL)

In general, the less pinging done, the better (less bandwidth), so setting Time To Live low, typically three or four hops, means the pings will only reach the first routers at the ISP, rather than the servers. But some firewalls or gateway routers (Bay Netgear) may echo the ping without reaching the minimum number of specified hops, so causing DUN Manager to think there's a routed connection when it's offline. The solution to this is the Check IP Address option below, but this only works if the hops is set high so the ping does not stop short.

### Check Correct IP Address Reached

Checks the ping reached the specified host, which will only happen if the specified maximum hops (TTL) is greater than the number need to reach the server. This option is a fail safe to ensure a false ping echo has not been received.

### Connection Type

Determine how DUN Manager treats routed calls, either permanent such as a leased line, ADSL or cable modem, or Dial-On-Demand (DOD) typically using an ISDN router that initiates a dial-up call when a PC on the LAN attempts to access the internet, and drops the calls based on inactivity.

The primary difference here is that it's more important to know when a permanent connection fails, whereas a DOD connection may be costing money so you need to know when it's online. Changing this option will default other options on this tab.

Please note that Dial-On-Demand routers must be configured not to initiate a dial-up call in response to the pings used to check if there is a routed connection, see warning above.

### Log Sessions

Specifies whether details of routed connections should be kept in the Session Log.

### Show Online Icon and Sounds

Specifies that a routed connection should be treated similarly to a dial-up call and announced by the flashing online icon and 'connected' sound (set in DUN Connection Defaults). This is the default behaviour for Dial-On-Demand (DOD) routed connections.

### Show Warning Icon When Offline

Specifies that a warning icon should be shown in the system tray when the connection is lost, with the 'warning' sound (taken from the Sounds tab). The warning icon may be removed from the system tray by double clicking on it, but will disappear when the connection re-appears. This is the default behaviour for permanent routed connections.

### Show Performance

Specified whether performance information should be displayed in the call status windows, the performance graph and logs. Performance monitoring of routed connections is not available with Windows 95 or with NT4 unless a minimum of service pack 4 is installed.

Note that both LAN and WAN traffic is included in the statistics, which may further distort the figures if there is heavy file copying between local PCs or LAN printing. The only way to get more accurate routed performance statistics is to use low level packet 'sniffer' drivers, and count each separate packet (ignoring LAN stuff), but such low level drivers can cause the PC to be less stable. From testing, the performance figures may appear slightly higher than expected, it is believed this is because they include all network overhead bytes, ie downloading a 100K file could uses 120K of bandwidth.

### Log All Pings

To keep the activity size down, normally a successful ping is only logged when a routed connection starts, when pings fail (while online) and then once an hour. Specifying this option will cause every ping sent while online to be logged. Note that pings are never logged while offline.

### Interface to Monitor

Specifies which installed network interface card (NIC) should be monitored for routed connections. The drop down box shows a list of the names of the NIC cards and their MAC addresses (in case two identical cards are installed). Leaving the default of automatic will select the last interface in the list (if more than one), otherwise a specific interface can be selected.

### Connections/ISP Name

A name for the routed connection that will appear in the call status windows and logs.





## Preferences, General - Sounds

These preferences relate to sound files that are played by DUN Manager.

### Sound Directory

Defines the directory in which sound files will be located by default, typically `c:\windows\media` or `c:\winnt\media`. It is recommended that the DUN Manager default sound effect files are copied into this directory.

### General Warning Sound

Allows a WAV sound file to be specified that will be played to warn that a scheduled or auto dial connection is about to start dialling. Ideally this sound wants to be sufficiently noisy so it draws immediate attention to the PC, allowing dialling to be cancelled if required. Clicking on the ellipsis at the end of the edit field displays a dialog allowing sound files to be easily tested and selected.

### Multiple Beeps on Warning

For those PCs without a sound card, allows a specified number of beeps separated by a specified interval to be sounded instead of any of the defined sound files. Note that it's not possible to test this feature on a PC with a sound card, since the beep played will be a WAV file.

### Suppress Sounds during Night

Ticking this box will stop DUN Manager playing any sounds between specified stop and start again times. This may be welcomed for automated middle of the night connections.

## Preferences, General - Servers/Security

DUN Manager includes two servers than may be used to allow PCs on the LAN to access information from the DUN Manager PC. This tab also include options to protect DUN Manager settings from unauthorised changes.

### Time Server

This allows PCs on a LAN to correct their clocks from the DUN Manager PC using a time client package. Presently, only the Time/TCP protocol is supported. There are no specific settings for the Time Server, it is either enabled or not. If using the Time Server, it is recommended that the DUN Manager Clock Setting or

Scheduled Task Set PC Clock is used to ensure the local PC clock is correct.

### Web Server

Remote Call Status is available using a web browser such as Netscape or MSIE, to monitor call status and hang-up calls. This is primarily designed for networks where one PC with a proxy server accesses the internet, and allows remote network users to check if the internet connection is up, start it or hang it up, if necessary, without needing to physically attend the server PC.

To access the new status information on the same PC as DUN Manager is running use the following URL if the web server is installed on the default port 80:

<http://127.0.0.1/dmindex.htm>

If it is installed on the alternate port 8088 (which may be safer), use this URL:

<http://127.0.0.1:8088/dmindex.htm>

For remote PCs, use the proper IP address or host name instead of 127.0.0.1.

The Remote Index page dmindex.htm has links leading to a multi call Remote Status Window that shows the status of up to four calls in a grid, similarly to the Multi-Call Status Window and to four single call Remote Status Window that show the status of single calls only. The web pages will automatically refresh every five seconds.

Three buttons on the web pages allow dialling of the default connection, reset or hang-up of all current connections, just as if the same buttons were clicked in the normal Call Status window.

It is possible for a web page to access any of the 50 different call information items stored in the Session Log, if anyone has the inclination to design some better web pages.

Beware there may be security issues relating to the remote dial and hang-up features.

### Enable Web Server for Remote Status Pages

Ticking this box enables the built-in web server.

### Log Requests in Activity Log

It ticked, any requests for web pages will be logged in the Activity File, similarly to the following:

```
20:21:13 Web Server Get Request - /dmindex.htm from 192.1.1.4
20:21:15 Web Server Get Request - /dunlogo2.gif from 192.1.1.4
20:21:17 Web Server Get Request - /dmstatusm.htm from 192.1.1.4
20:21:21 Web Server Post Request - /dmstatusm.htm from 192.1.1.4
20:21:21 Web Server Posted Data - redirect=dmstatusm.htm& HangupAll=Hang-Up+All+Calls
```

This shows the index page being displayed in a browser, then the status page, finally an attempt to hang-up all calls. The IP address that originated the request is shown.

### Allow Remote Hang-Up

If ticked, a web browser will be able to hang-up all calls remotely.

### Allow Remote Dialling

If ticked, a web browser will be able to dial the default connection remotely.

### Allow Default Status Page

If ticked, the DUN Manager default index will appear for a 'blank' request, ie just '/'. To make it harder for hackers to find anything useful, it may be safer not to allow a default, but ensure only specific URLs are allowed.

### Full Local Web Server

In addition to supporting the Remote Call Status web pages, the web server will optionally serve other local web pages, from a specified directory (and sub directories), perhaps to replace a local web server for testing web pages off-line or running an intranet.

### Web Server Port

The http port may be specified, it defaults to the standard 80, but if there is another local web server already running it can be changed to a private port such as 8088. In the latter case, the URL needs to include the port number, after the address, as shown earlier. Using a private port also makes it harder for hackers to find anything useful.

### Local Base Directory

If running a Full Local Web Server, specifies the base disk directory where the web pages are stored. The base directory may contain sub-directories. Beware that any file in the base or sub-directory will potentially be available to anyone in the world that accesses your PC using the IP address allocated by your ISP, while you are online to the internet.

### Local Default Page

If running a Full Local Web Server, specifies what default index page will appear for a 'blank' request, ie just '/'. To make it harder for hackers to find anything useful, it may be safer not to allow a default, but ensure only specific URLs are allowed (and do not use index.htm or anything similar for your real index page).

### DUN Manager Settings Password Protection

DUN Manager settings may be protected with a password to avoid unauthorised changes. Protection is set separately available for editing DUN Connections Entries, Scheduled Tasks and Preferences (General and Logs/Cost). A password must be entered twice for confirmation, with an expiry time that requires re-entry of the password after a specified period of minutes. When entering a protected function, the password must be supplied.

## Preferences, Logs/Cost - Cost Defaults

These preferences relate to the DUN Manager Call Costing facilities that allow the monthly cost of internet usage to be calculated, for those that pay for telephone calls.

### Enable Telephone Call Costing

A tick box that specifies telephone call costing is to be used. When ticked, another panel will appear, and two more tabs for Telephone Tariffs and Telephone Numbers.

For telephone call costing to function correctly, one or more telephone tariffs must be installed and then the telephone numbers that apply to those tariffs specified. In addition, a default tariff can be specified that will be used in case new telephone numbers are dialled before the specific tariff is set-up.

### Enable ISP Costing

This feature is not yet available.

### Show Tax Inclusive Cost

If ticked, the Call Status window and icon hint show tax inclusive costs. The logs keep both non-tax and with-tax call costs.

### Cost Failed Calls

When making calls using a modem, it is quite common for the modem to answer and for call charging to be started, but for the call to be dropped a few seconds later due to negotiation failure. DUN Manager can only start costing a call once the modem responds with a 'connected' message (which is usually when the modem loudspeaker goes quiet). When an ISP is having modem problems, the cost of failed calls can start to add up. So ticking this option will cause DUN Manager to assume that a call has been answered after a dialling time defined in the Device table below. Unfortunately, with modems this can never be accurate because it is not possible to distinguish a call that is not answered from one that is answered but dropped a few seconds later.

### Cost Non-RAS Calls

If DUN Manager is used to monitor non-RAS calls such as async modem connections, AOL calls, Amod2 TAPI calls or fax calls, ticking this option causes the calls the costing using the default tariff in the Device table below (because the telephone number used for non-RAS calls remains unknown). This is generally not such a good idea as TAPI is regularly used to interrogate a voice modem for incoming faxes.

### Default Tariff and Dialling Time

Displays a table with the installed modems and ISDN adapters, allowing a default tariff and dialling time (see above) to be specified for each. Different devices may be cabled to different telephone lines from different telephone operators (in England often BT and a cable operator serve the same premises) so it is important the correct default tariff is specified.

The Default Tariff Name is selected by clicking in that column so that a drop down arrow appears, followed by a list of installed tariffs. If new Telephone Tariffs have just been installed, they will not appear in the drop down list until Apply is clicked.

## Preferences, Logs/Cost - Telephone Tariffs

This tab only appears if Enable Telephone Call Costing is enabled on the Cost Defaults tab.

DUN Manager is supplied with about 27 different local rate business and residential tariffs in the UK and tariffs for the following 45 countries: Argentina, Australia, Austria, Bahrain, Brazil, Bulgaria, Chile, Croatia, Cyprus, Czech Republic, Denmark, Egypt, Estonia, Finland, France, Germany, Gibraltar, Greece, Hungary, Iceland, Indonesia, Ireland, Italy, Jersey, Kenya, Lebanon, Luxembourg, Malaysia, Malta, Mauritius, Monaco, Netherlands, Norway, Portugal, Romania, Slovakia, South Africa, Spain, Sri Lanka, Switzerland, Thailand, Turkey, United Arab Emirates, Venezuela and the UK. Further countries are being added regularly

The UK tariffs are taken from the UK Telecom Tariff Comparison web site (<http://www.magsys.co.uk/telecom/>) also operated by Magenta Systems Ltd and over . A free six month license for DUN Manager will be provided to anyone outside the UK that supplies new tariff information for new countries, or who is able to provide substantially better information than currently available. Such information should cover all the major tariffs in the country, not just a local area. Please email [dunman@magsys.co.uk](mailto:dunman@magsys.co.uk) if you are able to offer such information, but first check the Tariff Notes at <http://www.magsys.co.uk/dunman/> to make sure your country is not already covered or pending for the next release.

There is no facility to create or edit tariffs in DUN Manager, they must be selected from Tariff Master Files. However the format of the master files is very simple and extra tariffs can be easily added using a text editor, and then shared with others. Further details are contained in the `TARIFFS.TXT` file. Any changes should however be made by creating a new Tariff Master File since re-installation will overwrite the original files.

Please note that DUN Manager tariffs are generally tax exclusive, to ease problems in case of tax changes. This reflects how most itemised telephone bills are presented. DUN Manager then calculates the cost with tax. The Logs include costs with and without tax and optionally, the cost of calls in the Call Status window may be with tax.

In the UK, there are basically four different costing bands for local calls, often with different tariffs, and it's essential that the correct one is chosen if costing is to be accurate:

Local	A 'true' or geographic local call usually made without dialling an area code first, with the exception of London where 0181 and 0171 are local to each other.
Local Rate	A national number that is charged at a local rate, 0345, 0645 and 0845. Some operators charge the same as a true local call, but many charge extra (due to poor interconnection agreements between operators).
Own Local	Some cable companies charge a lower rate to local numbers of their own customers, and some off peak calls are even free, however internet providers are usually excluded from free calls.
Local Internet	Some operators have special rates for access to internet services, sometimes cheaper, sometimes more expensive than normal local tariffs.

There are of course lots of further tariff complications, with numerous discount schemes, lower call costs if you have more than one line, special prices to some internet providers, etc. But the supplied Master Tariff Files should cope with most of this confusion marketing.

The main tariff aspect not currently handled by DUN Manager is fixed monthly costs that may cover all calls made during a certain period (for instance the weekend) or a specified number of call minutes, with per minute costing then being started. It is hoped to cover such things in the next main release of DUN Manager.

#### Installed Tariffs Available for Connections

A list showing the tariffs that have been selected from Tariff Master Files and installed for use with connections. Clicking the View button or on a specific tariff displays the Tariff Details window showing the currently selected tariff. Existing installed tariffs may be deleted. If this is done, please respecify any telephone number of devices using this tariff.

Note that there is currently no automatic updating mechanism, so if the cost of calls changes, the tariff must be re-installed. Extra tariffs can be added to see the effect of changing to different operators or discount schemes.

#### Tariff Master File

Shows the file name of the currently selected Tariff Master File containing telephone tariffs for a number of operators in a specific country. Clicking Find will display a dialog indexing any such files (with extension `TRF` in the `COSTING` directory) and will then display the Title and Date of the information in the file. The date shown is when the tariff file was last updated.

#### Available Tariffs

A list showing all the different tariffs defined in the currently selected Tariffs Master File. Clicking the View button or on a specific tariff displays the Tariff Details window showing the currently selected tariff. Clicking Install will make this tariff available for costing calls.

Once all the desired tariffs have been installed, the Apply button should be clicked to update the drop down lists on the Telephone Numbers and Cost Defaults tabs. The telephone numbers to which specific tariffs should be applied should then be entered, together with a default tariff in case the correct number can not be found.

## Preferences, Logs/Cost - Tariff Details

When a specific tariff is viewed Telephone Tariffs, a new window appears with nine columns of information shown:

Start Time	The hour of the day from when this tariff is effective, or Wend for weekend tariffs (midnight Friday to midnight Sunday). Calls past the midnight are charged at the last tariff for that day.
Cost Per Minute	The call cost per minute in sub currency units, such as pence or cents to two decimal places, may be zero if calls are free or unit charging is being used.
Minimum Cost or Unit Cost	For calls charged per minute, the minimum call cost if the total cost comes to less than this. For calls charged per unit, the unit cost.
Set-Up Cost	An extra set-up cost, in addition to the cost/minute. For untimed calls, there is only a set-up cost.
Seconds Per Unit	For calls charged per unit, the number of seconds per unit. Cost is rounded up to this number of seconds.
Valid Days	The specific day of the week on which this tariff is valid, or weekdays, weekends, every day or holidays. Any other day setting overrides every day, so you can not mix it with specific days.
Free Minutes	Free minutes before charging commences (cost usually included in the Set-Up Cost).
Secondary Cost	Secondary per minute cost or seconds per unit, after the Secondary Minutes, may be zero if the call is untimed beyond a specified period.
Secondary Minutes	Minutes after which the Secondary Cost replaces normal cost.

For ease of reading, the column widths may be adjusted to see more of less of the important columns. The date from which the tariff is valid is shown, with any volume discounts that might be available from the total bill. These discounts may be from the entire bill or sometimes from spending ranges (shown with >).

Some operators have different holiday prices. These will be shown under Valid Days as 'Holidays' and a list of dates shown on which the holiday band is applied. Recosting session logs ignores holidays since historic dates are not easily available.

### Tax Inclusive Prices

If ticked, all the costs in this table are adjusted to include any specified tax. This may make for easier comparison with published tariffs that (in the UK) usually include tax.



### Call Cost Test

If the tariff being viewed in the tariff window has been installed for use by DUN Manager, it is possible to test the cost of sample calls. The start date and time, and call duration are specified, and the Calculate button pressed to cost the call. The with and without tax costs are shown, and the time remaining until the next cost increment. The tariff band used to cost the call will be shown selected. If the call crossed a band boundary (from peak to cheap, for instance), two bands will be shown selected. If the tariff supports holidays, testing only works with the first holiday in the list (since it's not necessary for the costing mechanism DUN Manager to know about subsequent dates).

## Preferences, Logs/Cost - Telephone Numbers

This tab only appears if Enable Telephone Call Costing is enabled on the Cost Defaults tab.

Once one or more tariffs have been installed on Telephone Tariffs tab, the telephone numbers to which each tariff will apply need to be specified.

### Telephone Number Table

The table allows an unlimited number of full or partial telephone numbers to be entered, with a specific tariff for each, optionally restricted to a specific device (where different telephone lines may have different operators or discount schemes). In addition, a discount percentage may be specified, as an alternative to specifying a discounted tariff (or if the correct tariff does not exist).

### Add

Clicking the Add button will display Add Telephone Numbers window with a list of telephone numbers taken from installed connections, from which one or more may be selected for addition to the Telephone Number list.

### Partial Telephone Numbers

To avoid listing all possible telephone numbers and allow easy additions, partial numbers may also be specified, ending with \*. When DUN Manager searches for a tariff, longer numbers and specific devices take priority, so 08457\* takes priority over 0845\*. \* alone is effectively the default tariff.

For the UK, the minimum telephone numbers could be:

*	Default local
0*	Default long distance
020*	Local London (or your own local area code)
0845*	Local rate

Note that DUN Manager does not currently include any UK long distance tariffs. If BT Friends & Family or Best Friend numbers are being used, each the specific telephone numbers needs to be listed with the correct tariff set.

### Test Telephone Number

To check the telephone numbers have been entered correctly, a test feature is available that will display the tariff that DUN Manager will select for any specific telephone number and device.

## Add Telephone Numbers

When the Add button is clicked from the Telephone Numberstab, this window appears with a sorted list of all the telephone numbers specified in the defined connection entries (except alternate numbers).

One or more numbers may be ticked to be added to the Telephone Numbers list and OK clicked.

There is one special number, \*, which represents the default tariff.

## Preferences, Logs/Cost - Internet Tariffs

Internet Tariffs are not yet supported.

## Preferences, General - Devices

This tab displays a list of all the modems or ISDN terminal adapters configured in Windows that may be used for Dial-Up Networking connections.

When DUN Manager starts, it will monitor these modems for new connections. Any connections made on device not listed here may be ignored or not monitored correctly, but please contact Magenta Systems Ltd if this happens since it could relate to a new type of modem installation.

For each modem, the defined PC serial port (COM1, etc) should be shown or ISDN1, ISDN2 for ISDN adapters. The port may not shown for some plug and play internal modems, which instead shows PnP.

### Disabling Device Monitoring

The devices that will be monitored for calls are shown ticked. Unticking the box will prevent that device being monitored for TAPI calls, which may be desirable for modems used exclusively for fax or incoming calls. Note that RAS/DUN calls will still be partially monitored even if the device is disabled, but DUN Manager will not dial on such a device. If a modem is shared between fax and DUN, it may be possible to install a second instance of the modem and make fax use that instead so DUN calls are still monitored.

### Modem Properties

Double clicking on a device name, or selecting a device and clicking Modem Properties, will display a further dialog allowing the serial port to be changed, speaker volume adjusted, serial port speed set and a number of other options specified. It is recommended that 'Disconnect a call if idle' is disabled, since DUN Manager does this rather more intelligently.

### Dialling Properties

Clicking this button will display a dialog defined dialling properties relating to all telephone calls made from the PC. These define the 'Location' from which calls are being made, allowing the appropriate access codes to be dialled. A calling or charge card may be specified for long distance calls. There is an option to allow call waiting to be disabled before a modem call, but none to re-enable it again afterwards, so it's recommended the DUN Manager facility for Call Waiting is used instead. See also [Connection Properties - Telephone Numbers](#).

## Connection Properties - Modem Statistics

These preferences relate to getting information from the modems after each call completes, in order to determine the quality of the connection. Please note it is not the purpose of this help file to explain how to interpret the modem diagnostic information. Also note that getting diagnostic information may cause rapid redialling by other applications to fail, due to two applications trying to access the modem at the same time.

It is not possible to get modem diagnostics if the modem is being used to answer incoming calls, for instance for fax or RAS server.

### Enable Modem Connection Statistics

If ticked, modem connection statistics are enabled.

### Save in Activity Log After Each Connection

If ticked, the modem diagnostic information is requested after each successful connection and written to the Activity Log. Note that the Activity Log must be enabled for this to work.

### Disable Modem Reset

Ticking this box will stop the modem being reset after each connection finishes. Some modems clear their diagnostic information when reset, so it will otherwise be lost. Disabling the reset does not normally have any effect on normal modem operation, but in rare circumstances it may be necessary to add a reset command to 'extra settings' in Modem Properties.

### Serial Port

Specifies the serial port to which the modem is attached. This may generally be left as Auto, since the serial port is known. However some plug and play internal modems may need the port number to be specified. Controllerless (windows) modems may also need extra DOS driver software installed so that the modem may be accessed via a serial port.

### Timeout (seconds)

Specifies how long to wait for the modem to respond to each command, defaulted to five seconds. Ideally the modem should respond within a second, but may not...

### Commands

Allows one or more modem command to be specified to access diagnostic information. These commands are modem specific but must always start with `at`. Due to differences in serial port speeds, it may be necessary to put a dummy command of `at` on it's own, to allow the modem to recognise subsequent commands. There are two main groups of modems around:

For US Robotics or 3COM modems X2 or V90 modems, put `ati6` and `ati11` on separate lines. Some modems may not support the latter command.

For Motorola chipset based modems such as Hayes and most generic modems, use `at&v1`.

### Test

Clicking the button will cause diagnostics to be immediately requested from the modem and displayed in the display window. Right clicking on the window allows the result to be copied to the clipboard for other purposes.

If there is no response, the settings or commands should be checked.

## Connection Properties - Call Waiting

These preferences allow Call Waiting to be turned off before a connection originated by DUN Manager, and back on again afterwards. If Call Waiting is enabled during a modem call, an incoming call can sometimes cause the modem call to be dropped.

It is not possible to get modem diagnostics if the modem is being used to answer incoming calls, for instance for fax or RAS server.

### Disable Call Waiting During Modem Calls

If ticked, the Switch Off code is sent before a connection, and the Switch On code upon completion.

### Serial Port

Specifies the serial port to which the modem is attached. This may generally be left as Auto, since the serial port is known. However some plug and play internal modems may need the port number to be specified. Controllerless (windows) modems may also need extra DOS driver software installed so that the modem may be accessed via a serial port.

### Switch Off and Test

The code to dial in order to switch off call waiting. For British Telecom System X exchanges this is #40#. The drop down list may show other codes, or it can be entered. If your code is not in the list, please contact Magenta Systems so it may be added to a subsequent release. Clicking the Test button will cause the code to be immediately dialled, to see if it works.

### Switch On and Test

The code to dial in order to switch on call waiting. For British Telecom System X exchanges this is \*40#. The drop down list may show other codes, or it can be entered. Clicking the Test button will cause the code to be immediately dialled, to see if it works.

### Response Wait (seconds)

How long to wait for the code to be dialled and digital dorothy to respond to the request, defaulted to 10 seconds but it may be possible to reduce this.

## Preferences, General - Auto Dial/Keys

This tab includes auto dial and hot keys that provide short cuts to common DUN Manager options.

### AutoDial Background

Auto Dial is one of various methods that windows uses to start a dial up connection. In brief, these methods are as follows:

- 1 - In the Dial-Up Networking folder, clicking on a connection will start it (or a desktop short cut to a connection)
- 2 - DUN aware windows applications (such as Agent, Ameol and most proxy servers) will start a specified connection as required. Such applications can always have DUN disabled.
- 3 - Auto Dial, so that when an application attempts to open a connection to a remote server (clicking a web link in Internet Explorer or Netscape, opening a mailbox in Outlook, etc), windows will automatically start a default connection, optionally offering a dialog box first.

It is technically possible for third party software applications, such as DUN Manager, to take over Auto Dial, so the dialogs that appear may vary depending upon what is installed. One Auto Dial feature is that it allows a third party application to be launched in order to take over dialling, including DUN Manager. However if more than one such application is installed, there will be a conflict over which take precedence.

It is possible to check if Auto Dial is enabled for a specific connection in [Connection Properties - Misc.](#) If DUN Manager is set-up for Auto Dial, the connection should load the file `DUNDIAL.DLL`.

*Please note that Auto Dial has one major drawback, in that an increasing number of windows applications attempt to make contact with remote servers without any warning, perhaps to check for software updates or collect banner adverts, and this can lead to unexpected connections.*

With each new release of DUN and Internet Explorer, Microsoft makes changes to Auto Dial. With Internet Explorer 4, it is set-up in Control Panel, Internet Properties, Connection, 'Connect to the Internet using a modem' enables Auto Dial, 'Connect to the Internet using a Local Area Network' disables it. In the former case, clicking the Settings button allows the default connection to be defined. With Internet Explorer 5, the dialog changed completely and now says 'Always Dial a Connection' to enable Auto Dial or 'Never Dial a Connection' to disable it. Note that when using Auto Dial with DUN Manager, these settings will be automatically changed depending on the setting described below.

### Support Auto Dial

This enables or disables all other settings on the Auto Dial page. If Auto Dial support is enabled, DUN Manager will enable and disable Auto Dial for all connections, which could interfere with Auto Dial set-up by other Windows applications, thus the ability to stop support.

### Auto Dial

'Disable (dial started manually)' and 'Enable (clicking a link will auto dial' define whether Auto Dial is enabled to dial the current [Default Connection](#). Changing this setting will also adjust Internet Properties as described above.

### Prompt Before Dialling

If ticked, the DUN Manager Call Status window will appear when an Auto Dial request is made, with a prompt 'Click Dial to Start Auto Dial Connection'. Clicking Dial will start a connection, Reset will cancel Auto Dial.



### Cancel Auto Dial Unless User Responds

Allows a number of seconds to be specified after which the Auto Dial prompt will clear and Auto Dial will be cancelled, unless the user responds. This is primarily to allow the application that requested Auto Dial to be notified that the connection will not occur.

### Minimum Period Between Auto Dial Connections

Specifies a minimum period between connections, to prevent a new call starting immediately an old one hangs-up. The time of the last call is taken from History list.

### Exit DUN Manager After Auto Dial Hangs-Up

This is designed for users that prefer not to leave DUN Manager running all the time, but just start it occasionally. It is NOT recommended for most users. Windows auto dial has the ability to automatically start DUN Manager when dialling a connection, so exiting afterwards may be logical, except it will prevent non-auto dial connections being monitored.

### Auto Dial Background

Auto Dial involves a program `DUNDIAL.DLL` which is specified (internally) in the default connection, and is loaded when Auto Dial is needed. The DLL checks if DUN Manager is running, if not it launches it (waiting up to 15 seconds), asks DUN Manager to start dialling (10 seconds), and then waits up to one minute for dialling to complete, fail or be cancelled before returning control to the original application. Some applications will continue to respond during this period, others may stop. If there's a failure, such as DUN Manager being the wrong version or not responding, the standard Microsoft Auto Dial dialog will appear instead.

Under Windows 2000, auto dial does not work unless the 'Remote Access Auto Connection Manager' service has been started.

### Hot Keys

Allows four hot key sequences to be defined as short cuts to:

- DUN Connections window, default D
- Call Status window (toggle for show/hide), default S
- Dial Default Connection, default L
- Hang-Up (if online, all connections), default H

The DUN Connections option will also redisplay a lost system icon. A drop down menu allows None, <Alt> or <Control>, followed by a specified key (case insensitive). Function keys and the numeric key pad are currently not configurable as the hot key. Configuring a hot key for DUN Manager will prevent that key sequence being used in other windows applications.

## Select WAV Sound File

This window appears when clicking the ellipsis after a sound file name in various places in DUN Manager preferences. It allows sound files to be located and tested.

The drive and directory will be default to that specified in Preferences, General - Sounds, which is usually the windows default sound directory, displaying all the WAV sound files in that directory. Double clicking on a file name or selecting a name and clicking Play will cause the sound to play immediately. Clicking OK will select the current sound file.

## Registration

DUN Manager is shareware, developed by Magenta Systems Ltd, in England. DUN Manager may be evaluated for 30 days, but must be registered if usage is to continue. After 10 days, a nag screen will appear for a few seconds after each connection or task finishes as a reminder to register DUN Manager, which must be cleared manually. After 30 days DUN Manager will terminate when each connection or task completes.

There are various registration options, displayed in the License Selection list:

Single Software License	£25 by email credit card, including taxes
Single Software License	£25 by phone, fax, post or secure server, including taxes
Single Software License	US\$37 by post only, including taxes
Single Software License	€42 (euro) by post only, including taxes
License Key for Purchase Order Code	This option is used if you were given a Purchase Order Code when you purchased DUN Manager from a partner. No payment details will be required.
New License Key for Existing Licensee	If you have already received a License Key, but it no longer works because you have changed your PC or re-installed Windows, use this option to request a new license key. No payment details will be required.
Site Software License, 3 to 5 users	£60 by phone, fax, post or secure server, excluding taxes
Site Software License, 6 to 10 users	£100 by phone, fax, post or secure server, excluding taxes
Site Software License, 11 to 25 users	£200 by phone, fax, post or secure server, excluding taxes
Site Software License, 26 to 50 users	£400 by phone, fax, post or secure server, excluding taxes

Site Software License, 51 to 100 users	£800 by phone, fax, post or secure server, excluding taxes
Site Software License, 101 to 250 users	£1,500 by phone, fax, post or secure server, excluding taxes
Site Software License, 251 to 500 users	£3,000 by phone, fax, post or secure server, excluding taxes
Site Software License, 501 to 1,000 users	£5,000 by phone, fax, post or secure server, excluding taxes
Site Software License, over 1,000 users	£5 each by phone, fax, post or secure server, excluding taxes

All payment by credit card will be in UK sterling, but for purchases from outside the UK total will be converted back into your local currency at the appropriate rate. At the time of writing in June 2001, £25 is worth approximately US\$37 or €42 (euro). Payment in US dollars or euro must be by cheque.

DUN Manager is normally registered using the Registration Form built-in to the software itself. This may be accessed by right clicking the DUN Manager tray icon, then selecting About/Registration. Once completed, the form may be automatically emailed, saved to the clipboard to be emailed from your own email client or printed to be snail mailed (posted) or faxed.

If you are concerned about sending your credit card over the internet (even encrypted), please complete the registration form for 'Phone, Fax, Post, Secure Server' or for a site license, and then click Secure Server. An Internet Explorer browser window will be opened, and provided you are online the DUN Manager One Step Web Order Form at <http://www.magsys.co.uk/dunman/registration.htm> will appear with the order form details completed. Payment details may then be specified and the order submitted via the secure server.

You may also telephone Magenta Systems Ltd in England on 020 8656 3636 or +44 20 8656 3636 in British working hours to provide your credit card number, after the form has been sent by email or fax.

The DUN Manager Two Step Web Order Form at <http://www.magsys.co.uk/dunman/registration.htm> may be used where a copy of DUN Manager is being registered by a party other than the eventual end user of the software. The party completing the Web Order Form will receive a DUN Manager Purchase Order Code which should be passed on to the end user of the software. The end user then completes the Registration Form built-in to the software specifying the license option 'License Key for Purchase Order Code' and entering the supplied code. The end user will then receive a License Registration Key and Order Number by email which completes the registration.

#### Product/Version/Date

This information is defaulted by the application.

#### Full Name, Postal Address, Country, Phone Number

The full name, postal address and country of the licensee. Each line of the address should be entered

on a separate line. Please include your country. At least three address lines must be specified. If purchasing using a credit card, the name and address must be that of the card holder. A phone number may be required for credit card verification.

Magenta Systems Ltd always sends an invoice, credit card receipt (if appropriate) and license key details by post, to confirm each order.

#### Email Address

It is essential this is completed correctly, otherwise you will never receive your registration information. When the Send Email Now option is used, You should receive a response within 12 hours (a couple of hours during the working day). If there is no response, your email address was probably invalid, so you never received our email reply. You will instead receive the registration details in the post.

#### Notifications of new release by Email

Tick if you want to join a mailing list for notification of new software releases.

#### Comments

These lines are optional, but it would be useful to know where you heard about DUN Manager or any comments for improvements in the software.

#### License Selection

This list gives various license options, as detailed at the top of this page. Other items appear depending on the specific license option selected.

#### Order Number

This is required if a new license key is being requested. The Order Number came with the previous license key, and with the receipt for the license payment. If you have lost the Order Number, please give as much detail about your original order as possible, including the original email address when your registered the software (if changed), since this will need to be located before a new license key can be supplied. No payment details will be required.

#### Purchase Order Code

This is required if you purchased DUN Manager from a partner or via the web site. The purchase order code may only be used once and will then be invalidated. With your license key you will get an Order Number that is used if you subsequently need to request a new license key. No payment details will be required.

#### Credit Card Details

If paying by credit card, the details should be completed. Cards accepted are American Express, MasterCard, EuroCard, VISA, Delta, Switch, Solo, Maestro and JCB Cards. Please note that Electron cards may not be used for mail order purchases. The card number must be entered and will be checked for basic validity. The Issuer is the bank and type of card, ie NatWest MasterCard. The expiry date is required for all cards, and for some debit cards also the issue number. The credit card number is encrypted in the email for security and is never stored in unencrypted form electronically by Magenta Systems, only on paper for subsequent queries.

#### Registration by Email

These details should not require changing, unless specifically requested by Magenta Systems. If the SMTP server name is changed accidentally, it may be reselected from the drop down box.

#### Submitting the Registration Form

There are four button options to submit the completed Registration Form:

Send Email Now	This option is the quickest and most reliable, but does require an internet connection. Clicking the button will
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cause the registration information to be sent by email to Magenta Systems Ltd immediately. The email message is identical to that in the 'save' option, but you will not receive a copy due to SMTP server restrictions. You should receive a response within 12 hours (a couple of hours during the working day). If there is no response, your email address was probably invalid, so you never received our reply. So please check your email address is correct. Even if you are sending your order by fax or post, please send the email as well to avoid it requiring manual keyboading.

Save Email to  
Clipboard

This option will save the form as an email message to the windows clipboard, allowing you to paste the text into your normal email package and send it as you do normally, keeping a copy, or to the secure web server form (see above). The email address is included in the text. Note that the information extracted from this form should not be edited in any way, otherwise the registration may be rejected. You should receive an acknowledgement within 12 hours, (a couple of hours during the working day).

Secure Server

As described above, this option will open an Internet Explorer browser window and provided you are online the DUN Manager One Step Web Order Form will appear with the order form details completed. Payment details may then be specified and the order submitted via the secure server.

Print for Snail Mail  
or Fax

This option will display a Print dialog box allowing the form to be printed. The postal address to which the form should be sent is printed on it, as is the fax number. Some people are unhappy about emailing credit card and address details, so fax is an alternative. If you are paying by cheque, this needs to be sent in the post, but it would be useful if you can also email the form to avoid it requiring manual keyboading. You should receive an acknowledgement within a few days or weeks depending upon the speed of postal delivery. Please note that fax order are deliberately held for a couple of hours during the working day, to see if the form arrives by email as well.

If you are concerned about your address details being left in the PC registry, once your registration has been accepted, clicking Clear will remove them. Credit card details are not saved.

### Registration License Key

Once your registration is accepted, you will receive an email containing your Registration License Key and Order Number, which need to be entered in Preferences, General - License Key.

### Error Messages

There are a number of validation checks made on the registration details, when one of the buttons is pressed. If any of these checks fail, there will be a beep and message will be displayed on the window status line.

## Scheduled Connections and Tasks

DUN Manager has the ability to initiate dial-up networking connections and perform tasks automatically, according to a pre-defined schedule. This feature might typically be used to regularly collect mail from a remote server. However the success of this may depend upon whether the mail application can be 'automated' so it can be launched and will immediately start collecting mail without requiring any user intervention. Some windows applications will patiently wait for DUN to go online and that start on their own, which is much easier. Some tasks may be used without a dial-up connection.

When DUN Manager is first started, there is a 15 second delay before any tasks will run. This allows time for a routed connection to be detected, or for the user to select this window and temporarily stop the scheduler, if tasks should not be run for some reason.

Tasks may be scheduled to run once at a specific time and date, or to repeat daily, some days of the week, or several times per day, between a range of times. An online task may optionally start a connection, only run if the PC is already online, or wait until the next connection starts. Disconnection options specified for the task override those normally defined in DUN Manager, perhaps to ensure the scheduled connection is very short. A warning countdown may be displayed (with the usual warning sound) giving an opportunity for the scheduled connection to be halted.

In addition to the normal scheduler, tasks may be specified to start immediately DUN Manager starts-up in Start and Stop and when a specific connection goes online, in Connection Properties - General.

When initially displayed, the Scheduled Connections and Tasks window will be blank without any tasks. Once tasks have been created, it will show what is queued or things that have finished and are now disabled. The list is sorted with pending tasks first, then disabled in reverse run order, so tasks run recently are always near the top. While a task is running, its progress is shown at the bottom of this window.

Note that several of these options are available on the main menu, buttons and the right click menu.

### New Task

Clicking this button will display the Scheduled Task Properties window with all settings defaulted or blank, allowing a new scheduled connection or task to be added.

### Copy Task

Selecting an existing task and clicking this button will the Scheduled Task Properties window with all settings copied from the specified task, allowing a new scheduled connection or task to be added.

### Delete Task

Selecting an existing task and clicking this button will display a dialog confirming that the task should be deleted, and if Yes is clicked will do so.

### Set Next

Selecting an existing task and clicking this button will display a Next Scheduled Time dialog, allowing the task to be run once at any particular date and time, irrespective of any scheduling. Note however that the normal schedule will not start again until this specific date and time has passed.

### Run Now

Selecting an existing task and clicking this button will cause the task to be placed in the queue to start immediately without any further dialogs or prompts, irrespective of any scheduling. If other tasks are already running or waiting to run with an earlier time, they will run first.

### Properties



Double clicking on the a selected task or clicking this button will the Scheduled Task Properties window allowing all settings for the task to be viewed and changed. While the Scheduled Task Properties window is open, the selected task is temporarily suspended in the queue, so it will not start running.

#### Stop Task Scheduler

A tick box that allows all tasks to be temporarily suspended.

#### Abort (menu)

Allows the task currently running to be immediately stopped. This is the same as clicking Abort from the Call Status window.

#### Refresh or Function Key 5

Refreshes the task queue. However if it actually changes, this suggests trouble because it should always be up to date.

#### Function Key 7 - Dump Queue

To ease problem solving, pressing F7 will dump the all the important information from the task queue into the Activity Log file. The information is packed onto a single line per task, but is only intended for diagnostic purposes. So if something gets stuck in the queue or things don't run as expected, please F7 and send the full day's activity log to Magenta Systems.

#### Export Tasks

This option allows scheduled tasks to be saved to files, either for backup or sharing with other DUN Manager users. Clicking Export from the File menu displays a new window with a sorted list of Scheduled Tasks. One or more may be selected to be exported to files named 'task=(name).reg' in a specified directory. Note each task is exported to a separate file. The exported file may be added to DUN Manager using the Import tasks option, or from Explorer by double clicking so RegEdit automatically imports it(but without the duplicate check).

#### Import Tasks

Allows task previously exported from DUN Manager to be added. Clicking Import from the File menu displays a new window with a sorted a list of files named in the format 'task=(name).reg', allowing one or more to added to the scheduler list, with optional replacement of duplicates. If task file directory is changed, the file list is updated automatically.

#### Sorting the Queue

Clicking on a header panel will cause that column to be sorted alphabetically, with a small arrow appearing to show how the queue is sorted. Note that at present the sorting is based on the alphabetic information displayed, so the schedule times will be unusual after sorting. Clicking PF5 will restore the original sort order.

## Scheduled Task Properties - General

This tab displays general properties for the specified task.

### Task Name

A display name for the task, that will appear in the queue, in the Call Status window and in the logs. It should generally be kept relatively short, but sufficiently detailed to explain what will happen.

### Task Enabled

A tick box to determine whether this task will be run or not.

### Dial-Up Task

A tick box that specifies whether this task should use dial-up networking. When ticked, the Connections tab appears allowing more settings to be specified.

### Conditional Task

A tick box that makes this task conditional, based on the result of running an external windows application. The program might perform some special function and then decide whether an internet connection is required, by allowing the task to continue.

### Task Type

The other properties tabs and options that appear depend upon the type of task selected.

#### Dial Connection

Will start a specified connection, if not already online. If a program is specified in Connection Properties - Launch Programs for that connection, it will be run.

#### Hang-Up Connection

Will hang-up any connection (without warning!). This is designed as a fail safe to ensure that manually started connections do not continue past a specific time, such as when everyone should have left an office, or gone to bed.

#### Run Program

Optionally start a connection, when online run a specific program. This is separate to anything specified through Connection Properties - Launch Programs.

Halt Program Halt a specified running program, irrespective of whether there is a connection.

Alarm Clock Optionally displays an alarm dialog box and or plays an alarm sound. This is ideal for testing scheduling.

Set PC Clock Optionally start a connection, then set the PC clock.

Sync Files Optionally start a connection, then copy the files in one or more directories to another drive or PC.

HTTP Download Optionally start a connection, then download files from one or more web pages, including multiple files from a single page.

FTP Upload Optionally start a connection, then upload one or more files from the PC to a remote FTP server.

FTP Download Optionally start a connection, then download one or more files from a remote FTP server to the PC.

Change Phone Number Allows the telephone number in a specified connection to be changed, typically when a cheaper number is available at the weekends

Auto Email Allows DUN Manager to send emails prepared by other applications.

<u>Test Server</u>	Test a list of servers using HTTP requests and pings and warns if they are not reached.
<u>Check for Mail</u>	Check a POP3 mailbox for new mail, displaying notification with selected headers.
<u>Relay Mail</u>	Forward or relay mail from a POP3 mailbox to another (master) mailbox, effectively consolidating several mailboxes into one.

The other tabs that appear depending upon which task has been selected, so the Connection tab is suppressed if Alarm Clock or Change Phone Number are selected since these do not involve a connection. There are more common settings on General 2 tab, the most important of which is Online Checking that determine whether the task should start a dial-up connection, only run when there is already a dial-up or routed connection, and various similar permutations.

#### How Often

Specifies whether the task should run just once and be disabled (so it can be rescheduled later, run once and then deleted, or run repeatedly until a final date and time, according to the specified schedule

#### Times during Day

The First Time must always be completed, since this is when a task will initially run, or the earliest time in the day it will run if being queued daily. If the Repeat During Day box is ticked, the number of minutes before the task will run again should be specified, and the Last Time of the day it may be run before the task will be queued for the following day. The up/down arrows after each time allow the figures to be incremented or decremented. Note that DUN Manager considers days to start at 6.01am and end at 5.59am (not midnight). Clicking the Set Time Now button will default the starting time and date to now.

#### Don't Run at Start-up

This option is when DUN Manager is not run continually, typically on PCs that are powered off each day. Unless ticked, tasks scheduled to run while the PC is powered off will run immediately DUN Manager is started. If ticked, the task is queued to the first specified time in the day (or the next day) if the scheduled time has already passed.

#### First and Last Dates

The First Run Date will never appear earlier than today, but may be set later if the task is to be deferred. The arrow after the date will drop down a calendar from which a date may be selected. The Repeat Until date may be used to stop the task after one or more days, but may be set years in advance. Note that the First Run Date is independent of the Days to Queue.

#### Days to Queue

If the task is being queued beyond a single day, ticking one or more days of the week will cause it only to queue on those days. Leaving all the days blank or ticking all the days has the same effect.

## Scheduled Task Properties - General 2

This tab always shows information about when the task will next run and when it last ran, determines whether the task should start a dial-up connection, only run when there is already a dial-up or routed connection, and various similar permutations, and whether the Task Log should be updated for this task. .

### Task Success or Failure

Some options on this tab are dependent upon whether a task has succeed or failed, but this is not always clear cut and DUN Manager considers tasks have five completion states which are shown in the main Scheduled Task list:

'OK New' means something positive happened, such as all files being successfully downloaded or uploaded, new mail being received, the PC clock being changed, or Test Server giving a failed warning.

'OK None' means the task completed without errors, but that nothing was found to download or upload or no new mail was received. .

'Failed' is anything else, failed logon, partial file copied, etc. Note that just one failed out of say 10,000 being copied would cause the task be considered failed.

'Aborted' means the user manually stopped the task.

'No Result' means the task has not yet been run.

At present, no result is available for launching programs.

### Repeat Task if Failed

Sometimes tasks will fail, perhaps because a dial-up connection drops, or an FTP server become overloaded. Ticking this option will cause a failed task to be queued up to a specified number of attempts, with a specified period of minutes between attempts. If this is dial-up task, the connection will hang-up and dial afresh when the new starting time arrives. Beware that use of this feature may cause continued redials, if something is configured incorrectly, such as an FTP server logon.

### Link to Another Task

Allow two or more tasks to be linked together, so that when one finishes it triggers the next named task. Linking may if the task was OK New, OK None or Failed, see above. This option may be used to run an Alarm Clock task to provide visual notification that a specific task has completed successfully, perhaps downloaded some new files.

Note that there is no online checking for the second or subsequent tasks, although hang-up upon completion is preserved from the first task run. Beware that running a task with a link to another will always cause the other task to follow, irrespective of whether it was itself linked. The Run Program task is considered to have finished when the program starts running, not when it is closed. Beware of creating a vicious circle with tasks that link each other.

Linking is supported by the following task types: Run Program, Set PC Clock, HTTP Download, FTP Upload, FTP Download, Auto Email, Sync Files, Test Server, Check Mail and Relay Mail.

Linked tasks should be created first without the links, which are added once the following task has been created. If a linked task is missing, the task will stop with an error.

### Delay Before Next Task

Allows a delay to be specified after the task completes, before the next task starts, up to 120 seconds. It may be useful when running scheduled programs, so two or more don't start immediately together.

Generally, this delay should be kept to a few seconds, since much of DUN Manager will come to a halt until it completes.

### Update Task Log

This option is only available if Task Logging is enabled in Preferences, Logs/Cost - Logging. If ticked, details about this task will be maintained in the Task Log. Specifically, for FTP each file uploaded and downloaded is logged with the status and size, similarly for HTTP each file downloaded, for Sync Files each file copied, for Auto Email each email sent, for Check Email and Relay Email each email downloaded from the POP3 server, for Test Server each successful or failed test. In each case, old target files deleted are also logged. For each task session, the total files processed are also logged. Task Log shows further details about information in the task log.

### Task Log, Totals Only

If Update Task Log is specified, selecting this option causes the per file information to be ignored and just the task session totals logged. It is designed for tasks that may regularly process large numbers of files where logging is less important, such as regularly backup.

### Online Checking

Specifies whether this task should cause a connection to be automatically started or only run if a dial-up or routed connection is already available.

Dial Connection if Not Online	If not already online with any connection, DUN Manager will dial the specified connection.
Dial Connection First	If already online, the scheduled task is abandoned. Otherwise DUN Manager will dial the specified connection.
Only if Online Already	Unless already online, the scheduled task is abandoned.
Only if Specified Connection Online	Unless already online, the scheduled task is abandoned.
Wait for Next Connection	If not already online with any connection, the scheduled task is requeued one minute later.
Only If Not Online	If online, the scheduled task is abandoned. This may be used for running a scheduled program.
No Connection Check (for LANs)	The task will run irrespective of whether on or off line. This option is used when there is a permanent internet connection available on a LAN or WAN, perhaps a cable modem or ADSL.
Wait for Specified Connection	If not already online with the specified connection, the scheduled task is requeued one minute later.

## Routed Connection

If a routed connection (cable modem, ADSL, leased line or dial-on demand router) is not available, the scheduled task is abandoned. Monitoring of Routed connections must be enabled.

For simplicity, these options are shown as Connect, Online, Wait or Routed in the scheduler queue.

## Scheduled Task Properties - Auto Email

The Auto Email task is primarily designed for when DUN Manager is used in unattended applications to allow log information (such as DUN Manager session and activity logs) to be regularly returned to a monitoring site. . Waiting email is checked before starting a connection, and it is hung-up immediately email has been sent if the scheduled task dialled it. Up to 10 attempts are made to send the email, alternating between the two SMTP servers (if both are specified). An extra two second delay occurs after each new attempt, so 18 seconds delay before the tenth attempt.

### Waiting Mail Directory

The task expects to find email in a specified waiting directory (a sort of queue) and will generally send any files found (if the file mask is "\*"\*) but will it also send selected files using a specific file mask.

### Specific File Mask (optional)

Specifies which files in the Waiting Mail directory will be sent as email. The mask can be a simple 'DOS' mask such as "\*"\*) (the quotes are needed) for all files, "\*.log" for all files with LOG extension, a simple expansion mask such as "log-\$H.txt" where \$H expands to the computer host name (ie PC01), or a complex macro date mask such as "activity-"yyyymmdd"-\*.log" (note macro characters are not quoted) to expand the date and time. yyyy is four digit year, yy two digit year, mm is numeric month, dd numeric day, etc, so this expands to the DUN Manager activity log file format. A tick box allows the previous day date to be used instead of today, to send 'yesterdays' files. A 'Check Files' button displays a list waiting files that will be emailed according to the defined directory and mask.

### Send Format

'All to same address' specifies that all email should be sent to a single address specified on this tab. 'Defined in each mail' means the email file itself should be checked for header details, as follows (content after the colon is dynamic):

```
Recipient: dunman@magsys.co.uk
Attachment: d:\magenta\dunman\readme.txt
From: DUN Manager <dunman@magsys.co.uk>
To: DUN Manager <dunman@magsys.co.uk>
Subject: Test email from DUN Manager with data from file
```

Parsing stops at the first blank line, with the remainder of the file sent as the message body. Any missing headers are replaced by the default from the task. Attachment is optional (only one allowed), but must be a fully qualified name, no mask characters are allowed. Multiple recipients are allowed, separated by commas.

### Mail Style

The file content may be sent as plain text email, or as an attached MIME file.

### After Successful Send

After being sent, the file may be deleted or moved to a 'Sent Mail Directory' to prevent it being sent again. Failed email is similarly sent to a 'Failed Mail Directory'. File name conflicts in the sent or failed directory are handled by renaming to the date and time

### Sent Mail Directory

The directory to which mail that has been successfully sent will be moved.

### Failed Mail Directory

The directory to which failed mail will be moved.

### SMTP Servers

Two SMTP servers may be specified, to allow an alternative if the first is offline. 10 attempts will be



made to send email, five to each server if both are specified.

#### Diagnostic Log

If ticked, email information is saved in the Activity Log.

#### Mail Headers

Specifies the default 'Mail From Address', 'Mail To Address', and 'Mail Subject' that are used if Mail Format is 'All to same address', or otherwise if the email is missing headers. The To Address must be a simple email address, no name or brackets.

## Scheduled Task Properties - Connection

This tab contains details about the connection that will be dialled for this task, or which is required to be online to allow the task to run. Where a warning is given before a connection starts or before it is disconnected, the warning sound played will be that specified in Preferences, General - Sounds. The sound will be suppressed during the night if so specified.

### Connection to Dial

Defines which connection should be dialled. A drop down list of all the Dial-Up Networking (Remote Access Service) connections is available for selection. Rather than specifying a particular connection entry to dial, '(Default Connection)' may be selected to allow easier use of multiple default connections.

### Minimum Interval Between Sessions

Specifies a minimum period between connections, to prevent a new call starting immediately an old one hangs-up. The time of the last call is taken from History list. This may be useful if two or more tasks are using the same connection or manual connections are also being performed.

### Warning Before Connection Starts

If ticked, when the scheduled time arrives the Call Status window will first appear showing a connection warning, the warning sound will be played and there is a specified 'Continue After' countdown time in which Reset may be clicked to stop the scheduled connection. The 'Continue After' time is specified in seconds.

### Disconnection

These settings will override any Disconnection options set for the connection. They also overrides 'Timed Disconnection' and 'Reconnect When Connection Drops'. If either of these options are needed for a scheduled connection, ensure timed hang-up is set to zero.

'Timed Hang-Up' causes the connection to be closed down automatically after a specified period, in minutes, irrespective of any data flow or other connection activity. Set as zero if no timed hang-up should occur.

'Data Flow Hang-Up' allows an idle connection to be closed down automatically if the volume of transmitted and received data in bytes falls below a minimum over a specified period in minutes and fractions of a minute, ie 0.5 for 30 seconds.

In both cases, before hang-up the Call Status window will appear showing a countdown warning, and a sound will optionally be played and there is a specified 'Hang-Up Countdown' time in which automatic hang-up may be cancelled. During the countdown, the number of seconds remaining is displayed in the Call Status window. The countdown may be stopped by clicking Reset or by disabling one or both hang-up checks. This option may be optionally disabled while on-line or the timed hang-up period changed, if it may cause problems during a particular session. Note that Data Flow hang-up is only available if Performance Statistics is enabled.

### Hang-Up When Task Completes

If specified, the connection will hang-up immediately the task completes. This is only effective for the FTP Upload and Download, HTTP Download and Auto Email tasks. This option is independent of the Run Program option to hang-up when the program finishes.

### Conditional Task Overview

This allows an external windows application to be run which determines whether the task should continue by checking a return code. The task might do some other useful things, like checking the PC health and prepare an email for the new Auto Email task. The external application should complete and return

within a couple of seconds, and will be ignored after 15 seconds (the DUN Manager status counters are blocked while the program runs).

#### Program Type

Whether the external program to run is a 32-bit windows executable program, or a DLL. For efficiency, a DLL is preferred since this will remain loaded in memory.

#### Program File

The file name of the external program to run.

#### Parameters

The parameter string to pass to the program, as a command line for an EXE or a single PCHAR argument for a DLL.

#### DLL Entry Point

If running a DLL, the name of the entry point.

#### Result to Run Task

The value to check which will cause the task to run, for an EXE this is the return code, for a DLL it's an interger result result code.

## Scheduled Task Properties - Alarm Clock

This tab has settings for an alarm clock that may be scheduled as a general purpose reminder. It is purely visual or audible, and does not involve a connection.

### Play Sound When Alarm Triggers

If ticked, allows a WAV sound file to be played when the alarm triggers. Clicking on the ellipsis at the end of the edit field displays a dialog allowing sound files to be easily tested and selected.

### Show Alarm Window

If ticked, causes a Scheduled Alarm Notification window to pop-up. The window may be closed manually, or set to be automatically hidden after a specified number of seconds. A message may be specified that will appear in the window.

## Scheduled Task Properties - Program

This tab specifies the program that should be launched when the scheduled tasks runs. Note that this can be used to run programs even when DUN Manager is offline, such as backup. This tab also appears for the Check for Mail task when the program will only be run if new mail is available.

Program File	The program to be launched, including the full path. Clicking the open icon after the field displays a dialog allowing the program to be easily selected.
Parameters	Any necessary command parameters that should be used when launching the program.
Not If Already Running	A check is made to see if the program is already running, to avoid running it twice.
Close After Hang-Up	This option ensure that the program will be closed after hang-up. Some programs may however display confirmation dialogs before they actually close.
Aggressive Program Close	This option may be need to close some stubborn programs, mostly those sitting in the system tray. This should only be used if really necessary, since programs closed in this way (with a WM_QUIT message) may not save settings on exit or close down cleanly.
Run Minimised	A tick box that allows the program to be launched in minimised state so a window does not appear until restored from the task bar.
Run Hidden	A tick box that allows the program to be launched in hidden so a window does not appear. This options is very important when using the Service version of DUN Manager, see below .
Hang-Up After Close	A tick box that specified the connection should automatically hang-up when the program is closed. DUN Manager checks if the program is still running every three seconds, to reduce system overhead. Two or more programs can be launched, with hang-up only when all complete.

Note that not all applications can be launched minimised, in particular this does not work with most Delphi applications (ie anything from Magenta Systems). This is because only the first window created is minimised by Windows, and with Delphi applications the first one is a special hidden window, not the one the user sees. Also, DUN Manager may have a problem stopping applications that are launched minimised.

### Service version Issues

When using the Service version of DUN Manager, there are certain limitations running programs. This is because the service version runs in a 'hidden' window and programs are launched by default into this window, becoming hidden as well. If the program requires any user interaction, it will effectively wait for ever and can only be stopped using Task Manager to crash the task.

The Service version will only attempt to run programs specified as 'Run Hidden' (see above) itself. When using the Service and Monitor versions of DUN Manager together, non-hidden programs will be run by the Monitor version instead. If the Monitor version is not running, the program is ignored. For the Service version, 'Hang-Up After Close' is supported for interactive programs, but not 'Close After Hang-Up' (which is much more complicated).

## Scheduled Task Properties - Change Phone Number

This tab allows the telephone number in a specified connection to be changed. This is designed for users that need to dial a different number for their ISP at the weekends, typically a freephone number, so set-up two scheduled tasks to run at 00:01 on Saturday and Monday mornings, changing to 0800 and back to 0845 numbers respectively.

If DUN Manager is always used to dial the connections, it is easier to set the Default Connection according to time of day or week.

### Connection to Change

Defines which connection should be changed. A drop down list of all the Dial-Up Networking (Remote Access Service) connections is available for selection.

### Current Phone Number

Displays the current connection phone number, in canonical format (see below).

### New Telephone Number

Specifies the new telephone number for the connection. This may be entered 'plain' or in 'canonical address' format, as follows:

+ CountryCode [(AreaCode) space] Subscriber Number

### Dial Number

The Dial Number displays the new telephone number that will be dialled, taking into account the current location, access codes and charge code properties (except that the charge card name is shown, not the card number). So if you are in the 'CountryCode' that will be ignored, if you're in the 'AreaCode' that is also ignored.

## Scheduled Task Properties - FTP Download

This tab allows files from a remote FTP server to be downloading to the PC. Other FTP setting may be found on the FTP General tab.

FTP files are downloaded with case sensitivity and using a temporary name to avoid replacing the original file unless download is successful.

### Download Type

Specifies how files should be selected for downloading from the FTP server.

Single File	Just a single file will be downloaded, as specified by the File Name.
Partial Directory (mask)	Multiple files will be downloaded that match the mask File Name (ie *.* for all *.zip for just zip files).
Partial Directory (archive)	Not supported, treated as Whole Directory.
Whole Directory	All files found will be downloaded.

### File Replacement

Specifies how file conflicts are handled, when the file being downloaded is found to already exist locally.

Never	Download will be skipped.
Always	The local file will always be replaced by the remote file, even if the same.
If Different	The remote file will only be downloaded if the time stamp or size is different to the local file.
If Newer	The remote file will only be downloaded if the time stamp is newer than the local file, or if the size is different.

The time stamp on the remote files is maintained on downloaded files, to allow subsequent checks for newer files to download. The directory file listings include windows file attribute letters (DARSHTCE) or UNIX file permissions (DRWX), and file time stamps. When viewing or using FTP file time stamps, beware that the UNIX 'LS' format (also used by most NT servers) is archaic and does not have sufficient space for both a year and time, so only files for the current year have the correct time. DUN Manager shows the time of files for previous years 00:00.

### Remote Files - Directory

Specifies the directory on the FTP server from which files will be downloaded. Note that the forward slashes / are used to separate directory levels. While it's not possible to directly index directories on the FTP server from this dialog, clicking View Remote Files will show both the files in the current directory and sub-directories.



### Remote Files - File Name

For a Download Type of Single File, specifies which file in the Remote Directory should be downloaded.

For a Download Type of Partial Directory, specifies a file mask that will be used to select the downloaded files. This can be a simple 'DOS' mask such as \*.\* for all files or \*.log for all files with LOG extension. If Use Date Mask is ticked, expansion masks can also be used such as "log-\$H.txt" where \$H expands to the computer host name (ie PC01), or a complex macro date mask such as "activity-"yyyymmdd"\*.log" to expand the date and time. Note literal characters need double quotes, anything not quoted is treated as macro characters - yyyy is four digit year, yy two digit year, mm is numeric month, dd numeric day, etc, so this expands to the DUN Manager activity log file format. A tick box allows the Previous Day's date to be used instead of today, to transfer 'yesterdays' files. The fully expanded file name is shown, for confirmation.

### Local Files - Directory

Specifies the directory on the local PC to which files will be downloaded. This directory will be created if necessary. Clicking the folder icon allows the directory to be selected from a dialog.

### Download Sub Directories

If ticked, any sub directories below the main remote directory will also be downloaded. Beware this may include a large number of files.

### Delete Remote File After Download

If ticked, once a file has been successfully downloaded and confirmed as being the same size, the remote file will be deleted. A warning dialog will be displayed requiring user confirmation before the task is saved or tested.

### Delete Old Local Files

If ticked, causes local files not on the FTP server to be deleted before downloading, to synchronise the remote and local directories. This may only be used for Whole Directory or Partial Directory (Archive) selections. It is strongly recommended that the 'Check Download' test option is used to see which old files will be deleted, to avoid loss of unexpected files. Note that read only PC files will be deleted. A warning dialog will be displayed requiring user confirmation before the task is saved or tested. Files will only be deleted if the same session also downloads one or more files.

### Overwrite Read Only Files

If ticked, allows read only files to be replaced.

### View Remote Files

This button tests the FTP server name, logon and remote path and lists all files in the selected directories and subdirectories on the FTP server. Unless a file mask is used, this option lists all files, not just those that will be downloaded. The file list looks similar to the following:

40comupd.exe	511,424	01/12/1998 00:00:00	/dunman/
back.gif	1,054	05/07/1999 00:00:00	/dunman/
dmbeta.htm	24,080	15/04/2001 12:39:00	/dunman/
dmbeta.zip	1,207,621	15/04/2001 12:40:00	/dunman/
dunlogo1.gif	1,535	12/03/2001 14:47:00	/dunman/
dunlogo2.gif	3,053	12/03/2001 14:47:00	/dunman/
dunman12.zip	1,123,517	28/01/2001 21:28:00	/dunman/
dunman20.zip	1,123,517	28/01/2001 21:22:00	/dunman/
dunman20j.zip	1,109,123	08/12/2001 19:41:00	/dunman/
dunman21.exe	1,121,407	28/01/2001 21:34:00	/dunman/
dunman21.zip	1,123,517	28/01/2001 21:16:00	/dunman/
dunman21a.zip	1,123,517	28/01/2001 21:10:00	/dunman/
dunsound.zip	527,487	12/03/2001 14:49:00	/dunman/
index.htm	18,317	15/04/2001 12:40:00	/dunman/

Note this option will require an internet connection which must be started manually (unless on a LAN or

WAN).

#### Check Download

This button effectively runs the task immediately, interactively showing progress in a log window, but just lists all files that will be downloaded or deleted from the FTP server according to the selections. Beware this may be a very long list. Note this option will require an internet connection which must be started manually (unless on a LAN or WAN).

#### Download Files

This button effectively runs the task immediately, interactively, showing progress in a window, to check everything works OK. The detail in the log window will depend upon settings on the FTP General tab. Note this option will require an internet connection which must be started manually (unless on a LAN or WAN).

#### Abort Download

Clicking this button will abort any of the previous three operations.

## Scheduled Task Properties - FTP General

This tab allows settings common to FTP Download and FTP Upload to be specified. Note that only FTP servers that return file lists in UNIX, Microsoft NT, IBM MVS or IBM AS/400 formats are supported by DUN Manager. The FTP standard does not specify a file list format, so each server can potentially use whatever format it likes which makes parsing file lists very difficult.

### Host Name

The FTP Server host name or IP address.

### Alternate Host Name

An alternate host name that will be used on alternate connection attempts if the first host name can not be contacted. Both hosts will need to be set-up with the same logon. This is designed for mirrored hosts..

### Port

Normally FTP uses port 21, but this may be changed to something non-standard for special purposes.

### User Id and Password

The FTP Server logon, usually a user id and password. This must still be specified even if the server accepts anonymous logons. If using a proxy server, the user id may take a special form.

### Host Type

Generally this can be ignored, since the FTP server is auto detected. For IBM servers it's safer to specify the type as MVS or AS/400. Note that Microsoft NT servers will usually be detected as UNIX, since that is the most common file listing format used.

### Transfer Mode

Specifies whether files should be transferred in ASCII or binary format, nearly always binary.

### File Name Format

Defines translation for file names for remote and local files. Lowercase file names (the default) will cause all files names to be converted to lower case only. Mixed Case file names means no translation occurs. Note that UNIX servers are case sensitive, so conversion to lower case is generally safer. Windows is case insensitive.

### Connect Attempts

To better cope with overloaded FTP servers, multiple connection attempts may be necessary (default three), also specified a gap between attempts, maximum nine attempts.

### Time Between Attempts

Defines the gap between connect attempts (default five seconds), maximum 30 seconds delay.

### Ignore File Time Stamp Differences (minutes)

Unfortunately, there is no standard for the time on FTP servers, and they may have a time that is in a different time zone to the PC or remain on winter time all year. Files with time stamp differences with less than the specified minutes (default 62) will be considered unchanged, set this to zero for precise time comparison.

### Abort Timeout

This option is designed to stop FTP transfers locking up when something goes wrong. The abort time defaults to 60 seconds, but may need to be set a lot longer for slow FTP servers. A dead man timer is reset each time the server responds to a command or sends some more data, if the timer expires, the session is aborted. Maximum 240 seconds (four minutes).

### Activity Log Options

Four tick boxes that determine the level of detail in the Activity Log file. Remote and Local directory cause the full directory listings with time file stamps and sizes to be logged which may be useful to check the correct files were processed, Each File Processed lists the name and size of each successful file processed (failed files are always logged), FTP Command additionally logs all communication to and from the server, which is primarily needed for diagnostics purposes.

Note these options do not apply to the Task log which is enabled on the Scheduled Task Properties - General 2 tab.

## Scheduled Task Properties - FTP Common

This tab allows proxy, firewall and compression settings common to FTP Download and FTP Upload to be specified.

### Proxy Type

Specifies the different types of proxy server or firewalls. 'Proxy (userid@host)' is the most common type of proxy where the host FTP server and proxy FTP server names, and proxy port are specified separately. DUN Manager contacts the specified proxy server and logs on using the command 'USER userid@hostname' to allow the proxy to contact the FTP host. Note that User Id field does not need to have the hostname added, this is done automatically. 'Socks4' and 'Socks4B' are more transparent, not needing the USER command to be used in a different manner, 'Socks5' is similar but also uses a secondary logon to the proxy server.

### Proxy Server Name and Port

Specifies the proxy server port and host name. FTP is usually port 21, but could be 1021 for a proxy, and will usually be 1080 for a Socks proxy.

### Socks User Id and Password

For Socks5, specifies the logon details for the proxy server.

### Passive Mode

Using FTP via a proxy server or a firewall may cause various problems. If it's possible to access an FTP server but not to transfer any files, try ticking Passive Mode. This gives the client control over the port used for the transfers, which is less likely to be blocked by the firewall or proxy.

## Scheduled Task Properties - Zipping

This tab includes options for handling compressed files. Zipped files being downloaded using the FTP, HTTP or Sync File tasks may be unzipped to separate files, while single files being uploaded using FTP and Sync Files may be zipped.

### ZIP Compression

Optionally, files being uploaded may be zip compressed, and downloaded zip files decompressed. Compression is fully compatible with Winzip and Pkzip. Compressing uploads can reduce the file transfer time significantly for many types of file and also safeguards against corruption due to the CRC checking performed in zip file.

Please note that, at present, use of compression will invalidate checks for existing duplicate files, all unzipped files are automatically replaced and uploads will not be skipped if the zipped file is already on the server. Compression is primarily aimed at unattended use of DUN Manager, where log files are regularly returned to a central location, but may also be used to unzip downloaded files for automatic updates.

### Compress Uploaded Files - FTP Upload

Specifies that files should be zipped before being uploaded using FTP, with the file name specified by Zipping Name format (see below).

### Decompress Downloaded Files - FTP Download and HTTP

Specifies that zip extension files successfully downloaded by these tasks will be unzipped, to the location specified by the Unzipping Directory (see below), with the original zip file optionally being deleted.

### Zip or Unzip Files - Sync Files

Specifies that zip extension files successfully downloaded by these tasks will be unzipped, to the location specified by the Unzipping Directory (see below), with the original zip file optionally being deleted.

### Delete After Successful Unzip - Downloads

Specifies that once successfully unzipped, the downloaded zip file should be deleted.

### Zipping Name Format - FTP Uploads

Files may be compressed singly, replacing the existing file extension with `.ZIP`, or adding `.ZIP` to the end of the file name so the original extension remains (ie `log.txt` would become `log.txt.zip`). The compression is done in memory so there is no zipped version of the original file left.

### Zip Type - Sync Files

With Sync Files there is no concept of up or downloading, files are simply copied between directories. Usually there is little point in using compression for such copying, but if Sync Files is used over slower wide area or wireless networks there may be a benefit. So zip type should be specified as:

'Unzip Target Files' - zip extension files are extracted after copying to the location specified by the Unzipping Directory (see below), with the original zip file optionally being deleted.

'Zip Source Files, Add Zip Extension' specifies that source files should be individually compressed, adding `.ZIP` to the end of the file name so the original extension remains (ie `log.txt` would become `log.txt.zip`).

'Zip Source Files, Replace Extension' specifies that source files should be individually compressed, replacing the existing file extension with `.ZIP`.

Source files are zipped into the Windows temporary directory, and deleted once copying completes or

fails. . In a future release, zipping complete directories is planned.

### Unzipping Directory - Downloads

Downloading zip files is a more complicated since they may contain multiple files and paths.

'None' specifies the file should be unzipped into the download directory ignoring any path information in the zip (which may cause duplicate files to be unzipped). If more than one file is downloaded, all will be unzipped into the same directory (again potentially causing duplicates).

'New Directory' will create a new directory with the same name of the zip file and unzip all files into it, ignoring path information.

'Use Original Paths' makes use of file path information saved in the zip file to create sub directories so the directory structure is retained, but some files may still be unzipped into the download directory.

'New Directory and Original Paths' avoids all potential duplicate file problems (except from previous downloads).

'Specific Directory' will unzip any files into a single specified directory that may be totally different to the download directory, ignoring path information.

'Specific Directory and Original Paths' avoids all potential duplicate file problems (except from previous downloads).

## Scheduled Task Properties - FTP Upload

This tab allows files from the PC to be uploaded to an FTP server. Other FTP setting may be found on the FTP General tab.

FTP files are uploaded with file names converted to lower case since UNIX FTP servers are case sensitive (unlike Windows).

### Upload Type

Specifies how files should be selected for uploading to the FTP server.

Single File	Just a single file will be uploaded, as specified by the File Name.
Partial Directory (mask)	Multiple files will be uploaded that match the mask File Name (ie *.* for all *.zip for just zip files).
Partial Directory (archive)	Any files with the Archive file attribute set and matching the mask will be uploaded. Note the attribute is not changed.
Whole Directory	All files found will be uploaded.

### File Replacement

Specifies how file conflicts are handled, when the file being uploaded is found to already exist remotely.

Never	Upload will be skipped.
Always	The remote file will always be replaced by the local file, even if the same.
If Different	The local file will only be uploaded if the time stamp or size is different to the local file, but see below.
If Newer	The local file will only be uploaded if the time stamp is newer than the remote file, or if the size is different, but see below.

It is not possible to set the remote file time stamp to that of the local file, which may cause problems using the If Different and If Newer options. There are two workarounds, to set the local file time stamp to that of the remote after upload (see below) or to use the Ignore File Time Stamp Differences option on the FTP General tab to relax the time comparison.

The directory file listings include windows file attribute letters (DARSHTCE) or UNIX file permissions (DRWX), and file time stamps. When viewing or using FTP file time stamps, beware that the UNIX 'LS' format (also used by most NT servers) is archaic and does not have sufficient space for both a year and time, so only files for the current year have the correct time. DUN Manager shows the time of files for



previous years 00:00.

### Local Files - Directory

Specifies the directory on the local PC from which files will be uploaded. Clicking the folder icon allows the directory to be selected from a dialog.

### Local Files - File Name

For an Upload Type of Single File, specifies which file in the Local Directory should be uploaded.

For a Upload Type of Partial Directory, specifies a file mask that will be used to select the downloaded files. This can be a simple 'DOS' mask such as \*.\* for all files or \*.log for all files with LOG extension. If Use Date Mask is ticked, expansion masks can also be used such as "log-\$H.txt" where \$H expands to the computer host name (ie PC01), or a complex macro date mask such as "activity-"yyyymmdd"-\*.log" to expand the date and time. Note literal characters need double quotes, anything not quoted is treated as macro characters - yyyy is four digit year, yy two digit year, mm is numeric month, dd numeric day, etc, so this expands to the DUN Manager activity log file format. A tick box allows the Previous Day's date to be used instead of today, to transfer 'yesterdays' files. The fully expanded file name is shown, for confirmation

### Remote Files - Directory

Specifies the directory on the FTP server to which files will be uploaded. Note that the forward slashes / are used to separate directory levels. While it's not possible to directly index directories on the FTP server from this dialog, clicking View Remote Files will show both the files in the current directory and sub-directories. The directory will be created if necessary. Beware that security right on the FTP server may restrict the creation of new directories, causing the upload to fail.

### Upload Sub Directories

If ticked, any sub directories below the main remote directory will also be uploaded. Beware this may include a large number of files.

### Delete Local File After Upload

If ticked, once all files have been successfully uploaded and confirmed as being the same size, the local files will be deleted. A warning dialog will be displayed requiring user confirmation before the task is saved or tested.

### Delete Old Remote Files

If ticked, causes local files not on the FTP server to be deleted before downloading, to synchronise the remote and local directories. This may only be used for Whole Directory or Partial Directory (Archive) selections. It is strongly recommended that the 'Check Download' test option is used to see which old files will be deleted, to avoid loss of unexpected files. Note that read only PC files will be deleted. A warning dialog will be displayed requiring user confirmation before the task is saved or tested. Files will only be deleted if the same session also uploads one or more files.

### Update Local File Time Stamp to Match Remote

As detailed above, File Replacement, If Different or Newer may always replace since it's not possible to set the file time stamp on the FTP server to that of the local file. This option causes the local file time stamp to be set to that of the remote file after upload, to avoid repeated uploads.

### Move to Archive Directory After Upload

Used to ensure that files are only uploaded once, instead of deleting them after upload. If a file of the same name already exists in the archive directory, a unique name based on date and time is used instead. Note that directories are ignored, which may also cause possible naming conflicts.

### View Remote Files

This button tests the FTP server name, logon and remote path and lists all files in the selected directories and subdirectories on the FTP server. Unless a file mask is used, this option lists all files, not just those

that will be downloaded. The file list looks similar to the following:

40comupd.exe	511,424	01/12/1998 00:00:00	/dunman/
back.gif	1,054	05/07/1999 00:00:00	/dunman/
dmbeta.htm	24,080	15/04/2001 12:39:00	/dunman/
dmbeta.zip	1,207,621	15/04/2001 12:40:00	/dunman/
dunlogo1.gif	1,535	12/03/2001 14:47:00	/dunman/
dunlogo2.gif	3,053	12/03/2001 14:47:00	/dunman/
dunman12.zip	1,123,517	28/01/2001 21:28:00	/dunman/
dunman20.zip	1,123,517	28/01/2001 21:22:00	/dunman/
dunman20j.zip	1,109,123	08/12/2001 19:41:00	/dunman/
dunman21.exe	1,121,407	28/01/2001 21:34:00	/dunman/
dunman21.zip	1,123,517	28/01/2001 21:16:00	/dunman/
dunman21a.zip	1,123,517	28/01/2001 21:10:00	/dunman/
dunsound.zip	527,487	12/03/2001 14:49:00	/dunman/
index.htm	18,317	15/04/2001 12:40:00	/dunman/

Note this option will require an internet connection which must be started manually (unless on a LAN or WAN).

### Check Upload

This button effectively runs the task immediately, interactively showing progress in a log window, but just lists all files that will be downloaded or deleted from the FTP server according to the selections. Beware this may be a very long list. Note this option will require an internet connection which must be started manually (unless on a LAN or WAN).

### Upload Files

This button effectively runs the task immediately, interactively, showing progress in a window, to check everything works OK. The detail in the log window will depend upon settings on the FTP General tab. Note this option will require an internet connection which must be started manually (unless on a LAN or WAN).

### Abort Upload

Clicking this button will abort any of the previous three operations.

## Scheduled Task Properties - HTTP Download

This tab allows files to be automatically downloaded from one or more web servers using the HTTP protocol. Provided downloaded files are not deleted, subsequent attempts will only download changed files. A list of URLs may be specified, that need have no connection to each other. Typical uses may be doing one-off downloads off-peak to save money or get better performance, or regular download checking for updates, for instance checking for new releases of DUN Manager.

### File Replacement

Specifies how file conflicts are handled, when the file being downloaded is found to already exist locally.

Never	Download will be skipped.
Always	The local file will always be replaced by the remote file, even if the same.
If Newer	The remote file will only be downloaded if the time stamp is newer than the local file, or if the size is different.

The time stamp on the remote files is maintained on downloaded files, to allow subsequent checks for newer files to download. When comparing HTTP files for newer time stamps, a difference of two seconds is considered the same time since rounding errors mean the time stamps can be one second different.

### Keep HTTP Path

Specifies that files should be downloaded to separate directories, according to the web server path. Note the host name is not included in the path, so there may be conflicts between files from different servers, but see below.

### Keep HTTP Host

Specifies that files should be downloaded to separate directories, according to the web server host name. DUN Manager will attempt to extract just the host name from the URL, ie magsys from www.magsys.co.uk. May be combined with Keep HTTP Path above (but usually used alone).

### Source HTTP URLs

Specifies an unlimited list of web server URLs, including the leading `http://`, that will be checked for download. Generally the URLs will be pasted from a web browser. Note that the URL must include a file name, a directory on it's own is insufficient (since there is no file name to save on the PC). Password protected files may be downloaded by specifying the user id and password in the URL, ie `http://user:password@www.host.com/filename.zip`, note the logon is removed before the request is sent to the web server. Any sort of file will be downloaded, but generally this option would be used for ZIP or EXE files.

### Parse HTML for Linked Files

#### File Name Mask

If ticked and a Source HTTP URL downloaded is found to be a html page (irrespective of file extensions, but generally asp, htm or html), it will be parsed or checked for links to any other files on the same or other hosts. DUN Manager then builds a list of those files that match the specified mask, ie \*.zip, and then downloads those files. This is a very efficient way to download multiple files from proper index pages.

### Target - Directory

Specifies the directory on the local PC to which files will be downloaded. This directory will be created if necessary. Clicking the folder icon allows the directory to be selected from a dialog. Note that no attempt is made to handle conflicting file names, so make sure that URLs in the task specify different file names, or use the Keep HTTP Path option to create sub directories matching the URLs.

### Activity Log Options

Four tick boxes that determine the level of detail in the Activity Log file. HTTP Files and Local Directory cause the list and directory listings with time file stamps and sizes to be logged which may be useful to check the correct files were processed, Each File name Processed lists the name and size of each successful file processed (failed files are always logged), HTTP Headers additionally logs all communication to and from the server, which is primarily needed for diagnostics purposes.

Note these options do not apply to the Task log which is enabled on the Scheduled Task Properties - General 2 tab.

### Overwrite Read Only Files

If ticked, allows read only files to be replaced.

### Check Download

This button effectively runs the task immediately, interactively showing progress in a log window, but just lists all files that will be downloaded from the HTTP server according to the selections. Note this option will require an internet connection which must be started manually (unless on a LAN or WAN).

### Download Files

This button effectively runs the task immediately, interactively, showing progress in a window, to check everything works OK. The detail in the log window will depend upon the Logging Options above. Note this option will require an internet connection which must be started manually (unless on a LAN or WAN).

### Abort Download

Clicking this button will abort either of the previous two operations.

### Sophos Anti-Virus Updating

This task can now be used to automatically download and install new virus identity files for the excellent Sophos Anti-Virus product (<http://www.sophos.com/>). New IDE files can appear several times a day, and a HTTP Download task can be set-up to detect and download these files, and then link to a Run Program task that restarts the two NT services that provide anti-virus scanning so the new IDE files are immediately installed with InterCheck providing immediate protection. With new viruses such as Nimda spreading worldwide in less than six hours, regular virus updating is essential.

To simplify setting up these tasks if you are on Windows 2000 or XP, four Sophos tasks may be added to DUN Manager using Import from the Scheduled Task window. As set-up, the tasks expect to find DUN Manager and Sophos in `d:\program files\`, if they are elsewhere the paths should be edited.

Sophos is restarted using the batch command file `sophos-restart.cmd`. These tasks will update Sophos on the same PC as DUN Manager, in a network environment a Sync Files task could be linked as well to copy the new IDE files to other PCs. The task 'Sophos Get Full Product' will need your personal web site logon and password added to the URL, and perhaps the directories changed, it will download and unzip the monthly 'angz.zip' file, and then run a second task 'Sophos Install Product' that will run the set-up program interactively.

## Scheduled Task Properties - Set PC Clock

This tab allows the automatic setting of a PC clock from an internet time server. PC clocks are inherently unreliable, and often drift considerably, perhaps minutes per day. Keeping your PC clock accurate is useful when sending email or reporting connection problems to your internet provider.

Note that DUN Manager also includes a Time Server. This allows other PCs on a LAN to correct their clocks from the PC running DUN Manager, which in turn corrects its clock from a remote time server. The Time Server is enabled from Preferences, General - Servers/Security.

Three different time protocols are available:

Time/TCP	Time Protocol as defined in RFC868 using TCP. This is the original time protocol, but is not supported by some modern time servers (like CIX).
Time/UCP	Similar to above, but using UDP instead of TCP, but this means the time request may be lost.
SNTP	Simple Network Time Protocol as defined in RFC 2030, using UDP, but will work with version 2 and later servers. Note that round trip timing is ignored, so time setting is no more accurate than Time/UDP.

Note that due to possible delays in the internet, it is not possible to set the PC clock with precise accuracy. Currently any difference of two seconds or less is ignored.

Please also note that changing the PC time while online can potentially cause interesting side effects in some applications, particularly those that use the start and ending time to find the duration of an operation.

There will also be a sudden jump in the time stamps in the DUN Manager Activity Log. The session start time is automatically corrected by the same time difference made to the PC clock, so that session duration and call costing will be accurate, but previously written lines in the Activity Log can not be changed and so will be inaccurate. The Session Log is written after the session completes, so will have the adjusted session starting time.

### Time Server Name

Specifies the host name of the internet time server from which the current time should be obtained. Most ISPs provide a time server, and you should normally use one as close as possible, to avoid delays in the internet. The drop down box lists over 170 different time servers around the world, but you can still specify your own.

### Time Protocol

Specifies the protocol for the internet time server, Time/TCP/ Time/UDP or SNTP, as detailed above. Note that some time servers may only support one or two of these three protocols, so test it to be sure.

### Prompt If Excessive Time Difference

If the internet time server is faulty for some reason, it does not make sense to use an incorrect time. So an acceptable time correction interval may be specified in minutes, beyond which a dialog will appear allowing confirmation that the correction should be performed. Note that the confirmation dialog only remains displayed for one minute, after which clock updating is abandoned. Setting zero will prevent the warning dialog appearing.

#### Update Clock Interval

The number of hours between clock updates, typically four to six hours.

#### Last Clock Check and Correction Information

Shows the date and time when the clock time was last checked. and the correction required. The correction information is also displayed in the Status Window.

#### Get Server Time

Clicking this button, while online, will cause an immediate check of the internet time server and display the reported time and local PC time, both in GMT or UTC (which is the internet and Windows time standard, the displayed time in Windows is normally corrected by time zones). Due to delays in the internet, there may be a second or two difference between the internet and PC clocks.

#### Correct Time Now

Clicking this button will cause an immediate time correction to be performed, similarly to running the task.

## Scheduled Task Properties - Sync Files

This tab allows files to be copied from one location to another on a LAN, a WAN, or the same PC. While this has nothing to do with DUN, most of the code is shared with FTP, and it may be used to access files on mapped network drives as an alternative to FTP. It may also be used for local PC backup, perhaps for 'RAID' mirroring, regularly copying any changed files to another drive on the same PC or another PC on a LAN. Sync Files functionality is similar to the FTP tasks, but it also copies specific multiple directories.

While it's generally expected that the Sync Files task will be used for relatively small numbers of files, it has been tested with complete volumes of up to 70,000 files, so may be used for general backup. If used with large numbers of files, make sure the Log File Names option is unticked, otherwise there will be massive logs.

### Copy Type

Specifies how files should be selected for copying.

Single File	Just a single file will be copied, as specified by the File Name.
Partial Directory (mask)	Multiple files will be copied that match the mask File Name (ie *.* for all *.zip for just zip files).
Partial Directory (archive)	Any files with the Archive file attribute set and matching the mask will be copied. Note the attribute is not changed..
Whole Directory	All files found will be copied.

### File Replacement

Specifies how file conflicts are handled, when the file being copied is found to already exist in the target directory.

Never	Copy will be skipped.
Always	The target file will always be replaced by the source file, even if the same.
If Different	The source file will only be copied if the time stamp or size is different to the target file.
If Newer	The source file will only be copied if the time stamp is newer than the target file, or if the size is different.

The time stamp on the remote files is maintained on copied files, to allow subsequent checks for newer files to copy. The directory file listings include windows file attribute letters (DARSHTCE) and file time stamps.

### Source Files - Directory

Specifies the source directory from which files will be copied. Clicking the folder icon allows the directory to be selected from a dialog. Files may be copied from any directory on the local PC, LAN or WAN that is available through drive mapping or UNC file names in the format \\host\drive\path. It is not usually necessary to enter the full name string, it can just be selected from the dialog.

#### Source Files - File Name

For a Copy Type of Single File, specifies which file in the Source Directory should be copied.

For a Copy Type of Partial Directory, specifies a file mask that will be used to select the copied files. This can be a simple 'DOS' mask such as \*.\* for all files or \*.log for all files with LOG extension. If Use Date Mask is ticked, expansion masks can also be used such as "log-\$H.txt" where \$H expands to the computer host name (ie PC01), or a complex macro date mask such as "activity-"yyyymmdd"-\*.log" to expand the date and time. Note literal characters need double quotes, anything not quoted is treated as macro characters - yyyy is four digit year, yy two digit year, mm is numeric month, dd numeric day, etc, so this expands to the DUN Manager activity log file format. A tick box allows the Previous Day's date to be used instead of today, to copy 'yesterdays' files. The fully expanded file name is shown, for confirmation

#### Target - Directory

Specifies the target directory to which files will be copied. This directory will be created if necessary. Clicking the folder icon allows the directory to be selected from a dialog. Files may be copied to any directory on the local PC, LAN or WAN that is available through drive mapping or UNC file names.

#### Multiple Directories

When ticked, a list of multiple directory pairs appears. It is not possible to edit the directories directly in the list, instead clicking on a line copies the source and target directories to selection boxes where they may be entered or selected from a dialog. Once completed (or cleared), click the Replace button to update the list. To save resources, the directories are copied one at a time, rather than all the files being combined into a single long list.

#### Copy Sub Directories

If ticked, any sub directories below the main source directory will also be copied. Beware this may include a large number of files.

#### Safe Copy

If ticked, causes files to be initially copied with a temporary name (same file name but TMP extension) and then renamed once copy is complete. This option should only be used when copying files over a slow or unreliable LAN or WAN to avoid partial files being left if copying is interrupted for some reason.

#### Delete Source File After Download

If ticked, once a file has been successfully copied and confirmed as being the same size, the source file will be deleted. A warning dialog will be displayed requiring user confirmation before the task is saved or tested.

#### Delete Old Target Files

If ticked, causes old target files no longer in the source directory to be deleted before copying, to synchronise the source and target directories. This may only be used for Whole Directory or Partial Directory (Archive) selections. It is strongly recommended that the 'Check Copy' test option is used to see which old files will be deleted, to avoid loss of unexpected files. Note that read only PC files will be deleted. A warning dialog will be displayed requiring user confirmation before the task is saved or tested.

#### Overwrite Read Only Files

If ticked, allows read only files to be replaced.

#### File Names in Activity Log

If ticked, each file successfully copied or deleted will be logged (failed files are always logged). Beware



this may cause very large logs.

Note this option does not apply to the Task log which is enabled on the Scheduled Task Properties - General 2 tab.

### View Source Files

This button lists all files in the selected source directories and subdirectories. Unless a file mask is used, this option lists all files, not just those that will be copied. The file list looks similar to the following:

40comupd.exe	511,424	01/12/1998 00:00:00	/dunman/
back.gif	1,054	05/07/1999 00:00:00	/dunman/
dmbeta.htm	24,080	15/04/2001 12:39:00	/dunman/
dmbeta.zip	1,207,621	15/04/2001 12:40:00	/dunman/
dunlogo1.gif	1,535	12/03/2001 14:47:00	/dunman/
dunlogo2.gif	3,053	12/03/2001 14:47:00	/dunman/
dunman12.zip	1,123,517	28/01/2001 21:28:00	/dunman/
dunman20.zip	1,123,517	28/01/2001 21:22:00	/dunman/
dunman20j.zip	1,109,123	08/12/2001 19:41:00	/dunman/
dunman21.exe	1,121,407	28/01/2001 21:34:00	/dunman/
dunman21.zip	1,123,517	28/01/2001 21:16:00	/dunman/
dunman21a.zip	1,123,517	28/01/2001 21:10:00	/dunman/
dunsound.zip	527,487	12/03/2001 14:49:00	/dunman/
index.htm	18,317	15/04/2001 12:40:00	/dunman/

### Check Copy

This button effectively runs the task immediately, interactively showing progress in a log window, but just lists all files that will be copied or deleted according to the selections. Beware this may be a very long list

### Copy Files

This button effectively runs the task immediately, interactively, showing progress in a window, to check everything works OK. Unlike the FTP tasks, the source and target directories are not logged, but file names copied will be logged is so specified, see above.

### Abort Copy

Clicking this button will abort any of the previous three operations.

## Scheduled Task Properties - POP3 Mail Server

The POP3 Mail Server properties on this tab are common to [Check for Mail](#) and [Relay Mail](#) tasks.

New POP3 message headers are logged in the Activity Log, and optionally in the Task Log (only some headers), similarly to the following:

```
09:30:00 Opening Mailbox: magenta at mail.cix.co.uk
09:30:00 Mailbox Items: 303
09:30:00 Mailbox Size: 1,394,434
09:30:00 Getting Mail Item List
09:30:00 Getting Mail UIDL List
09:30:01 Getting New Headers from Mailbox - 1 of 1
09:30:01 New Email From: Press Office <web.ofotel@gt.net.gov.uk>, To: Press Office
<press.office.ofotel@gt.net.gov.uk>, XFrom: industry-request@lists.ofotel.gov.uk, XTo:
angus@magsys.co.uk, CC: , Subject: New area on Ofotel's web site, Date: 30/08/2001 08:48:33, Size:
3628
09:30:01 Closing Mailbox
```

Please note that the first time a mail task is run it might have to process several hundred messages on the server and take several minutes, but subsequently will be much faster.

### Server Name and Port

Specifies the host name or IP address of the POP3 mail server from which email should be collected, and the port. The port will usually be 110.

### User Name and Password

Specifies the logon details for the POP3 mail server.

### POP3 Proxy Type, Port, Delimiter and Name

Optionally allows connection to the POP3 mail server via a proxy server, using the format 'userid(delimited)host', where the delimiter is usually #.

### Mail Directory

A directory must be specified in which mailbox information will be stored, this should be unique to the mailbox if the 'Archive Mail on PC' option is specified. Note that mailbox files can be shared between multiple tasks accessing the same mailbox, so using both the check and relay tasks for the same mailbox will only download mail once.

There will be at least two files, with file names in the format `userid@host`. The mail control file has the extension `CTL` and contains the next sequential number for downloaded email, while the server headers file has the extension `HDR` and stores the headers and UIDs for mail still on the POP3 mail server (in CSV format). If mail is being archived on the PC, there is a local headers file with extension `IDX` with identical format to the HDR file, and then multiple files holding the actual email bodies, see below. The information stored in these files should be adequate to write specialised applications, such as checking incoming email for feedback forms.

### Max Body Lines to Read (zero all)

The maximum mail body lines to download may be specified, or zero is all of the body should be downloaded. Unless mail is being archived or relayed, or Sircam checking is needed (see [Check for Mail](#)) just one line is sufficient.

### Abort Timeout (seconds)

Specifies how long the task should wait for a response from the server before abandoning the task, typically 120 seconds.

### Archive Mail on PC

Optionally, new mail may be saved on the PC, either one item per file or one file per day, for archival purposes (in case the mail program crashes) or for use by other applications.

Downloaded messages are saved in 'Ameol2 scratchpad format' with `!MF:` preceding each message, then `Memo #17 (2647)` with the sequential number and body size in brackets. Single email messages are saved with a file name in the format `userid-sequential.txt` (note the mailbox name is not included so there may be duplication between different servers), for daily files in the format `userid-YYYYMMDD.txt`.

Note there is currently no plan to allow the email saved by DUN Manager to be viewed by DUN Manager which is not intended to become an email application. There is however some commonality with Magenta System MailMaint Release 3 with the mailbox files being shared.

### Log Commands (for diagnostic purposes)

Specifies that all the POP3 server protocol commands should be kept in the Activity Log file, for diagnostic purposes.

### UIDL Support

Note that only POP3 mail servers that support UIDLs can be used by these DUN Manager tasks. A UDIL is a unique identifier added to each new message to allow tracking of whether it has already been downloaded. Without UIDLs it's necessary to download every header for each check, which would cause vast traffic with large mailboxes and so is not currently supported. Most modern POP3 mail servers support UIDLs.

### MailMaint Support

Magenta Systems online POP3 mailbox application, MailMaint release 3.0 and later can share the mail header files and mail archive files created by DUN Manager. Specifically, this means that MailMaint allows viewing of both online mail still on the POP3 server, and offline mail that has been archived by either the Check for Mail or Relay Mail tasks. For this to work, the same mail directories should be specified for the same mailbox in both DUN Manager and MailMaint. Note the POP3 server settings are still individual to each application.

## Scheduled Task Properties - Test Server

This tab specifies the Test Server task that is designed to test a list of web or other servers to ensure they are available, and provide warnings if not. The task will check if your web site has crashed, rarely will your visitors say so, and neither will many hosting companies admit it. If this task is used on routed connections, it's recommended that routed call monitoring is enabled and the task 'Online Checking' in General 2 set to Routed Connection so the task does not give false warnings when the routed connection is down.

The Test Server task can be set to ping multiple servers and to perform multiple HTTP downloads. All URLs and servers are tested in parallel to minimise test time. On a test failure, the warning is identical common to Check for Mail with a flashing icon, warning sound and pop-up notification window. All server attempts are kept in the Activity Log and optionally in the Task Log, including the ping response time and HTTP download time, similarly to the following:

```
09:35:00 Test Server Ping to: www1.magsys.co.uk
09:35:00 Test Server Ping to: www.cix.co.uk
09:35:00 Test HTTP Server: http://www.magsys.co.uk/test/test.shtml
09:35:00 Test HTTP Server: http://www1.magsys.co.uk/test/test.asp
09:35:00 Server Test Ping to www1.magsys.co.uk, Reply from 194.153.20.226 took 20 msec
09:35:00 Server Test Ping to www.cix.co.uk, Reply from 194.153.0.125 took 10 msec
09:35:00 HTTP Server Test OK to http://www.magsys.co.uk/test/test.shtml, Download took 0.1 secs,
Length 2,111
09:35:00 HTTP Server Test OK to http://www1.magsys.co.uk/test/test.asp, Download took 0.3 secs,
Length 740
```

### HTTP URLs to Download

Specifies one or more web site HTTP URLs that will be tested. `http://` is required. Web servers should ideally be tested using dynamic pages (ASP, SHTML or CGI) to ensure the server is really working and not merely being echoed from a proxy or cache. The specified URLs are downloaded, but the data is not saved, only the duration and any errors.

### Servers to Ping

Specifies one more servers to ping, they may be web or other servers. It may be useful to also ping a web server, since this may indicate the server is still running but the web hosting task has failed (quite common with Microsoft IIS).

The ping echo time is kept in the logs. Note that ping is not fool proof, and in network failure conditions may still succeed but from one of the hops on the route.

### HTTP Timeout (secs)

Sets the period to wait for a response from the web server, typically 60 seconds but a server that takes that long is effectively dead. Because of retries, long timeouts may cause the task to run for a long time in failure conditions.

### Ping Timeout (secs)

Sets to period to wait for a response from the pinged server, typically five seconds.

### Attempts Before Warning

The tests may be repeated two or more times before a warning is issued. Only the last failure is kept in the Task Log.

### Play Sound

Specifies a WAV sound file that will be played to notify failure of one or more tests.

### Notification Flashing Icon

Specifies that a flashing icon will appear in the system tray to notify failure of one or more tests.

Single clicking the icon will display a notification window showing details of the failure. Double clicking the icon will remove it from the system tray.

#### Notification Pop-up, Hide After (seconds)

Causes the notification window to pop-up automatically notify failure of one or more tests, but then be hidden again after a specified number of seconds. The window may be redisplayed by single clicking the notification icon, or selecting 'Last Pop-up Window' from the main DUN Manager icon right click menu.

#### Notification Window

The notification window appears for new email or warnings from the Test Server task, in the bottom right corner of the desktop. It is always sized according the messages being shown, so may be very small or almost fill the screen.

Double clicking the notification window or system tray icon will clear and close the pop-up window, right clicking the windows shows a menu that allows the font size and colour and window background colour to be specified, and for the window to be hidden but not cleared.

## Scheduled Task Properties - Check for Mail

This tab supports the Check for Mail function to notify of new POP3 mail that has arrived. Filtering can be performed so that only specific items are notified. Notification is by a new flashing icon, a defined sound, and pop-up window containing one or more headers from the mail. Sircam virus/trojan emails may be optionally removed from the Pop3 server so they are not downloaded by other email packages. A program may be optionally run when new mail arrives. The headers of new email are saved in the Activity Log and optionally in the Task Log.

With a permanent routed connection, this task could be used every 10 minutes to see if new mail has arrived on the POP3 server, then triggering your normal mail application to read it. There is a system overhead each time a POP3 server is opened (particularly if a lot of mail is left on it) and incoming mail is typically temporarily blocked, so accessing it more often than every 10 minutes may be frowned upon by your ISP.

The settings on the POP3 Mail Server tab must also be completed.

### Inclusion List - Notify if mail includes (all if blank)

The inclusive list positively selects mail that should be notified, but if left blank anything is accepted. Up to six header fields may be checked, To:, From:, CC:, Subject:, XTo: and XFrom:. XTo and XFrom are the X-Envelope-To and X-Envelope-From headers inserted by some better mail servers reflecting the real recipient. So specifying To: magsys.co.uk will do a partial match on the To: header field and notify if the domain name is found. There is no limit to the number of headers that may be checked.

### Exclusion List - Unless it also includes

The exclusion list will prevent notification of certain mail already selected by the inclusion list, typically carbon copy replies, mailing lists or typical spam. The exclusion list might include Subject: [twsocket] which would then stop mail being notified that included the text [twsocket] (a mailing list) in the subject or Subject: Viagra for a common spam. Note that these lists do not effect any email on the server, which may still be downloaded by other mail applications.

### Play Sound

Specifies a WAV sound file that will be played to notify arrival of new mail.

### Notification Flashing Icon

Specifies that a flashing icon will appear in the system tray to notify arrival of new mail. Single clicking the icon will display a notification window showing selected headers from the new mail (see below). Double clicking the icon will remove it from the system tray.

### Notification Pop-up, Hide After (seconds)

Causes the notification window to pop-up automatically when new mail arrives, but then be hidden again after a specified number of seconds. The window may be redisplayed by single clicking the notification icon, or selecting 'Last Pop-up Window' from the main DUN Manager icon right click menu.

### Headers to Show in Pop-up Window

Allows up to four headers from each new email to be displayed in the notification window. Tick boxes allow selection of From:, To: and Subject: headers and message size. These are all shown in a single screen line, so the notification window may become very wide if all are specified.

### Run Program for New Mail

Specifies that the application on the Program tab should be run when new mail is notified. This will typically be your normal mail application, perhaps with command line arguments to force immediate mail box checking.

### Delete Sircam Virus/Trojan

Provides optional checking for the Sircam email virus/trojan that has been circulating since July 2001. Sircam is particularly annoying because it emails a random file from the infected PC, that may be several megabytes in size, causing lengthy email downloads (particularly for dial-up users). For some strange reason, it seems hard to detect by certain email server virus scanners, particularly Brightmail. DUN Manager detects Sircam by looking in the message body for the phrases 'Hi! How are you=3F' or 'Hola como estas =3F', and then 'See you later=2E Thanks' or 'Nos vemos pronto=2C gracias=2E' and then ensuring the email has a large attachment. If found, the item is deleted from the POP3 mail server. All the headers and first part of the body are written to the Activity Log in the exceptional case that a real email is deleted by accident. Since Sircam can only be detected in the message body, at least 50 lines of each message should be downloaded. There are currently no plans to add further virus or trojan checking to DUN Manager, Sircam is a special case because of the wasted download bandwidth.

### Notification Window

The notification window appears for new email or warnings from the Test Server task, in the bottom right corner of the desktop. It is always sized according the messages being shown, so may be very small or almost fill the screen.

Double clicking the notification window or system tray icon will clear and close the pop-up window, right clicking the windows shows a menu that allows the font size and colour and window background colour to be specified, and for the window to be hidden but not cleared.

## Scheduled Task Properties - Relay Mail

This tab allow relaying or forwarding of mail from a POP3 mailbox to an another mail address. It may be useful to consolidate mail from rarely accessed accounts into one mailbox or to distribute mail to other addresses.

Optional, selective mail may be relayed, by checking for specified headers. It is possible to use two or more tasks to relay to different mail addresses, perhaps doing so selectively to sort mail to different recipients.

The settings on the POP3 Mail Server tab must also be completed. Ensure that maximum mail body lines is set to zero (ie all lines), otherwise only partial messages will be relayed.

### New Address

Specifies the email address to which mail should be relayed. Only a single address is allowed, in the normal format user@domain. No descriptive name is permitted.

### SMTP Servers and Port

Two SMTP servers may be specified, to allow an alternative if the first is offline. The SMTP server port is usually 25.

### Inclusion List - Relay if mail Includes (all if blank)

The inclusive list positively selects mail that should be relayed, but if left blank anything is accepted. Up to six header fields may be checked, To:, From:, CC:, Subject:, XTo: and XFrom:. XTo and XFrom are the X-Envelope-To and X-Envelope-From headers inserted by some better mail servers reflecting the real recipient. So specifying To: magsys.co.uk will do a partial match on the To: header field and relay if the domain name is found. There is no limit to the number of headers that may be checked.

### Number of Relay Attempts

Allows multiple attempts to send mail, using the alternate mail servers if two host names are specified. Any more than six attempts is probably overkill.

### After Relay

Once mail has been relayed successfully, it may be deleted from the POP3 mail server. Don't use this option if there is more than one task relaying or checking the same mailbox.

### Ignore Mail Older than (days)

Optionally, mail older than a specified number of days may be ignored. This should be set to seven days or similar before running this task on a POP3 mailbox with old mail in it.



## Possible Future Enhancements

### Long Term Improvements

- 1 - Monitoring incoming RAS calls on NT4 and W2K Server.
- 2 - Improved Telnet Terminal.

## **Known Problems and Bugs**

There are reported problems with ISDN when making rapid retries to busy ISPs, this is under investigation.

There is a reported problem with Windows XP creating session log reports, but this has not yet been reproduced.

## Acknowledgements

Firstly, thanks to all those CIX members that assisted in the development of this software. Beta testing occurs on CIX, details of which are at <http://www.cix.co.uk/>

Secondly, to Borland for the Delphi development tool used for DUN Manager, and to all those that share their Delphi components (code) with others to speed application development.

DUN Manager makes use of various Delphi components:

TMagRas from Magenta Systems Ltd, <http://www.magsys.co.uk/delphi/>

Internet Component Suite from François Piette, <http://www.rtfm.be/fpiette/indexuk.htm>

Sgraph from S P Pod'yachev, [http:// www.iae.nsk.su/~lab12/pod/](http://www.iae.nsk.su/~lab12/pod/)

## Release Notes

**WARNING** - all old connection preferences from 1.2d and earlier disappear with release 2.0 and later, such as disconnection options and costing tariffs - there are too many changes to make it backward compatible. So you must at least specify 'Default Properties' from the new DUN Connections window and the tariffs to use for specific telephone numbers through Preferences - Logs/Cost, after installing 2.0 or later and before making any calls.

### Windows XP Issues

DUN Manager has now been fully tested on Windows XP final (build 2600). There are no major issues, but a number of considerations. DUN Manager 2.6 contained some minor fixes for Windows XP. Earlier releases should generally continue to work on Windows XP, although an upgrade to 2.6 or later is recommended.

Microsoft has decided that only it's own icons are now allowed to clutter up the taskbar by default and has a new feature to hide inactive icons in the notification area, such as the DUN Manager icon. Taskbar and Start Menu Properties has an option to disable 'Hide inactive icons' or to customise notifications so that specific items are always shown. So one of these options should be used to ensure the DUN Manager icon remains visible. In theory, a button allows hidden icons to be restored, but using one of the four DUN Manager hotkeys defined in Preferences, General, Keys (such as ALT-D) will also restore the icon.

Windows XP allows multiple users to logon to the same PC at the same time, and to run the same programs. This means that there may be two or more copies of DUN Manager running at the same time, with their own settings but possibly with common log files. While it is currently acceptable for multiple users on the same PC to share the same logs (because they are not logged on at the same time), with Windows XP the logs must be held in separate directories to avoid possible conflicts. DUN Manager 2.6 and later default the log directories to: 'Documents and Settings\user\Application Data\DUN Manager'. It's also likely that two or more copies of DUN Manager will attempt to monitor or control the same connection, issues relating to this are currently under investigation.

Windows XP has new visual styles, such as windows, buttons and tabs with rounded corners and DUN Manager 2.6 and later use these new styles by default.

**2.7** 1 - Added a new feature to protect DUN Manager settings with a password to avoid unauthorised changes. This is specified in Preferences, General, on the Servers/Security tab (renamed from Servers), with protection being separately available for editing DUN connections, editing scheduled tasks or just Preferences (General and Logs/Cost). A password must be entered twice for confirmation, with an expiry time that requires re-entry of the password after a specified period of minutes.

2 - Added two new options for Scheduled Tasks that fail and improved the notification of task results. 'Repeat Task if Failed' will cause a failed task to be requeued up to a specified number of attempts after a specified period of minutes. If this is dial-up task, the connection will hang-up and dial afresh when the new starting time arrives. The 'Link to Another Task' option now includes 'If Failed', but this will not cause hang-up and redialling. A new column has been added to the Scheduled Connections and Tasks index that shows the result of each task, this may be None, OK New, OK None, Failed or Aborted. OK New means the task did something useful, like finding new files, OK

None means the task was successful but did not find new files. The 'Link to Another Task' If Successful option has been renamed 'If OK New'.

3 - Added zip support to the HTTP Download and Sync File scheduled tasks. A new Zipping tab has been added to Scheduled Task Properties, that is now shared by these two new tasks and the FTP tasks. A new decompress option has been added so that files may be unzipped into a specific directory separate to the download directory. For HTTP Download, zip files may be unzipped similarly to FTP Downloads. Sync Files is more complicated, with a new Zip Type menu specifying whether files are being zipped before being copied, or unzipped after being copied. Note that zipping files before copy will prevent checking for existing files since the name will be wrong (similarly to FTP Upload), it is primarily designed to compress text files before being copied over a slow WLAN. In a future release, zipping complete directories is planned.

4 - When using the Service and Monitor versions of DUN Manager together, it is now possible to launch interactive programs (with 2.6 the service version could only run hidden programs). The Service version will now only attempt to run programs specified as 'hidden' (in 2.6 it tried to run anything) and non-hidden programs will be run by the Monitor version instead. If the Monitor version is not running, the program is ignored. 'Hang-Up After Close' is supported for interactive programs, but not 'Close After Hang-Up' (which is much more complicated).

5 - There are internal improvements in communication between the Service and Monitor versions of DUN Manager which should simply mean more and better interactivity. Also, it is now possible to stop a scheduled connection during the countdown before dialling since the Reset button is correctly enabled in the Monitor version.

6 - The Check Mail notification window now shows the time the mail was received.

7 - If RegEdit was used to save the DUN Manager registry entries to a text file (for backup purposes), some settings were lost when the REG file was imported again (on another PC). This was because DUN Manager was saving ASCII control codes in the registry (such as CRLF) which became confused once in a text file. This has been fixed in a backward compatible way so that DUN Manager now only writes ASCII characters but will read either. If you intend to save any registry settings, please first re-apply General and Log/Cost Preferences, Connection Default Properties, any entries with Alternate Numbers, Disconnection Settings or Launch Programs, and any Sync Files or Download HTTP scheduled tasks.

8 - It is now possible to export and import specific scheduled tasks. The Scheduled Connections and Tasks window now has a main menu giving access to all the button and pop-up menu options, and with Export and Import on the File menu. Export displays a list of scheduled tasks and allows one or more to be exported to files named 'task=(name).reg' in a specified directory. Import displays a list of files named in this format, allowing one or more to be added to the scheduler.

list, with optional replacement of duplicates. The exported files may also be added by double clicking so RegEdit automatically imports them (but without the duplicate check).

9 - Automated updating of the Sophos anti-virus software has been improved to look for the monthly updated new application. Four tasks may be imported into DUN Manager using the new Import feature discussed above. The task 'Sophos Get Full Product' will need your personal web site logon and password added to the URL, and perhaps the directories changed, it will download and unzip the monthly 'angz.zip' file, and then run a second task 'Sophos Install Product' that will run the set-up program interactively (note these tasks use several new features of this release). If anyone works out how to do a silent Sophos install, please let me know, the command line parameters are very poorly documented.

10 - There has been a long term problem with Scheduled Tasks when DUN Manager is not run continually, typically on PCs that are powered off each day. Tasks scheduled to run while the PC is powered off would run immediately DUN Manager was started. There is a new tick box in the task 'Times During Day' box, 'Don't Run at Start-up'. This will effectively requeue the task afresh if the scheduled time has already passed, rather than running it immediately when DUN Manager starts-up. It will then schedule itself for the first specified time in the day.

11 - Fixed a problem first queuing a scheduled task due to start between midnight and 6am, which would run immediately rather than wait until the following day.

12 - Fixed a problem with the Auto Email, Check Mail, Mail Relay and Test Server scheduled tasks, that these failed to run if a previous task had been aborted, until an FTP, HTTP or Sync Files task was run (and reset the abort flag).

13 - Made two changes to the registration system. During a demo the nag window will now appear after 20 days of use, rather than 10, which will ease testing of unattended installations such as servers. If a registration key has been entered but registration fails, DUN Manager will now write the registration details to the Activity Log file and silently close down, rather than showing the nag window.

14 - Fixed a cosmetic problem when using multiple monitors that some windows (such as About) were centred on the desktop rather than the display screen.

15 - Improved validation of scheduled tasks so that dial-up tasks are not created with inappropriate online checking.

16 - When monitoring the service version of DUN Manager, viewing activity and task logs now correctly defaults the current log file name. The 'Stop Task Scheduler' option is now available from the monitor version.

17 - Auto dial now works correctly if the '-NOVALIDATE' command line option is used when DUN Manager is started. Non-modem devices no longer give an error setting auto dial (which is not supported on them).

18 - In the registration form, Save Email to Clipboard now works again (bug introduced in 2.6).

19 - For UK tariffs, updated BT holidays, no more holiday specials, just Chataway weekends that exclude ISP calls. Updated tariffs for Romania and South Africa. Removed Atlantic Telecom.

- 2.6** 1 - DUN Manager may now be run as a proper NT service on NT4, W2K and WinXP, with almost the same level of interaction as running it normally. The advantages of a service are that it can be set to run immediately the PC boots without needing a user to logon, and that it can then only be stopped by an administrator logon. If the PC is used by more than one person, DUN Manager will log everything to a single set of files since it does not stop on log-off. An interactive version of DUN Manager may be optionally used to control and monitor the DUN Manager Service, but may be stopped without the service stopping.

During installation, 'DUN Manager Service' is added to the Services list, with manual start-up and the account of the current user (but no password). If this is a fresh installation, DUN Manager should first be run normally from within Windows, all the preferences and connections set-up and tested. Note that DUN Manager must be registered and show 'registration validated OK' before it may be started as a service. From the Services window, access 'DUN Manager Service' properties, change to automatic start-up and add the password for the account (it must be an administrator level account). The DUN Manager service may now be started from the Services window, if it fails to start look in the Application Event Log for the reason. On Windows XP, don't attempt to use the 'Administrator' logon or there may be an immediate blue screen dump, also XP accounts may have been set-up without passwords, but one must be added before it can be used to run a service.

Once the DUN Manager service is running, start DUN Manager in windows as well. A check is made to ensure the service is running, and DUN Manager will start as a monitoring application. There is a new command line option '-monitor' that forces monitoring even if the service is not running, or start 'DUN Manager Monitor' rather than 'DUN Manager'. When run in monitoring mode, the icon right click menu shows the item 'Is Service Running?' with a tick if it is, also Start or Stop DUN Manager Service. If the service stops, the normal tray icon shows a red X. Monitoring the service is optional, stopping monitoring does not hang-up any calls (unless so specified) and starting monitoring will show any calls already in progress.

The version of DUN Manager running as a service is the same as the normal windows version, so should be as reliable. The only difference with service mode is that when interaction is required, it checks if another DUN Manager is running in monitor mode and sends it a message to change the tray icon or update the call status or whatever. So effectively the complexity of running DUN Manager as a service is interaction with the user, each button clicked in the call status window needs to be passed to the service which then responds to the monitor version doing something.

When using DUN Manager to monitor the service, most of the same facilities are available as when running interactively, but call status window updating will be a little slower since information needs to be passed from the service. Note that Change Timed Hang-Up and Performance Graph for the current call are not available, nor is Redial the last call, and the scheduler can not be stopped. Monitoring will only work for the account under which the service is running, since preferences are shared. Don't attempt to run DUN Manager under a different account if the service is running.

Please note that you can not launch interactive programs from the DUN Manager Service because it's running in a hidden window. If a launched program displays an interactive dialog it will keep running until windows is rebooted, unless 'End Process' is used from Windows Task Manager (be careful to crash the correct program!).

This new service functionality will be considered to be still in beta until DUN Manager 2.7 is released, the monitor functionality needs a few weeks of testing.

2 - DUN Manager now offers Windows XP enhancements for connection entries, although most were available through the Microsoft dialogs in Windows 2000 - unfortunately the RAS APIs often come a few years later. TCP/IP settings on the Protocol tab has TCP Window Size, DNS Suffix and Internet (use not known). The VPN tab has a Prerequisite Phonebook and Entry for an entry that will be dialled before VPN is connected (these options not supported by DUN Manager, use Default VPN Connection instead). The Multilink tab has 'Don't Negotiate Multilink for Single Link' and 'Multilink Devices Use Same Number' which is defaulted true since DUN Manager only supports this option. The Security tab has 'Don't Use RAS Credentials', 'Use Pre-Shared Authentication Key', 'Don't Allow File and Print', 'Don't Allow Client for MS Networks' and 'Disable NBT Probing Over IP'. The Misc tab has 'Use Global Device Settings' and 'Redial If Line Dropped' (not supported by DUN Manager, use Reconnection settings instead). When deleting a connection entry multilink device, it is not necessary to re-enter the password on Windows XP. With Windows XP, the redial attempts and delay between attempts settings are now common to Microsoft connection properties, in earlier versions of Windows the settings are separate for DUN Manager.

3 - Minor fixes for Windows XP. Some ISDN devices will now display and use the correct port names. The Call status windows are now sized correctly (XP has a higher window menu bar). Log directories now default for specific users rather than being in the program directory: 'Documents and Settings\'(user)\Application Data\DUN Manager'.

4 - The Remote Call Status web pages now show warning messages. This allows data flow or timed hang-up to be warned and stopped by clicking the Reset button.

5 - Fixed a minor problem validating HTTP Download scheduled task URLs. Problem URLs may now be stopped by adding \* at the start of the line. Fixed a problem relating to relative URLs that stopped web



files being located. Where an HTML page is parsed for other URLs, the page itself is now downloaded if the mask matches.

6 - Fixed a couple of problems introduced in 2.4 in the Multi Call Status window, the Skip Wait button now works again and the two Disconnection tick boxes change the correct call when both routed and dial-up calls are used together.

7 - Improved the way that scheduled tasks are linked, so that one task can now optionally follow another rather than always running. So if one task is successful it can cause a second task to be immediately run, but not if the first task failed. Linking is set-up on the General 2 tab in Task Properties, 'Link to Another Task', never, always or if successful, with the new task name being specified. Note this features has changed slightly from previous releases, and 'always' will need to be specified for any existing tasks using linking. How a task is considered to have been successful varies between tasks, for HTTP Download, FTP and Sync Files tasks it is if at least one file was transferred, or if the PC Clock was checked or changed, with the Mail tasks a single new email was found, but with Test Server if the tests failed. This option may be used to run an Alarm Clock task to provide visual notification that a specific task has completed successfully, perhaps downloaded some new files.

8 - DUN Manager can now be used to automatically download and install new virus identity files for the excellent Sophos Anti-Virus product (<http://www.sophos.com/>). New IDE files can appear several times a day, and a DUN Manager HTTP Download task can be set-up to detect and download these files, and then link to a Run Program task that restarts the two NT services that provide anti-virus scanning so the new IDE files are immediately installed with InterCheck providing immediate protection. With new viruses such as Nimda spreading worldwide in less than six hours, regular virus updating is essential. To simplify setting up these tasks if you are on Windows 2000 or XP, run the file 'sophos-tasks.reg' in the DUN Manager directory, go into the Scheduler and click F5 (if the two new tasks don't appear). As set-up, the tasks expect to find DUN Manager and Sophos in 'd:\program files\', if they are elsewhere the paths should be edited. Sophos is restarted using the batch command file 'sophos-restart.cmd'. These tasks will update Sophos on the same PC as DUN Manager, in a network environment a Sync Files task could be linked as well to copy the new IDE files to other PCs.

9 - Fixed a long term problem with scheduled connections that if an error occurred before dialling started, the scheduled task could get stuck at the top of the queue, stopping other tasks running. Also fixed a problem with the mechanism that was supposed to detect such problems, with was not always working either (very hard to test).

10 - A problem introduced in 2.5 that caused the 'Enable Launch Programs' option to be lost when editing DUN entry properties has been fixed.

11 - Changed the way that a stalled scheduled task is detected. Before, any task still running after 30 minutes (except FTP and HTTP) was stopped after a fixed 30 minutes. Now a five minute deadman

timer is used, that is reset regularly while the task is running normally.

12 - There have been several reports of the DUN entry properties window being lost so it can not be closed, either being moved off the screen or hidden under a large DUN Connections window. If this happens, attempting to close the DUN Connections window will now bring the properties to the top and move it back into the screen. This new functionality also applies to the Task Properties window.

13 - Added a Secure Server button to the Registration window. Once the form details have been completed, the new button will launch an Internet Explorer browser window displaying the DUN Manager one step web order form with the order already pasted directly into the form.

14 - A check is now made for a new registration license key file when DUN Manager starts, in addition to when Preferences, General is accessed.

15 - Fixed a long term problem with time correction using an SNTP server. Sometimes DUN Manager appeared to contact an SNTP server that did not exist or was unavailable and erroneously returned a year 2036 date.

16 - Fixed two cosmetic problems in the Performance Graph window. The captions showing received and transmitted data totals now have sufficient space for 4 gigs of data, and the 'Call to View' list will no longer show (None) twice.

17 - With the FTP Upload scheduled task, a problem that meant delete, archive or time stamp after upload did not always work has been fixed. This happened when there was a character case difference between the uploaded file and the server, when the test should have been case insensitive. Logging has been improved for these options.

18 - Made a cosmetic change to the Connection Logon window that appears when starting a connection without any logon details specified. If the user name or password are blank, the first will be focused, but if both are completed then the dial button is focused instead.

19 - There is now some commonality between the scheduled mail tasks and MailMaint, Magenta Systems online POP3 mailbox application, MailMaint 3.0 and later can share the mail header files and mail archive files created by DUN Manager. Specifically, this means that MailMaint allows viewing of both online mail still on the POP3 server, and offline mail that has been archived by either the Check for Mail or Relay Mail tasks. For this to work, the same mail directories should be specified for the same mailbox in both DUN Manager and MailMaint. Note the POP3 server settings are still individual to each application.

- 2.5** 1 - Finally found the Windows API to get allow detailed performance monitoring of routed connections, in bytes rather than variable sized segments. Statistics are now taken from a specific interface (usually an ethernet card) and so routed statistics are now separate from those of dial-up calls. However it is still not possible to separate LAN and WAN traffic, unless separate network interface cards are used. The

preferences Router tab no longer includes segment sizes, but has a new 'Interface to Monitor' box that defaults to Automatic, but drops down to show any installed network interfaces and their MAC address. Leaving the default of automatic will select the last interface in the list (if more than one), otherwise a specific interface can be selected. From testing, the performance figures may appear slightly higher than expected, it is believed this is because they include all network overhead bytes, ie downloading a 100K file could use 120K of bandwidth.

2 - Added two new scheduled tasks (that have been on the menu for a while), Check for Mail and Relay Mail. These are both designed to access a POP3 mail server, and either notify of new mail that has arrived, or relay (redirect) that mail to another account. Filtering can be performed so that only specific items are notified or relayed. Notification is by a new flashing icon, a defined sound, and pop-up window containing one or more headers from the mail. A program may be optionally run when new mail arrives. Optionally, new mail may be saved on the PC, either one item per file or one file per day, for archival purposes (in case the mail program crashes) or for use by other applications. Relaying mail may be useful to consolidate mail from rarely accessed accounts into one mailbox or to distribute mail to other accounts. Please note these tasks will only function with POP3 mail servers that support UIDLs, that is add a unique identifier to each new message to allow tracking of whether it has already been downloaded. Without UIDLs it's necessary to download every header for each check, which would cause vast traffic with large mailboxes and so is not currently supported.

In Scheduled Task Properties, the Check for Mail and Relay Mail tasks share a 'POP3 Server' tab where server details are specified, including an optional proxy server. A directory must be specified in which mailbox information will be stored, this should be unique to the mailbox if the 'Archive Mail on PC' option is specified. Note that mailbox files can be shared between multiple tasks accessing the same mailbox, so using the check and relay tasks for the same mailbox will only download mail once. Downloaded messages are saved in 'Ameol2 scratchpad format' with headers also in a single file in CSV format. The maximum mail body lines to download may be specified. Unless mail is being archived or relayed, or Sircam checking is needed (see below) just one line is sufficient. New message headers are logged in the Activity Log, and optionally in the Task Log (only some headers). Note there is currently no plan to allow the email saved by DUN Manager to be viewed by DUN Manager which is not intended to become an email application. There is however some commonality with Magenta System MailMaint Release 3 with the mailbox files being shared.

3 - The Check for Mail tab has two boxes in which lists of filtering information may be specified, first to positively select mail that should be notified, and then an exclusion list from the first list. Up to six header fields may be checked, To:, From:, CC:, Subject:, XTo: and XFrom:. XTo and XFrom are the X-Envelope-To and X-Envelope-From headers inserted by some better mail servers reflecting the real recipient. So specifying 'To: magsys.co.uk' which do a partial match on the To: header field. The exclusion list might include 'Subject: [twsocket]' which would then stop mail being notified that included the

text [twsocket] (a mailing list) in the subject.

Once mail has been selected for notification, a pop-up window is prepared with optionally the from, to, subject headers and message size. The pop-up window may be set to appear automatically for a specified period, or may be displayed only when clicking on the optional new mail icon in the system tray. Double clicking the window or icon will clear and close the pop-up window, right clicking the windows shows a menu that allows the font size and colour and window background colour to be specified, and for the window to be hidden but not cleared. A WAV sound file may also be played. Please note that the first time Check for Mail is run, it might find and notify several hundred messages in you leave POP3 mail on the server, but subsequently will be much faster.

The Check for Mail task has optional checking for the Sircam email virus/trojan that has been circulating since July 2001. Sircam is particularly annoying because it emails a random file from the infected PC, that may be several megabytes in size, causing lengthy email downloads (particularly for dial-up users). For some strange reason, it seems hard to detect by certain email server virus scanners, particularly Brightmail. DUN Manager detects Sircam by looking in the message body for the phrases 'Hi! How are you=3F' or 'Hola como estas =3F', and then 'See you later=2E Thanks' or 'Nos vemos pronto=2C gracias=2E' and then ensuring the email has a large attachment. If found, the item is deleted from the POP3 mail server. All the headers and first part of the body are written to the activity log, in the exceptional case that a real email is deleted by accident. Since Sircam can only be detected in the message body, at least 50 lines of each message should be downloaded. There are currently no plans to add further virus or trojan checking to DUN Manager, Sircam is a special case because of the wasted download bandwidth.

4 - The Relay Mail tab requires a new email account name and SMTP server to be specified, to which mail will be sent. Optionally, it may be deleted from the POP3 server after it has been successfully sent, but it will only be relayed once (unless the mailbox files are deleted). A filter box allows mail to be relayed to be positively selected identically to Check for Mail, but there is no exclusion list. Optionally, mail older than a specified number of days may be ignored, this should be set to seven days or something before running this task on a POP3 mailbox with old mail in it. Also ensure that maximum mail body lines on the POP3 tab is set to zero (ie all lines), otherwise only partial messages will be relayed.

5 - Added the last missing scheduled task, Test Server. This is designed to test a list of web or other servers to ensure they are available, and provide warnings if not. The task will tell you that your web site has crashed, rarely will your visitors say so, and neither will many hosting companies admit it. The Test Server task can be set to ping multiple servers, and to perform multiple HTTP downloads. Web servers should ideally be tested using dynamic pages (ASP, SHTML or CGI) to ensure the server is really working. All URLs and servers are tested in parallel, with separate time outs for ping and HTTP lists. The tests may be repeated two or more times before a warning is issued. The warning is identical to Check for Mail (see above) with a flashing

icon, warning sound and pop-up notification window. All server attempts are kept in the Activity Log and optionally in the Task Log, including the ping response time and HTTP download time.

6 - Added a new FTP Upload option 'Move to Archive Directory After Upload'. This may be used to ensure that files are only uploaded once, instead of deleting them after upload. If a file of the same name already exists in the archive directory, a unique name based on date and time is used instead. Note that directories are ignored, which may also cause possible naming conflicts. The FTP Upload and Download tasks now support an alternate host name that will be used on alternate connection attempts if the first host name can not be contacted. Both hosts will need to be set-up with the same logon. This is designed for mirrored hosts.

7 - Added zip compression support to FTP upload and download tasks. Compression is specified on the FTP Common (previously FTP Proxy) tab. For uploads, files are compressed singly, replacing the existing file extension with ZIP, or adding .ZIP to the end of the file name so the original extension remains. The compression is done in memory so there is no zipped version of the original file left. Downloading zip files is a more complicated since they may contain multiple files and paths. Files may be unzipped into the download directory or a new directory with the same name of the zip file. File path information in the zip file may be ignored or used to create sub directories. Once successfully unzipped, the zip file may be optionally deleted. Please note that, at present, use of compression will invalidate checks for existing duplicate files, all unzipped files are automatically replaced and uploads will not be skipped if the zipped file is already on the server. Compression is primarily aimed at unattended use of DUN Manager, where log files are regularly returned to a central location.

8 - Fixed a bug in FTP Upload and Sync Files that caused no files to be selected when using copy type 'Partial Directory (mask)' and 'Use Date Mask', typically used to find yesterday's DUN Manager log files.

9 - Fixed a problem when deleting a task when changing your mind and clicking cancel still deleted the task.

10 - Made an improvement for scheduled tasks using routed connections, so the tasks only run if the routed connection is available. For this to work, monitoring of routed connections needs to be enabled in Preferences, General, and the task 'Online Checking' option set to Routed Connection.

11 - Made some cosmetic changes when editing tasks, the Information tab is now General 2 and has the 'Online Checking' option, while conditional settings have moved to the Connections tab. When editing the properties of a task that is already waiting to run (where the scheduler index shows a next time), it will no longer run immediately OK is clicked to save the task, but the old scheduled time will remain. The exception is editing any of the General properties, such as changing the time it should run, when the new settings are used.

12 - The scheduler queue is now rebuilt when the 'Stop Task Scheduler' box is unticked, as well as clicking F5. It is also rebuilt every 30

minutes to ensure that failed tasks do not get stuck.

13 - Improved the Auto Mail task to increase the number of attempts to send email from two to 10, alternating between the two SMTP servers (if both are specified). An extra two second delay occurs after each new attempt, so 18 seconds for the tenth. The way the inactivity timeout works has also been changed, it's been reduced to 30 seconds (from 5 minutes) but is now reset after line sent to prevent large emails timing out. The new Task Log is now also updated by the Auto Mail task, showing the file being sent, the first recipient, and mail size. The Check button on the Auto Email task tab now works properly again.

14 - Added the ability to run one or more tasks when DUN Manager initially starts-up (after the 15 second scheduler start delay), and when a connection goes on-line. Previously, to run tasks at such times it was necessary to have the task retrying every two minutes waiting for a connection. If the task is specified to repeat, it will do so (which may not be desirable). Start-up tasks are specified in Preferences, General, Start and Stop, connection online tasks in DUN Connection Entry Properties, General.

15 - Made some heavy cosmetic changes to DUN Connection Entry Properties, so that all option tabs remain visible rather than being hidden according to tick boxes on the Default tab. When designed, it seemed better to hide non-relevant options, but this raised continual support problems with users unable to find options. Some default tick boxes have now gone, and the remainder are on the relevant tabs where they just hide panels. It is hoped this improvement makes setting-up connection entries easier.

16 - Fixed some problems in the DUN Connections window. The status for an active call might have been on the wrong line after the connection entries list was changed, not updated correctly where more than one call was active, and entries were only correctly selected by clicking with the mouse rather than using the cursor keys (all long term problems). Added a new column showing if entries are specified as 'hidden'.

17 - Added a feature to ensure sessions are still logged even if DUN Manager is terminated unexpectedly, perhaps by the PC being reset, power failures, or where DUN Manager is 'killed' in an unfriendly manner by Task Manager. In Preferences, General, Monitoring, 'Session Recovery Interval' specifies how often to save session information to a recovery disk file, typically every 60 seconds. The file is deleted when the session completes normally. When DUN Manager is started, it checks for these recovery files, and if found adds the information to the Session Log. Choosing the recovery interval is a trade off between reducing disk activity and losing data.

18 - If the flashing system tray icon is specified to appear during a routed connection, the hint now also says Online.

19 - Made a change to scheduled connections so that timed hang-up settings in the task overrides 'timed disconnection' and 'reconnect when connection drops'. If either of these options are needed for a scheduled connection, ensure timed hang-up is set to zero.

20 - Added a 'Polled Monitoring DLL' option. This is designed to support an external monitoring DLL for specialist use when DUN Manager is used unattended. Such a DLL might be triggered externally to launch specific connections and/or tasks.

21 - Made some internal changes to the way statistics are processed. Previously DUN Manager could only cope with 2.1 gigs of data in a single session (about 10 days at modem speeds), but with broadband connections this volume can be exceeded in a day (but perhaps expensively). The internal limit is now the same as the Microsoft APIs, about 4.3 gigs of data in a session. I don't think Microsoft envisaged such volumes with RAS either. In addition, a Win9x problem has been fixed that gave inaccurate statistics if the PC had transferred more than 4 gigs of data since a reboot. Extra error handling has been added to performance statistics processing in order to better trap the 'range errors' that still get reported too often. Statistics have now been tested to the maximum of 4.3 gigs where the windows counters wrapped to zero. The statistics log now keeps routed call data volumes

22 - Disabled another start-up warning dialog if the '-novalidate' command line option is used to disable DUN warnings.

23 - Fixed a potential problem when Windows returns illegal data and time separator values (normally / and :). One non-English user had nulls returned which got written to the various log files, causing various issues.

24 - Fixed a problem using the Hang-Up scheduled task that stopped subsequent tasks running if there was no connection online (bug introduced in 2.3).

25 - When launching a program, an extra option 'Run Hidden' is now available in addition to 'Run Minimised', these are mutually exclusive. The former was the default action for minimise prior to 2.4, and seems to be preferred on Windows NT4.

26 - Fixed a long term bug that meant there was no displayed telephone number in the Call Status window or Session Log if TAPI had invalid dialling properties.

27 - When viewing an activity log, using the Find option to search for text now correctly scrolls the window into view.

28 - Added two new command line options to the `DMREGCLR.EXE` application, the command `-queue` will immediately refresh the task scheduler queue, while the command `-prefs` will cause reloading of all preferences. These are primarily designed for special applications where the DUN Manager registry entries may be updated by other applications.

29 - Updated UK tariffs for Telewest, NTL, Sky Talk and Euphony. World Online (aka LocalTel) has gone. EcosseTel is now UKBell. Viatel is now Enable Communications.

- 2.4** 1 - Added major new functionality that allows DUN Manager to monitor routed connections, that is internet access without using dial-up networking (RAS) on the PC. A routed connection may be permanent such as a leased line, ADSL or cable modem, or dial-on-demand typically using an ISDN router. Note that DUN Manager can offer no control over routed connections, it just monitors whether internet access is currently available. For 'permanent' connections, a new warning icon will appear in the system tray when internet access is lost, while DOD connections are treated similarly to dial-up with the flashing icon while online. In both cases, the call status window will show how long the connection has been active and it will be appear in the Session Log when over. To avoid complications, connections over three hours long are restarted for logging purposes at midnight, so ideally there will be one log line per day.

Set-up is by ticking 'Routed Connection Monitor Enabled' on the Monitoring tab in Preferences, General, which causes a new Routing tab to appear. The IP addresses or host names of two servers that can be pinged to check whether internet access is available should be specified. These should ideally be routers or servers at your ISP. Using host names will also test that DNS is working.

In general, the less pinging done, the better (less bandwidth), so setting 'Maximum Hops' low, typically three or four, means the pings will only reach the first routers at the ISP, rather than the servers. But some firewalls or gateway routers (Bay Netgear) may echo the ping without reaching the minimum number of specified hops, so causing DUN Manager to think there's a routed connection when it's been lost. The solution to this is the Check IP Address option that checks the ping reached the specified host. However this only works if the hops (TTL) is set high so the ping does not stop short. Set the ping polling interval while offline to a short time, typically every five seconds, to detect connections quickly, but longer while online, every 30 to 120 seconds, to avoid excessive network traffic. Typically five failed pings should be allowed before the connection is considered failed, since heavy PC or network traffic may cause a ping to timeout.

Other options determine how DUN Manager treats routed calls, whether they should be kept in the Session Log, if a connections should be announced by the flashing online icon and sounds (from DUN Connection Defaults), whether performance information should be displayed or if the warning icon (and sound) should be shown when the connection is lost. The warning icon may be removed from the system tray by double clicking, but will disappear when the connection reappears. Finally a name for the routed connection should be specified, that will appear in the call status windows and logs.

Performance monitoring of routed connections is not available with Windows 95 or with NT4 unless a minimum of service pack 4 is installed.

There is a limitation to the accuracy of the performance figures shown. With the internet, all data is sent in variable size packets, each packet having various headers like the IP and MAC addresses of the destination to allow routing around the world. Some packets are small, like an interactive response in a telnet terminal or a conversation with a



mail or FTP server, other packets are large such as a mail or FTP download.

Unfortunately the normal windows APIs only return a count of IP packets transmitted and received, but not the size or actual character totals. DUN Manager therefore needs the average size of sent and receive packets to be specified, defaulting to 400 bytes for receive and 100 bytes for send. Packets may be up to 1,500 bytes (sometimes larger). But at least the performance statistics will give a vague idea of throughput and burst speed over time.

Note that both LAN and WAN traffic is included in the statistics, which may further distort the figures if there is heavy copying between local PCs or printing. The only way to get more accurate routed performance statistics is to use low level packet sniffer drivers, and count each separate packet (ignoring LAN stuff), but such low level drivers may cause the PC to be less stable.

When using the Multiple Call Status window, the first call will always be reserved for the routed connection, with dial-up calls showing as calls two to nine.

**WARNING - if this new option is used to monitor dial-on-demand routers, it's essential the router is configured to prevent the pings causing an internet connection to be established. This is normally done with a call filter in the router, but may not be possible on all routers. Bay Netgear and Zyxel Prestige routers do allow such call filtering. Magenta Systems will not accept any responsibility for DUN Manager causing unnecessary DOD calls. If you don't know how to configure the router, please don't use this new feature with DOD.**

2 - A new type of default connection has been added, 'Multiple Connection, then VPN' which selects a dial-up connection by time and day, and then starts a VPN connection once dial-up is online.

3 - Added a new Task Log. This log is similar format to the Session Log, held on disk as comma separated fields, and displayed in tabular form. The Task Log is designed to ease checking which files have been copied, downloaded or uploaded using the FTP, HTTP and Sync File tasks, and logs one line per file and a summary total. The Task Log is enabled in Preferences, Logs/Cost, Logging, and may be set for a new log each day or week. Task Logging is then enabled separately for each task on the Information/Conditional tab. with optionally just a single line with the totals (where hundreds of files are being regularly copied). Note the Task Log is independent of task logging in the Activity Log, which is a more of a diagnostic format. The Task Log may be viewed from the icon right click menu, or the Scheduler or DUN Connections windows.

4 - Added a new option 'Overwrite Read Only Files' to the FTP Download, Sync Files and HTTP Download tasks. Note that Sync Files copies all file attributes, but FTP does not.

5 - Fixed a problem introduced in 2.3 whereby the FTP proxy server settings were not being used properly. There is now a separate FTP Proxy tab in tasks, allowing support for different types of proxy server or

firewalls. 'Proxy (userid@host)' is the most common type of proxy where the host FTP server and proxy FTP server names, and proxy port are specified separately. DUN Manager contacts the specified proxy server and logs on using the command 'USER userid@hostname' to allow the proxy to contact the FTP host. Note that User Id field does not need to have the hostname added, this is done automatically. 'Socks4' and 'Sock4B' are more transparent, not needing the USER command to be used in a different manner, 'Sock5' is similar but also uses a secondary logon to the proxy server. The FTP and proxy ports may now be specified higher than 30.

6 - DUN Manager may now be started if there is no modem installed or if dial-up networking (RAS) is not installed. It will not be possible to make or monitor connections dial-up calls, but most of the scheduled tasks such as FTP, Sync Files and Clock Setting may still be used, also Internet Diagnostics, and of course the new routed connection monitoring.

7- When DUN Manager is started, the scheduler will not check for any jobs for the first 15 seconds. This will give the chance to open the scheduler window and tick 'Stop Task Scheduler', for a dial-up connection to be started or a routed connection to be detected before a task starts consuming CPU time.

8 - Fixed a problem in the scheduler when using the minimum two minute reschedule option, where rounding may have reduced the time to one minute which was then considered invalid and the task disabled.

9 - Fixed a problem that a program specified to be launched minimised was not being done so, at least on Windows 2000. Note that not all applications can be launched minimised, in particular this does not work with most Delphi applications (ie anything from Magenta Systems). This is because only the first window created is minimised by Windows, and with Delphi applications the first one is a special hidden window, not the one the user sees. Also, DUN Manager may have a problem stopping applications that are launched minimised.

10 - DUN Manager no longer gives an 'overflow' error when started with no DUN connection entries created (bug introduced in 2.2).

11 - A new command line switch for DUN Manager has been added, -novalidate. This bypasses validation of DUN connection entries each time DUN Manager is started, and may be useful for those that have connections with missing modems which currently brings up a warning box.

12 - A call that hangs-up due to failed Check Alive is no longer treated as a failed call, unless it was very short. This fixes a problem that meant performance statistics were not written to the logs even if the call was several hours long.

13 - Fixed a problem introduced in 2.3 with the Sync Files task, that sometimes preventing any file copying when multiple directories was not selected.

14 - The Scheduled Connections and Tasks window now shows the

same task progress information as the Call Status windows, which is convenient than keeping two windows open. There is also a right click menu in the scheduler window, as an alternate to the various buttons, it also includes Abort task, again avoiding needing the Call Status window.

15 - Improved the detection of ISDN calls started by other applications where there's a port mismatch to use the device name instead of just choosing the first call.

16 - Performance statistics are now available for VPN connections.

17 - When a scheduled task completes, the Activity Log file is now flushed to disk so that it's available to be read by other applications.

## 2.3

1 - The means of building the scheduler queue and setting the next run time for scheduled tasks has been changed to resolve a long term problem with tasks not being rescheduled as expected, primarily when one run time overlapped a task that was still running. This change also means the task currently running remains at the top of the scheduler list window. Due to this change, the first time this release is installed, any tasks scheduled to repeat within the day will start immediately, so ideally before installing it tick the 'Stop Scheduled Tasks' box, and then reschedule as necessary once the new release is installed.

2 - Fixed a problem introduced in 2.2 whereby some scheduled tasks would get stuck in the queue behind a task waiting for a connection.

3 - If a scheduled task is running when an attempt is made to exit DUN Manager, a warning dialog now appears. If the user decides to continue and exit, an attempt is made to abort the task being run with a 30 second delay until it has finished.

4 - Fixed a long term problem that could have caused a running task to stop or misbehave if another task was added at the same time, if the another task was 'Run Now', or if the schedule index was refreshed.

5 - In previous releases, the next scheduled task shown in the Call Status window was the first one that would dial a connection. A new tick box 'Call Status Window Shows All Tasks' on the Preferences, General, Appearance tab will now cause the actual next task to be run is shown. This is of primary benefit to those with untimed connections.

6 - For those using dial-up connections and scheduled tasks, the Connections, Online checking function now has a new option of 'Wait for Specified Connection'. This means a task will not run until the specified connection is online, previously the only option was any connection online.

7 - It is now possible to cause a delay after a task completes, before the next task starts, up to 120 seconds. This is specified on the Information/Conditional tab in task properties. It may be useful when running scheduled programs, so two or more don't start immediately together.

8 - Fixed a problem introduced in a late beta of 2.2 that caused the hang-up when a task finished option to cease working.

9 - When tasks are rescheduled during the same day, the next time will now be on a rounded minute to avoid the time creeping during the day due to the couple of seconds it takes to run a task.

10 - Made a low level winsock change that may avoid rare FTP and HTTP failures on high speed connections.

11 - In Session Log, 'file export to CSV with display columns' now exports only the display column headers, and not the lot.

12 - FTP Downloading no longer fails with a 'final rename' error in Windows 9x.

13 - DUN Manager will now continue to be responsive while building the directory of files to transfer for FTP or Sync Files.

14 - Made various FTP improvements. The Task FTP General tab now allows a non-standard FTP port to be specified, and a proxy server to be used for those on LANs. To better cope with overloaded servers, multiple connection attempts may now be made (default three) with a specified gap between attempts (default five seconds). A new option allows for Lower or Mixed Case file names. Previously, uploads were always lower case, and downloads mixed case. If the FTP server has a multi line welcome message, this is now all display (if FTP commands are logged). Also improved some error handling. More checks are made for cancelling an FTP job while building the directories, to avoid abort errors.

15 - Improved the progress messages shown in the Call Status windows during FTP and HTTP transfers to show the number of files being processed as well as the progress of each file.

16 - The HTTP Download task has a new option 'Keep HTTP Host' which may be used instead of, or as well as, the existing 'Keep HTTP Path' to form the PC file name for the download. DUN Manager will attempt to extract just the host name from the URL, ie magsys from [www.magsys.co.uk](http://www.magsys.co.uk). Also fixed a problem that checking for existing files to skip download was not always working correctly.

17 - In Session Logs, it's now possible to report of session in the current month if the starting day of the month is other than the 1st.

18 - Fixed a problem introduced in 2.2 for Windows NT4 and 2000 that prevented VPN connections being dialled by DUN Manager. This related to device inconsistencies in the faster entry list. There appears to be another Windows 2000 problem that means VPN entries are always saved with data encryption specified, unfortunately this is down to the Windows RAS API can not be easily fixed so it will be necessary to use the Windows property pages to disable encryption if it's not needed.

19 - Fixed a problem with Windows 2000 only, where editing phonebook entries while logged on a non-administrator could cause the

entry to be saved in the users phonebook rather than the system (all users) phonebook. The DUN Connections window now shows the owner of each phonebook. When creating a new entry, the Misc tab now allows the user to specify in which phonebook to save the entry. The phonebook physical file name is now shown on the Multilink tab.

20 - A cosmetic issue with tabs briefly flashing when accessing Scheduled Task or Connection Entry properties has been improved.

21 - Added a new optional 'connected' icon, a red telephone rather than green, that may be more appropriate for untimed telephone calls. This is set in Preferences, General, Appearance, System Tray icon.

22 - The set-up program now uses the same drive for the 'program files' directory as the current windows directory. DUN Manager will now be stopped in the previously installed directory first, if the install directory is changed.

23 - Add a new application `DMREGCLR.EXE`, 'Remove DUN Manager Registry Details'. This is primarily for use automatically when uninstalling DUN Manager, to remove all traces from the registry, also auto start and auto dial settings that could get left behind if not disabled before removing DUN Manager. It may also be run manually, and offers options to 'Remove Connection Details' (just DUN Manager related stuff), 'Reset All Windows to Defaults' (resets the sizes and positions, useful if reducing screen resolution where windows may get lost off the edge), and 'Remove Connection Details and Preferences' which removes everything, including auto start and auto dial (for uninstall or if settings are really messed up). DUN Manager is stopped as soon as this program is started. There is a command line option `'-unload'` which just stops DUN Manager, and may be useful if run from a scheduler (rather than running DUN Manager itself with the `-unload` command).

24 - In Connection Entry Properties, when using 'Choose Numbers' to select telephone numbers from an ISP list, there is no longer a limit of 200 displayed telephone numbers.

**2.2** 1 - This release adds several new scheduled tasks to support automated file copying, including using the FTP and HTTP protocols. Before copying, the target files are checked to avoid processing existing files, and include synchronisation options to delete old target files. Applications for these tasks include remote PCs collecting new data or posting log files, regular web site updating, collecting web statistics logs, checking for new versions of files on remote servers, and PC backup, either locally or remotely. These tasks may be used without dial-up networking on local LANs or WANs, such as with cable modems or ADSL. Several other DUN Manager features can now also be used without DUN, for people that are no longer dial-up or also have a broadband connection available.

2 - A new FTP Download task allows files from a remote FTP server to be downloading to the PC. The task settings are split over two tabs in Scheduled Task Properties.

FTP General needs the host name and logon details, server type (it is normally auto detected), file transfer mode, various logging options, and an abort timeout (typically 60 seconds) to stop the task if the server stops responding. 'Ignore File Time Stamp Differences' is designed to allow for FTP servers that run in a different time zone to the uploading PC or remain on winter time all year. Files with time stamp differences with less than the specified minutes (default 62) will be considered unchanged, set this to zero for precise time comparison.

FTP Download specifies the actual files to download, which can be a single file, or a partial or whole directory, optionally including all lower sub directories (beware that thousands of files may be selected). The file name can be constructed using a date mask similarly to the Auto Email task, including yesterday's date. File replacement options are never, always, if different (size or date), and if newer (by date or different size). Files may be deleted from the FTP server after successful download. Delete Old Files causes local files not on the FTP server to be deleted before downloading, to synchronise the remote and local directories. It may only be used for Whole Directory or Partial Directory (Archive) selections. It is strongly recommended that the 'Check' test option is used to see which old files will be deleted, to avoid loss of unexpected files. Note that read only PC files will be deleted.

The FTP Download tabs has three test buttons, View Remote Files which tests the FTP server name, logon and path and lists all files in the selected directories and subdirectories, Check Download which is similar but instead lists all files that will be downloaded according to the selections, and Download File which effectively run the task immediately, interactively, showing progress in a window, to check everything works OK. Note that testing will require an internet connection which must be started manually (unless on a LAN or WAN).

The time stamp on the remote files is maintained on downloaded files, to allow subsequent checks for newer files to download. FTP, files are downloaded with case sensitivity and using a temporary name to avoid replacing the original file unless download is successful. The directory file listings include windows file attribute letters (DARSHTCE) or UNIX file permissions (DRWX), and file time stamps. When viewing or using FTP file time stamps, beware that the UNIX 'LS' format (also used by most NT servers) is archaic and does not have sufficient space for both a year and time, so only files for the current year have the correct time. DUN Manager shows the time of files for previous years 00:00.

If either source or target files will be deleted, a warning dialog is displayed requiring user confirmation when the task is saved or tested.

3 - A new FTP Upload task allows files to be uploaded from the PC to a remote FTP server. This is conceptually similar to Downloading as described above, and shares the same FTP General tab and most other options. Note that File Replacement, If Different, will usually replace since it's not possible to set the file time stamp on the FTP server to that of the local file. If Delete Local after Upload is specified, this is done once all files have been uploaded, and the sizes checked as being identical to the local files. The remote FTP directory is listed in the Activity Log once Uploading is completed. After upload, the local

file time stamp may be set to that of the remote file to avoid subsequent uploads by date. Files are always uploaded with file names converted to lower case since UNIX FTP servers are case sensitive (unlike Windows).

4 - A new Sync Files task allows files to be copied from one location to another on a LAN, a WAN or the same PC. While this has nothing to do with DUN, most of the code is shared with FTP, and it may be used to access files on mapped network drives as an alternative to FTP. It may also be used for local PC backup, perhaps for 'RAID' mirroring, regularly copying any changed files to another drive on the same PC or another PC on a LAN.

Sync Files functionality is similar to the FTP tasks, but it also copies specific multiple directories. When the Multiple Directories box is ticked, a list of directory pairs appears, clicking on a line copies the source and target directories to selection boxes, once completed (or cleared), click the Replace button to update the list. To save resources, the directories are copied one at a time, rather than all the files being combined into a single long list. The Safe Copy option causes the file to be initially copied with a temporary name (same file name but TMP extension) and then renamed once copy is complete, this option should only be used when copying files over a slow or unreliable LAN or WAN to avoid partial files being left if copying is interrupted for some reason.

While it's generally expected that the Sync Files task will be used for relatively small numbers of files, it has been tested with complete volumes of up to 70,000 files, so may be used for general backup. If used with large numbers of files, make sure the Log Files Names option is unticked, otherwise there will be massive logs.

5 - A new HTTP Download task allows files to be automatically downloaded from one or more web servers. Provided downloaded files are not deleted, subsequent attempts will only download changed files. A list of URLs may be specified, that need have no connection to each other. When downloading, all files may be kept in the same directory, or the paths from the web server maintained. The Parse HTML for Linked Files option allows where a page URL (asp, htm or html) to be specified rather than a specific file URL (zip or exe), and DUN Manager parses it for links to files matching a mask, ie \*.zip, and then downloads those files. When comparing HTTP files for newer time stamps, a difference of two seconds is considered the same time since rounding errors mean the time stamps can be one second different (not a problem with FTP where file stamps are to the closest minute). Protected files may be downloaded by specifying the logon in the URL, ie <http://user:password@www.host.com/filename.zip>. Typical uses may be doing one off downloads off-peak to save money or get better performance, or regular download checking for updates, for instance checking for new releases of DUN Manager.

6 - Various changes have been made in the Task Scheduler window. Column now show when each task was last run and the result when it finished. The list is now sorted with pending tasks first, then disabled in reverse run order, so tasks run recently are always near the top. It's now possible to delete a task without opening its property pages. A new button, 'Run Now' causes a task to be started immediately without

any further dialogs or prompts.

7 - In Scheduled Task Properties, the General tab has a new option, 'Dial-Up Task', which enables the Connections tab. If using a permanent internet connection, untick it. The minimum repeat period between scheduled tasks has been reduced from two to one minute.

The Information/Conditional tab has a new feature 'Link to Another Task Upon Completion', so that when one finishes it triggers the next named task. Currently linking is supported by the following task types: Run Program, Set PC Clock, HTTP Download, FTP Upload, FTP Download, Auto Email and Sync Files. Note that there is no online checking for the second or subsequent tasks, although hang-up upon completion is preserved from the first task run. Beware that running a task with a link to another will always cause the other task to follow, irrespective of whether it was itself linked. The Run Program task is considered to have finished when the program starts running, not when it is closed.

The Connections tab has a new option 'Hang-Up When Task Completes' which is currently only effective for the FTP and Auto Email tasks. Rather than specifying a particular connection entry to dial, '(Default Connection)' may be selected to allow easier use of multiple default connections.

8 - The Set PC Clock scheduled task has been changed so that time server settings are now specified on a new task Set PC Clock tab, rather than being taken from the DUN Connections, entry properties. The time may be checked and changed interactively from the task tab. This change allows the task to be used without being online.

9 - Certain scheduled tasks may be used without a dial-up connection from a LAN or WAN, for instance using ADSL or a cable modem, by specifying Connection, Online, as 'No Connection Check (LAN)'. Currently these are Run Program, Set PC Clock, FTP Download, FTP Upload, HTTP Download, Sync Files and Auto Email.

10 - It is now possible to stop certain connection entries being used at specific times of the day or week. This may be useful where a PC has both timed and untimed connections available, to stop people using the wrong one by mistake. Blocking a connection entry is set-up as part of the Disconnection options in Connection Entry Properties. Tick Timed Hang-Up Warning, then set timed minutes for the period to be blocked to the word 'Never' or -1. When an entry is blocked, DUN Manager will prevent it being dialled. If another application starts a blocked connection, DUN Manager will hang it up as quickly as possible, on Windows 9x this should be before the call is answered, but on NT4/W2K it will not happen until after answer, but at least only the minimum call cost is incurred.

11 - A new type of Default Connection has been added, Multiple Sequential. This allows two or more connection entries to be specified for use as the default, which will be dialled in a specified, sequential order, once any allowed retry attempts have been exceeded for each specific entries. In Preferences, General, Default Connection, select Multiple Sequential. A list of all the connection entries is shown, those to be used as a default should be ticked and the arrow buttons used to



move them up or down the list to change priority. Clicking Apply will move any ticked entries to the top. If three connections are specified for sequential attempts, each with two attempts, there will be six call attempts in total before the call fails. This feature may be useful when a particularly busy ISP can not be accessed, so a more expensive one can be used instead. It may also be useful for users of the BT ADSL USB service which uses RAS to login to one of eight different gateways, some of which may be down.

12 - Improvements have been made in Internet Diagnostics. Pinging is now handled with threads to avoid making DUN Manager non-responsive, this also allows several pings to be sent together that may speed up Ping Host and Trace Route. The right click menu is now available again to set the log font and copy stuff. It is now possible to clear the drop down lists of host names and IP addresses previously used for tests, by double clicking on the control and clicking OK to accept the list is cleared. Trace Route now works correctly with permanent internet connections as well as dial-up networking. A problem has been fixed that should cure an unhandled exception error when closing the internet diagnostics window.

13 - A Time Server has been added to DUN Manager which will allow PCs on a LAN to correct their clocks from the DUN Manager PC using a time client package. The Time Server is enabled from the Servers tab (previously Web Server) in Preferences, General. Presently, only the Time/TCP protocol is supported.

14 - Check Alive has been improved by using threads for the check alive pings to avoid making DUN Manager non-responsive. It is now possible to specify a host name for Check Alive, instead of just an IP address, to test that DNS is also working. Note that the time to live for Check Alive defaults to three hops, so will not usually reach the specified host but stop early and return the name of that router, rather than the expected host. If this feature is used to test servers, set a long TTL.

15 - If the PC clock setting was corrected by using the button in DUN Connections, Properties, it was possible an exception may have occurred the next time the clock was set automatically, probably several hours later. This has now been fixed.

16 - Another first time access bug has been fixed, it seemed to only effect Win9x and/or slow PCs, probably introduced in 2.0i.

17 - The activity log file will now always list installed devices (modems and ISDN), and all connections with telephone number and defined devices, each time DUN Manager is started. This will assist in diagnosing certain problems.

18 - The means of building the connection entry list for the icon pop-up menu and DUN Connection windows has been optimised under Windows NT4 and 2000, resulting in faster display with less overhead. The DUN Connections list will now always show the correct connection telephone number, previously this was not always updated to avoid a delay (sometimes several seconds) refreshing the window.

19 - Monitoring of multi link NT4 and W2K ISDN calls is now rather more reliable, since the two channels can now be more easily identified.

20 - When creating a new connection entry for an ISP, an incorrect device was sometimes set (bug introduced in 2.0j when the device list was sorted).

21 - When recosting session logs, failed calls are now correctly recosted, included setting to zero cost if failure calls are not being costed. The session log window now refreshes after recosting.

22 - It is now possible to delete one or more devices from a multi link connection entry. On W2K, this may require the password to be re-entered.

23 - The Call Status windows have a new Abort button that stops various scheduled tasks, including FTP uploads and downloads, and Sync Files. Clicking the Reset button in the Call Status window now displays what action was stopped, previously it was only written to the Activity Log.

24 - A display problem showing telephone tariff holiday dates has been fixed.

25 - Fixed a problem in the Activity Log window when Top and Bottom did not work for very large logs.

26 - Added tariffs for Uruguay. Updated UK tariffs for British Gas, Servista, EcosseTel, removed BT Premierline (gone), C&WC, ComTel, Cambridge residential (now NTL), Birmingham and General Cable (now Telewest), old Telewest tariffs, ACC (now WorldxChange), LocalNet, CallNet and NextCall (all gone).

- 2.1a** 1 - A long planned call monitoring change has been made that may help DUN Manager co-exist with other applications such as PC Anywhere and fax packages that need to share modem and ISDN devices. In Preferences, General, Call Monitoring, 'RAS Polling (Ignore TAPI)' has replaced the earlier fail-safe connection polling option. If ticked, DUN Manager will no longer passively monitor modem and ISDN devices for calls, but instead rely solely on RAS to report calls. This passive monitoring is what has caused some other applications to become confused, declaring the port was in-use, when in fact well behaved applications such as Hyper Terminal could still use it. It may also be useful with some ISDN devices that do not report TAPI events correctly, and may also ease or resolve other rare hardware problems. Currently, only an ISDN multilink call is only monitored and costed as a single call, and both channels will hang-up together.

There are several downsides without TAPI monitoring, but users that need to co-exist with other applications will probably consider them acceptable. Specifically, no modem connection speed is available for NT4, non-RAS and incoming calls can not be monitored, and calls originated by other applications on NT4 and W2K will not be monitored until successfully connected, ie when the modem completes negotiation. So busy, no-answer or failed negotiation calls started by

other applications will no longer be logged by DUN Manager on NT4 or W2K. Monitoring calls without TAPI is how DUN Manager Release 1.0x worked, TAPI was added in 1.1x.

2 - A new scheduled task type, Auto Email, has been added. This is primarily designed for when DUN Manager is used in unattended applications to allow log information to be regularly returned to a monitoring site. The task expects to find email in a specified wait directory (a sort of queue), but will send selected files using a special file mask (see below). A 'Check Files' button displays a list waiting files that will be emailed according to the defined path and mask. The file content may be sent as plain text email, or as an attached MIME file. The email header details maybe set-up for the task or taken from the top of the email file itself (see below). Two SMTP servers may be specified, to allow either two attempts or an alternative if the first is offline. After being sent, the file may be deleted or moved to a sent mail directory to prevent it being sent again. Failed email is similarly sent to a failed mail directory. File name conflicts in the sent or failed directory are handled by renaming to the date and time. Waiting email is checked before starting a connection, and it is hung-up immediately email has been sent (if the scheduled task dialled it).

*File Mask* - this can be a simple 'DOS' mask such as `"*. *"` (the quotes are needed) for all files, `"*.log"` for all files with LOG extension, a simple expansion mask such as `"log-$H.txt"` where \$H expands to the computer host name (ie PC01), or a complex macro date mask such as `"activity-"yyymmdd"*.log"` (note macro characters are not quoted) to expand the date and time. yyyy is four digit year, yy two digit year, mm is numeric month, dd numeric day, etc, so this expands to the DUN Manager activity log file format. A task tick box allow the previous day date to be used instead of today, to send 'yesterdays' files.

*File Headers* - if 'Send Format' is set as 'Defined in each mail', the top of the file is parsed for the following headers (content after the : is dynamic):

```
Recipient: dunman@magsys.co.uk
Attachment: d:\magenta\dunman\readme.txt
From: DUN Manager <dunman@magsys.co.uk>
To: DUN Manager <dunman@magsys.co.uk>
Subject: Test email from DUN Manager with data from
file
```

Parsing stops at the first blank line, with the remainder of the file sent as the message body. Any missing headers are replaced by the default from the task. Attachment is optional (only one allowed), but must be a fully qualified name, no mask characters are allowed. Multiple recipients are allowed, separated by commas.

3 - Scheduled tasks have been improved by a new conditional option. This allows an external windows application to be run which determines whether the task should continue by checking a return code. The task might do some other useful things, like checking the PC health and prepare an email for the new Auto Email task. For efficiency, a DLL is preferred, with a entry point accepting a single PCHAR argument line,

but an EXE can be run with the exit code checked. The external application should complete and return within a couple of seconds, and will be ignored after 15 seconds (the DUN Manager status counters are blocked while the program runs).

4 - On Windows NT4 and W2K, DUN Manager is now able to create a connection entry if there are no existing entries (it creates an empty `rasphone.pbk` file first, which appears too complicated for the RAS APIs).

5 - Dialling calls with multilink ISDN is now working again in Windows 2000 (problem probably introduced in 2.0i). Currently, when monitoring multilink calls started by other applications, only the first channel is being seen on W2K, so hang-up will only drop one channel, not both. This is because W2K does not distinguish ISDN ports, but should be fixed shortly with a workaround.

6 - ELSA Microlink ISDN adaptors will now more likely to show a connected speed of 64000 bits/sec per channel, rather than 640 bits/sec (lousy drivers). During testing of the ELSA adaptor, it was noticed that if only one ISDN2 channel is free, one multilink channel fails with RAS error 619 (port not connected) and then the other with error 651 (device error). The AVM/BT ISDN cards connect one channel if only one is free.

7 - A problem that caused a non-fatal exception error when accessing DUN Manager without any existing connection entries has been fixed (bug introduced in 2.0i).

8 - The warning dialog that kept appearing repeatedly when accessing DUN Manager without any existing connection entries now only appears once, and has a more meaningful message.

9 - If there are no modems or ISDN devices installed, DUN Manager will no longer even start, instead a warning suggests installing one first.

10 - A simple batch file, `save-settings.bat` has been added to the distribution. When double clicked from Explorer, it will save all DUN Manager configuration settings (including scheduled tasks) to a REG file for backup purposes or to move DUN Manager to a new PC. The file created is `c:\dunman.reg`, but you can just edit the batch file for an alternative name. To re-install the setting, just double click on the file in Explorer, but beware it will replace all existing configuration information. This batch file does not export the connection entries, they should be done from DUN Connections, File, Export Entries (and imported on the same menu).

11 - With Windows 2000, in DUN Connections, on the Security tab a new 'Data Encryption Type' of Optional has been added which reflects the 'Typical' setting in the Microsoft dialog. This is now also the default. A couple of other options have been added to support RAS enhancements in Windows Whistler (the code name for the next release of Windows 2000). DUN Manager has been briefly tested on Whistler, without any surprises.

12 - The bug fix in 2.0j to delay checking if a run program has finished

for 15 seconds after it starts has been added to scheduled programs as well. Previously the check was after three seconds, and program loading delayed (such as DLLs) may have meant DUN Manager checked before loading was finished.

13 - With Clock Setting, if 'prompt if excessive time difference' is set to zero, there will be no prompt irrespective of the time change needed.

14 - In Scheduled Tasks, Connection, changing 'during minutes' should not longer cause validation problems (bug introduced in 2.0j).

15 - Added tariffs for Saudi Arabia. Updated tariffs for Greece.

**2.0j** 1 - The data flow hang-up checking period can now be set in fractions of a minute, instead of whole minutes, in both the Connection Entries and Scheduled Tasks. So for 90 seconds specify 1.5 minutes. Fractions are rounded down to the five second intervals at which flow checking is done. 15 seconds (entered as 0.25 minutes) is probably the minimum realistic period. This change will potentially reduce call cost by up to a minute, at the risk of a connection being hung-up prematurely due to internet slow downs. Fractions of a minute are used rather than seconds for backward compatibility. If you have Scheduled Tasks dependent upon data flow hang-up, please resave each task in case the backward check fails.

2 - If performance statistics are disabled, a warning now appears in the Call Status window if data flow warning is also specified since it is non-functional.

3 - A new command line option -NOWARN has been added that suppresses the warning dialog when a second instance of DUN Manager is started. This may be useful for people that don't want DUN Manager running all the time, as normal. If DUN Manager is already running when a second instance is started, the tray icon for the original copy is now refreshed in case Explorer has crashed which removes most icons from the tray.

4 - A cosmetic problem with the wrong telephone number sometimes being shown in the Call Status windows when using alternate numbers has been fixed.

5 - When running programs with hang-up after completion, the delay before checking completion has been increased from three to 15 seconds to ensure the program has a chance to start on a slow system.

6 - The Call Status windows have an extra button, Skip Wait for Answer, which was previously only available on the right click menus.

7 - Fixed a silly bug introduced in the last release where the counters for time answered and timed hang-up were reversed in the Multi Call Status window.

8 - A low level change has been made to the way RAS dialling events are handled to ensure they are never lost on slow PCs. This may also help fix some ISDN issues where dialling events can occur very rapidly.

9 - On NT4 and W2K only, the modem speaker is now turned off at night, if sounds are suppressed at night. Sorry, RAS in Win9x does not support this.

10 - A warning message is now displayed if RAS chooses to dial using a device other than that specified in the connection entry. Obviously this will only happen when two or more devices are installed, and is usually the result of the required device being unavailable for some reason (such as having been uninstalled or failed).

11 - Another fix has been made for modems installed with names including leading or trailing spaces. It was not possible to save connection entries for modems with such spaces.

12 - When editing connection entry properties, the list of devices is now sorted in a more sensible order.

13 - In Preferences, General, Start and Stop, the Auto Run Program program path is now shown, and can be reset by a simple button. This will ease problems where DUN Manager is installed in two or more different directories, and Auto Run is running an old version by mistake.

14 - For NT4 and W2K, the diagnostic activity log now shows the actual telephone number dialled for all calls, including those originated by other applications. This number may be different to the one in phonebook entry that is currently displayed by DUN Manager. For instance it may be an alternate number, or a special number not even in the phonebook. Unfortunately, the number is not easily displayable since it can include access and calling card codes. But if users find it useful, I'll look at parsing and saving it in the Session Log.

**2.0i** 1 - The status line captions on the Call Status windows have been increased from one to two lines, to allow for the more verbose error messages generated by Windows 2000. Even so, they may still not be sufficiently long for the error returned by some errors, but at least the gist of the problem should be obvious.

2 - A Scheduled Program will now be closed correctly when the connection hangs-up (bug introduced in 2.0e). The working directory is now correctly changed to that of the program. The program file name and parameters are now also logged.

3 - The Connection Logon window now has keyboard short cuts. If the user name is entered, the cursor starts in the password field. Cancelling from this window now re-enables dialling of connections.

4 - Fixed problem monitoring calls where the modem or ISDN device had trailing spaces (sloppy INF files).

5 - It is no longer possible to edit two connection entries at the same time.

6 - It is now possible to temporarily stop all scheduled tasks. This is done using a tick box on the Scheduler button bar. The stop setting is

maintained even if DUN Manager is restarted. The Call Status window will indicate if the scheduler is stopped.

7 - The registration form now requests a three digit security code (from the signature strip) for credit card orders. Supply of this code will become obligatory next year.

8 - I've been puzzled why DUN Manager appears to start-up more slowly on Windows NT4 and 2000 than on Windows 98. Investigation now shows this is because storage of RAS connection entries is much less efficient (using an INI file rather than the registry on Win9x) taking up to 300ms per entry against 20ms on Win9x. When DUN Manager starts, it reads all the entries to get telephone number and device information for various menus. With this release, the speed on NT4/W2K has been doubled by ignoring sub entries. A further improvement bypassing the RAS APIs is being investigated for a future release. This issue really only effects users with a lot of connection entries.

9 - Updated tariffs for Norway. Added BT Talk Together (first 60 mins free offpeak, in theory excluding ISPs). Updated UK tariffs for Euphony, LocalTel is now called World Online.

**2.0h** 1 - Three new configurable hot keys have been added, allowing dialling the default connection, hang-up and show or hide call status window without needing to use the mouse. These are configured in Preferences, General, Start and Stop. They all default to 'off', to avoid possible conflicts with other applications.

2 - Support for Virtual Private Networking has been improved. After the Default Connection has been started, a VPN connection may now be specified to immediately follow. This will be useful where a local ISP is first called, followed by VPN to a remote network. Some cosmetic improvements have been made so that call costing and performance checking is no longer done for VPN connections. VPN connections no longer precede the host name or IP address with T (for tone dialling) (TAPI seemingly thinks it's talking to a modem).

3 - In the Session Log window, selecting a new month to view automatically loads the log, and the Load button has been removed.

4 - A new Session Log menu option 'Set Month Start Day' has been added to the Report menu. This allows reports for a single month to be run from a specified day of the month (typically the billing day), rather than always the 1st of the month. The date range reported is the previous 30/31 days from the specified starting day in the month currently being displayed.

5 - Export of Session Logs has been improved with a new option 'Export to CSV - Display Columns', which causes only the columns selected for display to appear in the export file, rather than all 50 odd columns.

6 - To get around a possible problem with DUN Manager causing port locking if a connection is started immediately after a PC reboot, the

existing 10 second boot delay is now configurable in Preferences, General, Start and Stop. Experimentation will be needed to what delay is really needed. Note the boot delay is only effective if DUN Manager is started with the command line option -boot. This is added automatically when ticking the 'Auto Run DUN Manager When Windows Starts-Up' option.

7 - A problem was introduced in 2.0g that meant some existing License Keys stopped working. This was the first time in two years that some people actually needed to request a new license key to allow the new release to work. This problem has now been fixed, so existing license keys should again work.

8 - The window to change the timed hang-up period is now 'keep on top' to stop it getting hidden behind the call status window.

9 - A problem relating to retrying multiple calls has been fixed. DUN Manager lost track of the total number of calls active, and so may have hung-up the first call as well as the second call. This problem may have also been causing problems with multilink retries.

10 - Some minor changes have been made related to the 'port in use' problem that is reported too often, and so better cope with recovery from hardware problems on NT4. Extra diagnostics have also been added that will assist in locating repetitions of the problem.

11 - Updated tariffs for Norway. Updated UK tariffs for Euphony, LocalTel is now called World Online.

**2.0g** 1 - There has been a long term problem in DUN Manager on NT4, where performance statistics sometimes failed to start with a message 'object not found'. Usually the problem fixed itself after a reboot, and does not appear to effect many people (it has not been reported for several months). However I recently loaded NT Option Pack and SQL on my NT4 server, and performance statistics failed. I believe the problem is due to all the extra counters added by the various servers, causing some internal limit to be reached, and RAS statistics then disappear.

There is an alternative method of getting statistics using the Microsoft PDH.DLL, which has now been added to DUN Manager, so performance statistics will work again when the normal method fails. Due to a bug in the DLL, no information for specific ports is available, only total performance for all ports.

Two new options have been added on the Performance tab in preferences. 'Use Total Counters, Not Ports' bypasses any checks for separate channels in multi-channel calls, showing the combined statistics for all calls on each separate call. While this is primarily for cases where port detection fails, it is also something requested by some Windows 2000 users who prefer combined statistics for both ISDN channels (W2K is the only OS with separate statistics for separate channels). On NT4 only, another option 'Use PDH.DLL' forces statistics from the DLL instead of the normal method (although this is normally automatic).



2 - The Multi-Call Status window is no longer a 'keep on top' window, so can be hidden, bug introduced in 2.0f. The Call Status window title is now dynamic, showing the same information as the icon hint. The close buttons has been returned (close previously exited DUN Manager, which is why it was removed). The abbreviated status 'mini window' now has the same behaviour as the main status windows.

3 - For a fresh installation of DUN Manager, the Session Log columns are now defaulted more sensibly.

4 - The Telephone Numbers tab no longer appears when editing connection defaults, bug introduced in 2.0f.

5 - A problem on Windows 2000 where session logs could sometimes not be indexed or viewed has been fixed. This was when the logs had either 'no index' or 'encryption' file attributes.

6 - The Data Flow Warning is now correctly cancelled if data starts flowing again, bug introduced in 2.0e. It is also cancelled if data starts flowing again when timed hang-up is disabled, long term bug.

7 - The bug fix in 2.0f where the wrong port names appeared on W2K, caused another bug to be revealed that meant the first ISDN NDIS port on NT4 and W2K was wrong, causing performance statistics to sometimes fail. This has now been corrected.

8 - The set-up program now ensures that only DLL's needed for the specific OS are installed, and removes those previously installed but not needed. So the new PDH.DLL only gets installed in NT4, RNAPH.DLL only on Win9x, and PSAPI.DLL only on NT4 and W2K. Set-up now removes old tariff files sitting in the main DUN Manager directory (the real ones are in the COSTING directory).

9. Updated tariffs for Netherlands.

**2.0f** 1 - A mechanism has been added to allow a connection to be started immediately that DUN Manager starts. In Preferences, General, Start and Stop, a new tick box 'Auto Start Default Connection when DUN Manager Starts' does exactly as suggested. It may be useful where a PC could be rebooted while unattended, but please make sure the disconnection settings are used unless you have untimed telephone calls.

2 - In Preferences, General, Start and Stop, a new tick box 'No Exit Warning' has been added which bypasses any exit dialogs when closing down DUN Manager.

3 - A further abbreviated status 'mini window' has been added that shows the same text as the system tray icon hint but without needing to move the mouse over the icon. It may be minimised to the task bar, which will then show an even shorter version, usually cost and duration. Clicking in the mini window (on the narrow bar below the words) displays the DUN Connections window. In Preferences, General, Appearance, a option 'Show Abbreviated Status' has been added that

causes the 'mini window' to always be displayed, or just when dialling and online. To allow the 'mini window' to be automatically minimised, it's been necessary to 'release' the main status and DUN connections windows from being minimised and restored at the same time. However this means extra task bar windows, because the windows are now be controlled separately.

4 - A Windows 2000 bug that has been annoying me for three months has been fixed. In some circumstances an exception was raised attempting to edit connection properties (when there were more RAS devices configured than TAPI devices). There was also a cosmetic problem that meant the device list showed the wrong ports (on Windows 2000 and NT4) which has the same cause.

5 - If a fatal error occurs while online, an active connection will now automatically hang-up after two minutes, unless Ignore is clicked from the dialog. This will prevent unexpected bills in the rare case of unexpected error during unattended connections.

6 - A bug that stopped export of connection entries to a file path containing spaces has been fixed.

7 - In Internet Diagnostics, trace route now stops if the same IP address appears more than once, which can happen when routers are badly configured. The number of address or names saved has been increased from 20 to 50.

8 - When viewing Session Logs, in some circumstances incorrect full details or statistics logs may have been displayed, this has been corrected.

9 - Some cosmetics relating to VPN (Virtual Private Network) connections have been improved. If a VPN device is selected in Connection Entry Properties, the Telephone Number tab is replaced by a VPN Host tab.

10 - The means to determining allocated ports for ISDN devices has been changed to allow for certain adaptors that specified port zero instead of one, which then caused confusion with performance statistics. On NT4 and W2K, when a call is being dialled there should now be less overhead (and a lot less lines in the log file) since the means of checking when the call has been accepted by RAS has been changed slightly. This may help with rapid redialling of busy ISDN numbers.

11 - Added tariffs for Sweden. Updated tariffs for Greece and Sri Lanka. Updated UK tariffs for BT Internet Pay as You Go and Surftime tariffs now they are officially announced (and used by BT Internet and BT Click for Business), updated ClaraNET, and corrected so OneTel is per minute (not per second).

**2.0e** 1 - Preferences, Services has disappeared. Clock Setting, Diagnostics and Call Waiting preferences have all moved into DUN Connections, Edit Properties, where they are set-up specifically for each different connection entry. Performance preferences have moved to

Preferences, General, but are otherwise unchanged. Launch Programs is now split, so that the programs themselves are set-up in Preferences, General, but each program is now enabled separately for each different connection entry. This makes it much easier to use connections without programs being launched. The Defaults tab has new tick boxes which enable these various services.

2 - Modem Diagnostics has been renamed Modem Connection Statistics (which is more accurate). It is no longer necessary to specify the modem for Modem Connection Statistics or Call Waiting, and rarely the port. This change allows proper support for multiple modems and telephone operators. It is no longer possible to start dialling a new call while modem statistics or call waiting is being performed at the end of the previous call. Doing so will usually cause a connection to fail since the modem is still being used.

3 - Specified connection entries can now be hidden from the icon right click menu and the DUN Connections menu (but not from other applications or the Explorer Dial-Up Networking list). DUN Connections, Edit Properties, Defaults has 'Hide Connection', while DUN Connections, Entries has 'Show Hidden Entries'. This may be useful to hide rarely used or high cost connection entries, leaving just commonly used entries.

4 - DUN Manager now includes details of a number of UK ISPs, and allows new connection entries to be created for the ISPs with most of the necessary information such as telephone numbers defaulted. This feature is accessed from DUN Connections, Entries, 'New Entry (for ISP)'. A list of available ISPs will appear, from which one is selected and OK clicked. A dialog then allows the entry name to be changed, and finally the Connection Entry Properties window appears with the telephone number, protocol, security and script tabs set-up (if required). The connection device (modem or ISDN) will be defaulted to that for the Default Connection, but may be changed.

5 - ISP Name and ISP Account has been added to DUN Connections, Edit Properties, Defaults. ISP Name has a down drop list showing any installed ISPs (see above), or they may be edited manually so that the information appears in the Session Log and the ISP report is more meaningful.

6 - In Connection Entry Properties, the Telephone Number tab has a new 'Choose Numbers' button displays a list of telephone numbers for the ISP, allowing one or more to be selected to replace to be added to any existing telephone numbers. This latter feature is primarily for ISPs with physical POPs around the country, such as Cable Internet. For this to work, the ISP Name must be completed on the Defaults tab and an ISP file of the same name must exist.

7 - In Connection Entry Properties, a new Servers tab has been added that allows mail, news and other server host names to be specified. Normally these will be completed automatically when an entry is created for a specific ISP or when the Choose Numbers button is clicked. Currently, DUN Manager does not make any use of these server names so you don't enter them manually. But future releases may use the servers information so it's useful to keep.

8 - This release include ISP information for Blue Yonder, BT Click Free, BT Internet Free Call, Cable Internet, CallNet0800, CIX Internet, Dabs, F9, Freeserve, Free UK, Global Internet, Netscape Online, NTL World, Totalise and Waitrose. The ISP files are slightly modified versions of the INSTALL.INS files created by the Microsoft Internet Explorer Administration Kit (IEAK) widely used by ISPs to install and customise MSIE, either distributed on CD or downloaded from their web site. To be used with DUN Manager, the file should be copied into the ISP directory and renamed to the name of the ISP (leave the INS extension). DUN Manager will then display the new name in the ISP Index, and will create a connection for it. If the INS file contains logon details, these will be set-up as well. The files distributed with DUN Manager are slightly modified, primarily with Alternate Telephone numbers added, as described in the file ISPINFO.TXT. Any contributions of ISP files for benefit of other users would be much appreciated.

9 - DUN Connections has a new File menu with Export Entries and Import Entries, primarily for back-up purposes but can also be used to share connections between PCs. Taking the export option displays a dialog with a list of connection entries which may be ticked to select those to export, and the export file specified (it will always have an ENT extension). The export file contains all the information accessed via Properties for the entry. A tick box specifies whether the entry password is exported (it is encrypted so only DUN Manager can import it again). With Windows 2000, the password will only be exported if it was entered in DUN Manager. Note that currently the Default Properties are not exported. Import is similar, a file open dialog appears so the file can be selected, a further dialog then appears with a list of all the connection entries in the file, tick the ones to import and whether they should replace existing entries, and the entries will be created automatically.

10 - Launch Programs and Scheduled Programs now have a new option 'Hang-Up After Program Closes'. When used with a program that launches at the start of a connection, the connection will automatically hang-up when the program is closed. Used with a program that launches immediately before manual hang-up, hang-up is suspended until the program is closed. In the latter case, note there is no timeout, so the program must complete or hang-up started manually a second time. DUN Manager checks if the program is still running every three seconds, to reduce system overhead. Two or more programs can be launched, with hang-up only when all complete.

11 - A new Check Alive feature has been added to DUN Connections, Properties - Check/Keep Alive, which does periodic pings to check that the connection is actually working, and has not been frozen by the ISP's access server or router. This is only applicable for calls dialled by DUN Manager. Two servers can be specified for pinging, by IP address only (to avoid DNS lookup problems). The first check attempt is two seconds after connection, and then as specified (defaulting to every 60 seconds). If a ping fails, it is retried a specified number of times (alternating with the second host, if specified). No pinging is done if the combined transmit and receive data flow speed is more than 500 chars/sec. This avoids a potential problem where there is so

much data flowing that the ping times out and potentially causes hang-up. A warning countdown may then be optionally displayed (note this is jerky because pinging blocks the screen update), after which the call hang-ups and will be redialled if there are any dial attempts remaining. Clicking Reset will disable Check Alive for the remainder of this call. It is not necessary to actually ping the real server, so the number of 'hops' is usually limited to three which is quite sufficient to check the access server is working.

12 - Preferences, General has changed slightly, with the addition of the Performance and Launch Program tabs previously in Services. The Misc tab has been renamed 'Start and Stop' and includes a new option 'Exit DUN Manager After Any Hang-Up'. This is designed for users that prefer not to leave DUN Manager running all the time, but just start it occasionally. It is NOT recommended for most users. Auto Dial has a new option 'Exit DUN Manager After Auto Hang-Up' which is similar but only effective when the connection was started by auto dial. Windows auto dial has the ability to automatically start DUN Manager when dialling a connection, so exiting afterwards may be logical, except it will prevent non-auto dial connections being monitored. The Call Monitoring options have moved to a separate tab.

13 - The Default Connection may now be started from the icon right click menu, in addition to the Call Status window and configurable icon single or double click. The menu also now contains the 'Skip Wait for Answer' option that may also be found in the call status window.

14 - In DUN Connections, Properties, Dialling Options, the 'Redial if Authentication Fails' option is now implemented. If ticked, a call that fails to authenticate within a specified number of seconds of being answered is assumed to have failed and DUN Manager will hang-up and redial, assuming any more dial attempts are allowed. A decent ISP will authenticate in five seconds or less. Note the connection time may show longer than this period when hang-up occurs, because of the modem negotiation time correction. Clicking Reset during authentication will disable the timer, perhaps if the ISP is overloaded and authentication is taking longer than normal.

15 - Added ability to have special telephone tariffs for holidays. Each tariff may now have extra holiday bands, and there is a list of public holidays on which these apply against a specific operator. When viewing a tariff the list of holidays is now shown, but note the 'Call Cost Test' feature only works with the first holiday in the list (since it's not necessary for DUN Manager to know about more than one date). Also, recosting session logs ignores holidays since historic dates are not easily available.

16 - Several dialog boxes that appear in DUN Manager will now automatically cancel after 60 seconds, including the warning before making a large clock change and the exit warning. This avoids the dialogs remaining for long periods while unattended.

17 - The Remote Status Window (using a web browser) has been improved. It is now possible to start dialling the default connection remotely which may be useful on networks with a proxy server. In addition to the existing multi-call web page, there are now four more

pages that show detailed information about up to four calls. The information is similar in each case to the Single Call Status window. There is also a Reset button that has the same effect as that in the Call Status window, resetting automatic disconnection. The windows also shows the General Information panel from the Call Status window with any scheduled task and other general comments. It is now possible for a web page to access any of the 50 different call information items stored in the Session Log, if anyone has the inclination to design some better web pages.

18 - The Session Log now saves the final Timed Hang-Up setting (which was needed for the Remote Status Window).

19 - It's now possible to access the Windows DUN Properties dialog from DUN Connections, Entries. Although DUN Manager connection entry properties should normally be used instead, the Microsoft dialog has extra functionality which DUN Manager is unable to access, in particular multilink for Windows 9x.

20 - When Windows closes down, DUN Manager will no longer attempt to reconnect calls that hang-up.

21 - Another fix has been implemented for 'port in use' or hardware errors on NT4, after this error the automatically recovery mechanism that resets TAPI will now work when redialling the call.

22 - In Preferences, Logs/Cost, Telephone Numbers, clicking Add no longer displays a RAS error (error introduced in 2.0d).

23 - Under Windows 2000, auto dial does not work unless the 'Remote Access Auto Connection Manager' service has been started. I will look into DUN Manager starting the service automatically.

24 - In Internet Diagnostics, a range error is no longer logged if trace route exceeds the limit of 32 hops. A couple of cosmetic problem with aborting functions have been fixed. A problem with SNMP.DLL should no longer prevent most Internet Diagnostics being used, except for Connections.

25 - Due to rapid evolvement of ISPs to unmetered usage, support for ISP billing on a call by call basis has been indefinitely postponed. If there is demand from outside the UK for ISP billing, this decision will be reconsidered.

26 - There are two improvements during installation of DUN Manager. If 2.0e or later has been previously installed, the installation path will default to that last used, easing upgrades. If 2.0d or later is running when installation starts, it will automatically exit to allow the new release to be installed. If an earlier release is running, the user will be prompted to restart windows when installation finishes, to allow the new version to be installed.

27 - Added tariffs for India, updated Ireland, Spain. Updated UK tariffs for NTL business, One.Tel and EcosseTel. Added ability to have special tariffs for holidays. Each tariff may now have extra holiday bands (DH), and there is a list of public holidays on which these apply

against a new operator section, see `ukres.trf` for examples. In the UK residential tariffs, holidays have been added for BT and Telewest (but BT does not confirm holiday prices until six weeks before Xmas so the tariff assume the same deal as 1999). Tariffs will need to be re-installed through Preferences, Logs/Cost, Telephone Tariffs, Install, for holidays to be effective. Currently holidays are unavailable for other UK or overseas operators because Magenta Systems has not been collecting this information. But if users know that specific operators have different tariffs on specific holidays, please let us know so the tariff files can be updated.

**2.0d** 1 - In Internet Diagnostics, the Host Look Up (reverse) option now has an 'Extra Following IP Addresses' option which causes look up of the specified number of following numerical addresses. So specifying 213.48.23.190 and extra 20 would look up all addresses to 213.48.23.210. There is a maximum of 100 extra addresses at a time. This may be useful when searching for the source of spam email, or when ISPs don't set-up DNS correctly for their access servers.

2 - Some users experienced strange formatting of the new Session Reports, primarily on Windows 2000 which I neglected to test. Microsoft has obsoleted a RichEdit DLL and badly emulated it from a newer version, thus the poor reports. DUN Manager is now using the new version directly, so the formatting is correct.

3 - The speed at which the Session Log appears has been improved. When selecting a new month, there is no longer a long delay while the old report is cleared. The Options menu has two new check items. 'Faster Display (no sorting)' allows the Session Log window to appear almost instantly since only sufficient log data is loaded for display, rather than the whole month (but with no column sorting). 'Last Call First (Reverse Order)' causes the Session Log to show each month in reverse order, with the last call at the top.

4 - In the Session Log, viewing Full Calls Details now shows the correct call if the logs have been sorted. In Session Reports, for countries where the major and minor currencies are the same, totals should now be displayed correctly. An issue where the major currency is displayed after the cost (instead of before) in various places will be fixed real soon.

5 - When correcting the PC clock from a time server, if there is no response from the server after five seconds the request is cancelled allowing another attempt.

6 - On NT4 and W2K, when DUN Manager monitors connections started by other applications all the connection properties relating to activities once online are now correctly defaulted. This effected keep alive, clock setting and periodic status window display and reminder sound, and meant they happened immediately at the start of the connection when they should have been delayed (problem introduced in 2.0a).

7 - It is now possible to view and convert Session Logs saved on NTFS volumes using file compression (problem introduced in 2.0c).

8 - A problem introduced in 2.0c that could cause seemingly random non fatal exception errors to occur in DUN Manager has been fixed. The error happened when Windows generated device warnings, typically when a disk volume was low on free space or full, and possibly for plug-n-play changes.

9 - The local web server will now accept just a root directory such as 'C:\', although this is not recommended for security reasons.

10 - Updated tariffs for Hungary, Malta, updated UK tariffs with BT Together for Business and BT Working Together, MCI WorldCom, VarTec, WorldxChange and CallNet.

**2.0c** 1 - Several new options are available from drop down menus in the Session Log window:

**File, Export to CSV** - exports Session Log call records by date range into a single CSV file that may be imported into Excel or Access for further manipulation.

**Option, Update Logs with New Call Costs** - updates Session Log call records by date range with new telephone call costs. The new costs are the same as would be calculated for new calls, according to the telephone number dialled. Currently there is no means to change costs for specific connection or telephone numbers, but this will be added in a future release.

**Option, Update Logs with New ISP Name** - updates Session Log call records by date range with an ISP Name, according to the connection used. The ISP Name is used for reports. This is an interim option until ISP costing is properly supported in the next release.

**Option, Convert Old Logs to New Format** - this is used just once to convert the Session/Cost Logs created by DUN Manager 1.2d and earlier into the new Session Log format used by 2.0a and later. Note that many log columns will be blank because the new logs hold a lot more detail about each call. Because 2.0a/b created both logs, conversion will stop as soon as an identical call record is found, so no new records are lost. The old logs only held a total volume of data transmitted or received, so this is split 10/90% for the new logs. Once converted, the logs may be updated with New Calls Costs and New ISP Name, to allow better reporting.

**Reports, Single Month, Original Cost** - generates DUN Manager Session Reports for the selected calendar month.

**Reports, Date Range, Original Cost** - generates DUN Manager Session Reports for the selected range of dates.

**Reports, Single Month, New Costs** - generates DUN Manager Session Reports for the selected calendar month with the totals reflecting new call costs as would be used for new calls, but without changing the actual logs.



**Reports, Date Range, New Costs** - generates DUN Manager Session Reports for the selected range of dates with the totals reflecting new call costs as would be used for new calls, but without changing the actual logs.

2 - The new DUN Manager Session Reports contains five separate report sections, as detailed below. The reports are presented as formatted text in a Report window, and may be printed, copied to the clipboard (as revisable text format) or saved as a file (as RTF or formatted text).

**Telecom Operator Report** - for each separate telecom operator, totals the number of calls, duration and telephone call cost.

**ISP Report** - for each separate ISP, totals the number of calls, duration, and data transmitted and received. When ISP costing is complete, the costs will be reported here as well.

**DUN Connections Report, Successful** - for each separate DUN connection that successfully connected (or TAPI calls that were answered), totals the number of calls, duration and telephone call cost.

**DUN Connections Report, Failed** - for each separate DUN connection that do not successfully connect, totals the number of calls, duration and call cost. Note that the call costs for failed connections are not particularly accurate, since modems do not report when a call is answered but fails negotiation. This report is designed to annoy your ISP, showing how many failed connections you suffered.

**Windows User Report** - for each separate windows user (if more than one), totals the number of calls, duration and telephone call cost. This report is designed for where two or more people share the same PC, allowing internet usage to separately identified depending on who is logged onto the PC.

**Grand Totals** - finally the total successful and failed calls, duration, and total costs (both telephone calls and ISP costs).

3 - The Session Log display is now tolerant of truncated records, and will now display all records created (during the betas of 2.0). Progress messages are now displayed while the session log display is being built.

4 - To better cope with hard to contact ISPs, the status windows now have a extra item on the right click menu, Skip Wait for Answer. This may be used to bypass the normal 30 to 45 second delay when it's obvious from the modem loudspeaker that the call is not going to be answered or connected. This will be useful where the telephone system does not return busy or unobtainable tones that a modem can recognise, but instead voice prompts like 'all lines are busy'.

5 - Under Windows 9x and 2000, DUN Manager will now immediately recognise when a new modem is installed or an old one is removed, without needing to be restarted.

6 - In the Internet Diagnostics window, the windows control used to

display the Log has been again changed, to try and avoid an error adding new lines to the log.

7 - A slight change has been made to TAPI initialisation (modem monitoring) to try and resolve a problem recognising the modems after a power saving suspend/restore.

8 - Updated tariffs for Denmark, updated UK tariffs for MCI WorldCom and BT Surftime. Please note BT has not announced a proper Surftime service yet, so these prices are highly provisional and exclude an ISP subscription.

**2.0b** 1 - A change has been made to the way processing is performed when a call completes which should result in hang-up happening faster than 2.0a. It may also resolve some unexplained issues with Microsoft Outlook.

2 - Modem diagnostics after a call finishes now work again (problem introduced in 2.0a). In addition, diagnostics are now performed after failed calls as well as those that connect.

3 - DUN Manager has always had a diagnostic logging feature that adds a substantial amount of extra information to the Activity Log about call progress. Previously diagnostics needed a command line option to enable them, but now there is a permanent tick box on the Logging tab. Few people need this extra information, it is really only of benefit to Magenta Systems in diagnosing problems, so please only use it if necessary.

4 - A problem has been fixed where it was not possible to completely delete connection disconnection bands, causing DUN Manager to use potentially random disconnection settings. Now, deleting the start time (so just a colon shows) will cause the entire band to be deleted when the Apply button is clicked. In addition, validation has been added such that setting the starting time and day of week will cause any other columns to be defaulted if left blank. The Activity Log now includes the specific disconnection setting that will be effective for the current call, and the countdown time at the end of the call. These will help to explain how and why calls hang-up, and whether the expected settings have been used.

5 - On Windows 9x only, when the 'Promote Alternate Numbers' is used, the number moved to the top of the list also got inserted in second place as well (problem introduced in 2.0a).

6 - The Call Status window will now again remain open when a session finishes, if so specified in Preferences, General - Appearance.

7 - With Windows 2000, in DUN Connections, Properties, Security, the data encryption key length is not set to zero unless data encryption is specified (which is not usually supported by ISPs). This tab will be improved in future release to make it easier to understand.

8 - For new installation of DUN Manager, a few more settings now default to enabled, specifically logging, most sounds and auto

disconnection. This should ease the learning curve for new users.

9 - A countdown of zero seconds may again be specified, a five second minimum is no longer enforced. If the countdown is zero, the warning sound does not play, nor will the Call Status window appear briefly.

10 - If there's a problem initialising performance statistics, a more useful error message should not be displayed. This may assist in determining a rare problem with statistics on NT4.

11 - In the Internet Diagnostics window, there is no longer a limit on the size of the log file. The right click menu allows the log font to be selected. Finger now works correctly with hosts that do not accept the domain as part of the query, such as status@gate.demon.co.uk.

12 - When copying a connection, the new connection no longer temporarily inherits the history of the copied one.

13 - If the performance graph is left open from the previous call, it is now reset correctly when the next call answers. The graph window is no longer closed at the end of a call if it was opened manually.

14 - With ISDN multilink, a problem has been fixed that caused connection properties such as disconnection, sounds, etc, to be ignored for the second channel, if the first failed to answer or was hung-up.

15 - When the Call Status window appears warning that a scheduled connection is about to start, clicking the Dial button will cause the scheduled connection (not the default) to start immediately.

16 - If the Call Status window is closed while a warning is being displayed, it should no longer appear one second later.

17 - When using multilink ISDN with Windows 2000, a problem where performance statistics could sometimes be blank has been fixed.

18 - In Preferences, Logs/Cost - Telephone Numbers, entering a comma in the telephone number (for a delay accessing an outside line) no longer displays an error message.

19 - The maximum number of dial retries has been increased from 99 to 999. If you need more than 99 dial attempts, perhaps it's time to find a better ISP!

20 - Updated tariffs for Czech Republic, updated UK tariffs for COLT, Eurobell and Viatel.

**2.0a** 1 - DUN Manager now correctly supports multiple connections, such as multi-link ISDN, multiple modems or both at the same time. Up to eight connections and/or channels may be separately monitored. There is a new optional Multi Call Status window that shows common connection information in tabular format, and detailed information on multiple pages. This new window is enabled in Preferences, General - Appearance. The old and smaller Single Call Status window remains for the majority of users that only use a single connection at a time.

The Multi-Call Status window allows disconnection options to be changed for separate connections, and by ticking a specific connection before clicking Reset or Hang-Up, only that connection will be processed. On Win9x, separate ISDN channels can not be monitored or hung-up. A right click menu offers Hang-Up, Reset, Redial, Call Details, Performance and Change Timed Hang-Up for each separate call. Redial allows a previous connection to be dialled without needing to select it from the icon right click menu. In case a call does not close down properly, clicking the hang-up button six times will now force an internal reset to close down all calls. DUN Manager will now dial multiple calls, or even dial one call when a TAPI application (like fax) is active. The connection names on the tray icon right click menu are now only greyed while a call is actually dialling. Separate statistics are supported for two simultaneous devices (Adapters) under Windows 95/98, so a modem and ISDN will get separate statistics (both ISDN channels still get the same statistics). Windows NT shows separate statistics for each installed device (but not separate ISDN channels), while Windows 2000 also shows separate ISDN channels.

2 - Preferences - Online have been obsoleted and replaced with three new windows: Preferences - General, DUN Connections and Connection Properties. Preferences - General has the options not relating to specific connections, such as Appearance, Auto Dial, License Key, Modems and Defaults.

3 - The new DUN Connections window may be used an alternative to the icon pop-up menu (which some users find hard to understand) and will appear as a default for new installations of DUN Manager. It will open automatically when DUN Manager starts, if so specified. All DUN Manager functions are available from menus in this window. The window lists all DUN connections and shows the current state of those online or disconnected. Clicking Properties displays a new window that combines all the standard Microsoft DUN properties with DUN Manager properties that are defined on a per connection basis, such as disconnection and reconnection options. Connection defaults have changed completely with this release. Previously only a few settings (hang-up seconds, minimum speed, negotiation time) were saved individually for each connection, with disconnection and reconnection options, etc, common to all connections. 'Default Properties' may still be specified, but all of them may be optionally overridden for specific connections. Defaults are in five groups: Dialling, Disconnection, Reconnection, Keep Alive and Sounds. It is recommended that the 'Default Properties' are first set-up to handle most connections, and then only those things that are needed for specific connections changed.

4 - Connection Properties is a new window with up to 12 tabs containing all the standard Microsoft DUN entry properties with DUN Manager properties. So it will not be necessary to use the Microsoft DUN Properties dialogs again, with DUN Manager allowing new connection entries to be created and all properties to be changed. This also means that connection properties are consistent across Windows 95, 98, NT4 and 2000, whereas the Microsoft dialogs are all different. The only exception is that Windows 9x ISDN multilink must still be set-up from the Microsoft dialog, due to limitations with the RAS APIs. The new window has tabs labelled Defaults/History, Telephone

Numbers, Logon, Device/Dialling, Multilink, Disconnection, Reconnection, Sounds, Protocols, Security, Script and Misc. The Defaults/History tab has nine tick boxes to determine whether Default Properties are used or whether they are overridden for settings specified for a specified connection. As these boxes are ticked or cleared, tabs and options will appear and disappear. If an option is enabled, it will initially be defaulted to the Default Properties, which may be changed.

5 - A number of new features are available in Connection Properties. The dial device is selected by ticking a box (more than one for multilink). Dialling options have been improved, so the delay between redialled connections may now be specified, and the minimum connection speed list has extra steps. Recent Usage History shows when each connection was last used, the duration and telephone number called. The number of past sessions saved may be defined (defaulting to 10) but this is not intended to replace the Activity and Session Logs. It is used for Scheduled and Auto Dial Connections, to ensure a minimum specified gap between connections. Disconnection options have been improved so rather than just three time periods, an unlimited number of periods may be specified so different settings may be used on different days of the week. Please be careful not to allow multiple choices, such as Monday and Weekdays, this is not validated and the first found will be used. A Test button allows the periods to be checked. New Reconnection options have been added. 'Stop Reconnection at a Specific Time' overrides any timed disconnection and sets the maximum session duration for hang-up at the specified time, typically before a higher call cost period starts (ie 7.55am) or at the end of the working day. The maximum cumulative reconnected session times may be specified in hours, but this is only used to stop a further redial attempts, not to cause hang-up. 'Redial Attempts' is no longer used to restrict the number of reconnected sessions, but is reset before reconnection to allow for real failed call attempts. A warning prompt is now shown in the Call Status window when one of the reconnection options is enabled for a call, since they will potentially keep a connection up for hours or days. A warning message is now displayed when 'logon to network' is selected in Win9x, since this is rarely needed but causes up to a one minute logon delay for anyone setting it to access a normal ISP.

6 - Preferences - General has some new features. The Default Connection tab allows different connections to be made the default at different times of the day or week. This will benefit users with two or more different ISPs offering better value at different times, such as 0800 access at the weekend. The default connection bands are set-up similarly to the tariff master files, with a start time, specific day of the week, weekend, weekday or everyday. To check the bands have been entered correctly, a test feature is available that will display the connection that DUN Manager will dial when for a specific time and date. A new Sounds tab has also been added that allows a default warning sound to be specified, separately to the ones used for connection. This is currently used to warn of a scheduled or auto dial connection. In addition, overnight sound suppression now allows stop and restart times to be specified, separately to disconnection options, and a multiple beep option is available for PCs without sounds cards, to replace any other sound event.

7 - Costing has been improved so that rather than tariffs being specified for each connection, they are now specified for dialled telephone numbers. This overcomes a long term problem whereby alternate connection numbers may have been charged at the wrong tariff and will also reduce confusion over costing set-up since all the settings are now in the same Preferences window. Costing is now spread over three tabs in Preferences - Logs/Cost. Cost Defaults has the main cost enable setting, two new options to cost certain failed calls and to specify whether non-RAS calls are charged. There is also a new list of installed modems and ISDN devices, allowing a default tariff to be specified for each (since they may use telephone or ISDN lines from different operators), and a minimum number of seconds for a call after which costing will begin, even if it failed (for instance because the ISP dropped it after answer). In this (and other similar tables), many fields have a drop down box for selection from a list, accessed by clicking the field first that causes a drop down arrow to appear. So connections are selected from the list, not entered. This tab also has an option for ISP costing, but this is not yet implemented. The Telephone Tariffs tab now shows available tariffs as a proper list, rather than a drop down list. The tax and currencies are now saved for each tariff rather than from the last master file opened, to ease certain problems such as taxes changing. The Telephone Numbers tab is the crucial new addition. It allows an unlimited number of full or partial telephone numbers to be entered, with a specific tariff for each, optionally restricted to a specific device (where different telephone lines may have different operators or discount schemes). In addition, a discount percentage may be specified, as an alternative to specifying a discounted tariff (or if the correct tariff does not exist). Clicking the Add button will display a list of telephone numbers taken from installed connections, from which one or more may be selected for addition to the Telephone Number list and the correct tariff for each then specified. To avoid listing all possible telephone numbers and allow easy additions, partial numbers may also be specified, ending with \*. When DUN Manager searches for a tariff, longer numbers and specific devices take priority. So 08457\* takes priority over 0845\*. \* alone is effectively the default tariff. For the UK, the minimum telephone numbers could be:

\* Default local

0\* Default long distance

020\* Local London

0845\* Local rate

Note that DUN Manager does not currently include any UK long distance tariffs. In addition, if BT Friends & Family numbers are available, the specific telephone numbers need to be listed. To check the telephone numbers have been entered correctly, a test feature is available that will display the tariff that DUN Manager will select for any specific telephone number and device.

8 - A new Session Log format has been introduced with 48 different call details, and no longer truncating things (like long phone numbers). The raw log format is now comma separated delimited fields, making it much easier to import into other applications. The old Session/Cost Log is still being updated, and will until a new report generator is written to support the new log format (once ISP costing is done). Major logging improvements include keeping session start, call answered, online and

end times, the modem negotiation time used to adjust the answered time (which is now also kept in the Activity Log), call attempts (zero if DUN Manager did not dial), who started and stopped the call (if known), all the call performance statistics, log file name, modem and port used, etc. A new Session Log window has been added allowing the new format Session Log to be viewed. This is not finished yet, with reports and totalling still to be done in the next release. The main difference from the old Session/Cost Log window is that the displayed columns can be selected from the main or right click menus. Full Details of a specific call to be viewed, and the Performance Graph to be viewed (provided that a performance log file was kept). In the Session Log window (but not Session/Cost Log), the sorting of columns (by clicking the header) is now intelligent based on the data, so costs, duration and data throughput should now all sort in a sensible manner.

9 - The Performance Graph has been improved considerably. The graph no longer flickers when being updated, and extra unwanted traces no longer appear after about 90 minutes. A right click menu and some more buttons have been added, to allow the horizontal and vertical scales to be changed, to jump to the start and end of the graph, and to temporarily halt scrolling. When more than one call is being made, each call may be separately monitored. The displayed graph may be copied to the clipboard as a bitmap or metafile (which will scale properly). Performance graphs may now be viewed for historic calls from the Session Log window, provided that a performance log file was specified. Printing will be added in a future release.

10 - When dialling a connection, a new Connection Logon window will appear if the box 'Do Not Save Password but Display Logon Dialog When Dialling' is ticked in properties. This is primarily designed for situations where security is required to stop connections being used without a password being entered each time. But the Logon screen also allows a new user name and telephone number to be entered (optionally in canonical format), so it may be used to perform one-off access to most ISPs from a single general purpose connection. The window will also appear before dialling starts when a connection does not contain a user name and password, to avoid needing to complete details while online. In DUN Connection Properties, the Logon tab 'Allow Blank Logon and Password' tick box to disable this check where a blank logon is allowed.

11 - Using a browser such as Netscape or MSIE, it is now possible to monitor connection status and hang-up connections. This is primarily designed for networks where one PC with a proxy server accesses the internet, and allows remote network users to check if the internet connection is up, and hang it up, if necessary, without needing to physically attend the server PC. The web server is configured in Preferences - General, with options as to whether requests for pages should be logged, whether remote dialling (not yet supported) and hang-up is supported and whether the DUN Manager default index should appear if not requested specifically. The http port may be specified, it defaults to private port 8088 but may be changed to the standard 80 if there is no other local web server running. In addition, the web server will optionally serve other local web pages, from a specified directory (and sub directories), perhaps to replace a local web server for testing web pages off-line. To access the new status

information on the same PC as DUN Manager is running use the URL: 'http://127.0.0.1:8088/dmindex.htm'. For remote PCs, use the proper IP address or host name instead of 127.0.0.1. The Remote Index page currently has only one active link leading to a Remote Status Window that shows the status of up to four calls in a grid, similarly to the new Multi-Call Status Window. The web page will automatically refresh every five seconds. A single button forces all current connections to hang-up. Please note that this monitoring feature needs further development, with new web pages being designed showing more call details, similarly to the 'real' status windows. There may also be security issues relating to the remote hang-up feature. Any network users that believe this facility may be of benefit should contact Magenta Systems with proposals on how it should be further developed.

12 - When using alternate telephone numbers, the new Promote Alternatives option causes the first number that successfully connects to become the top number for the next session, and the old top number drops the bottom of the list of alternates. On NT4, DUN Manager uses the same alternate number list as DUN.

13 - Connections started by the scheduler now support 'reconnect when line drops', but not timed reconnection.

14 - Some long awaiting improvements have been made to Diagnostics. In Connections, the port number is now replaced by a description for standard ports. A button has been added to that will copy everything in the Internet Diagnostic Log into the Activity Log. Numeric IP address (without any dots) can now be used for Reverse Look-Up, Ping and Trace Route. Such addresses are sometimes used by spammers for confusion.

15 - If a second copy of DUN Manager is run, it should now cleanly close down without any problems, if there is an active connection.

16 - The Call Status windows will no longer close when a call goes online, if they were opened manually. If a Call Status window appears to display a warning message, clicking Reset will close it again. If a connection fails, a Call Status window no longer immediately closes, thus allowing the problem to be seen.

17 - For ISDN connections, Bandwidth Allocation Protocol Dial Mode 'all devices' or 'only as needed' is now partially supported, such that selecting the latter option for dual channel connection will only start the one channel on NT4 and W2K. On NT4, the second channel may then be started manually from Dial Up Monitor, but this seems have disappeared from W2K. A subsequent DUN Manager release will fully support BAP.

18 - In the Activity Log, the font used to view logs may now be selected.

19 - While viewing a Telephone Tariff, a tick box now allows the costs to be toggled between exclusive or inclusive of tax. This should reduce the number the support emails from end users that get confused over the tax inclusive prices usually quoted by telephone companies. Call costs with a specified discount may now be tested.



20 - It is now possible to use the Scheduler to run programs when DUN Manager is specifically not online, or irrespective of whether being online. This is done with two new Online options.

21 - The version of DUN is now shown on the License tab, and is included on the registration form, which should assist in support.

22 - If a call is still active when windows is closed down, it now correctly hangs-up with all logs updated properly.

23 - If DUN Manager is installed in the 'program files' path and there are other directories beginning 'program', it will now correctly auto start.

24 - In the Status windows, a new right click menu item has been added, 'Change Timed Hang-Up'. This allows the period before a hang-up warning appears to be changed for the current session only (including any reconnections). This may be useful when a session is going to take longer than normal, but disabling timed hang-up completely is dangerous.

25 - 'Delay Hang-Up Until x Seconds Before Charging Increment' is now implemented. This means the disconnection warning countdown for timed or data flow hang-up will be increased until just before the next charging increment is due. Note that a calls cost is only calculated every five second and hang-up may take up to five seconds, so it's recommended that hang-up is 10 seconds before the increment. In the UK, this is only worthwhile for very short calls that are less than the BT minimum cost. Most BT competitors are now adding a connection charge to calls, so there is no charging increment.

26 - Auto dial now always cause the current default connection to dial, rather than the single default specified in Internet Properties.

27 - Connection telephone numbers entered with dialling properties are now displayed in full form with the area code, even when the area code will not be dialled. Calling card numbers are no longer included. This will ease problems for mobile users who may change Dialling Properties regularly. The number that was dialled, including any calling card name, is still logged and available in the Call Details window.

28 - All the call costing master files are now installed in a new sub-directory, to avoid cluttering the main installation directory and allow them to be more easily deleted by those that do not use costing. To avoid duplication, it is recommended that all \*.trf files are deleted from the main DUN Manager directory before installation of this release.

29 - A long term time setting problem has been fixed. If an invalid time server name is entered, or there is a problem contacting the server, DUN Manager will no continue continually attempt to contact the server, but give up after one attempt. This problem may have caused 'not responding' errors. Setting the PC clock now happens 35 seconds into a connection, rather than immediately upon going online when there are often lots of other things happening that might cause the correction to be inaccurate. When correcting the time, negative or positive

adjustments are now clearly indicated.

30 - A problem on NT4 and W2K where an extra area code may be erroneously dialled has been corrected, problem probably introduced in 1.2c.

31 - A problem on Win9x has been fixed where it was not possible to Configure Modems Properties in Connection Properties after DUN Manager Scheduler had changed the telephone number or Auto Dial had been enabled. This really only effected people that needed to set non-standard modem properties, problem introduced in 1.2b.

32 - If using 'Fail-Safe Connection Polling', the modems are no longer reset if 'polling' finds a call that still dialling.

33 - Call costing is now performed every five seconds during a call (previously every 10 seconds).

34 - Previous releases had a single dual purpose button in the Call Status window that changed from Dial to Hang-Up when online. But there's no way this could work properly with multiple calls, so there are now separate dial and hang-up buttons. The dial button is greyed while dialling any connection, or while the default connection is being used.

35 - Data Flow Hang-Up has been improved to reduce the minimum checking period by about 30 seconds. If the period is set to one minute (the minimum), the first warning should sound 65 seconds into a connection with no data flow. Note that clocking setting may occur 35 seconds into a connection, so set a minimum data flow of 3,000 bytes to ensure this is ignored.

36 - The COM port for plug-and-play modems should now be detected, so it need no longer be set manually for diagnostics or call waiting.

37 - The default sound directory should be correctly set.

38 - Added new tariff file for Lebanon. Updated tariffs for Denmark, Portugal and Romania. Updated UK tariffs with Atlantic Telecom, ClaraNet One for All and ClaraNet Freetime Unlimited.

## Copyright Information and Support

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