

BLUES 2000

User Manual

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Introduction

Welcome to BLUES 2000

As a user of BLUES 2000 you will enjoy the power of full-function terminal and printer emulation, with the ease of use of a standard Windows application.

This manual assumes that you have some familiarity with the basics of both operating an IBM or DEC type terminal, and working in a Windows environment. Please refer to the references listed below under Related Reading if you feel you need additional information.

What Is "BLUES 2000" ?

BLUES 2000 is a set of software applications, that may be used for IBM 3270, IBM 5250, and DEC VT emulation. BLUES 2000 may be customized to perform any of the following:

- An IBM 3274 emulation for the Microsoft desktop that acts as a gateway servicing PCs on a LAN. It may be connected to an IBM host computer through the DLC or X.25 link protocols.
- A set of robust Windows applications that emulate IBM or DEC displays and printers. Blues may be connected to Novell's Netware For SAA, Microsoft's NT SNA Server, a TCPIP host (TN3270 or TN5250) or a telnet server supporting DEC VT emulation.
- A standalone IBM 3270 (PU and LU) emulation product for the Windows desktop that may connect to either a host system or an upstream controller via the DLC or X.25 interfaces.
- A sophisticated administration tool that maintains a database of user's of the BLUES product and provides a centralized configuration capability. Some features include: a graphical end user interface, the ability to import Netware For SAA user's, the ability to import Microsoft NT SNA Server user's, the ability to configure hundreds of user's sessions and connections from a single user's configuration.

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- MUCH MUCH more

The BLUES product can be used with or without a network operating system. When a networked operating system is used, a centralized database located on a file server may contain configuration options for all users of the product. A powerful administration tool manipulates the database and gives administrative personnel the power of modifying configuration options from a central site, restricting functionality on a per session basis, and allowing the configuration of hundreds of PCs with a single mouse click.

The BLUES product offers standard application programming interfaces as well as a macro scripting language that allows the automation of redundant tasks.

Related Reading

For additional information on 3278/9 type terminals, please refer to the user guides and detailed component descriptions available through IBM. For additional information on host file transfer, see the IBM host documentation for your system, TSO, CMS, or CICS.

For additional information on the Windows 3.1, Windows 95/98, and Windows NT environments, please refer to the publications available through Microsoft.

For information about the design of Windows applications, see IBM Systems Application Architecture, Common User Access, Advanced Interface Design Guide.

For additional information about writing Windows application programs that use the HLLAPI, WINHLLAPI, and EHLLAPI interfaces, please refer to documentation available from IBM and Microsoft.

Administration

Overview

The BLUES 2000 application may be used in a PC network environment with many other users sharing host gateway resources, or in a single user environment. The procedures used for installation and configuration of this product are designed to be as convenient as possible for all types of configurations. Please read the following sections carefully, so that you understand the features that are best tailored to your environment.

Administration of the BLUES 2000 application basically consists of using the Manager program. The Manager centralizes the functions needed to configure and maintain all BLUES 2000 users, their host connections, and their sessions. Manager functions are provided to add and delete users, add and delete host connections, add and delete sessions for users, define default option settings on a per-session basis, and so on.

The BLUES 2000 Database

Configuration information is maintained in the BLUES "DATABASE" folder and is called the 'BLUES 2000 Database'. You will see this Database referred to often in the following sections. Most Manager functions deal directly with the maintenance of this Database.

There are several methods of maintaining the Database, depending upon your particular requirements. **In a large network environment, it is recommended that the Database reside on a network share point**, and that an individual, designated 'the Administrator', coordinates and defines all users, their host connections, and their sessions. In a single user environment, the one user is also 'the Administrator'. It is also possible in a network environment for all, or some, of the users have their own Database and as such administer their own separate database's.

Security

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The term 'security' refers to the optional password protection. Password protection is available to the Administrator to restrict access to the Manager program. Password protection is also available to all users to restrict the use of their host sessions.

Installation

Before You Begin

Before you install Blues 2000 it is very important to understand how the suite is divided into three major pieces and how these pieces are related to each other. During the installation and configuration of the suite, you will be prompted to select the locations where each piece should be located. These three major pieces include, the software, the database, and a user's private folder. Each piece may be installed in a different folder (directory) or you may install all three in the same folder. The software folder contains all of the software required to communicate with the host computer, the database folder contains the configuration information, and the private folder contains a user's keyboard mapping files, macro files, and translation table files.

In a network environment, you must decide if you want to keep a single copy of the software folder for every PC, if you want each PC to have its own software folder, or a combination of the two. The major considerations here are if you want the extra network traffic of having the software loaded into the PC over the network, is a file server always available to a PC that requires emulation, and the disk space (about 16MB) required to store each copy of the software. The considerations must be weighed against the ease of updating the software to newer versions as they are made available. If your network can accommodate these considerations, then it is recommended to use a single software folder.

The database folder contains the configuration for one or more Blues users. To appreciate the full benefits of being able to configure and maintain Blues from a central location, you must configure the database folder to be the same folder for all networked PCs.

A private folder exists for each Blues user. This allows each user to have unique keyboard mappings, macro files, and translation tables.

The installation procedure must be performed at least once to install the Blues 2000 software from the CD to a disk drive. If the Blues application is going to be started from a network drive or network share, then you would first install the software from the CD onto the network share, then subsequently use the Blues NetworkSetup.msi application to set up a networked PC. This technique may be used for ease of installing future upgrades and have a group of PCs sharing the Blues software folder.

Requirements

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The BLUES 2000 product installation requires an IBM compatible PC with a hard disk drive or network drive, a CD ROM drive, and one of the following Microsoft Windows operating systems: (1) Microsoft Windows 95, (2) Microsoft Windows 98, or (3) Microsoft Windows NT 3.51 or above (Server or Workstation), or (4) Microsoft Windows 2000 (any type).

Software Requirements For Microsoft NT SNA Server

To be able to connect to the Microsoft NT SNA Server, you must also install the Microsoft NT Client Transport. The Client Transport must also be configured for your network operating system. This is done with the NT Client Setup program. For more details, see the appropriate Microsoft Documentation. In addition, you must be assigned a user name or know the name of a group of users assigned with the NT SNA Manager program. Each user may be assigned display and printer sessions. If you know the name that was assigned to you, then you may browse for display and printer sessions assigned to you. In addition, you may import Microsoft NT SNA Server sessions directly into the BLUES database from the BLUES Manager.

Software Requirements For TN3270, TN3270E, DEC VT And TN5250

To be able to connect to a TN Server, host, or AS400 you will need to make sure that you have TCPIP configured under network settings in the control panel.

The BLUES uses the Windows Socket interface. The Windows Socket interface must be version 1.1 or above. The BLUES uses a system DLL called WSOCK32.DLL. This dll must be in your environment path and is normally installed in your system or system32 directory when you install the Microsoft TCPIP protocol.

Software Requirements For Novell Netware SAA And IBM Communications Server

BLUES can connect to either Netware SAA or IBM Communications Server over either Novell IPX/SPX or over TCP/IP. Depending on which method you choose, different requirements exist. To be able to connect over IPX/SPX, you must install the Client32 software from Novell. The

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Client32 software is available from Novell, it can be found on the Novell web page on the internet. To be able to connect over TCP/IP, the only requirement is that the Microsoft TCP/IP protocol be installed under the Network Settings Control Panel.

Software Requirements For Using The DLC Protocol

To be able to connect to a host via the DLC protocol, the workstation must have the DLC protocol installed. This can be verified by checking the Network Settings in the control panel. In addition, the DLC protocol must be bound to the network adapter that is to be used to connect to the host. The DLC protocol may be bound to either a TOKEN RING adapter or to an ETHERNET adapter. For more information on installing and configuring the DLC protocol consult the Microsoft Documentation.

NOTE - The first releases of Windows 95 did not ship with the DLC protocol. If you have an early release of Windows 95, then you should make sure that the Service Pack 1 is used to install the 32 bit DLC protocol.

Software Requirements For X.25

Blues supports X.25 over ISDN through the CAPI interface. The CAPI interface is installed as part of the ISDN hardware adapter installation. During installation of the hardware, the file named capi2032.dll is copied into the Windows system folder, this is the dll that Blues used to connect to the X.25 network.

Deploying Blues 2000 with the Windows 2000 mmc

By using the Windows 2000 mmc application, the Blues software may be deployed to a Windows user, a group of Windows users, a specific PC, or a group of PCs. If Blues is deployed to a user or a group of users, the user(s) gains access to the Blues software by starting the "Launch Blues Emulation" icon from the Windows taskbar. If Blues is deployed to a specific PC or a group of PCs, the Blues software is automatically installed when the PC(s) are re-started.

Deploying Blues from the mmc requires five steps be performed: (1) copy the blues msi file to a network share, (2) use the mmc application to create a group policy, (3) use the mmc application to create a Blues organizational unit, (4) create a new Blues group in the organizational unit, and (5) assign one or more Windows users, Windows user group(s), or PCs to the Blues group.

Each Windows user or PC that is a member of the Blues group will then have a "Launch Blues Emulation" shortcut available from the Windows task bar. The first time the user selects the "Launch Blues Emulation" icon from the taskbar, the Blues software will automatically be installed and started. If the user has not previously used Blues, then the Blues User Settings wizard will be started to establish the Blues user settings (database folder, Blues user name, etc.). If no Blues sessions have been configured for the user, then the Blues Manager application will subsequently be started and the Blues user wizard will guide them through the configuration process. If an existing Blues database was selected from the User Settings wizard that contains configured sessions for the user, then the Blues Manager application will not be started and the configured Blues sessions will be started.

If a Blues database is created on a network share, then each user's emulation settings can be pre-configured with the Blues Manager. When this is done, the first time the User Settings wizard is started, (following the software installation), the user need only select the share name for the Blues database and the pre-configured session(s) will be launched.

Step 1 – Copy Blues msi to a network share

Before using the mmc application, it is necessary to place one of the Blues 2000 msi files into a network share point so that PCs attached to the network may access the msi file for automatic installation. Blues 2000 has two msi files that may be deployed over mmc: (1) setup.msi, and (2) networksetup.msi.

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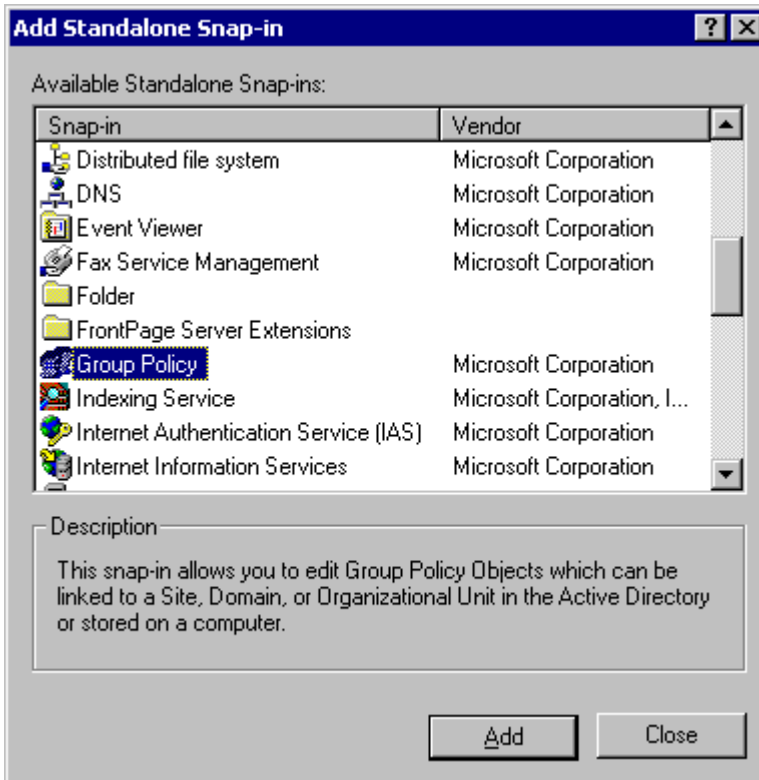
As described above in the “Before You Begin” section, Blues 2000 may be installed over the networksetup.msi file for PCs that are attached to a network. This technique produces one network share point that contains the Blues 2000 software and the software applications are started from the network share point. When this technique is used, the standard setup.msi file located on the Blues 2000 CD should first be used to install Blues 2000 into a network share point. Following the installation, the networksetup.msi file will be located in the network share point.

If the complete Blues 2000 product is to be installed over the mmc, then it is necessary to create a network share point and copy the setup.msi file from the Blues 2000 CD to the network share point so that the mmc application may access the software from networked PCs.

When the complete Blues 2000 product is deployed over mmc, the Blues 2000 software is always installed on a target PC in the “Program Files\Blues” folder. When the networksetup.msi file is used to deploy Blues 2000, the actual Blues software is not copied to the target pc, rather, the Blues applications are started from the share point over the network.

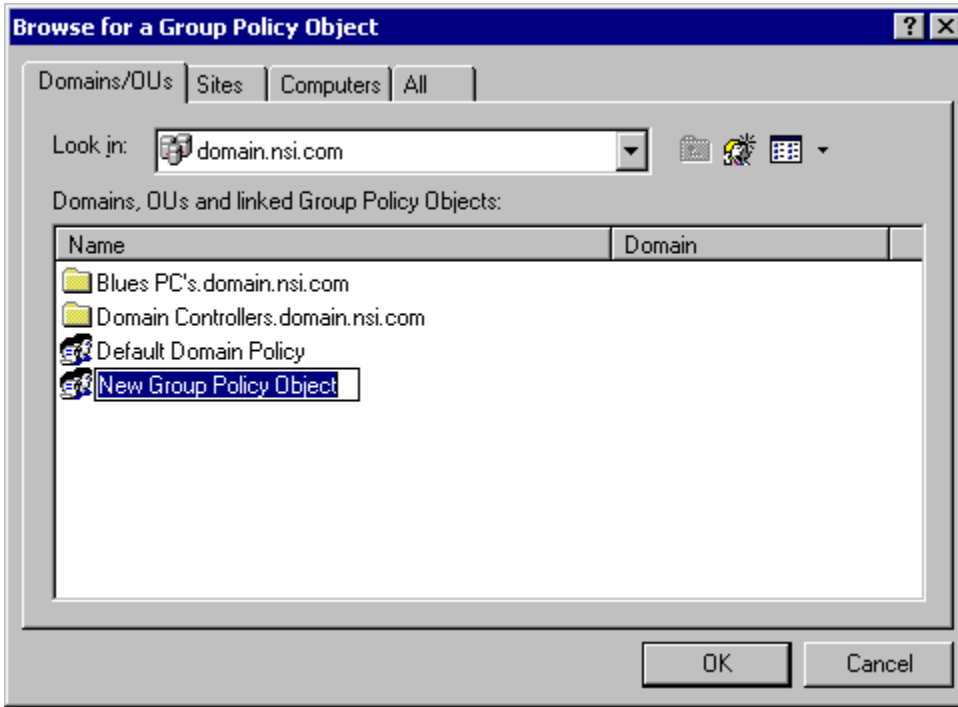
Step 2 - Create the Blues Group Policy

Start the Windows 2000 mmc application and select the "Add/Remove Snap-in" from the "Console" menu item. Press the "Add..." button and the following window should appear:

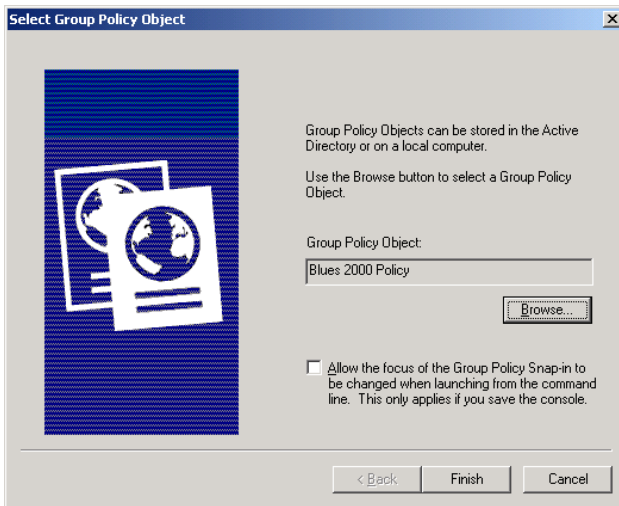


Select "Group Policy" from the list and press the "Add" button. Next press the "Browse" button from the Select Group Policy Object window and select the domain from the "Look in" list box.

Press the new button or right click the mouse and select new after selecting the domain. The following window should appear:

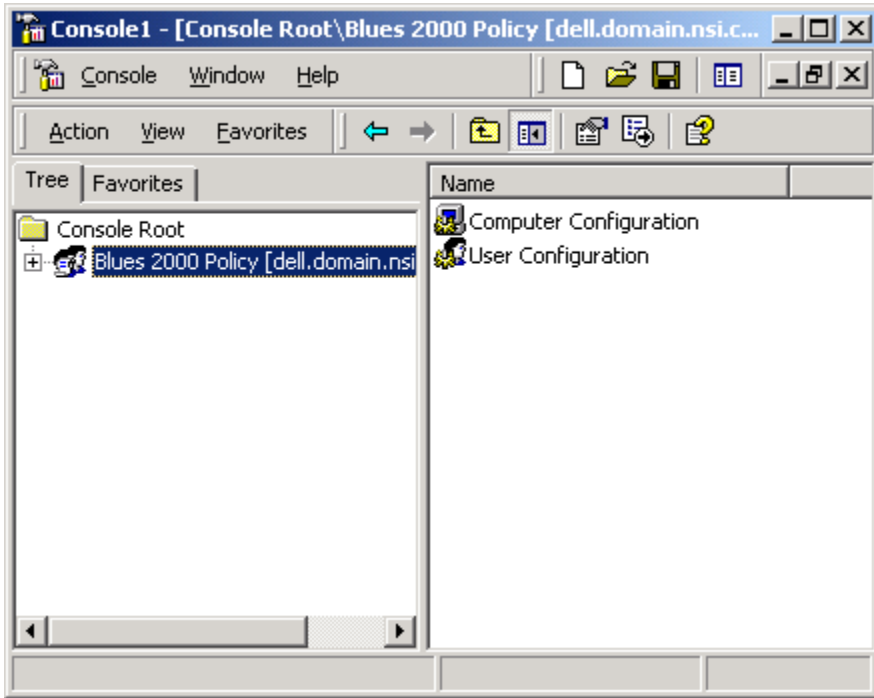


Edit the group policy name and press enter. In this example the group policy name was called "Blues 2000 Policy". Press the Ok button and the following windows should appear:

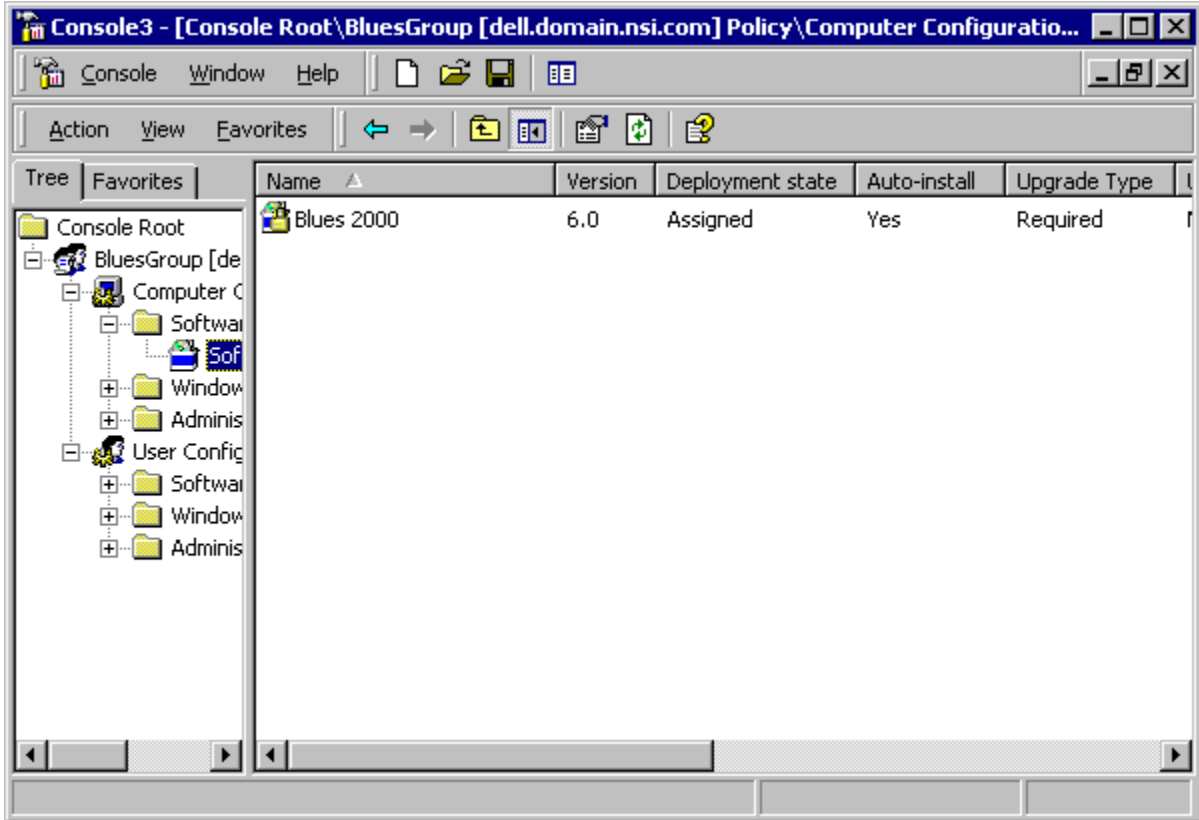


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Now press the finish button and then press the close button and then the Ok button and the mmc application should be back to the main window and look as follows:

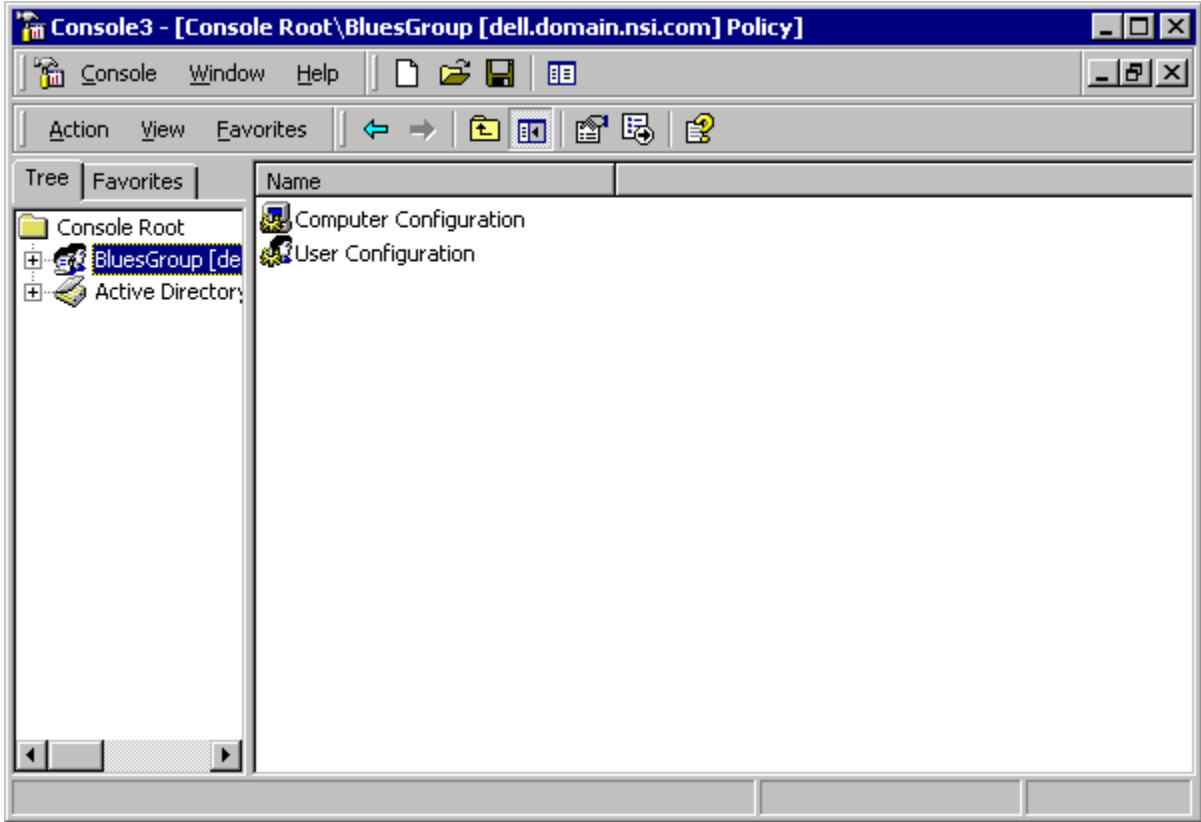


Next open up the Blues 2000 policy and find the appropriate "Software installation" item. If the Blues software is going to be deployed to PCs, then select the "Software Installation" under the "Computer Configuration". If the Blues software is going to be deployed to Windows users or a group of Windows users, then select the "Software Installation" under "User Configuration". Next right mouse click on it and select "new package". Select the Blues msi from the share point (See Step 1) and ensure that the deployment option is set to "Assigned" and press Ok. In this example, we are deploying Blues to PCs and not to Windows users. The following window should be displayed:

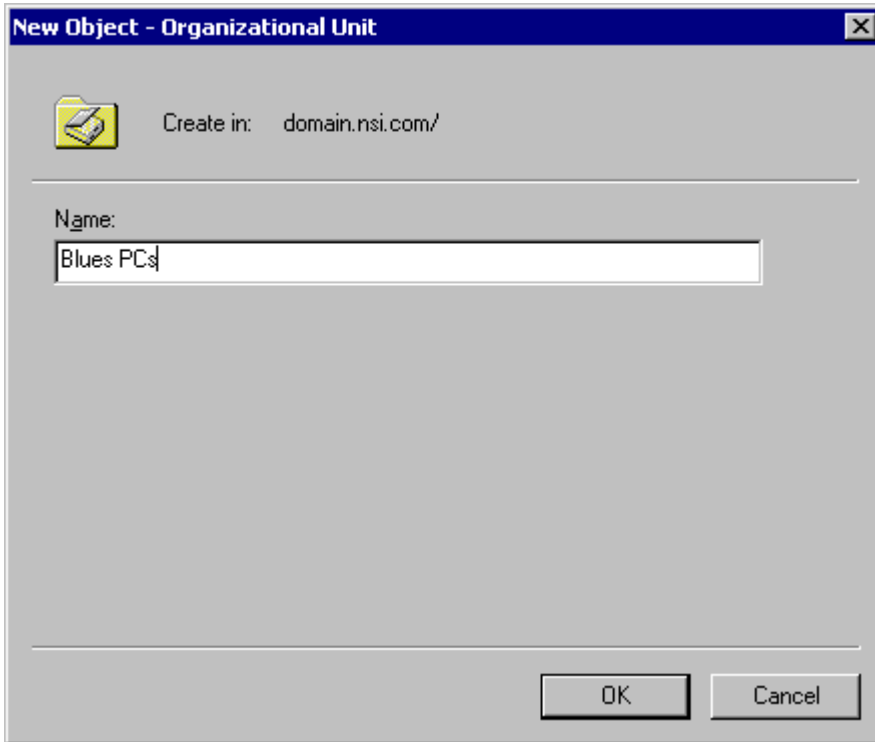


Step 3 - Create the Blues Organizational Unit

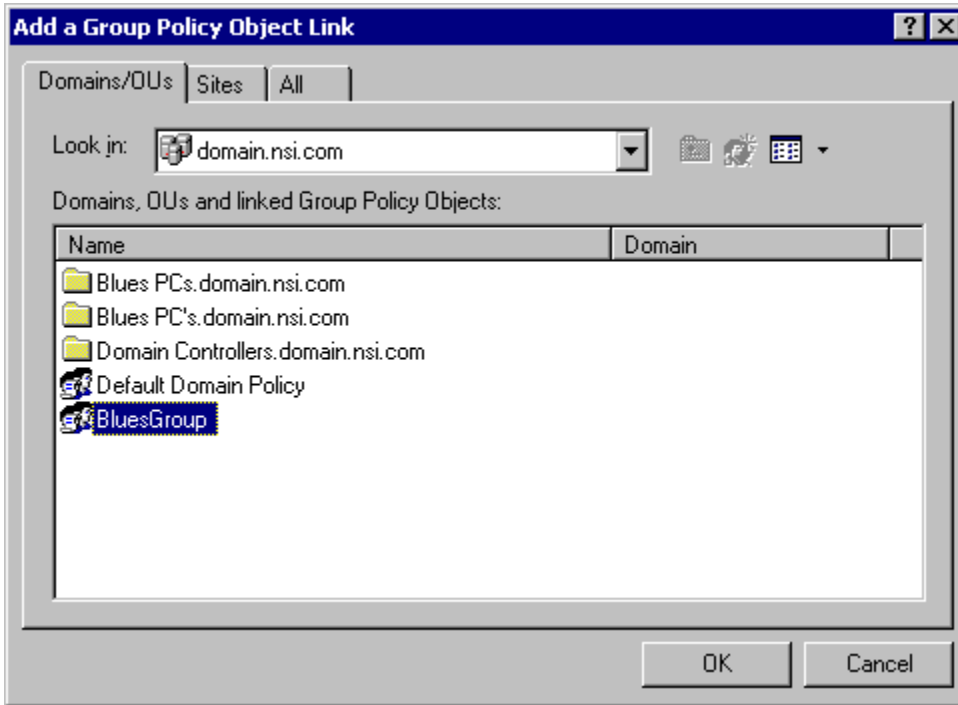
Select the "add snap-in" from the mmc's Console menu and add the "Domain Users and Computers" snapin. Then press Ok and return to the mmc's main window:



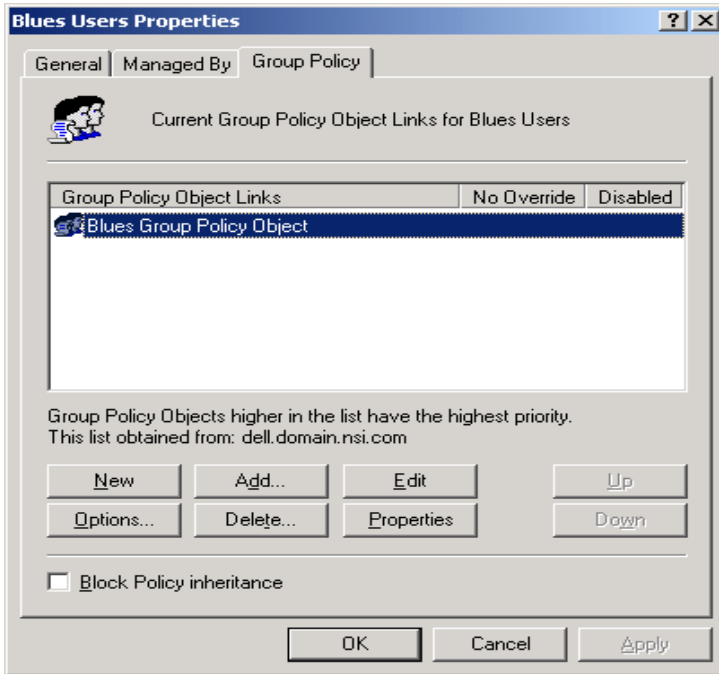
Open up the Active Directory Users and Computers and highlight the domain where the organizational unit will live and press the right mouse button to add a new organizational unit. After the following window appears, enter the name of the new organizational unit. In this example we chose "Blues PCs" as the organizational unit.



From the main window of the mmc application, highlight the "Blues PCs" organizational unit and edit the properties of the organizational unit. Press the "add" button under the Group Policy tab, and then choose the Blues 2000 policy that was previously created.



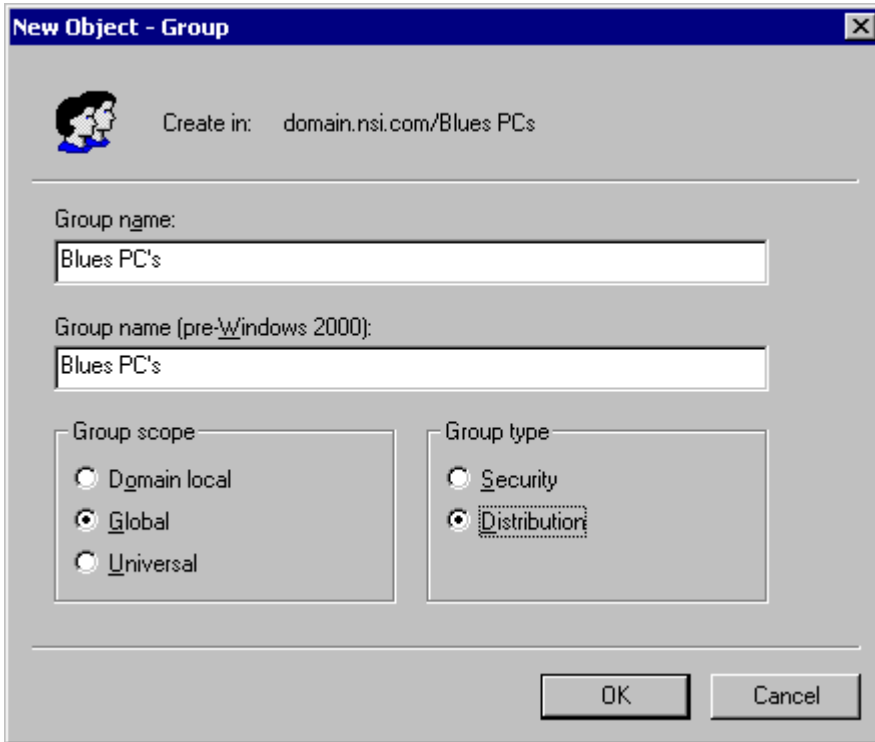
Press the Ok button and the following window should be displayed:



Press the Ok button and return to the mmc's main window.

Step 4 - Create a Blues group in the organizational unit

From the main window of the mmc application, highlight the new organizational unit and right mouse click on it. Select "new" then "Group" from the menu and the following window should appear:



The example above named the group "Blues PCs". **Ensure that the "Distribution" option is selected** and press ok.

You should now have a Blues group (under the organization unit) that may be used to deploy Blues to either Windows users or to PCs that are members of your domain.

Step 5 - Assign members to the Blues group

By assigning members to the Blues group you will be select how and when Blues will be automatically installed on computers within the domain. Members of the group may be other groups of users, groups of PC,s or specific PCs. In the following example a PC named

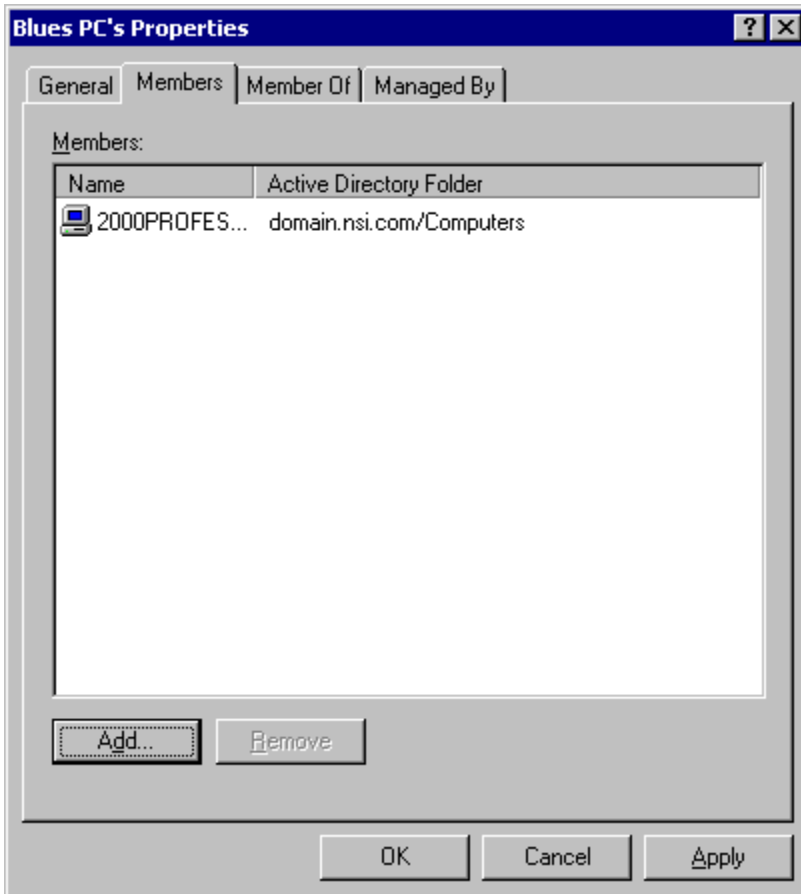
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"2000PROFESSIONA" was added to the Blues group. This will cause Blues to be installed on the PC named "2000PROFESSIONA" when the PC is re-started.

When a Windows user is assigned to the Blues group, the Blues software will be installed on a PC when that user select the "Launch Blues Emulation" icon from the task bar.

Windows users, groups of Windows user, and PCs are all added to the group by highlighting the Blues group (under the organizational unit) and editing its properties.

From the "Members" tab press the "add" button and select where you want the Blues software installed. In the following example we have added the PC named "2000PROFESSIONA" to the group.



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By deploying Blues in this way, it is possible to view which PCs in the doamin have Blues installed. When a new version of Blues is released, you need only copy the new msi over the existing msi on the network share and use the mmc to re-deploy the package. This will cause all PCs that have been deployed with Blues to automatically be updated with the new release.

Initial Software Installation

Now that you understand the three major pieces of the suite and have decided where you want to install each piece, you are ready for installation. If you happen to be using Blues in conjunction with the **Microsoft NT SNA Server**, you may want to install Blues from your NT Server PC. When the Blues Manager is used on a PC that has the Microsoft NT SNA Server already installed, it has the ability to import the complete Microsoft NT SNA Server configuration into the Blues database.

Place the Blues 2000 CD in your drive and wait a few seconds. The installation program should automatically start.

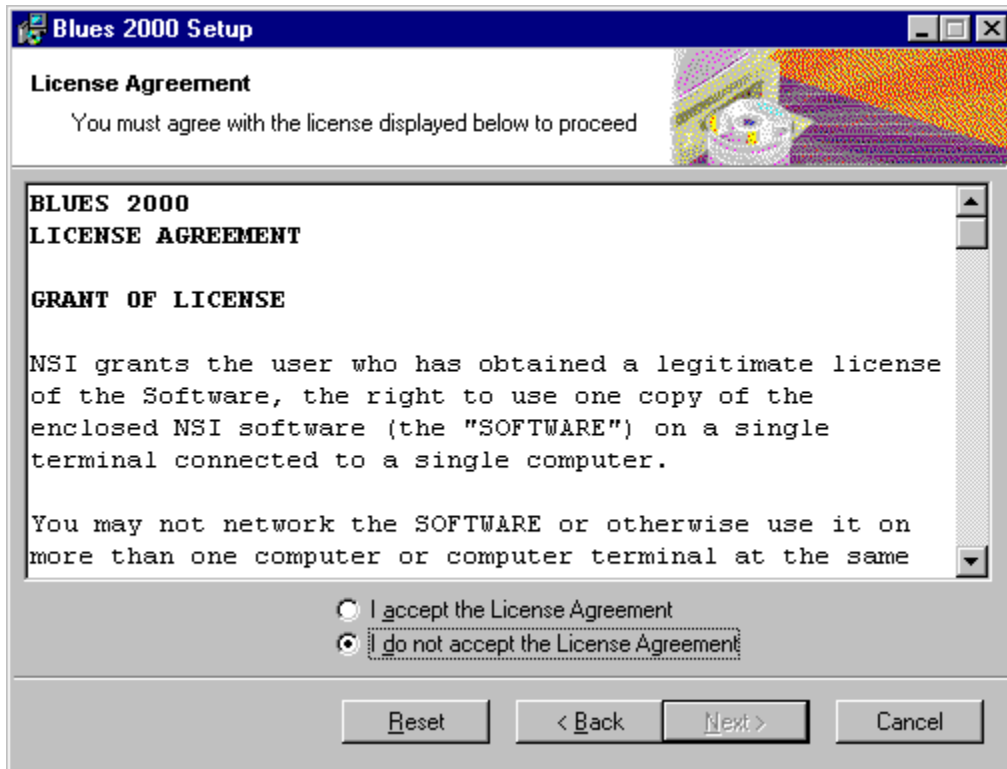
If the installation program does not start, select Start from the task bar, then select Run and enter d:\ setup.exe, where d is the drive number of your CD ROM drive. Press the ENTER key and the installation program should be started.

Once the installation has been started, the following window will be displayed:

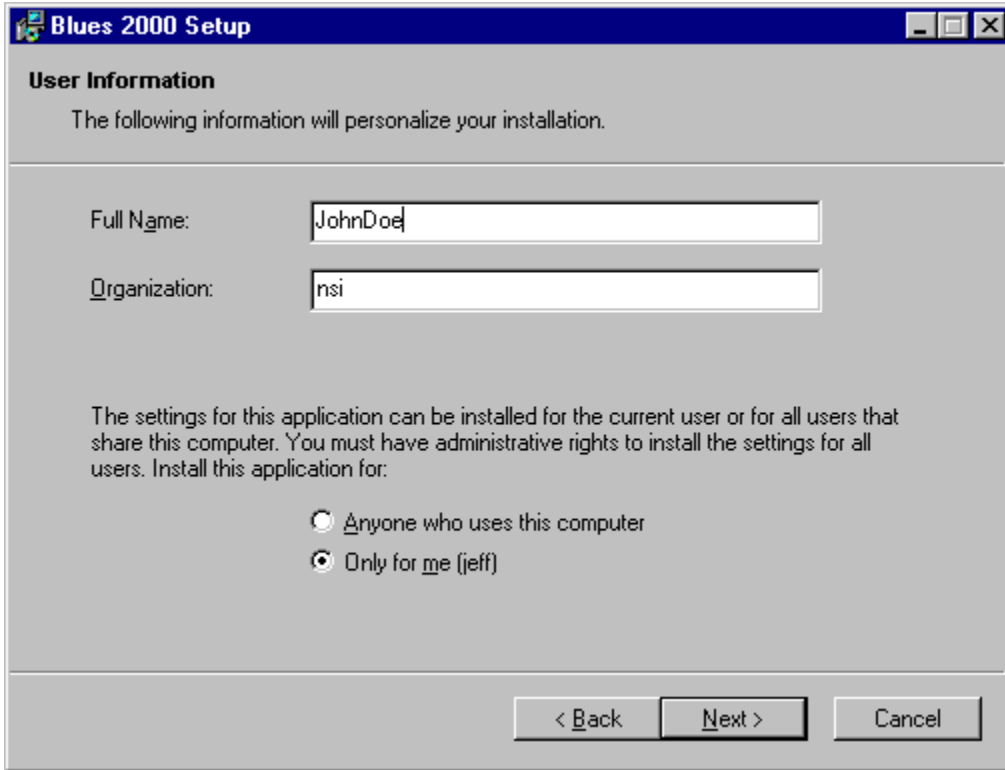


License Agreement

The next window displays the license agreement for Blues 2000. Please read the license agreement before continuing. After you have accepted the license agreement, press the next button.



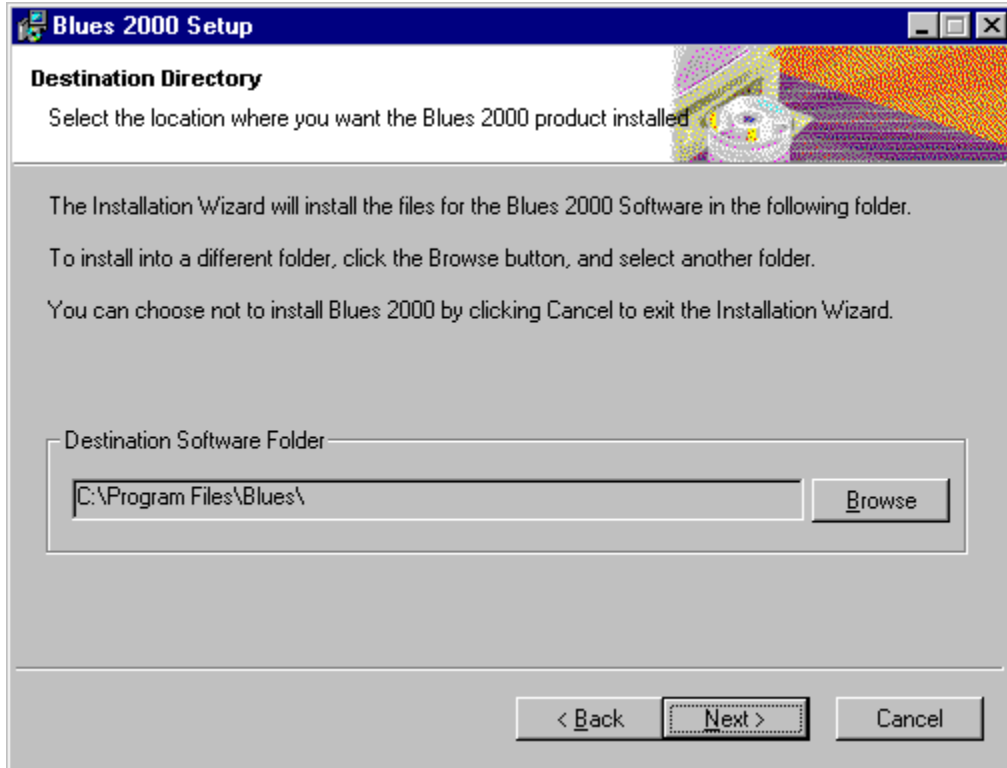
Selecting User Information



The screenshot shows a Windows-style dialog box titled "Blues 2000 Setup". The dialog has a title bar with standard minimize, maximize, and close buttons. The main content area is titled "User Information" and contains the following text: "The following information will personalize your installation." Below this text are two text input fields. The first is labeled "Full Name:" and contains the text "JohnDoe". The second is labeled "Organization:" and contains the text "nsi". Below the input fields is a paragraph of text: "The settings for this application can be installed for the current user or for all users that share this computer. You must have administrative rights to install the settings for all users. Install this application for:". Below this text are two radio button options: "Anyone who uses this computer" (which is unselected) and "Only for me (jeff)" (which is selected). At the bottom of the dialog are three buttons: "< Back", "Next >", and "Cancel".

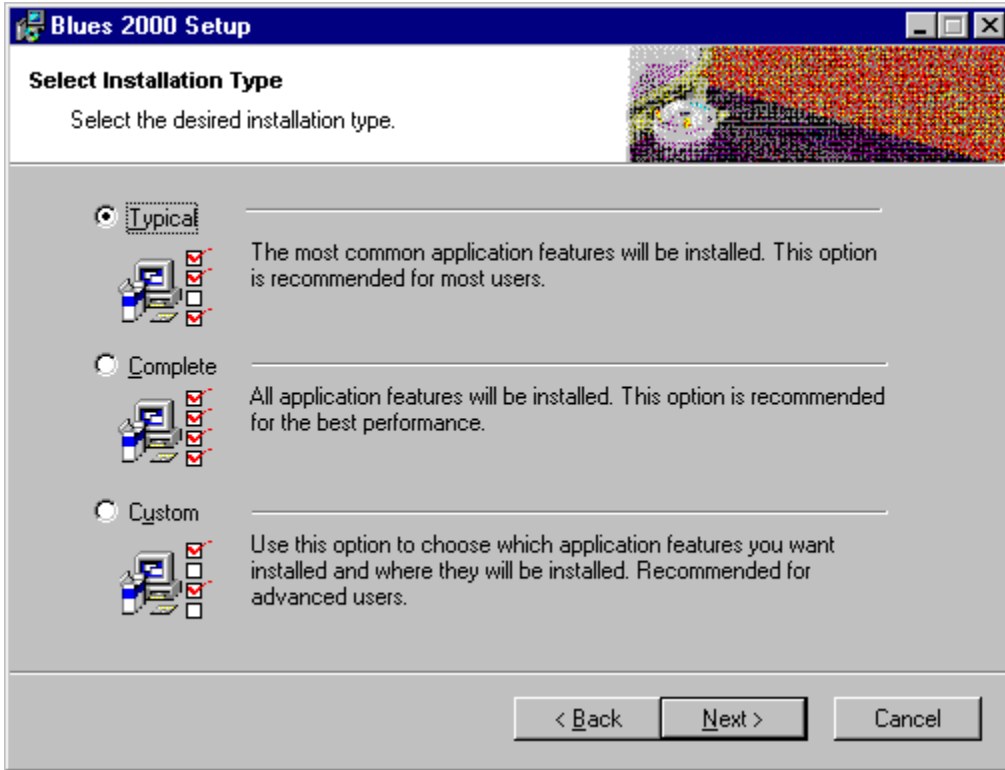
The Blues software may be installed for all users of the PC, or only for your self. You may install the software for all users of the PC, then configure Blues uniquely. Each Windows user will be prompted for their unique settings when they try to use any of the Blues applications for the first time.

Destination Folder Selection



The destination folder becomes your Blues software folder. This is the location where the Blues software will be copied to. If you are not sure about your software folder please read the previous section to decide where to place your software folder. Press the Browse button to select an existing folder or to create a new folder. Press the Next button to continue the installation.

Installation Type



There are three types of installation; Typical, Complete, and Custom. Complete will install all possible components. Typical will install most of the Blues software, however, it will not install the HLLAPI toolkit. The HLLAPI toolkit is only needed if plan on developing software applications that use the HLLAPI interface. The Custom installation will allow you to omit portions of the software and documentation that you will not be using and is meant to be used by experienced computer users only. The documentation consists in two formats, one in Microsoft Word For Windows and one in Windows help file format. When the Microsoft Word For Windows versions are installed, they are copied to the folders "Documentation" under the software folder. These files may be viewed and printed with any standard word processor that supports the Microsoft Word type of file.

The version of the User Manual in help file format may be viewed from any of the programs in the software suite from the Help menu. The help file contains a table of contents that matches the Word For Windows versions and lets you find out information very quickly.

If you think that you want to read the entire User Manual, then it would be best to install the User Manual(s) in Word Format. The Help file version is automatically installed as part of the software.

After selecting the appropriate version(s) of the suite you must press the Next button. If you selected Custom type of installation, the features select window will let you select the individual components you want to install.

The software suite will now be copied from the installation media to your computer. After the software has been copied, you be allowed to continue setting up Blues by pressing the Next button.

User Settings Wizard

After the software has been copied to your computer, the user settings wizard is automatically started. The user settings wizard will also be started whenever any Blues application is started by a new Windows user. Each Windows user must be set up to use Blues. The user settings determine where Blues configuration information is stored, where the Blues private folder will reside, and the Blues user name used to access a particular users configuration from the Blues configuration database.

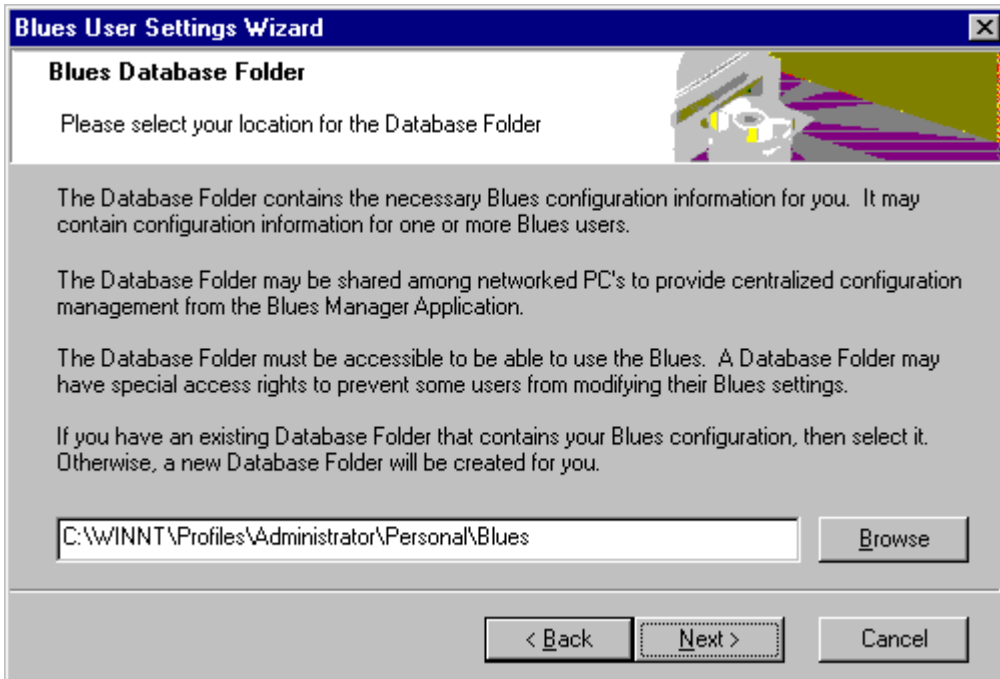
The Blues user settings wizard may be started at any time in the future to changes the settings. To start the Blues user wizard from Windows, perform a Start/Run from the task bar of the program "UserSettings.exe" located in the Blues software folder.

Selecting a Blues User Name



The Blues user name is used as a key to access the Blues configuration database. This allows the database to contain configuration information for multiple Windows users. You may either select a specific Blues user name, or select to use your Windows sign-on name. When the Windows sign-on name is used, then Blues emulation will obtain the name that was used during the Windows sign-on procedure and use it as the key to access the Blues configuration database.

Selecting the Database Folder

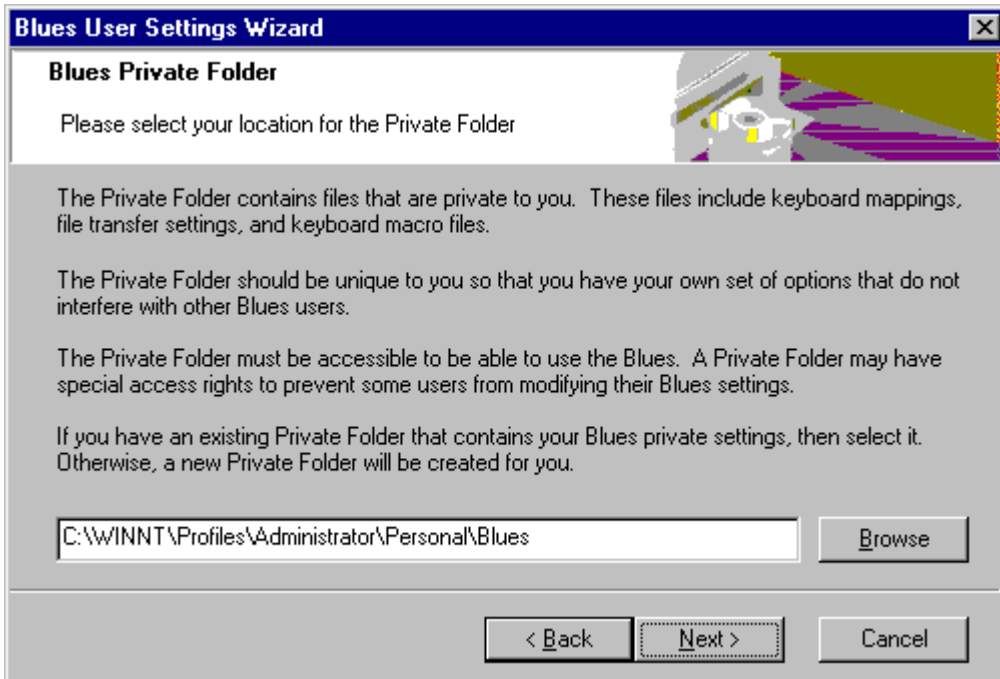


If your plan is to have a single database for all users of Blues 2000, then select a folder that every PC on the local area network has access to.

If you plan to use the “roaming user” feature of Windows 2000, then select a folder that will be accessible from any PC that you may be using on the network. This technique can be used to enable a particular Windows user to have the same Blues configuration regardless of which PC they are signed on to. (I.e. the Blues configuration database will follow you around the network if it is kept in the “My Documents” folder).

Press the next button when you have made your selection.

Selecting the Private Folder

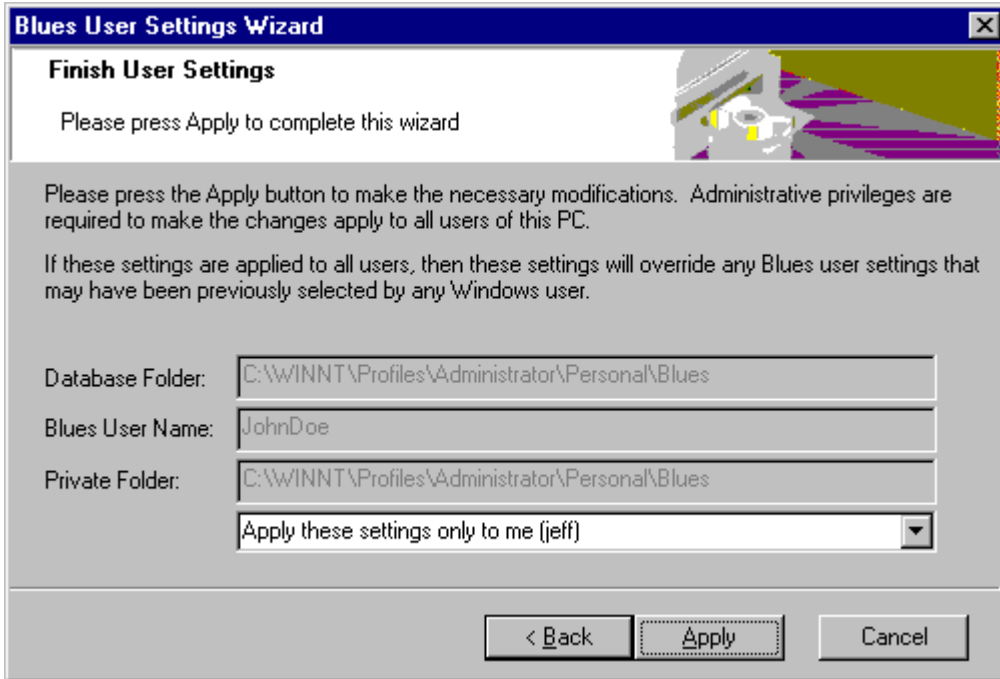


A private folder exists for each Blues user. This allows each user to have unique keyboard mappings, macro files, and translation tables.

If you plan to use the “roaming user” feature of Windows 2000, then select a folder that will be accessible from any PC that you may be using on the network. This technique can be used to enable a particular Windows user to have the same Blues private data files (keyboard mappings, macro files, file transfer portfolios, etc.) , regardless of which PC they are signed on to. (I.e. your Blues private folder files will follow you around the network if it is kept in the “My Documents” folder).

Press the next button when you have made your selection.

Finishing User Settings



The final step in establishing the user settings is to save the settings in the system registry. The settings may either apply for any user who uses the PC, or it may only apply to the currently signed on Windows user. Administrative rights are required to be able to apply the settings for all users of the PC.

Press the apply button to apply the changes and begin the use of Blues 2000.

Congratulations, you have installed Blues 2000, you are ready to begin the emulation configuration phase. Please proceed to the Administration section of this booklet.

Automated Installation

The Blues 2000 software is installed over the standard Microsoft Windows Installer technology. This means that in order to install Blues 2000, the Microsoft Windows Installer must already be

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installed on the PC. The Blues 2000 CD contains a setup.exe application that checks to see if the Microsoft Windows Installer is already on the PC, if it is not, it will automatically be installed. If the Microsoft Windows Installer has to be installed for the first time, then a system reboot is required before the Blues 2000 software can be installed.

The Blues 2000 installation is contained in the setup.msi file. Whenever an .msi file is started or run, it is passed to the Microsoft Windows Installer for execution. A typical installation is done when the user starts or runs the setup.exe file from the CD or ZIP file. The setup.exe application starts the Windows Installer and passes it the name of the .msi (setup.msi) file to install. It is possible to start the installation from a command line or batch file such that additional command line arguments determine how the installation is done. The Windows Installer application (Msiexec.exe) can take many command line options that may be used to perform such things as (1) install in quiet mode, (2) installation for everyone who uses the workstation or just yourself, (3) set the folder where the software is installed, (4) set the folder where the Blues DATABASE is located, (5) set the default Blues PRIVATE folder, and (6) set the Blues USERNAME. This allows a system administrator to create a batch file that when executed, installs and pre-configures Blues 2000 for the workstation.

To start the Blues 2000 installation over the Windows Installer technology, the command line has the following format:

```
Msiexec.exe [options] /I setup.msi [PROPERTY1=a] [PROPERTY2=b] ...
```

Where arguments in brackets are optional, the options may be any valid Microsoft Installer option, the msi file setup.msi is being installed, and optional properties may be set.

MSI Options

The following table describes the command-line options for this program.

Option	Parameters	Meaning
/I	<i>Package ProductCode</i>	Installs or configures a product.
/f	[p o e d c a u m s v] <i>Package ProductCode</i>	Repairs a product. This option ignores any property values entered on the command line. The default argument list for this option is 'pecms'. This option shares the same argument list as the REINSTALLMODE property .
		p - Reinstall only if file is missing

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		<p>o - Reinstall if file is missing or if an older version is installed.</p> <p>e - Reinstall if file is missing or an equal or older version is installed.</p> <p>d - Reinstall if file is missing or a different version is installed.</p> <p>c - Reinstall if file is missing or the stored checksum doesn't match the calculated value. Only repairs files that have msidbFileAttributesChecksum in the Attributes column of the File table.</p> <p>a - Force all files to be reinstalled.</p> <p>u - Rewrite all required user specific registry entries.</p> <p>m - Rewrite all required machine specific registry entries.</p> <p>s - Overwrite all existing shortcuts.</p> <p>v - Run from source and re-cache the local package.</p>
/a	<i>Package</i>	Administrative installation option. Installs a product on the network.
/x	<i>Package ProductCode</i>	Uninstalls a product.
/j	<i>[u m]Package</i>	Advertises a product. This option ignores any property values entered on the command line.
	<i>or</i>	
	<i>[u m]Package /t Transform List</i>	u - Advertise to the current user. m - Advertise to all users of machine.
	<i>or</i>	
	<i>[u m]Package /g LanguageID</i>	g - Language ID t - Applies transform to advertised package.
/L	<i>[! w e a r u c m o p v + !]Logfile</i>	Specifies path to log file and the flags indicate which information to log. i - Status messages w - Non-fatal warnings e - All error messages

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a - Start up of actions

r - Action-specific records

u - User requests

c - Initial UI parameters

m - Out-of-memory or fatal exit information

o - Out-of-disk-space messages

p - Terminal properties

v - Verbose output

+ - Append to existing file

! - Flush each line to the log

"*" - Wildcard, log all information except for the v option. To include the v option, specify "/!*v".

/m

filename

Generates an SMS status .mif file. Must be used with either the install (-i), remove (-x), administrative installation (-a), or reinstall (-f) options. The ISMIF32.DLL is installed as part of SMS and must be on the path.

The fields of the status mif file are filled with the following information:

Manufacturer - [Author](#)

Product - [Revision Number](#)

Version - [Subject](#)

Locale - [Template](#)

Serial Number - not set

Installation - set by ISMIF32.DLL to "DateTime"

InstallStatus - "Success" or "Failed"

Description - Error messages in the following order: 1) Error messages generated by installer. 2) Resource from Msi.dll if install could not commence or user exit. 3) System error message file. 4) Formatted

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		message: "Installer error %i", where %i is error returned from Msi.dll
/p	<i>PatchPackage</i>	Applies a patch. To apply a patch to an installed administrative image you must combine options as follows: <i>/p <PatchPackage> /a <Package></i>
/q	n b r f	Sets user interface level . q , qn - No UI qb - Basic UI qr - Reduced UI with a modal dialog box displayed at the end of the installation. qf - Full UI with a modal dialog box displayed at the end. qn+ - No UI except for a modal dialog box displayed at the end. qb+ - Basic UI with a modal dialog box displayed at the end. The modal box is not displayed if the user cancels the installation. qb- - Basic UI with no modal dialog boxes. Please note that /qb+- is not a supported UI level.
/? or /h		Displays copyright information for the Windows Installer.
/y	<i>module</i>	Calls the system API DllRegisterServer to self-register modules passed in on the command line. For example, msiexec /y my_file.dll. This option is only used for registry information that can't be added using the registry tables of the .msi file.
/z	<i>module</i>	Calls the system API DllUnRegisterServer to unregister modules passed in on the command line. For example, msiexec /z my_file.dll. This option is only used for registry information that can't be removed using the registry tables of the .msi file.

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The options /i, /x, /f[p|o|e|d|c|a|u|m|s|v], /j[u|m], /a, /p, /y and /z should not be used together. The one exception to this rule is that patching an [administrative installation](#) requires using both /p and /a. The options /t and /g should only be used with /j. The options /l and /q can be used with /i, /x, /f[p|o|e|d|c|a|u|m|s|v], /j[u|m], /a, and /p.

MSI Properties

The Blues 2000 installation package supports some special properties that enable custom installations to be done without operator intervention. To specify a property, use the syntax property=value.

Property	Value	Meaning
ALLUSERS	<i>0 or 1</i>	Set value to 1 to have the software installed for all users of the PC, else it is installed only for the current user.
COMMONDESKTOP YES or NO		If this value is set to YES, then the desktop shortcuts are created for all users. This option should be set if the ALLUSERS property has been set to 1.
INSTALLDIR	<i>Folder name</i>	May be used to set the folder where the software will be installed. If this property is not set, then the software will be installed in the Progeam Files\Blues folder.
LANGUAGE	<i>US or GERMAN</i>	Selects the native language that the Blues software will start in.
DBASE	Blues Database folder	May be used to set the default Blues Database folder. The Blues Database contains the necessary configuration information for each Blues user. This value may be set to a local drive, a redirected network drive, or a network share name.
PRIVATE	Blues Private folder	May be used to set the default Blues Private folder. Each Blues user has a Blues Private folder where keyboard mappings, macros, and file transfer settings are stored.
USERNAME	<i>Blues User Name</i>	The Blues Database contains each users configuration settings. The Blues user name is the key to the database and provides a mapping from a user name to a Blues configuration. The user name

“*” is a special name called a wild card. When the wild card name is specified and Blues emulation is launched, then Blues will query the Windows desktop to obtain the name of the user who is signed on to Windows and use that name as the key into the Blues database configuration.

Example

The following example will install the Blues software in a folder named c:\blues in quiet mode. The Blues software will run in the English language. The wild user name is selected and the Blues database resides on a network share. The private folder is set to a redirected network drive that is unique for each user so that each user may customize their keyboard mapping and record and play their own macros.

```
Msiexec.exe /qb /I d:\setup.msi INSTALLDIR=C:\Blues ALLUSERS=1 COMMONDESKTOP=1  
USERNAME=* DBASE=\\server\Blues PRIVATE=P:\
```

This type of installation is usefull when the Blues Database is located in a central location and every Windows user has a Blues user name configured. Simply run the above installation on a workstation and Blues is ready for use, without any further configuration!

Networked PC Installation

There are two techniques of installing Blues 2000 on a PC connected to a file server. One technique is used when you want to keep a single copy of the Blues software on a network share, and the second technique is used to keep a separate copy of the software folder on each PC. Each technique may be accomplished through traditional methods of starting an installation program on the PC, or may be done from the Windows 2000 Memory Management Console (MMC) remotely.

If each PC in the network is to have a copy of the software to insure functionality even if the network is down, then the "setup.msi" application described in the initial software installation section above may be used at each PC. If a single copy of the software is going to be maintained on a network share point then the setup application "NetworkSetup.msi" should be used. The installation package "NetworkSetup.msi" is installed into the Blues software folder during initial software installation.

Either msi file may be assigned to Windows users or to specific PCs and automatically installed through the use of the Microsoft Windows 2000 server application MMC. For more details on the MMC application, refer to the Microsoft documentation. If a Windows 2000 server is not available, then either msi application may be started from a network share point or from the Blues CD.

There are two other advanced features of the Blues Manager application that let you install PCs with the Blues. One method may be used in a Windows NT/200 environment to remotely create a Blues desktop on a networked PC through the use of a Windows NT/2000 service, and the other involves creating a new Windows installation package that contains the Blues software, Blues configuration, and instructions of how to install the package. These features are covered in the Blues User Manual.

Using NetworkSetup.msi

This technique of installation assumes that you are keeping a single copy of the Blues 2000 software on a file server connected to the PC that you want to install. This technique will setup the PC to use the software already installed on the file server. Before you can perform this type of installation, you must have already completed the "First Time Installation". See section above.

To start the setup process, select Start from the task bar, then select Run and enter d:\Blues\Networksetup.msi, where d is the network drive number of where the Blues has already been installed. D may also be the name of a network stare point. The installation program is

very similar to the “First Time Installation” described above. The major difference is that there are no selections of where to install the software since it is already installed.

Please refer to the previous sections for details in using the installation program.

Uninstalling

The Blues software may be removed from the Control Panels “Add/Remove Programs” icon. To properly remove the software you should have administrative privileges and have all other windows closed. The uninstall wizard will guide you through removing Blues from a PC. If the uninstall is done from a PC that has the complete Blues product installed, then it will remove the complete product. If the PC was installed as a network PC (see Networked PC Installation above), with the NetworkSetup.msi program, then the Blues software will not be removed from the network share point and only the files installed as part of the network setup process will be removed.

The Manager Application

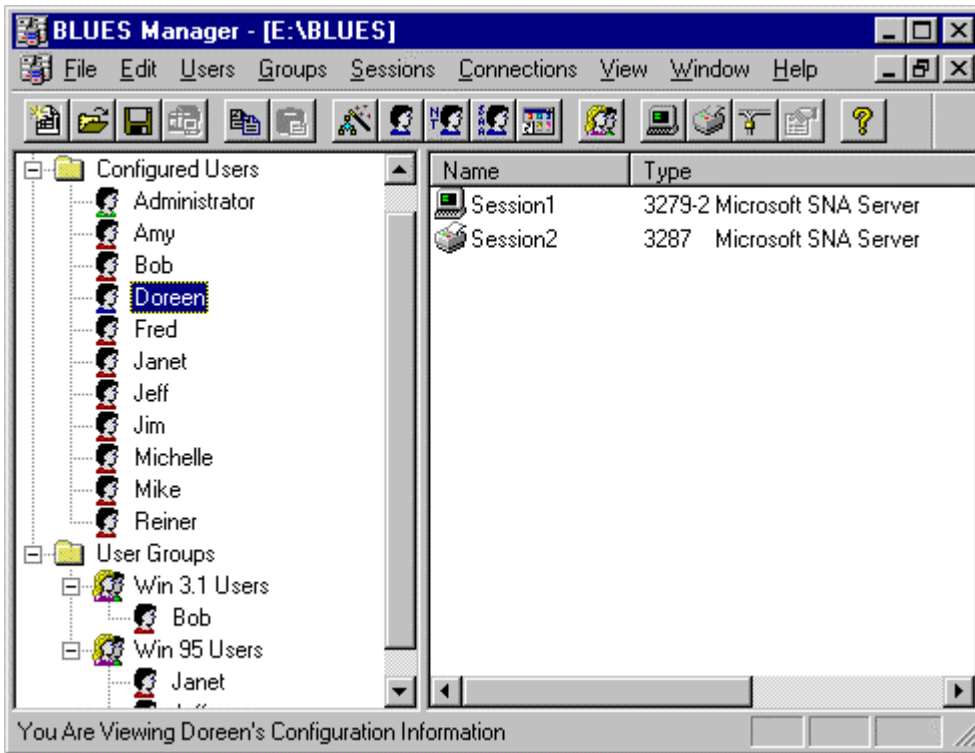
The Manager is used to maintain the "BLUES 2000 Database" of users. The Manager can also be used to assign an Administrator password, add a user, delete a user, and so on. The Manager is used to configure BLUES 2000.

The software installation process added a shortcut for the Manager, use it to start the Manager program.

When the BLUES was installed, a user named "Administrator" was automatically created. This user is known as "The Administrator". If the name or password of this user is changed, then the Manager program will prompt for the user name and password when it is started. If the user name remains "Administrator" with no password, then anyone may use the manager without having to know the user name and password.

The first time you start the Manager from a new PC, you will be asked to enter a drive and path for the "PRIVATE FOLDER". Each user should have a unique location to store macro's, keyboard mappings, and translate table files. After you have selected the PRIVATE FOLDER, all keyboard and translate table files will be copied from your installation directory to your private folder. **If you are going to modify the keyboard and translate table files for more than 1 user, then you should modify these files in the installation directory before you add each user so that you will not have to modify these files each time you add a user.**

Using The Main Window



The Manager main window contains a menu bar that lets you perform such functions as adding a user to the BLUES database, deleting a user and so on. Directly under the menu bar is the tool bar. The tool bar lets you perform menu item functions with the mouse. Under the tool bar are 2 window panes that may be split in two by dragging the mouse over the splitter bar. The left most pane contains a list of all configured users, user groups, Microsoft NT SNA Server resources, DLC physical unit resources, and TCPIP resources that are currently in the BLUES database. The right most pane may contain a list of the sessions, connections, and configured users, depending on what has been selected in the left window pane. And finally there is an area on the bottom of the window that contains a line of help text. The help text will display what a specific menu item or tool will perform. To display a tool's help line you need to position the mouse over the tool and the help line will appear. To display the help line for a menu item you need to drop down the menu item and highlight it with either the mouse or from the keyboard.

A configured user contains a picture of a little person next to the user's name. The color of the little person is significant, a green body indicates it's the name of the administrator, a blue body

indicates it's the name of the user currently assigned (through the "make icons" function) to the PC you are on, a red body indicates that it's a user that is not assigned to this PC and not the administrator, and finally a blue/green body indicates that the user is assigned to this PC and is also the administrator.

Whenever you select a different user name from the list, that user's sessions and connections are listed in the right window pane. A user's sessions and connections are displayed with a picture that gives you information about it. You may double click the mouse over a particular session or connection and this will perform a "Change Session..." or "Change Connection..." menu function.

Network Neighborhood View

The Network Neighborhood may be used to view the computers that have Microsoft Networking installed. Three sets of network computers may be viewed, all computers, successfully installed computers, and unsuccessfully installed computers. When one of these sets is opened, the network is scanned and a list of computers are displayed. Only computers that are currently powered on and connected to the LAN/WAN are displayed. By selecting a specific computer, a BLUES administrator can see what version, if any, is currently installed, and other information about the BLUES installation on that computer.

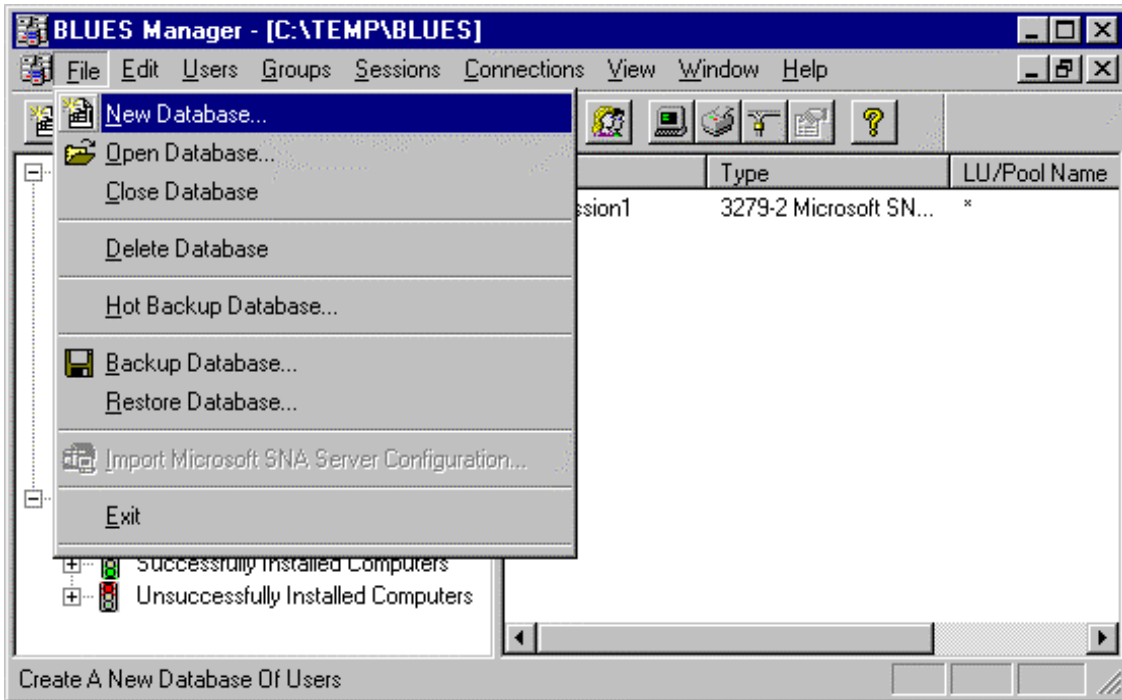
By placing the mouse pointer over a specific computer and pressing the right mouse button, the "Create Desktop Shortcut(s)" function may be performed. The "Create Desktop Shortcut(s)" function may be used to remotely install and configure the computer.

What Is Required To Configure A BLUES User ?

Before a specific user may communicate with a host system, the user must first be added to the BLUES database. The Manager lets you add users four different ways, you may elect to copy an existing user, import a Microsoft NT SNA Server user, import a Netware For SAA user, or import the complete Microsoft NT SNA Server configuration file. All four methods produce a new user and a number of display sessions, printer sessions, and host connections. Once a user has been added, sessions and connections may be added and deleted as desired. After All connections and sessions for a user have been configured, you **MUST** perform the "Create Desktop Start Menu" function on that particular users PC and the user is ready to connect to a host computer.

The Manager File Menu

The file menu is used to open, close, backup, and restore the DATABASE. In addition the Manager is closed from the File menu. The following sections describe what each menu item performs.



New Database...

This menu item will allow the creation of a new BLUES database. The name of the folder where the database will reside will have to be selected. New folders may be created from the same window that is used to select the folder. After the DATABASE has been created, new users may be configured. **Because the DATABASE consists of many separate files, it is suggested that a separate folder be used as the DATABASE folder.**

Open Database...

This option lets you open an existing BLUES database. After the database has been opened, you may modify it.

Close Database

This option will close the BLUES database that is currently opened. After the database has been closed users may not be configured until either a new database is created or an existing database is opened.

Delete Database

Warning - this option will delete the currently opened BLUES database. All configured users, configured user groups, and their associated configurations will be deleted. After a database has been deleted, a new or existing database will have to be opened before users may be configured.

Before deleting the BLUES database, you may want to backup the database for future reference. This is done from the File menu "Backup Database..." and described in the following sections.

Hot Backup Database

Each Blues configuration database may have a duplicate database associated with it. The duplicate database is known as a "Hot Backup Database". When BLUES emulation is launched, it will attempt to get its configuration information from the primary Blues database. If this fails, then an attempt is made to get the configuration information from the Hot Backup Database. This option is primarily designed for users who want to keep a centralized Blues database that includes automatic redundancy of the database. By keeping the primary Blues database on one file server and the Hot Backup database on another file server, Blues emulation will be able to retrieve its configuration if either file server is running.

The Blues Manager application is used to configure and maintain the two sources of configuration information. As you modify any Blues configuration information in the primary database, the Hot Backup Database is automatically updated. The Blues Manager also contains a synchronize function that ensures both databases contain the same configuration information.

How do I add a Hot Backup Database to my existing configuration ?

The first thing to remember is that unless you want to have a centralized Blues database that contains all your Blues users configurations, then it does not make sense to have a Hot Backup database because you probably have the Blues configuration stored on a local hard drive that is always available.

Once you have a Blues database stored on a server, then all you have to do is Open the database with the Blues Manager, select "Hot Backup Database" from the File Menu, then either browse for or enter the name of an **EXISTING** empty folder located on a second server where you want the Hot Backup Database to reside, and press OK. This will copy your existing Blues database to the new location. You must also ensure that the location of the Hot Backup Database has the same privileges that the primary Blues database has.

To activate the feature at the workstation, Blues emulation must be started at least once using the primary database.

Backup Database...

This option will save the BLUES database. The BLUES database is compressed into a single ZIP compatible file. The database should be periodically saved to avoid losing the BLUES database in the case of disk corruption.

Restore Database...

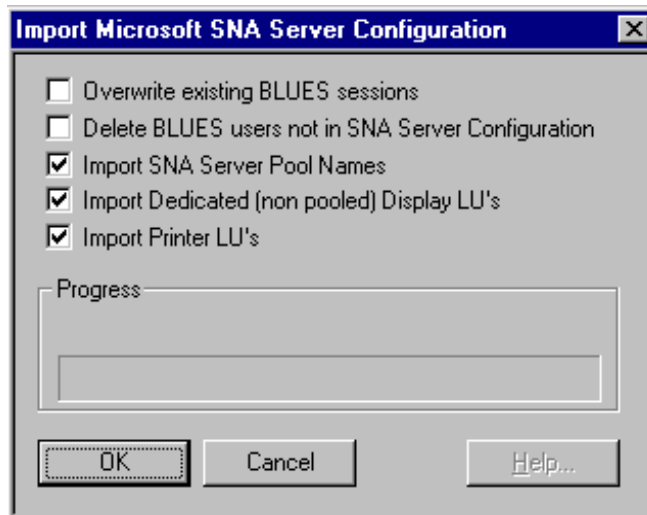
The restore database option will take an existing file created through the use of the backup database function and restore it. After the database has been restored, it will automatically be opened.

Import Microsoft SNA Server Configuration File...

This menu option will read the entire Microsoft SNA Server configuration file and create BLUES users, their terminal, and printer sessions. In addition, SNA Server groups will be added to the

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BLUES database to ease in maintaining users in the future. **This menu item is only available when the Manager is being used on the NT Server where the SNA Server has been installed.**



Overwrite existing BLUES sessions - when this option is selected, if a user that is configured in the Microsoft SNA server is already in the BLUES database, then all existing BLUES sessions configured for the user are deleted before any new sessions are added to the user.

Delete BLUES users not in SNA Server Configuration - when this option is selected, any BLUES user(s) already configured that are not configured in the Microsoft SNA Server will be removed from the BLUES database. This option lets you remove BLUES user(s) that have been already removed from the Microsoft SNA Server configuration file.

Import SNA Server Pool Names - when this option is selected, any SNA Server pooled LU's assigned to user(s) will be added to the BLUES database.

Import Dedicated (non pooled) Display LUs - when this option is selected, any dedicated display LU's assigned to user(s) will be added to the BLUES database.

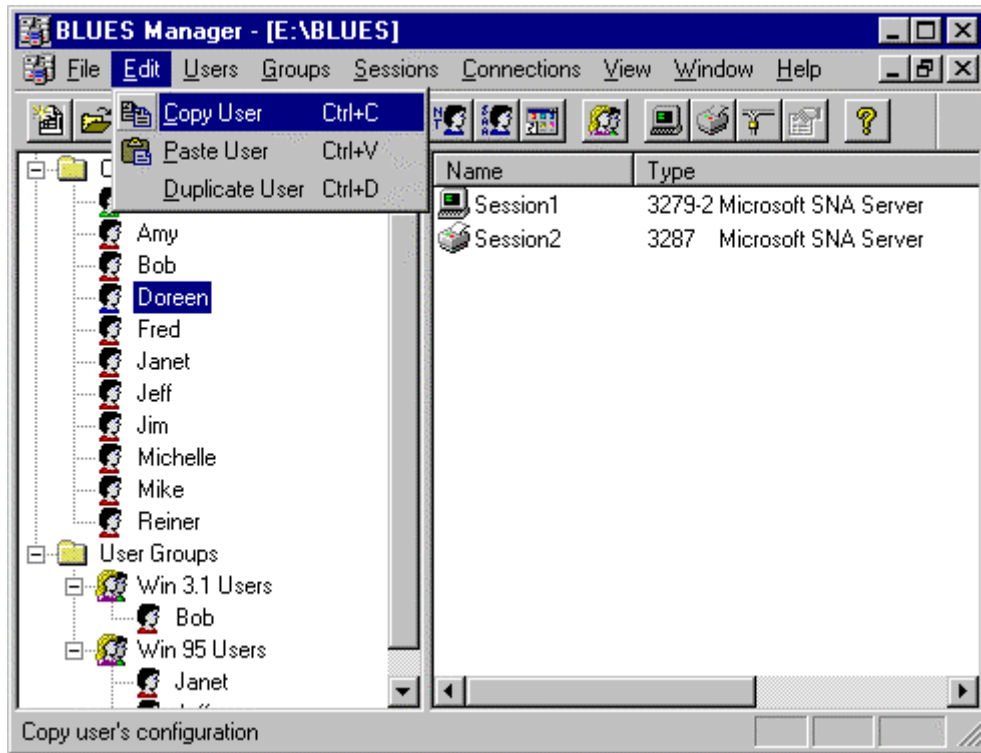
Import Printer LUs - when this option is selected, any printer LU's assigned to user(s) will be added to the BLUES database.

After all selections have been made, press the OK button and import will take place. While the import is being performed, the progress indicator will constantly be updated to reflect what is being done.

Exit

This menu item is used to stop the Manager and return to the program manager.

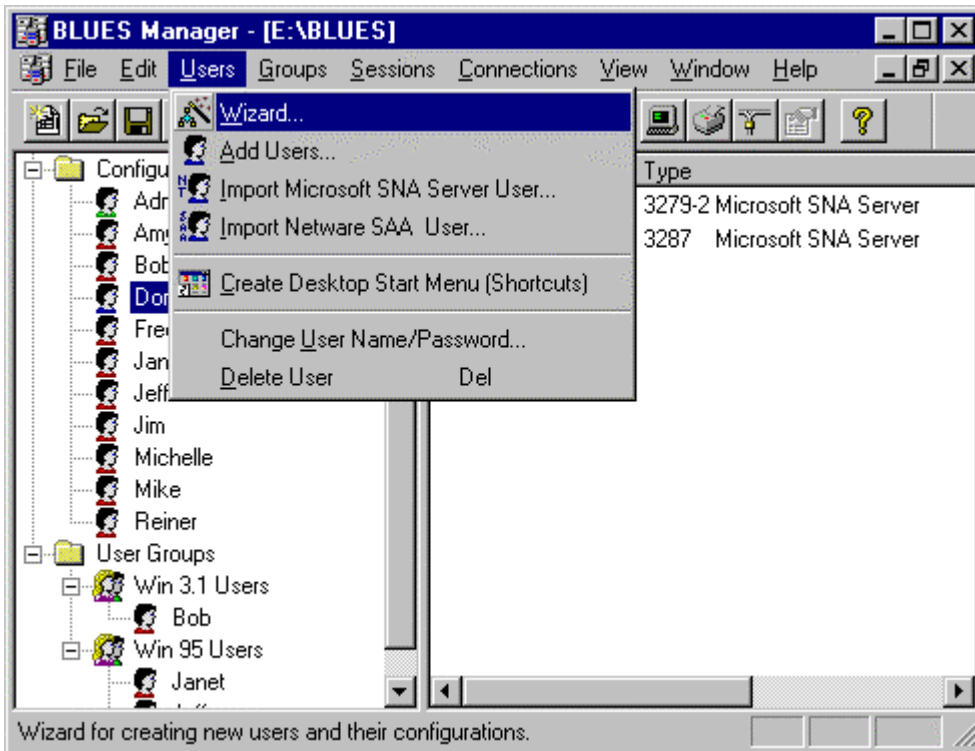
The Edit Menu



The edit menu makes it easy to duplicate existing configured users. A configured user may be copied and pasted by first selecting the user that will be copied, then performing a copy function. If you want to paste the users configuration over an existing configured user, then select that user and perform a paste operation. To duplicate an existing configured user, select the user, then perform a duplicate function. After the duplicate, you may enter the new users name.

The Users Menu

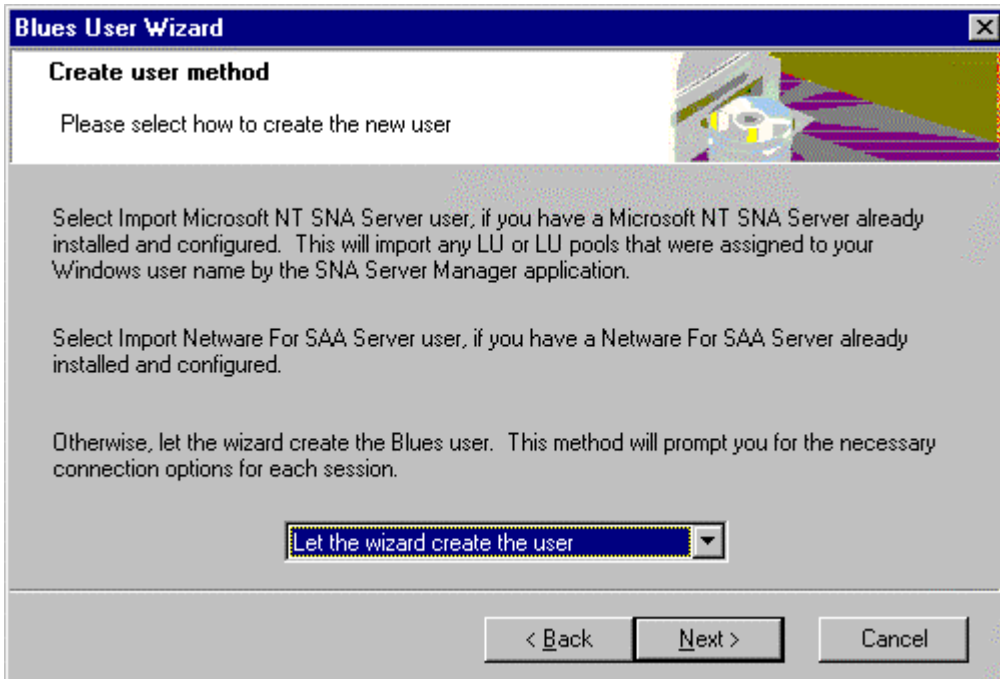
The menu items under Users contains functions for adding, changing, and deleting users from the database. In addition, you can change a users name and password, import a Netware For SAA user, import a Microsoft NT SNA Server user, and create desktop shortcut(s). The following sections describe each menu item.



The User Wizard

The first time that you start the Manager program, you will be asked if you would like to start the user wizard. If you happen to be using the Blues Manager on a NT Server which has the Microsoft NT SNA Server installed, then you will be asked if you want the Blues Manager to import the complete SNA Server configuration. Importing the complete SNA Server configuration greatly simplifies the configuration process by reading the SNA Server configuration file and creating matching Blues user's and their sessions. The configuration wizard may also be started from the "Users" menu.

The user wizard is a tool that simplifies the configuration procedure. The wizard will create a new Blues user, the user's configuration profiles, and the necessary desktop shortcut(s) for connectivity to your host. The wizard will guide you through the configuration process with a series of questions regarding your emulation requirements. You may select how the wizard creates a new user from the following window:

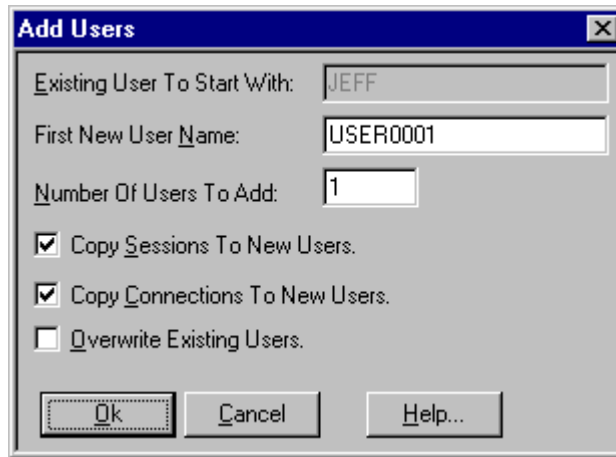


If you choose to have the wizard import an existing Microsoft NT SNA Server user, or Netware For SAA user, then you must have access to a Netware For SAA server or a NT SNA server. The import process will cause the wizard to query the appropriate server(s) to obtain the number and types of terminal and printer emulation that has been assigned to the Windows user name.

After the wizard has created the new Blues user, and a number of terminal and printer sessions you will be asked if you would like to assign the new Blues user the PC that you are currently on. If you choose yes, then a new Blues program group and program icons will be created. From these new program icons, you may access your host or midrange computer. If you choose no, then you may assign the user at a later time by using the "Create Desktop Shortcut(s)" menu item of the manager application.

Add Users...

Before selecting the **Add Users...** function, you may want to highlight an existing user that has a similar configuration of sessions and connections to the user you want to add. The add users dialog box looks as follows:



Add Users Dialog

The **Add Users...** function provides the administrator with the ability to configure large numbers of users all at once or add just a single user. When a user is added, you may copy an existing users profiles to the new user. By doing this you can configure many users with the push of a button, then assign each user name to a PC later with the "Create Desktop Menu Shortcut(s)" menu item. You may also use the **Add Users...** button to overwrite existing users profiles by selecting the "Overwrite Existing Users" option.

When session profiles are copied from another user, each session that is copied is evaluated to see what type of connection the session is configured for. If the session is configured for a pooled address, then the address is not changed. However if the session is configured for a dedicated address or a dedicated alias name, then the address is incremented and the LU alias name is also incremented. If you are using Netware For SAA, you may want to name your LU alias names (by using the CSCON program) in increasing order (like LU02, LU03 ...) so that you can use the **Add Users...** button to configure all your users at once.

Import Microsoft SNA Server User

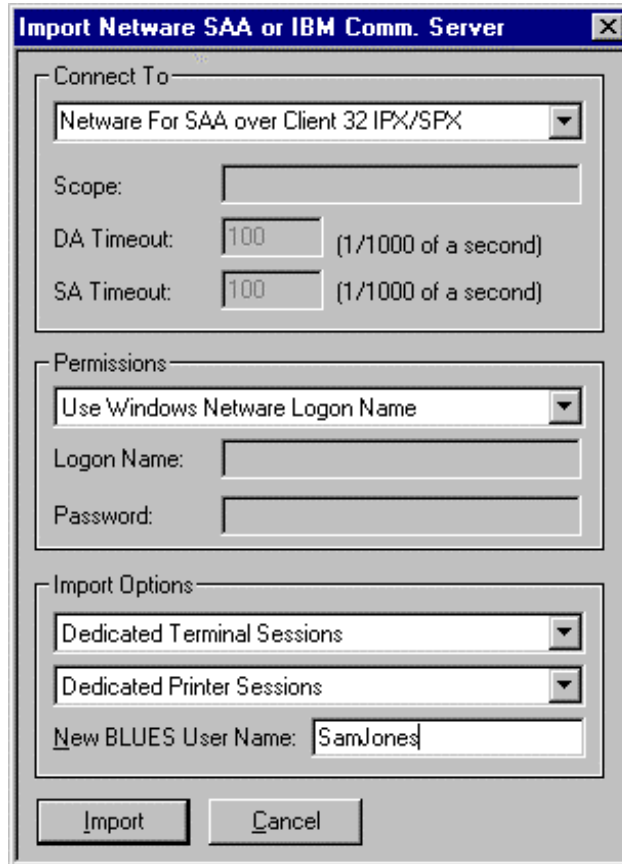
This menu item only pertains to you if you are using the Microsoft NT SNA Server as a gateway for BLUES sessions. This menu item is a convenient way of adding a user and all the users sessions in one step. To use this feature you must **first** configure your Microsoft NT SNA Server through the use of the Microsoft SNA Server Administrator program. Use the Microsoft Administrator program to Assign 1 or more LU's to the appropriate user. Once you have configured the user and the user LU's on the NT Server, you are ready to import the user into the BLUES. In order to use this menu item you must have your NT Server started and located somewhere on the local area network, in addition, you must have previously installed the Microsoft NT SNA Client software on the PC. For more details on these items see the appropriate Microsoft documentation. After selecting this menu item you may be asked for your NT user name and password if you have not already signed on. After you have selected this menu item the following dialog box will be displayed:



You must be signed on the NT Server with the name of the user that you want to import. If are not signed on as that person, then select the "LOGON..." button and do so. After you are signed on as the person to import, enter in the name that is going to be assigned as the BLUES user name. You may now press the "IMPORT" button. This will cause the Administrator program to query the NT SNA Server for all sessions that belong to the NT user you are signed on to the NT SNA Server as and automatically create the appropriate sessions. After all sessions are created you are returned back to the Manager main menu.

Import Netware SAA or IBM Comm. Server User...

This menu item only pertains if you are using Netware For SAA or IBM Communications Server as a gateway for BLUES sessions. This menu item is a convenient way of adding a user and all the users sessions in one step. To use this feature you must **first** configure your Netware For SAA or IBM Communications Server. **NOTE - If an LU is not assigned a specific user, then any user may use the LU. This may cause you to automatically add sessions that you may not want.** In order to use this menu item you must have your Netware SAA or IBM Comm. Server started and located somewhere on the network. For more details on these items see the appropriate Netware or IBM documentation. After you have selected this menu item the following dialog box will be displayed:



Netware SAA or IBM Comm. Server Connection Method

BLUES may be connected to either Netware SAA or IBM Communications Servers over either Novell IPX/SPX or TCP/IP. The "Connect To" selections determines which protocols are used to gain access to the server. If IPX/SPX is selected, then the Novell Client32 product must be installed on the PC. If TCP/IP is selected, then the Microsoft TCP/IP protocol must be installed. Novell Client32 is only required if the IPX/SPX protocol is going to be used.

When TCP/IP is being used, BLUES uses the Server Location Protocol (SLP) to find Netware SAA and IBM Comm. Servers. The SLP protocol allows for three configuration options, scope, DA timer, and SA Timer. Scopes are used to group servers, one or more servers may be assigned to a scope through the appropriate configuration utilities of the server. By specifying a scope, you may limit which servers LU's are obtained from. If no scope is entered, then the scope is said to be un-scoped and all servers will be queried. The two time out values are used to determine how long BLUES will wait for replies from valid servers in the scope during the SLP location process. For more information regarding these time outs, see SLP Load Balancing.

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You must enter the new name of the BLUES user that will be added to the BLUES database. After you have entered the necessary information you may press the Import button. This will cause the BLUES Manager to query all Netware SAA servers for sessions that may be accessed by the Netware user you have selected. After All sessions have been found (THIS MAY TAKE A FEW SECONDS) you are returned to the main menu with the new user name highlighted.

Change User Name / Password...

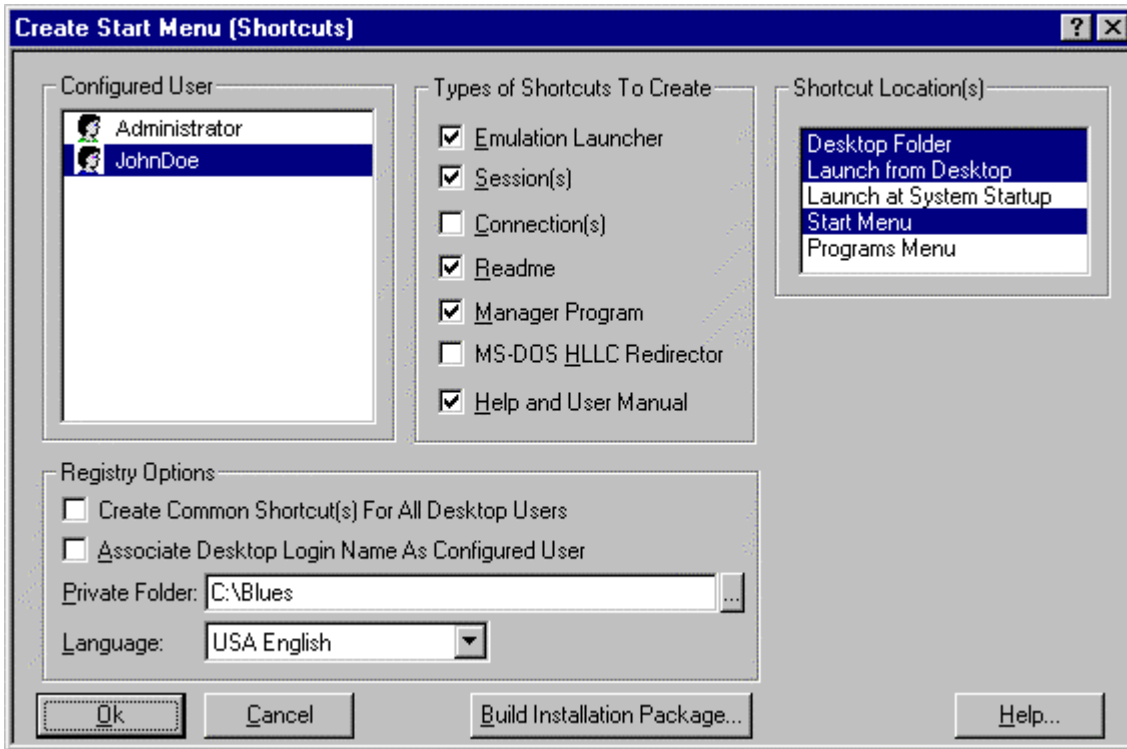
This menu item may be used to change the user name and password of whatever user name is currently highlighted. Each user may optionally be assigned a password. If no password is assigned, then the user will not be prompted for a password when the users sessions are started. If the administrator's user name is changed to anything other than "ADMIN", then whenever the BLUES Manager program is started it will require entry of the user name and optionally a password.

NOTE - If you change a users name that has already been assigned to a PC through the make icons function, then you must perform another make icons function after changing a user name to assign the correct user name to the PC. If you are on the PC that was previously assigned the old user name, then the BLUES Manager program will automatically update the INI file as part of the change user name / password function.

Delete User

To delete a user (and thus delete all the sessions and connections for that user) first highlight the name of the user with the mouse, then press the Delete key or use the menu item under the Users menu. The administrator may not be deleted, however any sessions or connections that the administrator may have configured may be deleted from the "sessions" and "connections" menus.

Create Desktop Start Menu (Shortcuts)



This window will delete the existing BLUES desktop shortcut(s) and create a new set of shortcut(s).

In addition, you may also create a BLUES installation package. An installation package is a self extracting Windows application that when run on another PC will completely install, configure, and start emulation without any operator intervention. This may be used to distribute BLUES via email, ActiveX, floppy diskette, CD rom, or over a browser.

In order to properly create the right number of terminal and printer sessions and to assign the desktop to a specific BLUES user, the name of the BLUES configured user must be selected before pressing the Ok button.

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When installing and configuring another computer, a useful technique is to select the "Create Common Menu For All Users" and the "Associate Desktop Login As BLUES User" options. Then create the BLUES database by configuring any Windows users who want to use BLUES 2000. When this technique is used, Any Windows user may use BLUES 2000 from any installed PC and get their individual BLUES settings from the BLUES database.i.e. when a user starts emulation, the BLUES emulator will obtain the Windows sign on name and use it to access the BLUES database for configuration information.

There are several different types of shortcuts. Each type of shortcut can be disabled from being created. By disabling a type of shortcut a user may be restricted from having access to a particular BLUES program. For example: by deactivating the Manager, a user will not have access to the BLUES Manager application.

Types Of Shortcuts

There are several different types of shortcuts. Each type of shortcut can be disabled from being created. By disabling a type of shortcut a user may be restricted from having access to a particular BLUES program. For example: by deactivating the Manager, a user will not have access to the BLUES Manager application.

The Lanucher shortcut is used to start all host connections and sessions from a single shortcut. When a user has more than one session configured, the Lanucher shortcut may be used to start all configured session from a single shortcut.

A Session shortcut allows a user to start a specific terminal or printer session without having to start all configured sessions.

A Connection shortcut represents a host physical unit connection and is only created when the DLC protocol is being used to connect to the host computer.

The Readme shortcut allows you to read a file that contains last minute changes to the BLUES product.

The Manager shortcut allows you to start the BLUES Manager application. You may want to remove this to restrict users from being able to start the Manager.

The DOS HLLC Support shortcut is used to start a HLLAPI redirector that redirects HLLAPI commands from MS-DOS applications to the BLUES Windows terminal sessions.

The Help shortcut may be used to view the BLUES online help system.

Shortcut Locations

Shortcuts may be created in a variety of locations. Each location is discussed below:

Desktop Folder - This option creates a BLUES program group directly on the Windows desktop. Once created, you may open the folder from the desktop by double clicking the mouse over the folder. The folder will contain a program icon for each of the types of shortcuts that are selected under shortcut types.

Launch From Desktop - This option causes a BLUES emulation launcher icon to appear directly on the Windows desktop. When the BLUES launcher icon is double clicked with the mouse, all configured terminal and printer sessions are started.

Launch At System Startup - This option causes a BLUES emulation launcher to be placed into the Windows Startup folder so that each time the PC is started, all configured terminal and printer sessions are started.

Start Menu - This option creates menu items directly in the Windows "Start" menu. Program icons for each of the types of shortcuts that are selected under shortcut types are created.

Programs Menu - This option creates menu items directly in the Windows "Programs" menu. Program icons for each of the types of shortcuts that are selected under shortcut types are created.

Registry Options

Each time BLUES emulation is started, the emulation needs to know where the BLUES database is located, where the users private folder is located, the name of the BLUES configured user to access the database, and the national language. This information is stored in the Windows registry. The Windows Registry contains two separate places for storing information, HKEY_LOCAL_MACHINE and HKEY_CURRENT_USER. The Windows NT operating system has the ability to have a different desktop for each Windows user. Each NT user has their own copy of HKEY_CURRENT_USER and this copy can follow them around a LAN\WAN as they sign on at a particular PC. Each PC has a unique HKEY_LOCAL_MACHINE set of parameters that is tied to a physical PC. The checkbox **“Create Common Menu For All Desktop Users”** determines if the BLUES information will be kept in the HKEY_LOCAL_MACHINE or in the HKEY_CURENT_USER area. If you want to tie a BLUES configured user name to a PC and let everybody who signs on to the PC to share that configuration, then select the “Create Common Menu For All Desktop User” feature. If you want a particular Windows NT user to be able to sign on to any PC on a LAN/WAN and have their own unique BLUES configuration, then you must ensure that the private folder is located on a network drive and that you do not select the “Create Common Menu For All Desktop User” feature. The Windows NT operating system can be configured to restrict write access to the registry. **It is imperative that write access to the registry not be restricted while the Manager is attempting to write into it.**

Use Windows Logon Name As BLUES User Name

This option enables the so called “wild user name” option of the BLUES. To properly utilize this feature, each BLUES user name must match the user’s Windows logon name. When a BLUES connection or session is started, it will obtain the Windows logon name and use it to access the necessary configuration information from the BLUES database.

This option lets a user (including a Windows 95/98 User) sign on to any PC on the WAN/LAN and automatically get the correct BLUES configuration for themselves.

Sessions are associated to a particular user based on the order that they appear in the BLUES Manager. For example, if JOHN has 2 display and 1 printer sessions assigned to him in the BLUES Administrator, and JOHN starts session1, the first display session profile will be used, session2 will be the second display session profile, and session3 will be his printer session profile.

If this method of using the Windows sign on name as the BLUES user name is used, then the BLUES private directory should point to a network directory that is different for each

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user. For Example if R:\BLUES is mapped to a network drive and directory that is defined to be a different location for each BLUES user, then each user's keyboard mapping, macros, and file transfer portfolios will automatically be available to the user regardless of which PC the user is using.

Private Folder

Each BLUES user requires a private folder that contains keyboard mapping files, translation table files, macro files, and file transfer portfolios. The BLUES Manager will check to see that the private directory exists during the "Create Desktop Start Menu" function. If the directory does not exist, or does not have any keyboard mapping files, then the Manager will create the directory and copy existing keyboard mapping files and translation table files from the BLUES installation folder into the private folder.

The private folder may contain environment variables that allow the private folder to be unique to whom ever is signed on. When the emulator is started, if the private folder does not exist an attempt will be made to create it.

Language

The Language setting allows the BLUES software to run in different languages. When the software is used in a different language, all menu's, message boxes, windows titles, etc. are displayed in that language. Language translations are available from specific distributors in various countries. You may contact product support to see if a particular language version exists.

Building Installation Packages

An installation package is a self-extracting Windows application that when run on another PC can completely install, configure, and start emulation without any operator intervention. A package is created by compressing all necessary software files, configuration files, and instructions on how to deliver it into an installation program. When the program is run from Windows, it uncompresses itself per the included instructions. The Blues ActiveX control may also be used deploy and maintain the package.

A package may be used to distribute a pre-configured copy of Blues 2000 via email, ActiveX, floppy diskette, CD-ROM, or over a browser. A package may also be used as a tool to upgrade PCs with a newer software release of Blues 2000 while leaving their existing configuration unchanged.

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If you are going to include configuration information in a package, you must first create your desired configuration(s) from the Blues 2000 Manager. This means you create a Blues 2000 database that contains all necessary Blues 2000 users and create each users terminal and printer sessions.

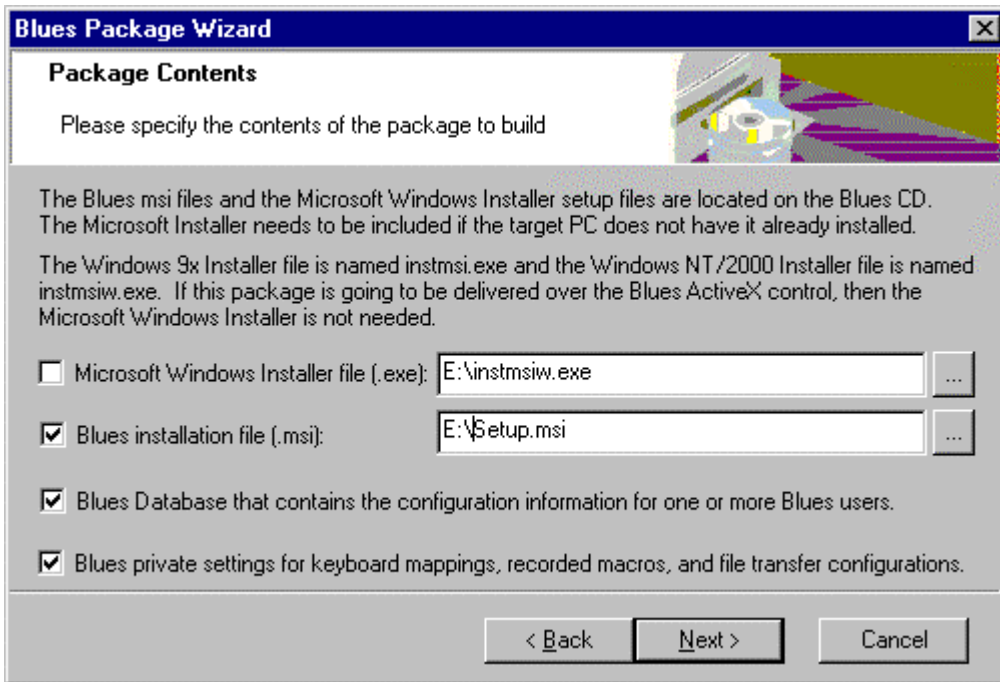
Before building a package, select the appropriate options from the "Create Start Menu (Shortcuts)" window that indicate where Blues 2000 will appear on the desktop, which shortcuts to create, common desktop option, associate Windows logon name, etc.

The installation package wizard guides you through the package creation process.

The wizard will let you decide what you want contained in the package.

If you select to create the package on floppy diskette, you will need from 1 to 10 formatted diskettes to store the package on. The exact number of diskettes will vary depending on what is placed in the package.

Package Contents



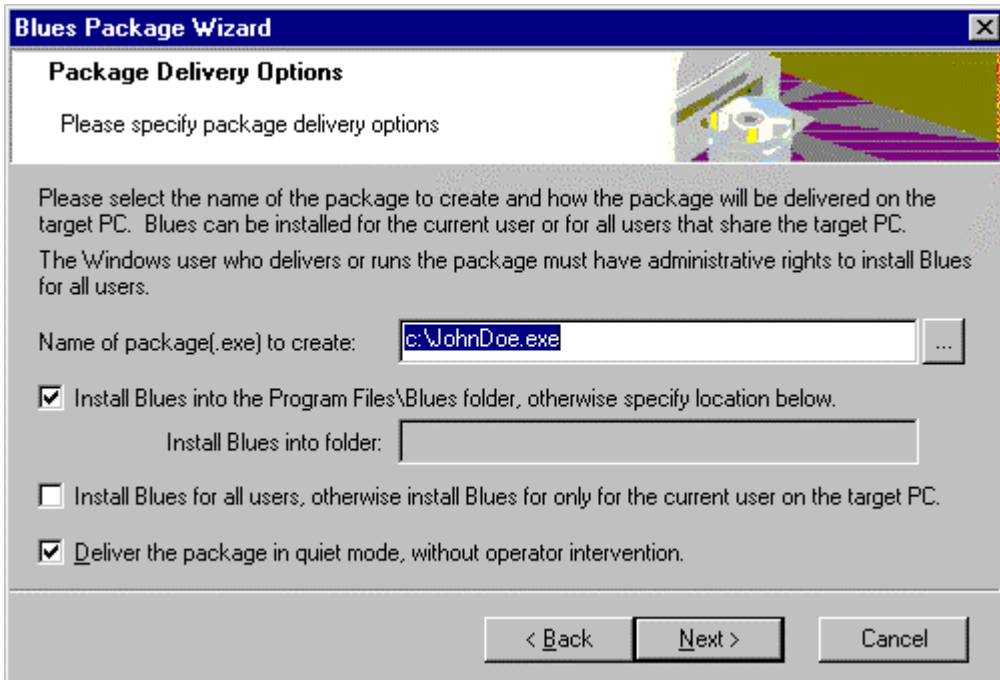
The package may include the Microsoft Windows Installer, the Blues software, the Blues database, and the Blues private settings. The Blues software installation is located on the Blues CD. To have the Blues software install properly, a PC must have the Microsoft Windows Installer product already installed. The Microsoft Installer setup application comes in two versions, one for Windows 95/98 and one for Windows nt/2000. If the Blues software is going to be included in the package, then it must be decided if the Windows Installer is already installed on all PC's that will

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have the package delivered. If the Windows Installer is not present on all computers, then add the correct file to the package so that it is delivered before the Blues software is delivered.

The Blues database may be included in the package. It contains every Blues configuration option except a user's private settings. The private settings are stored in separate files in a given users private folder. The Private files include the keyboard mapping files, the file transfer schemes, and any previously recorded macro files.

Package Delivery Options



The Package Delivery Options describe how a package gets delivered. The name of the package should end in the .exe file extension. This is the package that gets created. If Blues is included in the package, then it will install itself on the target PC in the Program Files\Blues folder. To override the default software installation folder, uncheck the option and enter the complete name of the folder on the target PC where Blues will be installed. I.e. c:\blues

The Blues software may be installed only for the user who delivers the package, or for everybody who uses the PC. Administrative privileges are required to install a software product for everybody who uses a PC.

The Deliver Package in Quite Mode” option may be selected to create a package that requires no operator input during its delivery.

After excepting the licensing agreement, the package will be created. The necessary Windows installer files, configuration files, and private settings files will be compressed into a single .exe file.

For details on using ActiveX to deploy Blues Emulation, see the ActiveX section of this manual.

The Groups Menu

The groups menu selections manage groups of configured BLUES users. Configured users may be added to one or more groups for subsequent management. The “Copy Session Settings” menu command (under the Sessions menu) can be used to add or modify session settings that belong to a whole group. For example: a terminal session can be added to everybody in a group or a particular menu item can be removed from all terminal sessions that belong to a group of users. The ability to group users together is a powerful feature that can help the administrator manage large numbers of users.

New Group...

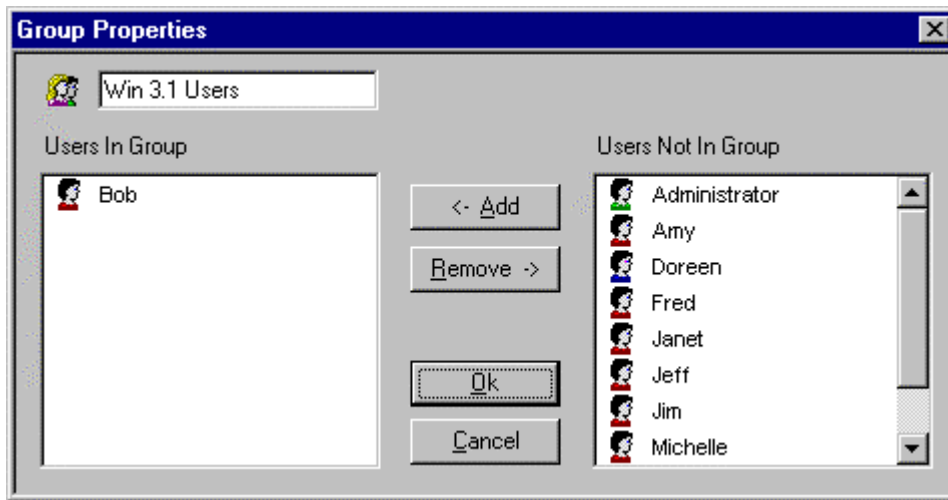
The New Group menu item creates a new group of BLUES users. After this menu item has been selected, you must enter the name of the group. The name of the group may be changed at any time by using the Group properties menu item or by clocking the mouse over the group name in the main Manager window. After the group name has been entered, press the enter key and the group properties windows will be displayed. The group properties window is described in the following sections.

Delete Group

Groups may be deleted by using this menu item. The group name must first be selected with the mouse before this menu item may be selected. A group may also be deleted by selecting the group name with the mouse and pressing the DELETE key. When a group is deleted, only the group association is deleted, the actual configured users are not deleted from the BLUES database. **To remove a user from a group the group properties menu item must be used.** To delete a configured user, select the user name you want to delete and press the DELETE key.

Deleting a configured user will automatically delete the user from any groups that the user belongs to.

Group Properties



The group properties windows is used to change the name of the group, add new members, and delete existing members from the group. The left portion of the windows contains a listing of the configured users that currently belong to the group. The right portion of the windows contains a list of the configured users that do not currently belong to the group. The group name appears at the top of the windows and may be changed as desired. To add a new member to the group, simply select the user from the list and press the Add button. To remove a member from the group, simply select the user from the group and press the Remove button. One or more user names may be added or removed at once. When the group contains the names of the configured users that is desired, press the Ok button.

The Sessions Menu

The sessions menu provides you with a set of functions used to manage a users sessions. Before selecting any of these menu items you must first highlight the name of the user that you want the menu item to take affect on. The following sections are presented in the same order as they appear on the menu.

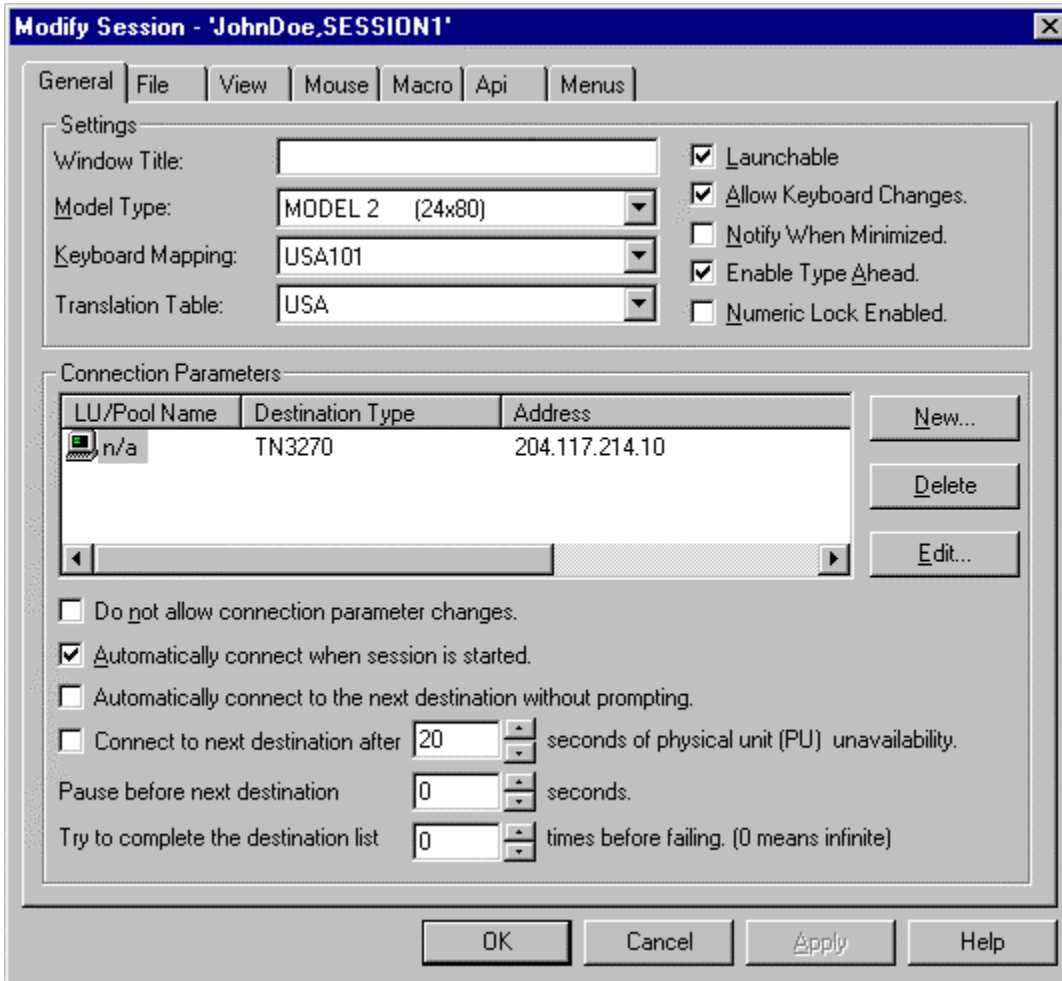
Add Terminal Session...

Add Printer Session...

These three menu items are used to add sessions to a particular user. To add any type of session, first highlight the user name that you want to have assigned the session, then perform the add menu function. A terminal session will act a host display window, a printer session will act as a host printer window.

The following dialog will be displayed to add a terminal session. The dialog for adding a printer session contains a subset of the terminal dialog. The Printer dialog also contains configuration options for host formatting and margins, for details on these options see the printer section of this manual.

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When you add or change a session, you will be switched to an appropriate configuration window which will allow you to define the default values for the session's key 'profile' parameters. The set of all the connection and operational options selected for running a BLUES 2000 session is known as the session's 'profile'. The session profile is broken down into several categories that are represented by tabs at the top of the window. By selecting the appropriate tab you may change a sessions profile.

The general tab offers options for configuring how the session is connected to the host, how the keyboard mapping is configured and how information is translated to and from the host. The following sections describe each option:

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Window Title

The window title field allows the customization of the session windows title bar. In addition, the window title field will be displayed under the program's icon or to the right of the program icon if viewed from the Start menu.

If no name is entered in this field, then the default title of 'BLUES Terminal' or 'BLUES Printer' will be used.

Model Type

Specifies the default device model number, 2, 3, 4, or 5. Each model type has a different number of lines and columns. The host computer may override this option.

Keyboard Style And Mapping

Allows you to select one of the BLUES 2000 product 'keyboard definition' files to map keystrokes at the PC to data characters and command functions used for emulation, depending upon what international language Windows will be running under at the PC, physical keyboard size, etc.

A keyboard definition file contains information about a particular keyboard type, and the mapping of the keys. For example, the following base default keyboard definition files are provided with BLUES 2000

usa84.kbd	-	USA 84-key keyboard
usa101.kbd	-	USA 101-key keyboard
usa101.vt.kbd	-	USA 101-key keyboard for DEC VT emulation
usa122.kbd	-	USA 122-key keyboard
uk102.kbd	-	UK 102-key keyboard
sp102.kbd	-	Spanish 102-key keyboard
ger102.kbd	-	German 102 key keyboard
ger102.vt.kbd	-	German 102 key keyboard for DEC VT emulation
ger122.kbd	-	German 122 key keyboard
ger122.vt.kbd	-	German 122 key keyboard for DEC VT emulation

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greek101.kbd	-	Greek 101 key keyboard
fr102.kbd	-	French 102 key keyboard
it102.kbd	-	Italian 102 key keyboard

See **Keyboard Mapping** under **The Settings Menu**, in the Display Emulation section, for instructions on how to re-define keystroke mappings within one of these keyboard definition files, create a new keyboard definition file, etc.

ANSI/EBCDIC Translate Table

Allows you to select one of the BLUES 2000 product 'translation table' files for host to PC and PC to host character code translations, depending upon what international language Windows will be running under at the PC.

As of the current revision of this document, one of three base default translation table files is used, as follows:

usa.xlt	-	USA, and all others not defined below
uk.xlt	-	UK
sp.xlt	-	Mexico, Spain, and Portugal
german.xlt	-	German
italy.xlt	-	Italian
spain.xlt	-	Spanish
fr295ans.xlt	-	French code page 295
greek423.xlt	-	Greek code page 423
greek875.xlt	-	Greek code page 875

Under special conditions, the translation tables found in these base default files can be changed using a standard PC file editor, but this is rarely necessary.

Launchable

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When selected, this feature allows the session to be started by the "Launch BLUES" ICON. The "Launch ICON" is a simple and fast way of starting a complex array of host terminal sessions, host printer sessions, and host connections by selecting a single Windows Icon.

Allow Keyboard Changes

If the administrator does not want to allow the operator of the display session to modify the keyboard file, then disable the "**Allow Keyboard Changes**" check box with the mouse.

Notify When Minimized

This option controls whether or not the terminal emulator will notify the operator when the host screen has changed when the terminal window has been minimized.

Enable Type Ahead

Specifies whether the type ahead option will be enabled. Type ahead lets you type several host screens ahead. Keyboard input is maintained in a 255 key queue that is maintained by the display session.

Connection Parameters

Each session can have one or more destinations configured. A destination is set of connection options that tell the session how and where to connect to your host computer. The first destination in the list is known as the primary destination. The primary destination is the destination that will be used first after you start a session. Alternate destinations can be configured to be automatically switched to if the primary destination can not be made or is lost. To add new destinations you must press the Add Dest button. To remove an alternate destination, you will have to select the alternate destination you want to delete and press the Delete Dest. Button. If you want to have the session automatically switch to an alternate destination you will also have to select the **Automatically connect to next destination without prompting** checkbox. The time between loosing or not establishing a connection and switching to the next destination can be configured in the **Pause between destinations** option. This time value is given in seconds and represents the time to wait between connect attempts. Each session can also be configured to try to connect to all configured destinations a given number of times before giving up. This is done by selecting the **Try the complete destination list x before failing** option. If you select a value of 0 for this option, then the session will continue to attempt to connect until it is successful or you close the session window.

Destination Type

The BLUES 2000 product supports a number of vendors' communication gateways. Select the gateway type to be used by clicking the mouse over the destination type field and selecting a type from the popup menu.

LU Alias

The LU Alias specifies a particular host configured terminal device, or printer device, for your session. The LU Alias may be changed by clicking twice with the mouse pointer over an existing LU Alias.

The definition of LU Alias can vary, depending on the type of destination that is selected.

Microsoft NT SNA Server LU Alias

The LU Alias field may either be a specific LU name, a name of a pool of LU's or may be a so called "Wild LU". Specific LU's and LU pool names are the same names as those created with the Microsoft NT SNA Server Manager program.

A "Wild LU" is selected by entering a single '*' character in the LU Alias field. When a "Wild LU" is selected, the BLUES software will query the SNA Server before it selects which LU to attempt to connect to. Due to how the Microsoft NT SNA Server Manager gives permissions to users or groups of users, the "Wild LU" can be used to insure that whomever is signed on to Windows will connect to their LU or LU pool. **In Addition, if an NT SNA Server LU name is changed or a NT SNA Server user gets assigned to a different group by the Microsoft NT SNA Server Manager, then the BLUES software will automatically connect to the right LU without having to be configured.**

When the "Wild LU" has been configured, the session selects which LU to use by first getting a list of LU's from the NT SNA Server that are assigned to the user currently signed on to the Workstation. Each BLUES session will then select the LU from the list based on it's order. Display sessions are always first. If you had 2 terminal and 1 printer sessions configured in the BLUES, then the first session would connect to the first terminal session in the list and the second display session would connect to the second terminal session. The printer session would connect to the first printer session in the list.

BLUES Connection LU Alias

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This name uniquely identifies an LU associated with a BLUES connection or may be a single "*" to indicate a pooled LU. Only display sessions may be pooled LU's.

An LU Alias may also be assigned to a session by configuring a BLUES connection and selecting the LU Assignments tab.

Netware SAA or IBM Comm. Server LU Alias

If you are using Netware For SAA or IBM Communications Server, this is the name of the logical unit defined in the gateway. A single "*" indicates that you don't care which LU to connect to. In this case the first available LU is acquired when the session attempts to connect to the server.

When configuring the server, groups of LU's can be given a "pool" name. When pooling is being used, the LU POOL field contains the name of the pool to select an LU from.

When configuring Netware SAA and IBM Communications Server sessions, three major settings determine which LU will be acquired: (1) Server Name or IP Address, (2) Link name, and (3) LU name or LU pool name. Server permissions are also required for the specified LU to be successfully acquired.

You must press the Advanced button and configure more Netware For SAA or IBM Communications Server options to properly configure the LU session.

TN3270E LU Alias

The LU Alias in the TN3270 environment only has meaning if your TN3270 server supports TN3270E. If your TN3270 Server supports TN3270E, then the LU Alias field is used during the connection process to either associate a printer with a display session, or to specify a specific LU or LU pool to use. As part of the TN3270E connection negotiation process the LU Alias may be used as the "Device-Type".

You may select to not use the LU Alias, or Associate the LU Alias name with a printer session, or use the LU Alias as a specific name or pool name by selecting how to use the LU Alias from the list box under the Advanced options.

TN3270, TN5250 and DEC IP Address Or Host Name

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The IP Address or Host Name field lets you enter either a well formed TCPIP address or enter a symbolic name. This field must contain the TCPIP address or name of a TN3270 Server, TN5250 Server, TCPIP host, or AS400. Well formed IP Addresses are in the form a.b.c.d, where the letters a,b,c, and d are decimal numbers between 0 and 255.

If you have already configured other LU's for TCPIP, then you may use the Browse button to select any address or name that you have already configured.

The **Telnet Port** may be changed from the default of 23 to some other value. The telnet port must match the port you have configured at the TN3270 Server, TN5250 Server, TCPIP host, or AS400.

Enable Keep-Alives

Keep-alive messages are packets that are sent and received to verify that a connection is still in place. They add network traffic and may slow down the network as a whole. If keep-alives are not enabled then the terminal or printer session may not become aware of loss in communications until the next time a transmission is attempted.

Security Options

Security options enable the secure socket layer, which is know as SSL. SSL has become the industry standard for providing security over TCP/IP connections. This feature is available when connecting Blues through TN3270, TN5250, and DEC VT emulation. The host or server must also support SSL Version 3 for security to function properly. When a Blues session connects over SSL, the encryption method (cipher suite), server certificate (if any), and client certificate (if any) are exchanged. The certificates are used by the server and the Blues session to verify that the other party is not being impersonated.

When a Blues terminal or printer session is sending and receiving secure data, a small lock symbol is displayed on the window status bar. When the operator double clicks on this lock symbol, the details of the SSL connection will be displayed.

Conect Using Secure Socket Layer (SSL V3)

This checkbox should be checked to enable SSL. This option is only available if the version of Blues contains the SSL software. If this option is not checked, then the SSL handshake is not attempted and data transferred between Blues and the host is not encrypted.

Verify server certificate

This option determines if the Blues session should attempt to verify the server certificate that it received during the SSL handshake sequence. If this option is selected and the server certificate fails to verify, a window displaying the cause and the certificate information will be displayed.

Send client certificate to server

Each Blues session can be configured to send an SSL certificate to the server during the SSL handshake sequence. Certificate files must be copied or installed into the Blues software folder before they may be selected for transmission. Certificate files must be in the Binary DER data format. Servers typically provide a key utility that creates certificates and exports the certificate to a DER file. Once the certificate has been exported, it must be copied into the Blues software folder. Only certificate files that end with the ".der" file extension will be available to select.

The "Client Certificate" entry may be used to select any .der certificate file located in the Blues software folder.

SLP Load Balancing

SLP load balancing may be used to locate Telnet servers belonging to a particular pool of LU's and connect to the least used server. When SLP Load Balancing is enabled, the TN3270 IP address and port number are obtained dynamically during the connection process. The SLP protocol is defined in the ISO RFC 2165 specification named "Service Location Protocol". The specific SLP definition for 3270 use is defined in the ISO specification named "TN3270E Service Location and Session Balancing".

When a Telnet server that supports SLP is configured, options exist for (1) a **scope name**, and (2) one or more LU **pool names**. Scope names are optional, and if they exist, allow LU pool names to be grouped. Each Scope may be comprised of 1 or more LU pool's. Scopes are typically used to separate LU pools by the same name that are located at different physical locations and thus allow emulators to connect to LU's that belong to a specific (scope) physical location(s).

The **DA Discovery time-out** value is used to control how long a BLUES session will wait to discover Directory Agents (DA's) in a network. The discovery request is a multicast, and the amount of time required to gather all DA responses vary depending on many factors. If there are no DA's in the network, this time-out value can be set to zero to indicate that no DA discovery is

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to be done. The time-out is expressed in milliseconds (1/1000 second). The default value is 100 or one tenth of a second. If Telnet servers are located over a wide area network (WAN), then this value should be increased to accommodate the time required to receive responded over the WAN.

The **SA Multicast time-out** value is used to control how long a BLUES session must wait to discover the particular load on each server in a network without at least one DA that supports the scope of the request. In this situation, these requests are multicast a BLUES session waits the time-out value to gather the multiple responses that are returned. The time-out is expressed in milliseconds (1/1000 second). The default value is 100 or one tenth of a second. If Telnet servers are located over a wide area network (WAN), then this value should be increased to accommodate the time required to receive responded over the WAN.

TN5250 Session Settings

IP Address or Host Name of AS/400: 204.117.214.10 (Browse...)

Telnet Port: 992 (default 23 or 992 with ssl)

Enable Keep-alives

Security Options:

- Connect using Secure Socket Layer (SSL V3)
- Verify Server Certificate
- Send client certificate to server

Certificate: cert.der

TN5250E Options:

AS/400 User Name and Password Encryption Options: Do not encrypt AS/400 user name and password

AS/400 Device Name Options:

Device Name: (optional)

If Device is in use, add 1 to the Device Name and retry

Current Library: (optional)

Initial Menu: (optional)

Pgm. To Start: (optional)

Buttons: OK, Cancel, Help...

AS/400 User Name And Password Options

This option determines if BLUES should encrypt the AS/400 user name and password. When this option is selected, BLUES will encrypt the AS/400 user name and password before sending it to the AS/400. If the AS/400 accepts the encrypted user name and password, the initial signon screen is bypassed and the main start up screen is displayed.

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You may choose to not send the encrypted user name, in which case the AS/400 will be the first screen displayed by the AS/400. When more than one session have been configured to connect to the same IP address or DNS name, you may either choose to always prompt for the AS/400 user name and password, or you may choose to have BLUES only prompt for the user name and password from the first session that attempts to connect, subsequent AS/400 connections will use the same user name and password.

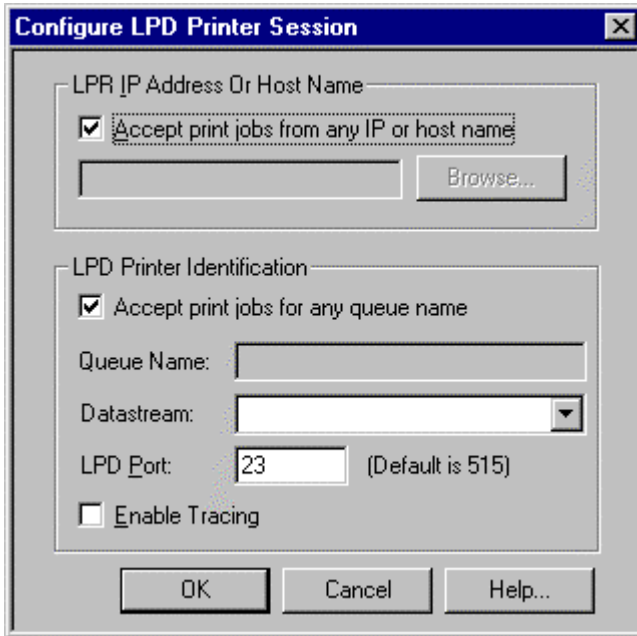
AS/400 Device Options

The device options determine which device on the AS/400 that BLUES will connect to. If the device does not exist, it is automatically created on the AS/400 (providing permission has been granted by the AS/400 administrator). Optionally, if a specific device is in use by another user, BLUES can be configured to add 1 to the device name and try to connect to a new device name. The session will keep adding 1 to the device name until the device name ends in 999 or until the connect succeeds.

The "Current Library", "Initial Menu", and "Pgm. To Start" options may be selected to cause the AS/400 to configure the device name with these options. See the appropriate AS/400 documentation for details on the meanings of these fields.

Printer sessions may be configured for the AS/400 Message Queue name and the AS/400 Message Queue Library. See the appropriate AS/400 documentation for details on the meanings of these fields.

Line Printer Daemon Configuration



Accept print jobs from any IP address or host name

This option is used to indicate if the printer session should accept print jobs from only a specific host or accept print jobs from any host. When selected, any print job sent to the PC's printer queue name (see ??? below) will be printed by the session. If this option is not selected, then the printer session will only print requests from a specific IP address or host name. The IP address or host name may be entered when this option is not selected. The IP Address or Host Name field lets you enter either a well formed TCPIP address or enter a symbolic name. This field must contain the TCPIP address or name of a Line Printer Requester (LPR), TCPIP host, or AS400. Well formed IP Addresses are in the form a.b.c.d, where the letters a,b,c, and d are decimal numbers between 0 and 255.

LPD Printer Identification

The identification parameters must uniquely identify the printer to any line printer requester (LPR) that may want to print to it. Each printer session may be configured to receive print jobs addressed to any printer queue name, or it may be configured to only accept print jobs for a specific printer queue name. By configuring multiple BLUES LPD printer sessions, each one having a different printer queue name or specific IP, you can determine which print jobs are printed by which BLUES printer session.

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A BLUES LPD printer session can accept either the SCS datastream (from IBM mainframe/midrange) or the binary ASCII datastream. Ascii data is sent directly to printer device driver and is assumed to be print ready data which contains the necessary printer escape codes to drive the printer. Jobs printed with SCS type, are translated from the EBCDIC code set to the Ansi code set as described under the ANSI/EBCDIC Translate Table section of this manual.

When printing from an **AS/400** host, it is best to configure the SCS datastream and specify the following options in the `sndtcpsplf AS/400` print command:

`desttyp (*other)`

`transform (*no)`

`prtq (*queue name)` - put in the name of the configured printer queue name.

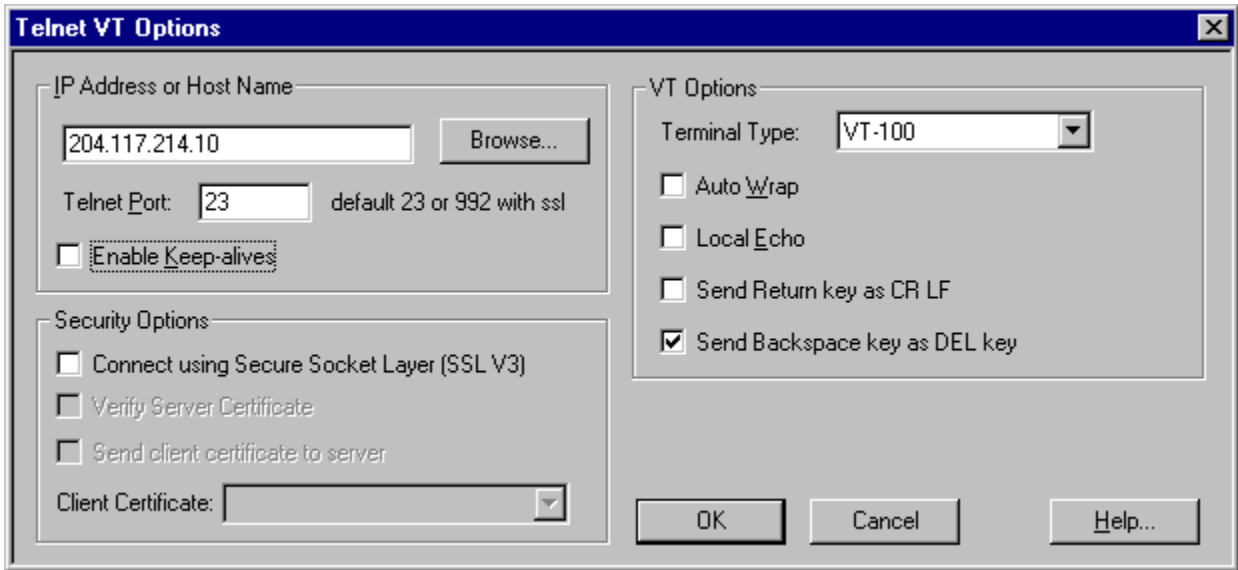
`rmtsys (*pcip)` - replace with the remote PC name where BLUES printer is.

For more information on using the AS/400 `sndtcpsplf` consult IBM document `sc-41-9875` (Transmission Control Protocol/Internet Protocol Guide).

The LPD port defines which TCP/IP port the BLUES line printer daemon will use. The line printer daemon will constantly monitor this port, receiving any print job that may be sent to the port. The standard LPD port is 515. If your host LPR configuration does not let you configure the LPD port, then it will use port 515.

The trace feature may be activated for problem resolution, should one be encountered. When this feature is activated, a trace file called "Port515.trc" (assuming the LPD port is 515) is produced in the BLUES private folder. Trace files and problem reports may then be emailed to us for problem resolution.

DEC VT Advanced Options



The IP Address or Host Name field lets you enter either a well formed TCPIP address or enter a symbolic name. This field must contain the TCPIP address or name of a telnet Server. Well formed IP Addresses are in the form a.b.c.d, where the letters a,b,c, and d are decimal numbers between 0 and 255.

If you have already configured other LU's for TCPIP, then you may use the Browse button to select any address or name that you have already configured.

The **Telnet Port** may be changed from the default of 23 to some other value. The telnet port must match the port you have configured at the telnet Server.

VT Terminal Type

This option determines the model of DEC terminal emulation that the session will emulate. This setting should match the TERMTYPE environment variable on the telnet server so that the VT functions keys will function properly. Blues will notify the telnet server of this terminal type by

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sending the following strings to the server as part of the initial connection to the server: "VT-52", "VT-100", and "VT-220".

Auto Wrap

When this option is enabled, any text received that extends past the end of a line will wrapped to the beginning of the next line.

Local Echo

When this option is selected, all keyboard entry is not only sent to the telnet server, it is also echoed back to the terminal.

Send Return As CRLF

The return key may be configured to generate either a carriage return or a carriage return and line feed character. When this option is selected, the return key will send a carriage return and a line feed to the telnet server.

Send Backspace as DEL Key

The backspace key may be configured to either send the backspace code or the delete code to the telnet server. When this option is selected and the backspace key is pressed, a delete code is sent to the telnet server. When this option is selected, it usually causes the backspace key to act destructively and erase the character located at the cursor location.

Do Not Allow Connection Parameter Changes

When this option is selected, the connection parameters may not be altered from either the terminal or printer session window. This option lets an administrator lock a particular session's connection options so that the Blues user may not modify them.

Automatically Connect When Session is Started

Specifies whether or not this session should automatically establish connection to the host upon being started.

Automatically connect to next destination without prompting

This option may be used to have a session automatically try to connect to another destination whenever a connection can not be established. If no other destination is configured, then the session will try to connect to the primary destination again after a failed connection attempt. If this option is not selected and a connection attempt fails, then the session will prompt the user for the connection options before a connection attempt is done.

Connect to next destination after x seconds of PU inactivity

This option may be used to cause the session to disconnect and then reconnect to the next destination (if one exists) or back to the primary destination when the session detects that the physical unit that is it connected to is not active. A link failure on a server may cause a session to become unusable. When this happens, it may be possible to connect to another server to gain access to the host.

This option is also useful when using the Microsoft SNA Server with LU pooling and load balancing. When more than one PU connection is configured in an SNA Server that is also using LU pooling, then this option may be used to disconnect from the LU pool when the PU is inactive (link failure), then reconnect to the same LU pool to gain host access. The SNA Server will connect the session to the PU that is active and not to the one that is inactive.

Pause before next destination x seconds

This option is only valid when the "Automatically connect to next destination without prompting" option is selected. This option determines how many seconds to wait before either trying to connect to the primary destination or the next destination following a connection failure.

Try to complete the destination list x times

This option is only valid when the "Automatically connect to next destination without prompting" option is selected. It determines how many time to try to connect to the host before giving up the connection attempt. When this value is set to zero, then the session will continually try to connect to a destination.

Edit Destination

The Edit button will let you configure the necessary options required for the session to connect to a gateway. Depending on what type of connection you have specified, you will be prompted with

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the appropriate set of connection options. The following sections contain all possible advanced options:

Connection Name

Specifies the name of the communications gateway as installed on your network. (Multiple gateways may be installed on your network.) If you are using a NSI BLUES 2000 connection, then select the same name that you configured for the host connection name. If you are using a Harris or Lanier gateway, then enter the workgroup name here (usually SUPERNET). If you are using Netware For SAA as the gateway type, then this is the name of the Novel file server where the Netware For SAA is located. You may use the BROWSE button to look for Newhart Systems Inc. and Novel types of gateways.

PU Name

This field is available when you have selected to connect to an Eicon Technology connection type. This field is required and must match the name of a Eicon Technology "NODE NAME". This name will be assigned with the "ecsna config" Eicon configuration utility. For more details you should consult your Eicon Technology manuals.

Port Number

This field is available when you have selected to connect to an Eicon Technology connection type. This field is required and must match the port number assigned with the "eccard config" utility. For more details you should consult your Eicon Technology manuals.

LU Address

This feature is only valid if you selected a BLUES connection or an Eicon Gateway connection type. You may select either a dedicated Logical unit address or select pooled if you wish to connect to a pool of lu's. By pressing the FIRST and NEXT buttons the Manager (BLUES Connection Type ONLY) will automatically obtain either the first or next available logical unit address that is not currently configured.

Link Name

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When connecting to Netware SAA or IBM Communications Server, this is the name of the link (or Physical Unit) configured at the server. You may either specify a specific link name or select to use any available link name. When the "any available link" option is selected, BLUES will query the SAA server for the name of a valid link to connect to.

LU Group

This option is only available if you selected Netware For SAA. If you are using POOLED LU's, then enter the name of LU POOL that you defined with the Netware CICON program. If you leave this field blank, then no POOLING will be used when you connect to the SAA gateway.

Use Lu Group To Load Balance

This option is only available if you have selected Netware For SAA. Netware for SAA's load balancing option lets you assign logical unit host sessions to groups, these groups are called pools. Pools may be scattered over many different SAA servers and over many different service agents in these servers. The BLUES emulation software lets you take full advantage of the load balancing features of SAA. You **must be using Netware For SAA 2.0 or above, if you are not, then DO NOT SELECT this option.**

IMPORTANT - When using load balancing, the connection name and service agent name fields are very important. If you want to load balance over all SAA servers then enter the character "*" (asterisk) in the connection name field, if you want to load balance to a specific SAA server ONLY, then enter the name of that SAA server in the connection name field. If you want to load balance over all service agents associated with the connection name field you selected, then enter the character "*" (asterisk) in the service agent name field, if you want to load balance over a specific service agent name over the selected connection name, then enter the name of that service agent in the service agent name field.

SAA Logon Name

This option is only available if you selected Netware For SAA. This is the valid logon name you are assigned at the Novel file server. **This option is not required and is ignored, if the "Use Current User Name/Password" option has been selected.**

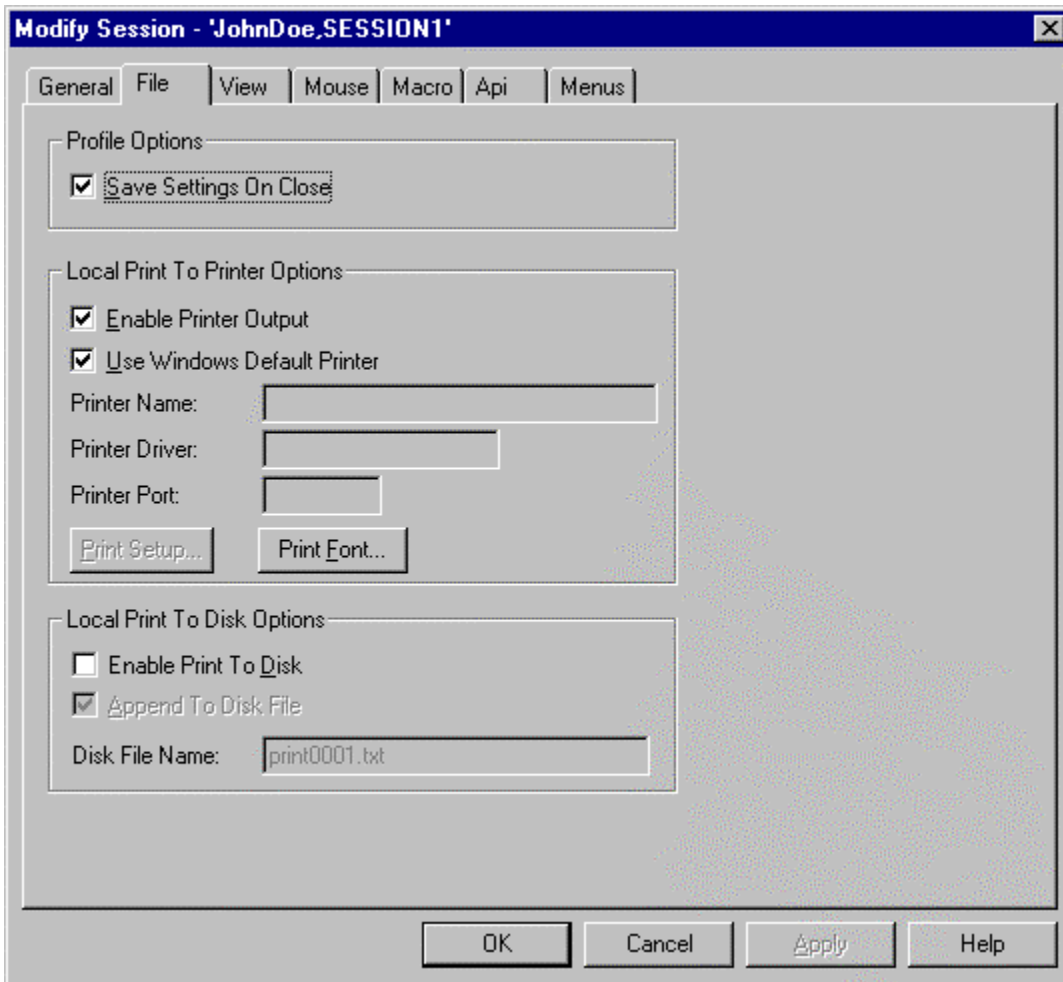
SAA Password

This option is only available if you selected Netware For SAA. This is the valid password name you are assigned at the Novel file server. **This option is not required and is ignored, if the “Use Current User Name/Password” option has been selected.**

Use Current Name/Password

This feature lets you use your already active Netware user name and password when connecting to the Netware For SAA gateway.

Configure Session File Tab



This is the main dialog for configuring a Display session. The following sections describe each option in detail.

Save Settings On Session Close

This option may be enabled or disabled by selecting it. If it is enabled, then when close is selected, all current settings are saved in the profile.

Enable Printer Output

This feature lets you turn on and off printer output whenever a print function is done. If the printer is enabled, then this menu item will be checked.

Use Windows Default Printer

If this option is selected, the session will determine which printer to use by getting the name of the default Windows printer from the Windows operating system.

Printer Selection

This allows you to select any printer currently installed as the print output device.

Print Font Option

This button allows you to select any font that may be used to print to the currently selected printer. **You should always select the printer before selecting the printer font.**

Enable Print To Disk Option

This feature lets you turn on and off output to a disk file whenever a print function is done. If the print to disk feature is enabled, then this item will be checked.

Print To Disk File Option

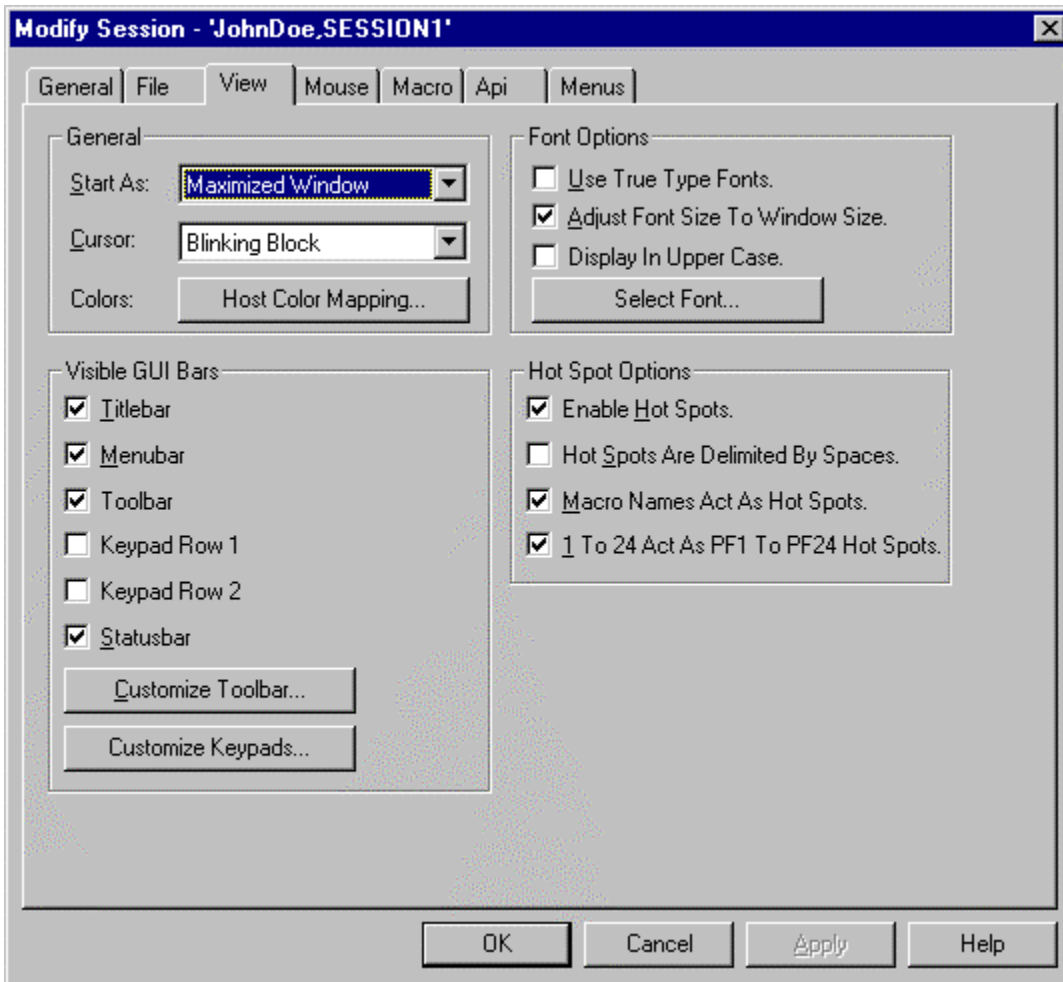
This lets you select the name of the next print to disk file. If the "Append To File" option has not been selected, then each time a print to disk is done the name of the file is incremented by 1. i.e. print0001.dat will be incremented to print0002.dat. Each local print function will cause a new disk file to be created.

Append To Disk File

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This lets you select if a new file will be created each time a local print is done to a disk file. When this feature is selected, the local print data is appended to the currently selected print file name. If this feature is not selected, then a new file is created each time a local print is done.

Configure Session View Tab



The view tab allows the configuration of the options that control how the session window is viewed. These options include what font to use, the initial size of the window, and the host color mapping. The following section describe each option.

Start As

Allows you to select the initial size of the session window. If you select the hidden option, then the display session will not be visible to the operator. The hidden option may be useful when you are using a programming interface and you do not want the operator to see the display session directly.

Cursor

This option lets you select the type of cursor that the session will display. You may select block, single underline, double underline, and cross hair. The cross hair cursor will be displayed as two lines, one vertical and one horizontal, intersecting at the cursor location.

Enable Hot Spots

Specifies whether to automatically detect hot spots. Hot spots are words on the display session such as enter or pf1. When the mouse pointer is placed over these words, the operator may press the left mouse button to perform the action. This option may also be further configured from the display session window.

Hot Spots Are Delimited By Spaces

This option is used to determine if hot spots are detected inside other words. When this option is selected, a hot spot must be separated by either spaces or nulls.

Macro Names Act As Hot Spots

This option determines if the names of previously recorded macros will act as hot spots.

Numbers Act As Hot Spots

This option determines if numbers on the host screen are to be considered as hot spots for the PF keys. This means that the number 1 would be a hot spot for the PF1 key.

Customize Toolbar...

Each session may be configured to display a toolbar. To add a button, simply select the button from the "Available Available" list and press the Add button. To remove a button, simply select the button from the "Tools Configured" list and press the Remove button.

Customize Keypad...

This option lets you decide what push buttons will be placed on each row of the keypad. By selecting the tab associated with the row you can display what if any buttons are currently assigned to that row of push buttons. You can add buttons to a row by selecting them from the available buttons list box and pressing the Add button. You can remove buttons from the row by selecting the them from the configured buttons list box and pressing the delete button.

Use True Type Font

If this option is selected, the display will use the true type fonts installed by windows to display the host screen. If this option is not selected, then the host screen will be displayed using the BLUES fonts.

Adjust Font Size To Window Size

This option specifies that the display session should automatically select the best size font based on the size of the window. When this option has been selected, if the window size is changed, the display session will attempt to get the best font size for the window size. If the font size does not match the exact size required, then the display window will be sized to match the font.

Display In Upper Case

When this option has been selected, the host screen will be displayed in upper case. The host screen image is still maintained by the emulator in both upper and lower case, however, the screen is displayed in upper case only. This option is useful when using small window sizes.

Select Font

This option will display the standard Windows font selection dialog if you have selected to use True Type fonts. If you have selected not to use true type fonts, then a dialog will be displayed that lets you select any of the BLUES fonts.

Enable Titlebar

The Titlebar is located at the top of each session window. It has a customizable text message that identifies the session. If you do not want it to display, then turn off this feature. The default value is enabled.

Enable Menubar

The Menubar is located at the top of each session window. It contains the session's menu selections. If you do not want it to display, then turn off this feature. The default value is enabled.

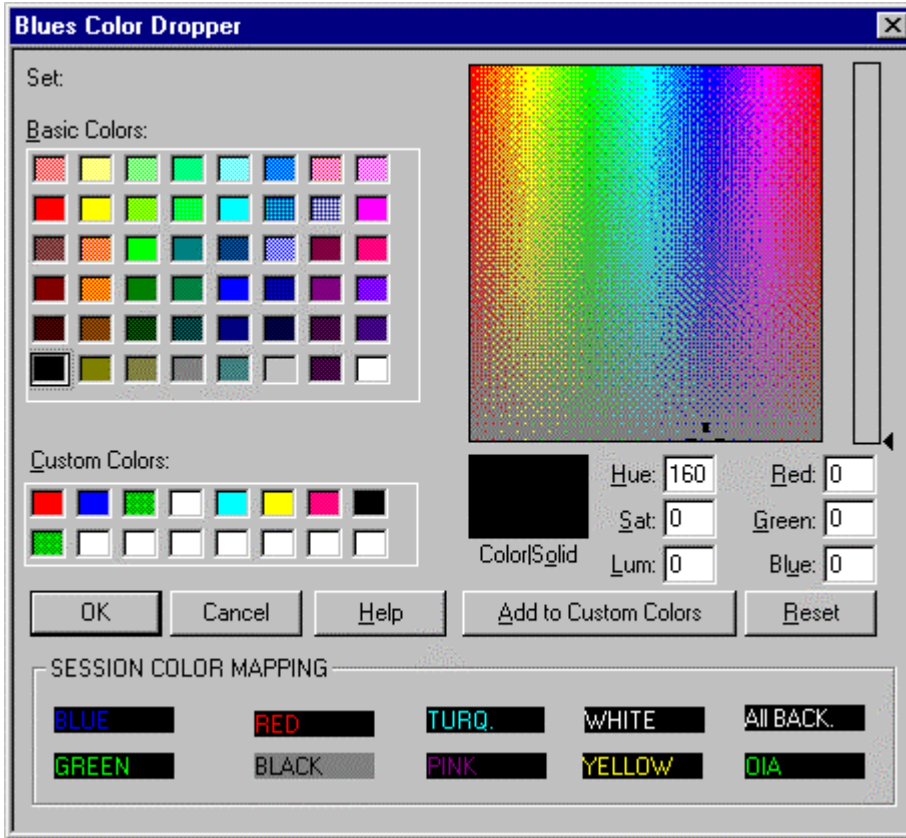
Enable Toolbar

This checkbox lets you decide whether or not you want the session to have a tool bar. The tool bar lets you perform the most used functions with a mouse.

Enable Statusbar

This checkbox lets you decide whether or not you want the session to have a status bar. The status bar is display at the bottom of the window. It displays status information.

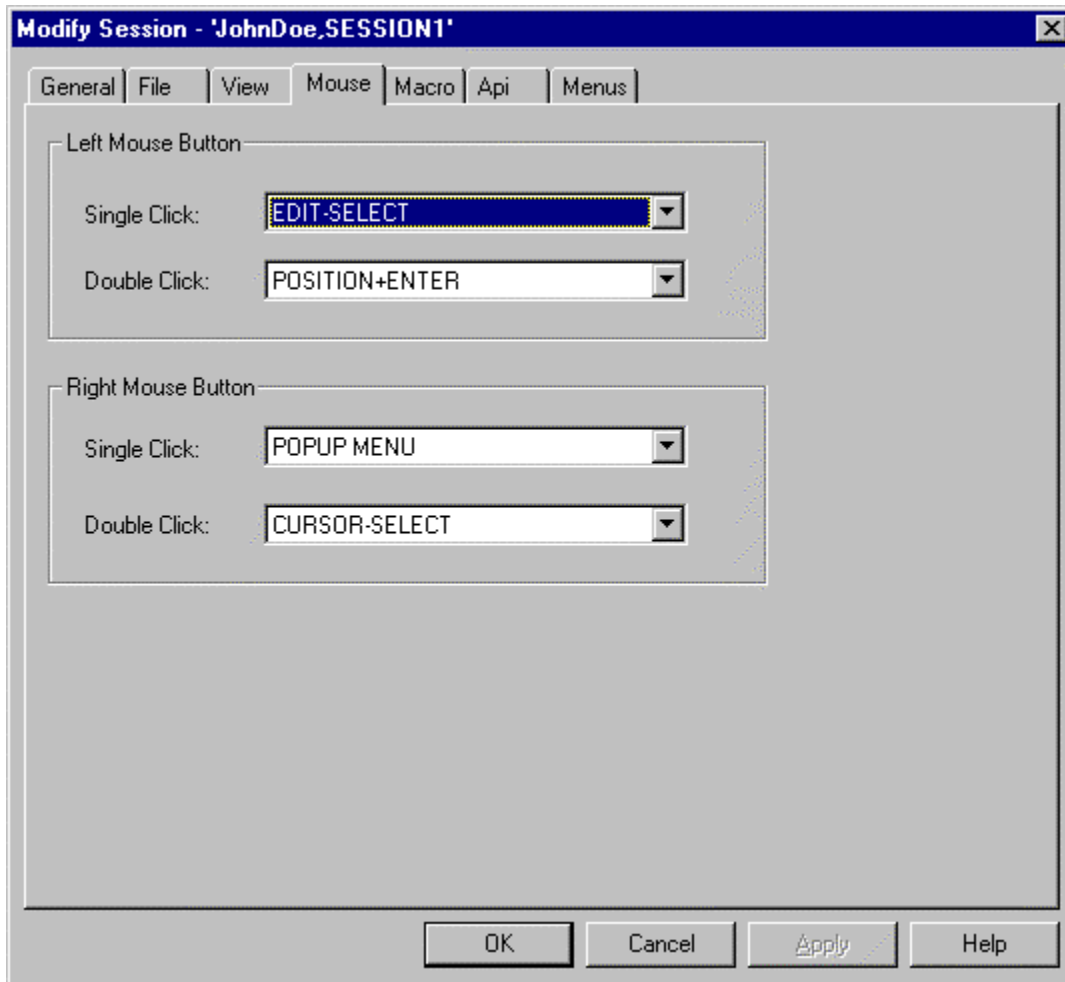
Configure Session Colors



How To Use The Color Dropper

The Color Dialog lets you customize display session colors. The Colors dialog allows you to drag and drop colors onto any of the host colors as well as the operator information area. You may use the left mouse button to drag a foreground color onto any host color. You may use the right mouse button to drag a background color onto any host color. By pressing the reset button you may reset the color mapping back to the default IBM colors.

Mouse Configuration Options

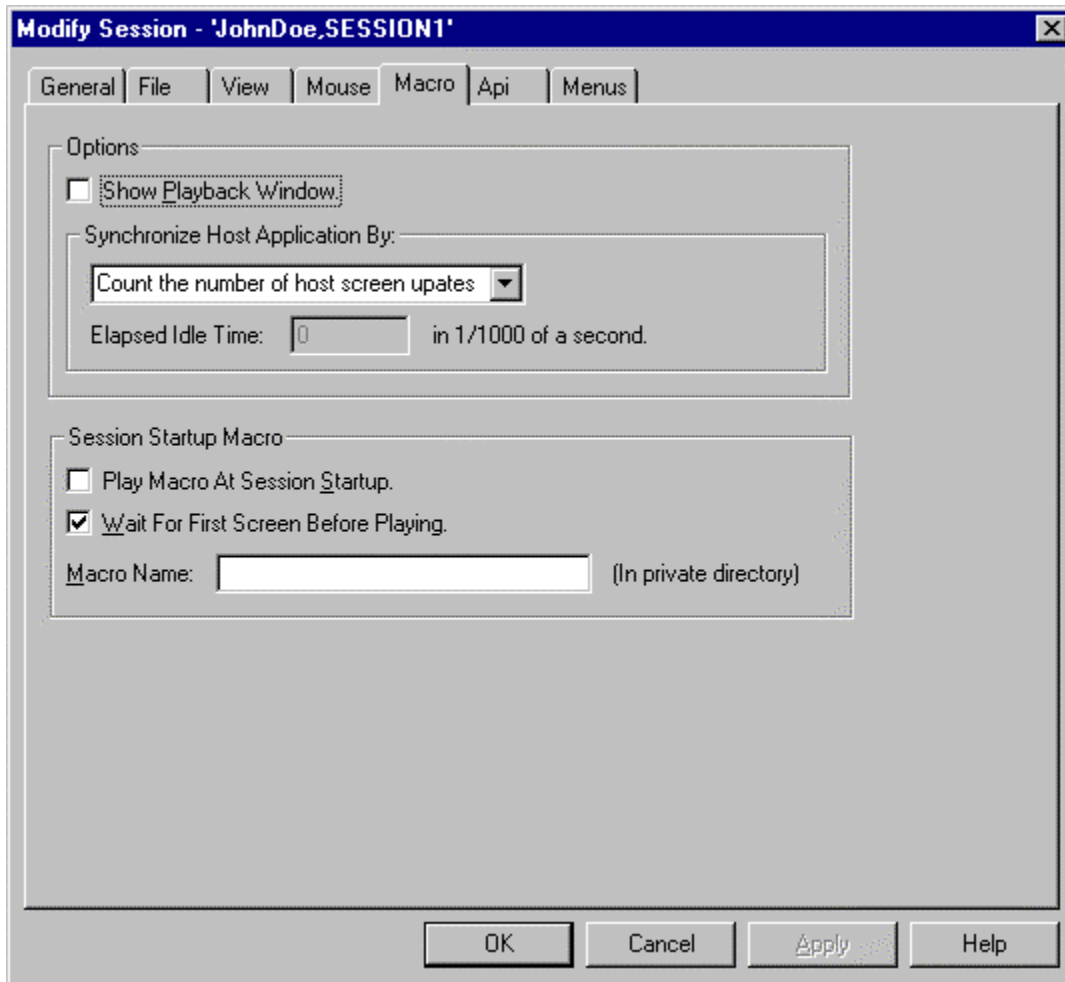


Mouse configuration assigns functionality to both the left and right mouse buttons.

Configuring The Mouse Buttons

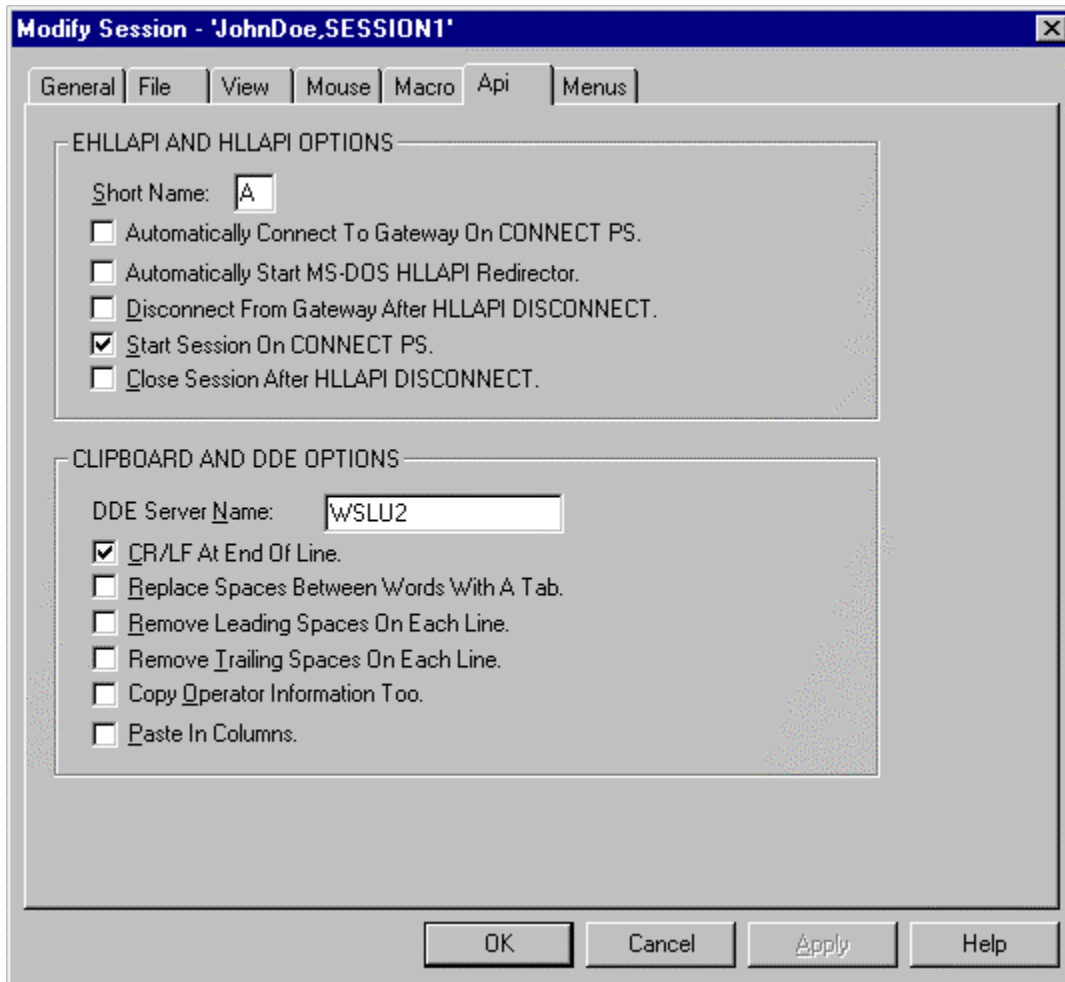
Both the left and right mouse buttons may be configured to act as function keys, clipboard functions, or may trigger a macro to be run. By selecting the desired function for each mouse button you are assigning that function to the mouse.

Macro Configuration



For details on the macro configuration options see the Display Session section of this document.

API Options



A variety of Application Programming Interface options are available under the API dialog. Each option is defined below:

Short Name

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The **SHORT NAME** field lets you select the EHLLAPI or HLLAPI presentation space short name. This field uniquely identifies the session to a API program using HLLAPI.

Automatically Connect To Gateway On HLLAPI Connect

This option lets you select to have the session connect to the host (if not already connected) when the HLLAPI CONNECT PS function is performed.

Automatically Start MS-DOS HLLAPI Redirector

This option should be used when an MS-DOS application wants to use a session through the HLLAPI programming interface. If this option is selected, then the session will automatically start the HLLAPI redirector ICON (if it is not already started) so that MS-DOS programs can use HLLAPI.

Disconnect From Gateway After HLLAPI DISCONNECT

This option lets you select to have the session disconnect from the gateway whenever a HLLAPI DISCONNECT PS command is performed.

Start Session On CONNECT PS

This option lets you start the session from your HLLAPI program. If selected, once the first HLLAPI CONNECT PS command is done, the session is started (if not already started).

Close Session After HLLAPI DISCONNECT

This option lets you automatically stop a session when a HLLAPI DISCONNECT PS function is done.

DDE SERVER NAME

This option lets you change the name of the DDE server that the session is known as. Normally this field is the name of the display session's program file. For more details on the DDE server name, see the DDE section of this manual.

CR/LF AT END OF LINE

This option indicates that the session should add a carriage return and line feed characters to the end of each line that is copied to the clipboard and to each line that is given to a DDE client.

Replace Spaces Between Words With A Tab

This option indicates that the session should remove spaces between words and add a TAB character for the removed spaces when copying to the clipboard or to a DDE client. This option should be used if you want to copy columns of information onto Microsoft Excel.

Remove Leading Spaces On Each Line

This option indicates that the session should remove all leading spaces from each line that is copied to the clipboard and to a DDE client.

Remove Trailing Spaces On Each Line

This option indicates that the session should remove all ending spaces from each line that is copied to the clipboard and to a DDE client.

Copy Operator Information Too

This option lets you copy the operator information area line into the clipboard and also to pass the operator information area to a DDE client. The whole operator information area is passed.

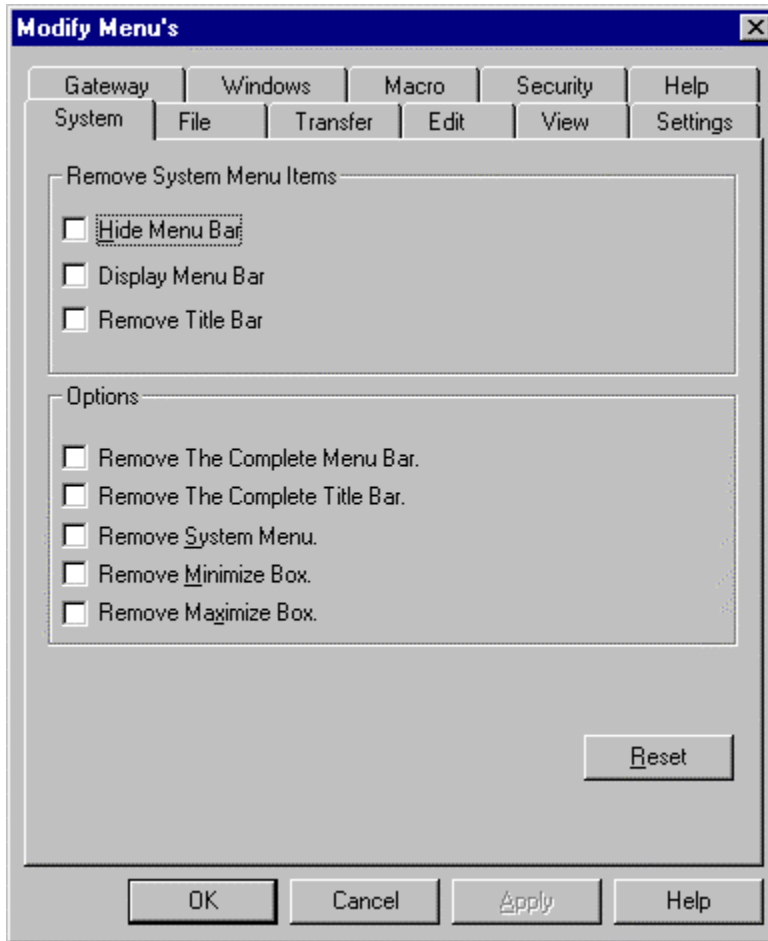
Paste In Columns

If this option is selected when a paste function is done, then each new line of text pasted into the terminal session will be pasted in the column where the cursor was located when the paste was performed.

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For example: If the cursor is in column 70 and a paste is done that contains 2 rows of text, then both rows of text will start in row 70.

Menus



This option lets the administrator restrict the use of any menu item by removing it from the window's menu bar. In addition, you may remove the complete menu bar, system menu, and title bar from the window.

How To Remove A Menu Item

To remove a menu item, select the tab where the menu item is located, then select the menu item you want to remove.

How To Apply Menu Changes

After you have selected all of the menu's that you want removed from the session, you may apply these changes to other sessions. By pressing the Apply Menus... button you will be presented with a dialog that lets you select what sessions to apply the menu changes to. You may select to apply the changes to all sessions for the user you are currently configuring or you may apply the changes to all sessions for all users.

Properties ...

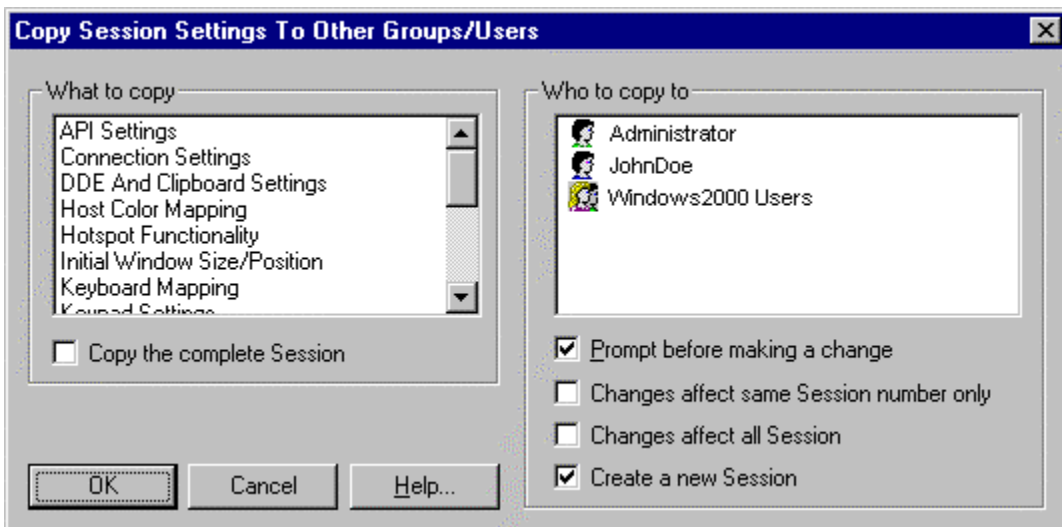
This menu item lets you change the currently highlighted session. You may also double click the mouse over the session on the main Manager menu to change a session. For details on each option see the above section.

Delete Session...

This menu item will delete what ever session is currently highlighted on the main Manager menu. You will be asked to verify if you really want to delete the session before it is deleted.

Copy Session Settings...

This menu item is a powerful feature that lets the administrator take some or all session settings and copy those settings to other configured users. To use this feature you must first select the configured session that contains the settings that you want to copy to other users, then choose the “Copy Session Settings...” menu item. The selected session is known as the source session.



The “What to copy” selection determines what settings will be copied from the source session. One or more types of settings may be selected. The “Copy the complete session” checkbox may be used to copy the whole source session to the designated configured user(s).

The “Who to copy” list contains a list of all configured users and user groups. One or more users may be selected from the list. Only the selected configured users and user groups will be affected by the copy operation.

The “Prompt before making a change” option lets the administrator decide whether or not to copy the settings into each selected configured user’s session(s).

If the "Changes affect same session only" option is selected, then only sessions of the same number for each selected user are affected. For example: if SESSION1 (the first session) is the source session, then only the first session of each selected user will be affected by the copy.

If the "Changes affect all sessions" is selected, then all of the selected configured user's sessions will be affected by the copy.

If "Create a new session" is selected, then a totally new session will be added to each selected configured user or group of users. This option is a convenient method of adding a terminal or printer session to a group of configured users.

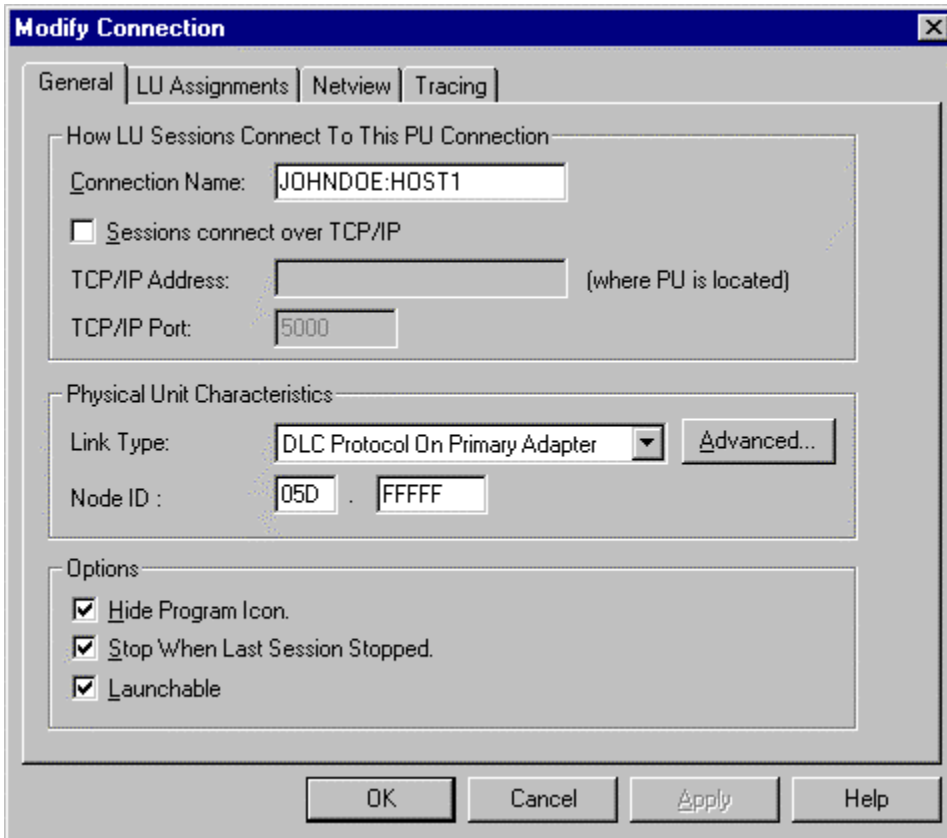
The Connections Menu

The connections menu provides you with a set of functions used to manage host connections. **If you are using a third party gateway such as Netware For SAA, Microsoft NT SNA Server, TN3270, TN5250, or IBM COMM. Server,** then there is no need to configure any host connections.

Host connections are known as physical units. You only need to configure host connections at PCs that are going to directly connect to either a host or an upstream controller. Each user may have up to 16 host connections.

The following sections are presented in the order that they appear in the connections menu.

Add Host Connection...
Properties...



This dialog is used to configure a connection to a host. This connection is considered a physical unit type 2 and has the same functionality as an IBM 3274 control unit. **Host connections are required only if you are using the DLC or X.25 protocols to connect to your host.**

The Connection Name

Specifies the 15 character name of the host connection. This is the name that 3270 display and 3270 printer sessions will connect to this host connection by. The name defaults to the users name followed by the connection number. This name may be changed to anything you wish, however, **the name is case sensitive**. This means that user0001:host1 is not the same as USER0001:host1.

Sessions Connect Over TCP/IP

This feature lets you select how Blues display and printer sessions will connect to this connection. If you choose to use TCP/IP, then you must configure an IP address and IP port that are unique throughout your network. If the connection is only going to be used from the PC that is being configured, then you do not need to enable TCP/IP. This option lets the Blues connection act as a network gateway. PCs may connect over TCP/IP to the PC running the connection to gain host access. If TCP/IP is enabled, then one or more display and printer sessions must be configured as part of the connection. When a session connects over TCP/IP to a Blues Connection, it has to be configured for (1) the Ip address where the connection is running, (2) the IP port where the connection is running, (3) the Blues connection name, and (4) an LU name that it wants to acquire.

The TCP/IP address can be either a DNS enabled name that can be obtained from Windows or an IP address in the form a.b.c.d, where a b c and d are 3 digit numbers from 0 to 255. DNS names are names like microsoft.com that are known throughout the network. If a DNS server is not being used, the PC IP address can be determined from the control panel/network settings.

The TCP/IP port must be unique on the PC that the connection is started on. Available ports start at 5000 and continue to 65534. If more than one Blues connection is going to be started at the same time on the same PC and both be available over TCP/IP, then each must have a unique TCP/IP port assigned to them.

Link Type

Select the method of connecting to the host computer. Such as X.25 over ISDN or token ring DLC 802.2.

Node Id.

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This is the node id configured at the host computer. You need to check with your host administrator to obtain this setting. This feature is sometimes know as an XID or blocknum/idnum.

Hide Icon

When selected, the connection icon is hidden from the operators view while the connection is active.

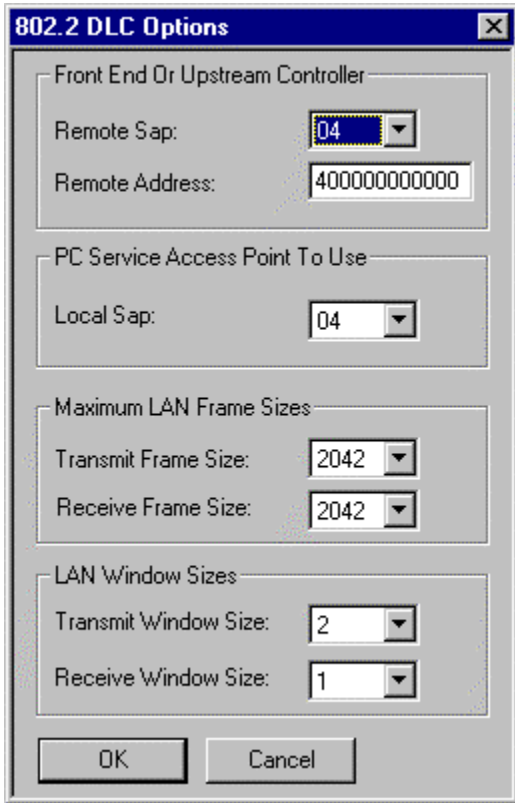
Stop When Last Session Stopped

When selected, this makes the connection unload from Windows when ever the last session detaches from it.

Launchable Connection

When selected, this feature allows the connection to be started by the "Launch BLUES" ICON. The "Launch ICON" is a simple and fast way of starting a complex array of host terminal sessions, host printer sessions, and host connections by selecting a single Windows Icon.

Advanced 802.2 Options



This set of options define how to connect to either the upstream controller or to the front end through an 802.2 type of physical link. The following sections discuss each option.

Remote Sap

Select The service access point of the front end or upstream controller. Obtain this from your host administrator.

Remote Address

This is the 16 hexadecimal digits of the front end or the upstream controller. Obtain this from your host administrator.

Local Sap

Select the service access point for your connection. Each connection for a given user must use a different local sap if they are to be used at the same time. The local sap must also be configured in the front end or upstream controller.

Xmit/ Rcv Frame Sizes

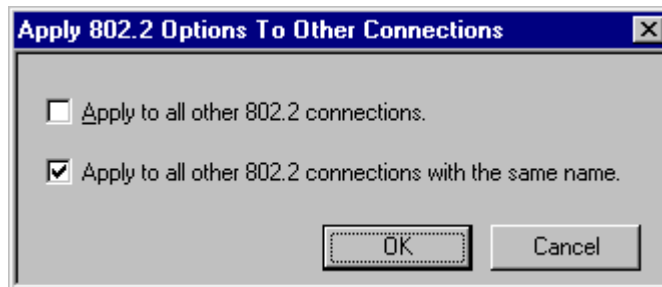
This option selects the maximum LAN frame sizes associated with the connection. These options must also be configured in the front end or upstream controller.

Xmit/Rcv Window Sizes

Select the window sizes that are configured at the front end or upstream controller. The defaults of 1 and 2 are typical defaults. Selecting larger sizes may improve performance if the front end or upstream controller is also configured for the larger sizes. If the front end or upstream controller is not configured for the larger sizes, then it will decrease performance.

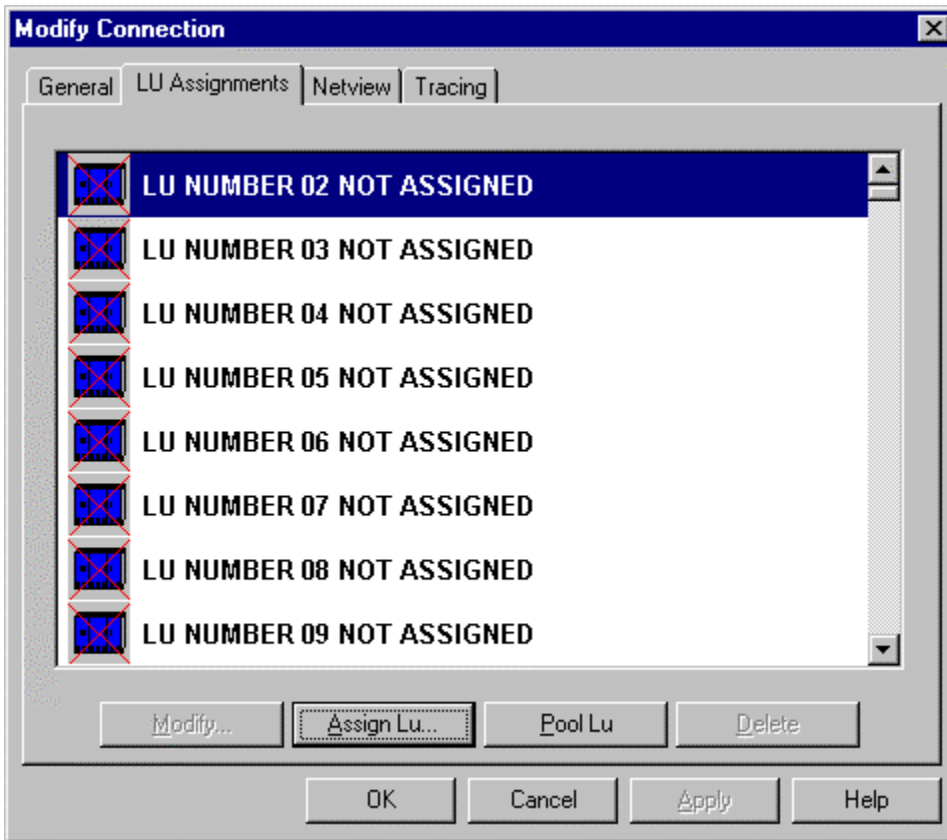
Applying 802.2 Options To Other Connections

The **Apply...** button will display a second dialog box that will let you apply the current 802.2 parameters to other connections in the Database. You can further option the apply function to either apply the 802.2 parameters to all connections or only to all connections of the same name.



This feature lets you modify 802.2 options of other connections. You may select to modify all 802.2 connections or just the connections by the same name.

Lu Assignment...



This tab will display all 3270 display and printer sessions currently configured for this host connection. From this dialog box you may assign LU's to a pool, assign an LU to a specific user, delete an LU that was assigned to a pool, delete a LU that was assigned to a specific user, and change the settings associated with a specific LU.

Modify Lu...

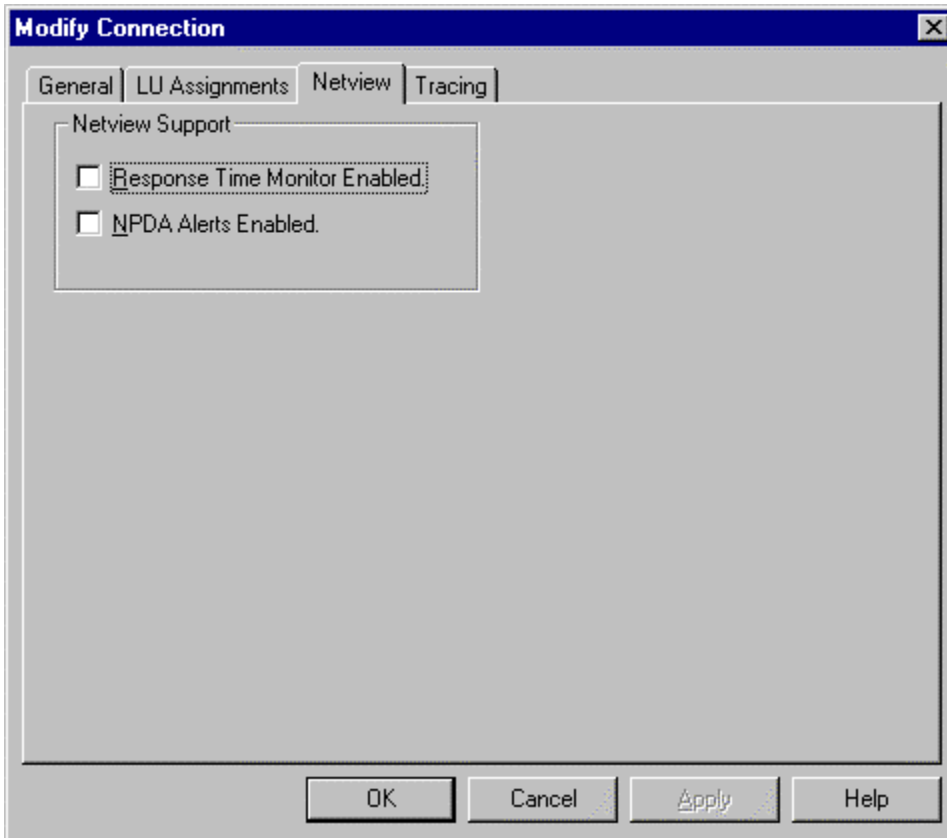
This button will show the same dialog as does the menu item "Modify Session" from the main Manager menu. This dialog will allow you to change many options associated with the session.

Assign Lu...

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This option will display a dialog box that will let you select a user to assign the LU to. You may also add a new user by entering the new users name. You will also have to select the LU type as being either a display session or a printer session.

Netview Options



This dialog lets you configure Netview options.

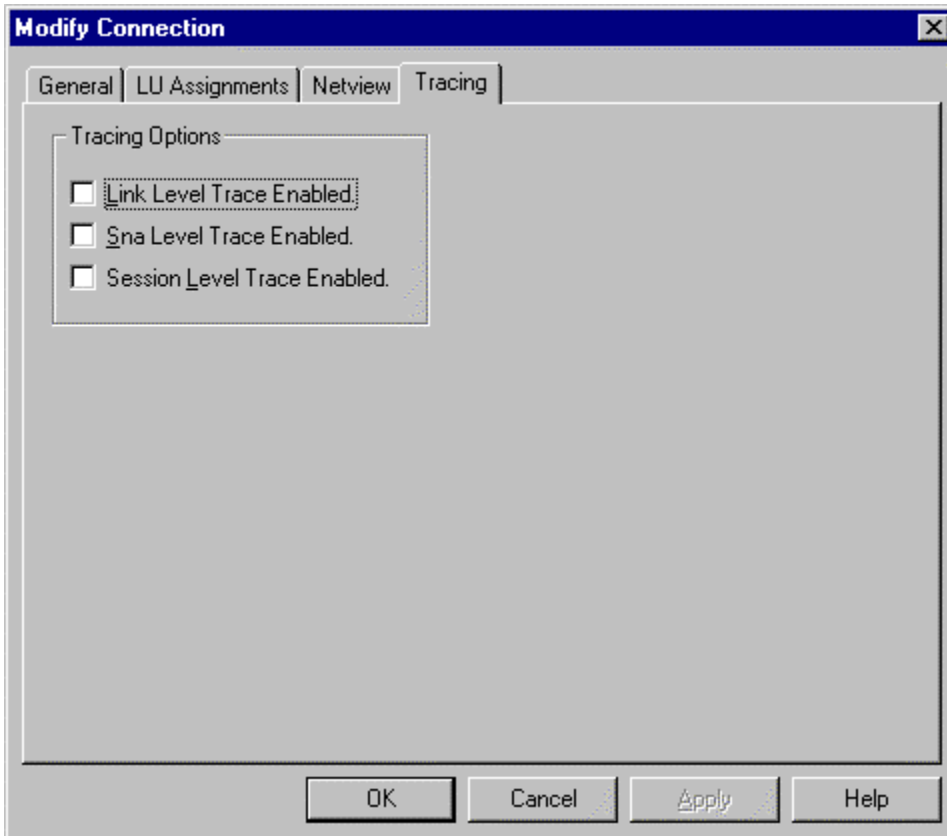
NPDA Alerts

This feature lets you enable/disable host alert generation. If you enable it, then an operator may send the host operator an alert from the 3270 display session. Also whenever the host connection detects an abnormal event, it automatically generates an NPDA alert for Netview.

Response Time Monitor

This option enables host retrieval of the response time monitor data. When selected, the host may retrieve the statistics that the connection maintains for each session.

Trace



The tracing options enable or disable levels of tracing. When tracing is enabled, the connection software traces data traffic between key software elements.

Levels Of Tracing

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The tracing enable/disable check boxes let you diagnose problems by viewing an ASCII file named SNA.TRC. The file will be put into the users private directory. The trace file requires a maximum of 5MB of disk space.

X.25 ISDN Advanced Options

Configure ISDN X.25 Link Options

X.25 Options

Circuit Type: Switched Outgoing

Called Address:

Calling Address:

Facilities:

PVC Channel:

Lowest Channel:

Highest Channel:

Terminal Endpoint ID:

LAPD Window Size:

Receive Window Size:

X.25 Packet Size:

ISDN Adapter Options

Adapter Number:

Channel:

Recovery Options

Automatically Recover Lost Circuit.

Max. Recovery Attempts: (0 = infinite)

Wait Between Attempts: Seconds.

OK Cancel Help...

X.25 Circuit Type

You must select the type of X.25 circuit that you are going to use. The options let you decide to establish the X.25 circuit by placing a call, waiting for a call, or through a permanent virtual circuit. The X.25 network administrator should be able to provide you with the information required for X.25 configuration.

X.25 Called Address

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The Called Address is valid for switched types of circuits. When placing a call the called address will be added to the X.25 call request packet. When waiting for an incoming call, the called address will be matched with the called address field of the incoming call request to determine which physical unit the call request is for. This field is entered in hexadecimal notation.

X.25 Calling Address

The calling address is only valid for switched outgoing circuit type. It is placed in the call request packet. This field is entered in hexadecimal notation.

X.25 Facilities

The facilities field allows you to enter hexadecimal fields corresponding to extra facilities that may be required by your x.25 network. All facilities must be entered in hex format. For a detailed list of all possible facilities, consult your X25 network administrator.

X.25 Channel Numbers

Two types of X.25 channel numbers may be configured, (1) the PVC channel, and (2) the SVC channel(s). When the circuit type of permanent has been selected, then the exact channel number must be configured under the PVC channel number that matches the network configuration assigned by the telephone company. When the circuit type is switched, then the lowest and highest channel numbers must be configured. If a switched out circuit is selected, then the lowest and highest outgoing channels are configured. If a switched in circuit is selected, then the lowest and highest incoming channels are configured.

Terminal Endpoint Id

This field assigns a specific X.25 "number" to the Blues connection that is known as the TEI. The TEI must match the configured number at the host. The valid range of TEI values is from 1 to 63.

X.25 Window Sizes

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The LAPD and receive windows sizes are used during data transmission to determine how many packets may be sent and received without being acknowledged. When the window size is reached, no more packets may be transmitted until an acknowledgment is received. The window sized must be configured the same on both ends of the X.25 network to ensure adequate throughput and proper network error recovery.

X.25 Packet Size

The packet size determines the largest packet that can be sent or received over the X.25 connection. SNA request/response units are broken down into X.25 packets no larger than the configured size. This option must match the X.25 network or else X.25 circuits will be abruptly broked whenever a packet exceeding the maximum network packet size is transmitted.

ISDN Adapter Options

The adapter numbers start at one. If there is more than one ISDN hardware adapter in the PC, then each adapter will be assigned a unique number as part of the adapters installation process. When more than one adapter is installed, insure that the Blues connection has the desired hardware adapter number selected. The channel may either be the D channel or the B channel. The Channel must match your X.25 network configuration.

Automatically Recover Lost Circuit

This option lets you determine what will happen when the X.25 circuit has been lost. If you select it, then the software will automatically attempt to recover the circuit and thus re-activate the physical unit and all logical units. It is also possible to re-activate the circuit through the "X.25 Link Status" menu item of a terminal session.

Call Request Retry Counter

This option is only available for the switched outgoing type of circuit. It determines how many call request failures will occur before the software gives up attempting to establish the circuit.

Wait Between X.25 Call Requests

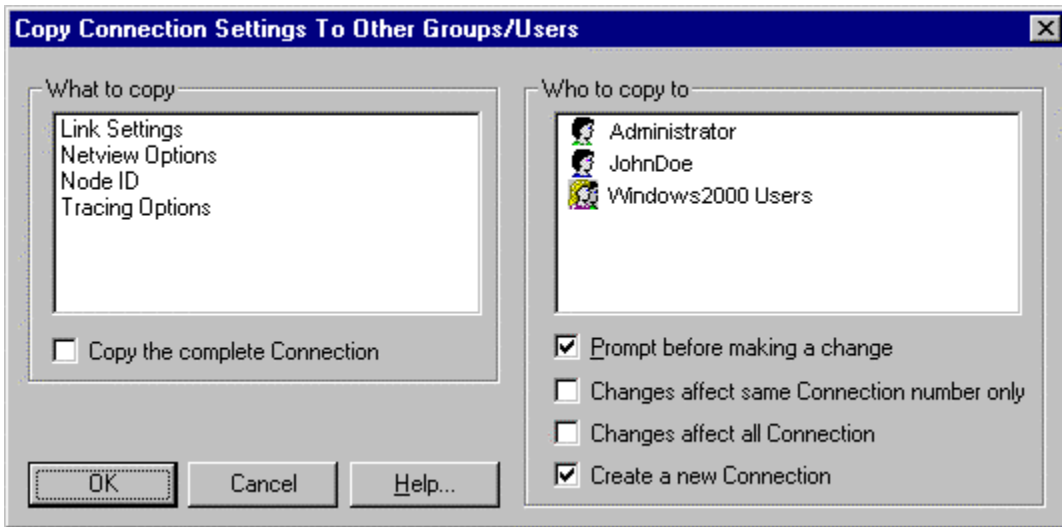
This option lets you select the time between a call request failure and the time when another call request will be attempted.

Delete Host Connection...

This menu item will let you delete a specific host connection from the BLUES database. You must first select the host connection by highlighting it on the main menu. After selecting this feature you will be asked to verify that you want to delete the connection.

Copy Connection Settings

This menu item is a powerful feature that lets the administrator take some or all connection settings and copy those settings to other configured users. To use this feature you must first select the configured connection that contains the settings that you want to copy to other users, then choose the “Copy Connection Settings...” menu item. The selected connection is known as the source connection.



The “What to copy” selection determines what settings will be copied from the source connection. One or more types of settings may be selected. The “Copy the complete connection” checkbox may be used to copy the whole source connection to the designated configured user(s).

The “Who to copy” list contains a list of all configured users and user groups. One or more users may be selected from the list. Only the selected configured users and user groups will be affected by the copy operation.

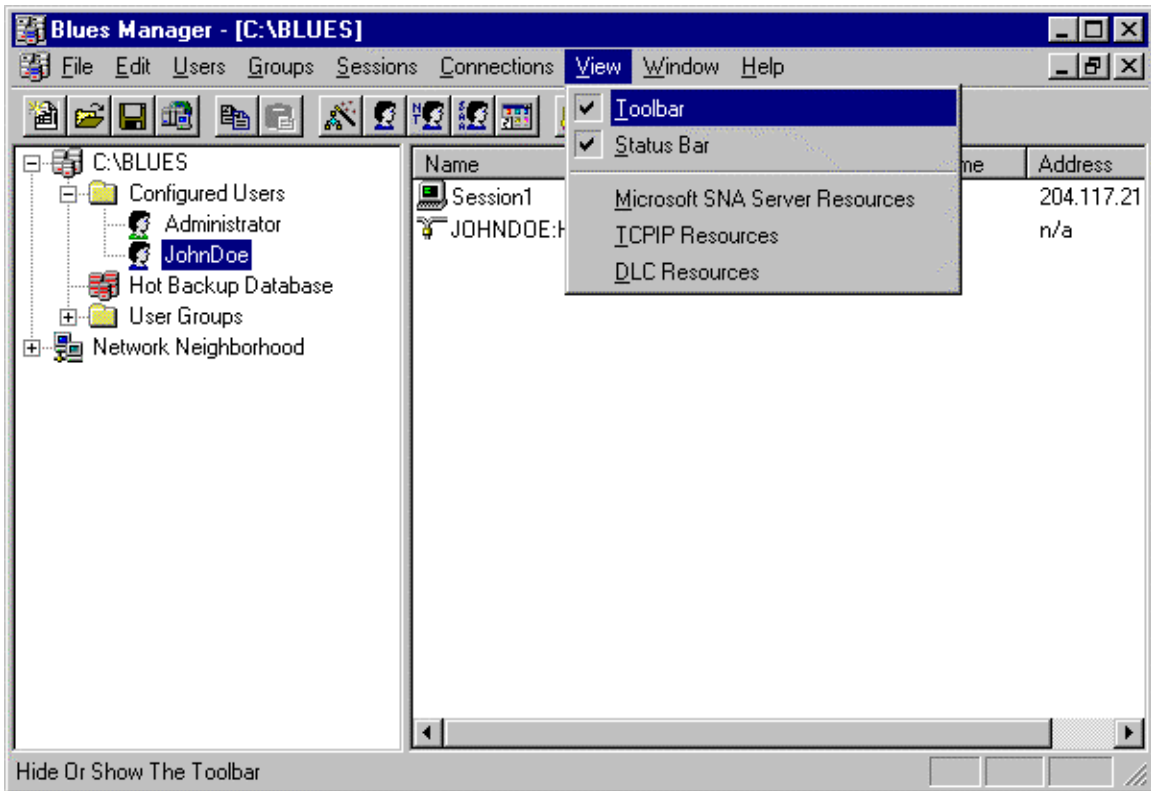
The “Prompt before making a change” option lets the administrator decide whether or not to copy the settings into each selected configured user’s connection(s).

If the “Changes affect same connection only” option is selected, then only connections of the same number for each selected user are affected. For example: if the first connection is the source connection, then only the first connection of each selected user will be affected by the copy.

If the “Changes affect all connections” is selected, then all of the selected configured user’s connections will be affected by the copy.

If “Create a new connection” is selected, then a totally new connection will be added to each selected configured user or group of users. This option is a convenient method of adding a connection to a group of configured users.

The View Menu



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The view menu may be used to show or hide the toolbar, the menu bar, the SNA Server resource view, the TCPIP resource view, and the DLC resource view.

View Microsoft NT SNA Server Resources

When this item has been selected, a new list of information is displayed in the Managers main window. This list displays all of the Microsoft NT SNA Server LU's that are currently configured in the BLUES database, and which user(s) have them configured. This option gives the administrator another way to view the BLUES database and is useful in managing which configured users are using which SNA Server resources.

View TCPIP Resources

When this item has been selected, a new list of information is displayed in the Managers main window. This list displays all of the BLUES sessions that are currently configured for TN3270 or TN5250, and which user(s) have them configured. This option gives the administrator another way to view the BLUES database and is useful in managing which configured users are using which TCPIP resources.

View DLC Resources

When this item has been selected, a new list of information is displayed in the Managers main window. This list displays all of the BLUES connections that are currently configured for DLC, and which user(s) have them configured. This option gives the administrator another way to view the BLUES database and is useful in managing which configured users are using which DLC resources.

Concurrent Administrator Operation

The administrator program can be used from any PC on a local area network. The Database is automatically locked and unlocked when necessary to avoid concurrency issues.

Using Host Connections

Each host connection that is configured causes a host connection shortcut to be created as part of the Create Desktop Menu Shortcut(s) function in the Manager Program. Each host connection icon represents a connection to a host computer. You may want to move the host icon(s) to the windows StartUp group if you want the host connection to automatically be started when windows is started. Or you may want to start it yourself whenever you want to use it. After a host connection has been started, you may visually see if it is actively connected to the host by viewing it's minimized icon. If the taskbar ICON has the blue ball moving, then the PU is connected to the host. If the blue ball is not moving, then the PU is not connected to the host.

If you NOT have configured the host connection for "Sessions Connect Over TCP/IP" then the host connection will be started automatically by the first display or printer session that is configured to use it.

Stopping A Connection

To stop an active host connection, find the connection on the Windows task bar and right mouse click over the icon. Then select the Close command from the popup menu. If any sessions are connected you will be prompted to insure that you want to terminate the connection. This will disconnect it from the host computer and free all resources that it acquired. If there was any sessions connected to the host connection, then you will be asked to verify that you want to stop the connection.

If you have selected to stop the host connection whenever the last session has terminated (see configuring host connections), then the host connection will automatically terminate when you stop all display and printer sessions that have previously used the connection.

Display Emulation

Starting Emulation

You have three choices for how to start the BLUES 2000 Display application:

(1) Each BLUES 2000 display session has an icon in the BLUES 2000 user group. The icons for these sessions appear with labels SESSION1, SESSION2, SESSION3, ... To start a display session, simply select its icon from the BLUES 2000 group display as you would for any other Windows application.

(2) Any session can be automatically started at Windows startup time by using the StartUp Group feature of Windows. As for any other standard Windows application, use the mouse to simply drag the icon for the session into the StartUp Group.

(3) You may start the session from the "Launch BLUES" icon. The Launch icon will start all connections and sessions that are assigned to you PC (assuming you have not disabled the fast start feature from the Manager program).

Basic Operation

You will find much similarity between operating the BLUES 2000 Display and other programs under Windows. This is because these programs adhere to a Common User Access (CUA) design, which is part of the Systems Application Architecture (SAA) standard. Special topics are discussed, but it is beyond the scope of this manual to provide a complete tutorial on using windows applications. Also, a basic familiarity with operating an IBM type terminal is assumed.

The Tool Bar

The tool bar is an area of the window that is right below the menu bar. The tool bar contains buttons for the most used functions of host display emulation. All functions that are contained in the tool bar are also contained in the menu bar. It is therefore not necessary to display the tool bar. The Tool bar contains 6 groups of buttons, the 6 groups are for the File, Edit, Settings, Macro, Gateway, and Help menu selections. The tool bar contains buttons for the following functions (from left to right in the picture above): local print function, send file to the host, receive file from the host, copy to the clipboard, paste from the clipboard, edit the keyboard mapping, use

true type fonts, configure host color mapping, configure mouse functions, record a macro, play a macro, attach/detach from gateway, and help. For detailed use of each button on the tool bar see the following sections under the appropriate menu item.

The Status Bar

The status bar is a small area located at the bottom of the window. The window contains help information for all menu items. If you highlight a menu item, a small help text will appear in the status bar for that menu item. Also the state of the num lock, caps lock, and scroll lock keys are displayed on the status bar. The bar may be hidden or displayed as desired.

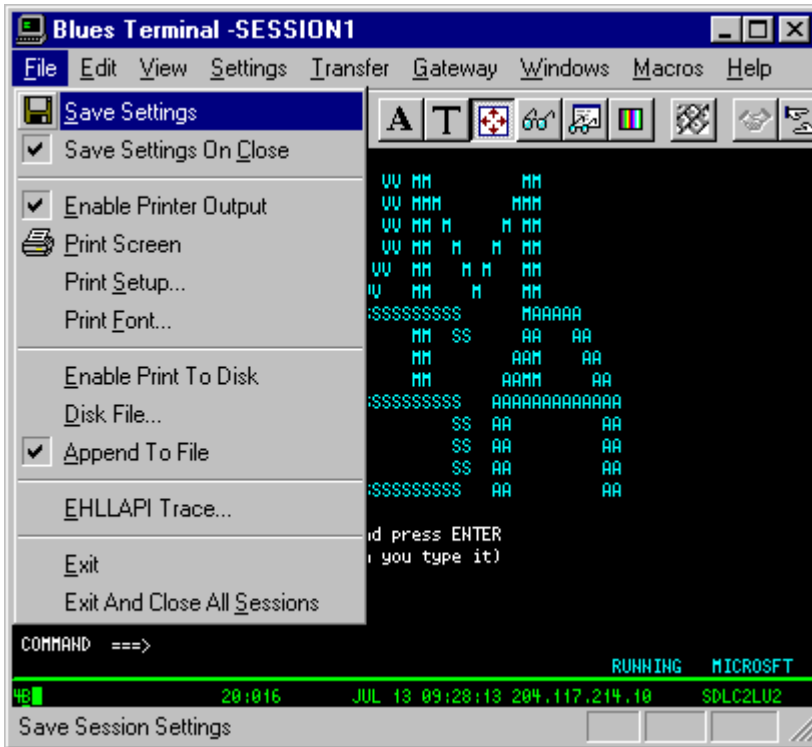
The Keypad

The keypad consists of 2 rows of push buttons located directly below the toolbar. Each row is customizable. Each row may be eliminated or customized to contain any 3270 function key and any previously recorded macro.

Function Keys

This product comes with specific keyboard mappings for various types of keyboards. The current keyboard settings may be viewed by using the 'Keyboard Mapping' menu item. The keyboard may be remapped as desired by using the "Keyboard Mapping" menu item, which is discussed below.

The File Menu



The File Menu

The File menu includes commands that enable you to modify your session profile, select a printer device, perform local print functions, transfer files to and from the host computer, activate/deactivate an EHLLAPI trace, and exit the BLUES 2000 Display application.

For more information, see the sections below which describe the following File menu commands:

- Save Settings** Save the current profile now.
- Save Settings on Close** Save all current settings when exiting.

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Enable Print To Printer	Use the printer for local print functions.
Print	Print screen.
Print Setup	Select the printer for local print functions.
Print Font	Select the font for local print functions.
Enable Print To Disk	When selected local prints will also be written to disk.
Disk File...	Select the next print disk file.
Append To File	Append to local print file.
Transfer Setup...	Customize File Transfer Parameters.
Upload File...	Send a file to the host.
Download File...	Receive a file from the host.
EHLLAPI Trace	Activate/deactivate EHLLAPI trace.
Exit	Exit program.
Exit And Stop All	Stop All active display and printer sessions.

Save Display Settings

This File menu command is used to store the current session profile. All the operational and connection options currently in effect will automatically be re-activated next time the session is started.

Save Settings On Close

This option may be enabled or disabled by selecting it. If it is enabled, then when close is selected, all current settings are saved in the profile.

Enable (local) Print To Printer

This feature lets you turn on and off printer output whenever a print function is done. If the printer is enabled, then this menu item will be checked.

Print

This option does an IBM local print screen key function to the currently selected printer device, as defined in **Print Setup**.

Print Setup

This option allows you to select any printer currently installed under Windows as the output device, or you may select a disk file as the output device.

Print Font

This option allows you to select the font that will be used when a local print function is performed. You should select a font that lets you print the entire host screen when you perform a local print.

Enable Print To Disk

This feature lets you turn on and off output to a disk file whenever a print functions is done. If the print to disk feature is enabled, then this item will be checked.

Print To Disk File...

This menu item lets you select the name of the next print to disk file. If the "Append To File" option has not been selected, then each time a print to disk is done the name of the file is incremented by 1. i.e. print0001.dat will be incremented to print0002.dat. Each local print function will cause a new disk file to be created.

Append To File

This menu item lets you select if a new file will be created each time a local print is done to a disk file. When this feature is selected, the local print data is appended to the currently selected print file name. If this feature is not selected, then a new file is created each time a local print is done.

EHLLAPI Trace

This File menu command enables you to toggle the EHLLAPI trace option. Alternate clicks of the mouse on the EHLLAPI trace menu item turn a check mark at the menu item on and off. When the check mark is present, the EHLLAPI trace is active.

See the EHLLAPI section for a description of the industry standard EHLLAPI 'application program interface' supported by the BLUES 2000 Display application. The EHLLAPI trace facility journals all EHLLAPI command/response traffic between an application program and the display session to a trace file. This trace may be useful for diagnostic purposes, or to facilitate application program development.

When you activate the trace, a dialog box pops up so you may enter the name of a trace file that you wish to be used to hold the journalized traffic. The default is ehllapi.trc in your BLUES 2000 Display install directory; but if you are working in a network with other BLUES 2000 Display users, you probably want to use a distinct name for your trace file to prevent interference between traces. In any case, if the file name you select exists, it will be re-created new, and old data will be lost. The trace file is closed when you either deactivate the trace by clicking off the check mark at the EHLLAPI Trace menu item, or you exit the BLUES 2000 Display application (see **Exit** below).

The trace file is a standard ASCII file, and can be viewed using any standard PC file editor.

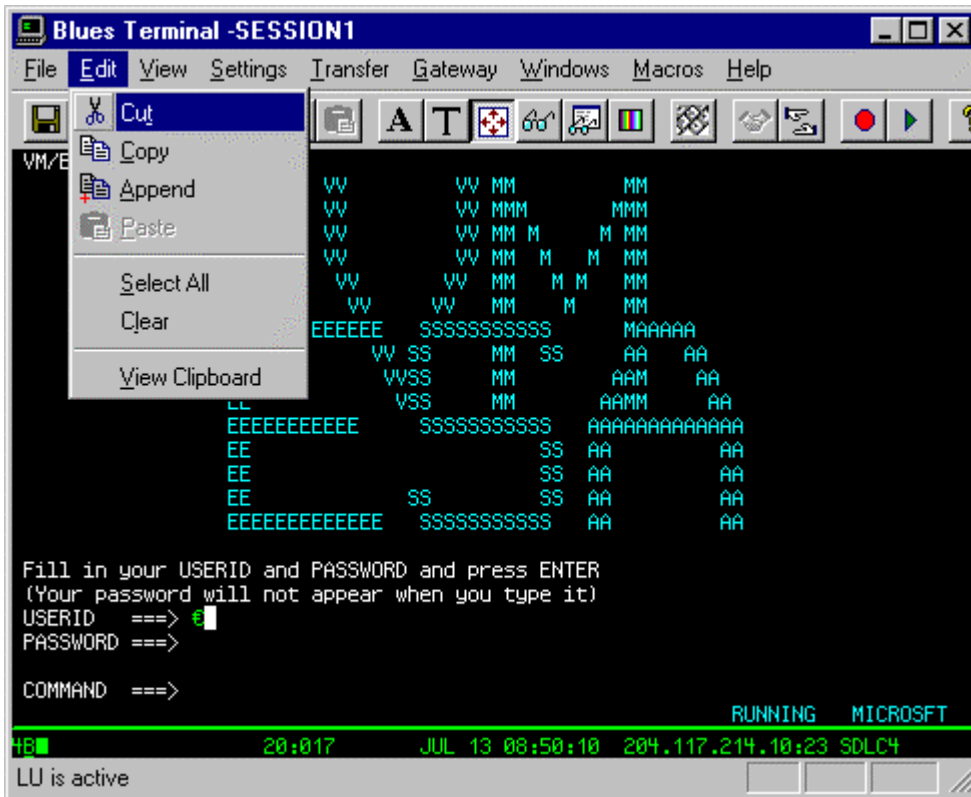
Exit Display Session

This File menu command allows you to exit the BLUES 2000 Display application, terminating the Netbios session to the gateway if active.

Exit And Close All Sessions

This file menu command lets you stop all display and printer sessions from one menu item selection. All display and Printer sessions that are active on the associated PC are stopped.

The Edit Menu



The Edit menu includes commands that enable you to move text to and from the clipboard, to delete text, and to undo a previous editing operation.

Cut

This Edit menu command copies the currently selected area of the emulation window to the clipboard, and erases it from the emulation window, if the data is unprotected. See **Mouse Controls** for how to select a portion of the screen.

Copy

This Edit menu command copies the currently selected area of the emulation window to the clipboard. See **Mouse Controls** for how to select a portion of the screen.

Append

This Edit menu command appends the currently selected area of the emulation window to the clipboard. See **Mouse Controls** for how to select a portion of the screen.

Paste

This Edit menu command takes ANSI data only from the clipboard and enters it at the current cursor location. If insert mode is active, then the data will be inserted just as if it were being keyed in insert mode.

Select All

This Edit menu command selects the entire emulation window (not counting the status line) for any subsequent **Cut**, **Copy**, or **Clear** functions.

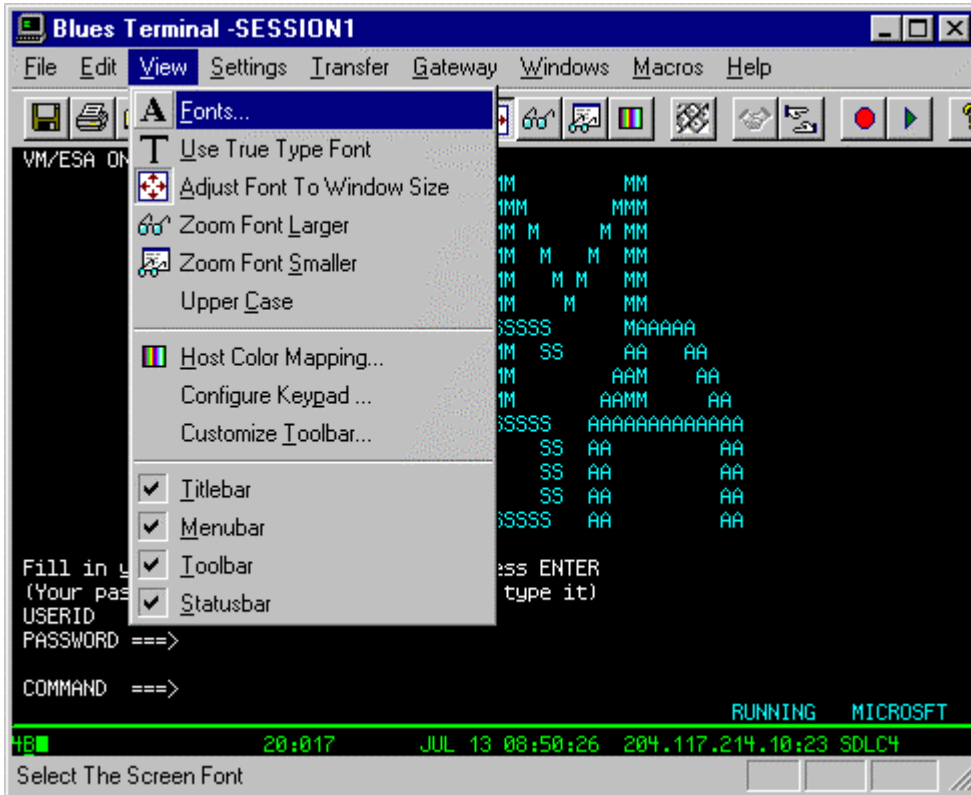
Clear

This Edit menu command erases the selected portion of the emulation window without copying it to the clipboard. Only unprotected data is cleared. See **Mouse Controls** for how to select a portion of the screen.

View Clipboard

This Edit menu command will display the windows clipboard.

The View Menu



The View menu contains commands that determine how the host session is viewed. After changing any of these options, it is best to perform a save settings function so that your changes are recorded.

Fonts...

This Settings menu command activates a dialog box that allows you to specify a specific font to use. There are two different dialogs that may be displayed. One for true type fonts and one for BLUES fonts. If the USE TRUE TYPE setting is activated, then the standard windows font selection dialog is displayed. If the USE TRUE TYPE setting is not selected, then the BLUES font dialog is displayed. Once you have selected a font to use, the ADJUST FONT TO WINDOW SIZE option is disabled.

There may be cases (e.g., if you want a very small window size, but a large font to easily read part of the screen and don't care if the rest gets clipped) when you may wish to specifically set a fixed font size. In this case, you may select any fixed font size from the menu.

Use True Type

This Settings menu command allows you to select the Windows 3.1 standard Courier New True Type font, instead of the BLUES 2000 product fonts described above under **Fonts**.

Adjust Font Size To Window Size

When this feature has been selected, as you size the terminal sessions window, the session will select the best font to display the host screen in. When this feature is not selected, the terminal emulator will always use the same font to display the host screen. When you perform a "FONTS..." function this feature is automatically turned off so that the font you select will always be used.

Zoom Font Larger

This option will select the next largest font and display the host screen in a larger font size.

Zoom Font Smaller

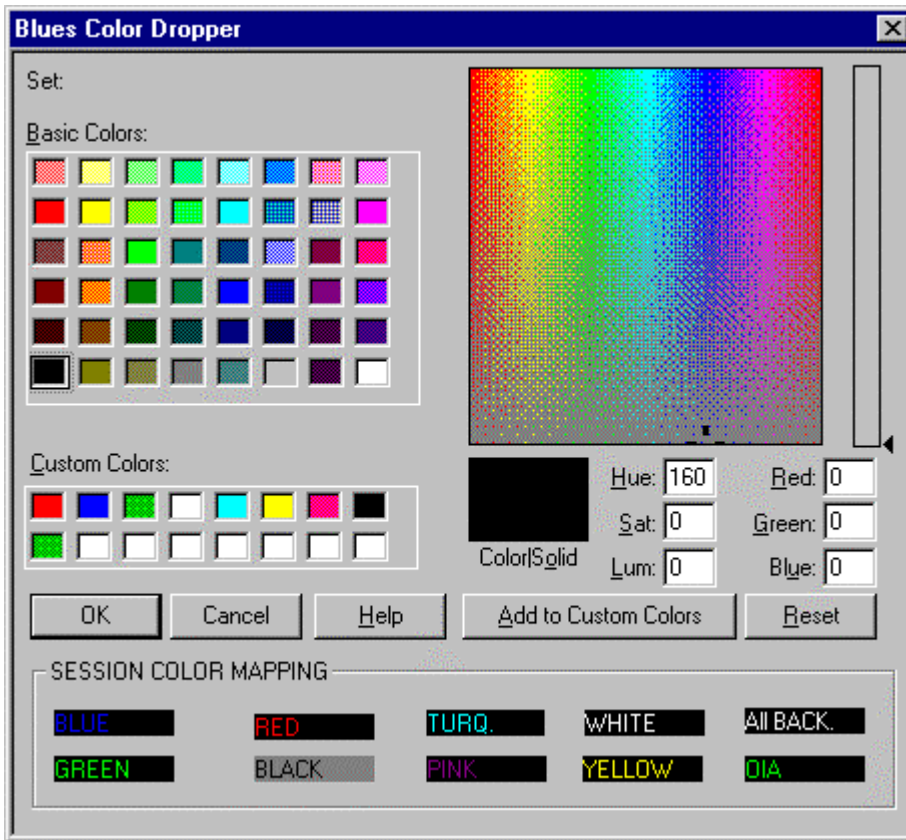
This option will select the next smallest font and display the host screen in a smaller font size.

Upper Case

This command will cause the display characters to display in all upper case. The actual data is still in upper and lower case as far as the host is concerned. This feature may be useful with smaller fonts since the uppercase characters display better in the smaller font sizes.

Host Color Mapping

This Settings menu command activates a dialog box that allows you to customize your host color mappings. Each of the 8 host colors may be modified. Both the foreground and background colors may be changed. In addition, the operator information area's colors may be modified.

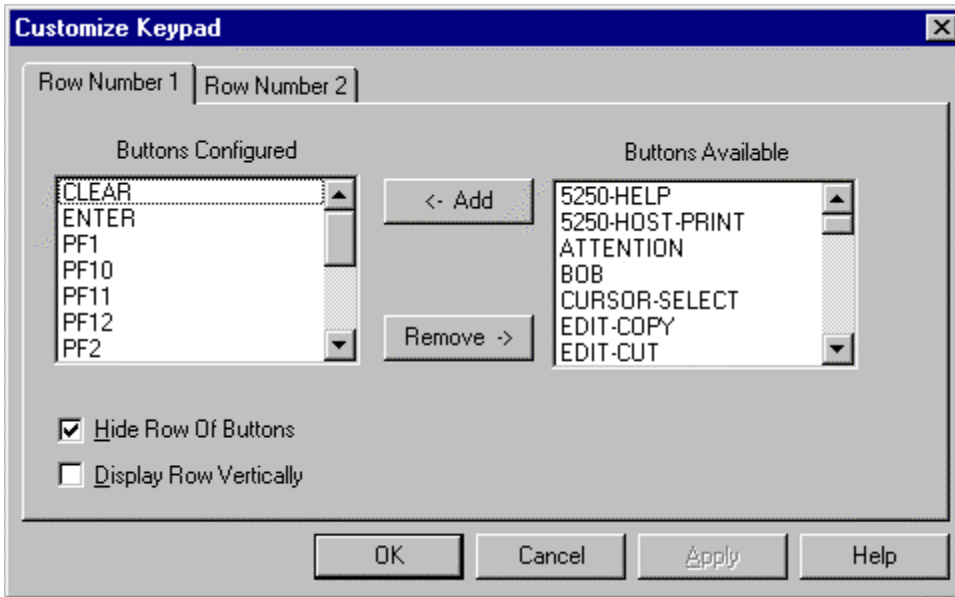


Colors are changed by dragging a color with the mouse and dropping the color on the fields in the SESSION COLOR MAPPING section of the dialog box. The Help button may be used to get help on the use of this dialog. The RESET button will reset the colors back to the default IBM colors.

Configure Keypad...

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This Settings menu command allows you to customize the two rows of buttons that are located under the tool bar and menu bar. The two rows of buttons may be removed or displayed. In addition, any function key or MACRO may be placed on a specific row. The height of each row may also be customized. The following dialog allows you to customize the keypad:



You may add or remove buttons from each row by first selecting one or more buttons from the appropriate list box and pressing the ADD or REMOVE button. To completely remove a row of buttons you may select the "Disable Row X" check box. You may also change the height of each row of buttons. After you have made your selections, press the OK button and the keypad will be displayed according to your selections.

Titlebar

This command will either remove or display the titlebar at the top of the window.

Menubar

This command will either remove or display the menubar. The menubar is located under the titlebar and contains menu commands.

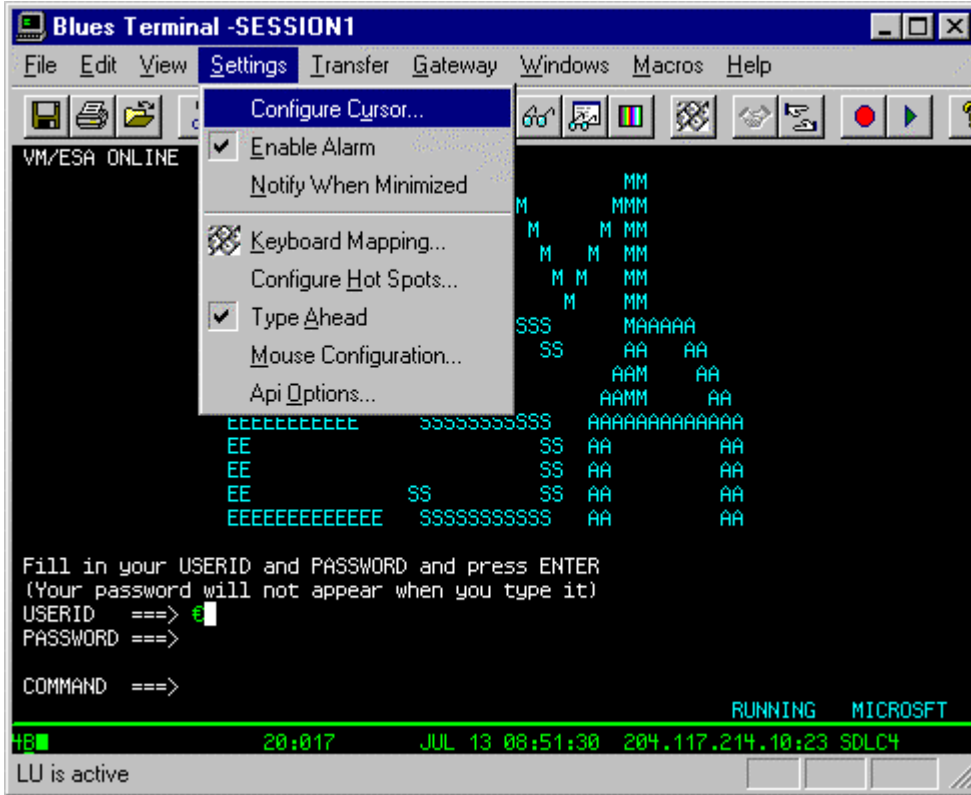
Toolbar

This command will either remove or add the tool bar from the top of the display window.

Statusbar

This command will either remove or add the status bar from the bottom of the display window.

The Settings Menu



The Settings menu includes commands that enable you to adjust the cursor type, sound, keyboard type and mapping, and 3270 command entry options.

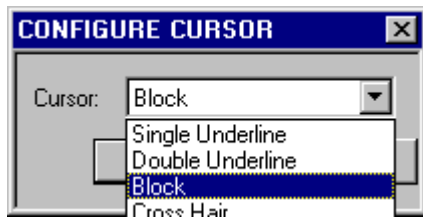
For more information, see the sections below which describe the following Settings menu commands:

- | | |
|-------------------------------|---|
| Cursor Type... | Adjust the cursor type and sound |
| Enable Alarm | Turns on and off the terminal beep. |
| Notify When Minimized | Notify operator when the screen changes when the session is in the minimized state. |
| Keyboard Mapping | Keyboard type selection and mapping |
| Configure Hot Spots... | Configure how HOT SPOTS work. |

Type Ahead	Selects whether or not you can continue typing while host screens are being received.
Mouse Configuration	This option lets you configure how the mouse buttons will act when pressed.
Api Options	Controls how the session interfaces to other programs including the clipboard.

Configure Cursor

This Settings menu command activates a dialog box that lets you select the type of cursor you want.



There are currently four types of cursors, a single underline, a double underline, a blinking block, and a cross hair.

Enable Alarm...

This option lets you enable and disable the terminal alarm. The alarm is a short beep sound that is heard whenever an error occurs or whenever the host indicates that the alarm should be sounded.

Notify When Minimized

When activated, this feature will cause the terminal session to notify the operator if the host screen changes while the terminal session is in the minimized state. The operator will see a dialog box indicating that the screen has changed and be allowed to either view the session or ignore the change.

Keyboard Mapping...

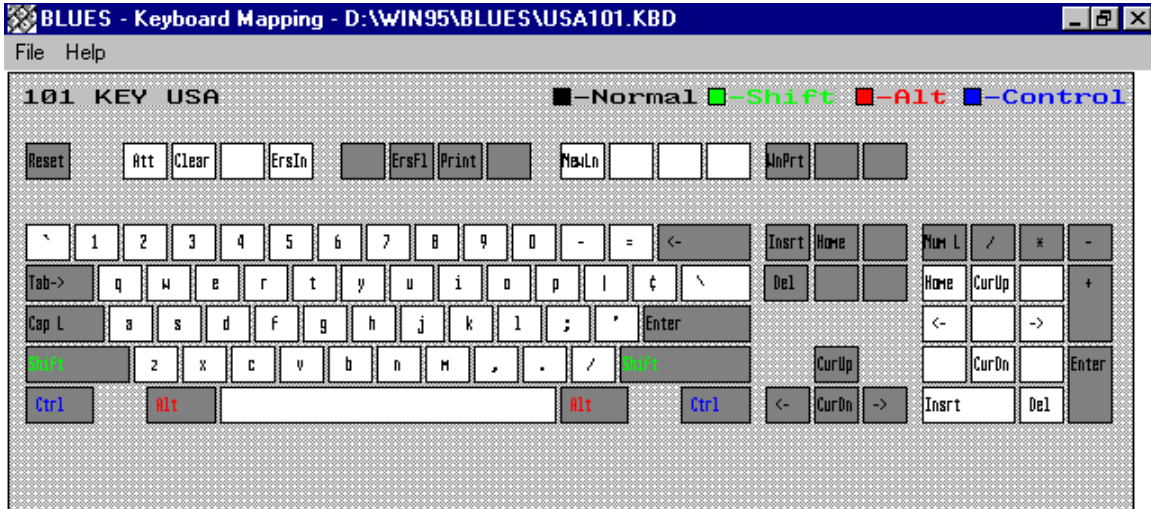
The File menu of the Keyboard Mapping utility is used to open a keyboard definition file (or 'key file'), to save (or save as) the remapped key file, and to exit the utility. A keyboard definition file contains information about a particular keyboard type, and the mapping of the keys. For example, as of the current revision of this document, the following base default keyboard definition files are provided with the BLUES 2000 Display application:

usa84.kbd	USA 84-key keyboard
usa101.kbd	USA 101-key keyboard
usa101.vt.kbd	USA 101-key keyboard telnet
usa122.kbd	USA 122-key keyboard
uk102.kbd	UK 102-key keyboard
sp102.kbd	Spanish 102-key keyboard
gr102.kbd	German 102-key keyboard
gr102.vt.kbd	German 102-key keyboard telnet
gr122.kbd	German 122-key keyboard
gr122.vt.kbd	German 122-key keyboard telnet
it102.kbd	Italian 102- key keyboard
greek102.kbd	Greek 102- key keyboard
sp102.kbd	Spanish 102- key keyboard

The keyboard type is displayed in the upper left corner when the keyboard utility is loaded. As explained in Section 2 Administration, the default key file, e.g. usa101.kbd, is set at session definition time. Therefore, e.g. '101 KEY USA', will be displayed in the upper left corner when you load the keyboard utility. If you open a different key file, then this message will change accordingly. Note that the keyboard type is fixed for a given key file - it is the mapping of the keys supported within this type that you can change.

Whenever you open a key file by selecting Open from the keyboard utility's File menu, that key file becomes the active one for your current session (as well as any key remapping you may do). For example, to switch to the Spanish 102-key base default, open sp102.kbd, and then exit the keyboard utility. Furthermore, to make this key file part of your user profile, select the main File/Save menu command.

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To VIEW any key, press the shift, alt, or control keys.

To MOVE a key, select it with the LEFT mouse button, point to the new key and click the mouse. If the key was already assigned, the old key may now be moved by pointing to another key and clicking the mouse.

To COPY a key, select it with the RIGHT mouse button, point to the new key and click the mouse.

Keyboard Mapping Window

Referring to the figure above, remapping of keys is done as follows:

Keys may have four states, Normal, Shift, Alt, or Ctrl. To see how each key is mapped with respect to one of these states, click on one of the four controls in the upper right of the keyboard utility display. A graphical representation of the data character or command function currently mapped to each key position for the given state will be displayed.

To move a data character or command function to a new place, i.e. a new key position and/or state, point the mouse pointer at the current place and click the left mouse button. Now move to the new place and click the mouse button again. If the new place is currently occupied, then that data character or command function becomes the 'selected' one, and can in turn be moved.

To 'copy', instead of 'move', use the right mouse button instead of the left. This leaves the data character or command function in its old place, as well as the new place to which you map it.

To clear a place, select it using either mouse button, and press the Del key.

(Note, a mouse is required to use the keyboard mapping utility.)

When your remapping is complete, use Save (or Save as) from the File menu of the keyboard utility to preserve your changes, then select Exit to exit the utility.

Configure Hot Spots

This Settings menu command enables you to configure how 'hot spots' function. A "hot spot" is a word located on the host screen that is recognized by the BLUES Display session as having a special meaning.

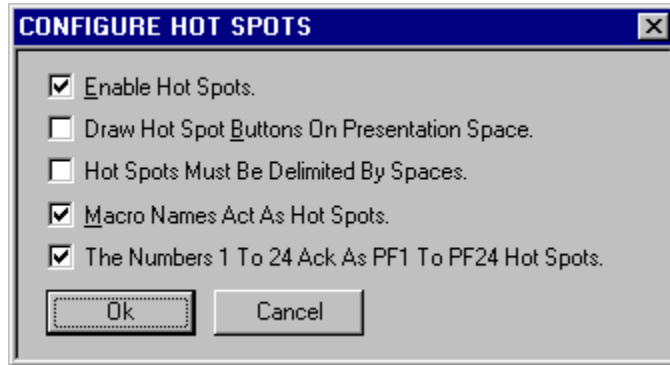
When hot spots are active, they can cause commands to be sent to the host by positioning the mouse over a portion of the host screen and pressing the left mouse button. For example, if the word CLEAR appears on the screen, you can perform a CLEAR key by simply pointing the mouse cursor at the word CLEAR, and clicking the left mouse button.

The characters in the command word on the screen can be in either upper or lower case. The following hot spot command words are supported:

PF1 through PF24, PA1, PA2, and PA3, CLEAR, ENTER, PRINT, SYSREQ,
F1 through F24

In addition, any macro that has been recorded will automatically become a hot spot.

The following dialog box will be displayed when the Configure Hot Spots menu item is selected:



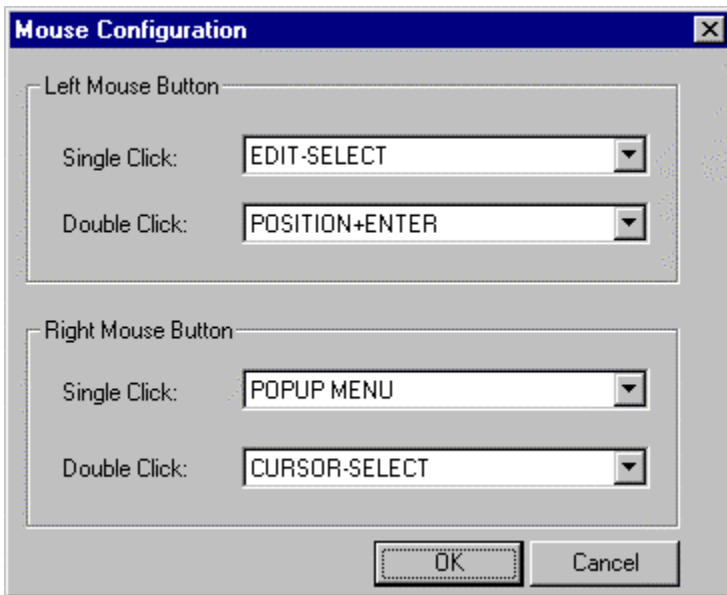
“**Enable Hot Spots**” allows you to select if hot spot detection is to be performed. When this feature is not selected all other selections in this dialog box are meaningless. “**Draw Hot Spot Buttons On Presentation Space**” allows you to select if hot spots located in protected locations of the host screen will be displayed as push buttons. The “**Hot Spots Must Be Delimited By Spaces**” option is used to select if hot spots can be recognized inside other words or if the hot spot must be surrounded by spaces on the left and right. The “**Macro Names Act As Hot Spots**” feature allows you to select if the names of any previously recorded macro’s will also become hot spots. The “**The Numbers 1 To 24 Ack As PF1 To PF24**” feature allows numbers located on the host presentation space screen to become hot spots for the program function keys PF1 through PF24.

Type Ahead

When this function is selected, you can continue to enter keystrokes while the display session is busy sending and receiving information to the host. When the keyboard becomes enabled, the display session will begin processing the keystrokes you entered. If you press the RESET key, all keys in the queue will be purged. A key queue of 255 keys may be entered ahead.

Mouse Configuration

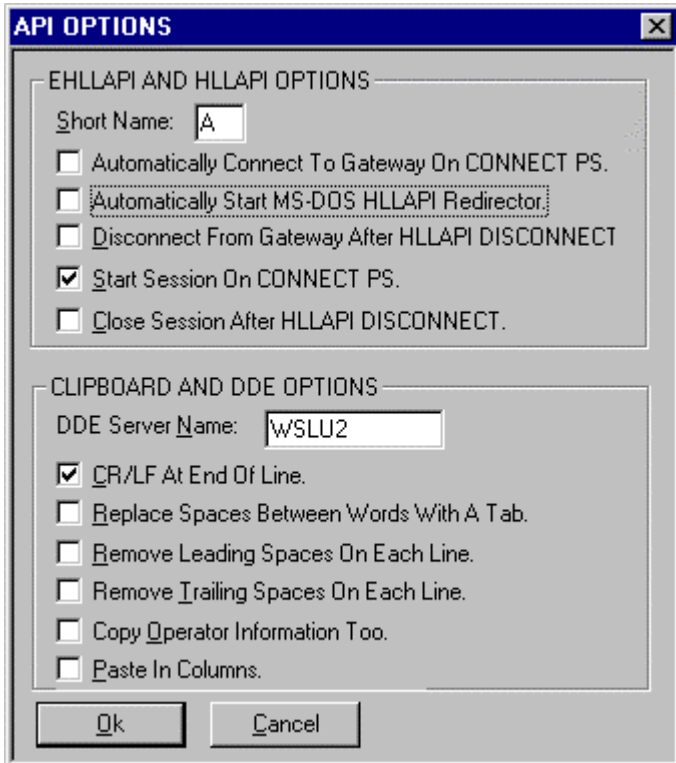
This option lets you configure how the mouse buttons will act when pressed. You may assign any function key, any of the clipboard functions, or any MACRO to both the left and right mouse buttons. If you are going to remove the title bar (see system menu), then the use of the left mouse double click is limited to displaying the title bar after it has been hidden. The following dialog box is displayed to configure the mouse buttons:



Use the left mouse button to select your assignments. The terms SELECT, CUT, and COPY are used for the clipboard functions.

Api Options

This Edit menu command lets you customize how the display session will copy information into the clipboard when you perform CUT, COPY, and DDE functions.



A variety of Application Programming Interface options are available under the API dialog. Each option is defined below:

The **SHORT NAME** field lets you select the EHLLAPI or HLLAPI presentation space short name. This field uniquely identifies the session to a API program using HLLAPI.

The **Automatically Connect To Gateway On HLLAPI Connect** option lets you select to have the session connect to the host (if not already connect) when the HLLAPI CONNECT PS function is performed.

The **Automatically Start MS-DOS HLLAPI Redirector** option should be used when an MS-DOS application wants to use a session through the HLLAPI programming interface. If this option is

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selected, then the session will automatically start the HLLAPI redirector ICON (if it is not already started) so that MS-DOS programs can use HLLAPI.

The **Disconnect From Gateway After HLLAPI DISCONNECT** option lets you select to have the session disconnect from the gateway whenever a HLLAPI DISCONNECT PS command is performed.

The **Start Session On CONNECT PS** option lets you start the session from your HLLAPI program. If selected, once the first HLLAPI CONNECT PS command is done, the session is started (if not already started).

The **Close Session After HLLAPI DISCONNECT** option lets you automatically stop a session when a HLLAPI DISCONNECT PS function is done.

The **DDE SERVER NAME** option lets you change the name of the DDE server that the session is known as. Normally this field is the name of the display session's program file.

The **CR/LF AT END OF LINE** option indicates that the session should add a carriage return and line feed characters to the end of each line that is copied to the clipboard and to each line that is given to a DDE client.

The **Replace Spaces Between Words With A Tab** option indicates that the session should remove spaces between words and add a TAB character for the removed spaces when copying to the clipboard or to a DDE client.

The **Remove Leading Spaces On Each Line** option indicates that the session should remove all leading spaces from each line that is copied to the clipboard and to a DDE client.

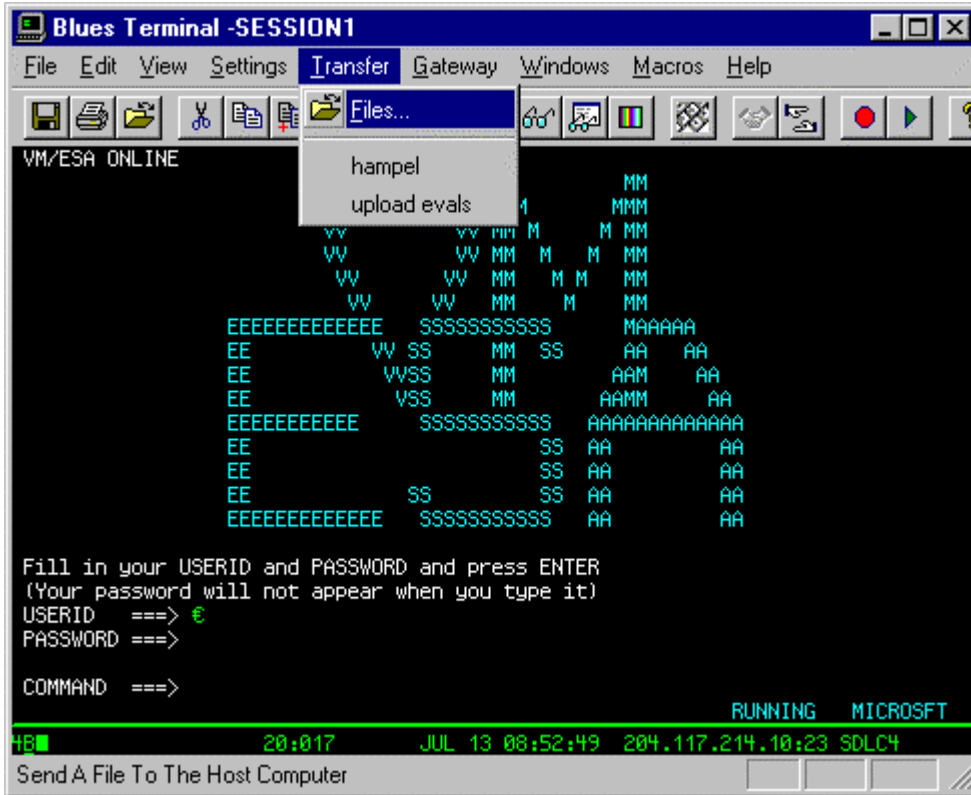
The **Remove Trailing Spaces On Each Line** option indicates that the session should remove all ending spaces from each line that is copied to the clipboard and to a DDE client.

The **Copy Operator Information Too** option lets you copy the operator information area line into the clipboard and also to pass the operator information area to a DDE client. The whole operator information area is passed.

If this option is selected when a paste function is done, then each new line of text pasted into the terminal session will be pasted in the column where the cursor was located when the paste was performed.

For example: If the cursor is in column 70 and a paste is done that contains 2 rows of text, then both rows of text will start in row 70.

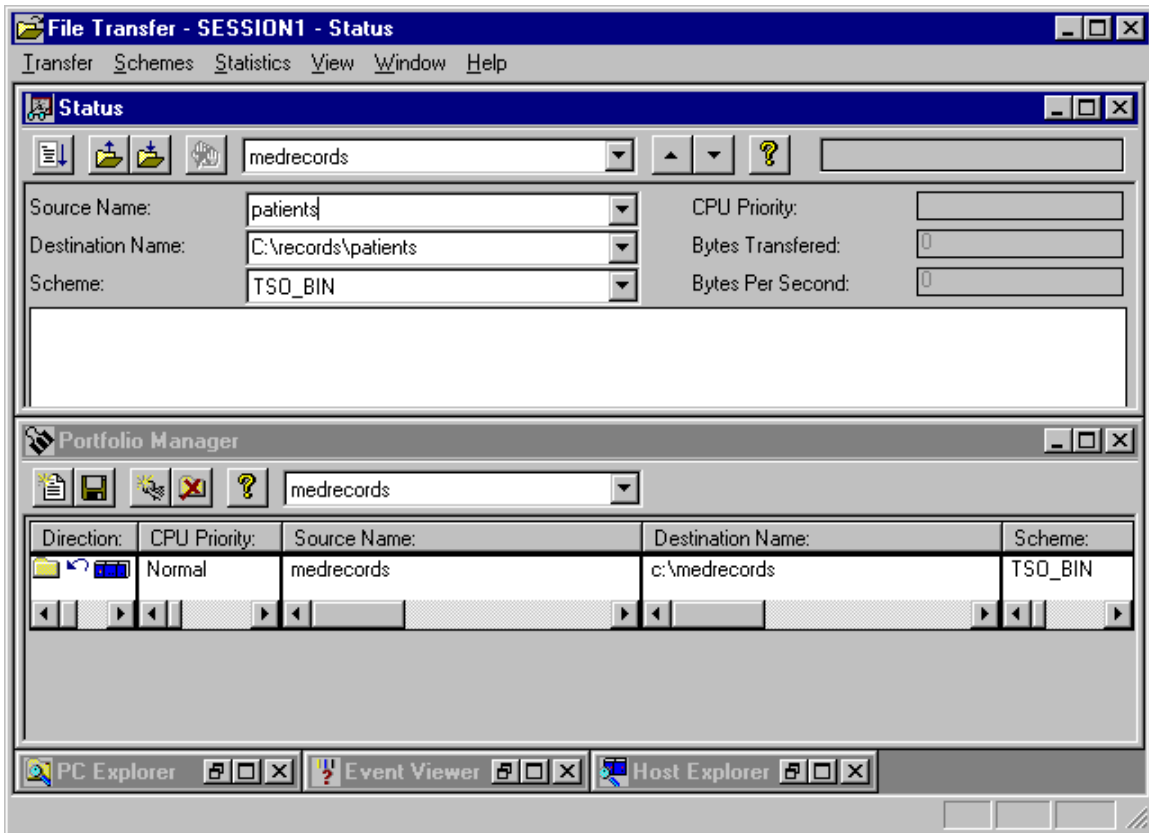
The Transfer Menu



The Transfer menu may be used to either activate the file transfer window, or to transfer an existing portfolio. A portfolio is one or more file transfers. Each file transfer in a portfolio has a scheme associated with it. A scheme is a set of file transfer options that dicatates how the file is transferred (i.e. as a binary file or text file etc.). Portfolios let you group file transfer operations so that you can transfer a portfolio at a future date by simply selecing the portfolio name from the Transfer Menu, selecting the portfolio name from the file transfer window, or by scheduling the portfolio from the file transfer scheduler.

File Transfer Main Window

The file transfer main window contains five separate windows. These windows may be maximized inside the main window or arranged as desired in the file transfer main window. The following picture depicts the default window arrangement:



The five windows consist of the status window, the portfolio window, the event viewer window, the PC explorer window, and the scheduler window. The following sections describe each window.

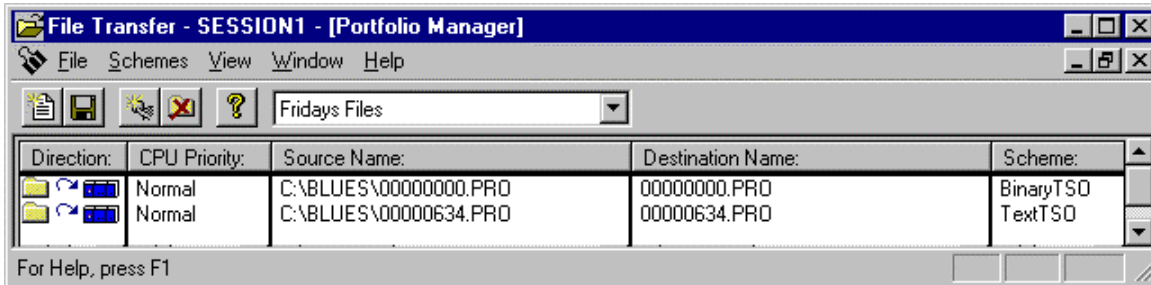
The Portfolio Manager Window

The portfolio window is used to create, edit, delete, and save portfolios. A portfolio is one or more file transfers. Each transfer in a portfolio consists of five options, the direction, the CPU priority,

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the source file name, the destination file name, and the scheme name. Schemes may be customized, created, or deleted from the portfolio manager window.

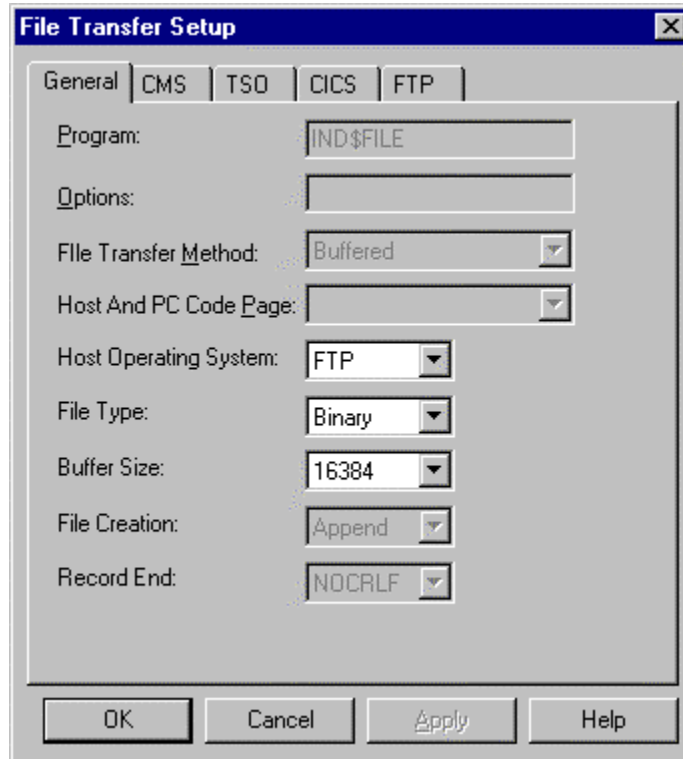
Editing a portfolio



The toolbar contains a drop down list box that lets you select any existing portfolios. Portfolios are stored in your private directory. You may create new portfolios from either the “new” toolbar button or from the File menu. If you already have a portfolio that is similar to the one you want to create, then you can select the existing portfolio and then save the portfolio under the new name (this does not delete the old portfolio). The direction of the file transfer may be changed by double clicking the direction indicator. The source file and destination file names are modified by first clicking the mouse in the desired file name, entering the changed, and pressing the enter key. **The portfolio manager supports drag and drop, this means that you may use the PC Explorer window (discussed later) to find a file that you want to transfer, then drag it into a portfolio and drop it in either the source or destination fields of a portfolio.** The scheme field may be changed by clicking the mouse over the scheme and selecting a scheme. To add or delete a transfer from a portfolio, first select the transfer you want to delete, or select the transfer that you want the new transfer to go after, then either press the add file to portfolio toolbar button, or select the add row/delete row File menu item.

Editing a scheme

Schemes may be created, edited, and deleted from the portfolio manager window. Schemes are stored in your private directory. When editing a scheme, the following window is displayed:



Program Name

Allows you change the name of the file transfer program running on the host computer.

Options

You may add extra options to the IND\$FILE command sent to the host to start the file transfer. These options are specific to each host.

File Transfer Mode

Selects one of two methods of file transfer. Structured Field is usually faster than buffered.

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TEXT MODE - During a send command from the local system, this command option Set identifies a PC text file consisting of ASCII character codes This entry directs the host to translate ASCII to EBCDIC code for storage on the host. During a RECEIVE command from the host, this command option directs the host program to translate the host's EBCDIC code into ASCII before transferring the file to the local system. See CRLF.

BINARY MODE - This command tells the host not to make any changes to the file during transfer. See NOCRLF.

HOST / PC CODE PAGE

This field lets you select the Host and PC code pages for text mode file transfer. Each selection corresponds to a file in the installation directory. The file names have 6 numbers in each name. The first 3 digits are used to identify the host code page and the last three digits are used to select the PC's code page. A code page defines what each of the possible 256 character's should be displayed and printed as. IBM has defined many set's of different code pages. The first 2 letters of each selection is an abbreviation for the host country as follows:

US	-	United States
GR	-	Germany
FI	-	Finland
IT	-	Italy
SP	-	Spain
UK	-	England
FR	-	France
BG	-	Belgium
GK	-	Greek

Each code page translation file may be changed with any standard editor such as edit.exe. Each line in the file represents a single character translation.

Host System

This option selects which host operating system you are connected to.

TSO - The host is running under TSO.

CMS - The host is running under CMS.

CICS - The host is running under CICS.

FTP - The host is a TCP/IP FTP host.

Before defining the File Specifications, you need to determine which transfer environment the host computer uses - TSO, CMS, CICS, or FTP. Once you make the Host System selection, file specification parameters which do not apply to your environment will be grayed out. The File Specifications for the different environments are discussed in their respective sections below.

File Creation

This option lets you select how a file that is received will be created.

APPEND - This command tells the host to add the data to the end of an existing file. Be sure to specify this option when you are transferring data to an existing file. If you do not specify APPEND and the file exists, the original file will be deleted and replaced by the file you are transferring.

NEW - Data replaces any existing file. If no file exists, one is created. For files transferred to the host, one of the File Creation Options must be specified.

Buffer Size

Allows customization of the size of structured field data that is sent and received during structured field type of file transfers.

Record Separator

This option specifies how records are separated during the file transfer.

CRLF - Records are separated with a Carriage Return and Line Feed when sent to or received from the host.

NOCLRF - Carriage Returns and Line Feeds are neither added nor deleted. **If you choose BINARY, you must select this option.**

Using File Transfer With TSO

This section explains how to send files to and receive files from a mainframe host computer equipped with MVS/TSO file transfer software. This section also explains the file specifications this environment uses.

Assuming you have initiated the LU2 session and accessed the host computer in the TSO environment as described in the previous sections, select the TSO Host System option of the File Transfer Parameter screen. File Specification parameters which do not apply to TSO will then be grayed out on the screen.

Now you may enter your file specifications. The file specifications are listed and explained below. Fields which must have entries are indicated as required fields.

File Transfer Options

The options field may be used to add additional options to the IND\$FILE command that is sent to the host to start the file transfer. These options are generally unique to a particular host.

Path/File Name

This is a required field. You specify the filename of the local file being transferred. You also have the option to specify a device (A:, B:, C:, D:) or path name. If you do not specify a device, the program defaults to the system's default drive. The naming conventions must conform to standard DOS syntax.

Host Data Set Name

This is a required field. This field specifies the name of the host data set. (The TSO data set name is similar to a directory name in DOS.)

Member Name

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This is a required field. The name of one of the members (files) in a partitioned data set (folder or directory). The MVS/TSO data set must already exist.

Password Field

This is an optional field. A password is only required when a password is in effect for the MVS/TSO data set.

Records Options

LRECL

This is an optional field. This field refers to the logical record length for the host file. If this field is blank, the system will default to a logical record length of 80 characters.

BLKSIZE

Refers to the block size of the host data set. Equals the number of bytes in a block of data. If you do not specify block size, the system defaults to the value of the Logical Record Length.

RECFM (F/V/U)

This is an optional field. The default value of this field is FIXED.

FIXED- Specifies that a data set with a fixed record length is to be created.

VARIABLE - Specifies the creation of a data set containing variable length records.

UNDEFINED - Refers to the creation of a data set containing an undefined record length.

SPACE

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Use this option to specify the amount of space to be allocated when creating a new data set. When you enter SPACE in the file specifications, follow it by a quantity. After the quantity, specify the kind of increment. If you do not specify SPACE, the system defaults to the value of BLKSIZE.

Once you have made all your parameter selections, click on the OK button. The file transfer session with the host will then begin and complete automatically. You may switch to another window, if you wish, while the file transfer proceeds in the background.

Using File Transfer With VM/CMS

This section explains how to send files to and receive files from a mainframe host computer equipped with VM/CMS (Virtual Machine/Conversational Monitor System) file transfer software. This section also explains the file specifications this environment uses.

Assuming you have initiated the LU2 session and accessed the host computer in the VM/CMS environment as described in previous sections, select the CMS Host System option of the File Transfer Parameter screen. File Specification parameters which do not apply to CMS will then be grayed out on the screen.

Now you may enter your file specifications. The file specifications are listed and explained below. Fields which must have entries are indicated as required fields.

Path/File Name

This is a required field. You specify the filename of the local file being transferred. You also have the option to specify a device (A:, B:, C:, D:) or path name. If you do not specify a device, the program defaults to the system's default drive. The naming conventions must conform to standard DOS syntax.

Host File Name

The name by which the file will be known when it is transferred to or from the host. This is a required field.

CMS File Type

Specifies the VM/CMS file type. The default for this field is BASIC. This is a required field.

CMS File Mode

Specifies the VM/CMS file mode. This is an optional field. If you do not specify the file mode, the system uses the default value A1.

LRECL

Optional entry. For program or data files, the logical record length specifies the number of characters per line. For word processing files, the logical record length refers to the width of the longest formatted line. If LRECL is omitted, the system defaults to the record length of the current file.

RECFM (F/V)

This is an optional field. The default value for this field is FIXED.

FIXED - specifies that a data set with a fixed record length is to be created.

VARIABLE - Refers to the creation of a data set containing variable length records.

Once you have made all your parameter selections, click on the OK button. The file transfer session with the host will then begin and complete automatically. You may switch to another window if you wish, while the file transfer proceeds in the background.

Using File Transfer With CICS

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This section explains how to send files to and receive files from a mainframe host computer that uses the IBM CICS (Customer Information Control System) file transfer software. This section also explains the file specifications the CICS environment uses.

Assuming you have initiated the LU2 session and accessed the host computer in the CICS environment as described in previous sections, select the CICS Host System option of the File Transfer Parameter screen. File Specification parameters which do not apply to CICS will then be grayed out on the screen.

Now you may enter your file specifications. The file specifications are listed and explained below. Fields which must have entries are indicated as required fields.

Path/File Name

This is a required field. You specify the filename of the local being transferred. You also have the option to specify a device (A:, B:, C:, D:) or path name. If you do not specify a device, the program defaults to the system's default drive. The naming conventions must conform to standard DOS syntax.

Host File Name

The name by which the file will be known when it is transferred to or from the host. This is a required field.

Comments

This is an optional entry. You add any notes or comments to the first record of the file. Comments do not affect the execution of the commands entered.

Once you have made all your parameter selections, click on the OK button. The file transfer session with the host will then begin and complete automatically. You may switch to another window if you wish, while the file transfer proceeds in the background.

Using File Transfer With FTP

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The File Transfer Protocol (FTP) mode sends and receives both text and binary files to TCP/IP hosts. These types of hosts include IBM 390's, IBM AS400, DEC VAX, and Microsoft NT Server. FTP may be used over intra/internet networks.

The FTP file transfer requires the Microsoft TCP/IP protocol to be installed, this is located on the original Microsoft Windows 95/98, or Windows NT CDROM.

FTP Host Name

The FTP host name determines which host the scheme may connect to. The name may be either a TCPIP address like 111.222.333.444 or a valid server name such as ftp.microsoft.com. The address or host name must be reachable over the TCP/IP protocol stack.

FTP Port

The FTP port must match the port number configured at the host computer for FTP. The industry standard default setting is 21.

FTP User Name

Each FTP host requires a user name and password to be able to access the host. The industry standard "Anonymous" user name may be selected, or a specific user name and password may be selected. Some FTP hosts require a valid user name and password for FTP file transfers.

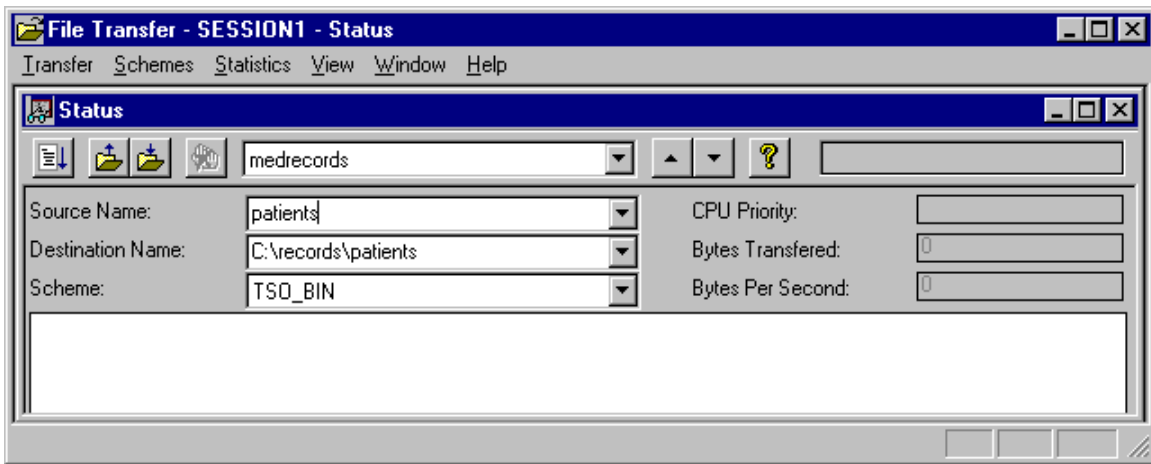
FTP Home Directory

A FTP home directory may be selected. If no FTP directory is selected, then the host computer will determine which directory will be the home directory. The directory name may contain sub-directories with either forward or backward slash(s) that represent a directory. Some hosts will place the FTP in a home directory based on the FTP user name and password.

FTP Time-outs

The time out values determine when to assume an error has occurred during a FTP host browse, or FTP file transfer operation. All time out values are in seconds. The connect time out is used during the connection process and the receive time out is used during FTP file transfers.

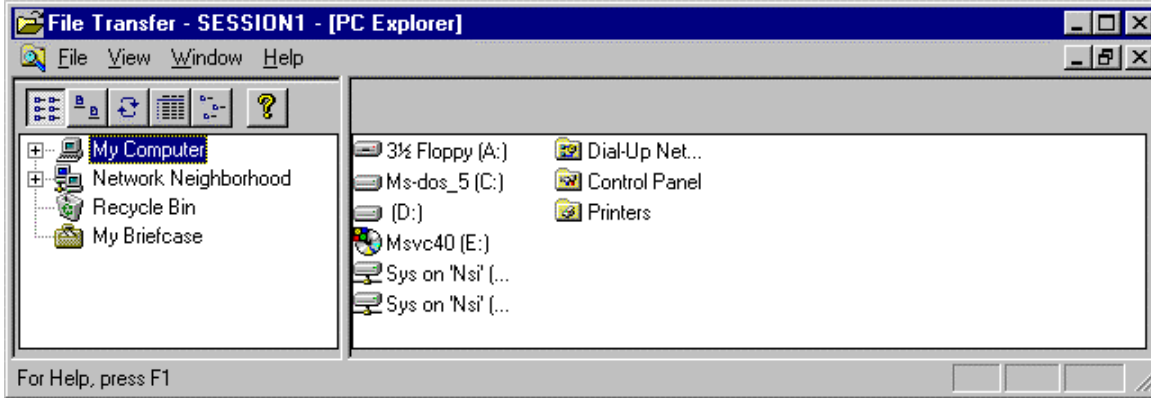
The Status Window



The status window may be used to transfer a single file or to transfer a complete portfolio. To transfer a single file, simply enter the source and destination file names, select the scheme, and press either the send or receive file toolbar button or menu item. To transfer a portfolio, simply select the portfolio from the toolbar list box, and press the transfer portfolio toolbar button or menu item. The status window contains a box that lists the progress of the file transfer. Each entry in the list box is described in the section that describes the file transfer event viewer window. To cancel a file transfer, you may press the cancel toolbar button or select cancel from the Transfer menu.

The file transfer application maintains a list of the last 20 files transferred. These files may be selected from either the toolbar or from the source and destination fields. The toolbar selection will automatically select the source, destination, scheme and direction then start the file transfer.

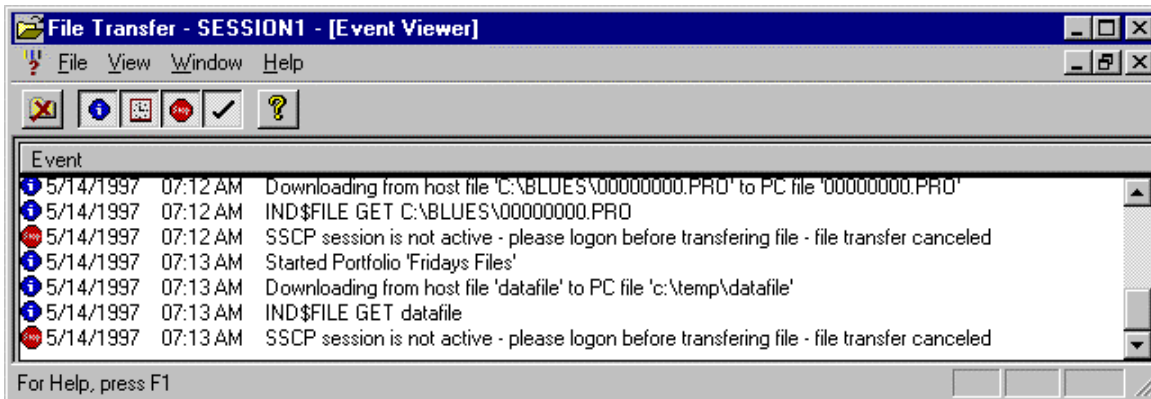
The PC Explorer Window



The PC Explorer window is split into two panes, the left pane is used to select a particular location of a file, and the right pane displays all the files in that particular location. You may adjust the panes by placing the mouse over the split, and dragging the mouse left or right.

The PC Explorer window is used to find a file that you may want to transfer. **Once you have found the file, you may drag and drop the file into the Portfolio Manager window for subsequent transfer.** The PC Explorer window is very similar to the Windows 95/98 and Windows NT 4.0 Explorer. To find a file, first select the proper location from the left most list, then find the file in the right list box. You may select different ways of viewing files. Files may be listed as large icons, small icons, lists, and detailed. Detailed lists contain the files date/time, size, and type.

The Event Viewer Window



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The event viewer window is used to view the event log. The event log contains information about past file transfers. The event log is stored in the private directory. When the event log reaches 1MB in size, the event log is automatically erased.

There are four different event types that may be viewed: (1) Information events, (2) scheduler events, (3) Error events, and (4) Successful Events. Information events are general in nature and give information about when and what was transferred. Scheduler events indicate when and what portfolios were scheduled for transfer. Error events occur when a file can not be successfully transferred. Successful events indicate when a file was successfully transferred and what the file size of the transferred file was.

By pressing the appropriate toolbar buttons you can select whether or not a particular event type is displayed.

File Transfer Messages

While using file transfer, a variety of messages can appear on the screen. These messages may contain status information or they may require a specific response. The following is a list of those messages and their meanings.

FILE TRANSFER COMPLETE

This message displays when the file transfer operation has completed successfully.

OPERATOR INTERVENTION: FILE TRANSFER CANCELED

This message occurs when you interrupt and cancel a file transfer session.

TRANS13 SSCP SESSION IS NOT ACTIVATED:FILE TRANSFER CANCELED

LULU SESSION IS NOT BOUND: FILE TRANSFER CANCELED

LULU SESSION DOES NOT OWN THE SCREEN: FILE TRANSFER CANCELED

LU2 NOT IN CORRECT SCREEN: FILE TRANSFER CANCELED

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Any of the above four messages indicates that the LU2 session is not in the correct state for file transfer, see the section above called 'PREPARING FOR A FILE TRANSFER SESSION'.

NO DATA SET READY: FILE TRANSFER CANCELED

TRANS11 LINK FAILURE WITH HOST: FILE TRANSFER CANCELED

Either of the above two messages indicates that the telephone connection to the host has been lost.

TRANS10 HOST HAS NOT RESPONDED WITHIN TIME LIMIT

COMMUNICATION SEQUENCE WITH HOST DISRUPTED: FILE TRANSFER CANCELED

Either of the above two messages indicates that the host did not send an expected response or data within a certain time limit. Check the status of the host for information that might explain the problem.

RE-TRANSMISSION OVER 3 TIMES, FILE TRANSFER CANCELED

This message appears when you attempt to SEND a file, and the host rejects the data three consecutive times. The SEND operation is automatically canceled after three SEND attempts. Check your command line format and parameters to be sure they have been entered correctly. Retry the SEND command.

LU2/API ATTACH ERROR: FILE TRANSFER CANCELED

NETWORK ERROR: FILE TRANSFER CANCELED

PU2AM ERROR: FILE TRANSFER CANCELED

FATAL ERROR - LU2 IS NOT ANSWERING: FILE TRANSFER CANCELED

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Any of the above four messages indicates that there is a local network configuration error which needs to be resolved before file transfer can be accomplished.

SNA PROTOCOL ERROR: FILE TRANSFER CANCELED

This message indicates that there is a host communications protocol configuration error which needs to be resolved before file transfer can be accomplished.

HOST DATA SET SPACE ALLOCATION PROBLEM: FILE TRANSFER CANCELED

HOST DATA SET OPEN ERROR: FILE TRANSFER CANCELED

HOST OPERATOR HAS CANCELED: FILE TRANSFER CANCELED

Any of the above three messages indicates that the file transfer was canceled due to an event at host.

ENTER NUMERIC DATA ONLY INTO FIELDS LRECL OR BLKSIZE

COULD NOT CREATE THE PC FILE: FILE TRANSFER CANCELED

COULD NOT OPEN THE PC FILE: FILE TRANSFER CANCELED

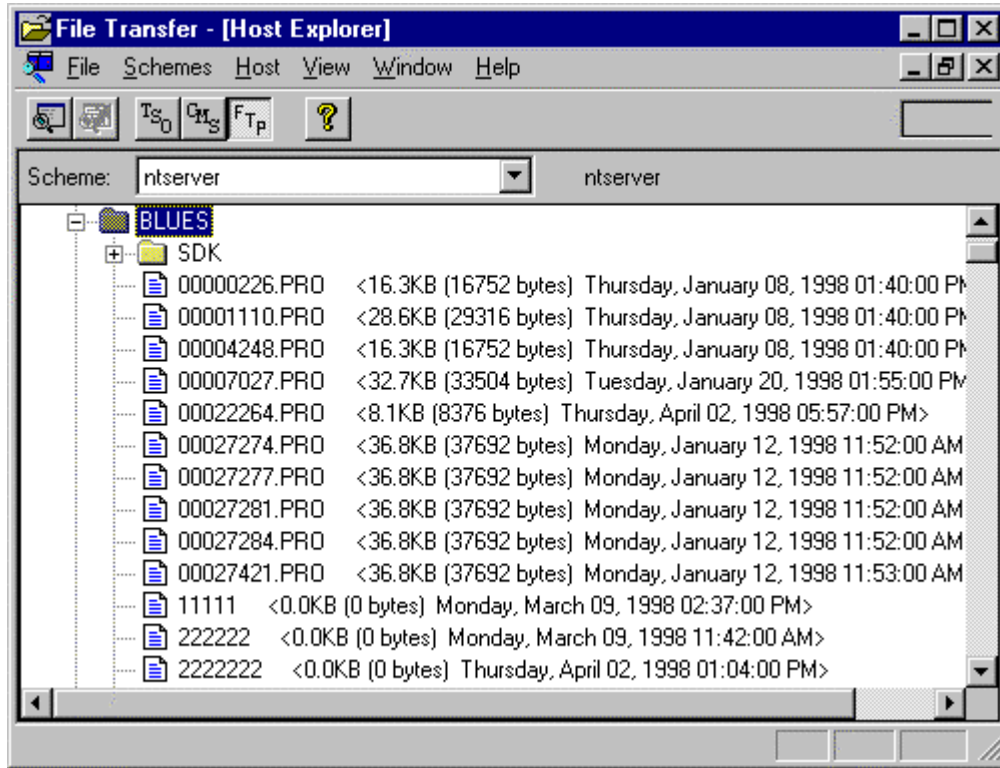
A HOST DATA SET NAME WAS NOT ENTERED: FILE TRANSFER CANCELED

A HOST FILE NAME WAS NOT ENTERED: FILE TRANSFER CANCELED

A PC FILENAME WAS NOT ENTERED: FILE TRANSFER CANCELED

Any of the above six messages indicates a problem in the File Specifications entered for the file transfer. Check the parameters, and retry the file transfer.

The Host Explorer Window

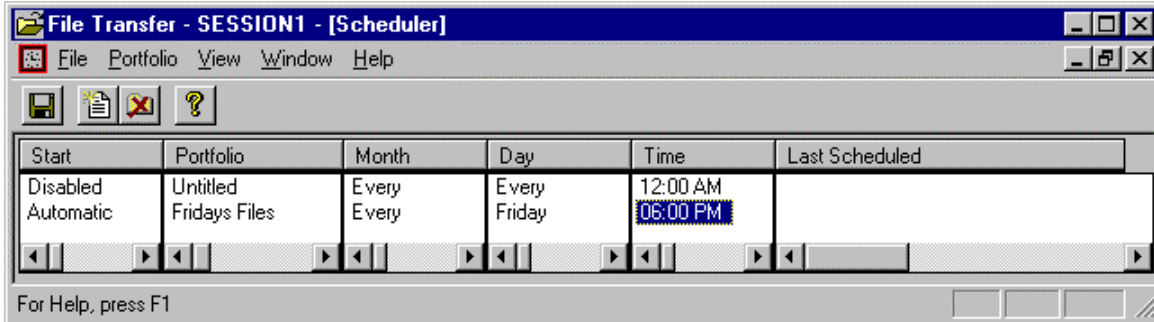


The host explorer window may be used to obtain a list of file names that already exist on the host computer. After a list of file names have been obtained, a host file can be dragged and dropped into a portfolio source or destination file.

To obtain a list of host file names, select the correct host operating system from the menu or toolbar. Next select the Query host menu or toolbar option. The query may be canceled by selecting the cancel query menu item.

The Scheduler Window

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The scheduler window is used to schedule portfolios for regular transfer. Portfolios may be scheduled by month, day of week, and time. Portfolios may be configured to automatically be done or configured so that the operator is notified when a portfolio should be transferred.

The file transfer window must be started before a schedule will become active. If you have activated a portfolio in a schedule, then the terminal window will automatically start the file transfer window in a minimized state.

Every thirty seconds, the scheduler window will see if a portfolio should be scheduled. Scheduling takes place if three conditions are met, (1) it is the correct month, (2) it is the correct day, and (3) it is the correct time. The correct time is encountered when current time exceeds the configured time and when the current time minus the last time that the portfolio was scheduled is greater than 24 hours.

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Disconnect	Disconnect from host
Send Operator Alert	Send host alert message
Response Time Monitor	Perform RTM function
Control Unit Parameters	Obtain CU parameters
Link Level Statistics	Obtain link level statistics
SNA Trace Active	Start/Stop SNA Req/Rsp trace
Link Trace Active	Start/Stop link level trace
X.25 Link Status	Display X.25 Link Level Statistics
Session Trace Active	Start/Stop PU2AM level trace
Delete Trace File	Inform the gateway connection to purge it's trace file.

Connect

This menu item will connect the session to the host.

Disconnect

This menu item will disconnect the session from the host.

Send Operator Alert

This Gateway menu command allows an authorized user to send an operator generated NPDA alert to the host system.

Operator alerts can be either placed in a log file at the host, or sent directly to the host computer operator.

Response Time Monitor Functionality

This Gateway menu command displays response time monitor information. This feature is only available for connection types of BLUES and Microsoft NT SNA Server.

The response time monitor display shows the response times for the addresses which are 3278/9 terminal devices, and also displays the counters and parameters associated with these timers. The authorized operator may selectively reset counters for specific addresses.

Control Unit Parameters

This Gateway menu command is used to obtain a display of the currently active control unit parameters. This feature is only available for connection type of BLUES.

The control unit information displayed pertains to the gateway to which you are connected, and includes control unit type and control unit address, as well as link level parameters such as encoding, speed, and protocol in use.

Link Level Statistics

This Gateway menu command is used to obtain a link level statistics displays.

A group of counters is displayed. The counters may indicate modem errors, a poor phone line, or may just indicate all is well at the link level.

X.25 Link Status

This dialog box will display the status of an X.25 connection. This option is only available when you using a connection that was configured for the X.25 link level protocol. The dialog contains an area that will display the reason why the last virtual circuit was lost. In addition, the states of the virtual circuit and physical unit are displayed.

Dial - Call Button

This button will either open a permanent or switched circuit and if Auto-sync has been configured, it will call the remote host. This button may be used to re-activate a lost circuit.

Clear - Dial Button

This button will disconnect the X.25 virtual circuit and hang up a physical connection. The physical connection is only disconnected if no other connections (physical units) are using the same physical link.

Display Session SNA Trace Active

The NSI trace facilities allow you to start and stop the trace from the gateway menu. All data is recorded in the file "SESSIONx.TRC" in the private directory. The trace file is a standard ASCII file that may be viewed or printed as desired. The trace feature is meant as a tool to help solve possible problems in the communication to the host computer.

NOTE - enabling a trace degrades performance because of the additional overhead of writing trace data to the disk.

Display Session Link Trace Active

The NSI trace facilities allow you to start and stop the trace from the gateway menu. All data is recorded in the file "SESSIONx.TRC" in the private directory. The trace file is a standard ASCII file that may be viewed or printed as desired. The trace feature is meant as a tool to help solve possible problems in the communication to the host computer.

NOTE - enabling a trace degrades performance because of the additional overhead of writing trace data to the disk.

Display Session 'Session' Trace Active

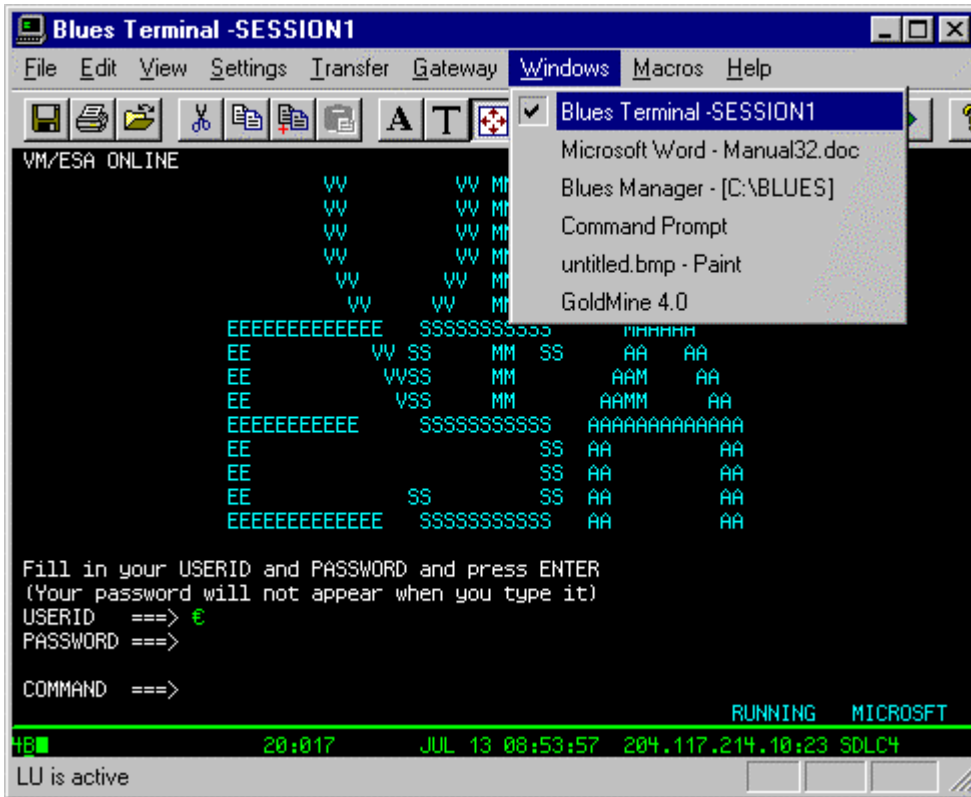
The NSI trace facilities allow you to start and stop the trace from the gateway menu. All data is recorded in the file "SESSIONx.TRC" in the private directory. The trace file is a standard ASCII file that may be viewed or printed as desired. The trace feature is meant as a tool to help solve possible problems in the communication to the host computer.

NOTE - enabling a trace degrades performance because of the additional overhead of writing trace data to the disk.

Delete Trace File

This feature is only available when you are connected to a gateway connection. It will cause the trace file associated with the connection to be deleted.

The Windows Menu



The Windows Menu

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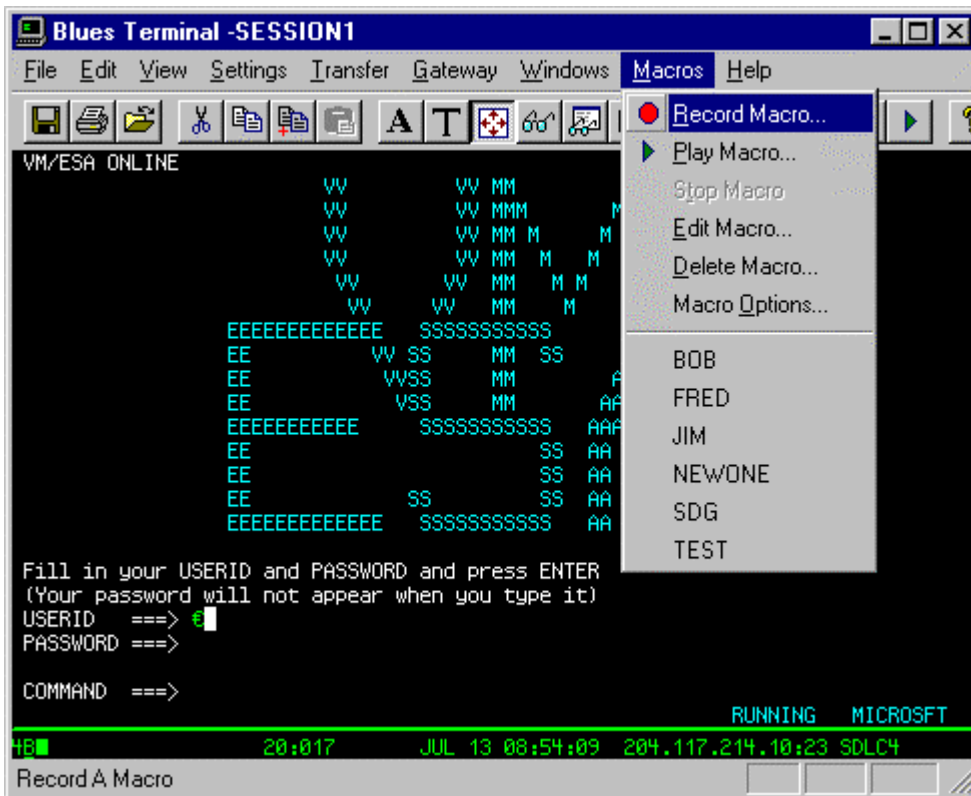
The Windows Menu provides you a convenient way to quickly switch between session windows when you are running multiple sessions. First select the **Windows** Menu. A list of your active sessions will be displayed, e.g.,

SESSION1, SESSION2, and SESSION3

To switch to any session's window, click on the session item in the list.

The Macros Menu

The Macros menu lets you record, play, edit, and delete macro files. Macro files are typically saved in your private directory. The Macro menu displays as follows:



Record Macro

This menu function allows you to either enter a new macro file name or re-record an existing macro. Once you have selected the macro name, the macro will start recording. During the record function a dialog box will be displayed indicating that the macro is being recorded. You may pause the recording by pressing the pause button or stop the record function by pressing the STOP button. It is recommended that the first key you enter when recording a macro is the HOME key. This will ensure that no matter where the cursor is located when you play the macro back, the macro will play properly. All keys entered are recorded. The macro records when you send something to the host computer and when you receive a screen from the host, this allows it to play the macro back in a timely fashion. If you use a series of host screens in a circular fashion, you can record a single set of host screens (with a pause when you need to enter in specific information), then edit the macro and add a GOTO line in the macro. This will improve productivity while accessing the same set of host screens by automating the process. See Edit Macro for more details. Once you have recorded a macro, the macro name will automatically be placed in your keyboard mapping. You can then map the macro to any key position that you want.

Play Macro

To Play a macro you must first display the host screen that was present when you first selected to record a macro. Once you select the macro name, the macro will start playing back. If you recorded any pauses then the macro will pause when one is encountered. To cause the macro to start playing after a pause has been encountered, press resume. When the macro has finished playing, then the play dialog box will automatically disappear.

Stop Macro

This menu item will stop a macro when a macro is in the process of being played.

Edit Macro

Macros may be edited and changed by selecting Edit Macro from the MACROS menu item. Each line of the macro file contains a keyword followed by optional parameters and values. Any

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keyword that ends with a semicolon (;) is considered a place holder label. Labels may be jumped to by a GOTO keyword. The following list summarizes all macro keywords:

"DATA_KEYS Hello World"	- Normal ANSI text to be entered.
"PF1"	-PF1 or F1 function key.
"PF2"	-PF2 or F2 function key.
"PF3"	-PF3 or F3 function key.
"PF4"	-PF4 or F4 function key.
"PF5"	-PF5 or F5 function key.
"PF6"	-PF6 or F6 function key.
"PF7"	-PF7 or F7 function key.
"PF8"	-PF8 or F8 function key.
"PF9"	-PF9 or F9 function key.
"PF10"	-PF10 or F10 function key.
"PF11"	-PF11 or F11 function key.
"PF12"	-PF12 or F12 function key.
"PF13"	-PF13 or F13 function key.
"PF14"	-PF14 or F14 function key.
"PF15"	-PF15 or F15 function key.
"PF16"	-PF16 or F16 function key.
"PF17"	-PF17 or F17 function key.
"PF18"	-PF18 or F18 function key.
"PF19"	-PF19 or F19 function key.
"PF20"	-PF20 or F20 function key.
"PF21"	-PF21 or F21 function key.
"PF22"	-PF22 or F22 function key.
"PF23"	-PF23 or F23 function key.
"PF24"	-PF24 or F24 function key.
"PA1"	-PA1 key.
"PA2"	-PA2 key.
"PA3"	-PA3 key.
"ENTER"	-enter function key.

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"SYS_REQ"	-sys request function key.
"TAB"	-tab key.
"BACKTAB"	-back tab key.
"NEWLINE"	-new line key.
"CLEAR"	-clear function key.
"ALT_CURSOR"	-alt cursor key.
"ATTN"	-attention key.
"CUR_SEL"	-cursor select key.
"DUP"	-dup key.
"ERASE_EOF"	-erase eof key.
"ERASE_INP"	-erase input key.
"FLD_MARK"	-field mark key.
"HOME"	-home key.
"CUR_LEFT"	-cursor left 1 key.
"CUR_LEFT2"	-cursor left 2 key.
"CUR_RIGHT"	-cursor right 1 key.
"CUR_RIGHT2"	-cursor right 2 key.
"RESET"	-reset key.
"KEYUP"	-cursor up key.
"KEYDOWN"	-cursor down key.
"BACKSPACE"	-backspace key.
"INSERT"	-insert key.
"DELETE"	-delete key.
"PRINT"	-print screen key.
"WAIT"	-receive 1 screen from the host
"PAUSE"	-pause a playback
"DARK_KEYS ?????"	-non-display keys.
"GOTO label"	-go to label.
"RUN command line"	-Start another program
"CUT_CLIP sr,sc,er,ec,tabs,crlf"	-Cut to the clipboard. the parameters are starting row, starting column, ending row, ending column, a 1 if put tabs

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	between words, and a 1 if add carriage returns and line feeds at line end.
"COPY_CLIP sr,sc,er,ec,tabs,crlf"	-Copy to the clipboard. the parameters are starting row, starting column, ending row, ending column, a 1 if put tabs between words, and a 1 if add carriage returns and line feeds at line end.
"PASTE_CLIP	-Paste from the clipboard.
"SEND pcf file host file	-Upload a file to the host.
"RECEIVE pcf file host file.	-Download a file from the host.
"FIELD_EXIT"	-5250 Field Exit key.
"FIELD_PLUS"	-5250 Field Plus key.
"FIELD_MINUS"	-5250 Field minus key.
"ROLL_UP"	-5250 Roll up key.
"ROLL_DOWN"	-5250 Roll down key.
"HELP"	-5250 Help key.
"HOST_PRINT"	-5250 Host Print Screen key.
"EXIT",	-close session window
"TIMEDWAIT x",	-wait x seconds
"ESCAPE_KEY",	-telnet escape key
"HOLD_KEY",	-telnet hold key
"BREAK_KEY",	-telnet break key
"COMPOSE_KEY",	-telnet compose key
"DO_KEY",	-telnet do key
"NULL_KEY",	-telnet null key
"PAGEUP_KEY",	-telnet page up key
"PAGEDOWN_KEY",	-telnet page down key
"REMOVE_KEY",	-telnet remove key
"END_KEY",	-telnet end key
"RETURN_KEY",	-telnet return key
"SOH_KEY",	-telnet SOH key
"STX_KEY",	-telnet STX key

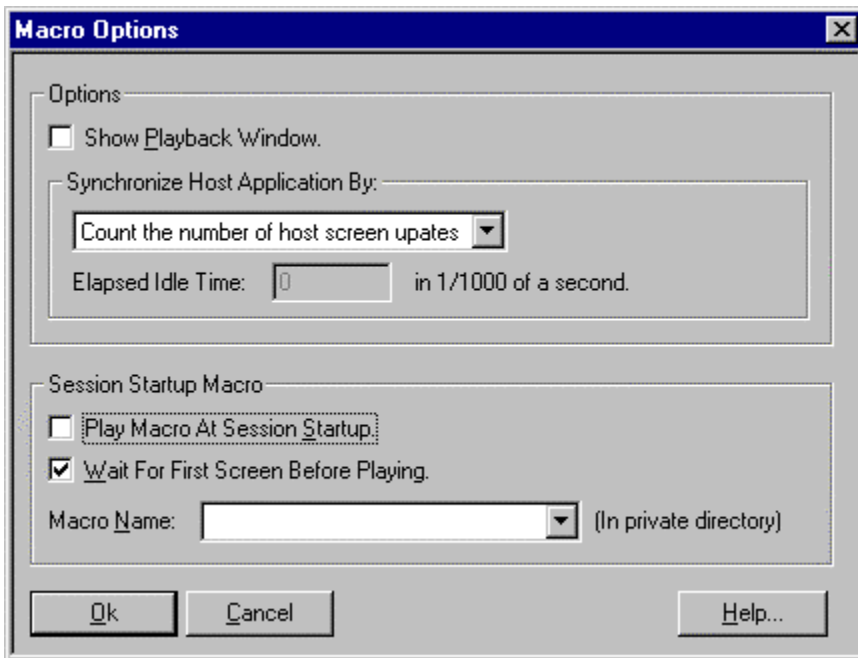
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"ETX_KEY",	-telnet ETX key
"EOT_KEY",	-telnet EOT key
"ENQ_KEY",	-telnet ENQ key
"ACK_KEY",	-telnet ACK key
"BEL_KEY",	-telnet BEL key
"HT_KEY",	-telnet HT key
"VT_KEY",	-telnet VT key
"FF_KEY",	-telnet FF key
"CR_KEY",	-telnet CR key
"SO_KEY",	-telnet SO key
"SI_KEY",	-telnet SI key
"DLE_KEY",	-telnet DLE key
"DC1_KEY",	-telnet DC1 key
"DC2_KEY",	-telnet DC2 key
"DC3_KEY",	-telnet DC3 key
"DC4_KEY",	-telnet DC4 key
"NAK_KEY",	-telnet NAK key
"SYN_KEY",	-telnet SYN key
"ETB_KEY",	-telnet ETB key
"CAN_KEY",	-telnet CAN key
"EM_KEY",	-telnet BM key
"SUB_KEY",	-telnet SUB key
"FS_KEY",	-telnet FS key
"GS_KEY",	-telnet GS key
"RS_KEY",	-telnet RS key
"US_KEY",	-telnet US key

Delete Macro

The Delete Macro function lets you delete macro files from your disk. Select the macro that you want to delete by using the mouse and pressing OK.

Macro Options



The “Show Playback Window” option either enables or disables a small window that may be displayed while a macro is being played. The playback window displays each macro line as it is being played. In addition, the playback window has push buttons for stopping, pausing, and resuming the macro.

The synchronize host application option determines how the terminal session determines when the host has completely written the screen so that the next macro line may be played. Some host applications may write data to the screen a variable number of times after keyboard input. Two options exist for determining when the host has completed writing the screen: (1) Count the number of host screen updates or (2) wait for an elapsed amount of idle time. During the record phase, the number of times that the host writes to the display is counted and recorded into the macro. If you choose option 1 above, then as the macro is played back it is assumed that the host will write to the screen the same number of times before the macro continues to play after an enter action is performed. In the second case above, a timer is started after the host updates

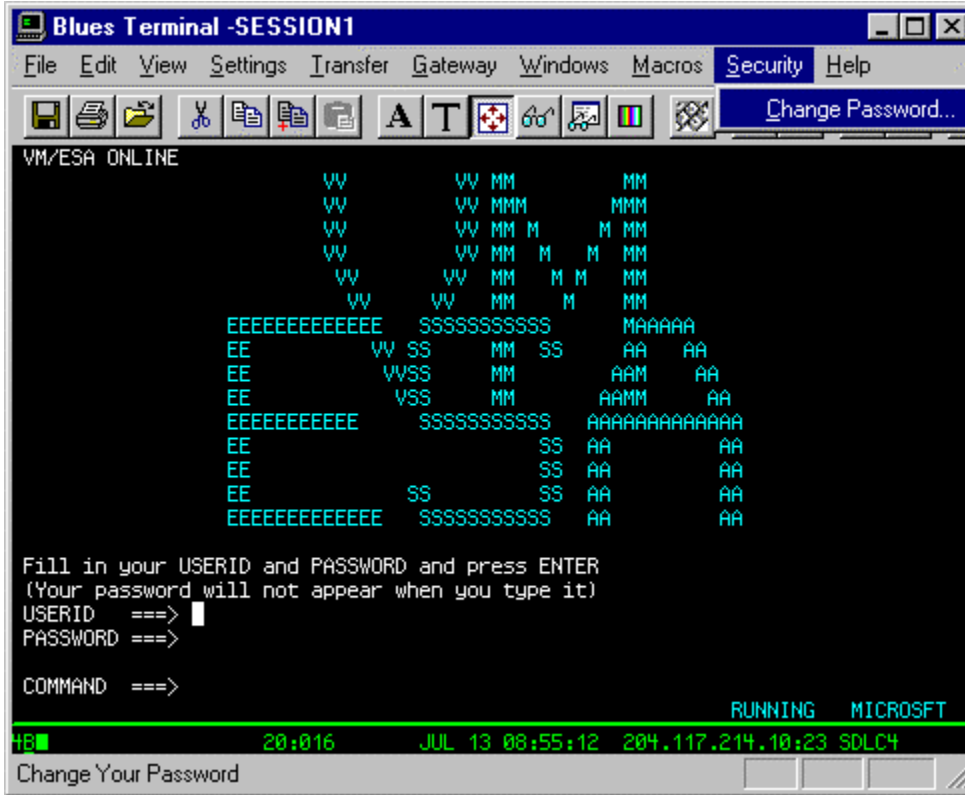
the screen and if this timer reaches the configurable time value and the keyboard is enabled, then the macro will continue. When configuring the idle timer, it is necessary to take into account the host response time and the speed of the physical connection to the host.

The Startup Macro lets you select a macro that will be played whenever you start the terminal session. In order to activate the startup macro, you **MUST** have the "Play Macro At Startup" checkbox selected.

Show Playback Window

The playback window is a small window that lets the operator see each line in the macro file as it is played back. This feature is useful in determining when something is wrong with a macro file.

The Security Menu

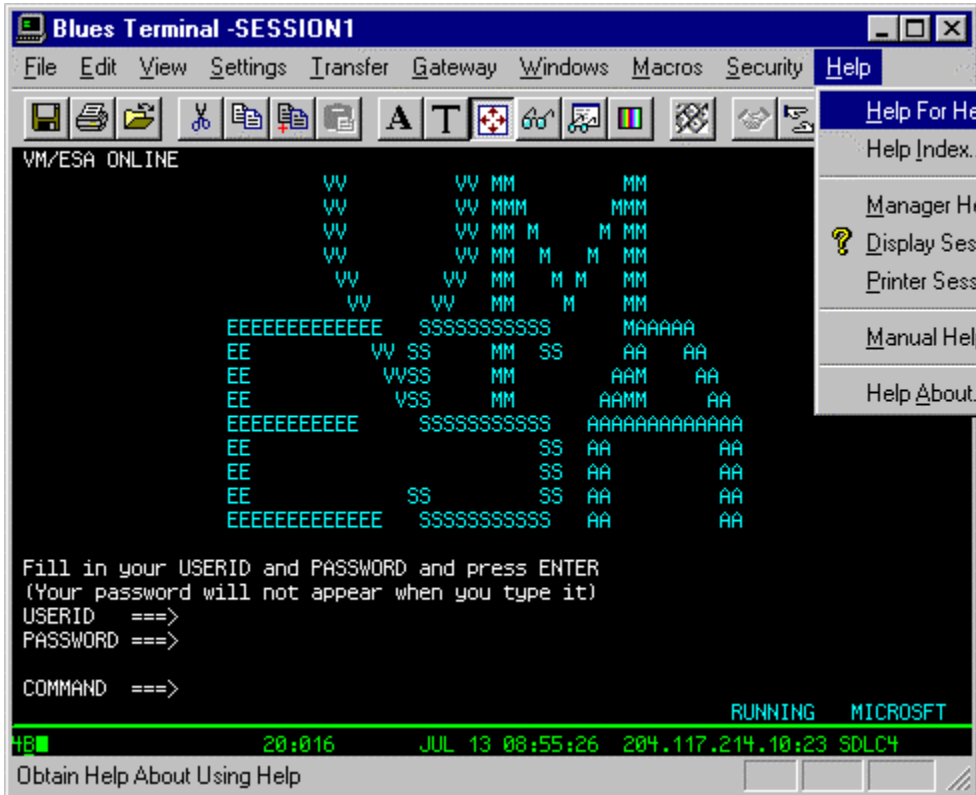


The Security Menu

Change Password

The Security Menu provides you with a means of assigning a user password, which will restrict use of your BLUES 2000 user name and sessions. First select the **Security** Menu, and then click on the **Change Password** menu item. Follow the directions provided by the prompts to enter a new, or change an existing, password. Once you assign a password, every subsequent load of one of your sessions will be guarded by a query for your password.

The Display Session Help Menu



The Help Menu

The Help Menu includes commands that enable you to obtain information about how to use the standard Windows Help facilities, as well as commands that enable you to access the major topics of help available for this particular application.

3270 Operator Information Area

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The 3278/9 status line, sometimes called the 'operator information area', may be displayed on either the top line of the BLUES 2000 Display application screen or the bottom line. It contains information regarding the state of the host mainframe connection, as well as screen format information.

```
4 ■ 20:016 JAN 21 17:26:33 SDLC1 TESTLU2 0
```

3270 Cu Type **column 1**

This location always displays the number 4 in a box. If the window size has been reduced, then the 4 may not be boxed.

3270 Protocol Type **column 2**

This field displays the capital B with the underline indicating that the host protocol is SNA.

Screen Ownership field: **columns 3**

?

Indicates that the 3270 display screen is unowned by any host application.

boxed little man

Indicates that the screen is owned by the System Services Control Point. This is usually displayed during the logon process and while switching between host applications.

Square Box

Indicates that the screen is owned by a host application.

Input Inhibit field: **columns 9 - 18**

X CLOCK

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Terminal wait, the mainframe is sending something to the LU2, or another operation has the keyboard locked.

X SYSTEM

System wait, the mainframe is sending something to the 3270 display, or another operation has the keyboard locked.

X -F

Minus function, this indicates that the operator has depressed an invalid key. Press RESET key to continue.

X <- ->

Go elsewhere, this message is displayed when the operator has attempted to enter some data in a protected area of the screen.

X >

This message is displayed when the operator has attempted to insert a character into a field that is already full.

X PROGXYZ

This message is displayed when a program check XYZ has been detected.

--__5XY

Communications Check XY, where XY is as follows:

501

Not connected to the gateway.

504

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The control unit is disconnected from the link.

For an SDLC link, this message is displayed when the RS-232 dataset ready signal is not present. This indicates that the cable is not connected, the modem is powered off, or that the telephone connection to the host is not connected.

For a Token Ring DLC, this message is displayed when the DLC driver cannot locate the upstream controller. the upstream controller may be powered off, or may be configured wrong.

510

The Physical Unit has not been activated by the host

520

For an SDLC link, this message indicates that the host computer has not transmitted an SDLC frame to the gateway in over 20 seconds.

For a Token Ring DLC, this message indicates that the DLC driver does not have a network session with the upstream controller yet, i.e., not SABME'd yet.

Insert Mode field: **column 20**

^

This indicates that the 3270 display is in insert mode.

Row and Column field: **columns 22 - 27**

AB:CDE

This is the row and column of the cursor location; ab is the row number, and cde is the column number.

Date And Time **columns 35 - 49**

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This field displays the current date and time.

Connection Name **columns 54 - 68**

This field displays the name of the host connection that is currently configured. The name of the Netware file server and service agent are displayed when the Netware For SAA type of connection has been configured.

Lu Alias field: **columns 70 - 78**

This field contains the user name associated with the host-configured 3270 display being used for this session.

LU Address **columns 79 - 80**

When the terminal is connected to a gateway this field displays the hexadecimal value of the logical unit address configured at the host.

5250 Operator Information Area

The operator information area of the display emulation window is active when a display session has been configured for 5250 emulation mode. The 5250 operator information area contains the status indicators. In addition, the operator information area contains the TCPIP address of the host.

The 5250 operator information area is broken down into the following fields:

Cursor Row And Column **columns 4-9**

This is the row and column of the cursor location; ab is the row number, and cde is the column number. i.e. 01:050 is row 1 column 50.

System Available **columns 21 -22**

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This field contains the two characters 'SA'. This field indicates if the AS400 is available for use or not. If the characters appear in reverse video, then the AS400 system is available and the BLUES session is connected to it.

Message Waiting **columns 26 -27**

This field contains the two characters 'MW'. This field indicates if the AS400 has a message waiting for the display session. If the characters appear in reverse video, then the AS400 system has a message waiting and the operator should retrieve it.

Keyboard Shift **columns 31 -32**

This field contains the two characters 'KS'. This field indicates is the keyboard shift key is down. If the characters appear in reverse video, then the keyboard is in shift mode.

Insert Mode **columns 36 -37**

This field contains the two characters 'IM'. This field indicates if insert mode is active. If the characters appear in reverse video, then insert mode is active.

Input Inhibit **columns 41 -42**

This field contains the two characters 'II'. This field indicates if display session is waiting for some information to come from the AS400. If the characters appear in reverse video, then the AS400 system has control of the display session and the keyboard is locked.

TCPIP Host Address **columns 53 - 80**

This field contains the TCPIP address or the DNS name of the host that the session is connecting to.

ActiveX Control Capabilities

The Blues product automatically installs an ActiveX control that provides ActiveX container applications such as Microsoft Internet Explorer with a fully functional 3270, 5250, or DEC VT terminal session(s). The control may be used to insert one or more host sessions into a Web page. When the Web page is displayed, the Blues session(s) appears inside the browser and are fully functional from the browser. The control may also be used by third party vendors that require access to host programs through a seamless interface that is contained in their application. In addition to providing the emulation capabilities, the third party application may automate any operator activity through the use of the control's methods, properties, and events.

The Blues ActiveX control may also be used to distribute Blues over a network and subsequently be used to upgrade and maintain PC's with newer versions of the Blues software. By inserting the ActiveX control on a WEB page, user's can automatically have a pre-configured copy of Blues installed on their PC by merely visiting the WEB page. A network administrator can install Blues on their PC, configure and customize Blues to match their user's needs, build a Blues installation package with the Blues Manager application and then deploy the package over the ActiveX control. The Blues ActiveX control contains a set of properties that describe the name and location of a Blues installation file. The location may be on a network share or on an FTP server. The ActiveX control automatically detects when Blues is not installed on a PC or when a newer version of the Blues installation file exists and installs Blues on a PC when the WEB page is viewed. The installation file may be the standard Blues installation file, or it can be a package created by the Blues Manager that contains not only the Blues installation file, but also contains all the necessary configuration files, keyboard mappings, file transfer settings, etc that are required to connect to one or more host computers.

The Blues product can install a sample Microsoft Visual Basic 6.0 project that uses the Blues activeX control to emulate the standard Blues terminal session window. This feature is named VB Session and is installed under the Blues\sdk\VBSession folder. This feature allows a visual basic programmer to be able to completely customize and automate any Blues terminal session.

What is the Blues ActiveX Control and How Does It Work?

An ActiveX control is a file that provides an application program with some type of functionality. The ActiveX control and the application program "talk" to each other over a standard Microsoft language called "Object Linking and Embedding" OLE. The ActiveX control registers itself into

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the Windows operating system during product installation. After installation, any standard ActiveX container application may use its features.

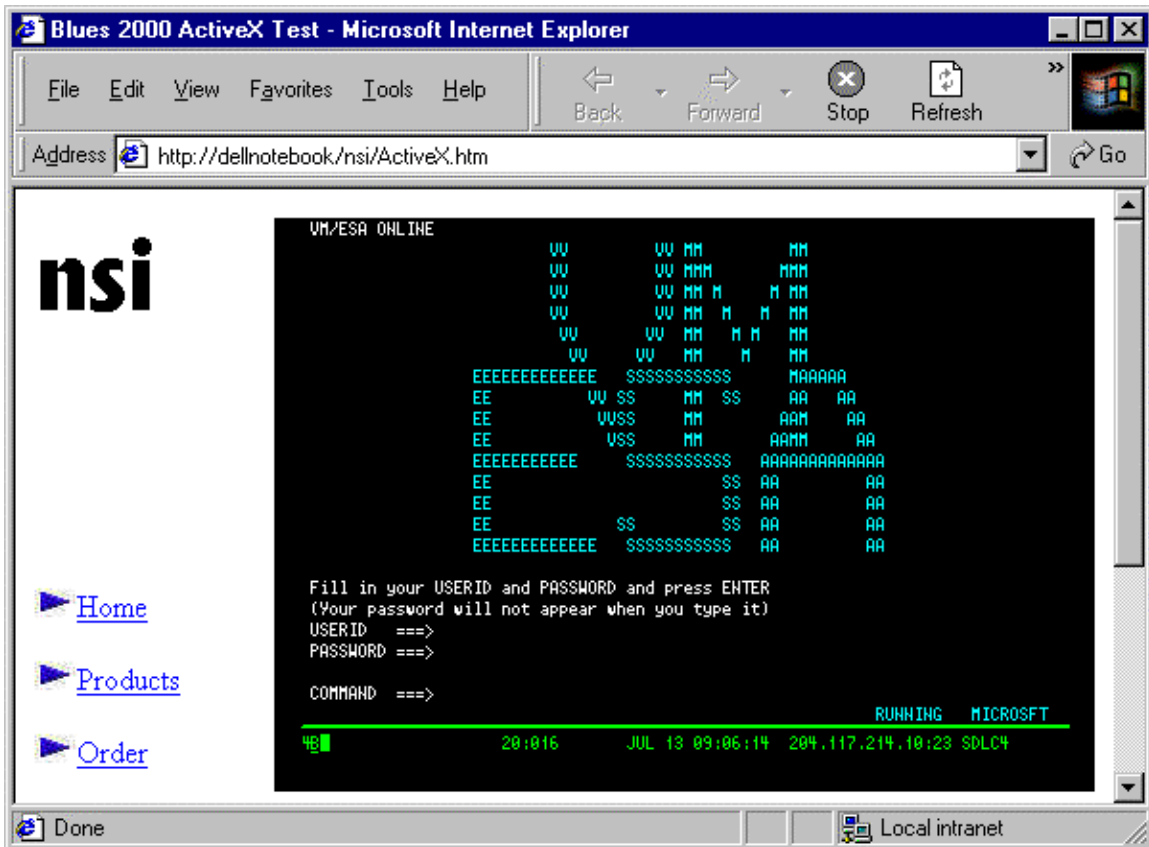
Applications such as the Microsoft Internet Explorer automatically check to see if a control is present on a PC when a WEB page that has the control is viewed. If the control is not present, the control is downloaded from an ftp server and started. The ftp server name or IP address is contained in the HTML associated with the WEB page. If an installation file is associated with the Blues ActiveX control, then each time the Blues ActiveX control is started, it checks to see if Blues is installed on the PC. If Blues is not installed, it downloads and executes the installation file thus making Blues available to itself and the PC is it installed on. Once Blues has been installed in this manner, the ActiveX control checks the date and time of the file that it last installed against the current version of the file and if a newer files exists, it executes the newer version and upgrades the PC automatically.

The Blues ActiveX control (BluesSession.ocx) provides a complete graphical end user interface to one or more Blues terminal sessions. The Blues terminal sessions run independently of the ActiveX control and may be configured to run hidden so that the operator only interacts with the control for host access and not with the actual terminal session window.

The Blues ActiveX control hooks into a configured Blues terminal session to provide the container application with the required functionality. This allows an application like Internet Explorer to use the ActiveX control in one web page, go to another web page, and then go back to the web page with the ActiveX control without loosing their place in a host session. I.e. when the operator goes to any web page containing the control, they can use the Blues session without having to sign off and sign on to the host each time.

ActiveX Control End User Interface

The Blues ActiveX control appears as a rectangular window that represents a Blues terminal session. Operator interaction begins by activating the control, usually with a left mouse click. Once the control has been activated, interaction with the control is through the mouse and keyboard. The right mouse button has the special function of activating the menu from the Blues terminal session window. The complete sets of terminal session menu options are available, including file transfer.



The keyboard may be remapped from the "Keyboard Mapping" menu option with a right mouse click. The control functionality is best described by reading the section on using the terminal session window of this manual since the control acts identical to the Blues terminal session window.

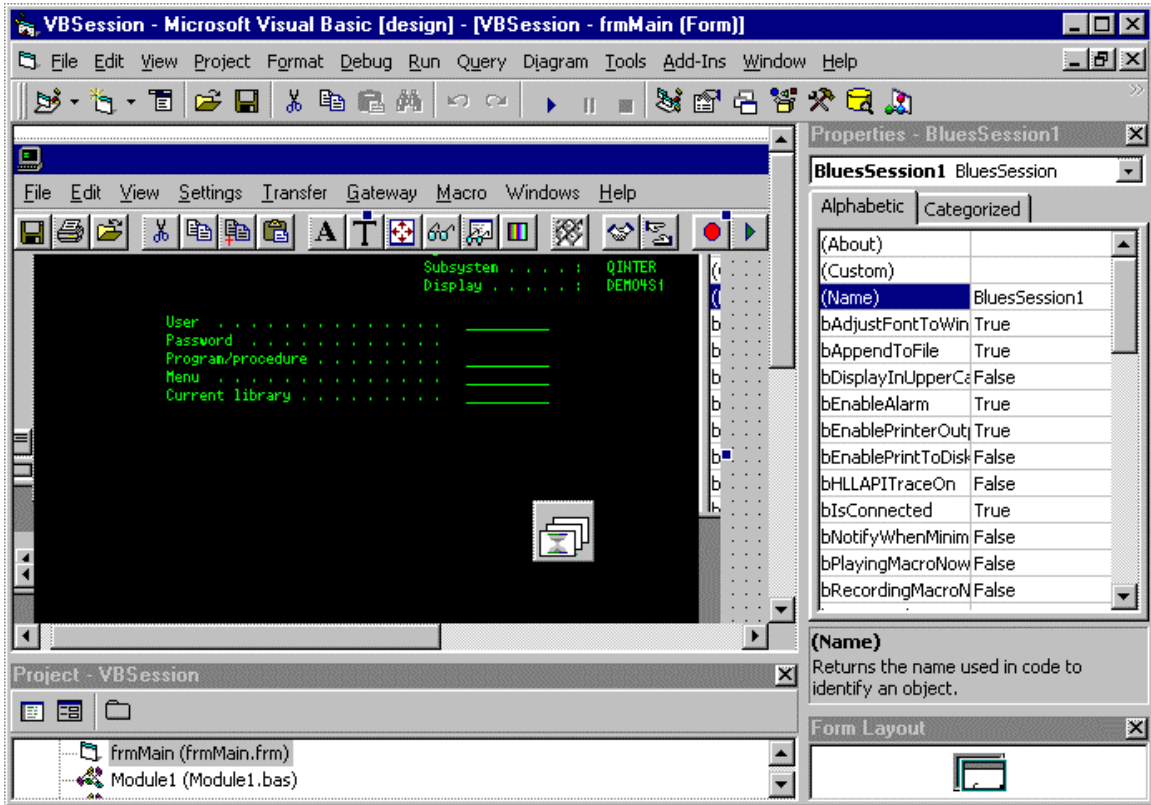
VB Session

VB Session is a Microsoft Visual Basic 6.0 project that emulates the Blues terminal session by using the Blues activex control. The project may be used to customize and replace the standard Blues terminal window, or it may be used to write customized VB applications that perform automated operator entry or screen scraping. VB Session is installed from the Blues CD and is installed into the Blues\sdk\VBSession folder.

If an existing VB application needs access to terminal emulation, then the Blues ActiveX control can be dropped into any existing or new VB form by pressing the CTRL+X keys and selecting the Blues ActiveX control from the list of controls installed. In this case, the VB Session project may be used as a reference when questions arise in regard to the controls methods, properties, and events.

To be able to take advantage of the VB Session sample program, you will have to have the Microsoft Visual Basic product (6.0 or above) installed on the PC where the custom applications will be created.

Once the VB project has been opened from the Blues\sdk\VBSession folder, the main window will display the main form for the project as follows:



The main form contains a Blues ActiveX control that provides the terminal emulation. The project has a title bar, menu bar, toolbar, and status bar that are identical to the Blues terminal session window.

A VB programmer can add, delete, or change the functionality of the terminal window by using any of the properties, methods, and events that are part of the Blues ActiveX control. In addition, the VB programmer has the complete capabilities of the Microsoft Visual Basic product for creating robust applications.

The Blues help file (blues32.hlp) contains help for each property, method, and event. While using the Microsoft Visual Basic editor, if the cursor is placed over a Blues method, property, or event and the F1 key is pressed, then the associated help topic will be displayed. Each topic includes the format of the topic and an example of how to use it.

ActiveX Properties

Each Blues ActiveX control has a set of properties that may be set or read from its respective container application. The properties govern what the control looks like and if software installation has been activated as part of its functionality. These properties may be set from the HTML source code of a WEB page so that when the WEB page is viewed, the Blues ActiveX control has the correct properties. Each property may also be read or changed from Visual Basic through the control. These properties are described below:

bAdjustFontToWindowSize

This property is either true or false. When it is true, the control will select the largest possible font size that allows the whole host screen to be displayed. When a specific font is chosen by an operator, this property is automatically set to false so that the specific font is displayed. This property is stored in the Blues database. It may be changed from the terminal session window, from the Blues Manager application, or programatically.

Visual Basic Example

```
if (BluesSession1.bAdjustFontToWindowSize = True) Then
' the option is on
Else
' the option is off
End if
```

bAppendToFile

This property is either true or false. If it is true, and a mnuFilePrintScreen method is performed, then the screen contents will be added to the end of the print file. This property is only meaningful when the bEnablePrintToDisk property is True. This property is stored in the Blues database. It may be changed from the terminal session window, from the Blues Manager application, or programatically.

Visual Basic Example

```
if (BluesSession1.bAppendToFile = True) Then
```

```
“ the option is on  
Else  
“ the option is off  
'End if
```

bDisplayInUppercase

This property is either true or false. When it is true, the control will display the host screen in all uppercase characters. This feature is beneficial when the control is sizes less than 640X480 and makes the host screen easier to read. This property is stored in the Blues database. It may be changed from the terminal session window, from the Blues Manager application, or programatically.

Visual Basic Example

```
' turn on the option  
BluesSession1.bDisplayInUpperCase = True
```

bEnableAlarm

This property is either true or false. When it is true, the control will play a beep sound when the host sends the appropriate sequence. If this feature is off, then the control operates in silent mode. This property is stored in the Blues database. It may be changed from the terminal session window, from the Blues Manager application, or programatically.

Visual Basic Example

```
' turn on the option  
BluesSession1.bEnableAlarm = True
```

bEnablePrintToDisk

This property is either true or false. When it is true, the control will print to the specified disk file when a screen print is performed. This property is stored in the Blues database. It may be changed from the terminal session window, from the Blues Manager application, or

programmatically. The `bAppendToFile` property determines if the screen is added to the end of the print file or if the file is created new

Visual Basic Example

```
' turn on the option
    BluesSession1.bEnablePrintToDisk = True
' print to the disk file
    BluesSession1.mnuFilePrintScreen
```

bEnablePrinterOutput

This property is either true or false. When it is true, the control will print to the specified printer when a screen print is performed. This property is stored in the Blues database. It may be changed from the terminal session window, from the Blues Manager application, or programmatically.

Visual Basic Example

```
' turn on the option
    BluesSession1.bEnablePrinterOutput = True
' print the host screen
    BluesSession1.mnuFilePrintScreen
```

bHLLAPITraceOn

This property indicates if the HLLAPI trace is active. Its value is either true or false. If this property is set to true, then the open file window will be displayed to select the name of the file to trace the hllapi api into.

Visual Basic Example

```
' turn on the option
    BluesSession1.bHLLAPITraceOn = True
```

blsConnected

This property may be compared to determine if the Blues session is currently connected to a host. If it has a value of True, then the session is connected, else it is not.

Visual Basic Example

```
' see if session is connected to a host computer
    if (BluesSession1.blsConnected = True) Then
' it is connected
        Else
' it is not connected
    End If
```

bNotifyWhenMinimized

This property is either true or false. If it is set to true and the Blues terminal session window is minimized and receives something from the host computer, then a notification window is displayed to the operator to indicate that the host has changed the screen.

Visual Basic Example

```
' turn on the option
    BluesSession1.bNotifyWhenMinimized = True
```

bPlayingMacroNow

This property may be checked to determine if a macro is currently being played. If its value is true, then a macro is currently being played.

Visual Basic Example

```
' see if session is playing a macro
    if (BluesSession1.bPlayingMacroNow = True) Then
' it is playing a macro now
    Else
' it is not playing a macro now
    End If
```

bRecordingMacroNow

This property may be checked to determine if a macro is currently being recorded. If its value is true, then a macro is currently being recorded.

Visual Basic Example

```
' see if session is recording a macro
    if (BluesSession1.bRecordingMacroNow = True) Then
' it is recording a macro now
    Else
' it is not recording a macro now
    End If
```

bSaveOnClose

This property is either true or false. When it is true, the Blues session will save its current settings in the Blues database whenever it is closed. This property is stored in the Blues database. It may be changed from the terminal session window, from the Blues Manager application, or programatically.

Visual Basic Example

```
' turn on the option
    BluesSession1.bSaveOnClose = True
```

bToolbarVisible

This property is either true or false. When it is true, the Blues session will display its standard toolbar on the top of the window. This property is stored in the Blues database. It may be changed from the terminal session window, from the Blues Manager application, or programatically.

Visual Basic Example

' turn off the toolbar

```
BluesSession1.bToolbarVisible = False
```

bTypeAheadEnabled

This property is either true or false. When it is true, the type ahead feature is enabled. Type ahead is the ability to enter keys while the terminal session is receiving data from the host. Keystrokes are queued up until the keyboard is enabled. This property is stored in the Blues database. It may be changed from the terminal session window, from the Blues Manager application, or programatically.

Visual Basic Example

' turn off type ahead

```
BluesSession1.bTypeAheadEnabled = False
```

bUseTrueTypeFont

This property is either true or false. When it is true, the ActiveX control displays the host screen with a true type font. If it is false, then the host screen is displayed in the Blues screen font. This

property is stored in the Blues database. It may be changed from the terminal session window, from the Blues Manager application, or programatically.

Visual Basic Example

' turn on True Type fonts

```
BluesSession1.bTrueTypeFont = True
```

bViewMenubar

This property is either true or false. When it is true, the Blues Session displays the standard menu on the top of its window. This property is stored in the Blues database. It may be changed from the terminal session window, from the Blues Manager application, or programatically.

Visual Basic Example

' remove the menu bar

```
BluesSession1.bViewMenubar = False
```

bViewTitlebar

This property is either true or false. When it is true, the Blues Session displays the standard titlebar on the top of its window. This property is stored in the Blues database. It may be changed from the terminal session window, from the Blues Manager application, or programatically.

Visual Basic Example

' remove the titlebar

```
BluesSession1.bViewTitlebar = False
```

foundTextOnColumn

This property contains the column that a string was found on. This property is only valid after a successful findDisplayText or waitForDisplayString method has been done. The property is 1 based and may range from 1 to the number of columns in the host session screen.

Visual Basic Example

```
if(BluesSession1.findDisplayString("RUNNING",1,1)) Then
    ' foundTextOnColumn contains the column of the string
Else
    'string is not on screen
End If
```

foundTextOnRow

This property contains the row that a string was found on. This property is only valid after a successful findDisplayText or waitForDisplayString method has been done. The property is 1 based and may range from 1 to the number of rows in the host session screen.

Visual Basic Example

```
if(BluesSession1.findDisplayString("RUNNING",1,1)) Then
    ' foundTextOnRow contains the row of the string
Else
    'string is not on screen
End If
```

FTPPassword

FTPPassword may be used to specify an FTP password associated with the FTPUserName property value. Some ftp sites require the name and password of a valid user to be used in the file transfer. If the InstallationFile property value is blank, then this field has no meaning.

Visual Basic Example

```
BluesSession1.FTPPassword = "mypassword"
```

FTPServerName

FTPServerName specifies the optional name or IP address of an ftp server where the InstallFileName property value resides. If this option is left blank, then it is assumed that the InstallFileName field contains the name of a file located on a hard drive or a network share/file server. If the InstallationFile property value is blank, then this field has no meaning.

Visual Basic Example

```
BluesSession1.FTPServerName = "www.newhartsystems.com"
```

FTPServerPort

FTPServerPort may be used to specify the ftp port that the FTPServerName property value is listening on for file transfers. If no value is specified, then port 21 is used. Port 21 is the standard FTP port for transferring files. If the InstallationFile property value is blank, then this field has no meaning.

Visual Basic Example

```
BluesSession1.FTPServerPort = 21
```

FTPUserName

FTPUserName may be used to specify an FTP user name. Some ftp sites require the name of a valid user to be used in the file transfer. If FTPUserName is not specified, then the file transfer is done anonymously. If the InstallationFile property value is blank, then this field has no meaning.

Visual Basic Example

```
BluesSession1.FTPUserName = "Earl"
```

InitialWindowState

The initial window state determines how the standard Blues session is configured to be displayed when it is first started. It has the following meanings:

- 0 - Normal window
- 1- Maximized window
- 2 - Minimized window
- 3 - Hidden window
- 4 - Previous size and location

Visual Basic Example

```
if (BluesSession1.InitialWindowState = 0) Then  
    ' window starts maximized
```

InstallOptions

The Blues 2000 installation is contained in the setup.msi file. Whenever an .msi file is started or run, it is passed to the Microsoft Windows Installer for execution. A typical installation is done

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when the user starts or runs the setup.exe file from the CD or ZIP file. The setup.exe application starts the Windows Installer and passes it the name of the .msi (setup.msi) file to install. It is possible to start the installation from a command line or batch file such that additional command line arguments determine how the installation is done. The Windows Installer application (Msiexec.exe) can take many command line options that may be used to perform such things as (1) install in quiet mode, (2) installation for everyone who uses the workstation or just yourself, (3) set the folder where the software is installed, (4) set the folder where the Blues DATABASE is located, (5) set the default Blues PRIVATE folder, and (6) set the Blues USERNAME. This allows a system administrator to create a batch file that when executed, installs and pre-configures Blues 2000 for the workstation.

To start the Blues 2000 installation over the Windows Installer technology, the command line has the following format:

```
Msiexec.exe [options] /I setup.msi [PROPERTY1=a] [PROPERTY2=b] ...
```

Where arguments in brackets are optional, the options may be any valid Microsoft Installer option, the msi file setup.msi is being installed, and optional properties may be set.

MSI Options

The following table describes the command-line options for this program.

Option	Parameters	Meaning
/I	<i>Package ProductCode</i>	Installs or configures a product.
/f	[p o e d c a u m s v] <i>Package ProductCode</i>	Repairs a product. This option ignores any property values entered on the command line. The default argument list for this option is 'pecms'. This option shares the same argument list as the REINSTALLMODE property . p - Reinstall only if file is missing o - Reinstall if file is missing or if an older version is installed. e - Reinstall if file is missing or an equal or older version is installed. d - Reinstall if file is missing or a different version is installed.

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		c - Reinstall if file is missing or the stored checksum doesn't match the calculated value. Only repairs files that have msidbFileAttributesChecksum in the Attributes column of the File table .
		a - Force all files to be reinstalled.
		u - Rewrite all required user specific registry entries.
		m - Rewrite all required machine specific registry entries.
		s - Overwrite all existing shortcuts.
		v - Run from source and re-cache the local package.
/a	<i>Package</i>	Administrative installation option. Installs a product on the network.
/x	<i>Package ProductCode</i>	Uninstalls a product.
/j	<i>[u m]Package</i>	Advertises a product. This option ignores any property values entered on the command line.
	<i>or</i>	
	<i>[u m]Package /t Transform List</i>	u - Advertise to the current user. m - Advertise to all users of machine.
	<i>or</i>	
	<i>[u m]Package /g LanguageID</i>	g - Language ID
/L	<i>[i w e a r u c m o p v + !]Logfile</i>	t - Applies transform to advertised package. Specifies path to log file and the flags indicate which information to log. i - Status messages w - Non-fatal warnings e - All error messages a - Start up of actions r - Action-specific records u - User requests c - Initial UI parameters m - Out-of-memory or fatal exit information

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		<p>o - Out-of-disk-space messages</p> <p>p - Terminal properties</p> <p>v - Verbose output</p> <p>+ - Append to existing file</p> <p>! - Flush each line to the log</p> <p>"*" - Wildcard, log all information except for the v option. To include the v option, specify "/l*v".</p>
/m	<i>filename</i>	<p>Generates an SMS status .mif file. Must be used with either the install (-i), remove (-x), administrative installation (-a), or reinstall (-f) options. The ISMIF32.DLL is installed as part of SMS and must be on the path.</p> <p>The fields of the status mif file are filled with the following information:</p> <p>Manufacturer - Author</p> <p>Product - Revision Number</p> <p>Version - Subject</p> <p>Locale - Template</p> <p>Serial Number - not set</p> <p>Installation - set by ISMIF32.DLL to "DateTime"</p> <p>InstallStatus - "Success" or "Failed"</p> <p>Description - Error messages in the following order: 1) Error messages generated by installer. 2) Resource from Msi.dll if install could not commence or user exit. 3) System error message file. 4) Formatted message: "Installer error %i", where %i is error returned from Msi.dll</p>
/p	<i>PatchPackage</i>	<p>Applies a patch. To apply a patch to an installed administrative image you must combine options as follows:</p>
		<p>/p <PatchPackage> /a <Package></p>
/q	n b r f	<p>Sets user interface level.</p>

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		q , qn - No UI
		qb - Basic UI
		qr - Reduced UI with a modal dialog box displayed at the end of the installation.
		qf - Full UI with a modal dialog box displayed at the end.
		qn+ - No UI except for a modal dialog box displayed at the end.
		qb+ - Basic UI with a modal dialog box displayed at the end. The modal box is not displayed if the user cancels the installation.
		qb- - Basic UI with no modal dialog boxes. Please note that /qb+- is not a supported UI level.
/? or /h		Displays copyright information for the Windows Installer.
/y	<i>module</i>	Calls the system API DllRegisterServer to self-register modules passed in on the command line. For example, <code>msiexec /y my_file.dll</code> .
		This option is only used for registry information that can't be added using the registry tables of the .msi file.
/z	<i>module</i>	Calls the system API DllUnRegisterServer to unregister modules passed in on the command line. For example, <code>msiexec /z my_file.dll</code> .
		This option is only used for registry information that can't be removed using the registry tables of the .msi file.

The options /i, /x, /f[p|o|e|d|c|a|u|m|s|v], /j[u|m], /a, /p, /y and /z should not be used together. The one exception to this rule is that patching an [administrative installation](#) requires using both /p and /a. The options /t and /g should only be used with /j. The options /l and /q can be used with /i, /x, /f[p|o|e|d|c|a|u|m|s|v], /j[u|m], /a, and /p.

MSI Properties

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The Blues 2000 installation package supports some special properties that enable custom installations to be done without operator intervention. To specify a property, use the syntax `property=value`.

Property	Value	Meaning
ALLUSERS	<i>0 or 1</i>	Set value to 1 to have the software installed for all users of the PC, else it is installed only for the current user.
COMMONDESKTOP	YES or NO	If this value is set to YES, then the desktop shortcuts are created for all users. This option should be set if the ALLUSERS property has been set to 1.
INSTALLDIR	<i>Folder name</i>	May be used to set the folder where the software will be installed. If this property is not set, then the software will be installed in the Progeam Files\Blues folder.
LANGUAGE	<i>US or GERMAN</i>	Selects the native language that the Blues software will start in.
DBASE	Blues Database folder	May be used to set the default Blues Database folder. The Blues Database contains the necessary configuration information for each Blues user. This value may be set to a local drive, a redirected network drive, or a network share name.
PRIVATE	Blues Private folder	May be used to set the default Blues Private folder. Each Blues user has a Blues Private folder where keyboard mappings, macros, and file transfer settings are stored.
USERNAME	<i>Blues User Name</i>	The Blues Database contains each users configuration settings. The Blues user name is the key to the database and provides a mapping from a user name to a Blues configuration. The user name "*" is a special name called a wild card. When the wild card name is specified and Blues emulation is launched, then Blues will query the Windows desktop to obtain the name of the user who is signed on to Windows and use that name as the key into the Blues database configuration.

Example

The following example will install the Blues software in quiet mode in a folder named c:\blues in quiet mode. The Blues software will run in the English language. The wild user name is selected and the Blues database resides on a network share. The private folder is set to a redirected network drive that is unique for each user so that each user may customize their keyboard mapping and record and play their own macros.

```
Msiexec.exe /qb /I d:\setup.msi INSTALLDIR=C:\Blues ALLUSERS=1 COMMONDESKTOP=1  
USERNAME=* DBASE=\\server\Blues PRIVATE=P:\
```

Visual Basic Example

```
BluesSession1.InstallOptions = "ALLUSERS=1 INSTALLDIR=C:\Blues"
```

InstallProgram

InstallProgram may be set to "Msiexec.exe" to inform the control that the InstallationFile property contains the name of a Windows installer msi file. When InstallProgram is set to "Msiexec.exe", the InstallOptions property value may specify program arguments to pass to the Msiexec.exe application. If InstallFileName is left blank, then the InstallProgram property value is executed without command line arguments. See InstallOptions property for more details.

Visual Basic Example

```
BluesSession1.InstallProgram = "Msiexec.exe"  
BluesSession1.InstallationFile = "x:\setup.msi"
```

InstallationFile

The InstallationFile property contains the name of a Blues installation file. The InstallationFile may contain the name of a file on a network share, the name of a file on an ftp server, or may be left blank to represent that the control is not to perform software installation and maintenance.

When a file name is set, it is assumed that the file is (A): the standard Windows installer file for Blues that is located on the Blues CD called setup.msi or Networksetup.msi, or (B) the name of a Blues package (.exe) that was created from the Blues Manager application. If the

FTPServerName property value is also set, then the file is assumed to be located on an ftp server and is downloaded to a temporary file before it is executed.

If the InstallationFile is a Windows installer msi file, then the InstallProgram property value should also be set to "Msiexec.exe". This is the name of the Microsoft installer executable that would install the msi file. See InstallProgram for more details on msi file execution.

Visual Basic Example

```
BluesSession1.InstallProgram = "Msiexec.exe"  
BluesSession1.InstallationFile = "x:\setup.msi"
```

SessionShortName

SessionShortName is a single character that defines which Blues session the control will associate itself with. Each Blues session is configured with a Session Short Name. Session short names begin with session A and end with session Z. When the SessionShortName is changed, the control will switch to the associated Blues session. If that particular session has not been started, the control will automatically start the session. The control may also be forced to another session with a right mouse click over the control and selecting one of the configured Blues sessions.

Visual Basic Example

```
BluesSession1.SessionShortName = "A"
```

Visible

This property is either true or false. If it is false, then the control is hidden from view. If this property is true, then the control is visible.

Visual Basic Example

```
BluesSession1.Visible = False 'hide the control
```

ActiveX Methods

Methods are another name for functions that may be called by a container application to get properties, set properties, or to perform some type of function that is contained in the control. The Blues methods include a method to get or set any of its properties, install Blues, perform a standard HLLAPI API call, enter keys, read the screen, etc. HLLAPI is an abbreviation for High Level Language Application Programming Interface. HLLAPI is a standard defined by IBM and provides a standard interface to automate any activity that an operator would perform on a terminal session. HLLAPI may be used to read the host screen, enter keystrokes into the host screen, send PF keys, transfer files, etc. For more information on HLLAPI or WINHLLAPI, contact IBM directly. A method exists for every menu option in the standard Blues terminal session window. I.e.File\Print Screen. This gives the container application access to the complete set of functionality contained in the terminal session.

CloseFileTransferWindow

Syntax:

```
void objectname.CloseFileTransferWindow
```

Return value:

none

Description:

This method will close the file transfer window if it is open. Only the file transfer window associated with currently connected session. If more than one Blues session have file transfer windows opened, then only the one associated with control is closed.

Visual Basic Example:

```
BluesSession1.CloseFileTransferWindow
```

ConnectToDestination

Syntax:

```
bool objectname.ConnectToDestination(DestinationNumber as long)
```

Return value:

True(1) - connection successful

False(0) - connection failed

Description:

This method will connect the associated session to a host using the specified destination. Each session can be configured for multiple host destinations. The destinations are numbered starting at 1 in the order they appear when configuring the destination in either the terminal session or the Blues Manager application.

Visual Basic Example:

```
if(BluesSession1.ConnectToDestination(1)) Then  
    ' successful  
Else
```

```
' failed  
    End if
```

DisconnectFromHost

Syntax:

```
bool objectname.DisconnectFromHost
```

Return value:

```
True(1) - disconnect successful  
False(0) - disconnect failed, session was not connected
```

Description:

This method will disconnect the associated session from a host. This method has the same functionality as the mnuGatewayDisconnect method.

Visual Basic Example:

```
    if(BluesSession1.DisconnectFromHost) Then  
' successful  
        Else  
' failed  
    End if
```

EnumMacroNames

Syntax:

void objectname.EnumMacroNames

Return value:

none

Description:

This method will enumerate all valid macro names by calling the evtEnumMacroNamesProc event. The evtEnumMacroNamesProc event procedure is called once for each macro that is stored in the Blues private folder. The names of the returned macros may then be used in calls to the RunMacro method.

Visual Basic Example:

BluesSession1.EnumMacroNames

EnumPortfolioNames

Syntax:

void objectname.EnumPortfolioNames

Return value:

none

Description:

This method will enumerate all valid file transfer portfolio names by calling the evtEnumPortfolioNamesProc event. The evtEnumPortfolioNamesProc event procedure is called once for each file transfer portfolio that is stored in the Blues private folder. The names of the returned portfolios may then be used in calls to the StartPortfolioTransfer method.

Visual Basic Example:

```
BluesSession1.EnumPortfolioNames
```

findDisplayText**Syntax:**

```
bool objectname.findDisplayText(strAnsiTextToFind As String, StartingRow As Long, StartingColumn As Long)
```

Return value:

True - Text found at properties foundTextOnRow and foundTextOnColumn
False - Text is not on host screen.

Description:

This method may be used to determine if a particular string is being displayed on the host screen. The string is an Ansi string. The starting row and column determine where the search starts. The search is performed from the starting row and column to the end of the host screen. If the text is found, then the properties foundTextOnRow and foundTextOnColumn contain its location. **The Search string is case sensitive. i.e. "RUNNING" is not the same as "running"**

Visual Basic Example:

```
if (BluesSession1.findDisplayText("RUNNING",1,1)) Then
    'the word running is on the screen, the properties
    'foundTextOnRow and foundTextOnColumn contain
    'the location
End If
```

getCursorColumn

Syntax:

```
long objectname.GetCursorColumn
```

Return value:

long - the column where the cursor is located in the host session screen

Description:

This method may be used to determine what column the cursor is located in on the host session

Visual Basic Example:

```
CursorColumn = BluesSession1.getCursorColumn
```

getCursorRow

Syntax:

long objectname.GetCursorRow

Return value:

long - the row where the cursor is located in the host session screen

Description:

This method may be used to determine what row the cursor is located in on the host session

Visual Basic Example:

```
CursorRow = BluesSession1.GetCursorRow
```

getDisplayAnsiText

Syntax:

string objectname.GetDisplayText(StartingRowNumber As long,StartingColumnNumber
As Long,Length As Long)

Return value:

String with the Ansi text from the host screen

Description:

This method may be used to copy text from the host session to a buffer in the container application. Text is returned starting at the row and column specified. The length argument specifies the amount of text to copy. The text is returned in the Ansi character set.

Visual Basic Example:

Dim Screen As String

```
' Readn whole screen 24 rows by 80 columns
```

```
Screen = BluesSession1.getDisplayText(1,1,1920)
```

```
' Screen now contains a copy of the host screen
```

getDisplayColumns

Syntax:

```
long objectname.GetDisplayColumns
```

Return value:

long - the number of columns in the host session screen

Description:

This method may be used to determine how many columns are on the host session screen.

Visual Basic Example:

```
Columns = BluesSession1.getDisplayColumns
```

getDisplayRows

Syntax:

```
long objectname.GetDisplayRows
```

Return value:

long - the number of rows in the host session screen

Description:

This method may be used to determine how many rows are on the host session screen.

Visual Basic Example:

Rows = BluesSession1.getDisplayRows

getEmulationType

Syntax:

long objectname.getEmulationType

Return value:

long - the emulation type of the host session

0 - 3270 terminal emulation

1 - 5250 terminal emulation

2 - DEC VT terminal emulation

Description:

This method may be used to determine what emulation mode the Blues session is currently in.

Visual Basic Example:

```
if(BluesSession1.getEmulationType = 0) Then
    '3270 emulation
End If
```

GetSelectionEndColumn

Syntax:

long objectname.GetSelectionEndColumn

Return value:

long - the ending column number of the last selected area.

Description:

This method may be used to determine the ending column number of the last selected area of the session. The ending row and ending column determine the bottom right corner of the last mouse selection. A mouse selection is done to highlight an area of the terminal screen for subsequent cut/copy/paste operations.

Visual Basic Example

```
EndingCol = BluesSession1.GetSelectionEndColumn
```

getSelectionEndRow

Syntax:

long objectname.getSelectionEndRow

Return value:

long - the ending row number of the last selected area.

Description:

This method may be used to determine the ending row number of the last selected area of the session. The ending row and ending column determine the bottom right corner of the last mouse selection. A mouse selection is done to highlight an area of the terminal screen for subsequent cut/copy/paste operations.

getSelectionStartColumn

Syntax:

long objectname.getSelectionStartColumn

Return value:

long - the starting column number of the last selected area.

Description:

This method may be used to determine the starting column number of the last selected area of the session. The starting row and starting column determine the top left corner of the last mouse selection. A mouse selection is done to highlight an area of the terminal screen for subsequent cut/copy/paste operations.

Visual Basic Example

```
StartingCol = BluesSession1.getSelectionStartColumn
```

getSelectionStartRow

Syntax:

long objectname.getSelectionStartRow

Return value:

long - the starting row number of the last selected area.

Description:

This method may be used to determine the starting row number of the last selected area of the session. The starting row and starting column determine the top left corner of the last mouse selection. A mouse selection is done to highlight an area of the terminal screen for subsequent cut/copy/paste operations.

Visual Basic Example

```
StartingRow = BluesSession1.getSelectionStartRow
```

GetWindowTitle

Syntax:

string objectname.GetWindowTitle

Return value:

String with the title of the associated Blues session. The title is configurable from the Blues Manager Application and can be used to identify which session the control is associated with.

Description:

This method may be used to obtain the window title of the Blues terminal session that the control is associated with.

Visual Basic Example:

Dim Title As String

```
Title = BluesSession1.GetWindowTitle
```

HideSession

Syntax:

```
void objectname.HideSession
```

Return value:

none

Description:

This method may be used to hide the Blues terminal session window associated with the control. The ShowSession method may also be called to re-display the Blues terminal session window.

Visual Basic Example:

```
BluesSession1.HideWindow
```

hllapi

Syntax:

```
long objectname.hllapi(Function As Long,hllapistring As String,Length As Long)
```

Return value:

HLLAPI or EHLLAPI return code

Description:

The hllapi method may be used to perform any standard IBM Hllapi call. This method takes three arguments as input and returns a return code. The three arguments are the function code, the string, and the length. The function code is a standard hllapi function, for example a CONNECTPS command is a binary 1 and a DISCONNECTPS is a binary 2. The string contains whatever options or return values that correspond to the specific function being performed, for example, the string would contain a A if a CONNECTPS was being performed to connect to presentation space (sessionshortname) A. The length field contains the length of the string argument. The return code is the return code from the hllapi api call.

Visual Basic Example:

```
'  
' Connect to Session
```



```
if(BluesSession1.hllapi(1,"A",1) = 0) Then
    ' session is connected
End If
```

InstallBlues

Syntax:

```
long objectname.InstallBlues
```

Return value:

True - Installation is in progress
False - Installation was not started

Description:

This method may be used to install the Blues software. Prior to calling this method, the InstallationFile property must be set the name of an installation file. The FTPServerName, FTPUserName, FTPPassword, InstallOptions, and InstallProgram properties determine where and how to install the software.

Visual Basic Example:

```
BluesSession1.InstallBlues
```

keyAnsiText

Syntax:

```
bool objectname.keyAnsiText(strText As String)
```

Return value:

True - Text entered without error
False - Text could not be entered

Description:

This method is used to copy/enter text into the host screen. The text is entered into the terminal session as if an operator had entered the text from the keyboard. This is the main text entry method. The `keyTerminalKey` method may be used to enter any type of special emulation key such as ENTER, PF1, Field Exit, DC1, etc.

Visual Basic Example:

```
BluesSession1.keyAnsiText("myname")  
BluesSession1.keyTerminalKey("TAB FORWARD");  
BluesSession1.keyAnsiText("password")  
BluesSession1.keyTerminalKey("ENTER");
```

keyTerminalKey

Syntax:

```
bool objectname.keyTerminalKey(strKeyName As String)
```

Return value:

True - Key entered without error
False - Key could not be entered

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Description:

This method is used to enter a special emulation key into the Blues session. The `keyAnsiText` method may be used to enter normal text into the session. The argument is a string that represents the desired key. The following table illustrates the names of all valid keys:

Key Name	3270 Function	5250 Function	DEC VT Function
ENTER	ENTER	ENTER	ENTER
PF1	PF1	F1	F1
PF2	PF2	F2	F2
PF3	PF3	F3	F3
PF4	PF4	F4	F4
PF5	PF5	F5	F5
PF6	PF6	F6	F6
PF7	PF7	F7	F7
PF8	PF8	F8	F8
PF9	PF9	F9	F9
PF10	PF10	F10	F10
PF11	PF11	F11	F11
PF12	PF12	F12	F12
PF13	PF13	F13	F13
PF14	PF14	F14	F14
PF15	PF15	F15	F15
PF16	PF16	F16	F16
PF17	FP17	F17	F17
PF18	PF18	F18	F18
PF19	PF19	F19	F19
PF20	PF20	F20	F20
PF21	PF21		
PF22	PF22		
PF23	PF23		

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PF24	PF24		
PA1	PA1	PA1	
PA2	PA2	PA2	
PA3	PA3	PA3	
SYSTEM REQUEST	SYSTEM REQUEST	SYSTEM REQUEST	
TAB	TAB forward	TAB forward	TAB forward
BACKTAB	TAB back	TAB back	TAB back
NEW LINE	NEW LINE	NEW LINE	NEW LINE
CLEAR	CLEAR	CLEAR	CLEAR
ALTERNATE CURSOR	ALTERNATE CURSOR	ALTERNATE CURSOR	ALTERNATE CURSOR
ATTENTION	ATTENTION	ATTENTION	
CURSOR SELECT	CURSOR SELECT	CURSOR SELECT	
DUPLICATE	DUPLICATE	DUPLICATE	
ERASE EOF	ERASE EOF	ERASE EOF	
ERASE INPUT	ERASE INPUT	ERASE INPUT	
FIELD MARK	FIELD MARK	FIELD MARK	
HOME	HOME	HOME	HOME
FIELD PLUS		FIELD PLUS	
FIELD MINUS		FIELD MINUS	
ROLL UP		ROLL UP	
ROLL DOWN		ROLL DOWN	
HELP		HELP	
HOST PRINT		HOST PRINT	
BREAK			BREAK
ESCAPE			ESCAPE
HOLD			HOLD
COMPOSE			COMPOSE
DO			DO
NULL			NULL
PAGE UP			PAGE UP

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PAGE DOWN

REMOVE

END

RETURN

SOH

STX

ETX

EOT

ACK

BEL

HT

VT

FF

CR

SO

SI

DLE

DC1

DC2

DC3

DC4

NAK

SYN

ETB

CAN

EM

SUB

FS

GS

RS

US

PAGE DOWN

REMOVE

END

RETURN

SOH

STX

ETX

EOT

ACK

BEL

HT

VT

FF

CR

SO

SI

DLE

DC1

DC2

DC3

DC4

NAK

SYN

ETB

CAN

EM

SUB

FS

GS

RS

US

Visual Basic Example:

```
BluesSession1.keyAnsiText("myname")
BluesSession1.keyTerminalKey("TAB FORWARD");
BluesSession1.keyAnsiText("password")
BluesSession1.keyTerminalKey("ENTER");
```

mnuXY

Syntax:

```
bool objectname.mnuXY
```

X = menu name, Y = menu item name

Return value:

True - Menu command performed
False - Menu command was not performed

Description:

Each menu item in the Blues terminal session window may be performed through a method. These methods all begin with the letters mnu, followed by the name of the menu, followed by the name of the menu item. For Example: If you wanted to print the host screen, the method is named mnuFilePrintScreen. Consult the terminal session documentation to find out what each method does. The following list of methods are supported by the Blues activeX control.

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mnuEditAppend
mnuEditClear
mnuEditCopy
mnuEditCut
mnuEditPaste
mnuEditSelectAll
mnuEditViewClipboard

mnuFileAppendToFile
mnuFileDiskFile
mnuFileEHLLAPITrace
mnuFileEnablePrintToDisk
mnuFileEnablePrinterOutput
mnuFileExit
mnuFileExitAndCloseSessions
mnuFilePrintFont
mnuFilePrintScreen
mnuFilePrintSetup
mnuFileSaveSettings
mnuFileSaveSettingsOnClose

mnuGatewayConnect
mnuGatewayDisconnect

mnuHelpDisplaySessionHelp
mnuHelpIndex
mnuHelpManagerHelp
mnuHelpManualHelp
mnuHelpPrinterSessionHelp

mnuMacroDelete

mnuMacroEdit
mnuMacroOptions
mnuMacroPlay
mnuMacroRecord
mnuMacroStopMacro

mnuSettingsApiOptions
mnuSettingsConfigureCursor
mnuSettingsConfigureHotspots
mnuSettingsConfigureKeyboard
mnuSettingsEnableAlarm
mnuSettingsMouseConfiguration
mnuSettingsNotifyWhenMinimized
mnuSettingsTypeAhead

mnuTransferFiles

mnuViewAdjustFontToWindowSize
mnuViewFonts
mnuViewHostColorMapping
mnuViewMenubar
mnuViewStatusbar
mnuViewTitlebar
mnuViewToolbar
mnuViewUpperCase
mnuViewUseTrueTypeFonts
mnuViewZoomFontSmaller
mnuZoomFontLarger

Visual Basic Example:

BluesSession1.mnuFilePrintScreen 'print the screen

RunMacro

Syntax:

bool objectname.RunMacro(strMacroName As String)

Return value:

True - Macro was started
False - Macro could not be started

Description:

This method is used to execute a pre-recorded Blues macro. The EnumMacroNames method may be used to acquire the names of all existing macro files. The bPlayingMacroNow property may be used to determine when the macro completes.

Visual Basic Example

```
if(BluesSession1.RunMacro("Logon") = True) Then  
' macro is running  
End If
```

setCursorPosition

Syntax:

bool objectname.setCursorLocation(LineNumber,ColumnNumber)

Return value:

True - Success

False -Failure

Description:

This method is used to move the cursor of the host session to a specified location. This method should not be used in DEC VT mode, because to host will loose track of where the cursor is currently located. The keyTerminalKey method may be used to move the cursor to the desired location.

Visual Basic Example

```
if(BluesSession1.setCursorLocation(1,1) = True) Then  
' cursor is home  
End If
```

ShowSession

Syntax:

bool objectname.ShowSession()

Return value:

True - Success

False -Failure

Description:

This method is used to bring the Blues terminal session associated with the control to the foreground and activate the window.

Visual Basic Example

```
if(BluesSession1.ShowWindow = True) Then  
    ' Blues session is now the active window  
End If
```

StartPortfolioTransfer

Syntax:

```
bool objectname.StartPortfolioTransfer(strPortfolioName As String)
```

Return value:

True - File transfer process has been started, evtTransferComplete event will inform application of the file transfer results

False -File transfer could not be started

Description:

This method is used to transfer a portfolio. Portfolios are built with the Blues file transfer application and contain one or more file transfer operations. The container application will be notified when the file transfer completes by the evtTransferComplete event. The EnumPortfolioNames method may be called to get the names of all available portfolios. The Blues file transfer application can be used to view the file transfer event log for details regarding failures.

Visual Basic Example

```
if(BluesSession1.StartPortfolioTransfer("DailyInventory" = True) Then  
' Blues session is now transferring the portfolio  
End If
```

StartReceivingFile

Syntax:

```
bool objectname.StartReceivingFile(strSourceFileName As  
String,strDestinationFileName As String,strSchemeName As String)
```

Return value:

True - File transfer process has been started, evtTransferComplete event will inform application of the file transfer results

False -File transfer could not be started

Description:

This method is used to transfer a file from a host to a PC. The container application will be notified when the file transfer completes by the evtTransferComplete event. The scheme name must match a Blues file transfer scheme. File transfer schemes can be created, changed, and deleted with the Blues file transfer application. The Blues file transfer application can be used to view the file transfer event log for details regarding failures.

Visual Basic Example

```
if(BluesSession1.StartReceivingFile("dailychanges","c:\temp\dailychanges", "tso_bin" = True)  
Then
```

```
' Blues session is now transferring the file  
End If
```

StartSendingFile

Syntax:

```
bool objectname.StartSendingFile(strSourceFileName As String,strDestinationFileName  
As String,strSchemeName As String)
```

Return value:

True - File transfer process has been started, evtTransferComplete event will inform application of the file transfer results

False -File transfer could not be started

Description:

This method is used to transfer a file from a PC to a host. The container application will be notified when the file transfer completes by the evtTransferComplete event. The scheme name must match a Blues file transfer scheme. File transfer schemes can be created, changed, and deleted with the Blues file transfer application. The Blues file transfer application can be used to view the file transfer event log for details regarding failures.

Visual Basic Example

```
if(BluesSession1.StartSendingFile("c:\temp\dailychanges","dailychanges", "tso_bin" = True) Then  
' Blues session is now transferring the file  
End If
```

ViewSession

Syntax:

```
bool objectname.ViewSession(strSessionName As String)
```

Return value:

```
True - Success  
False -Failure
```

Description:

This method is used to associate the activeX control with a specific Blues session. Blues sessions are configured with the Blues Manager application and are numbered starting at 1. The name of the first one is SESSION1. The first session would be the first session as it appears in the Blues manager application window. After the Blues session has been associated with the control, the control will become fully functional.

Visual Basic Example

```
if(BluesSession1.ViewSession("SESSION1" = True) Then  
' Blues session is now associated with control  
End If
```

waitForDisplayString

Syntax:

```
bool objectname.waitForDisplayString(strAnsiString As String,Timeout As Long,Row As Long,Column As Long)
```

Return value:

True - String is being displayed on the session

False -Failure, timeout occurred

Description:

This method is used to wait until a string of text is present on the terminal session. The text string argument is an Ansi string. The timeout value is in seconds. The row and column may be set to zero to indicate to look for the string on the entire screen. If the row and column are not zero, then the string must appear at the exact row and column for a successful return code. Upon successful completion the foundTextRow and foundTextColumn properties contain the exact location where the string was found.

Visual Basic Example

```
if(BluesSession1.waitForDisplayString("RUNNING",10,0,0) = True) Then  
    ' the word RUNNING appears on the screen.  
End If
```

waitKeybaordEnabled

Syntax:

```
bool objectname.waitForKeyboardEnabled(Timeout As Long)
```

Return value:

True - Keyboard enabled

False -Failure, timeout occurred

Description:

This method is used to wait until the Blues session associated with the control has the keyboard enabled. When the host is sending information to the session and when the session is sending information to the host the keyboard is locked. The `waitKeyboardEnabledDuration` method may also be used to wait for the keyboard to be enabled for a specified time interval.

Visual Basic Example

```
if(BluesSession1.waitForKeyboardEnabled(10) = True) Then  
    ' keyboard is enabled.  
End If
```

waitKeyboardEnabledDuration

Syntax:

```
bool objectname.waitKeyboardEnabledDuration(MinimumTimeEnabled As Long, Timeout  
As Long)
```

Return value:

True - Keyboard has been enabled for atleast `MinimumTimeEnabled` argument
False -Failure, timeout occurred

Description:

This method is used to wait until the Blues session associated with the control has the keyboard enabled. The Minimum time value is in 1/1000 of a second and specifies how long the keyboard must be enabled without being disabled. When the host is sending information to the session

and when the session is sending information to the host the keyboard is locked. The `waitKeyboardEnabled` method may also be used to wait for the keyboard to be enabled for a specified time interval.

Visual Basic Example

```
if(BluesSession1.waitForKeyboardEnabled(10) = True) Then  
    ' keyboard has been enabled for atleast 1/2 a second (500ms).  
End If
```

waitTimeInterval

Syntax:

```
void objectname.waitTimeInterval(Timeout As Long)
```

Return value:

none

Description:

This method is used to wait a specified number of seconds.

Visual Basic Example

```
BluesSession1.waitTimeInterval(10)  
' 10 seconds have elapsed
```

ActiveX Events

An event is a procedure in the container application (your VB application) that gets called when a unique event occurs. When the Blues activex control want to inform the container application of an event, a event procedure is called.

evtEnumMacroNamesProc

Syntax:

```
void objectname evtEnumMacroNamesProc(LPCSTR strMacroName)
```

Return value:

none

Description:

This event will be called as a result of the evtEnumMacroNames Method. The evtEnumMacroNamesProc event procedure is called once for each macro that is stored in the Blues private folder. The names of the returned macros may then be used in calls to the RunMacro method.

Visual Basic Example:

```
Private Sub BluesSession1_evtEnumMacroNames(ByVal strMacroName As String)
```

```
'  
' save macro name  
'  
End Sub
```

evtScreenChanged

Syntax:

```
void objectname.ScreenChanged(LPCSTR strStatusBarText)
```

Return value:

none

Description:

This event will be called whenever the host screen has been changed. If any part of the host screen changes (including the operator information area), then this event gets called. The argument passed is an Ansi string that contains the same string that is being displayed in the Blues terminal session window's status bar. i.e. "LU is active, SSCP is active, etc".

Visual Basic Example:

```
Private Sub BluesSession1_evtScreenChanged(ByVal strStatusbarText As String)  
'  
' perform some type of processing based on what host application has painted on the screen  
'  
End Sub
```

evtEnumPortfolioNamesProc

Syntax:

```
void objectname(evtEnumPortfolioNamesProc(LPCSTR strPortfolioName))
```

Return value:

none

Description:

This event will be called as a result of the evtEnumPortfolioNames Method. The evtEnumPortfolioNamesProc event procedure is called once for each file transfer portfolio that is stored in the Blues private folder. The names of the returned portfolios may then be used in calls to the StartPortfolioTransfer method.

Visual Basic Example:

```
Private Sub BluesSession1_evtEnumPortfolioNames(ByVal strPortfolioName As String)
    '
    ' save Portfolio name
    '
End Sub
```

evtGotFocus

Syntax:

```
void objectname(evtGotFocus())
```

Return value:

none

Description:

This event will be called whenever form that contains the activeX control receives the input focus. When a form has the input focus, the operator may interact with it with the keyboard and mouse.

Visual Basic Example:

```
Private Sub BluesSession1_evtGotFocus()  
'  
' perform some type of processing to make the window ready for the operator  
'  
End Sub
```

evtSessionSwitched

Syntax:

```
void objectname.evtSessionSwitched()
```

Return value:

none

Description:

This event will be called whenever the control gets switched from one Blues Session to another. This happens when the operator right mouse clicks on the control and selects a different session.

This event gives the container application a chance to do what ever processing is required when a session is changed. The control will display the new sessions host screen.

Visual Basic Example:

```
Private Sub BluesSession1_evtSessionSwitched()  
'  
' perform some type of processing to make the window ready for the operator  
'  
End Sub
```

evtSessionWindowHasClosed

Syntax:

```
void objectname.evtWindowHasClosed()
```

Return value:

none

Description:

This event will be called whenever the Blues session associated with the control has been closed. This happens when the operator right mouse clicks on the control and selects the exit menu or the exit and close all sessions menu. This informs the container application that the session is no longer available.

Visual Basic Example:

```
Private Sub BluesSession1_evtWindowHasClosed()
```

```
'  
'end VB application too  
'
```

```
End
```

```
End Sub
```

evtTransferComplete

Syntax:

```
void objectname evtTransferComplete(long Successful)
```

Return value:

```
none
```

Description:

This event will be called as a result of one of three methods having being called, StartSendingFile, StartReceivingFile, or TransferPortfolio. This informs the container application of the success or failure of a file transfer.

If the transfer failed, the file transfer event log may be viewed to determine the reason for the failure.

If the input value is non-zero, then the file transfer completed successfully.

Visual Basic Example:

```
Private Sub BluesSession1_evtTransferComplete(ByVal Success As long)
```

```
if(Success != 0) Then
    ' failed
Else
    'ok
End If

End Sub
```

evtmnuViewMenubar

Syntax:

```
void objectname.evtViewMenubar()
```

Return value:

none

Description:

This event will be called whenever the control process the View Menubar menu command. This takes place if an operator performs a right mouse click in the control and then selects the View Menubar menu item. This event is designed to keep the container application informed and optionally let the container application remove its menubar.

Visual Basic Example:

```
Private Sub BluesSession1_evtViewMenubar()
    '
    'remove application menu bar if desired
```


End Sub

evtmnuViewStatusBar

Syntax:

```
void objectname.evtViewStatusBar()
```

Return value:

none

Description:

This event will be called whenever the control process the View StatusBar menu command. This takes place if an operator performs a right mouse click in the control and then selects the View StatusBar menu item. This event is designed to keep the container application informed and optionally let the container application remove its statusbar.

Visual Basic Example:

```
Private Sub BluesSession1_evtViewViewStatusBar()
```

```
'
```

```
'remove application status bar if desired
```

```
'
```

```
End Sub
```

evtmnuViewTitlebar

Syntax:

```
void objectname.evtViewTitlebar()
```

Return value:

none

Description:

This event will be called whenever the control process the View Titlebar menu command. This takes place if an operator performs a right mouse click in the control and then selects the View Titlebar menu item. This event is designed to keep the container application informed and optionally let the container application remove its titlebar.

Visual Basic Example:

```
Private Sub BluesSession1_evtViewViewTitlebar()  
'  
'remove application titlebar if desired  
'  
  
End Sub
```

evtmnuViewToolbar

Syntax:

void objectname.evtViewToolbar()

Return value:

none

Description:

This event will be called whenever the control process the View Toolbar menu command. This takes place if an operator performs a right mouse click in the control and then selects the View Toolbar menu item. This event is designed to keep the container application informed and optionally let the container application remove its Toolbar.

Visual Basic Example:

```
Private Sub BluesSession1_evtViewViewToolbar()  
'  
'remove application Toolbar if desired  
'  
  
End Sub
```

ActiveX Security Considerations

Since an ActiveX control has all the capabilities of any standard program that may be started from Windows is has been a source of concern for possible virus contamination. Since the Microsoft Internet Explorer will automatically download an ActiveX control and run it, Microsoft has the ability to configure the Internet Explorer with different levels of security which control if and when ActiveX controls may be used. An ActiveX control may be "signed" by a certificate authority. To sign an ActiveX control, the control is imbedded with a certificate that is encrypted

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and must be decrypted and verified before the browser will let the ActiveX control be downloaded or used. The Blues ActiveX control is signed by Verisign and may be verified before it is used.

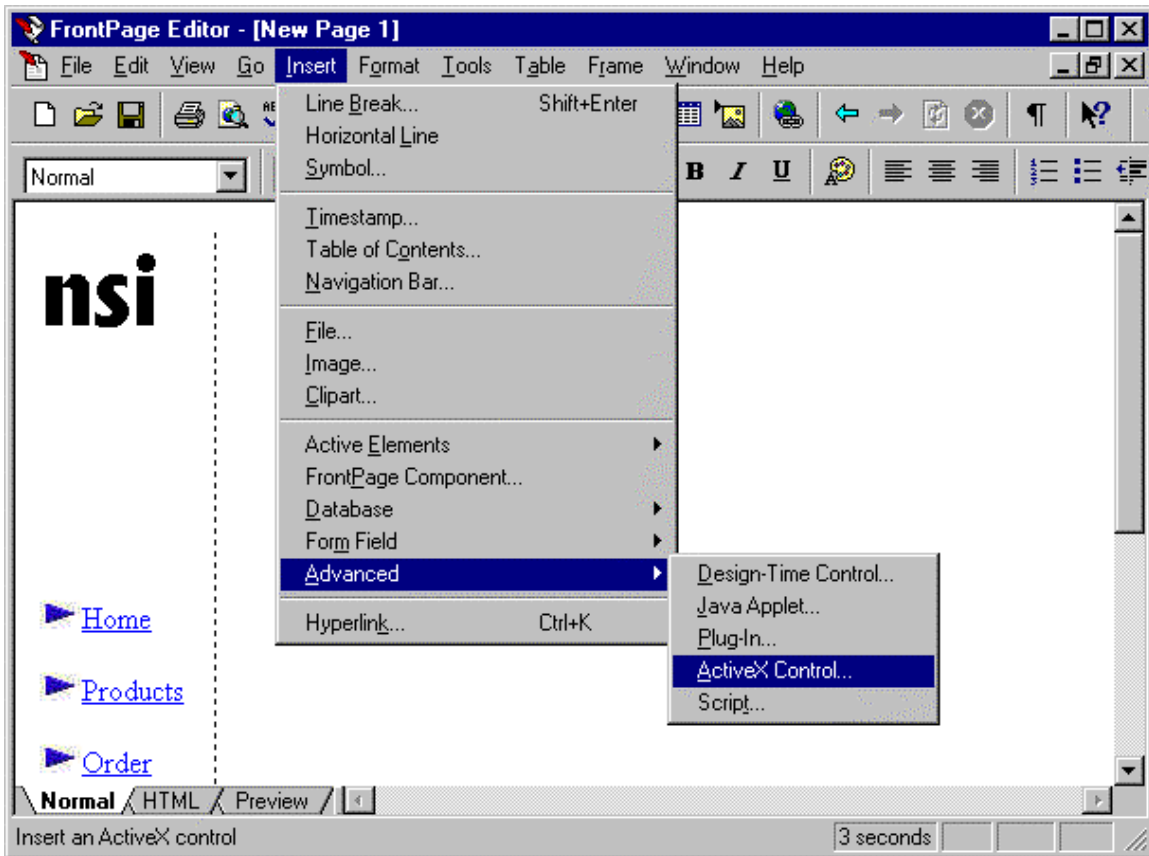
The first time that a browser uses a signed ActiveX control, the operator is prompted to verify that they trust the company who signed the control. The Blues ActiveX control is signed by Newhart Systems Incorporated. By signing the control, Newhart Systems Incorporated is verifying that the control will not maliciously harm or destroy any information stored on the computer and is safe to use.

To be able to use the Blues ActiveX control there needs to exist a trust relationship between Newhart Systems Incorporated and its customers. Once this has been established, then the technology associated with signing and verifying a control ensure that no other party has tampered with the control and that the control is safe.

Using Microsoft Front Page with Blues ActiveX Control

The Microsoft Front Page product may be used to add Blues ActiveX controls to a WEB page. The Blues ActiveX control is registered as part of the Blues installation. To design a WEB page with the Blues control, Blues must be installed on the PC being used to design the WEB page.

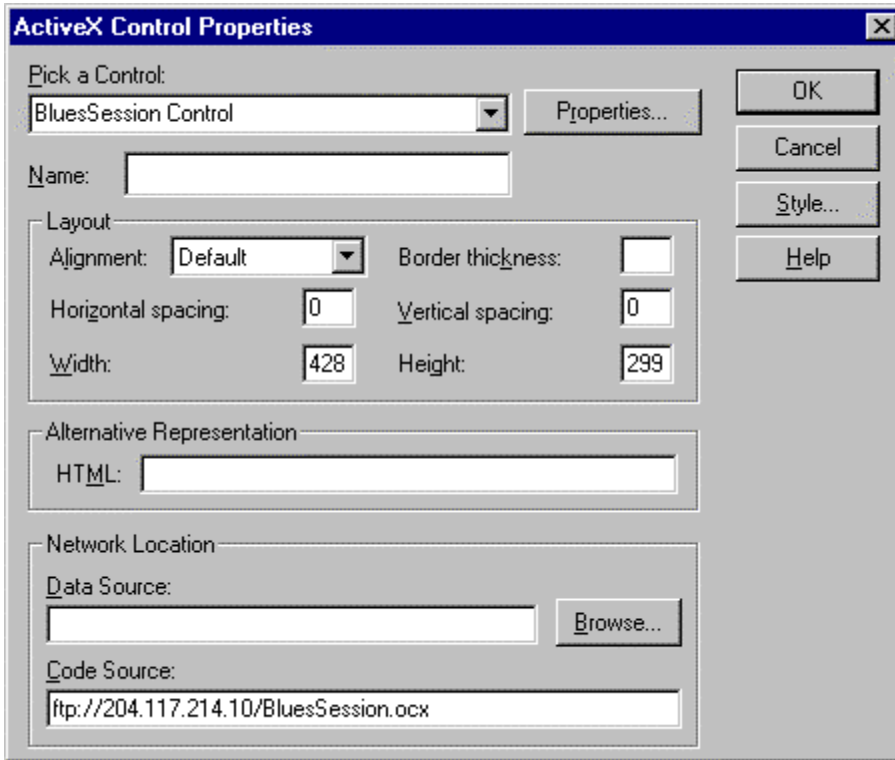
To insert a Blues ActiveX control into a WEB page from the Front Page Editor application, select "Insert" and "Advanced" and then "ActiveX Control" from the Front Page Editor menu.



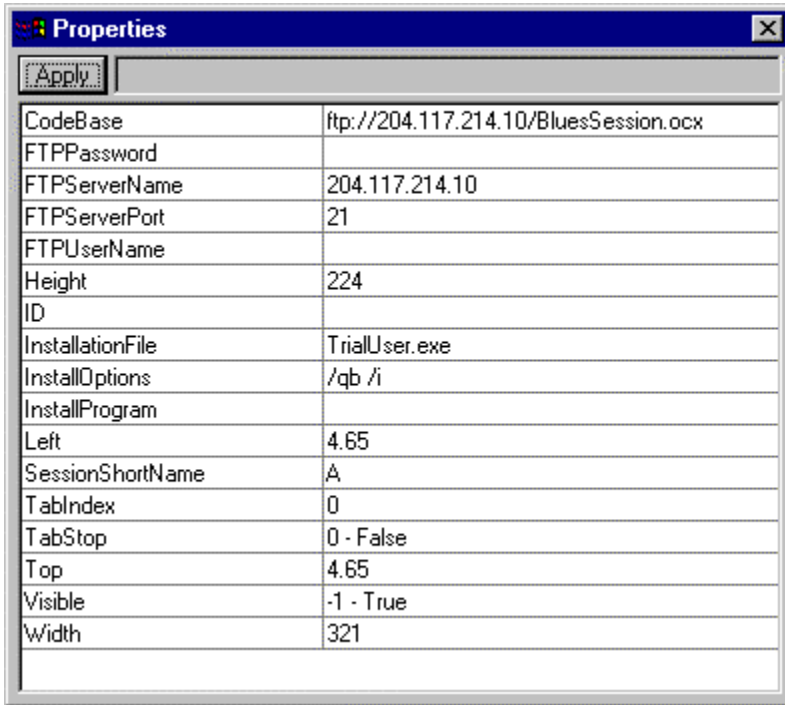
After selecting to insert an ActiveX control, the ActiveX control configuration window will be displayed. At the top of the window, select the "Blues Session" control type. The "Code Source" field should contain a valid ftp URL where the file BluesSession.ocx should reside. The "Code Source" field informs the browser where to download the control from in the event that the control has not already been installed on a PC that views the WEB page. It is not necessary to

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set the "Code Source" field if the Blues will always be pre-installed on any PC that may view the WEB page. The following picture depicts a Blues ActiveX control properties that may be downloaded from the ftp site called myserver.com.



By pressing the Properties button, all of the Blues ActiveX control properties may be set. The SessionShortName property value should be set to the session short name that is desired. If the control is going to install Blues, then the InstallationFile property value must be set to the name of the installation file (see preceding section-describing properties). When the InstallationFile property value has been set, the FTPServerName property value may be used indicate that the InstallationFile is located on an FTP server and not a hard drive or network drive/share. See the following section for details on installing and deploying Blues over the ActiveX control.



In this example, the following HTML source code was produced by the Front-Page Editor application:

<html>

<head>

<title>New Page 1</title>

</head>

<body>

<p>

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<object codebase="ftp://myserver.com/BluesSession.ocx">

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```
classid="clsid:694BE330-1784-11D4-9232-00A0C9BBD624" width="349"
height="215">
  <param name="_Version" value="65536">
  <param name="_ExtentX" value="2646">
  <param name="_ExtentY" value="1341">
  <param name="_StockProps" value="0">
  <param name="InstallationFile" value="package.exe">
  <param name="SessionShortName" value="A">
  <param name="FTPServerName" value="myserver.com">
</object>
</p>

<p>&nbsp;</p>
</body>
</html>
```

Using Blues ActiveX Control for Emulation Deployment

Using the Blues ActiveX control for emulation deployment has several distinct advantages. The most important of which, is the ease of installation. Blues may be installed on a large number of workstations without having an engineer visit each PC. This can save a great deal of time and money. The second most important reason is ease of Blues software maintenance. The workstations that were previously installed over the control may be upgraded or configured differently by creating a new installation package with the desired changes or upgrades and having an operator visit the WEB page that contains the Blues control again. The standard Blues installation file from the Blues CD may be deployed or a customized package may be created from the Blues Manager application that contains any combination of the Blues software, Blues configuration files, and Blues private settings files (keyboard mappings, translation tables, etc.).

What files are required to be in the installation source directory?

The installation source directory may either be a network drive, or an FTP server. In either case, a few files must be copied to the location so that the Blues ActiveX control has access to them for installation and maintenance.

The Blues ActiveX control property "InstallationFile" specifies the name of a file that is used for the installation and therefore must be copied to the source installation directory. The InstallationFile name may contain a complete path if desired. If the complete path is specified, then the remaining files must also be located in the same path sub directory.

The Blues software installation is provided in the form of a Windows installer msi file. To be able to execute such a file, the Microsoft Windows Installer service must be previously installed on a

PC. Microsoft distributes two separate installation files for the Windows Installer Service, one for Windows 95/98 PC's and one for Windows NT/2000 PC's. Both of these files are located on the Blues CD, the file instmsi.exe if for Windows 95/98 and the file instmsiw.exe is for Windows NT/2000. These two files should be copied to the installation source directory if any PC that is going to have Blues installed over the ActiveX control does not have the Windows Installer service already installed. The Blues ActiveX control will determine if the Windows Installer service is present on a PC before executing the InstallationFile. If the Installer service is not present on the PC, the control will download (if FTP server directory) and execute the Microsoft Windows Installer setup program before executing the Blues InstallationFile.

Upgrading or modifying a deployed PC

Each time the Blues ActiveX control is activated (from a WEB page container application), it compares the date and time of the InstallationFile property file that is either on a network share/server or FTP server with the date and time of the file that it used to install Blues. If a new version exists, then the newer file is executed. The new installation file may contain a new copy of the Blues software, new configuration files, and or Blues private settings files such as keyboard mappings.

This deployment technique allows PC's that have Blues installed to be upgraded or changed by placing a new installation file on a server and letting users visit a WEB site or run a custom application that contains the control.

EHELLAPI, WIN HLLAPI and MS-DOS HLLAPI

The BLUES 2000 Display application supports the industry standard Emulator High-Level Language Application Programming Interfaces EHELLAPI, HLLAPI and WIN HLLAPI. The WIN HLLAPI interface is "Windows Compliant". It is beyond the scope of this manual to give a complete description of EHELLAPI, HLLAPI or WIN HLLAPI. These interfaces are provided in two Windows Dynamic Link Libraries (DLL's), HLLAPI.DLL and WHLLAPI.DLL. However, enough information is provided so that existing EHELLAPI, HLLAPI or WIN HLLAPI application program can be connected through the BLUES 2000 application, and so that experienced programmers can develop new programs that use these functions.

Application Access From A Windows Application

EHELLAPI, HLLAPI and WIN HLLAPI are installed automatically along with the rest of the BLUES 2000 Display software, so there are no extra installation steps needed to begin using it.

To run an already existing EHELLAPI application, configure 1, 2, 3, etc., (up to a maximum of 16) LU2's, with correct presentation space short names a, b, c, etc. (The presentation space short name is configured using **Connections** under the **Gateway** menu pull down.)

You may either start the BLUES 2000 emulation before or after the client application. If you start your client first, then the directory where the BLUES 2000 software has been installed should be in the MS-DOS PATH statement in your autoexec.bat file. If you start the BLUES 2000 emulation first, then the interfaces are automatically made available to the client program.

The application should then run as is with no changes.

Application Access From An MS-DOS Box

In order to be able to use HLLAPI from a MS-DOS box you must start the "DOS HLLC SUPPORT" program. The program icon gets created for you as part of the Make Icons function of the Administrator program. In addition, you system.ini file was modified when you installed the BLUES 2000 product to load a windows virtual device called VHLLAPI.386". This virtual device routs DOS HLLC (int 7f) calls to the BLUES 2000 product. Through this technique, you may have

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more than one MS-DOS HLLAPI program concurrently running as long as they are in separate MS-DOS boxes.

Since a virtual device is used, windows must be in 386 enhanced mode to have this feature available. In addition, the HLLAPI LIB MUST perform a software interrupt to perform the HLLAPI function.

Using SEND.EXE And RECEIVE.EXE From An MS-DOS Box

The BLUES software comes with SPECIAL MS-DOS SEND.EXE and RECEIVE.EXE programs. These programs use the HLLAPI interface to send and receive files from an MS-DOS box. The command line options are standard for file transfer programs. In order to use these programs you MUST have the MS-DOS HLLAPI redirecter started under windows (see preceding section).

Examples: send C:\sendfile A:hostfile (send c:\sendfile to host file "hostfile")
 receive C:\rcvfile A:hostfile (receive host file "hostfile" to c:\rcvfile)

If you do not have the BLUES installation assigned in your PATH statement in your autoexec.bat file, then you must enter the complete path for the SEND.EXE or RECEIVE.EXE program. Example C:\blues\send c:\sendfile A:hostfile

Using Entire Connection For Windows

The Entire Connection windows product must first be installed. During the installation process you must select the EHLLAPI/HLLAPI connection type. In addition the following line must be in the Natural Connection configuration file "CONFIG.NC":

```
ENV    HLLAPI            HLLAPI,HLLAPI
```

Developing New EHLLAPI Applications

To develop a new C Language application using the EHLLAPI functions as defined in the EHLLAPI reference manual, C programmers need to insert the following prototype statement in their source files:

```
void far PASCAL HLLAPI(int far *fcode, char far *string, int far
*len, int far *retc);
```

Then an implicit import is performed by listing the import library HLLAPI.LIB on the linker command line for the application. (HLLAPI.LIB is a Microsoft C 6.0 Lib, for the EHLLAPI DLL)

BASIC and PASCAL programmers can also use the EHLLAPI functions. No import library is provided for these programming languages, so an explicit import has to be done by listing the HLLAPI routine in the IMPORTS section of the application's module definition file, as follows:

```
IMPORTS
    HLLAPI.HLLAPI
```

Developing New Applications With WIN HLLAPI

To develop a new C Language application using the WIN HLLAPI functions as defined in the WIN HLLAPI reference manual from Microsoft, C programmers need to either use the WHLLAPI.LIB library during the build of the application or place EXPORT statements in the application .DEF file, or dynamically load the WHLLAPI.DLL file from the application. The Following entry points are supported:

```
int far PASCAL WinHllapiStartup(WORD,LPWHLLAPIDATA);
```

```
void far PASCAL WinHLLAPI(WORD far *, LPSTR ,WORD far *,WORD far *);
```

```
HANDLE far PASCAL WinHLLAPIAsync(HWND,WORD far *,LPSTR,WORD far *,
    WORD far *);
```

```
BOOL far PASCAL WinHllapiCleanup(void);
```

```
BOOL far PASCAL WinHllapilsBlocking(void);
```


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int far PASCAL WinHllapiCancelAsyncRequest(HANDLE,WORD);

int far PASCAL WlnHllapiCancelBlockingCall(void);

FARPROC far PASCAL WinHllapiSetBlockingHook(FARPROC);

BOOL far PASCAL WinHllapiUnhookBlockingHook(void);

Then an implicit import is performed by listing the import library WHLLAPI.LIB on the linker command line for the application. (WHLLAPI.LIB is a Microsoft C 6.0 Lib, for the WHLLAPI DLL)

BASIC and PASCAL programmers can also use the WHLLAPI functions. No import library is provided for these programming languages, so an explicit import has to be done by listing the WHLLAPI routine in the IMPORTS section of the application's module definition file.

Using The EHLLAPI Trace Facility

Each terminal session has file menu item that allows all EHLLAPI and HLLAPI functions to be traced to an ASCII file. For details on starting and stopping the trace, see the DISPLAY EMULATION section of this manual.

Using DDE

Host display sessions may act a DDE servers. Each session may support up to 16 concurrent DDE conversations. Each conversation associates a part or all of the host screen with the client.

Hot Links

Concurrent HOT-LINKS provide a DDE client with the ability to be notified whenever a certain host screen is modified. To setup a DDE conversation with another application, perform the following steps:

(1) Select the portion of the host screen (or the whole host presentation space) with the mouse.

(2) Select the Copy function from the Edit menu.

(3) From the Client application, select paste special. Now you have a hot link DDE conversation. Any time the host screen changes, the client will be presented with the new screen. If the client does not have a paste link function, it may allow you to enter in the a program name, file name, and topic. If so, see the following section on what these variables are used for.

Customizing A DDE Conversation

There are three fields that are used to establish a DDE conversation, (a) A program name, (b) a file name, and (c) a topic name. The 3270 Windows Display session uses these fields as follows:

PROGRAM NAME

This is the name of the program. i.e. "WSLU2". It is the name of the DDE server. This name may be modified by the admin.exe program under API.

FILE NAME

This is the name of the session i.e. "SESSION1".

TOPIC

The topic field is used to determine the portion of the host display screen that the server will send to the client. It is in the following format:"RaCb:CcCd:[string]". The topic selects a starting row/column and ending row column of the host display session that the emulator will pass the client. This allows the topic to select either part or all of the emulators screen as the data associated with the DDE conversation. Ex R0C0:R23C79 -select all 24X80 positions on the screen. The options string value can be any ANSI string, when there is a string configured, that string must be displayed on the host screen in order for the DDE data to be passed to the client. This string is used to recognize a specific host screen. The Settings under the Edit menu's Clipboard Options also affect the format of the data passed from the emulator to the client application.

Using DDE To Execute A Macro

The DDE EXECUTE command may be issued to cause the display session to perform a macro. The name of the macro must be given in the execute without the path or the file extension. i.e. A DDE execute of "LOGON" will execute the macro named LOGON.MAC in the user's BLUES private directory. The macro name can not be "IS_BUSY". (see following section)

Using DDE To Determine If The Session Is Busy

The DDE EXECUTE command may be issued to see if the display session is busy. The display session is busy when it is executing a macro, or waiting for the host to enable the keyboard. The execute string must be "IS_BUSY". If the Execute fails then the display session is not busy.

Printer Emulation

The BLUES 2000 Printer product actually comprises two distinct emulation's; one for LU1 SCS data stream printing, and one for LU3 DSC data stream printing. Unless otherwise stated, all the information presented in this manual applies to both forms of emulation.

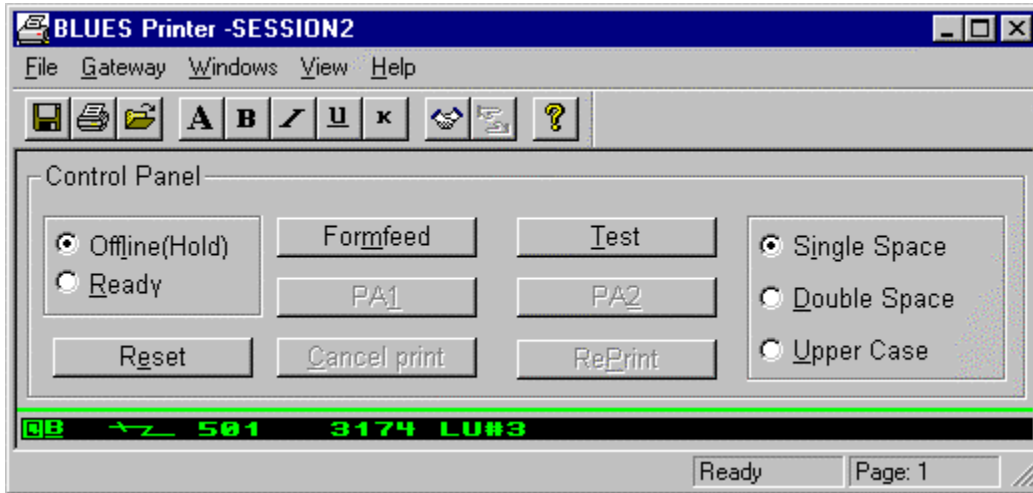
Starting Printer Sessions

You have two choices for how to load the BLUES 2000 Printer application:

Once you have loaded a BLUES 2000 Printer session, you can easily update the session's profile for any different connection or operational options you wish, as explained throughout this section, and in the Customizing Your Printer section.

You will find much similarity between operating the BLUES 2000 Printer and other programs under Windows 3.1. This is because these programs adhere to a Common User Access (CUA) design, which is part of the Systems Application Architecture (SAA) standard. Special topics are discussed, but it is beyond the scope of this manual to provide a complete tutorial on using windows applications. Also, a basic familiarity with operating a 3287 type terminal is assumed. Please see the Related Reading Section if needed.

Once a printer emulator has been started, the following window will appear as the main window of the printer. The main window is meant to look and feel like a real IBM printer.

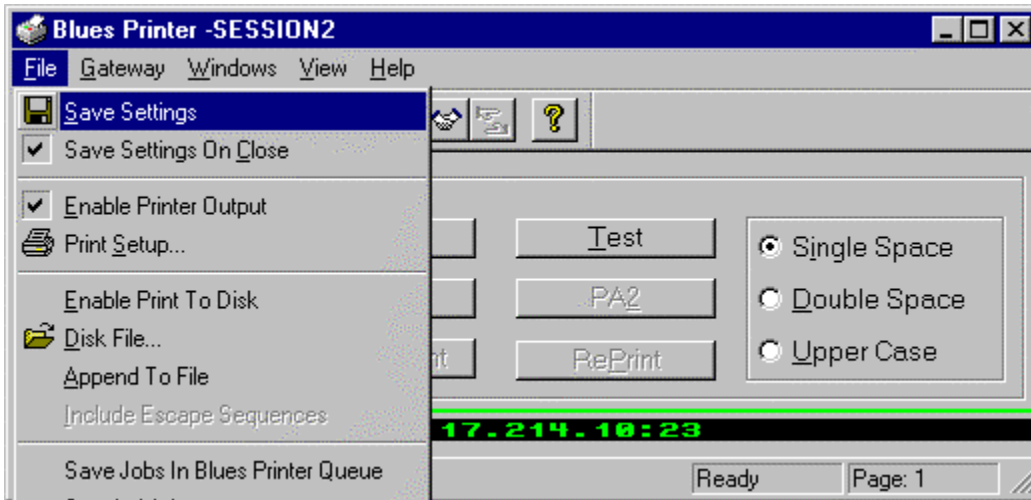


The main window contains a control panel at the top, a operator information area, and two buttons. The operator information area contains a subset of the information on the terminal session's operator information. For more information on the operator information area see the appropriate section of this manual.

Option Bar Pull Down Menus

The BLUES 2000 Printer application provides standard 3287 printer features, and several enhancements, in the convenient form of Windows option bar pull down menus. The functions provided in each of the menus will be explained in the following sections.

The Printer Session File Menu



The File menu includes commands that enable you to modify your user profile, select printer devices, and exit the BLUES 2000 Printer application.

For more information, see the sections below which describe the following File menu commands:

Save Settings	Save current profile
Save Settings On Close	Save All settings whenever the emulator is terminated
Enable Print To Printer	When selected, this turns on printer output from the host.
Print Setup	Printer selection and page setup
Enable Print To Disk	When selected, this turns on printer output to a disk file.
Disk File	Selects the name of the next print to disk file
Append To File	Add each host print to the end of the file.
Include Escape Sequences	Add printer strings to the output.
Save Jobs In Printer Queue	Keep copies of printed jobs in the BLUES printer queue
Spooled Jobs...	Display the BLUES printer manager application

Exit Exit program

Exit And Close All Sessions Close all 3270 session Windows

Save Settings

This File menu command is used to store the current session profile. All the operational and connection options currently in effect will automatically be re-activated next time the session is started.

Save Settings On Close (printer sessions)

This File menu command is used to indicate that the emulator should automatically save all session parameters just prior to exiting the program.

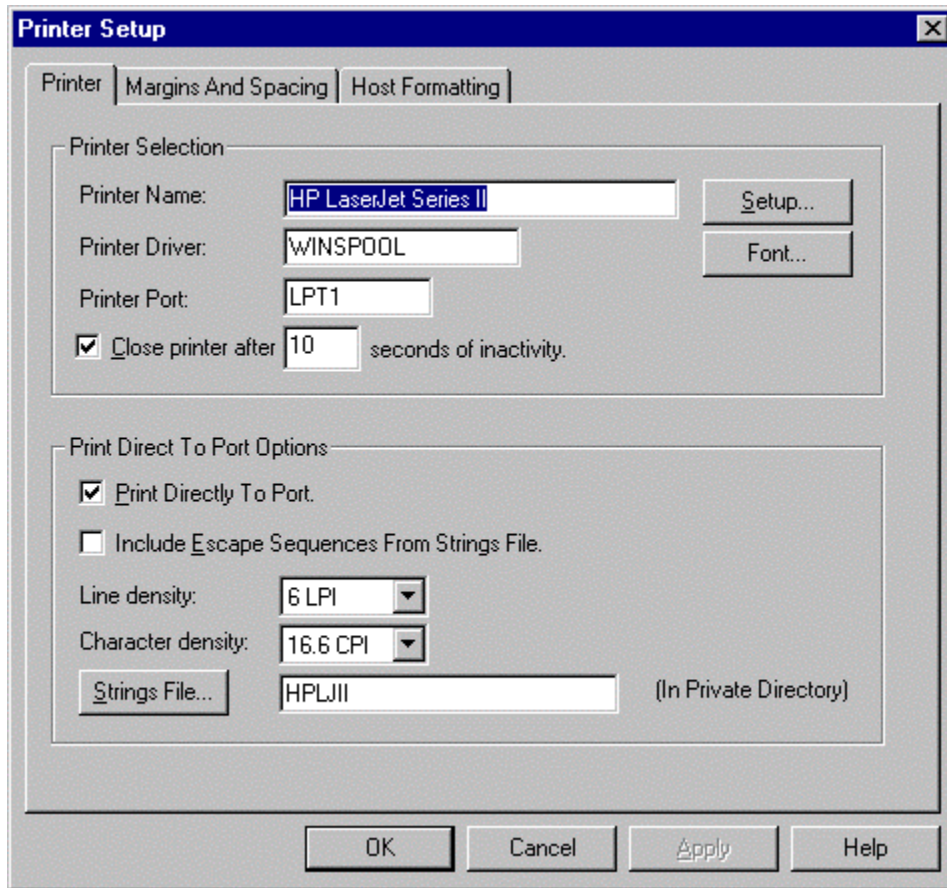
Print Setup (print sessions)

This menu item displays a dialog box that lets you configure how a host print will be printed. The following section gives a description of each option.

Enable Print To Printer (print sessions)

This feature lets you enable and disable printer output. If it's enabled, then when a host print is performed the output will be written to the printer. You may want to only print host files to a disk file, if so, then disable this feature.

Print Setup Menu Item



Printer Setup Button

The printer selection and setup button allow the selection of a print device. The print device receives the host output.

Printer Fonts

The Fonts button lets you select the font that you want to use for your host print. The fonts dialog box lets you select any available printer fonts you have installed. Once your font has been selected, the maximum print column, last print line, and lines per page variables are automatically calculated for you.

Close Printer After

This option may be selected to cause the printer spoler or printer port to be closed if no host data is received within the time period specified. This feature may be necessary for LU type 3 printer output or for an LU type 1 printer that is not configured for between bracket printer sharing at the host. If more data is received after the time out was reached, the new data will be printed on the top of a new page.

Print Directly To Port

This feature lets you bypass the windows print manager and print directly to a port like LPT1. If you select this feature, you may configure printer strings to customize your printer output. Another use for this feature is if your host print output is already in print ready format, then the emulator will pass it directly to the printer.

Include Printer Escapes In Output

When this option is selected, the escape sequences defined in the printer strings file are added to the output port.

Line Density

This field is only visible when you have selected print directly to port. This field specifies the number of lines per inch (LPI) to be printed. You may choose 4, 6, or 8 lines per inch. The number selected will cause the appropriate printer string to be sent to the print device at the start of a print job.

Character Density

This field is only visible when you have selected print directly to port. This field specifies the number of characters per inch (CPI) to be printed. You may choose between 6, 10, 12, 16.6, or 20 characters per inch. The number selected will cause the appropriate printer string to be sent to the print device at the start of a print job.

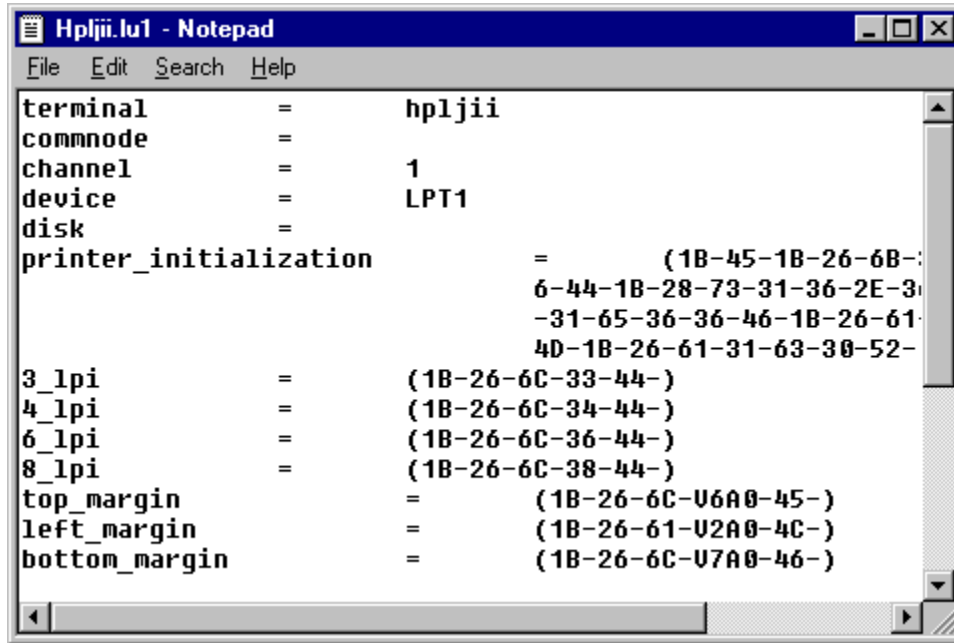
Configure Strings

This field is only visible when you have selected print directly to port. This area of the Printer Defaults dialogue box displays, and allows you to change the **GENFILE** name. The genfile contains encoded printer control strings, or 'Escape sequences', which enable you to condition the printer output for any brand of physical printer you have purchased for use with your PC. The genfile name is part of the profile, and the genfile is loaded and parsed automatically when the 3270 Printer application is started. Both SCS and DSC modes of printer emulation allow sending specific initialization strings to your physical printer. SCS mode also provides additional control strings which allow the host program to dynamically change such things as margins, fonts, etc. **If you do not specify a genfile, then your printer emulation will still print host files, however you will not see any special print operations such as margins and fonts be changed. If you host is sending print ready data, then do not select a genfile.**

NOTE TO HEWLETT-PACKARD LASERJET II USERS - If you are trying to configure a HEWLETT-PACKARD Laserjet II printer or an HP II compatible, then you should select the genfile named 'HPLJII.LU1'

To access the procedures which allow you to define the various control strings for your particular physical printer, select **Configure strings >>...**, once you have verified the GENFILE name field is correct. The details of how to configure control strings are presented in the following paragraphs.

To perform the printer string configuration, you will need a copy of the manual that came with your printer. In this manual, you will find a section that lists all of the control strings that the printer will accept and what they do. These strings are known as escape sequences. The printer string configuration process allows you to supply the 3270 Printer program with the necessary escape sequences to be able to translate the host's print data stream to your printer's escape sequences. Once you have selected Configure strings....., the windows NOTEPAD program is started. For details on how to operate the NOTEPAD program see the appropriate Windows documentation. The window should look as follows:



```
terminal      =      hpljii
comnode       =
channel       =      1
device        =      LPT1
disk          =
printer_initialization =      (1B-45-1B-26-6B-:
6-44-1B-28-73-31-36-2E-3:
-31-65-36-36-46-1B-26-61-
4D-1B-26-61-31-63-30-52-

3_lpi        =      (1B-26-6C-33-44-)
4_lpi        =      (1B-26-6C-34-44-)
6_lpi        =      (1B-26-6C-36-44-)
8_lpi        =      (1B-26-6C-38-44-)
top_margin   =      (1B-26-6C-U6A0-45-)
left_margin  =      (1B-26-61-U2A0-4C-)
bottom_margin =      (1B-26-6C-U7A0-46-)
```

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Each printer string is preceded by a constant ASCII string that identifies it. Printer control strings consist of hexadecimal bytes and variables. Each entry is separated by a '-' character when it is displayed on the screen. Functions are defined for operations that require variables to replace them before they are sent to the output device. These variables are usually dependent upon the data stream sent from the host and the type of printer you have. For example, the host may want to set the top of page margin to row 5 and col 10. To do this the 3270 Printer program must know two things, (1) what escape sequence to use and (2) how to send the value (row 5 col 10) to the printer.

The following lists contains all the possible PRINTER strings and their meanings:

FIRST INITIALIZATION STRING

This string is sent to the output device every time a new document is sent from the host. It may be used to setup any default parameters you may want the printer to take on, such as the default pitch.

SECOND INITIALIZATION STRING

This string is sent to the output device every time a new document is sent from the host. It is provided in case the FIRST INITIALIZATION STRING was not long enough to contain all the necessary information. It may be used to setup any default parameters you may want the printer to take on, such as the default pitch.

03 LINES PER INCH STRING

This string is sent to the output device whenever a command from the host is received that indicates to set the lines per inch to 3.

04 LINES PER INCH STRING

This string is sent to the output device whenever a command from the host is received that indicates to set the lines per inch to 4.

06 LINES PER INCH STRING

This string is sent to the output device whenever a command from the host is received that indicates to set the lines per inch to 6.

08 LINES PER INCH STRING

This string is sent to the output device whenever a command from the host is received that indicates to set the lines per inch to 8.

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TOP MARGIN STRING

This string is sent to the output device when a command is received from the host that causes the top margin to be changed.

BOTTOM MARGIN STRING

This string is sent to the output device when a command is received from the host that causes the bottom margin to be changed.

LEFT MARGIN STRING

This string is sent to the output device when a command is received from the host that causes the left margin to be changed.

RIGHT MARGIN STRING

This string is sent to the output device when a command is received from the host that causes the right margin to be changed.

PAGE WIDTH STRING

This string is sent to the output device when a command is received from the host that causes the page width to be changed.

HORIZONTAL FORMATTING STRING

This string is sent to the output device when a command is received from the host that causes the left margin, right margin, or page width to change. This string will be sent to the output device after the LEFT MARGIN, RIGHT MARGIN, and PAGE WIDTH strings. Some printers require a separate escape sequence to get the printer to activate the new margin settings.

HORIZONTAL SPACING CONSTANT

This printer specific is a decimal number that is used when host commands are received from the host that contain horizontal formatting information. This number is used as a multiplier for each host horizontal command. It may be used to adjust the distance between characters on a line.

PAGE LENGTH STRING

This string is sent to the output device whenever a host command is received that would change the page length.

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VERTICAL FORMATTING STRING

This string is sent to the output device when a command is received from the host that causes the top margin, bottom margin, or the page length to change. This string will be sent to the output device after the TOP MARGIN, BOTTOM MARGIN, and PAGE LENGTH strings. Some printers require a separate escape sequence to get the printer to activate the new margin settings.

VERTICAL SPACING CONSTANT

This printer specific is a decimal number that is used when host commands are received from the host that contain vertical formatting information. This number is used as a multiplier for each host vertical command. It may be used to adjust the distance between lines on a page.

START UNDERLINE STRING

This string is sent to the output device whenever a host command is received that indicates to start underlining.

END UNDERLINE STRING

This string is sent to the output device whenever a host command is received that indicates to end underlining.

RESET ATTRIBUTES STRING

This string is sent to the output device whenever a host command is received that indicates to reset all printer attributes.

DEFAULT FONT STRING

This string is sent to the output device whenever a host command is received that specifies to set the font back to its original setting.

FONT 1 STRING

This string is sent to the output device whenever a host command is received that indicates to set the font to type number 1.

FONT 2 STRING

This string is sent to the output device whenever a host command is received that indicates to set the font to type number 2.

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FONT 3 STRING

This string is sent to the output device whenever a host command is received that indicates to set the font to type number 3.

FONT 4 STRING

This string is sent to the output device whenever a host command is received that indicates to set the font to type number 4.

FONT 5 STRING

This string is sent to the output device whenever a host command is received that indicates to set the font to type number 5.

DEFAULT CHARACTERS PER INCH

This printer specific is a decimal number that selects the printer's default characters per inch. The host printer emulation software performs a range check value on this number to determine which CHARS PER INCH string to send to the output device when the host command is received which indicates to reset the characters per inch to their default setting.

CHARS. PER INCH (1 - 7) STRING

This string is sent to the output device whenever a host command is received that indicates to set the characters per inch between 1 and 7.

CHARS. PER INCH (8 - 11) STRING

This string is sent to the output device whenever a host command is received that indicates to set the characters per inch between 8 and 11.

CHARS. PER INCH (12 - 14) STRING

This string is sent to the output device whenever a host command is received that indicates to set the characters per inch between 12 and 14.

CHARS. PER INCH (15 - 18) STRING

This string is sent to the output device whenever a host command is received that indicates to set the characters per inch between 15 and 18.

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CHARS. PER INCH (19 - 25) STRING

This string is sent to the output device whenever a host command is received that indicates to set the characters per inch between 19 and 25.

DEFAULT LINES PER PAGE

This printer specific is a decimal number that indicates the number of lines on a physical page.

There are six format variables kept by the LU1 SCS mode emulation program that the host may change at any time. These variables may be included in the strings in either an ASCII format or a binary format. These six variables may be placed into output strings sent the print device. Variables are used to indicate to insert the value of a particular variable in the output string. Variables are entered as a string of characters in the following format "VaAb" or "VaBb". The value of 'a' is the number of the variable to insert into the printer output (as defined below). The value 'A' is for ASCII and the 'B' is for BINARY. The value for 'b' is the minimum number of characters to send to the output device or a 0 to send the value without justification. The value for 'b' is used to right justify a value if ASCII is selected and used to add to the value if binary is selected. For example if you wanted to send the value for the right margin in ASCII and the host had set the right margin at 132 and you entered "V3A0" then the string "132" would be sent to the output device. If you entered the string "V3B0", then a single binary character of 132 would be sent to the output device. If you entered a string of "V3A5", then the string "00132" would be sent to the output device. The following variables have been assigned the following numbers:

VARIABLE	VALUE
PAGE WIDTH1	1
LEFT MARGIN	2
RIGHT MARGIN	3
PAGE LENGTH	5
TOP MARGIN	6
BOTTOM MARGIN	7

Margins

Margins may be selected if the print directly to port feature has been disabled. Margins are initially set to 0 but may be modified as needed.

First Print Line

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This field specifies the top margin, or first line on a page to which output data should be written. Any values greater than 1 will cause blank lines to be inserted in the print out.

Last Print Line

This field specifies the bottom margin, or last line on a page to which output data should be written. When the last print line is reached a form feed is performed.

Lines Per Page

This field specifies the total number of lines on a physical page.

Maximum Print Col.

This field specifies the number of characters which can be printed on a line.

Space Between Lines

This field lets you modify the amount of space between printed lines. It is primarily used to align pre-printed forms. By using the TEST button you can experiment with the format of a printed page.

Space Between Characters

This field lets you modify the amount of space between printed characters. It is primarily used to align pre-printed forms. By using the TEST button you can experiment with the format of a printed page.

SCS Transparent Print Data

SCS type of printers can receive data from the host that has been designated as transparent by the host. This option lets you select what the BLUES printer session will do with the transparent data. The transparent data may be sent directly to the print device (if you selected to print directly to the print port) or sent directly to the printer by using a Windows PASSTHROUGH escape function. The PASSTHROUGH escape is not supported by all Windows drivers.

Hex Pass-Through Trigger Character

This option lets you select a special character or characters that will surround special print ready data coming from the host. Every two bytes between the trigger characters are converted from EBCDIC to ANSI, then the ANSI characters are assumed to be valid hexadecimal values and combined to become a single hexadecimal character. The newly formed hexadecimal character is then either sent directly to the print device (if you selected to print directly to the print port) or sent directly to the printer by using a Windows PASSTHROUGH escape function. The PASSTHROUGH escape is not supported by all Windows drivers. The following datastream could be sent from the host to a HP II compatible printer to set the line spacing to 8 LPI. It is assumed that you selected the logical not character as the trigger character, the logical not character is sent as a hex 5f from the host.

HOST EBCDIC DATA STREAM

OUTPUT TO THE PRINTER

5F 5F F1 C2 F2 F6 F6 C3 F3 F8 F4 F4 5F

1B 26 6C 38 44

Wrap Text At Right Margin

This lets you cause a new line to be automatically done whenever the right margin is reached. If this feature is off and the host prints past the right margin, then the information will be lost.

Form Feed Without Space

This field acts as a toggle switch. An X in this field turns the option on, and means the printer should NOT advance one character position after a form feed. The one space advance is provided when needed to conform to IBM printers.

Form feed at end of job

This field acts as a toggle switch. An X in this field turns the option on, and means the printer should perform a form feed after printing each file. Some laser printers require this feature to be able to cause the printer to actually print the last page. If the host application does not place a form feed at the end of a print job, then this feature should be used.

Auto newline at end of line

This field acts as a toggle switch. An X in this field turns the option on, and means the printer should perform a newline function, i.e., carriage return (CR) followed by line feed (LF), whenever a CR occurs at the maximum print column + 1.

Additional newline at end of line

This field acts as a toggle switch. An X in this field turns the option on, and means the printer should perform two newline (NL) functions, whenever a NL occurs at the maximum print column + 1.

Newline at end of job

This field acts as a toggle switch. An X in this field turns the option on, and means the printer should perform a newline function after printing each file.

Xlate SCS FF to CRLF

This field acts as a toggle switch. An X in this field turns the option on, and means the printer should treat a form feed (FF) received from the host as a carriage return plus line feed (CRLF).

Let Host Override Page Setup

The host datastream may contain formatting options that set the maximum print position, the maximum print line, vertical tabs, the lines per inch, and the characters per inch. When this option has been selected, the BLUES printer emulator will use the values sent by the host and not the values have selected in the print setup dialog box.

Band Output

This option determines if the BLUES emulator should perform print banding. Print banding is a technique of breaking up a page into bands. Each band is then printed by the BLUES emulator. Print banding is faster because the Windows print system does not have to wait for a complete page before it sends data to the printer. **NOTE - if you are using either SCS Transparent Print or Hex Pass-through, then this feature is normally required.**

Enable Print To Disk (printer sessions)

This menu item lets you enable and disable the print to disk feature. When selected, each host print job is written to a new disk file. To select the disk file name, see the following section. You may have both disk and printer output enabled at the same time. This would cause a hard copy and a disk file to be produced.

Disk File (printer sessions)

This menu item lets you select the name of the next print to disk file name. Each host print is written to a new disk file. Disk files are incremented. i.e. print0001.dat is incremented to print0002.dat.

Save Jobs In BLUES Printer Queue

When this option is selected, each job that is printed gets saved in a queue of print jobs. The BLUES printer queue is maintained by the BLUES Print Manager application. Queued print jobs may be saved for subsequent re-printing. See the section on BLUES Print Manager for more information on the BLUES print queue.

Spooled Jobs...

Select this menu item to display the BLUES Print Manger application. See the section on BLUES Print Manager for more information on the BLUES print queue.

Exit Printer Session

This menu item lets you end the printer emulation.

The Printer Session Gateway Menu

The Gateway Menu provides a command that enables you to connect or disconnect to a host gateway.

Connect Printer

This option lets you connect to the host computer.

Disconnect Printer

This option will disconnect the printer from the host.

SNA Trace Active

Link Trace Active

Session Trace Active

The NSI trace facilities allow you to start and stop the trace from the gateway menu. All data is recorded in the file "SESSIONx.TRC" in the private directory. The trace file is a standard ASCII file that may be viewed or printed as desired. The trace feature is meant as a tool to help solve possible problems in the communication to the host computer.

NOTE - enabling a trace degrades performance because of the additional overhead of writing trace the data to disk.

The Printer Session Windows Menu

The Windows Menu provides you a convenient way to quickly switch between session windows when you are running multiple sessions. First select the **Windows** Menu. A list of your active sessions will be displayed, e.g.,

SESSION1
SESSION2
SESSION3

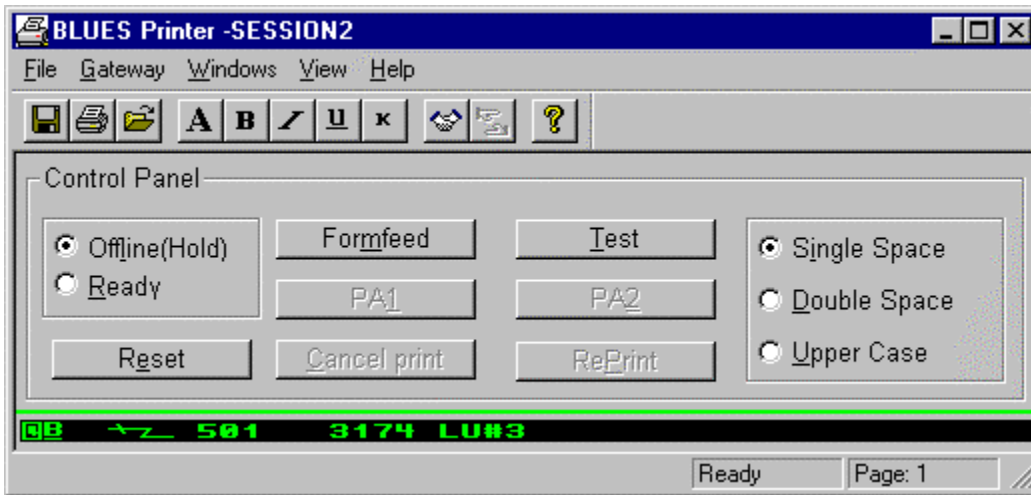
To switch to any session's window, click on the session item in the list.

The Printer Session Help Menu

The Help Menu includes commands that enable you to obtain information about how to use the standard Windows Help facilities, as well as commands that enable you to access the major topics of help available for this particular application.

The Console

The BLUES 2000 Printer application console is a window which simulates the status indicators and control panel of a 3287 type printer.



All the indicators and controls, their locations on the console, and their uses are listed below:

On-line/Off-line: **middle left**

This control works like the on-line/off-line control available on printer control panels.

Place the printer in **Off-line/(Hold)** mode when you wish to hold off receiving data from the host . This may be necessary while you make a local adjustment at the printer, or change some printer output parameters.

Place the printer in **Ready** mode when you are prepared to begin receiving and outputting host data to the printer.

Formfeed: **middle**

This control works like the formfeed control available on printer control panels. Selecting this field causes a formfeed command to be sent to the printer output device.

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Test: **middle**

This control works like the test control available on many printer control panels. Selecting this field causes a test file to be sent to the printer output device. The test file data is pre-set, and verifies the setup and capabilities of the physical printer.

PA1: **middle**

This control works like the PA1 key available in 3287 type printers operating in SCS mode. Selecting this field causes a PA1 key sequence to be sent to the host.

PA2: **middle**

This control works like the PA2 key available in 3287 type printers operating in SCS mode. Selecting this field causes a PA2 key sequence to be sent to the host.

Spacing: **middle right**

This control works independent of other page formatting parameters in effect, and allows you to select between **Single** and **Double** spacing of the lines of output printer data.

Reset: **lower left**

Selecting this field causes print parameters to be reset to their default values, and causes a host notify message to be sent to the host indicating that the 3270 Printer application has been reset, and is ready to begin receiving data.

Cancel Print: **lower middle**

This control works like the Cancel Print key available in 3287 type printers operating in SCS mode. Selecting this field causes a Cancel Print key sequence to be sent to the host.

RePrint: **lower middle**

This control works like the RePrint key available in 3287 type printers operating in SCS mode. Selecting this field causes a RePrint key sequence to be sent to the host.

Case: **lower right**

This control works independent of other page formatting parameters in effect, and allows you to select **Upper only** as the case for all alphabetic output printer data.

3270 Printer Status

The printer status indicators simulated on the 3270 Printer console window function as their counterparts on the 3287 type printer console. All the status indicators, their locations on the simulated console, and their uses, are in this manual.

3270 Printer Keys

The printer keys, or, rather, the simulated control panel buttons on the 3270 Printer console window, function as their counterparts on the 3287 type printer console. All the controls, their locations on the simulated console, and their uses, are explained in this manual.

Print Spool Manager

The Print Spool Manager maintains all spooled BLUES print jobs. Spooled print jobs are kept in the Windows temporary folder. Spooled jobs may be automatically removed from the spooler after a configurable number of days have elapsed.

The main window of the Print Spool Manager allows an operator to re-print jobs, delete jobs, and select how many days, if any, must elapse before spooled jobs are deleted. One or more jobs may be selected with the mouse and cursor arrow keys. Jobs are displayed in chronological order from oldest to newest.

When a job is re-printed, the associated BLUES printer session reads the spool file and prints the file using it's current printer settings. Thus a print job can be altered by first changing one or

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more printer settings in the BLUES printer session, then submitting a spooled file to be re-printed. For example: if a different printer than was used to originally print the job is selected in the BLUES printer session and a job is submitted to be re-printed then the print job will be printed on the newly selected printer.

Error Messages

NETWORK, and PU2AM Error Messages

The BLUES 2000 application displays a STOP dialog box when a NETWORK error, or PU2AM error message occurs. These errors should rarely, if ever, occur.

Each of these message types ends with a four digit hex field:

XX XX

For NETWORK error and PU2AM error messages, the first two hex digits represent the command the application was attempting, and the second two hex digits represent the error status the application received. Please refer to the network and PU2AM documentation to interpret those error codes, or consult NSI support personnel if necessary.

NETBIOS ERROR CODES:

During the operation of the BLUES 2000 application, a NETBIOS network error may cause a temporary failure of its use. These errors may occur for a variety of reasons, such as, the SNA gateway software is not running, or somebody disconnected a network cable, or there is a configuration error. The following table lists the hexadecimal codes for all possible NETBIOS errors, and their meanings.

01

Send size too large.

03

Illegal ncb_command value.

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05

NCB command timed out.

06

Partial nb received.

08

Illegal LSN.

09

Insufficient resources for session.

0A

Session normally closed.

0B

Command Canceled.

0D

Dup name in local table.

0E

Local name table full.

0F

Name still has sessions.

11

Local session table full.

12

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No listen for my Call.

13

Illegal name number.

14

No answer to my call.

15

Name not found.

16

Name in use on remote host.

17

Name deleted.

18

Session ended abnormally.

19

Name conflict detected.

1A

Incompatible remote devices.

21

Interface busy.

22

Too many commands outstanding.

23

Invalid network adapter number.

24

Tried to cancel, already posted.

26

Tried to cancel, not valid.

Undefined TCPIP Error Codes

The following errors are defined by Windows Sockets. The meaning of each depends on what vendor provided the Windows sockets. The following error may also be researched by consulting Berkly Sockets documentation.

WSAEINTR	100004
WSAEBADF	100009
WSAEACCES	100013
WSAEFAULT	100014
WSAEINVAL	100022
WSAEMFILE	100024
WSAEWOULDBLOCK	100035
WSAEINPROGRESS	100036
WSAEALREADY	100037
WSAENOTSOCK	100038
WSAEDESTADDRREQ	100039
WSAEMSGSIZE	100040
WSAEPROTOTYPE	100041
WSAENOPROTOOPT	100042

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WSAEPROTONOSUPPORT	100043
WSAESOCKTNOSUPPORT	100044
WSAEOPNOTSUPP	100045
WSAEPFNOSUPPORT	100046
WSAEAFNOSUPPORT	100047
WSAEADDRINUSE	100048
WSAEADDRNOTAVAIL	100049
WSAENETDOWN	100050
WSAENETUNREACH	100051
WSAENETRESET	100052
WSAECONNABORTED	100053
WSAECONNRESET	100054
WSAENOBUFS	100055
WSAEISCONN	100056
WSAENOTCONN	100057
WSAESHUTDOWN	100058
WSAETOOMANYREFS	100059
WSAETIMEDOUT	100060
WSAECONNREFUSED	100061
WSAELOOP	100062
WSAENAMETOOLONG	100063
WSAEHOSTDOWN	100064
WSAEHOSTUNREACH	100065
WSAENOTEMPTY	100066
WSAEPROCLIM	100067
WSAEUSERS	100068
WSAEDQUOT	100069
WSAESTALE	100070
WSAEREMOTE	100071
WSASYSNOTREADY	100091
WSAVERNOTSUPPORTED	100092

WSANOTINITIALISED	100093
WSAEDISCON	100101

Glossary

API

Application Program Interface. This is a method by which an application program can gain access to the screen data, translate tables, and keyboard, as well as higher level control functions, of the 3270 display application.

See the EHLLAPI section for a description of the industry standard EHLLAPI 'application program interface' supported by the BLUES 2000 Display application.

ASCII

ASCII is the standard code set used to represent data in the PC environment.

Clipboard

The clipboard is a standard Windows feature which provides an external temporary storage area, and enables data to be cut and pasted between applications windows. LU2 screen data can be moved to and from the clipboard to allow exchange with other programs.

EBCDIC

EBCDIC is the standard code set used to represent data in the IBM 3270 environment.

EHLLAPI

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See **API** above.

LU1, LU2, LU3

LU2 is an acronym for 'Logical Unit Type 2'. The IBM 3270 Keyboard/Display terminals are Logical Unit Type 2's under IBM's System Network Architecture (SNA), and are commonly referred to as LU2's. A 3270 Printer may be either a Logical Unit Type 1, LU1, or Logical Unit Type 3, LU3, depending upon the type of host data stream supported.

Netbios

Netbios is the name given to the standard user session and presentation network levels used to connect PCs together.

NPDA

Network Problem Determination Application. The PCNET 3270 product is designed to work with this IBM host application, which is used to isolate any problems that may be occurring on the SNA network.

SNA

SNA is an acronym for IBM's 'System Network Architecture'. SNA is the overall communications environment under which the BLUES 2000 Display operates.