

# CCA-3074 Channel Console Appliance

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## Planning Guide

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## **CCA-3074 Planning**

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## **Chapter 1. CCA-3074 Overview**

### **Product Overview**

The CCA-3074 is a versatile 3U, rack-mountable enterprise class server product capable of running many features and functions traditionally supported by a variety of legacy products. The Non-SNA feature set that comes standard with the CCA-3074 provides functionality traditionally found on the IBM 2074 Control Unit product family, as well as the Visara SCON family. Up to 16 LPARs are supported through each ESCON and FICON interface. Up to two ESCON and four FICON interfaces are supported providing a maximum of 96 LPAR support. Several hundred user sessions can be supported including both console sessions and VTAM sessions.

With the optional CSS32 to provide coax cable connectivity, the CCA-3074 can also easily accommodate the functionality provided by traditional IBM 3174 and 3274 console controllers as well as most plug compatible products such as the Visara SCON-20L, SCON-22L, SCON-25L, and 1174-25S products, the Memorex Telex 1174-10L, 1174-20L, 1174-15X, and 1374-1L, and the McData 7100 products.

Configuration of the CCA-3074 is achieved by means of a secure web browser interface (HTTPS). This browser connection can be made through the network or from a direct attached monitor, keyboard, and mouse. The CCA-3074 ships with a default configuration including a default IP address. To connect from an external PC you must either modify the default configuration for your own network requirements (requires modifying the FEP4600.ini file on a 3.5" floppy disk) or modify the IP configuration of the PC you are using to configure with (assign a compatible IP address).

Once configured, the CCA-3074 is capable of running independently, without human intervention. That is, if power is lost and regained, it will automatically boot back into service using the stored configuration. (You may need to reactivate any console sessions.) You can manage the platform using the same secure web browser connection from anywhere that you can connect to the platform via IP. Multiple management console interfaces are supported by the CCA-3074, making it ideal for remote disaster recovery operations.

### **Optional CSS32 Coax Subsystem**

The optional CSS32 Coax Subsystem can be added to the CCA-3074 to provide up to 32 real coax ports for attachment of 3270 displays, printers, and Storagetek coax LMU connections.

The CSS32 comes in a separate rack mountable platform which can be mounted in the same physical rack as the CCA-3074 and interconnected by a single crossover Ethernet cable. Multiple CSS32 platforms can be supported by a single CCA-3074. In instances where multiple CSS32 platforms are to be supported, it may be necessary to use a small Ethernet hub or switch to interconnect the multiple platforms. It is also possible to directly attach multiple CSS32 platforms by adding a Quad Ethernet interface card into the CCA-3074.

The CSS32 may similarly be attached to multiple CCA-3074 platforms. Because communication between CSS32 and CCA-3074 uses standard Ethernet IP connections it is possible for a CCA-3074 to communicate to a CSS32 platform over an IP network. The CSS32 does not natively support SSL encryption, so external SSL encryption or VPN is recommended to provide security when direct crossover connections are not used.

The CSS32 comes standard preconfigured to communicate with one CCA-3074. In the factory default configuration, 31 coax ports are defined to support displays or LMU connections and 1 coax port is defined to support a printer. The factory configuration can be modified to support other combinations of devices and destination platforms.

## **CCA-3074 Planning**

### **CCA-3074 Environmental Parameters**

<b>Specification</b>	<b>Value</b>
Height	5.2 in (13.2 cm.)
Width	17.7 in (45.0 cm.)
Depth	25.5 in (64.7 cm.)
Weight	72.0 lb. (32.7 kg.)
Front Clearance	42.0 in. (61.0 cm.)
Back Clearance	10.0 in. (25.0 cm.)
Top Clearance	0.0 in. (0.0 cm.)
Left Clearance	2.0 in. (5.0 cm.)
Right Clearance	2.0 in. (5.0 cm.)
Heat Output	4350 BTU/hr. (maximum)
Relative Humidity	8% to 90% with no condensation
Temperature Range	50° to 95° F. (10° to 35° C.)
Power Cord length	6 ft. (1.83 m.)
Rack Specifications	Standard 19 in. rack, 3U height

### **CSS32 Coax Subsystem Environmental Parameters**

<b>Specification</b>	<b>Value</b>
Height	8 in. (20 cm.)
Width	17.5 in (44.5 cm.)
Depth	20 in. (51 cm.)
Weight	50 lb. (22.7 Kg.)
Front Clearance	24 in. (61 cm.)
Back Clearance	10 in. (25.0 cm.)
Top Clearance	0.0 in. (0.0 cm.)
Left Clearance	2.0 in. (5.0 cm)
Right Clearance	2.0 in. (5.0 cm.)
Heat Output	310 BTU/hr. (minimum) 600 BTU/hr. (maximum)
Relative Humidity	8% to 80% with no condensation
Temperature Range	50° to 105° F. (10° to 40.6° C.)
Power Cord length	6 ft. (1.83 m.)
Rack Specifications	Standard 19 in. rack

**CCA-3074 Power Requirements**

<b>Specification</b>	<b>Value</b>
Rated AC input voltage	100-240V AC
Rated input frequency	50-60 Hz
Rated input current	14A (115V) 7A (230V)
Rated output power	760 W
Physical Connection	2 AC input cables feeding 2 individual power supplies capable of plugging into 2 different power mains

**CSS32 Power Requirements**

<b>Specification</b>	<b>Value</b>
Rated AC input voltage	100-240V AC
Rated input frequency	50-60 Hz
Rated input current	3 A (115V) 1.5 A (240V)
Rated output power	130-240 W
Physical Connection	1 AC input cable, single phase

**Ethernet Requirements**

The Ethernet interfaces for the CCA-3074 each consist of an RJ45 socket. The Ethernet interface of the CCA-3074 will default to auto-detect the speed and can be plugged into a switch or hub running at 10 MHz, 100 MHz, or 1000 MHz. It can also be attached to CSS32 Coax Subsystem using a crossover (null) Ethernet cable.

**Ethernet Cable Spec**

	<b>Category 3, 4, or 5</b>	<b>ANSI/IEEE Standard</b>
Maximum Length	100 meters (328 feet)	802.3I – 1990 Section 14 or greater
Minimum Length	1 meter (3.28 feet)	

**Recommended Minimum Cabling Type**

<b>Ethernet Speed</b>	<b>Minimum Twisted Pair Cable Type</b>
10 Mbps	Cat 3
100 Mbps	Cat 5
1000 Mbps	Cat 5e

## **CCA-3074 Planning**

### **ESCON Cabling Requirements**

The ESCON interface card used by the CCA-3074 uses the larger Duplex ESCON interface cable. Most newer mainframes such as the z-processors use the smaller MTRJ connector. Both Duplex/Duplex ESCON and Duplex/MTRJ ESCON cables can be obtained from Visara or sourced locally.

### **FICON Cabling Requirements**

The FICON card used by the CCA-3074 comes in three versions; single port, dual port, and quad port. Each interface uses the popular LC type connector. Each FICON interface can be ordered to support either Long Wave FICON Transceivers or Short Wave FICON Transceivers. Selection of Long Wave or Short Wave is dependent on what the CCA-3074 will be communicating with on the other end of the FICON cable. Note that FICON cables also come in Long Wave (single-mode) or Short Wave (multi-mode) versions. The FICON interface supported by the CCA-3074 is capable of running at 2.125 Gbps, 4.25 Gbps, and 8 Gbps speeds. Maximum cable lengths are dependent upon the transceiver type used and the speed of the interface according to the following table.

Fiber Optic Cable	Maximum Length	Minimum Length	Connector
OM3 – Multimode 50/125 micron fiber (2000 MHz*km bandwidth cable)	2.125 Gbps: 0.5-500m 4.25 Gbps: 0.5-380m 8.5 Gbps: 0.5-150m	.5 meters	LC
OM2 – Multimode 50/125 micron fiber (500 MHz*km bandwidth cable)	2.125 Gbps: 0.5-300m 4.25 Gbps: 0.5-150m 8.5 Gbps: 0.5-50m	.5 meters	LC
OM1 – Multimode 62.5/125 micron fiber (200 MHz*km bandwidth cable)	2.125 Gbps: 0.5-150m 4.25 Gbps: 0.5-70m 8.5 Gbps: 0.5-21m	.5 meters	LC
OS1/OS2 – Single-mode 9 micrometer fiber with LC connectors	2.125 Gbps: 0.5-10 km 4.25 Gbps: 0.5-10 km 8.5 Gbps: 0.5-10 km	.5 meters	LC

### **CCA-3074 Directly Attached Management Console Interface (Optional)**

Component	Specification
Monitor	SVGA (minimum resolution 1024 x 768)
Keyboard	PS2 interface, 104 Key
Mouse	PS2 interface

### **CSS32 Management Options**

The CSS23 can be configured and managed using any coax attached CUT display device, or through the Ethernet interface from the CCA-3074 Directly Attached Management Console (described above) using one of the integrated Telnet client sessions. If the CSS32 is attached to the CCA-3074 through a switch or hub, it is also possible to configure and manage the CSS32 from a remote Telnet device.

The CSS32 comes preconfigured from the factory, ready to attach to a single CCA-3074 through a crossover (null) Ethernet cable.

### **Platform Management Using the Visara eManager Product**

Both the CCA-3074 and CSS32 products may be managed remotely via the eManager software product from any Windows PC that has eManager installed upon it.

### **Field Upgradeability**

The CCA-3074 can be upgraded in the field for most features. Among the features that can be field upgraded are:

- Additional ESCON interface (maximum of two are supported)
- Additional FICON interface (a single FICON card is supported with 1, 2 or 4 interfaces)
- Addition of Quad Ethernet card (maximum of 2 Quad Ethernet cards supported)
- Additional CU images (LPARs) beyond the default numbers to a maximum of 16 per ESCON/FICON interface

## **Chapter 2. Planning for Your Install**

### **Identifying the Non-SNA Environment**

First, take a moment to fill out the following worksheet to determine what your environment is, or what you wish to create. Several topic paragraphs are provided to help determine what is needed to satisfy your requirements. Finally, a worksheet at the back of this book may be used to map out your configuration prior to actually attempting to configure the CCA-3074. You may want to create a spreadsheet with a similar layout or make several copies of the worksheet to encompass your entire configuration requirement.

Number of mainframes?	Number:	_____
Number of LPARs?	Number:	_____
EMIF supported on any of the mainframes?	(Yes/No)	_____
ESCON/FICON Directors being used?	(Yes/No)	_____
Operating Systems in use? (OS/390, MVS/ESA, VM/ESA, VSE/ESA)		_____
Coax Terminal Requirement		_____
StorageTek LMUs	(Yes/No)	_____
IBM 3290	(Yes/No)	_____
Redundant Console Controllers	(Yes/No)	_____
Number of consoles needed for each LPAR	Number:	_____
Need/desire to use one console for multiple LPARs (Yes/No)		_____
Need to display multiple LPARs at once on a display (Yes/No)		_____
Remote Access requirement? (Yes/No)		_____
Hot Console session requirement (Yes/No)		_____
Shared session requirement (Yes/No)		_____
For FICON installs, are Long Wave or Short Wave interfaces required		_____

## Worksheet Discussion

**Number of Mainframes:** If more than one mainframe must be supported by the CCA-3074 then it is best to connect through ESCON/FICON Directors. If no ESCON/FICON Directors are available the CCA-3074 must have at least one cable connection to each mainframe. A maximum of two mainframes can be supported through ESCON when Directors are not used. A maximum of four mainframes can be supported through FICON when Directors are not used. If the mainframe that the CCA-3074 is attached to supports multiple logical channel subsystems (LCSS) then there is a requirement to attach to each LCSS via a separate cable when the connection is ESCON. Again if there are ESCON directors available, it is possible for the CCA-3074 to communicate with LPARs in each LCSS through the same interface. The FICON interface can span multiple LCSS.

**Number of LPARs:** There is at least one CNTLUNIT definition associated with each LPAR that will be defined for use with the CCA-3074. Each CNTLUNIT definition corresponds to one of the CU definitions on the CCA-3074. A maximum of 16 CUs are supported through each ESCON and FICON interface (maximum of 96 per platform).

**EMIF Support on the Mainframe?:** EMIF (ESCON Multiple Imaging Facility) or MIF (Multiple Imaging Facility) is the mainframe mechanism that allows multiple LPARs to share a single CHPID interface. If EMIF/MIF is not used then a Director is necessary to allow multiple LPARs to be supported over a single ESCON/FICON interface into the CCA-3074.

**Operating Systems in Use?:** Although the CCA-3074 supports all major IBM mainframe operating systems, it is still useful information when planning the use of the CCA-3074. If other than IBM operating systems are in use (such as a Fujitsu operating system) it is best to contact a Visara representative to determine whether the CCA-3074 is a solution.

## **CCA-3074 Planning**

**Coax Terminal Requirement:** The CCA-3074 does not support an onboard coax interface but uses an optional external Coax Subsystem (the CSS32). The external Coax Subsystem connects to the CCA-3074 using IP communications through an Ethernet interface. The external Coax Subsystem can be located nearby and use a simple Ethernet crossover cable, or can be connected remotely through an IP network. The direct attachment through an Ethernet crossover cable is the preferred method, for two reasons. 1) The CSS32 does not support SSL encryption natively, making attachment to a network more of a security issue than a direct attachment would be. 2) By not attaching to your network, the CSS32 should provide reliable connectivity even when you have network problems.

**StorageTek LMUs:** STK LMUs require a coax interface to communicate with the CCA-3074 through the external CSS32 Coax Subsystem described above. The CCA-3074 does not communicate to the STK LMU through an Ethernet (IP) connection.

**IBM 3290:** The IBM 3290 plasma display is DFT/DSL coax display commonly used in computer rooms for displaying up to four console sessions simultaneously. DSL terminals require that the controller they are attached to be capable of downloading a code set into them. The CSS32 coax subsystem may not support a 3290 properly. It is possible to replace the 3290 product with another Visara product (the 500LX product that is capable of supporting up to 10 sessions. With the 500LX it is possible to configure it for four sessions and display all four sessions on a flat panel display in much the same manner as a 3290. Note that the 500LX supports 4 color and 7 color displays as compared to the orange plasma monochrome of the 3290. It is also possible to configure the 3290 to display only orange characters if it is really desired.

**Redundant Console Controllers:** Most mainframe console environments require redundant consoles attached through redundant controller platforms to provide DR capabilities. This means duplication of the minimum platform requirement. Note that if your coax requirements are minimal, it is possible to drive a single CSS32 Coax Subsystem from two (or more) CCA-3074s.

**Number of Consoles Required for Each LPAR:** Normally there is a minimum requirement to have at least two consoles defined to each LPAR, to provide redundancy. Sometimes the number is actually higher to support additional console users or to subdivide the messages. With the Session Sharing feature of the CCA-3074 you may also be able to define fewer consoles than you would otherwise need, by allowing multiple users to share a single console session.

**Need/Desire to Use One Console for Multiple LPARs:** It might be needed to provide console support for multiple LPARs on one desktop. The CCA-3074 can be configured to allow multiple TN3270 sessions to be connected from a single TN3270 client. The ability to support multiple sessions on the client is a function of the client software. The CSS32 Coax Subsystem is capable of allowing up to 10 sessions to be managed from a single coax port, including attachment to multiple CCA-3074s.

**Need to Display Multiple LPARs at Once on a Display:** This is a function of the client. Visara offers TN3270 clients that may be used to display up to 4 complete sessions on the screen at once, and up to 10 total. Refer to the Visara 500LX thin client display.

**Remote Access Requirement:** By default, the TN3270 protocol is capable of allowing remote access to the unit since communication between the CCA-3074 and its clients is through an IP connection. Additionally, the CCA-3074 supports SSL encryption between itself and the TN3270 clients allowing safe secure connections even through the Internet.

**Hot Console Session Requirement:** Sometimes it is beneficial to have hot sessions configured on the CCA-3074. For hot sessions, once a console has been activated, it always appears to be powered on and active even if the client is no longer connected. This allows a client to connect to a console session without requiring someone to manually activate the console. This feature works well for lights out DR sites.

**Session Sharing Requirement:** Sometimes it is useful to allow multiple users to share the same console session. Multiple users can share a session on the CCA-3074 if configured for session sharing. This feature may aid in diagnostic and training functions. It may also allow you to get around the 99 console limitation of MVS environments.

## **CCA-3074 Planning**

**Long Wave or Short Wave FICON:** The FICON interface comes with the choice of connecting to either a single-mode optic cable supporting Long Wave signals or to multimode optic cable that requires Short Wave signals. The difference is in the form of a transceiver that plugs into the FICON interface card. Transceivers used on both ends of the cable must be compatible to the cable and each other. The card used by the CCA-3074 comes with the transceivers factory installed in it so it is important to order the proper card variation to plug into your equipment. Refer to the FICON Cabling Requirements section in the previous chapter for additional information.

## Replacing Existing ESCON 3174 Controllers

Each of your existing 3174 Non-SNA controllers is capable of communicating to only one LPAR, and appearing as only one control unit image (CUI). Each 3174 is therefore utilizing only one CUADD of the 16 CUADD values that can be defined (0-F) through a single ESCON or FICON interface. It is common to use the same CUADD number for each 3174 (if no CUADD parameter is found in the CNTLUNIT macro of the gen, CUADD=0 is implied). The CCA-3074 provides support for multiple CUIs, allowing it to replace multiple 3174 controllers. To replace multiple 3174s with a single CCA-3074, even if they have ESCON interfaces, you will normally have to make some minor gen changes to direct the connection to the CCA-3074.

## Replacing Bus and Tag Controllers

Bus and Tag definitions, ESCON, or FICON definitions are different, so you will always require Gen changes when replacing Bus and Tag controllers with a CCA-3074. A CCA-3074 with a single ESCON or FICON interface can replace up to 16 Bus and Tag controllers, or up to 32 controllers with two ESCON /FICON interfaces. Additional ESCON/FICON interfaces can support up to 96 total controllers.

## Determining the Need for Directors

If you have more than two mainframe platforms or have multiple LPARs on a single mainframe that does not support EMIF/MIF, or if you are running multiple logical channel subsystems (LCSS) on a single mainframe, you will probably be best served by using ESCON and FICON directors. Directors allow multiple LPARs and multiple mainframes to communicate to a CCA-3074 through a single interface (up to 16 CU images). If Directors are to be used, consider implementing a redundant Director to eliminate a single point of failure.

## When to Use EMIF/MIF

If your mainframe supports EMIF (Enterprise Multiple Imaging Facility) or MIF (Multiple Imaging Facility) and you are running multiple LPARs, making use of EMIF/MIF can greatly reduce the number of interfaces by allowing multiple LPARs (up to 15) to share a single channel.

## **Coax Requirement Planning**

The CCA-3074 does not support direct coax attachment. Coax attachment can be provided using an external CSS32 Coax Subsystem. These appliances can be directly attached to the CCA-3074 using a crossover Ethernet cable, or may be positioned elsewhere on your IP network, even at a remote location. Each CSS32 Coax Subsystem can support up to 32 coax ports. One CCA-3074 can communicate with multiple CSS32 appliances and one CSS32 can communicate with multiple CCA-3074 platforms. It is also possible to obtain a CSS32 that can support up to 128 coax devices. If you need to support more than 32 coax devices contact a Visara representative to determine your options.

## **StorageTek LMUs Planning**

StorageTek LMUs have a requirement to use a single coax connection for each LPAR that you wish to connect the LMU to. Be sure to allow for that in your calculation for the number of coax connections needed. The CCA-3074 does not support coax directly, but makes use of the external CSS32 to provide the coax connectivity. The CCA-3074 does not support Ethernet connections to a StorageTek LMU.

## **FICON Usage**

The CCA-3074 supports a single FICON card. The card comes in 3 interface variations (single interface, dual interface, and quad interface). The interfaces on each card also have the option of using Long Wave or Short Wave transceivers and must be ordered to work in your environment. FICON support can be ordered as an upgrade to ESCON existing units and allows for the coexistence of ESCON and FICON connectivity.

## **IBM 3290 Plasma Display Planning**

The 3290 plasma display can support up to 4 sessions through a single coax connection, but it is limited to communication to only one LPAR. Coax connectivity is handled through an external CSS32 Coax Subsystem available from Visara. An alternative to the use of the 3290 would be to use the Visara 500LX thin client product. The 500LX can support up to 10 sessions (in color), including simultaneous full screen display of 4 sessions to different LPARs.

## **Planning for the Visara 500LX**

The Visara 500LX product is designed to support console sessions in a rather unique way. You can use it to display multiple console sessions on the screen (up to 4 full screen console sessions) through its TN3270E feature when using a monitor capable of supporting 1280 x 1024 resolution. Unlike other TN3270E clients however, you can optionally attach the 500LX directly through a coax connection (fewer security issues). The 500LX also supports an Ethernet connection. When connected through the coax connection, up to 10 sessions are supported through the CSS32 but the sessions are viewed one at a time.

## **Planning for Hot Console Sessions**

One of the unique features available for the CCA-3074 allows Console sessions to remain powered on with the host LPAR, even when the client associated with the session is not currently connected. This is referred to as a Hot Console Session. Applications for the Hot Console Session include:

- Provide console connections for a lights out site.
- Provide a means for multiple operators, located in multiple locations to have access to the same console session at different times.
- Provide a tool for disaster recovery from a remote location.

Hot console sessions do not roll over to an alternate console unless the CCA-3074 is powered down, varied offline, or is no longer functional.

## **Use of Channel Extenders**

There is nothing unique about the CCA-3074 that should cause problems using channel extenders. However, Visara has conducted no special testing with specific channel extenders to verify their correct operation. It is the customer's responsibility to determine compatibility with another vendor's channel extender, when used with the CCA-3074. Because the CCA-3074 supports clients remotely through TN3270 sessions, it might be better (and less expensive) to locate the CCA-3074 at the data center site and connect remotely from a TN3270 client.

# Secure Network Connections

Secure network connections for TN3270 clients using Secure Socket Layer (SSL) protocol, is provided by the CCA-3074 as a configuration option. The CCA-3074 server is designed to provide secure SSL encrypted communication to PC desktops or any other TN3270 client platform that supports SSL. For PC emulators that do not support SSL encryption natively, Visara has software available (eConduit) that may be loaded onto the PC to provide the SSL encryption.

# LAN Printers Supported as Consoles

LAN printers can be supported by the CCA-3074 through a couple of different mechanisms. TN3287 sessions can be set up internally on the CCA-3074 with output directed to a LAN printer or remote Unix/Linux server using LPD/LPR protocol. Visara thin clients can be used to provide the same function but staged remotely.

# Management Planning

The CCA-3074 offers several options for management. Configuration changes can be made while the CCA-3074 is performing its normal duties. Most changes can be put into affect without requiring a restart. Host related changes on the CCA-3074 will normally require that the CHPID related to the host change is offline. To allow for routine maintenance and system changes, it is strongly suggested that more than one CCA-3074 be used to provide redundant console connections.

Configuration and management of the CCA-3074 is supported through a secure browser (https) connection. This browser connection can be initiated from a direct attached monitor, keyboard, and mouse, or from most any remote platform capable of running a web browser.

A unique management product produced by Visara for the purpose of managing the CCA-3074, as well as any external Coax Subsystems and Visara Thin Client/Console desktops is available. This product is called eManager. eManager communicates to the CCA-3074 using SSL encryption. eManager provides additional tools for management and diagnosing problems.

## **Planning for eManager Support**

eManager is a platform management software product available from Visara for the purpose of managing most Visara products including the CCA-3074, CSS32 Coax Appliances, and 500LX Thin Client desktop product lines.

eManager can be used to communicate with CCA-3074 on site or off site through corporate networks or across the Internet. If you are to manage the CCA-3074 from a remote location over public connections, you might want to consider the use of a VPN or use SSL encryption.

Among the capabilities of eManager are:

- Provide CCA-3074 Software Configuration Backups (dynamic or scheduled)
- Provide management of multiple configurations on a single CCA-3074
- Provide Inventory Information Including a Report Generator (supports coax terminal Vital Product Data reporting)
- Provide Network Status of the CCA-3074, CSS32 Coax Appliance, and 500LX Visara Thin Clients through the Pulse Network Monitor feature of eManager
- Software and Configuration Management
- Remote Viewing of Event Logs including search and filter utilities and Other Diagnostic Information
- Telnet and Browser Interface into Remote CCA-3074
- Code and Configuration Management of CSS32 Coax Appliances used with the CCA-3074
- Code and Configuration Management of 500LX Visara Thin Client Products Used With the CCA-3074
- The Event Log manager provides a means to filter and search Event Logs pulled from CCA-3074s.
- The Debug Log manager allows you to pull Debug Logs from your CCA-3074s as well as delete old logs no longer needed.
- The System Dump manager allows you to initiate and retrieve System Dumps from your CCA-3074 platforms and delete those no longer needed.

## **CCA-3074 Maximum Capability Chart**

<b>Feature</b>	<b>Value</b>	<b>Notes</b>
Maximum Host Console Sessions	256 per ESCON and FICON interface	Even more users are supported when using the Shared Sessions feature
Maximum LPARs/Host Circuit	16 per ESCON and FICON interface	
Maximum coax sessions	Any host sessions can be connected to coax through an external CSS32 Coax Subsystem	Each CSS32 supports 32 coax ports. Multiple CSS32 appliances are supported.
Maximum sessions per Host Circuit	32	Maximum of 256 sessions may be spread across up to 16 Host Circuits
Maximum ESCON interfaces	2	Each interface is on a separate card.
Maximum FICON interfaces	4	These interfaces may be on one or two cards for new platforms. Older platforms supported a single card with 1, 2, or 4 interface versions.
Maximum Ethernet interfaces	10	2 come standard with base unit, 4 more available on each of two optional quad Ethernet cards

## Determining the Number of CCA-3074s

Use the CCA-3074 Maximum Capability Chart on the previous pages to help in determining the number of CCA-3074 and external Coax Subsystems that will be required to satisfy your requirements.

The minimum number of CCA-3074 platforms that are required is determined by several factors:

- Whether redundant Console Controllers will be used (recommended)
- The number of ESCON and FICON cables required to connect to the LPARs defined
- Whether redundant ESCON or FICON Directors are being used
- The number of LPARs defined
- The total number of consoles required

A minimum of two consoles, each located on separate CCA-3074s should be used for every critical application. This allows for a CCA-3074 to be powered down for routine maintenance or configuration changes. At least two CCA-3074s should be connected to each LPAR, to provide these connections.

When Directors are used, the overall number of CCA-3074s that would be required may be greatly reduced. Up to 16 LPARs (host circuits) can be connected through each ESCON and FICON interface.

When redundant Directors are available, two ESCON or FICON interfaces may be desired. The total number of LPAR connections (host circuits) that a CCA-3074 with two ESCON and four FICON interfaces can be configured for is 96.

## **CCA-3074 Planning**

Take time to fill out the Console Configurations Planning Worksheet found in Appendix A, or better yet a similar spreadsheet. This can be used to help determine the total number of consoles needed to satisfy your requirements. It can later be used as a reference to aid in performing the configuration of the CCA-3074. In determining the console requirement, remember the following:

The maximum number of sessions per LPAR supported by the CCA-3074 is 32. The maximum number of sessions per ESCON interface supported is 256.

## Parameter Definition Cross Reference Chart

The following chart and notes can be used to help show the corresponding configuration parameters between the IOCDS definitions, HCD definitions, and the CCA-3074 configuration.

IOCDS		HCD		CCA-3074	
MACRO	Parameter	Panel	Parameter	Panel	Parameter
CNTLUNIT	CUADD	Change Control Unit Definition	Logical Address	Update ESCON/FICON CUs	CUADD
IODEVICE	UNITADD	Define Device/Processor	Unit Address	Update ESCON/FICON CUs	Low Address
CNTLUNIT					
IODEVICE	ADDRESS	Add Device	Number of Devices	Update ESCON/FICON CUs	High Address
CHPID	PARTITION	Update CHPID Access and Candidate List	Access List = Yes	Update ESCON/FICON CUs	LPAR Number
IODEVICE		Define Device Candidate List	Partition/Reachable		
CHPID	SWITCH	Add Channel Path	Dynamic Switch ID or Entry Switch ID	N/A	N/A
CNTLUNIT	LINK	Change Control Unit Definition	Link Address	N/A	N/A
CNTLUNIT	CUNUMBR	Change Control Unit Definition	Control Unit Number	N/A	N/A
IODEVICE		Add Device	Connected to CUs		
IODEVICE	UNIT	Add Device	Device Type	Update ESCON/FICON CUS	Protocol

### Notes:

1. Note that the UNITADD parameter of the IODEVICE macro must correspond to one or more of the range of addresses defined in the UNITADD parameter of the CNTLUNIT macro.
2. Each address within the range defined by the UNITADD parameter of the CNTLUNIT macro that has an associated IODEVICE definition should have a Subchannel definition on the CCA-3074.

## Chapter 3. Host Gens – OS/390 with HCD

### Task List

The following is a general list of the tasks that are needed to successfully implement the CCA-3074 in the OS/390 host environment. (An assumption is made that the LPARs being used are already defined.) Example panels are given for many of the steps below, along with other example panels to give you a better flavor of what to expect to see.

- Define Switch (ESCON Director) if not already defined (HCD Panels 4-9)
- Define CHPID: identifies which ESCON or FICON cable connected to the processor, Director (switch), and downstream port to the controller are to be used (view: HCD Panel 13)
- Define Controller Definition: identifies controller type, protocol (define: 16-18, 20 / view: 14, 19)
- Define I/O Device Definitions: defines the number of I/O devices (define: 21-26, 29 / view: 15, 28)
- Define the Explicit Device Candidate List (on EMIF systems): Used to limit access to each CCA-3074 host circuit to one LPAR (define: 23, 24)
- Build the production I/O Definition File with the new definitions

#### HCD Panel 1

```

OS/390 Release 5 HCD
C -----Define, Modify, or View Configuration Data-----
  Select type of objects to define, modify, or view data.
  1. Operating system configurations
     consoles
     system-defined generics
     EDTs
     esoterics
     user-modified generics
  2. Switches
     ports
     switch configurations
     port matrix
  3. Processors
     partitions
     channel paths
  4. Control units
  5. I/O devices
  F1=Help  F2=Split  F3=Exit  F9=Swap  F12=Cancel
-----
F1=Help  F2=Split  F3=Exit  F4=Prompt  F9=Swap  F12=Cancel

```

Above is the first screen you see when you start the HCD program in OS/390.

## HCD Panel 2

```

Goto  Backup  Query  Help
-----
                Operating System Configuration List      Row 1 of 1
Command ----> _____ Scroll ----> PAGE

Select one or more operating system configurations, then press Enter. To
add, use F11.

/ Config. ID      Type      Description
_  OS39X          MVS        LPAR os39x
***** Bottom of data *****

F1-Help   F2-Split  F3-Exit   F4-Prompt  F5-Reset  F7-Backward
F8-Forward F9-Swap   F10-Actions F11-Add    F12-Cancel

```

Selecting option 1 on HCD panel 1 results in the above panel. This panel defines what the operating system type is (MVS). Multiple LPARs may be defined in one Config. ID, or separate Config. IDs may be established for each LPAR.

## HCD Panel 3

```

                Switch List      Row 1 of 1 More:  >
Command ----> _____ Scroll ----> PAGE

Select one or more switches, then press Enter. To add, use F11.

/ ID Type +      Serial-#      Description      CU      Dev
_  01 9033      _____      escon director 01  000A    000A
***** Bottom of data *****

F1-Help   F2-Split  F3-Exit   F4-Prompt  F5-Reset  F7-Backward
F8-Forward F9-Swap   F10-Actions F11-Add    F12-Cancel
Goto Filter Backup Query Help

```

Selecting option 2 on panel 1 brings you to where ESCON Directors (Switches) are defined.

The example shows a type 9033 ESCON Director defined as switch ID (#01).

## CCA-3074 Planning

### HCD Panel 4

```
-----Change Switch Definition-----
C Specify or revise the following values.                                     E
S Switch ID . . . . . : 01
  Switch type . . . . . : 9033      +
/
/ Serial number . . . . . : _____ +
* Description . . . . . : escon director 01                                ***

F1=Help   F2=Split  F3=Exit   F4=Prompt  F5=Reset   F9=Swap
F12=Cancel

F1=Help   F2=Split  F3=Exit   F4=Prompt  F5=Reset   F7=Backward
F8=Forward F9=Swap   F10=Actions F11=Add   F12=Cancel
Goto Filter Backup Query Help
```

Above shows how a switch definition is created or edited.

### HCD Panel 5

```
Port List                               Row 1 of 17
Command ==> _____ Scroll ==> PAGE

Select one or more ports, then press Enter.
Switch ID . . . . . : 01      escon director 01
Switch configuration ID : SWITCH01 escon switch config
-----Connection----- Ded
/ Port H Name +           Unit ID      Unit Type   O B Con+
- C0  Y _____          PR CBIPO    CHPID 1D 9121-310  N N  _
- C1  Y _____          PR CBIPO    CHPID 1E 9121-310  N N  _
- C2  Y _____          PR CBIPO    CHPID 1F 9121-310  N N  _
- C3  Y _____          PR CBIPO    CHPID 1F 9121-310  N N  _
- C4  Y _____          CU 1F00     3174        N N  _
- C5  Y _____          CU 1E00     3174        N N  _
- C6  Y _____          CU 1E00     3174        N N  _
- C7  Y _____          CU 1D10     3174        N N  _
- C8  N _____          _____   _____   N N  _
- C9  N _____          _____   _____   N N  _

F1=Help   F2=Split  F3=Exit   F4=Prompt  F5=Reset   F7=Backward
F8=Forward F9=Swap   F10=Actions F11=Add   F12=Cancel
Goto Filter Backup Query Help
```

Selecting option P “work with ports” on the switch list panel will list the ports available on this ESCON director and how they are assigned.

Note the 3174 unit types used to denote the CCA-3074.

### HCD Panel 6

```

-----Change Port Definition-----
C Specify or revise the following values.
S Switch ID . . . . . : 01      escon director 01
S Port . . . . . : C4
S Hardware status . . . . . 1 1. Installed
S                               2. Not Installed
/ Port Name . . . . . _____ +
- Switch configuration ID . . : SWITCH01  escon switch config
- Port Blocked . . . . . 2 1. Yes
/                               2. No
- Dedicated port. . . . . _ +
- Occupied . . . . . 2 1. Yes
-                               2. No
- F1=Help   F2=Split  F3=Exit  F4=Prompt  F5=Reset  F9=Swap
  F12=Cancel
-----
Goto Filter Backup Query Help
    
```

If you elect to edit one of the port definitions, the above panel appears.

### HCD Panel 7

```

Switch Configuration List          Row 1 of 1
Command ----> _____ Scroll ----> PAGE

Select one or more switch configurations, then press Enter.
To add, use F11.

Switch ID . . . . : 01      escon director 01

  Switch      Default
/ Config. ID  Connection + Description
- SWITCH01   Allow      escon switch config
***** Bottom of data *****

F1=Help   F2=Split  F3=Exit  F4=Prompt  F5=Reset  F7=Backward
F8=Forward F9=Swap   F10=Actions F11=Add   F12=Cancel
Goto Filter Backup Query Help
    
```

Selecting option S on panel 3 will display the “Switch Configuration List”. This panel is used to define whether you allow the default connection to be “Allow” or “Blocked”.

## CCA-3074 Planning

### HCD Panel 8

```
Port Matrix                               Row 1 of 1
Command ==> _____ Scroll ==> PAGE

Select one or more switch ports, then press Enter.

Switch ID . . . . . : 01                escon director 01
Switch configuration ID . : SWITCH01     Default connection : Allow

          Ded  --Dynamic Connection Ports Cx--
/ Port H Name + B Con + 0 1 2 3 4 5 6 7 8 9 A B C D E F
- C0 _____ N _  \  * * * * * * * * * * * * * * * *
- C1 _____ N _  * \ * * * * * * * * * * * * * * * *
- C2 _____ N _  * * \ * * * * * * * * * * * * * * * *
- C3 _____ N _  * * * \ * * * * * * * * * * * * * * * *
- C4 _____ N _  * * * * \ * * * * * * * * * * * * * * * *
- C5 _____ N _  * * * * * \ * * * * * * * * * * * * * * * *
- C6 _____ N _  * * * * * * \ * * * * * * * * * * * * * * * *
- C7 _____ N _  * * * * * * * \ * * * * * * * * * * * * * * * *
***** Bottom of data *****

F1=Help    F2=Split  F3=Exit   F4=Prompt  F5=Reset   F7=Backward
F8=Forward F9=Swap   F10=Actions F11=Add    F12=Cancel
```

Select option S on panel 7. This panel allows you to override the default connection: “Allow”, and specify block on a per (switch) port basis.

### HCD Panel 9

```
Goto Backup Query Help
-----View Connected Units-----
Row 1 of 1
Command ==> _____ Scroll ==> PAGE
Switch ID . . . . . : 01                escon director 01
ENTER to continue.
-----Connection-----
Port Unit Unit ID Unit Type Description
C4 CU 1F00 3174 SCON-22L test for emif support
***** Bottom of data *****

F1=Help    F2=Split  F3=Exit   F7=Backward  F8= Forward
F9=Swap    F12=Cancel

FP8= Forward  F9=Swap  F10=Actions  F12=Cancel
Goto Filter Backup Query Help
```

You can view/edit/define what is connected to each port on the switch.

### HCD Panel 10

```

Processor List   Row 1 of 1 More:   >
Command ==>> _____ Scroll ==>> PAGE
Select one or more processors, then press Enter. To add, use F11.

/ Proc. ID  Type +  Model +  Mode+  Serial-# +  Description
_ CBIPO    9121    310     LPAR    _____  9121-310 VISARA INC.
***** Bottom of data *****

F1=Help      F2=Split    F3=Exit     F4=Prompt   F5=Reset    F7=Backward
F8=Forward   F9=Swap     F10=Actions F11=Add     F12=Cancel
Goto Filter Backup Query Help
    
```

The panel shown above is obtained by selecting option 3 on HCD panel 1. This panel is where we define our processor and whether this processor is in LPAR MODE or in BASIC MODE (BASIC MODE means partitioning is turned off).

### HCD Panel 11

```

-----
Command ==>>
Select one or
/ Proc. ID Ty
_ CBIPO    91
*****
-----

-----Actions on selected processors-----
Select by number or action code and press Enter.
6. 1. Add like . . . . . (a)
   2. Repeat (Copy) processor configurations (r)
   3. Change . . . . . (c)
   4. Prime Serial number . . . . . (i)
   5. Delete . . . . . (d)
   6. Work with partitions . . . . . (p)
   7. Work with attached channel paths . . . (s)
   8. Work with attached devices . . . . . (u)
   9. View related CTC connections . . . . . (k)
  10. View processor definition . . . . . (v)

F1=Help  F2=Split  F3=Exit  F9=Swap  F12=Cancel
-----

F1=Help      F2=Split    F3=Exit     F4=Prompt   F5=Reset    F7=Backward
F8=Forward   F9=Swap     F10=Actions F11=Add     F12=Cancel
    
```

From this panel, you can select to work with the partitions.

## CCA-3074 Planning

### HCD Panel 12

```
----- Partition List -----
Goto  Backup  Query  Help
-----
Row 1 of 1
Command ==> _____ Scroll ==> PAGE
Select one or more partitions, then press Enter. To add, use F11.

Processor ID . . . . : CBIPO      9121-310 VISARA INC.
Configuration mode . . : LPAR

/ Partition Name      Number  Usage + Description
- LPAR390             1      OS      Production LPAR
- LPAR39X             2      OS      Test LPAR

***** Bottom of data *****
F1=Help      F2=Split    F3=Exit     F4=Prompt    F5=Reset
F7=Backward  F8=Forward  F9=Swap     F10=Actions  F11=Add
F12=Cancel
```

This panel shows the LPAR named LPAR390 and LPAR39X.

### HCD Panel 13

```
----- View Partition / Channel Paths -----
Row 1 of 5
Command ==> _____ Scroll ==> PAGE

Processor ID . . . . : CBIPO      9121-310 VISARA INC.
Configuration mode . . : LPAR
Partition name . . . . : LPAR390  os39x lpar

ENTER to continue.

CHPID      Type      Mode      Description
QA         BL         REC
QB         BL         REC
1D         CNC         SHR       chpid 1d
1E         CNC         SHR       escon channel 1e
1F         CNC         SHR       escon channel 1f

***** Bottom of data *****
F1=Help      F2=Split    F3=Exit     F7=Backward  F8=Forward
F9=Swap      F12=Cancel
```

Entering option V on partition LPAR390 in panel 12 and a panel similar to the one above, showing the channel paths that are defined for the LPAR.

Note that on CHPID 1D-1F the type channel used for the CCA-3074 is CNC.

## HCD Panel 14

```

----- View Partition / Control Units -----
                                         Row 1 of 5
Command ==> _____ Scroll ==> PAGE

Processor ID . . . : CBIPO      9121-310 VISARA INC.
Configuration mode : LPAR
Partition name . . : LPAR390   os39x lpar

ENTER to continue.

---Control Unit--- -----Channel Path ID . Link Address-----
Number Type          1---- 2---- 3---- 4---- 5---- 6---- 7---- 8----
000A  9033           1D.FB
0140  3090 6        0A  0B
1D10  3174           1D.C7
1E00  3174           1E.C5
1F00  3174           1F.C4
***** Bottom of data *****

F1=Help      F2=Split    F3=Exit     F7=Backward  F8=Forward
F9=Swap      F12=Cancel

```

Selecting option S on panel 12, you come to the panels showing the control units defined for the LPAR. Note the control unit type of “3174” used for the CCA-3074. Also note the format of the Channel Path ID (defined on HCD panel 13) and Link Address (ESCON Director port being used - as listed on HCD panel 5).

## HCD Panel 15

```

----- View Partition / Devices -----
                                         Row 74 of 81
Command ==> _____ Scroll ==> PAGE

Processor ID . . . : CBIPO      9121-310 VISARA INC.
Configuration mode : LPAR
Partition name . . : LPAR390   os39x lpar

ENTER to continue.

---Device--- Access -----Attached Control Units-----
Number Type    Allowed 1--- 2--- 3--- 4--- 5--- 6--- 7--- 8--- UA
1F00  3270-X  Yes    1F00
1F01  3270-X  Yes    1F00
1F02  3270-X  Yes    1F00
1F03  3270-X  Yes    1F00
1F04  3270-X  Yes    1F00
1F05  3270-X  Yes    1F00
1F06  3270-X  Yes    1F00
1F07  3270-X  Yes    1F00
***** Bottom of data *****

F1=Help      F2=Split    F3=Exit     F7=Backward  F8=Forward
F9=Swap      F12=Cancel

Goto  Filter  Backup  Query  Help

```

Select option U on panel 12. The panel above shows the IO Devices (consoles) that are defined to control unit 1F00 from the HCD Panel 14. Notice the column labeled Access Allowed. This would be a NO if access to this LPAR is turned off in the IO Device Candidate List. (1F00-1F07 corresponds to the 00-07 Device Low-High range in the

## CCA-3074 Planning

CCA-3074 configuration.

### HCD Panel 16

```
Control Unit List                               Row 113 of 115
Command ==> _____ Scroll ==> PAGE

Select one or more control units, then press Enter. To add, use F11.

/ CU      Type +   Serial-# +Description
- 1D10    3174    _____
- 1E00    3174    _____os39x lpar test consoles
/ 1F00    3174    _____SCON-22L test for emif support

***** Bottom of data *****

F1=Help    F2=Split    F3=Exit    F4=Prompt    F5=Reset F7=Backward
F8=Forward F9=Swap    F10=Actions F11=Add     F12=Cancel
Goto  Filter  Backup  Query  Help
```

Select option 4 from HCD panel 1. The panel above shows the Control Unit List panel.

### HCD Panel 17

```
Control Unit List
Command ==> _____ Scroll ==> PAGE

Select on ----- Change Control Unit Definition -----
/ CU  Ty  Specify or revise the following values.
- 1D10 31
- 1E00 31 Control unit number . . . . 1F00 +
/ 1F00 31 Control unit type . . . . . 3174 +
*****
Serial number . . . . . _____ +
Description . . . . . SCON-22L test for emif support

Connected to switches . . . 01 _____ +
Ports . . . . . C4 _____ +

F1=Help  F2=Split  F3=Exit  F4=Prompt  F5=Reset  F9=Swap
F8=Forwa F12=Cancel
```

The panel above shows the detail for the control unit definition when selected from the previous panel. Note the references to the switch number and the output port number of the switch.

## HCD Panel 18

```

----- Change Control Unit Definition -----
C Specify or revise the following values.
S
C Control unit number . . : 1F00          Type . . . . . : 3174
  Processor ID . . . . . : CBIPO          9121-310 VISARA INC.

Channel path IDs . . . . 1F _ _ _ _ _ +
/ Link address . . . . . C4 _ _ _ _ _ +
/
* Unit address . . . . . 00 _ _ _ _ _ +
  Number of units . . . . 008 _ _ _ _ _

Logical address . . . . 2 + (same as CUADD)

Protocol . . . . . _ + (D, S or S4)
I/O concurrency level . _ + (1, 2 or 3)

F1=Help  F2=Split F3=Exit  F4=Prompt  F5=Reset  F9=Swap
F12=Cancel

-----
Goto  Filter  Backup  Query  Help

```

The parameter circled corresponds to the CUADD (CU address) parameter for the CCA-3074 over the ESCON interface (CU parameter in the CCA-3074 configuration).

## HCD Panel 19

```

----- View Control Unit Definition -----
Row 1 of 1 More: >
Command ==> _____ Scroll ==> PAGE
Control unit number . . : 1F00          SCON-22L test for emif support
Control unit type . . . : CBIPO          Serial number . . . :

Connected to switches : 01
Ports . . . . . : C4

Enter to continue

Processor Logical ----- Channel Path ID . Link Address -----
ID      Address 1---- 2---- 3---- 4---- 5---- 6---- 7---- 8----
CBIPO   2       1F.C4

*****Bottom of data*****

F1=Help  F2=Split F3=Exit  F7=Backward  F8=Forward
F9=Swap  F12=Cancel

-----
Goto  Filter  Backup  Query  Help

```

From the “Control Unit List” panel enter option V on control unit 1F00. This panel allows you to view the control unit definition for the CCA-3074.

## CCA-3074 Planning

### HCD Panel 20

```
----- Select Processor / Control Unit -----
                                         Row 1 of 1 More:  >
Command ==> _____ Scroll ==> PAGE
Select processors to change CU/processor parameters, then press Enter.

Control unit number . . : 1F00          Control unit type . . : 3174

          Log. Addr. ----- Channel Path ID . Link Address + -----
/ Proc. ID Att.(CUADD)+ 1---- 2---- 3---- 4---- 5---- 6---- 7---- 8----
/ CBIPO      Yes 2      1P.C4 _____ _____ _____ _____
*****Bottom of data*****

F1=Help      F2=Split      F3=Exit      F4=Prompt      F5=Reset
F6=Previous  F7=Backward    F8=Forward    F9=Swap      F12=Cancel

-----
Goto  Filter  Backup  Query  Help
```

This panel is where you select which processor you are attaching the control unit to. For a multi-processor mainframe you would select the appropriate processor ID.

### HCD Panel 21

```
----- Add Device -----
Specify or revise the following values.

Device number . . . . . 1f00 (0000 - FFFF)
Number of devices . . . . . 08_
Device type . . . . . 3270-X_____ +

Serial number . . . . . _____
Description . . . . . SCON-22L icodevice defn _____

Volume serial number . . . . . _____ (for DASD)

Connected to CUs . . 1f00 _____ +

F1=Help      F2=Split      F3=Exit      F4=Prompt      F5=Reset      F9=Swap
F12=Cancel

-----
F1=Help      F2=Split      F3=Exit      F4=Prompt      F5=Reset      F7=Backward
F6=Forward    F9=Swap      F10=Actions  F11=Add       F12=Cancel
```

By selecting item 5 from HCD Panel 1, you can bring up panels to define the devices (consoles) that will be attached to the CCA-3074. It is important to match the address range on the CCA-3074 with the range defined by this panel. Note that the Device Numbers used must be unique within each Config. ID, even if multiple MVS systems are defined. If different Config. IDs are used to define each MVS system, then the same Device Number may appear in more than one of the definitions. (Reference Config. IDs in HCD Panel 2.)

## HCD Panel 22

```

----- Device / Processor Definition -----
                                         Row 1 of 1
Command ==> _____ Scroll ==> PAGE
Select processors to change device/processor definitions, then press
Enter.
Device number . . . : 1F00           Number of devices . . : 8
Device type . . . . : 3270-X

/ Processor ID UA + Time-Out STADET CHPID + Candidate List
/ CBIPO      _  No      Yes  _
*****Bottom of data*****

F1=Help      F2=Split      F3=Exit      F4=Prompt    F5=Reset
F6=Previous  F7=Backward   F8=Forward   F9=Swap     F12=Cancel

```

Depressing the Enter key on the “Add Device” panel brings us to this panel. This is where we select which processor this IO device (console) connects to.

## HCD Panel 23

```

----- Device / Processor Definition -----
----- Define Device / Processor -----
Specify or revise the following values.
Device number . . : 1F00           Number of devices . . . . : 8
Device type . . . : 3270-X
Processor ID . . . : CBIPO           9121-310 VISARA INC.
Unit address . . . . . 00 + (Only necessary when different
                             from the last 2 digits of
                             device number)
Time-Out. . . . . No (Yes or No)
STADET . . . . . Yes (Yes or No)
Preferred CHPID . . . . . +
Explicit device candidate list. yes (Yes or No)
F1=Help      F2=Split      F3=Exit      F4=Prompt    F5=Reset    F9=Swap
F12=Cancel
-----
F6=Previous  F7=Backward   F8=Forward   F9=Swap     F12=Cancel

```

Making a selection on the previous panel will allow you to define I/O device definition. One of the options is for the Explicit Device Candidate List. The purpose of the Explicit Device Candidate List is to limit which LPARs have access to a particular resource in an EMIF environment. Below is the related help information.

## CCA-3074 Planning

```
----- HCD Help -----
Command ==>          Scroll ==> PAGE
Explicit Device Candidate List

Specify or
Device numb          Specify a value for this field only if the designated
Device type          processor type-model has ESCON Multiple Image Facility
Processor I          (EMIF) capability.

Unit address         Indicate whether you want to explicitly specify in a
                    device candidate list, which partitions, defined in the
                    IOCF for the processor, should be allowed to access the
                    device being added or changed, or the group being changed.

Time-Out. .         To change the displayed value, either type over or delete
STADET . .         Yes or No. No is the default.

Preferred C         Yes   to explicitly define a device candidate list.
Explicit de

                    The Define Device Candidate List panel is displayed
                    when Yes is specified. You can then select the
                    partitions that you want to be allowed to access
                    the device or device group.

F1=Help
F12=Cancel

Specify or
Device numb          No   not to explicitly define a device candidate list.
Device type          All partitions are allowed to access the device or
Processor I          device group.
                    - end -
```

### HCD Panel 24

```
----- Define Device Candidate List -----
Row 1 of 6

Select one or more partitions to allow them to access the
device, or ENTER to continue without selection.

Device number . . . : 1F00          Number of devices . . : 8
Device type . . . . : 3270-X
Processor ID . . . . : CBIPO        This is the main processor

/ Partition Name      Description                               Reachable
/ LPAR390             OS/390 production partition      Yes
- TEST1              First test system                Yes
- TEST2              Second test system               Yes
- TEST3              CF partition                     Yes
- TEST4              OS partition                      Yes
```

If you specify **Yes** in the Explicit device candidate list field of HCD Panel 23, the panel above is displayed.

Note that the partition must also be in the channel path access or candidate list to access the device. On the Define Device Candidate List panel, place a slash (/) character to the left of only one specific Partition Name.

## HCD Panel 25

```

----- Define Device to Operating System Configuration -----
                                                                    Row 1 of 1
Command ==> _____ Scroll ==> PAGE
Select OSs to connect or disconnect devices, then press Enter.

Device number . . . : 1P00          Number of devices . . : 8
Device type . . . . : 3270-X

/ Config. ID   Type      Description          Defined
/ OS39X       MVS       LPAR os39x
*****Bottom of data*****

F1=Help      F2=Split      F3=Exit      F4=Prompt    F5=Reset
F6=Previous  F7=Backward   F8=Forward   F9=Swap      F12=Cancel

```

This panel allows you to connect the device to the operating system.

## HCD Panel 26

```

----- Define Device Parameters / Features -----
                                                                    Row 1 of 3
Command ==> _____ Scroll ==> PAGE
Specify or revise the values below.

Configuration ID . . : OS39X   LPR ox39x
Device number . . . : 1P00    Number of devices : 8
Device type . . . . : 3270-X

Parameter/
Feature Value P Req. Description
OFFLINE No      Device considered online or offline at IPL
DYNAMIC Yes     Device supports dynamic configuration
OWNER   VTAM      + Subsystem or access method using the device
*****Bottom of data*****

F1=Help      F2=Split      F3=Exit      F4=Prompt    F5=Reset
F7=Backward  F8=Forward    F9=Swap      F12=Cancel

```

This panel lets you define some of the specific features of the device.

## HCD Panel 27

```

----- Define Device to Operating System Configuration -----
                                                                    Row 1 of 1
Command ==> _____ Scroll ==> PAGE
Select OSs to connect or disconnect devices, then press Enter.

Device number . . . : 1P00    Number of devices : 8
Device type . . . . : 3270-X

/ Config. ID   Type      Description          Defined
_ OS39X       MVS       LPAR os39x          Yes
*****Bottom of data*****

F1=Help      F2=Split      F3=Exit      F4=Prompt    F5=Reset
F6=Previous  F7=Backward   F8=Forward   F9=Swap      F12=Cancel

```

This just shows that the device has been defined to the operating system.

## CCA-3074 Planning

### HCD Panel 28

```
I/O Device List          Row 1895 of 1816 More:      >
Command ==> _____ Scroll ==> PAGE
Select one or more devices, then press Enter. To add, use F11.

  ---Device---  --#--  -----Control Unit Numbers + -----
/ Number Type + PR OS  1--- 2--- 3--- 4--- 5--- 6--- 7--- 8--- Base
- 1E1C  3270-X 1  1  1E00  _____
- 1E1D  3270-X 1  1  1E00  _____
- 1E1E  3270-X 1  1  1E00  _____
- 1E1F  3270-X 1  1  1E00  _____
- 1P00  3270-X 1  1  1P00  _____
- 1P01  3270-X 1  1  1P00  _____
- 1P02  3270-X 1  1  1P00  _____
- 1P03  3270-X 1  1  1P00  _____
- 1P04  3270-X 1  1  1P00  _____
- 1P05  3270-X 1  1  1P00  _____
- 1P06  3270-X 1  1  1P00  _____
- 1P07  3270-X 1  1  1P00  _____
*****Bottom of data*****

F1=Help  F2=Split  F3=Exit  F4=Prompt  F5=Reset  F7=Backward
F8=Forward F9=Swap  F10=Actions F11=Add  F12=Cancel
Goto Filter Backup Query Help
```

This just shows the 8 IO Devices you just created.

### HCD Panel 29

```
----- Device / Processor Definition -----
----- Define Device / Processor -----
Specify or revise the following values.
Device number . . : 1F00          Number of devices . . . . : 8
Device type . . . : 3270-X
Processor ID . . . : CBIPO        9121-190 VISARA INC.
Unit address . . . . . 00 + (Only necessary when different
                             from the last 2 digits of
                             device number)
Time-Out . . . . . No (Yes or No)
STADET . . . . . Yes (Yes or No)
Preferred CHPID . . . . . +
Explicit device candidate list. Yes (Yes or No)
F1=Help  F2=Split  F3=Exit  F4=Prompt  F5=Reset  F9=Swap
F12=Cancel
-----
Type 9121-190 of processor CBIPO does not support sharing of channels
```

This panel shows what you would see if you tried to configure an “Explicit device candidate list” on a processor that does not support EMIF.



## **Chapter 4. IOCDs Sample Definitions**

Following are some example IOCDs definitions. Detailed examples of the corresponding HCD panels are not practical, due to the large number of panels required to create one of these definitions. Refer to the sample HCD panels in Chapter 3, and to the parameter cross reference chart in Chapter 2, to aid in determining what to define in the HCD panels.

Here are some of the key parameters used in the definitions for the CCA-3074, and what their purpose is.

### **CHPID**

- PATH=number identifies which host ESCON/FICON connection is used
- TYPE=CNC required for ESCON
- TYPE=FC required for FICON
- SWITCH=number identifies an ESCON/FICON Director as being in the channel path

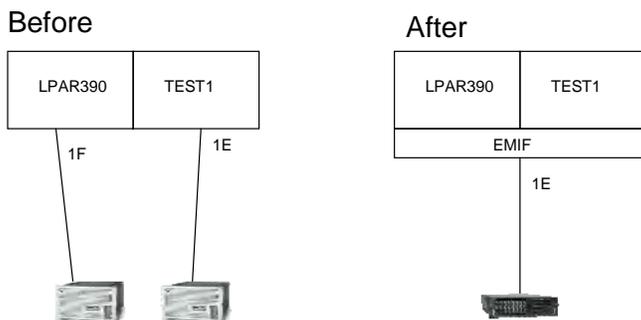
### **CNTLUNIT -**

- LINK=number identifies the ESCON/FICON Director port that the controller is attached to
- PATH argument allows association of the PATH to the LINK
- UNIT=3174 for ESCON definitions
- UNIT=NOCHECK for FICON definitions

**IODEVICE** - Basically the same as for Bus and Tag with addition of the following:

- PARTITION identifies which partition the definition is assigned to. Note that if no PARTITION parameter is specified, then the IODEVICE statement applies to all partitions sharing the CHPID (and the CNTLUNIT macro also applies to each). When this is the situation, the single set of statements is actually defining a CU in each of the LPARs with identical addressing. The CCA-3074 in turn, must have a separate CU defined to each of the LPARS sharing the path, and a separate set of definitions for the device sessions, etc.

## EXAMPLE 1 - Typical 3174 Replacement (ESCON)



This first example shows the replacement of two ESCON attached 3174s with a single CCA-3074 (also on ESCON). The first definitions shown are used to define the two 3174-22L. The second set of definitions is used to connect the CCA-3074.

### 3174 Definitions

```
RESOURCE PARTITION=( ( LPAR390 , 1 ) , ( TEST1 , 2 ) )
```

```
CHPID PATH=( 1F ) , TYPE=CNC , PARTITION=( LPAR390 )
```

```
CHPID PATH=( 1E ) , TYPE=CNC , PARTITION=( TEST1 )
```

```
CNTLUNIT CUNUMBR=IF00 , PATH=1F , UNITADD=( ( 00 , 5 ) ) , UNIT=3174
```

```
CNTLUNIT CUNUMBR=IE00 , PATH=1E , UNITADD=( ( 00 , 5 ) ) , UNIT=3174
```

```
IODEVICE CUNUMBR=IF00 , ADDRESS=( 600 , 5 ) , UNIT=3270-X , UNITADD=00 , PARTITION=( LPAR390 )
```

```
IODEVICE CUNUMBR=IE00 , ADDRESS=( 600 , 5 ) , UNIT=3270-X , UNITADD=00 , PARTITION=( TEST1 )
```

### CCA-3074 Definitions

```
RESOURCE PARTITION=( ( LPAR390 , 1 ) , ( TEST1 , 2 ) )
```

```
CHPID PATH=( 1E ) , TYPE=CNC , SWITCH=01 , SHARED
```

```
CNTLUNIT CUNUMBR=IE00 , PATH=1E , UNITADD=( ( 00 , 5 ) ) , UNIT=3174
```

```
CNTLUNIT CUNUMBR=IF00 , PATH=1E , UNITADD=( ( 00 , 5 ) ) , UNIT=3174
```

```
IODEVICE CUNUMBR=IE00 , ADDRESS=( 600 , 5 ) , UNIT=3270-X , UNITADD=00 , PARTITION=( TEST1 )
```

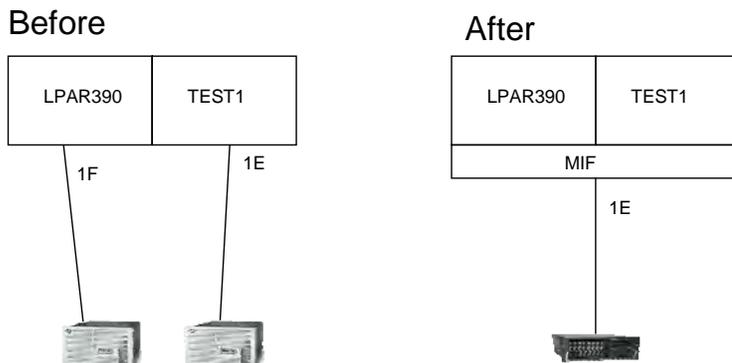
```
IODEVICE CUNUMBR=IF00 , ADDRESS=( 600 , 5 ) , UNIT=3270-X , UNITADD=00 , PARTITION=( LPAR390 )
```

## **CCA-3074 Planning**

### **Notes:**

1. EMIF is used to allow both CNTLUNITs to share the same path (1E).
2. The CNTLUNIT macros do not include the CUADD parameter, and the default value of "0" is assumed.
3. EMIF only allows LPARs within the same LCSS to share a channel. If multiple LCSS' are in use on a single mainframe, then an ESCON channel from each LCSS in use is required.
4. Up to 15 LPARs can be configured to share a single EMIF channel from the host.
5. The Device Candidate List in HCD is used to specify which LPARs are accessing each CU.

## EXAMPLE 2 - Typical 3174 Replacement (FICON)



This example shows the replacement of the same two ESCON attached 3174s from Example 1, with a single CCA-3074 (this time on FICON). The definitions for the two 3174-22L were given in Example 1. The definitions below are used to connect the CCA-3074 through FICON.

### CCA-3074 Definitions

```
RESOURCE PARTITION=((LPAR390,1),(TEST1,2))
```

```
CHPID PATH=(1E),TYPE=FC,SWITCH=01,SHARED
```

```
CNTLUNIT CUNUMBR=IE00,PATH=1E,UNITADD=((00,5)),UNIT=NOCHECK
```

```
CNTLUNIT CUNUMBR=IF00,PATH=1E,UNITADD=((00,5)),UNIT=NOCHECK
```

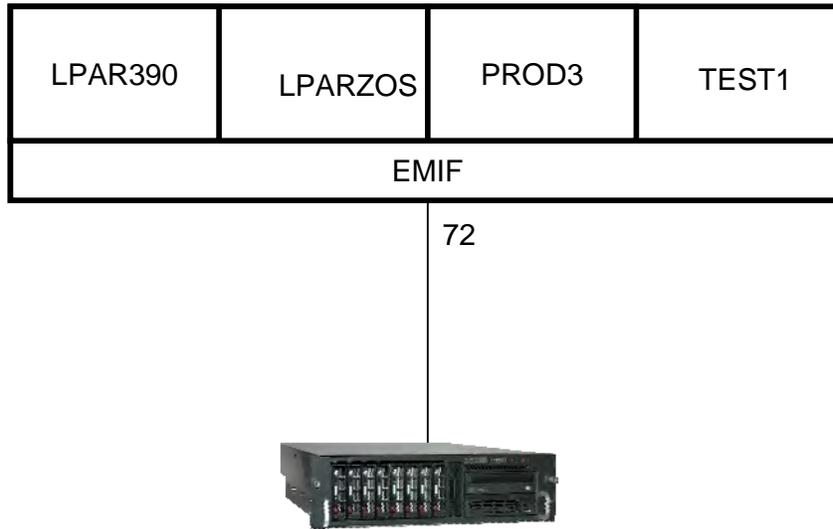
```
IODEVICE CUNUMBR=IE00,ADDRESS=(600,5),UNIT=3270-X,UNITADD=00,PARTITION=(TEST1)
```

```
IODEVICE CUNUMBR=IF00,ADDRESS=(600,5),UNIT=3270-X,UNITADD=00,PARTITION=(LPAR390)
```

### Notes:

1. MIF is used to allow both CNTLUNITs to share the same path (1E).
2. The CNTLUNIT macros do not include the CUADD parameter, and the default value of "0" is assumed. FICON and MIF allow multiple LCSS to be spanned. When spanning multiple LCSS a two-digit CUADD must be used.
3. This time the CHPID type is FC (FICON)
4. Note that the UNIT type has changed to 'NOCHECK'. TYPE=3174 is not valid in the FICON environment.

## **EXAMPLE 3 – Device Candidate List not Used**



A single CNTLUNIT and IODEVICE definition is used to define consoles on all four LPARS, by intentionally not using the Device Candidate list. This method makes use of the same CUNUMBR and IODEVICE numbers in each LPAR that shares the CHPID.

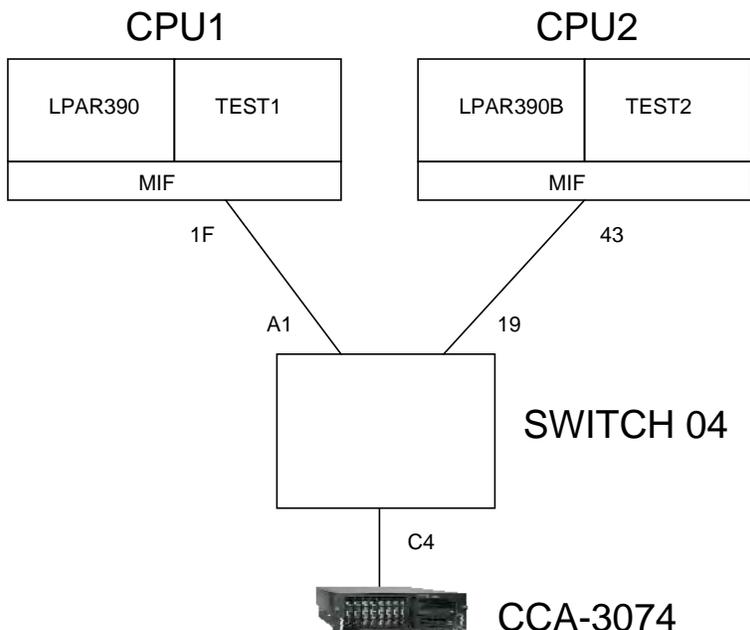
A separate CU definition is still required on the CCA-3074 to direct each connection to the correct LPAR.

```
RESOURCE PARTITION=( ( LPAR390 , 1 ) , ( LPARZOS , 2 ) , ( PROD3 , 3 ) , ( TEST1 , 4 ) )  
CHPID PATH=( 72 ) , PARTITION=( ( LPAR390 , LPARZOS , PROD3 , TEST1 ) ) , TYPE=CNC , SHARED  
CNTLUNIT CUNUMBR=985 , PATH=72 , UNITADD=( ( 20 , 16 ) ) , UNIT=3174 , CUADD=3  
IODEVICE CUNUMBR=985 , ADDRESS=( 800 , 16 ) , UNIT=3270-X , UNITADD=20
```

### **Notes:**

1. Since there is no PARTITION parameter displayed in the IODEVICE statement, the IODEVICE and CNTLUNIT definitions are valid in all partitions sharing the path. The attached CCA-3074 must have a separate CU defined to communicate with each of the four partitions.

## EXAMPLE 4 - EMIF and ESCON Directors Used



LPARs on two different CPUs are connected through an ESCON director to a single CCA-3074 over a single ESCON interface. Users on the CCA-3074 can have sessions on any or all of the 4 LPARs shown. Up to 16 LPARs can be supported through the single ESCON interface to the CCA-3074.

### First CPU Definitions:

```
RESOURCE PARTITION=((LPAR390,1),(TEST1,2))

CHPID PATH=(1F),PARTITION=((LPAR390,TEST1)),SWITCH=04,TYPE=CNC,SHARED

CNTLUNIT CUNUMBR=1E00,PATH=1F,UNITADD=(00,5),UNIT=3174,CUADD=0,LINK=C4
IODEVICE CUNUMBR=1E00,ADDRESS=(600,5),UNIT=3270-X,UNITADD=00,PARTITION=(TEST1)
CNTLUNIT CUNUMBR=1F00,PATH=1F,UNITADD=(00,5),UNIT=3174,CUADD=1,LINK=C4
IODEVICE CUNUMBR=1F00,ADDRESS=(1200,5),UNIT=3270-X,UNITADD=00,PARTITION=(LPAR390)
```

### Second CPU Definitions:

```
RESOURCE PARTITION=((LPAR390B,3),(TEST2,4))

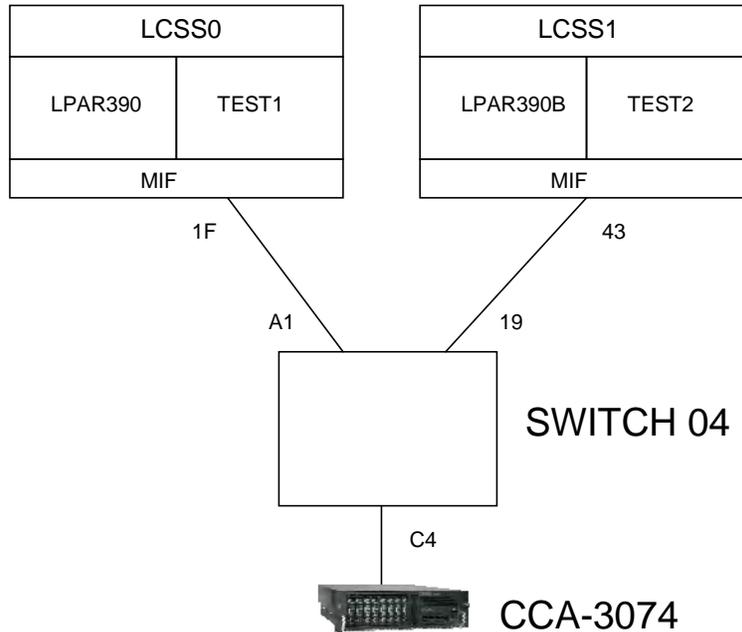
CHPID PATH=(43),PARTITION=((LPAR390B,TEST2)),SWITCH=04,TYPE=CNC,SHARED

CNTLUNIT CUNUMBR=1195,PATH=43,UNITADD=(00,5),UNIT=3174,CUADD=5,LINK=C4
IODEVICE CUNUMBR=1195,ADDRESS=(1E00,5),UNIT=3270-X,UNITADD=00,PARTITION=(TEST2)
CNTLUNIT CUNUMBR=2144,PATH=43,UNITADD=(00,5),UNIT=3174,CUADD=1,LINK=C4
IODEVICE CUNUMBR=2144,ADDRESS=(700,5),UNIT=3270-X,UNITADD=00,PARTITION=(LPAR390)
```

## **CCA-3074 Planning**

### **Notes:**

1. Different CUADD values are shown for each definition, but they are not required to be different with the CCA-3074.
2. LINK=C4 in the IO gen refers to the port that the CCA-3074 is connected to.

**EXAMPLE 5 – Multiple LCSS and ESCON**

This example is similar to the last one except all of the LPARS are on a single CPU that has two Logical Channel Subsystems (LCSS). An ESCON switch is used similar to before, and a single ESCON cable is run into the switch from each LCSS to which in turn is connected to the switch through a single ESCON cable. Users on the CCA-3074 can have sessions on any or all of the 4 LPARs shown. Up to 16 LPARs can be supported through the single ESCON interface to the CCA-3074.

## CCA-3074 Planning

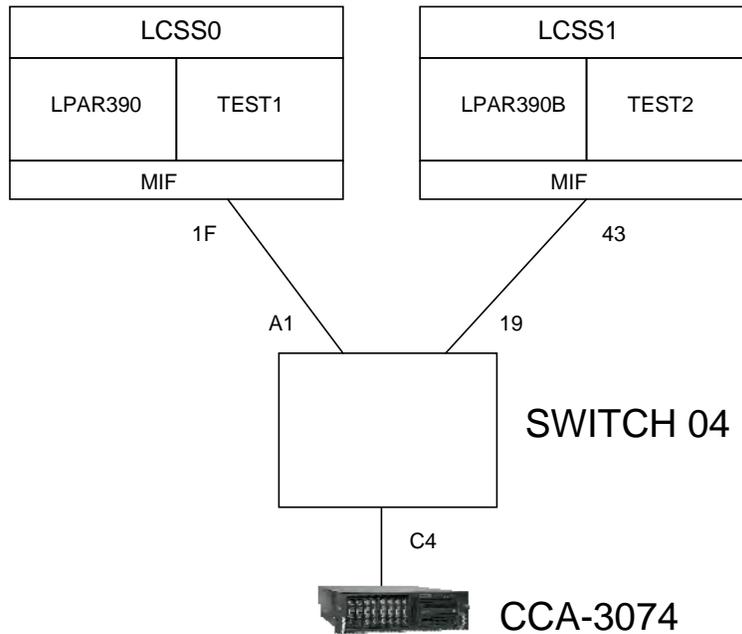
### IO Definitions:

```
RESOURCE PARTITION=((CSS(0),(LPAR390,1),(TEST1,2)),(CSS(1), (LPAR390B,3),(TEST2,4)))  
CHPID PATH=(CSS(0),1F),PARTITION=((LPAR390,TEST1)),SWITCH=04,TYPE=CNC,PCHID=1C0,SHARED  
CHPID PATH=(CSS(1),43),PARTITION=((LPAR390B,TEST2)),SWITCH=04,TYPE=CNC,PCHID=145, *  
  SHARED  
CNTLUNIT CUNUMBR=1E00,PATH=(CSS(0),1F),UNITADD=(00,5),UNIT=3174,CUADD=0, *  
  LINK=(CSS(0),C4)  
IODEVICE CUNUMBR=1E00,ADDRESS=(600,5),UNIT=3270-X,UNITADD=00,PARTITION=(CSS(0),TEST1)  
CNTLUNIT CUNUMBR=1F00,PATH=(CSS(0),1F),UNITADD=(00,5),UNIT=3174,CUADD=1, *  
  LINK=(CSS(0),C4)  
IODEVICE CUNUMBR=1F00,ADDRESS=(1200,5),UNIT=3270-X,UNITADD=00, *  
  PARTITION=(CSS(0),LPAR390)  
CNTLUNIT CUNUMBR=1195,PATH=(CSS(1),43),UNITADD=(00,5),UNIT=3174,CUADD=5,LINK=(CSS(1),C4)  
IODEVICE CUNUMBR=1195,ADDRESS=(1E00,5),UNIT=3270-X,UNITADD=00,PARTITION=(CSS(1),TEST2)  
CNTLUNIT CUNUMBR=2144,PATH=(CSS(1),43),UNITADD=(00,5),UNIT=3174,CUADD=1,LINK=(CSS(1),C4)  
IODEVICE CUNUMBR=2144,ADDRESS=(700,5),UNIT=3270-X,UNITADD=00,PARTITION=(CSS(1), *  
  LPAR390B)
```

### Notes:

1. Each LCSS must have a separate ESCON cable into the switch. LPARs from different LCSS can not be MIF'd onto the same ESCON channel.

## EXAMPLE 6 – Multiple LCSS and FICON



This example is the same as the last one except the connection to the CCA-3074 is through FICON instead of ESCON. All of the LPARs are on a single CPU that has two Logical Channel Subsystems (LCSS). A FICON switch is used, and a single FICON cable is run into the switch from each LCSS to which in turn is connected to the switch through a single FICON cable. Users on the CCA-3074 can have sessions on any or all of the 4 LPARs shown. Up to 16 LPARs can be supported through a single FICON interface to the CCA-3074.

## CCA-3074 Planning

### IO Definitions:

```
RESOURCE PARTITION=((CSS(0),(LPAR390,1),(TEST1,2)),(CSS(1), (LPAR390B,3),(TEST2,4)))

CHPID PATH=(CSS(0),1F),PARTITION=((LPAR390,TEST1)),SWITCH=04,TYPE=FC,PCHID=1C0,SHARED

CHPID PATH=(CSS(1),43),PARTITION=((LPAR390B,TEST2)),SWITCH=04,TYPE=FC,PCHID=145, *
  SHARED

CNTLUNIT CUNUMBR=1E00,PATH=(CSS(0),1F),UNITADD=(00,5),UNIT=NOCHECK,CUADD=0, *
  LINK=(CSS(0),C4)
IODEVICE CUNUMBR=1E00,ADDRESS=(600,5),UNIT=3270-X,UNITADD=00,PARTITION=(CSS(0),TEST1)
CNTLUNIT CUNUMBR=1F00,PATH=(CSS(0),1F),UNITADD=(00,5),UNIT=NOCHECK,CUADD=1, *
  LINK=(CSS(0),C4)
IODEVICE CUNUMBR=1F00,ADDRESS=(1200,5),UNIT=3270-X,UNITADD=00, *
  PARTITION=(CSS(0),LPAR390)
CNTLUNIT CUNUMBR=1195,PATH=(CSS(1),43),UNITADD=(00,5),UNIT=NOCHECK,CUADD=5, *
  LINK=(CSS(1),C4)
IODEVICE CUNUMBR=1195,ADDRESS=(1E00,5),UNIT=3270-X,UNITADD=00,PARTITION=(CSS(1),TEST2)
CNTLUNIT CUNUMBR=2144,PATH=(CSS(1),43),UNITADD=(00,5),UNIT=NOCHECK,CUADD=1, *
  LINK=(CSS(1),C4)
IODEVICE CUNUMBR=2144,ADDRESS=(700,5),UNIT=3270-X,UNITADD=00,PARTITION=(CSS(1), *
  LPAR390B)
```

### Notes:

1. CHPID TYPE=FC is used for FICON as compared to the TYPE=CNC used for ESCON.
2. For FICON you must use UNIT=NOCHECK in the CNTLUNIT macros in place of the UNIT=3174 used in the ESCON environment.
3. When the two LCSS are connected to the switch through separate CHPIDs, the CUADD value may be a single digit. When a spanned CHPID is used (two or more LCSS's LPARs involved), the CUADD value should be two digits.
4. In addition to the information contained in the IOGEN, you will need two additional pieces of information to configure the CCA-3074. These are the port numbers on the FICON switch that the hosts are plugged into, sometime referred to as the host link address. In this case the numbers are shown in the diagram and are 'A1' for LPARs LPAR390 and TEST1, and '19' for LPARs LPAR390B and TEST2. The second piece of information that is needed is the FICON Domain ID or Switch Domain ID that is assigned to the FICON switch that the hosts are connected to. Note that if two FICON switches are cascaded, the information is for the one(s) that the hosts are connected to, not the one that the CCA-3074 is connected to.



## **Chapter 5. CSS32 External Coax Subsystem**

### **What is the External Coax Subsystem?**

The CCA-3074 does not support coax ports directly attached to the platform. To accommodate coax connectivity, an external CSS32 Coax Subsystem can be interfaced to the CCA-3074.

The external CSS32 Coax Subsystem is a Visara LINC based product. The CSS32 communicates with the CCA-3074 over an IP network using TN3270E protocol for display or LMU sessions, and using LPD/LPR protocol for printer sessions. The network connection can be as simple as a RJ45 crossover cable interconnecting the two platforms mounted in the same 19" rack or the two platforms can be remotely linked through a corporate Intranet or even across the Internet (preferably through a VPN).

The relationship between the CCA-3074 and its satellite(s) does not have to be one on one. That is, one CCA-3074 can support multiple Coax Subsystems, and a single Coax Subsystem can communicate with multiple CCA-3074s.

### **CSS32 Factory Default Configuration**

The CSS32 comes with a standard factory default configuration. This configuration is designed to support the CSS32 attached to the CCA-3074 through a crossover cable. The default configuration will support up to 31 coax display or LMU sessions (one session for each of 31 coax ports) and one printer session. For more complex requirements for the CSS32, changes to the factory default configuration will be needed.

For more details about the specifics of the factory default configuration of the CSS32 please refer to Appendix A in the CCA-3074 Installation and Configuration Manual.



## **Chapter 6. Frequently Asked Questions**

Q: Does the CCA-3074 support SNA over ESCON or FICON?

A: No. The CCA-3074 is dedicated to supporting Non-SNA communications over ESCON and FICON. If SNA communications is required, you may use the CNA-8000 product instead. The CNA-8000 is capable of supporting SNA communications over ESCON and FICON.

Q: Does the CCA-3074 support Bus and Tag connections?

A: No.

Q: Can you attach coax terminals to the CCA-3074?

A: The CCA-3074 does not support coax ports directly. You can support coax terminals, printers, and LMU connections through use of the external CSS32 Coax Subsystem.

Q: Can you attach StorageTek Silos to the CCA-3074.

A: The LMU (Library Management Unit) used to manage the Silos will attach to the external CSS32 Coax Subsystem using coax connections.

Q: Is there any way to remotely manage the CCA-3074?

A: Yes. CCA-3074 management is through a browser interface. The biggest concern for remote management is probably security. The CCA-3074 browser is a secure connection making use of https (SSL encryption) between the workstation running the browser session and the CCA-3074.

Q: Does the CCA-3074 support VPNs?

A: No, not directly. You can use external products to provide the Virtual Private Network security. However, SSL encryption is supported directly, which provides encryption from the user desktop to the CCA-3074. The question becomes do you really need a VPN connection. In most cases you probably do not.

Q: Does the CCA-3074 support Secure Socket Layer communication over the network?

A: Yes. You can configure the CCA-3074 to communicate SSL encryption directly to the remote client desktops.

- Q: Does the CCA-3074 support international languages?  
A: No. All host communication and browser management interface makes use of English.
- Q: Does the CCA-3074 have any provisions for redundancy?  
A: The CCA-3074 supports 2 ESCON interfaces and 4 FICON interfaces, allowing you to provide multiple paths to your LPARs. The two ESCON interfaces are on separate cards. The four FICON interfaces can be implemented with one or two FICON cards. The CCA-3074 also makes use of redundant, independently configurable power supplies, redundant cooling fans, and redundant hard drives that use RAID mirroring.
- Q: Does the CCA-3074 support all TN3270E clients.  
A: Yes, for the most part. All of the more popular emulators, as well as many more obscure ones will work. There is nothing about the TN3270E (RFC 1647) interface or the older TN3270 (RFC 1576) that should eliminate any specific client. You may however wish to contact a Visara representative for a list of PC emulations that are known to work as consoles.
- Q: Does the CCA-3074 support a FICON interface?  
A: Yes. You can connect the CCA-3074 to a FICON channel either point to point to a CPU or through a Director. Both Long Wave (single-mode fiber) and Short Wave (multimode fiber) is supported (you must request the correct transceivers for your environment when you order).
- Q: Is 1 Gbps FICON supported?  
A: No. The FICON adapter used by the CCA-3074 supports 2Gbps, 4Gbps, and 8Gbps FICON.
- Q: Does the CCA-3074 support NIP consoles?  
A: Yes. You can define NIP and MCS (MVS) consoles to the CCA-3074. It is good planning to define multiple NIP consoles, spread across more than one CCA-3074 for redundancy sake.

## **CCA-3074 Planning**

- Q: If there is a power failure, will the CCA-3074 automatically recover?
- A: Yes. First of all, the CCA-3074 has dual power feeds, and if plugged into multiple mains, the chance of a power failure can be minimized. However, if you have all lines plugged into the same power source and there is a failure, the CCA-3074 should power back up and automatically go online when the power failure is over. The boot process should be complete within about 5 minutes. It will probably be necessary to vary the console sessions active again, since a failed console connection will normally roll to another console on another platform if available or to the support element.
- Q: Can you change the configuration of one LPAR on the CCA-3074, or add a new LPAR definition without performing a reboot?
- A: Yes. The latest server software used by the CCA-3074 allows for you to dynamically change the host connections as needed. To make the changes take affect you must offline the host CHPID, invoke the change, and online the CHPID. To maintain active consoles while invoking changes it is still recommended to have redundant CCA-3074s. By having redundant CCA-3074s, you can take one down for periodic maintenance while the other CCA-3074 is providing critical services.
- Q: Can you change TN3270E client settings without having to reboot or restart the CCA-3074?
- A: Yes. You can make changes to TN3270E clients, which ports they connect to, whether encryption is supported, user IDs and passwords, pool definitions, etc. and apply the changes without having to reboot or restart the platform.
- Q: Will a TN3270E client get a live console session when they connect in?
- A: Only if the Hot Session option is configured on the CCA-3074. Otherwise, if the client is not connected when the LPAR first comes up, the device is reported as being powered off, and the console session would roll to the alternate console or to the support element.

- Q: How does the Hot Console Session feature work?  
A: The CCA-3074 treats a Hot Console Session as if the device were always powered up. Console messages are received and discarded by the CCA-3074 when no client is connected to the session. When a client does connect to the session, a Clear AID is sent inbound automatically to cause the host to repaint the latest screen to the client.
- Q: Can a console operator retrieve messages discarded by the CCA-3074 from a Hot Session?  
A: No, not directly from the CCA-3074. You would need to access the SDSF, on the host. Visara also offers another product, the MCC (Master Console Center), which can provide console session logging and retrieval among its many features. The MCC can be integrated with the CCA-3074 on the same platform to reduce footprint if desired.
- Q: Can I configure a combination of regular console sessions and Hot Console sessions?  
A: Yes. You can determine which sessions need to be hot and which ones do not.
- Q: Does the CCA-3074 support some way to track what users connect to the platform?  
A: Yes. The CCA-3074 keeps a sessions log which logs when users connect to the CCA-3074, disconnect from the CCA-3074, and when a failed attempt to get a session from the CCA-3074 occurs. The size of the file kept or how long it is kept is configurable.
- Q: Does the CCA-3074 support Long Wave (single-mode fiber) or Short Wave (multimode fiber) FICON?  
A: The CCA-3074 can support either environment, but you must order it for whichever you are using in your environment.
- Q: Can I mix Long Wave (single-mode fiber) and Short Wave (multimode fiber) FICON on the CCA-3074?  
A: The CCA-3074 can support either environment, but you must order the interface for whichever you are using in your environment.

## **CCA-3074 Planning**

- Q: Can I configure Hot VTAM sessions?  
A: In general, you do not need to. The host should detect when a VTAM terminal powers up, and provide the user with a new session. Configuring a VTAM session as a hot session on the CCA-3074 may result in unpredictable results.
- Q: How do I make a Hot Session roll to another terminal?  
A: Do not configure a Hot Session if you need it to roll to another terminal automatically. If you need to switch control of a console to another device you can use normal console commands to disable a console and activate a different console. Of course if the CCA-3074 powers down, or otherwise stops communicating with the host, all console sessions will automatically roll to their alternates or to the support element.
- Q: Is it possible to share a console session between two or more operators.  
A: Yes, the CCA-3074 supports a session sharing feature which can be configured. You can share a single session between multiple users at one time. All operators may enter console commands, and each of the operators sharing the session will see the results of the command entered. This option can be used for training, joint problem determination, and disaster recovery situations.
- Q: Does the CCA-3074 support hot swappable cards?  
A: No. Only the power supplies, fans, and hard drives are hot swappable.
- Q: How many coax devices can be supported by a single CCA-3074?  
A: Any or all of the sessions supported by the CCA-3074 can be realized as coax sessions if needed. Each CSS32 coax subsystem supports 32 physical coax devices. Multiple CSS32 coax subsystems can be connected to the CCA-3074. It is even possible to connect multiple coax devices to share a single console session if desired.
- Q: Is it possible to run multiple console sessions from a single coax device?  
A: Although the CSS32 is configured in the factory to support a single session from each coax device, it is possible to run as many as 10 concurrent sessions from a single coax device

Q: How is the CSS32 coax subsystem connected to the CCA-3074?

A: The actual connection makes use of an Ethernet compatible twisted pair cable. By using a null crossover cable, the coax subsystem can be isolated from your corporate network providing additional reliability. Communication over this connection makes use of IP. You can also run the connection through any standard Ethernet switch or hub.

Q: Do I have any console support options if my network goes down?

A: Yes. There are four options to support consoles independent of your corporate network. 1) Use a separate network to support your TN3270 consoles from. Even if you need remote TN3270 client access, a separate local network with a few clients can provide emergency support for when the corporate network is down. 2) Use a CSS32 to provide coax terminals as an alternative to your network. The CSS32 may be connected directly to the CCA-3074. 3) With up to 10 separate Ethernet interfaces on the CCA-3074 you may directly attach a few clients independent of the network. 4) A directly attached monitor, keyboard, and mouse provides up to 10 console sessions to be run directly on the CCA-3074 without any external connections.

Q: How many LPARs can the CCA-3074 support consoles for?

A: The number of LPARs supported is limited by the number of host interfaces installed. Each ESCON interface supports as many as 16 LPARs. Two ESCON interfaces are supported for a current total of 32 LPARs. The CCA-3074 supports up to four FICON interfaces in addition to the ESCON interfaces. This brings the total number of LPARs supported by the CCA-3074 to 96 LPARs.



## Appendix A. Consoles Planning Worksheet

Example of filled out sheet.

CPU	CHPID #	Switch #	Director Port # to CPU	Director Port # to 3074	Host Partition Name	LPAR #	CUADD #	CNTLUNIT #	3074 ESCON Interface	3074 CU #	3074 CU Name	IODEVICE #	3074 Device Name	Listen Port	Function
HOSS	63	01	C1	C7	PROD3	3	0	1800	0	0	PROD3	690	CON3	12100	Console
												691	LMU0	12101	LMU port 0
												692	DSP31	12102	Prog Display
												693	DSP32	12102	Prog Display
					TEST9	9	1	2800	0	1	TEST9	1401	CON9	13100	Console
												1402	DSP91	13101	Utility
BISMARCK	21	01	B4	C7	BIS390	1	0	1201	0	2	BIS390	3700	BCON1	14100	Console
												3701	BLMU3	14101	LMU port3
												3702	BDSP11	14102	Prog Display
												3703	BDSP12	14102	Prog Display
	18	01	B6	C7	BISDDU	3	1	1221	0	3	BISDDU	3700	CCON1	15100	Console
												3701	CLMU4	15101	LMU port4
												3702	CDSP31	15102	Prog Display
													CDSP32	15102	Prog Display