

Sample Configurations for the TN3270 Server

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Introduction

This document includes sample TN3270 server configurations. These configurations are based on real configurations and address real-world scenarios. The configurations have been shorn of tuning, to keep the presentation as simple as possible. All of the configurations have some common portions, which are explained in the Common Configurations section.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

This document is not restricted to specific software or hardware versions.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

For more information on document conventions, refer to Cisco Technical Tips Conventions.

Common Configurations

All of the sample configurations in this document have some common elements. The first common element is

the host channel configuration. It is assumed that a point-to-point link between the System Services Control Point (SSCP) mainframe and the Channel Interface Processor (CIP) card is being configured.

Note: To find additional information on the commands used in this document, use the Command Lookup Tool (registered customers only).

Host Channel Configuration

The first thing to configure is the host channel path.

• Device Definitions for Multiple Virtual Storage (MVS) Systems

```
IOCDs / IOCP for Bus & Tag Connection to MVS System
*
CHPID PATH=((18)),TYPE=BL
CNTLUNIT CUNUMBR=0770,PATH=(18),UNIT=3088,UNITADD=((70,16))
IODEVICE ADDRESS=(770,16),CUNUMBR=(0770),UNIT=CTC
*

IOCDs / IOCP For ESCON Connection to MVS System
*
CHPID PATH=((18)),TYPE=CNC
CNTLUNIT CUNUMBR=0770,PATH=(18),UNIT=SCTC,UNITADD=((70,16))
IODEVICE ADDRESS=(770,16),CUNUMBR=(0770),UNIT=SCTC
*
```

• Device Definitions for Virtual Machine (VM) Systems

In a VM/Switch Processor (VM/SP) operating system environment, the RDEVICE macro and the RCTLUNIT macro must specify an address range of 32 or 64 for the 3088 and a minimum of 8 for SCTC as the address range:

```
RCNTLUNIT CUTYPE=3088,ADDRESS=640,FEATURE=32-DEVICE
RDEVICE ADDRESS=(770,16),DEVTYPE=3088
```

These macros are added to the real I/O configuration file called DMKRIO in VM/SP operating system environments.

In a VM/Extended Architecture (VM/XA) or VM/Enterprise Systems Architecture (VM/ESA) operating system environment, only the RDEVICE macro is required:

```
RDEVICE ADDRESS=(770,16),DEVTYPE=CTCA
```

The RDEVICE macro for VM/Extended Communications Adapter (VM/XCA) and VM/ESA is defined in the real I/O configuration file called HCPRIO.

Host XCA Major Node Definition

Next, the router needs a MAC-level transport path to the host. An XCA node definition at the SSCP host provides that transport. The next sample definition allows three links to be created dynamically.

Note: Notice the ADAPNO statements; the value must match that found in the CIP LAN adapter definition. Also notice the SAPADDR statement; the value must match that of the RSAP parameter found in the CIP channel **tn3270-server/pu** configuration command, if it has been specified.

```
XCA800    VBUILD TYPE=XCA

PORT800  PORT    ADAPNO=1,CUADDR=800,SAPADDR=04,MEDIUM=RING,TIMER=50
```

The PORT and GROUP identifiers should be unique. The first AUTOGEN parameter specifies the maximum number of links to create for this Service Access Point (SAP). The CUADDR is the device number for the XCA device (at this host).

Host Switched Network Major Node Definition

The physical units (PUs) to be used by the SSCP host to communicate to the CIP TN3270 server must be in a switched major node definition. This shows several PU definitions that are available for use by the CIP TN3270 server:

```
*****
SWITCHED MAJOR NODE
*****
000001 DLURMPX      VBUILD TYPE=SWNET,MAXDLUR=10
000002 *
000003 CAPPU1  PU    ADDR=02,                                     C
000004          IDBLK=05D,                                       C
000005          IDNUM=18101,                                       C
000006          ISTATUS=ACTIVE,                                     C
000007          LUGROUP=DDDLUGMP,                                   C
000008          LUSEED=CAP01L##,                                    C
000009          MAXPATH=1,                                         C
000010          DLOGMOD=D4A32782,USSTAB=ISTINCDT,                 C
000011          MODETAB=ISTINCLM,SSCPFM=USS3270,                   C
000012          MAXDATA=2052,MAXOUT=2,PACING=7,VPACING=7,PUTYPE=2
000013 CAP01L01 LU   LOCADDR=001
000014 CAP01L02 LU   LOCADDR=002,MODETAB=RSCSTAB,DLOGMOD=RSCSPRT1, C
000015          LOGAPPL=VM
000016 CAP01L03 LU   LOCADDR=003,MODETAB=RSCSTAB,DLOGMOD=RSCSPRT3, C
000017          LOGAPPL=APRSCS
*****
```

There are three things that are being defined in that definition file. The first occurs on the first line and marks the succeeding statements as forming a switched network (SWNET) major node definition. The other two types are PU definitions, and the Logical Unit (LU) definitions found within a given PU. LUs are defined only if certain LOCADDRs must be withheld from use by Dynamic Definition of Dependent LU (DDDLU). By default (on the CIP TN3270 server configuration), all LUs that are not defined statically are eligible for dynamic allocation.

In this SWNET example, a single PU is defined. This PU definition, in turn, is modified by the LU definitions of two static LUs: LOCADDRs 1 and 2. LOCADDR 1 LU (named CAP01L01) has all its characteristics sifted down from the PU definition. The sole purpose of this name it is to keep that LU from being part of the generic pool of LUs to be defined dynamically. This is normally done for printer LUs.

The second LOCADDR (named CAP01L02) also is not allowed to be defined dynamically. In addition, it is tied to a particular controlling primary logical unit (PLU); in other words, an application that is running on the mainframe, such as Customer Information Control System (CICS). This means that the CICS application will redrive the BIND whenever the LU becomes available.

Host LUGROUP Major Node Definition

By default, the CIP TN3270 server uses DDDL. A necessary part of the use of the host DDDL is the dynamic LU definition. In the previous section, both of the T2 PUs (CAPPU1 and CAPPU2) have LUGROUP definitions. Those definitions point to a file that contains these VTAM resource definitions:

```

*****
LUGROUP MAJOR NODE
*****
000001 DDDLUMPX          VBUILD TYPE=LUGROUP
000002 *
000003 DDDLUGMP LUGROUP
000004 *
000005 327904E LU      DLOGMOD=SNX32704 , LOGAPPL=VM,           C
000006                      MODETAB=ISTINCLM , USSTAB=ISTINCDT ,       C
000007                      SSCPFM=USS3270
000008 327804E LU      DLOGMOD=LSX32704 , LOGAPPL=VM,           C
000009                      MODETAB=ISTINCLM , USSTAB=ISTINCDT ,       C
000010                      SSCPFM=USS3270
000011 327904 LU      DLOGMOD=D4A32782 , LOGAPPL=VM,           C
000012                      MODETAB=ISTINCLM , USSTAB=ISTINCDT ,       C
000013                      SSCPFM=USS3270
000014 @ LU          DLOGMOD=D4A32782 , LOGAPPL=VM,           C
000015                      MODETAB=ISTINCLM , USSTAB=ISTINCDT ,       C
000016                      SSCPFM=USS3270
000017*
*****

```

This LUGROUP major node definition tells VTAM that PUs with the clause LUGROUP=SDDDLUGMP can have some or all of their LUs defined on the fly. More specifically, this means that the Reply Product Set IDs (PSIDs) are sent to the host for a given LOCADDR on such PUs. The PSID carries the model number information for the remote TN3270 client, which will get matched by the host to one of the entries in the previous definition.

To illustrate this, suppose a TN3270 client negotiates a session in which the client both does not specify an LU name and does specify IBM-3278-4-E as the terminal type. The terminal type gets transformed to 327804E. Upon receipt of the Reply PSID, the host attempts to match this name with one of the LU model types in the LUGROUP definition. In this case, it matches directly to the previous 327804E definition. Thus, the LU session will have the characteristics set down by the 327804E LU dynamic definition. Any parameters that are found in this definition override parameter definitions of the same name in the PU definition to which the LU is attached.

Router CIP IP Address Subnet Definition

The router needs to define an automatically defined static route to the CIP card. To do this, it needs an IP address and subnet mask:

```

interface Channel2/2
  ip address 10.14.10.33 255.255.255.248

```

The real importance of this address is to define a subnet to the router, so that the CIP card can send and receive IP packets.

Note: This IP address, like IP addresses on the physical channel ports, behaves as a standard multipoint interface and can not be pinged from the router itself. However, the TN3270 server addresses can be pinged.

Router CIP Internal LAN Adapter

Finally, a host XCA major node definition must be configured. It is here that the XCA adapter is defined, to which the host will attach when the Cisco Systems Network Architecture (CSNA) channel path is established:

```

interface channel 2/2
  lan TokenRing 0
  adapter 1 4000.0501.0001

```

Note: The **adapter** number defined here must be the same as the ADAPNO number defined in the XCA node definition in use. The MAC address can be any valid user-defined station address.

Sample Configurations

1. Configuring a Single Host with Single Direct PU Using Dynamic and Static LUs
2. Configuring Two Hosts Using Direct PUs and LUs Configured for Printing
3. Configuring a Single Host for 1000 LUs in an EMIF Mainframe
4. Redundant Cisco TN3270 Servers with HSRP in a Non-DLUR/DLUS Environment Configuration Example
5. Configuring TN3270 Session Switching Via DLUR/DLUS
6. Configuring a TN3270 Server Via DLSw+ to Remote MVS and VM Hosts
7. Configuring Host Redundancy Using TN3270 Session Switching Via DLUR/DLUS
8. Session Switching with DLUR and DLUS Using Static Links and Dynamic PUs

Verify

For further verification information, refer to [tn3270 Server \(Telnet 3270\) Technical Support](#).

Troubleshoot

For further troubleshooting information, refer to [tn3270 Server \(Telnet 3270\) Troubleshooting Steps](#).

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