

Configuring AS/400 Connections Over RUMBA APPC

| | | | |
|-------------------|--|--------------------|-------------------------|
| Product: | RUMBA® for the AS/400® RUMBA Access/400 | NIC: | N/A |
| Version #: | 3.0 | Interface: | APPC |
| Platform: | AS/400 | Oper. Sys.: | Microsoft® Windows® 3.x |

Summary

This technical bulletin covers the procedure for configuring a PC® to communicate to an AS/400 via the RUMBA APPC interface, including descriptions of possible error messages and information about how RUMBA for the AS/400 interacts with the AS/400 and PC Support.

NOTE: The RUMBA APPC and RUMBA Router selections in the *Options/Interface* dialog are the same interface. Select either one to configure an APPC connection.

The RUMBA APPC Engine

The RUMBA APPC engine is a Microsoft Windows executable file that provides full implementation of IBM's Advanced Program-to-Program Communications (APPC) Application Programming Interface (API), also known as LU6.2. Any application that uses IBM® Conversation Verbs can use the RUMBA APPC engine to communicate with an AS/400. The APPC engine can be used as an alternative to the router included with PC Support.

The RUMBA APPC engine also supports Advanced Peer-to-Peer Networking (APPN) and Common Programming Interface for Communications (CPI-C) (supported on RUMBA OFFICE 1.0 and later versions of code). To take advantage of these capabilities, you must use the RUMBA APPC interface.

APPC and APPN

APPC allows communications between programs; APPN provides the network protocols for establishing the connections. APPN allows APPC connections to be routed over a network in the most efficient and cost-effective manner, and it provides a wide range of network services for accomplishing this. APPN makes it possible to reduce the amount of configuration for each workstation. You supply the name and network address of a single APPN network node (AS/400, CM/2 Gateway, etc.). This network node can then manage APPC traffic to itself and to other APPN nodes on the network, without you entering configuration information for each node.

Preparing to Configure RUMBA APPC

Configuration File

When you define your interface configuration, RUMBA for the AS/400 writes the interface information to a special configuration file (WDSNA.CFG) and places the file in your RUMBA directory or a specified private directory. The default location for this file is:

```
ConfigFile=C:\RUMBA\WDSNA.CFG
```

If the RUMBA software cannot locate the configuration file in the \RUMBA\AS400 directory (or a specified private directory), the RUMBA Engine will create a new WDSNA.CFG file.

APPC and PC Support

If you have PC Support on your PC, you will need to modify your AUTOEXEC.BAT and CONFIG.SYS files to comment out references to the PC Support device drivers and programs when you select the APPC interface. This will free valuable PC memory.

A PC using PC Support may have the following lines in the CONFIG.SYS file that should be removed or commented out:

```
DEVICE=C:\PCS\EIMPCS.SYS  
DEVICE=C:\PCS\ECYDDX.SYS
```

The AUTOEXEC.BAT file may contain one or all of the following commands that should be removed or commented out:

```
PCSWIN  
STARTRTR  
STARTFLR  
CFGFLR  
PCSUPDT  
CALL STARTPCS.BAT
```

NOTE: In order to use file transfer and printing functions, you must have the PC Support subsystem or CA/400 loaded on the AS/400.

Token Ring or Ethernet

To use a Token Ring interface with the RUMBA APPC engine, you must install an appropriate 802.2/DLC layer; for example, IBM's LAN Support program (Version 1.25 or higher) or Microsoft's MSDLC driver.

IBM LAN Support device drivers that may be needed and their functions are:

| Driver | Function |
|--------------|------------------------------|
| DXMA0MOD.SYS | Interrupt 5C arbitrator |
| DXMC0MOD.SYS | Token Ring adapter interface |

The modifications for each driver in the CONFIG.SYS file are as follows:

Token Ring:

```
DEVICE=\LSP\DXMA0MOD.SYS
DEVICE=\LSP\DXMC0MOD.SYS
```

where \LSP (the default) is the directory where the LAN Support files are located.

Ethernet:

```
DEVICE=\LSP\PROTMAN.DOS /I:\LSP
DEVICE=\LSP\NDIS ADAPTER DRIVER]
DEVICE=\LSP\DXMA0MOD.SYS
DEVICE=\LSP\DXME0MOD.SYS
```

where \LSP (the default) is the directory where the LAN Support files are located.

Novell Support

The following sample configuration files are provided to assist you in identifying how your Novell® network devices could be configured to work with RUMBA software. There are many possible configurations; if you need assistance configuring your network hardware and device drivers, please contact your network administrator or network vendor (IBM®, Novell, etc.).

IBM LAN Support Over Token Ring Using LANSUP

If you are using the IBM LAN Support program with Novell's Open Datalink Interface (ODI), you may want to use a configuration similar to the following example. This is a working example of configuration files for a Token Ring installation using LANSUP.COM (a file provided by Novell to allow ODI to support IBM LAN Support drivers).

AUTOEXEC.BAT

```
ECHO OFF
PROMPT $P$G
CLS
LSL
LANSUP
IPXODI
NETX
```

CONFIG.SYS

```
FILES=30
BUFFERS=30
DEVICE=DXMA0MOD.SYS
DEVICE=DXMC0MOD.SYS
```

NOTE: No changes are generally required to the NET.CFG or PROTOCOL.INI for this configuration.

IBM LAN Support Over Ethernet Using ODINSUP

This example shows ODINSUP.COM and IBM's LAN Support Ethernet connectivity for a specific hardware configuration.

AUTOEXEC.BAT

```
ECHO OFF
PROMPT $P$G
CLS
LSL
3C509
ODINSUP
\LSP\NETBIND
IPXODI
NETX
```

NET.CFG

```
PROTOCOL ODINSUP
BIND 3C509
BUFFERED
```

CONFIG.SYS

```
FILES=30
BUFFERS=30
DEVICE=PROTMAN.DOS /I:C:\LSP
DEVICE=DXMA0MOD.SYS
DEVICE=DXME0MOD.SYS
```

PROTOCOL.INI

```
[PROTOCOL_MANAGER]
DRIVERNAME = PROTMAN$
```

```
[ETHERNET]
DRIVERNAME = DXME0$
BINDINGS = X3C509
```

MSDLC Over Token Ring Using ODINSUP

Microsoft Data Link Control (MSDLC) also can be used as the 802.2 layer in an APPC configuration. Example configuration files using Token Ring on a LAN Manager network:

AUTOEXEC.BAT

```
ECHO OFF
PROMPT $P$G
CLS
LSL
3C509
ODINSUP
MSDLC
NETBIND
IPXODI
NETX
```

NET.CFG

```
PROTOCOL ODINSUP
BIND 3C509
BUFFERED
```

CONFIG.SYS

```
FILES=30
BUFFERS=30
DEVICE=PROTMAN.DOS /I:C:\NET
```

PROTOCOL.INI

```
[PROTOCOL_MANAGER]
DRIVERNAME = PROTMAN$
```

```
[MSDLC]
DRIVERNAME=MSDLC$
BINDINGS=X3C509
```

TSR or Virtual Device Driver?

RUMBA APPC provides two options for using a Token Ring connection: the Windows Token Ring virtual device driver (VxD), VWDDL386, or the DOS Terminate and Stay Ready (TSR) program, WDTOKTSR.EXE.

If neither the VxD nor the TSR is loaded before starting Windows, the RUMBA APPC engine displays the message:

WDTOKTSR Not Installed At DOS Level.
Exit Windows and Install Before Proceeding.

If you receive this error message, close any open applications and exit Windows. When you are back at the DOS prompt, load the TSR and start Windows again.

Using the Virtual Device Driver - VWDDL386

An 80386 or higher microprocessor running Windows or Windows for Workgroups in Enhanced mode is required if you want to use the 802.2/DLC virtual device driver instead of the TSR.

The virtual driver provides you with a message-passing link between the DOS native DLC drivers and your Windows virtual machine, and therefore is functional only in Windows Enhanced mode. (Virtual machines exist only in Windows Enhanced mode.) This link remains active even when you are running DOS applications in exclusive mode. If you are using Windows standard mode, you must use the TSR.

To load the 802.2/DLC device driver, add the following line to the [386Enh] section of the Windows SYSTEM.INI file:

```
DEVICE=C:[RUMBAdirectory]\VWDDL386
```

If you modified the SYSTEM.INI file while Windows was running, you need to restart Windows in order for the changes to take effect.

Once you specify the VxD, you should not use the TSR unless the device statement is removed from the SYSTEM.INI file.

Memory Management

When you load the VxD, it automatically reserves the largest amount of memory for itself and may leave you with less conventional memory than if you were using the TSR. To limit the amount of memory used by the VxD, add the following lines to your SYSTEM.INI file:

```
[386Enh]
```

MinDlcSessions=x
MinDlcSaps=y

X is the desired number of sessions and y is the number of SAPs. Generally, the value of "1" for both is sufficient unless you are connecting to multiple hosts simultaneously.

Multiple Host Support

One of the most significant advantages of the RUMBA APPC engine is the ability to communicate with multiple hosts using a single adapter. AS/400 protocols require a unique combination of Local SAP, Remote SAP, and Destination Address for each connection (link).

With RUMBA for the AS/400, you can use the same Local SAP for connections to different hosts, which is important since SAPs are valuable DLC resources. Extra SAPs require extra buffer pools in DOS memory.

SAPs and connections are allocated when the DLC layer is loaded. The TSR or VxD allocates buffer space based on the number of SAPs and connections allocated at the DLC layer. Currently, RUMBA for the AS/400 can support as many as three SAPs and twelve connections. The default is one SAP and one connection. (RUMBA for the AS/400 sessions that use the same connection ID are counted as a single connection.)

Possible Adapter Memory Conflicts

Any network communication card that uses shared memory may cause memory conflicts with other adapters or software (such as virtual device drivers). These cards include certain Token Ring and Ethernet adapters. To eliminate this problem, exclude the shared memory used by the network communication card.

Many Token Ring cards require both ROM and RAM space in the upper memory area. ROM requires 8KB and RAM requires 16KB (the 4/16 MB card can require up to 64KB of RAM).

If you are using an extended memory manager, you should exclude this shared memory from the extended memory manager. For example, to exclude the default shared RAM and ROM values for an IBM Token Ring card from the EMM386 extended memory manager, type the following in the CONFIG.SYS file:

```
DEVICE=C:\WINDOWS\EMM386.EXE X=CC00-CDFF X=D800-DBFF
```

If you are using the EMM386 file in conjunction with Windows 3.1, there is no need to exclude the shared memory explicitly from Windows. However, if you are using Windows 3.0, or an extended memory manager other than EMM386, or no

extended memory manager at all, you will need to exclude this memory from Windows via the following entry in the Windows SYSTEM.INI file:

```
[386Enh]
EMMExclude=CC00-CDFF      (ROM Token Ring exclude)
EMMExclude=D800-DBFF      (RAM Token Ring exclude)
```

Both of these exclude examples are for an 8K ROM and 16K RAM exclusion. Be sure to exclude the address range set for your card, either through switches or through a configuration program.

Using All Route Broadcast

The Token Ring Architecture Reference recommends using a Single Route Broadcast to establish the Token Ring connection. If there is a need to use an All Route Broadcast, then the following section and line should be added to your RUMBA.INI file.

```
[WDTOK]
route=all
```

Please check with the LAN Administrator to determine whether any routers require this setting.

Using the TSR—WDTOKTSR.EXE

The file WDTOKTSR.EXE is supplied by RUMBA for the AS/400. If you are running Windows in Standard mode, you must use this TSR for the 802.2/DLC connection.

Load the TSR at the native DOS level before starting Windows. To simplify this procedure, add the TSR command (including its corresponding path) at the end of your AUTOEXEC.BAT file so that it loads each time you start your computer.

With MS-DOS 5.0 and higher, you can load the TSR in upper memory. It is important to notice the message displayed when the TSR loads. The message "Token Ring Driver Now Installed" indicates that the driver installed properly.

Configuring the 802.2/DLC TSR

In general, you should not need to include any command-line options for WDTOKTSR. If, however, you need to connect to multiple hosts or use multiple sessions, you may need to enter command-line options.

See the Administrator's Guide for RUMBA for the AS/400 for more information on command-line options for WDTOKTSR.

Multiple Hosts With WDTOKTSR.EXE

The TSR provides you with a message-passing link between the DOS native DLC drivers and Windows, and it allocates buffer space based on the number of SAPs and connections allocated at the DLC layer.

To configure additional buffer space based on SAPs and connections, type the following TSR command options at the DOS prompt:

```
WDTOKTSR /SAPS:x /CON:y
```

where *x* is the number of SAPS and *y* is the number of connections.

For example, to connect to two different hosts simultaneously using one SAP, type:

```
WDTOKTSR /CON:2
```

All SAPs use identical resources. Therefore, any command line options that you use to configure the TSR size or the number of receive or transmit buffers are also used to configure each SAP.

Unloading the TSR

Unloading WDTOKTSR removes the 802.2/DLC TSR from DOS memory. This feature is particularly useful if you want to modify the TSR parameters, since you must first remove the TSR before you reinstall it. For the unload command to work, WDTOKTSR must have been the last TSR loaded.

To unload the TSR from memory, at a DOS prompt type:

```
WDTOKTSR /U
```

RUMBA APPC Interface Configuration

When you configure the RUMBA APPC interface, you first select the connection type and then configure it for your system.

NOTE: When you choose to set up the connection type, APPN is listed as a choice in the *Link Type* dialog. However, you **must** configure an initial APPC connection via another link type *before* configuring the second connection, which could use APPN as the link type. This is necessary to verify the configuration information via the network node. For additional information on configuring multiple link types, refer to technical bulletin 3105, "Establishing Multiple APPC Connections to an AS/400 Using Different Link Types."

See Chapter 2, "RUMBA APPC," in the Administrator's Guide for more information on system requirements for using the RUMBA APPC engine with

your connection type. See Appendix B, "Troubleshooting APPC Connections," in the Administrator's Guide for help in solving APPC connection problems.

Interface Configuration

The *APPC Configuration* dialog box is used to add, change, or delete AS/400 system names.

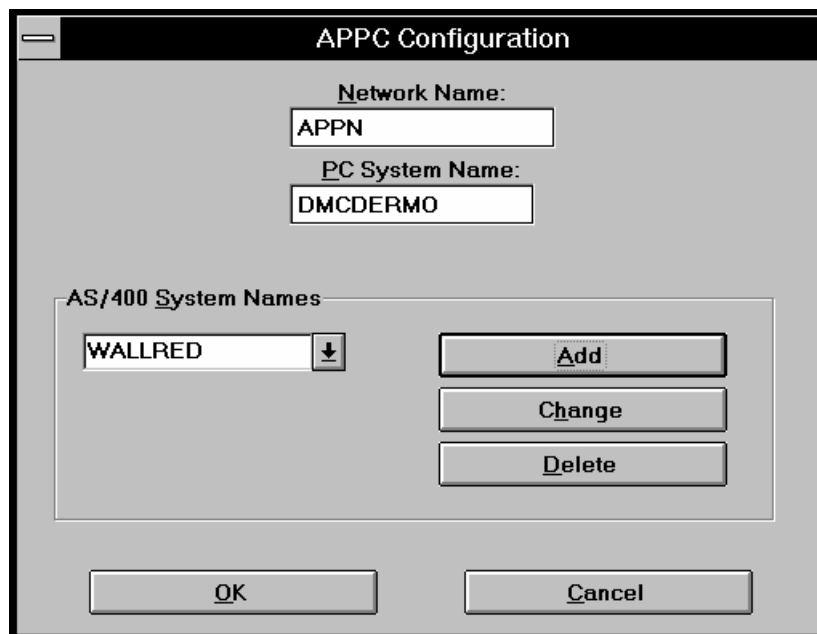


Figure 1. APPC Configuration Dialog Box

| | |
|--------------------|--|
| Network Name | Enter the name of the network. The field will accept up to eight alphanumeric characters. The Network Name is defined on the AS/400 (as Local Network ID; use the AS/400 command DSPNETA to view this value). The most common network name is APPN. |
| PC System Name | Enter the name of the PC on the network. This is the controller name on the AS/400. |
| AS/400 System Name | This box lists the names of any AS/400 systems previously configured. As you add configurations, names will be added to the list. (The AS/400 command DSPNETA will display the Local Control Point Name, which is the same value as the AS/400 System Name in RUMBA for the AS/400.) |
| Add Button | Add a new AS/400 System. |
| Change Button | Change the settings for the AS/400 System showing in the list box |
| Delete Button | Delete the <i>AS/400 System Name</i> showing in the list box. |

Adding an AS/400 System

When you select *Add* from the APPC Configuration dialog box, the *Add System* dialog box appears.

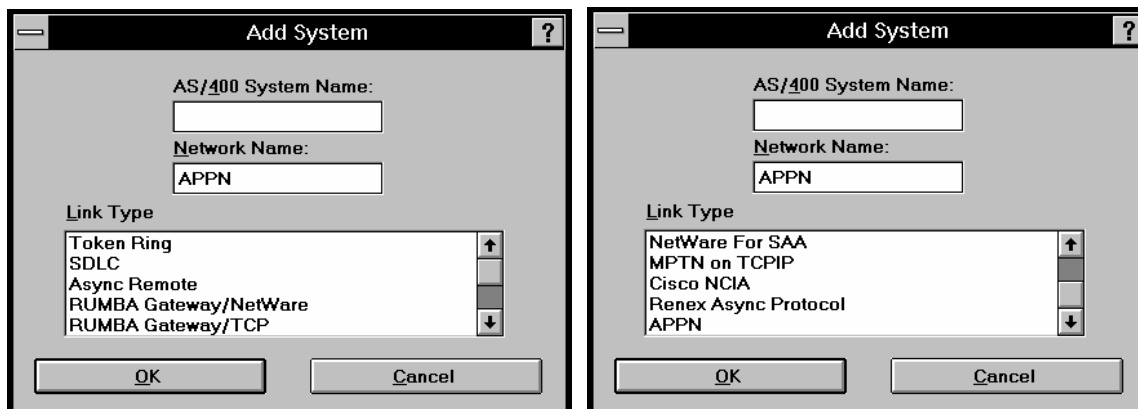


Figure 2. Two instances of the Add System Dialog box, showing possible link types.

To add an AS/400 System for the APPC interface:

1. Enter the *AS/400 System Name*.
2. Select the *Link Type* (the method used to connect to the AS/400).
3. Choose *OK* when the selection is complete.

The screen will change to the appropriate dialog box for the link type selected.

Configuring the Link Type

RUMBA APPC supports the following link types:

- Token Ring (supports an 802.2/DLC protocol stack over either Token Ring or Ethernet)
- SDLC
- Async Remote
- RUMBA Gateway/NetWare®
- RUMBA Gateway/TCP
- Twinax
- NetWare® for SAA®
- MPTN on TCPIP (Available in RUMBA Access/400 and the RUMBA OFFICE Connectivity Feature 2.0)

- Cisco NCIA (Available in RUMBA Access/400 and the RUMBA OFFICE Connectivity Feature 2.0)
- Renex Async Protocol (Available in RUMBA Access/400 and the RUMBA OFFICE Connectivity Feature 2.0)
- APPN

The link types are the type of connection being made to the AS/400. (APPN cannot be selected until after a link is configured using one of the other interfaces.) Configuring the link types is explained in the following sections.

Token Ring Configuration

The Token Ring configuration dialog box is used for configuring all 802.2/DLC connections.

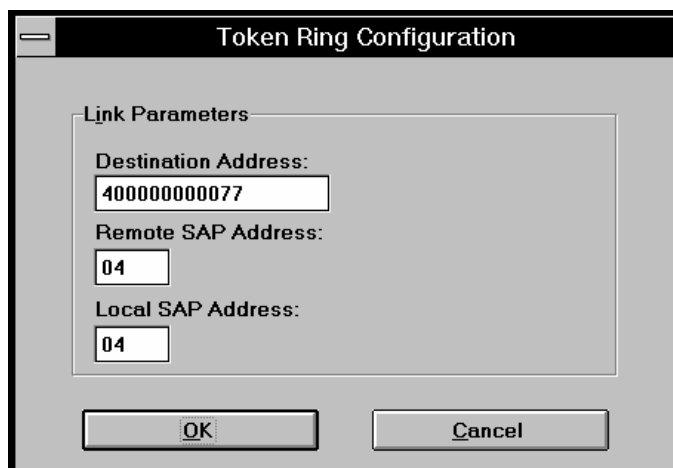


Figure 3. Token Ring Configuration Dialog Box

| | |
|---------------------|---|
| Destination Address | A twelve-digit hexadecimal number that identifies the network address for the Token Ring or Ethernet adapter on the AS/400. |
| Remote SAP Address | A two-digit hexadecimal number that tells the Token Ring interface software which SAP address is used on the AS/400. The SAP address must be a multiple of 4 (04, 08, 0C, etc.). The Remote SAP is defined on the AS/400. |
| Local SAP Address | A two-digit hexadecimal number that informs the controller or AS/400 which SAP address to use for this PC. The SAP address must be a multiple of 4 (04, 08, 0C, etc.). In most cases, you can use the default address 04 unless another PC application is already using this SAP or unless the combination of Local SAP, Remote SAP, and Destination address is not unique. |

Example Token Ring Configuration

The information needed for a Token Ring configuration can be obtained from the AS/400. The following example shows the AS/400 screens that would be used to find the values needed by RUMBA software. To view these screens, use the AS/400 commands DSPCTLD, DSPLIND, and DSPNETA. The parameters corresponding to the 802.2/DLC configuration in RUMBA for the AS/400 are shown in bold text in this example.

NOTE: Unless a controller has already been created (either by the System Administrator or from a previous successful connection), some of the information shown in these examples will not be available using these commands.

```

Display Controller Description
Controller description . . . . . :DMCDERMO(PC System Name)

Option . . . . . :*BASIC
Category of controller . . . . . :*APPC

Link type . . . . . :*LAN
Online at IPL . . . . . :*NO
Character code . . . . . :*EBCDIC
Maximum frame size . . . . . :16393
Remote network identifier . . . . :APPN (Network Name)
Remote control point. . . . . :DMCDERMO
Initial connection . . . . . :*DIAL
Dial initiation . . . . . :*LINKTYPE
Switched disconnect . . . . . :*YES
Data link role . . . . . :*NEG
LAN remote adapter address . . . . :08005A31C41F
LAN DSAP . . . . . :04 (Remote SAP Address)
LAN SSAP . . . . . :04 (Local SAP Address)
Text . . . . . :AUTOMATICALLY CREATED BY QLUS

```

```

Display Line Description
Line description . . . . . :TKNRNGLIN
Option . . . . . :*BASIC
Category of line . . . . . :*TRLAN
Resource name . . . . . :LIN031
Online at IPL . . . . . :*YES
Vary on wait . . . . . :*NOWAIT
Network controller . . . . . :TKNRNNET
Maximum controllers . . . . . :60
Line speed . . . . . :4M
Maximum frame size . . . . . :1994
TRLAN manager logging level . . . :*OFF
Current logging level . . . . . :*OFF
TRLAN manager mode . . . . . :*OBSERVING
Log configuration changes . . . . :*LOG
Token-ring inform of beacon . . . :*YES
Local adapter address. . . . . :400000000400 (Destination Address)
Exchange identifier . . . . . :05646801
Error threshold level . . . . . :*OFF
Text . . . . . :*BLANK

```

```

Display Network Attributes
Current system name . . . . . : RUMBA400
Pending system name . . . . . :
Local network ID . . . . . : APPN      (Network ID)
Local control point name . . . . . : RUMBA400 (Remote control point
                                         name)
Default local location . . . . . : RUMBA400
Default mode . . . . . : BLANK
APPN node type . . . . . : *NETNODE
Data compression . . . . . : *NONE
Intermediate data compression . . . : *NONE
Maximum number of intermediate sessions: 200
Route addition resistance . . . . . : 128
Server network ID/control point name . : *LCLNETID      *ANY

```

SDLC Configuration

The following figure shows the *SDLC Configuration* dialog box for configuring this link type for RUMBA APPC.

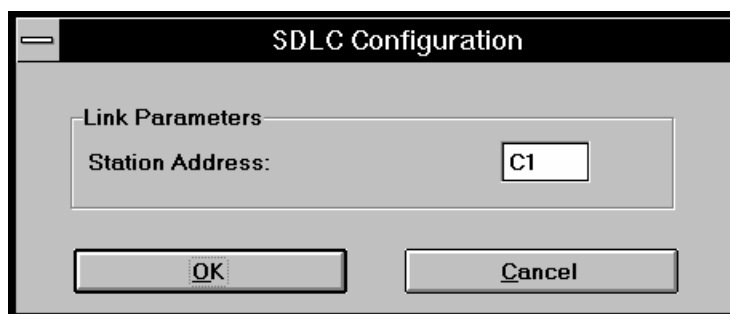


Figure 4. SDLC Configuration

| | |
|-----------------|--|
| Station Address | A two-character alphanumeric address used for connecting to the AS/400. This must correspond to the setting defined on the host or the host's front end. |
|-----------------|--|

NOTE: When you use an IBM SDLC-compatible adapter card with the APPC/SDLC interface, the *DmaBufferSize* parameter under the *[386Enh]* heading in the SYSTEM.INI file should be set to a value greater than or equal to 064.

Async Remote Configuration

The Async Remote link type lets you connect to an ASCII controller, the RUMBA Gateway System v. 3.0 with the Remote Feature Option, or a RUMBA Remote protocol converter using standard asynchronous communications. This interface uses your PC's COM1 or COM2 port in conjunction with a standard Hayes-compatible asynchronous modem.

You can also use RUMBA software on any PC to connect to a remote host through a phone line and standard asynchronous modem. All you need is the RUMBA Gateway System v. 3.0 with the Remote Feature Option or a RUMBA Remote unit at the host end.

The most involved part of this interface is the asynchronous scripting, which lets you create customized scripts for different modems or hosts. For more information on scripting, refer to Chapter 3 of the Administrator's Guide for RUMBA for the AS/400 or obtain technical bulletin 3010, "Using Asynchronous Remote Script Commands."

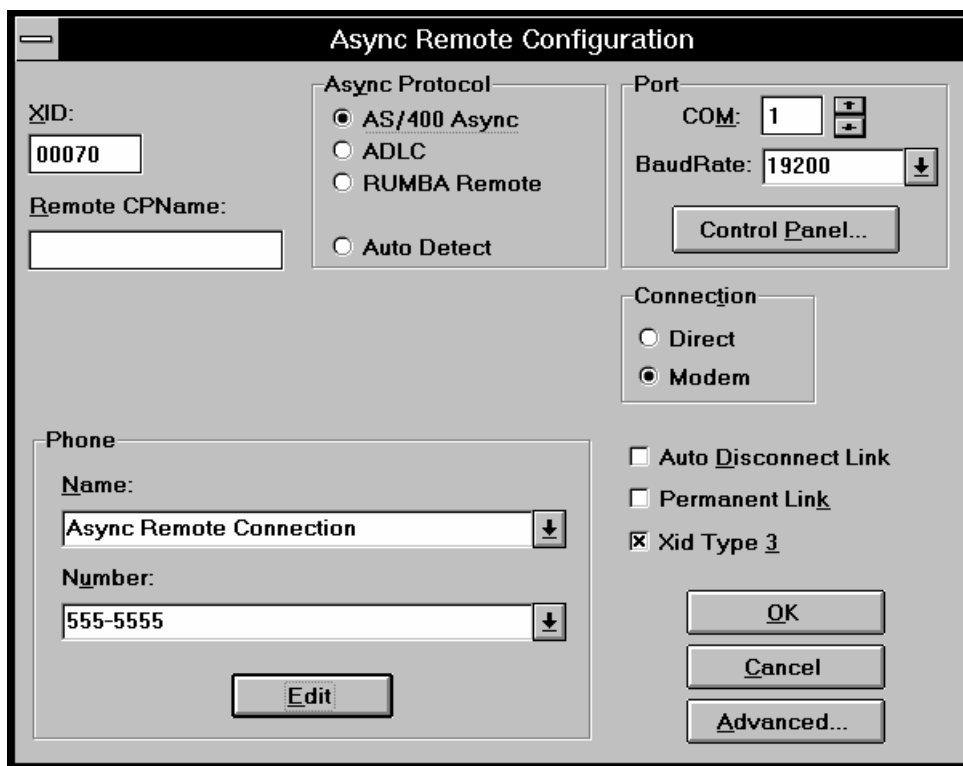


Figure 5. Async Remote Configuration

To configure the Async Remote interface, select the options from the dialog box that correspond to your environment. The following table describes the options.

| | |
|----------------|--|
| XID | <p>If you are using XID security, enter the five digit hexadecimal number that corresponds to the Exchange Identifier on the host. If you are linking to the host with a RUMBA Remote unit, the XID must correspond to the XID on the RUMBA Remote unit.</p> <p>If you are not using XID security, leave this field blank.</p> |
| Remote CP Name | <p>Enter the Remote Control Point Name configured on the AS/400 for the workstation. If you leave this field blank, a connection will be made using the first name available.</p> |
| Async Protocol | <p>AS/400 Async - Select this option if you are connecting to an ASCII controller or to an AS/400 direct async line. Selecting this option enables SNA-Async protocol. For more information on connecting to an ASCII controller, refer to technical bulletin 3109, "Connecting to ASCII Controllers via Async."</p> <p>ADLC - Select this option if you are connecting to the host via Async Data Link Control.</p> <p>RUMBA Remote - Select this option if you are connecting asynchronously via the RUMBA Gateway System Remote Feature Option. This option is the default and it enables the ALAPC protocol. You would also select this option if using a RUMBA Remote unit. The RUMBA Remote unit is an eight-port hardware device that provides the link conversion between the asynchronous RUMBA software connections and an SNA/SDLC connection on your host.</p> <p>Auto Detect - Select this option if you want RUMBA software to dynamically select a protocol based on host response.</p> |
| Port | <p>Select the asynchronous communications port (COM1 through COM4) for your host connection.</p> <p>In the <i>Baud Rate</i> box, select the appropriate baud rate for your host link.</p> <p>The <i>Control Panel</i> button will launch the Windows Control Panel if you need to modify your COM port settings.</p> |
| Connection | <p>Select <i>Direct</i> (for a direct connection with the host's front-end processor via a null-modem cable) or <i>Modem</i> (for an asynchronous modem connection) as your connection in the <i>Connection</i> options box.</p> <p>When you select <i>Modem</i>, the <i>Phone</i> options box is enabled.</p> |

| | |
|----------------------|--|
| Phone | <p>From the <i>Phone</i> list box, select a name and number.</p> <p>You can add a new listing or change the selected entry by clicking the <i>Edit</i> button.</p> <ul style="list-style-type: none"> • In the <i>Phone Number Edit</i> dialog box, type a reference for the phone number in the <i>Name</i> field. • Next, type the telephone number to be dialed by the modem in the name field. Precede this number with a “T” for a touch tone line or a “P” for a pulse dial line. • When the new listing is complete, click <i>Add</i> to save your entry. <hr/> <p>NOTE: The RUMBA Remote phone list is stored separately from your RUMBA Remote interface configuration parameters in a file called PHONE.DIR in your RUMBA directory or your private directory.</p> |
| Auto Disconnect Link | <p>If you select this option, the link is disconnected when all sessions using the link are ended. You may select either Auto Disconnect Link or Permanent Link, but not both.</p> |
| Permanent Link | <p>The link is started when the RUMBA APPC Engine is launched. The link remains active even if there are no sessions using it. You may select either Auto Disconnect Link or Permanent Link, but not both.</p> |
| XID 3 | <p>Select this if the Exchange Identifier of 3 is required. This is only valid for a mainframe using a PU type 2.1 or peer device connection. Do not select this for an AS/400 or for a mainframe PU type 2.0 connection.</p> |
| Advanced... | <p>If it is necessary to create an asynchronous script for your host link, click <i>Advanced</i> to access the <i>RUMBA Remote Connection Script</i> dialog box.</p> |

After completing the dialog box, click *OK* to return to the RUMBA session window.

When you exit the dialog box, RUMBA software writes your interface configuration information to a special file called ALAPCDIR.CON (for direct connections) or ALAPCMDM.CON (for modem connections) and places the file in your RUMBA directory or your private directory.

RUMBA Gateway/NetWare Configuration

This interface implements APPC in an IPX (NetWare) environment. It does not require that you load a DLC driver.

When you select this link type, the *RUMBA Gateway/NetWare Interface Configuration* dialog appears.

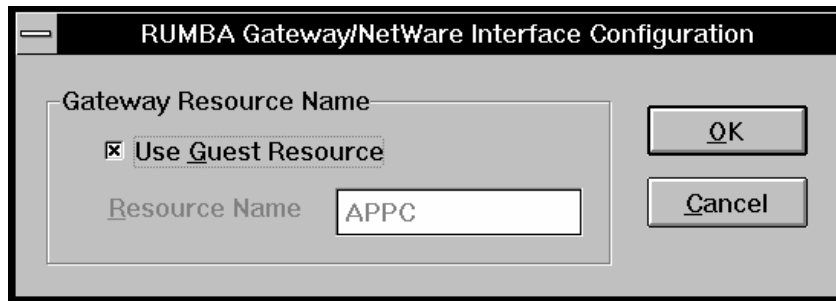


Figure 6. RUMBA Gateway/NetWare Interface Configuration dialog.

| | |
|--------------------|--|
| Use Guest Resource | Check this box to use the default resource name (APPC). |
| Resource Name | Specify a resource name for the gateway connection. Before you can specify a resource name, you must clear the <i>Use Guest Resource</i> check box. If no resource name is specified, the default (APPC) will be used. |

RUMBA Gateway/TCP Configuration

When you select this link type, the *RUMBA Gateway/TCP Interface Configuration* dialog appears.

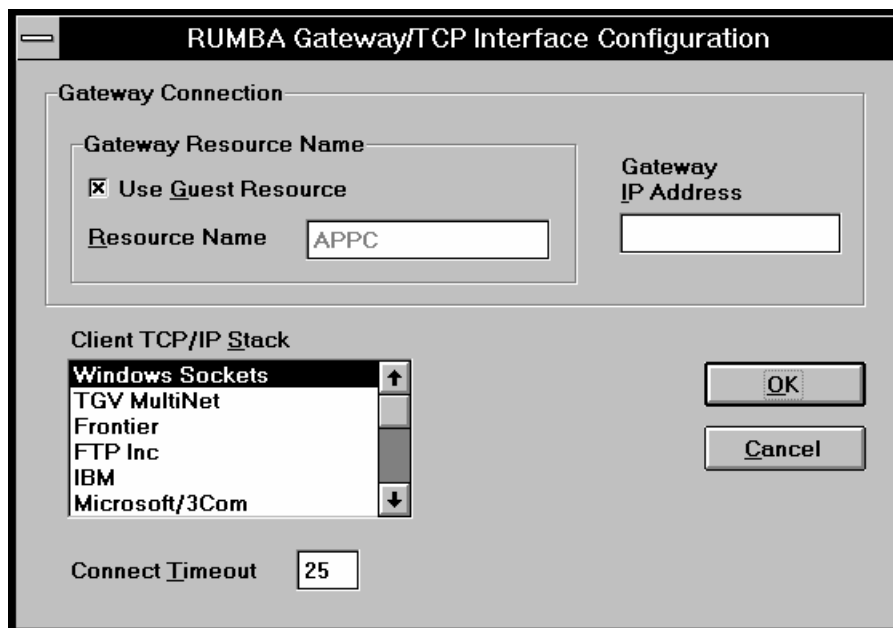


Figure 7. The RUMBA Gateway/TCP Interface Configuration dialog.

| | |
|---------------------|--|
| Use Guest Resource | Check this box to use the default resource name (APPC). |
| Resource Name | Specify a resource name for the gateway connection. Before you can specify a resource name, you must clear the <i>Use Guest Resource</i> check box. If no resource name is specified, the default (APPC) will be used. |
| Gateway IP Address | Specify the host name or Internet address. A host name is an alias for an Internet address. A host name must be configured locally on the DNS server in order for a connection to be made using it. |
| Client TCP/IP Stack | Specify a vendor's TCP/IP stack to use. The stack goes into effect the next time you select <i>Session/Connect</i> . |
| Connect Timeout | Type in the number of seconds you want RUMBA software to attempt a connection before moving to the next address in the list. |

Twinax Configuration

When you select this link type, the *Twinax Configuration* dialog appears.

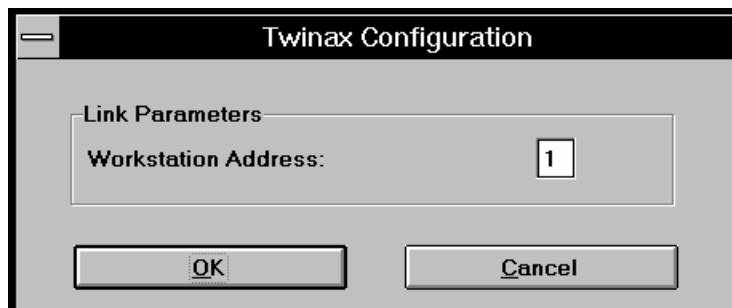


Figure 8. The *Twinax Configuration* dialog.

| | |
|---------------------|---|
| Workstation Address | Enter a number from 0-6. If you are not sure what this number should be, ask your System Administrator. |
|---------------------|---|

NetWare for SAA Configuration

When you select this link type, the *NetWare for SAA* dialog appears.

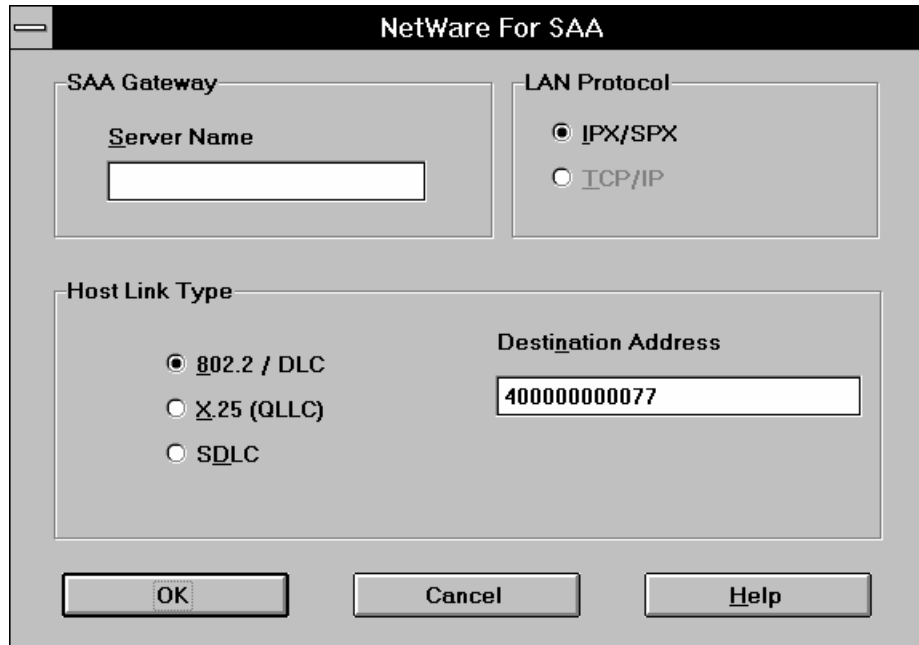


Figure 9. The NetWare for SAA dialog.

| | |
|--------------|--|
| Server Name | <p>Enter the name of the NetWare for SAA server. The server acts as a gateway through which you connect to an AS/400 host(s). RUMBA software uses the name of the server to search for a specific, as there may be multiple gateways on the LAN.</p> <p>Type a name from 2-47 characters. The name may contain characters from A-Z, numbers, hyphens, underscores, and periods (but not as the first character). Spaces are not allowed.</p> |
| LAN Protocol | <p>IPX/SPX - The default protocol for connections between the host and the NetWare for SAA gateway.</p> <p>TCP/IP - Select this protocol if you want to use TCP/IP as the connection protocol instead of the default.</p> |

| | |
|----------------|---|
| Host Link Type | <p>802.2 / DLC - This is the default. If this link is selected, the Destination Address box is displayed. You must enter a value for the destination address.</p> <p>X.25 (QLLC) - If this link is selected, the X.25 CSL Target Name box is displayed. the X.25 CSL Target Name is the target name on the AS/400. You must enter a value.</p> <p>SDLC - If this link is selected, no further information is required.</p> <p>Destination Address - A 12-digit hexadecimal number that matches the adapter address on the AS/400. The destination address value is represented on the AS/400 as the Local Adapter Address. You can find the local adapter address using the DSPLIND command on the AS/400.</p> <p>The destination address box is displayed only if an 802.2 link is selected.</p> |
|----------------|---|

MPTN On TCPIP Configuration

Refer to technical bulletin 3111, "Connecting with RUMBA Access/400 via MPTN," for complete instructions on configuring this interface.

Cisco NCIA Configuration

Refer to technical bulletin 3015, "Configuring the Cisco NCIA Interface in RUMBA Software," for complete instructions on configuring this interface.

Renex Async Protocol Configuration

Refer to technical bulletin 3014, "Configuring the Renex Async Protocol Interface," for complete information on configuring this interface.

APPN Configuration

You must configure an interface before you select APPN. The APPN link lets you define one or more hosts that can be accessed across this connection through a network node. When you select APPN, you are defining one of the previously configured links as an APPN network node.

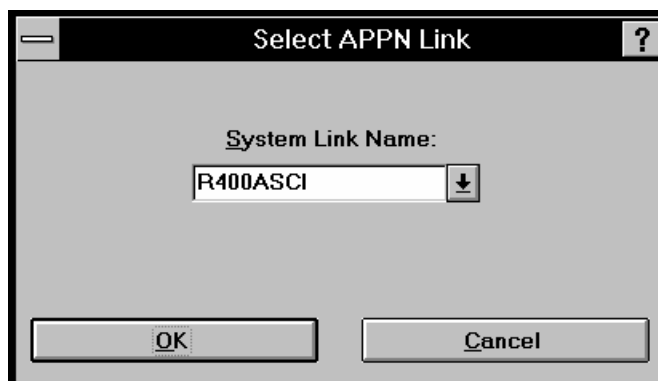


Figure 10. APPN Configuration

In the System Link Name text box, enter the name of the AS/400 you are passing through to connect to another AS/400.

Error Messages

Refer to technical bulletin 3006, "Resolving 802.2 APPC Error Messages," for information about troubleshooting APPC error messages. The following error messages are included in that document:

Error Messages with Return Codes:

| | | |
|---|------|----------|
| Parameter Check | 0001 | 00000002 |
| Parameter Check. | 0001 | 00000003 |
| Security Violation | 0001 | 080F6051 |
| Allocation Error | 0003 | 00000004 |
| Conversation Failure | 000F | 00000000 |
| APPC Error - Verb operation is not valid. | 0021 | 00000000 |
| APPC Error - Verb operation is not valid. | 0021 | 00000000 |

Other Error Messages:

043 Unable to Open SAP (Error = 43)
 046 Unable to Open SAP (Error = 46)
 059 Unable to Open SAP (Error = 59)
 Cannot Initialize Token Ring Card, Error = 7
 Connection Failed to System (PC Support)
 Error 800 -- Token Ring Network Error
 Error 20 - Token Ring Receive Has Failed
 Maximum Number of User Configured Links Has Been Exceeded (at connect time)
 Inadequate Queue Elements to Satisfy Request
 PC Support Router Cannot Be Found
 Token Ring Application Opening the Adapter, Please Wait.
 Token Ring Interface Software Not Present.
 Token Ring Software Not Found

Token Ring State Error 40F
Unable to Create Device Context
XID3 Negotiation Failure
The NetManage DLC Driver is Receiving Corrupted Status Changes from the DOS Driver.

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