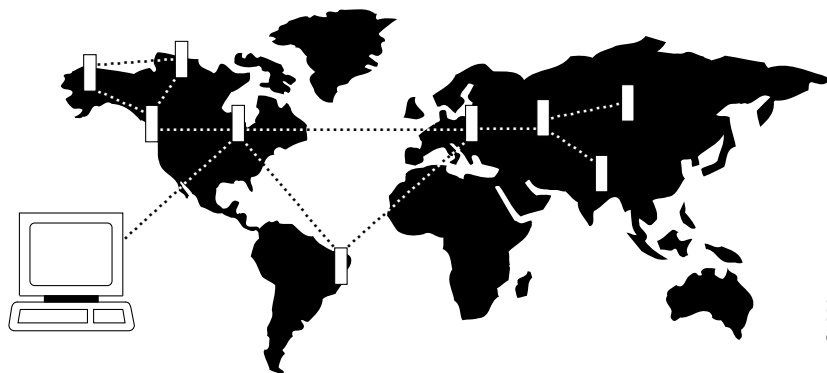


# Managing Structured Networks

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S5266

This chapter describes the commands that relate to domains and structured networks. It also contains basic guidance for setting up a structured network. The functions of the commands in this chapter are to:

- Configure domains and junction nodes
- Delete nodes
- Display nodes, a junction network, domain alarm status, and network routes
- Print a information about a junction network

A structured network is divided into two or more domains. A domain is a group of regular nodes and a single *junction node*. A junction node provides communication from one domain to another domain. Connections cannot originate on a junction node.

## Setting Up a Domain

Setting up a domain requires specification of a junction node and identification of the domains and the nodes in each domain.

- Step 1** Use the **cnfjct** command to establish a junction node in a domain. This command execute at the junction node before any trunks are added from the junction node to other nodes in the domain.
- Step 2** Establish the other nodes in the domain by using the trunk commands to add trunks from the junction node to other nodes in the domain. See Chapter 4 for trunk commands. Not every node in the domain needs to connect directly to the junction node. Other trunks may exist from one non-junction node to another non-junction node in the domain.
- Step 3** Use the **cnfdmn** command to give the domain an identifying number. The **cnfdmn** command can execute at any node within the domain.
- Step 4** After setting up the domains, add trunks between the junction nodes in the domains.

## Summary of Commands

Table 13-1 shows the full name and starting page for the description of each command that is specific to structured networks.

**Table 13-1**

Command	Description	Page
<b>cnfdmn</b>	Configure domain	13-3
<b>cnfjct</b>	Configure junction node	13-4
<b>dspdmns</b>	Display domain alarm status	13-5
<b>dspjctnw</b>	Display junction network	13-7
<b>dspnds</b>	Display all nodes	13-9
<b>dspnwrt</b>	Display network route	13-11
<b>prtjctnw</b>	Print junction network	13-13

# cnfdmn

Assigns a domain number to a node. Enter the **cnfdmn** command at any node in the domain. This command is used before packet lines are added to the other nodes in the domain. The domain name includes the domain number and appears as D1, D2, D3, etc. The domain name precedes the node name and is separated by a period when packet lines are eventually added to other junction nodes. The following command sequence is typical for configuring a junction node:

- **cnfjct** y
- **cnfname** alpha
- **cnfdmn** 1

The first command configures the node as a junction node. The second command is optional: it names the junction node if it is different from the existing name. The third command assigns a number to the domain. The display screen shows the domain name and node names after the trunks are added from the junction node to the other nodes in the domain. In the current example, the junction node name “alpha” subsequently appears as “D1.alpha.”

## Full Name

Configure a domain number

## Syntax

cnfdmn *<domain number>*

## Related Commands

cnfjct, cnfname

## Attributes

Privilege	1
Jobs	Yes
Log	Yes
Node	IPX, IGX, BPX
Lock	Yes

## Example 1 Description

cnfdmn 1

Assign domain number 1 to a node.

**Table 13-2**      **cnfdmn – Parameters**

Parameter	Description
domain number	Specifies a number for a domain. The range is 1–8.

# cnfjct

Specifies a node as a junction node. This command can also delete junction node specification.

## Full Name

Configure junction node

## Syntax

cnfjct <Y/N>

## Related Commands

cnfdmn, cnfname

## Attributes

Privilege	1
Jobs	Yes
Log	Yes
Node	IPX, IGX, BPX
Lock	Yes

## Example 1 Description

cnfjct y

Create a junction node.

## Example 2 Description

cnfjct n

Delete a junction node.

**Table 13-3**      **cnfjct – Parameters**

Parameter	Description
Y/N	Specifies whether junction node status is added to or deleted from a node. “Y” indicates that the node is a junction node. “N” indicates that the node is not a junction node.

# dspdmns

Displays the alarm state of all domains in a structured network. Execute **dspdmns** at any node in a structured network. The display shows only whether the alarm is major or minor. The **dspnds** command indicates nodes with alarms. To investigate alarm conditions on a remote node, use the **vt** command to start a virtual terminal session on the node. Use the **dspalms** command to get information on the alarm conditions at the node. The screen display is dynamic, so clearing an alarm after this command is entered changes the screen display.

## Full Name

Display domain alarm status

## Syntax

dspdmns

## Related Commands

dspnds, dspalms, dspcons

## Attributes

Privilege	1
Jobs	No
Log	No
Node	IPX, IGX, BPX
Lock	No

## Example 1 Description

dspdmns

Display the alarm status of domains in a structured network.

System Response

D3.delta TRM    YourID:1            IPX 16        8.2        Mar. 23 1996 09:55 PST

DomainAlarmJunction Nodes  
1alphazeta  
2betaphaser  
3Minordeltajammer  
4gammatelsa  
5  
6  
7  
8

Last Command: dspdmns

Next Command:

## **dspjctnw**

Displays the interconnection of junction nodes. The **dspjctnw** command can execute at only a junction node. The information consists of the trunk numbers that connect all the junction nodes. For each trunk, the two entries that appear are “from-to” and “to-from.”

### Full Name

Display junction network

### Syntax

dspjctnw [+b | -b] [+z | -z]

### Related Commands

dspnw, prtjctnw

### Attributes

Privilege	1–6
Jobs	No
Log	No
Node	IPX, IGX, BPX
Lock	No

### Example 1 Description

dspjctnw

Display junction network information. The system response in this example is an over-simplified, two-junction network with only one trunk.

System Response

D1.alpha                    TRM    YourID:1                    IPX 16            8.2            Mar. 23 1996 09:55 PST

JunctionAlarmTrunkTrunkTrunk

D2.beta10-9/D1.alpha

alpha9-10/D2.beta

Last Command: dspjctnw

Next Command:

Table 13-4

Parameter	Description
+b	Specifies that only lines that support bursty data are displayed.
-b	Specifies that only lines that do not support bursty data are displayed.
+z	Specifies that only lines that use ZCS encoding are displayed.
-z	Specifies that only lines that do not use ZCS encoding are displayed.



# **dspnds**

Displays the name, type, and alarm status of all nodes within the domain of the node executing the command. The nodes are grouped by domain, with one domain per display. The remote node alarm status is provided on a per-domain basis. Therefore, a virtual terminal session (**vt**) on the remote node is necessary to obtain specific alarm information. If a node is in alarm, its name is highlighted, and the alarm type (major/minor) is displayed. A junction node is identified by the word “Yes” printed under the Jct column.

## **Full Name**

Display all nodes

## **Syntax**

dspnds [+n | -p | -d | domain]

## **Related Commands**

dspnw

## **Attributes**

Privilege	1–6
Jobs	No
Log	No
Node	IPX, IGX, BPX
Lock	No

## **Example 1 Description**

dspnds

Display the alarm status of all nodes within the domain

System Response

```
alpha          TRM   YourID:1          IPX 16      8.2      Mar. 23 1996 09:42 PST

NodeName Alarm
alpha          MAJOR
beta           MAJOR
gamma          MAJOR
```

Last Command: dspnds

Next Command:

**Table 13-5      dspnds – Optional Parameters**

Parameter	Description
domain number	Specifies the domain number (1–8). Only the nodes within the specified domain are displayed.

## dspnwr

Displays the end-to-end network route for a connection or group of connections. Enter the **dspnwr** command at an end point of the connection. The display screen shows a snapshot of the present route for the connection. If a re-route occurs soon after the information appear, the new route does not appear until **dspnwr** is again entered.

### Full Name

Display network route

### Syntax

dspnwr <connection number>

### Related Commands

dspnw, addcongrp, grpcon

### Attributes

Privilege	1–6
Jobs	No
Log	No
Node	IPX, IGX, BPX
Lock	Yes

### Example 1 Description

dspnwr 6.1

Display a network route. The example response illustrates a simplified structured network with a single connection.

System Response

D1.alpha                    TRM    YourID:1                    IPX 16                    8.2                    Mar. 23 1996 09:55 PST

Network Route for 6.1Snapshot

Domain

Local=alpha10-- 7beta

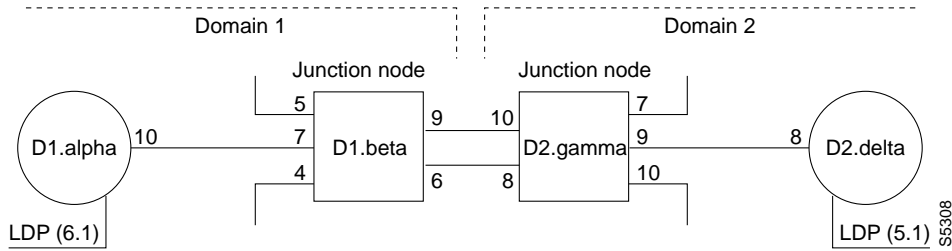
Junction:D1.beta9--10D2.gamma

Remote:gamma9-- 8delta

Last Command: dspnwrt 6.1

Next Command:

The system response is based on the following network topology:



The **dspnwrt** command must be entered at node D1.alpha or D2.delta (the end points of the connection).

Table 13-6      dspnwrt – Optional Parameters

Parameter	Description
connection number	Specifies the connection end point.

## prtjctnw

Prints the interconnection of junction nodes. Enter the **prtjctnw** command at only a junction node. The information consists of the trunk numbers interconnecting all junction nodes. For each trunk, the two entries have the form “from-to” and “to-from.” The **prtjctnw** command uses the same syntax and prints the same information as the **dspjctnw** command.

### Full Name

Print junction network

### Syntax

prtjctnw [+b | -b] [+z | -z]

### Related Commands

dspnw, dspjctnw

### Attributes

Privilege	1–6
Jobs	Yes
Log	No
Node	IPX, IGX, BPX
Lock	Yes

**Table 13-7 prtjctnw – Optional Parameters**

Parameter	Description
+b	Specifies that only lines that support bursty data are displayed.
-b	Specifies that only lines that do not support bursty data are displayed.
+z	Specifies that only lines that use ZCS encoding are displayed.
-z	Specifies that only lines that do not use ZCS encoding are displayed.

