

This file, INETINFO.WRI, contains information on the INET TCP/IP products under the following headings:

INET TCP/IP general information
Overview of INET for Windows
INET Specifications

You may ask for a demonstration copy of INET TCP/IP. Please see the other text files supplied with your INET product for contact information, or contact LAN Design in Johannesburg at +27(11)-239-5000.

This file may be printed for internal usage.

INET TCP/IP general information (October 1996)

INET TCP/IP is an easy-to-use professional software package which allows PC's running DOS and Windows to connect to one or more TCP/IP hosts and their printers; (including PCs, minis and mainframes) on a LAN or WAN.

INET is a locally designed, developed and supported product which adheres to international standards for various terminal emulators, TCP/IP, Telnet and FTP.

The full INET package consists of INET for DOS, INET for WINDOWS and RINET. To suit specific needs, INET is sold in 4 different configurations. Though INET TCP/IP contains a power house of tools, it is priced to suit users needing only a few of the facilities provided. Pricing is not linked to R/US\$ exchange rate fluctuations.

Main features include:

- Telnet terminal emulations with configurable keyboards, colour, 132 column, scripts, etc.
- File transfer protocol servers and clients (FTP)
- Electronic mail (SMTP)
- Network printing (socket printing, LPR/LPD and 3287 for TN3270E)
- Modem support (SLIP and CSLIP)
- Built in network monitoring and tracing (LanScope also available as a separate product)
- Network IP routing, gateways, async server, etc.
- Winsock 1.1 compatibility under Windows

INET will run on ODI, IPX, NDIS, NetBios or packet driver interfaces. Alternative roles of INET include that of IP router (internal, X.25 or async) or terminal server.

INET will co-exist with Novell, Lan Manager, Windows for Workgroups, Windows 95, WinNT and other networking operating systems by sharing network adapters.

The main feature of INET is its comprehensive terminal emulation including VT100/220/330, IBM3270/8/9/E, D211, HP700/92, Sperry UTS60, Burroughs ET1100 and Wyse50. INET also supports any third party terminal emulator which uses the Interrupt 14 (INT14) interface.

The WINDOWS version of INET includes features like:

- Cut-and-paste operation between local and remote system
- Sizing and scrolling of terminal emulation windows
- Full script language
- Winsock 1.1 API
- Drag-and-drop operation for file transfer and network printing.

RINET is a resident (TSR) version of the INET for DOS protocol stack. RINET provides a built-in socket print server and a transparent socket printing redirector. It also provides RFC compliant Netbios.

INET is distributed and supported by Lan Design, a member of the Altech Data group.

A glossy brochure on the INET products is available but (un?)fortunately INET is dynamically being enhanced and expanded so that the glossy brochures are almost always outdated.

Overview of INET for Windows

1. The Inet for Windows kernel.

The kernel implements the ARP, IP, ICMP, RIP, UDP and TCP protocols. It is possible to retrieve status information on the various protocol layers and the Interface layer.

The kernel is automatically loaded whenever an application is started and should only be unloaded manually when no application is using it any longer.

The kernel configuration is maintained in the INET.INI file in the Windows directory. A host name table file INET.HST is used to supply symbolic names for Internet Addresses. Both these files can be modified by using the Setup menus of Winet or by editing it using a text editor.

2. Ping

The Ping application is an implementation of the ICMP Echo Request/Echo Response protocols to determine the addressability of hosts in the network. The response time from the issuing of the Echo Request to reception of the Echo Response is provided to get an idea of the response time of the network to a specific host. Statistics can be calculated on multiple pings.

3. VT100/220/330

The IWVT100 application is an implementation of Telnet which is used to log in to remote server hosts. It emulates the VT100/220/330 family terminals (which is a superset of the ANSI terminal specification and specific SCO ANSI support is also included). Additional sequences to use colour are implemented as well as protected fields.

Various keyboard layouts are supplied in .INI files. Approximately 200 function keys are user programmable while still retaining important Windows key functions such as application switching.

The font to be used is user selectable (an INETFONT of optimised size is supplied) and screen sizes up to 132 columns by 50 rows can be emulated. When the screen window is sized to display less than the maximum size, scroll bars are automatically added and any portion of the screen can be displayed. A status bar displaying the current cursor position and insertion status is provided.

Selection of server hosts is performed by a drop down scrolling list of all the hosts in the host table or by entering a name or Internet Address directly. The last host and port number to be accessed can be stored in the configuration file to make subsequent selection easier.

All the terminal emulators can be configured to use a specific configuration file automatically or to automatically log on to a specific server host when started by using command line options. A full script language is available to automate common tasks.

The emulators can only establish one session at a time, but as many copies of the same emulator as required (limited by available memory) can be run for simultaneously open sessions.

An override structure may be implemented to prevent users from changing selected settings on a file server based network. (See the OVERRIDE.WRI file for more information on locking configurations.)

4. IBM 3270/8/9

The IW3270 application is an implementation of Telnet which is used to log on to remote IBM mainframe or compatible server hosts. It emulates the IBM 3278 model 2 or model 5 terminal as well as the IBM 3279 (colour and extended highlighting).

The extended data stream, TN3270E (RFC1647), is supported with 3287 printer support.

The operation is much the same as that of IWVT100 described above. The Colour settings allow the user to specify different colours for normal, protected, numeric and hidden fields. Attribute positions can also be shown in a different colour. The palette can be adjusted to enhance readability of the IBM blue screens.

5. Data General D211

The IWD211 application is an implementation of Telnet which is used to log in to remote Data General server hosts. It emulates the D211 terminal.

The operation is much the same as that of IWVT100 described above. The Colour settings allow the user to specify different colours for dim and inverse video attributes.

6. HP 700/92

The IWHP application is an implementation of Telnet which is used to log in to remote Hewlett Packard server hosts. It emulates the HP 700/92 terminal. Soft function keys and adjustable screen size is provided.

The operation is much the same as that of IWVT100 described above. Soft function keys are supported and the normal 200 function key combinations are user programmable.

7. Sperry (Unisys) UTS60

The IWUTS application is an implementation of HLC/DCP which is used to log in to remote Sperry (Unisys) server hosts. It emulates the UTS60 terminal.

The operation is much the same as that of IWVT100 described above. The UTS60 is sold as a separate product.

8. FTP

FTP is implemented as two distinct applications: the FTP server (IWFTPSRV) and the FTP client (IWFTP).

The FTP server supports multiple sessions to it with access controlled by user passwords and permissions stored in the INET.INI file.

The FTP client supports display of local and remote files according to wild card masks, multiple selection of local or remote files and the transfer of multiple files in one operation. A trace facility which allows the user to view all FTP command and directory traffic is available. The FTP client can also be used as a Drag and Drop server for sending files to a remote host. When an FTP session has been established, the user can drag files from File Manager and drop it on the FTP window to send it to the remote server host. A script facility is also available for batch processing.

Several hot-keys were added to improve keyboard usage. Support for users used to Norton Commander was added as well.

9. Network printing using TCP Socket Printing

Printing documents under **INET for Windows** is possible with two programs which implement a TCP Socket print server and a TCP Socket print client. The print server is run on a PC with an attached printer. Submitting documents for printing from the same or another host is done by running and submitting documents to the print client.

9.1. Print Server Operation:

The print server uses the standard print spooler of Windows, PRINTMAN.EXE to do the actual printing. PRINTMAN must be properly configured and installed to enable the print server to print.

On selecting **Status**, the user is presented with status information about the server. The TCP port number of the server and the selected printer is indicated.

10. Network printing using LPD/LPR Printing

Printing documents under **INET for Windows** is possible with the standard LPD/LPR protocol. The print server (IWLPD) is run on a PC with an attached printer. Submitting documents for printing from the same or another host is done by running and submitting documents to the print client (IWLPR) or from any host with a standard LPR. LPR and LPD is supplied with all UNIX operating systems.

Please note that the printer queue name as defined in the LPD server is case sensitive.

11. WinSock API

The WinSock API provided is used by the current and future applications and can also be used by user written applications. At this stage nearly

the complete functionality of the WinSock API is provided.

12. Setting up Inet for Windows

An automated set-up is provided to install **INET for Windows**. Place the set-up diskette in the A: or B: drive and execute the SETUP program from the Windows program manager. You will be asked to supply your own unique IP address.

14. Loading Packet Drivers

If you install the INET TCP/IP kernel (WinSock), you must first load a packet driver before installing INET. Unless no DOS applications are going to be run from Windows, the WINPKT program must also be used. The WINPKT program is loaded after a packet driver with no arguments required by our version of WINPKT.

Protected mode packet drivers like NDIS3PKT will not require WINPKT.

INET Specifications (January 1997)

1. Terminal emulation:

- The current range of emulators are:
 - IBM 3270/8/9/E,
 - *IBM 5250,
 - DEC VT100/220/330,
 - Data General D211,
 - HP 700/92,
 - *Sperry UTS60,
 - *Burroughs ET 1100 and
 - Wyse 50.(* Sold as separate products.)
- Easy key mapping with over 200 function keys.
- Support third party emulators using the Interrupt 14 (INT14) interface.
- Full script language including special functions like:
 - File read and write.
 - Execute external DOS/Windows programs.
 - String, numeric and bit-wise operations.
 - Addressable cursor and screen reads.
 - Keyboard simulation.
- Colour and 132 column operation.
- Multiple sessions can be established.
- Mouse support under Windows.

2. Telnet

- Client service with terminal emulation or serial terminal support (Terminal server).
- Serial server for attaching serial host ports (Serial multiplexer).
- RLOGIN is also supported.

3. FTP

- DOS FTP client supports batch file processing.
- Windows FTP client provides powerful menu-driven user interface.
- FTP server with user access control.
- FTP server as transient or TSR.

4. Mail

- Menu driven user interface.
- SMTP (POP3 under construction).

5. Print services

- Socket printing server and client for network printing from any host to any printer including PC printers.
- Both LPD and LPR print server and clients are implemented allowing bi-directional services to and from UNIX hosts.
- 3287 printer client for TN3270E (RFC 1647).
- Up to four printers per host, including serial printers.

- Multiple print options under Windows: select GDI, server or pass-through printing to file, direct to port, to painter driver or via PrintManager.

6. DOS operation

- Simultaneous running of up to ten Terminal and/or File transfer sessions with menu driven and/or hot-key switching between sessions.
- User definable menu system
- Choice between integrated package with all services and TSR with individual applications.
- Benefits of integrated package:
 - Menu driven interface for ease of use.
 - Concurrent operation of all server and client services.
 - No memory use when not running INET.
- Benefits of TSR with individual applications.
 - Use with third party applications e.g. SQL client/server.
 - Use of network print services from any application e.g. word processors.
 - Concurrent use of TCP/IP and other DOS applications.

7. Windows operation.

- TCP/IP stack implemented as a standard Windows Winsock DLL and EXE.
- All applications running as Windows programs with Windows facilities such as sizing, scrolling and cut-and-paste.
- Drag-and-drop network printing.

8. Gateway (IP router) functionality.

- INET supports CONCURRENT multiple interfaces to Ethernet, Token Ring, X.25, HDLC, SLIP and indirectly to Arcnet, Pronet or any other network supporting Netbios or IPX with routing between the various networks.
- Dynamic alternative routing provides for high network availability.
- Routing protocols like RIP and Proxy ARP are used for dynamic adaptation to route changes.
- An INET workstation can be used as an IP router at the same time.

9. Multiple gateway operation.

- The capabilities mentioned above makes INET workstations usable in complex networks with multiple gateways and multiple interfaces.
- Support for multi-port serial boards like DigiBoard and LCS.

10. Modem dial support.

- Automatic on-demand dial-out and dial-in support is provided to use in low cost, low traffic applications.
- It is possible to use a modem pool to reach a number of

dial-up destination networks which are more than the available modems with dynamic reconfiguration of the routes.

11. Configuration support

- Domain name service (DNS) support.
- Automatic IP address allocation:
 - BOOTP support is automatic when needed.
 - A propriety facility, SETHOST, for file server based networks.
- Network bootstrapping is available (Diskserve).

12. Diagnostic tools

- Protocol tracing.
- Extensive status information.
- Extensive statistical information.
- Remote diagnostics and support via the Remote Console server.

13. Licensing

- INET is licensed for the number of concurrent users and not the number of PC's on which it is installed.
- INET site-licences makes provision for running the SAME copy of the software on multiple PC's and even loading the software from a central server.
- Upgrading INET to a later revision does not involve a licence change for the first year.
- Support contracts give access to all INET upgrades.
- Site licences can be upgraded incrementally to a larger number of users.

14. Local support

- As INET is locally developed, problems can be addressed immediately without time-zone, language and other international trade impediments.
- INET has been developed to make optimal use of the technology infrastructure and unique business demands of South Africa.
- Specific requirements for the local market has been and can in future be incorporated.
- Over 40 000 copies of INET has been sold locally guaranteeing a strong commitment to the SA market.
- INET is dynamically being enhanced and expanded so that the INET glossy brochures are almost always outdated.

15. Features added to INET due to client requirements

- BOOTP client.
- LPR/LPD print facilities for usage with Unix and other LPR clients.
- INETM (mini model) to use less memory.
- INETL (large model) make more memory available for

defining many interfaces as required in large async gateways or for large TCP window sizes.

- Keep-alive for idle TCP servers.
- MEMOREX keyboard support for 3278 emulation.
- FTP server for DOS as a stand alone TSR.
- 3270E emulation.
- 3287 print client.
- Full script language for terminal emulators.
- Support for VESA VGA modes under DOS.
- Modem support under Windows (SLIP and CSLIP).
- Network management system to allow selective override functions under INET for Windows.
- User definable spool directories for printing.
- LPR client for DOS as external program to use any LPD print server.
- Stand-alone FTP client (batch mode) under DOS using the RINET API.
- Various improvements in user interface and functionality.
E.g.:
 - More pre-defined keyboard layouts
 - More mapable keys
 - Better menu layouts
 - Install program
 - More configurable options for telnet icons
 - More ping options and statistics in INET for Windows
- Various previously DOS only features have been developed for Windows also.
- The RINET TSR has been *reduced* in size by 15 KB with the following additional functionality:
 - DNS
 - BOOTP
 - More functionality in certain API calls
- RINETs is RINET version with support for Serial interfaces added.
- LPD has command line options to add form feeds to jobs or to translate single LF to CR/LF for badly configured applications and printers.
- Integration of DOS and Windows setup information in INET.INI.
- Tokenring has multiple ring support added.
- Firewall friendly FTP client and server (passive mode) for INET for DOS.
- Unix format file list in the FTP server to cater for lame FTP clients that did not implement the standard NLST command.
- Adjustable timings for BOOTP requests.
- Custom configurable menu for INET for DOS.
- More automated install and setup procedures.
- Much expanded print options in almost all the Windows products.
- A totally new keyboard definition dialog with more user-friendly features.

16. Features currently being developed for INET

- 32 bit emulators for Windows 95 and NT.
- Integration of INET with the ScudNet LAN card (VirusGuard/SMC combo-card).
- IBM 5250 terminal emulators for AS/400 mini's.

17. Features in planning

- PPP with Van Jacobson compression.
- A print client that acts as a print driver in Print Manager.
- More user friendly features in the FTP client in INET for Windows.

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