Configuring Banyan ICA Card for Compaq EISA   LAN Services Tutorial #6

Contents

Overview

The Banyan ICA (Intelligent Communications Adapter) is a 16-bit serial communications adapter that enables a serial connection from a VINES server to other VINES servers, mainframes, minis, or PCs. The ICA allows many different types of serial connections, including X.25, HDLC, SNA/3270, PC Dial-in, and Asynchronous Terminal Emulation. The ICAplus card is identical to the ICA except that the ICAplus supports speeds of up to 384 Kbps for HDLC server-to-server connections using fractional T1 communication lines.

To install an ICA or ICAplus card in a Compaq EISA-based server, you must add the card and configure its resources in the Banyan Add/Change Card menu, set jumpers for the I/O address on the card, set jumpers for the interrupt on the card, and configure the system for the card with the EISA configuration utility. Although an ICA card can be installed in an 8-bit slot, it is recommended that you use a 16-bit or 32-bit slot.

Additionally, Compaq recommends that you lower the server's base memory to 512KB so the ICA's RAM address can be set to 80000 (512KB). Lowering base memory and using RAM address 80000 enables you to install the maximum amount of RAM in your Compaq without having to reconfigure the ICA card at a later date. (Lowering base memory to 512KB is required if your server has 16MB of RAM or more.) Keep in mind, the current memory recommendation for PG&E VINES servers is a minimum of 12MB; 16MB is preferred. Specific instructions for lowering system base memory are given later in this document.

After the ICA is installed, you must also use the Manage Serial Lines menu to configure the ICA's serial ports for the type of connection: for example, SS-WAN/X.25, SNA/3270, Async/TE, SS-WAN/Async, or SS-WAN/HDLC. For instructions about server serial port configuration, refer to the Servers section of the *LAN Cookbook*, pages II-51 to II-53.

Installing the ICA in a Compaq EISA System

During this process, you'll need Compaq's EISA Configuration Utility and Compaq's Non-Compaq Option Configuration Files. The latest versions of these are on the file service FsPatches@CTS50@Servers in the \Compaq subdirectory and on the LAN/WAN Support Center Bulletin Board (BBLWSC).

From the BBLWSC main menu, select 1. Banyan SysAdmin Utilities, then 13. Compaq Utilities. Select 3. Compaq System (EISA) Configuration and 5. Compaq Non-Compaq Option CFG Files and download the files for use during configuration.

Instructions for downloading the files are included on the BBLWSC and in a readme file in the \Compaq subdirectory on FsPatches.

1. From the Operator Menu at the server console, select System Maintenance, then Configure/Diagnose Server.

2. From the Configure/Diagnose Server menu, select Add Cards/Change Card Configuration.

3. Add the ICA card and enter the configuration values for interrupt, I/O address, RAM address and the slot number the card will use, and check for configuration conflicts. The table below shows the configuration values supported by the ICA card. Use the recommended values if they don't conflict with your other cards.

ICA CARD SETTINGS

Resources	Default Values	Alternate Values	Recommended Values
Interrupt	3	4, 5, 6, 7 10, 11, 12, 14, 15*	10
I/O Address	100-10F	120 to 1E0, 300 to 3E0 (in increments of 20 hex)	120
Memory Address (RAM Address)	80000-9FFFF	00000 to E0000, 000000 to FE0000* (in increments of 20000 hex)	80000-9FFFF

*Interrupts 10, 11, 12, 14, 15 and Memory Address 000000 to FE0000 can only be used when card is in a 16-bit ISA slot or EISA slot.

4. Change the jumpers on the card, if necessary, to reflect the configuration values you entered. Below is a diagram of an ICA card showing the locations of the interrupt jumper block and the I/O address jumper block.
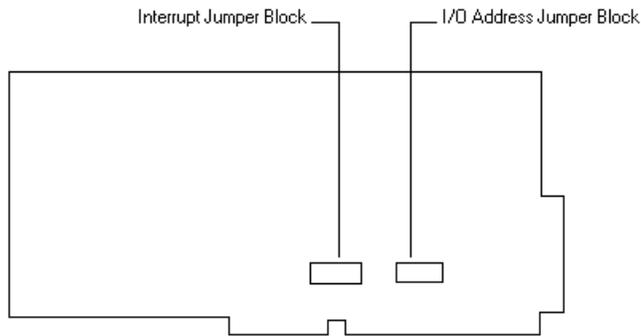
TO CHANGE THE INTERRUPT VALUE:

The pins on the interrupt jumper block are labeled with the corresponding interrupt value. To set an interrupt value, place the jumper on the two pins closest to the label for the interrupt you want. For example, to select interrupt 10, place the jumper over the two pins at the end of the column that is labeled 10.

TO CHANGE THE I/O ADDRESS:

Set the four jumpers (5 through 9) on the I/O address jumper block according to one of the I/O addresses in the table below. (Note that there is no jumper #8.) The I/O address jumper block has four columns of three pins. "Up" in the table indicates the jumper is placed over the top two pins in the column with the bottom pin left open; "down" means the jumper goes over the bottom two pins in the column with the top pin left open.

ICA CARD: JUMPER SETTINGS FOR VARIOUS I/O ADDRESSES

	Jumper			
Address	**5**	**6**	**7**	**9**
100*	up	up	up	up
120	down	up	up	up
140	up	down	up	up
160	down	down	up	up
180	up	up	down	up

*Do not use 100 if you have an Etherlink 16 (3C507) card in your server. The 3C507 and 3C507TP are hardcoded to use I/O address 100, *in addition* to whatever I/O address you configure for the card. Therefore, you cannot use I/O address 100 for any of your other cards. Refer to LAN Services Tutorial #3 for more information about the 3C507 and 3C507TP.

5. Shut down the server normally.

6   Boot the computer with the Compaq System (EISA) Configuration Utility Version 2.08 or greater.

7. If you selected 80000 for RAM address, change base memory to 512KB using the Compaq System (EISA) Configuration Utility as outlined below:

a) From the Main menu of the EISA Configuration Utility, select **Configure Computer**, then **View or Edit Details**. A list of options will be displayed; under the heading "Compaq Memory," you'll see your server's Base Memory and Total Memory.

b) Highlight the Base Memory value (e.g. 640K) and press <Enter>.

c) Choose 512K from the listed options and press <F10>.

8. From the Configure Computer menu, select **Add or Remove Boards**. The configuration utility lists the boards detected in the computer.

9. Press <Insert>; the configuration utility displays the Add menu for selecting the type of board you wish to add.

10. Select **Non-Compaq board**. The configuration utility will then prompt you to insert a diskette containing the CFG file for the ICA board.

11. Insert the Non-Compaq Option Configuration Files diskette and press <Enter>.

12. Select the CFG file for the Banyan Intelligent Communications Adapter (!ISAB500.CFG). The file will be copied to your EISA configuration diskette.

13. The configuration utility will display a list of all the slots available in your computer, and mark with an arrow those slots into which you can install the selected board.

14. Select a slot and press <Enter>. Press <F10> to save.

15. From the Configure Computer menu, select **View or Edit Details**. Highlight the slot type for the card and press <Enter>. Make sure the card is set for a 16-bit bus slot, not 8-bit.

16. Press <F6> to Edit Resources (interrupt, port address, memory address). Set these to the values you set in the Banyan Add/Change Card screen. When finished, press <F10>.

17. Save the configuration and exit the utility.

18. Shut down the server.

19. Install the ICA in the appropriate slot in the server.

20. Reboot the server; the ICA drivers will load during the "Loading device drivers" stage of the server boot-up.