

Network Management Technical FAQ

Core Systems Division

Ascend Communications

Answers to commonly-asked technical questions on network management.

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Q. How can I reduce the font size of the NavisCore display? When I use some of the pport and lport screens, the fonts appear too large?

You need to reset the default font size for X Motif and CDE

1 Create a .Xdefaults file in users home directory.

2. Put following lines in the .Xdefaults file.

```
# Xdefaults for X Motif and CDE
```

```
#
```

```
# The following line accommodates CDE font differences.
```

```
#
```

```
CascadeView*fontList: fixed
```

3. Run OpenView again

Q.How will security controls be implemented in the proposed CNM Gateway product?

The CNM Gateway uses Netscape secure sockets as well as an internally developed encryption algorithm to secure customer sessions with the application. First the customer contacts the web server with their browser. The customer must log into the web server with a password. The web server then establishes a secure socket to the customer's browser and sends the Java applet back through the encrypted socket. The customer then logs into the Java applet for access into the CNM application.

The CNM Gateway should be deployed behind an Ascend firewall application or similar product. The firewall would typically employ filters to limit the types of protocols carried as well as certain address restrictions.

Q.Where can I find on-line documentation for the NavisCore and Xtend products?

All published and draft manuals and release notes are available on the Ascend Intranet at <http://intranet.casc.com/techpubs/index.html>

Q.On what media is the NavisCore and NavisXtend software delivered?

Most applications are delivered on ¼ tape as of Sept 97. This will be converted to CD delivery over the next 3-6 months.

Q.What versions of Solaris does the NavisCore(CascadeView) software support?

The 2.4 release of NavisCore(CascadeView) supports Solaris 2.4 and 2.5.1.

Q. What are the standards supported by CNM Server?

The CNM Server is an SNMP based application that provides supports for: MIB II, the Interfaces Group of RFC 1573, the Frame Relay Services MIB RFC 1604, and the DS1 MIB RFC 1232.

Q. Does CNM Server support SMDS?

There is no explicit SMDS support in the current version of the CNM Server, nor immediate planned support. Support for SMDS can be added if required by customer demand.

Q. Are there any restrictions on lport and circuit naming conventions in NavisCore(CascadeView)?

There are a few global restrictions:

NavisCore (CascadeView) Circuit and Lport names have a maximum size of 64 characters, although in some cases, the application screens may not permit the viewing of the full size name. In these cases the names may be truncated.

Circuit and Lport names should also be contiguous (no spaces) and limited to standard alpha and numeric characters i.e. a-z A-Z 0-9. In addition the period . and underscore _ characters may be used. It is not recommended to use special characters, as these are not explicitly supported.

Q. I deleted the switch icon from the HP OpenView map, but the database still contains the switch....?

Deleting the switch from the HP OpenView map does not delete the underlying database information (unless there is nothing configured on the switch). This is to avoid accidental deletion of the data. In order to delete the switch the operator should first delete the configuration on the switch.

Q. What statistics does Statistics Server for ATM collect ?

Statistics Server collects information on ATM cell trunks, UNI/NNI logical ports, SVC call statistics, and PVC statistics. A list of specific statistics collected (by version 1.0) is found below. Complete descriptions can be found in the Statistics Server documentation set.

ATM Trunk & Lport Statistics

Identifier Object	Definition
ifIndex	The unique interface identifier.
ifOperStatus	The current operational status of the interface.
ifSpeed	The interface's configured bandwidth in bits per second.
lportPrivateNet	The private network (if any) that this logical port belongs to.
lportCustomerID	The customer (if any) that owns this logical port
lportFeeder	Indicates if this port is a feeder for one or more virtual UNI ports. Not reported for SVC statistics.

lportSlotId	The slot number on which this logical port is configured.
lportPportId	The physical port number on which this logical port is configured.
lportFlowControl	Indicates the state of a Flow Control (NRTS) daughter card for this port (if present on the card). Note that this value is not reported for lport SVC statistics.
Total/Peak Object	Definition
InUsrOamCLP01Cells InUsrOamCLP01CellsPeak	The total number/5 min peak of received User and OAM CLP 0+1 cells during the measurement period.
InErrorUsrOamCLP01Cells InErrorUsrOamCLP01CellsPeak	For OC3/DS3/T1, this is a count of the number of cells received/5 min peak during the measurement period with uncorrectable HEC errors. For OC12, this is a count of the number of cells received with correctable HEC errors.
InFcRMCCells InFcRMCCellsPeak	The total number/5 min peak of RM cells received by the Flow Control (NRTS) processor for this port; this count is valid only for logical ports for which a Flow Control daughter card is enabled.
OutUsrOamCLP01Cells OutUsrOamCLP01CellsPeak	The total number/5 min peak of transmitted User and OAM CLP 0+1 cells.
OutDroppedUsrOamCLP01Cells OutDroppedUsrOamCLP01CellsPeak	The total number/5 min peak of dropped User and OAM CLP 0+1 cells.
Utilization Object	Definition
Ingress Utilization	Logical port utilization on inbound side (from the CPE or network)
Ingress Peak Utilization	Logical port utilization during the reported peak period
Egress Utilization	Logical port utilization of the outbound side during the reported period (to the CPE or network)
Egress Peak Utilization	Logical port utilization on outbound side during the reported peak period

ATM UNI Logical Port SVC Call Statistics

Total/Peak Object	Definition
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lportSigStatus	Indicates the state of SVC signaling on the port.
PtPtOrigActiveMin PtPtOrigActiveMax	The min/max of simultaneous active Point-to-Point SVCs originating on this port.
PtPtTermActiveMin PtPtTermActiveMax	The min/max of simultaneous active Point-to-Point SVCs terminating on this port.
PtPtOrigAttempts	The number of Point-to-Point SVC connection attempts originating on this port (as measured by the number of SETUP PDUs received from the CPE).
PtPtTermAttempts	The number of Point-to-Point SVC connection attempts terminating on this port (as measured by the number of SETUP PDUs received from the network).
PtPtNetworkRej	The number of Point-to-Point SVC connection attempts, originating on this port, which were rejected for any reason <u>other than</u> remote user reject.
PtPtOrigUserRej	The number of Point-to-Point SVC connection attempts, originating on this port, which were rejected by the remote user.
PtPtTermUserRej	The number of Point-to-Point SVC connection attempts, terminating on this port, which were rejected by the local user.
PtPtOrigFailures PtPtTermFailures	The number of Point-to-Point SVC connections, originating/terminating on this port, which failed after the connection went active (i.e., for any reason other than the user explicitly dropping the connection).
PtMPtOrigActiveConnMin PtMPtTermActiveConnMax	The min/max simultaneous active Point-to-Multipoint SVC legs originating on this port.
PtMPtTermActiveConnMin PtMPtOrigActiveConnMax	The min/max simultaneous active Point-to-Multipoint SVC legs terminating on this port.
PtMPtOrigActivePartiesMin PtMPtOrigActivePartiesMax	The min/max simultaneous active Point-to-Multipoint SVC parties originating on this port.
PtMPtTermActivePartiesMin PtMPtTermActivePartiesMax	The min/max simultaneous active Point-to-Multipoint SVC parties terminating on this port.
PtMPtOrigConnAttempts PtMPtTermConnAttempts	The number of Point-to-Multipoint SVC connection/termination SETUP attempts originating on this port.
PtMPtOrigPartyAttempts PtMPtTermPartyAttempts	The number of Point-to-Multipoint SVC connection/termination ADD PARTY attempts originating on this port.
PtMPtOrigNetworkConnRej	The number of Point-to-Multipoint SVC connection SETUP attempts, originating on this port, which were rejected for any reason <u>other than</u> remote user reject.
PtMPtOrigNetworkPartyRej	The number of Point-to-Multipoint SVC connection ADD PARTY attempts, originating on this port, which were rejected for any

	reason <u>other than</u> remote user reject.
PtMPtOrigRemUserConnRej	The number of Point-to-Multipoint SVC connection SETUP attempts, originating on this port, which were rejected by the remote user.
PtMPtOrigRemUserPartyRej	The number of Point-to-Multipoint SVC connection ADD PARTY attempts, originating on this port, which were rejected by the remote user.
PtMPtTermUserConnRej	The number of Point-to-Multipoint SVC connection SETUP attempts, terminating on this port, which were rejected by the local user.
PtMPtTermUserPartyRej	The number of Point-to-Multipoint SVC connection ADD PARTY attempts, terminating on this port, which were rejected by the local user.
PtMPtOrigConnFailures PtMPtTermConnFailures	The number of Point-to-Multipoint SVC connections, originating/terminating on this port, which failed after the connection went active. This count includes only the legs resultant from initial SETUP requests.
PtMPtOrigPartyFailures PtMPtTermPartyFailures	The number of parties dropped from originating/terminating Point-to-Multipoint SVC connections which failed after the connection went active.

ATM Permanent Virtual Circuit Statistics

Identifier Object	Definition
cktSrcIfIndex	The interface number of the logical port that the circuit is subscribed
cktAtmVPI	The circuit's VPI
cktAtmVCI	The circuit's VCI
cktPrivateNet	The private network (if any) that this trunk belongs to.
cktCustomerID	The customer (if any) that owns this trunk
cktOperStatus	The operational status of the circuit at the time that the statistics were gathered.
cktFlowControl	Indicates if this circuit is routed through the Flow Control daughter card on this IOM.
cktAtmUserPlane	Indicates if the circuit is a point-to-point or a point-to-multipoint circuit.
cktATMQos	The quality of service (QOS) for the ingress direction of the circuit.
cktATMRQos	The quality of service (QOS) for the egress direction of the circuit.

Statistics	Definition
InPassedUsrOamCLP0Cells InPassedUsrOamCLP0Peak	The total number/5 min peak of received User and OAM CLP 0 cells that passed UPC screening during the measurement period.
InPassedUsrOamCLP1Cells InPassedUsrOamCLP1CellsPeak	The total number/5 min peak of received User and OAM CLP 1 cells that passed UPC screening during the measurement period.
InDroppedUsrOamCLP0Cells InDroppedUsrOamCLP0CellsPeak	The total number/5 min peak of User and OAM CLP 0 cells that were received and dropped by UPC during the measurement period.
InDroppedUsrOamCLP1Cells InDroppedUsrOamCLP1CellsPeak	The total number/5 min peak of User and OAM CLP 1 cells that were received and dropped by UPC during the measurement period.
InTaggedUsrOamCells InTaggedUsrOamCellsPeak	The total number/5 min peak of received and tagged User and OAM cells during the measurement period.
OutUsrCLP0Cells OutUsrCLP0CellsPeak	The total number/5 min peak of User CLP 0 cells that were transmitted during the measurement period.
OutUsrCLP1Cells OutUsrCLP1CellsPeak	The total number/5 min peak of User CLP 1 cells that were transmitted during the measurement period.
OutOamCLP0Cells OutOamCLP0CellsPeak	The total number/5 min peak of OAM CLP 0 cells that were transmitted during the measurement period.
OutOamCLP1Cells OutOamCLP1CellsPeak	The total number/5 min peak of OAM CLP 1 cells that were transmitted during the measurement period.
OutDropFcUsrOamCLP0Cells OutDropFcUsrOamCLP0CellsPeak	The total number/5 min peak of CLP 0 cells (user and OAM) received from the switching fabric and discarded by the Flow Control (NRTS) card, if this circuit passes through the Flow Control daughter card.
OutDropFcUsrOamCLP1Cells OutDropFcUsrOamCLP1CellsPeak	The total number/5 min peak of CLP 1 cells (user and OAM) received from the switching fabric and discarded by the Flow Control (NRTS) card, if this circuit passes through the Flow Control daughter card.

Q. What are the hardware platform requirements for Statistics Server?

The server requirements for any of the NavisXtend servers can be found on the datasheets (www.ascend.com in the product section)

The Statistics Server requirements are

Hardware Required for StatS	Sun SPARC or UltraSPARC
	128 MB RAM
	2.1 GB Hard Disk; The disk space required to store collected statistics varies by network size
	¼ tape drive
Software Required for StatS	Solaris 2.4 or higher
	NavisCore/UX version 2.2 or higher
	Sybase version 11 or higher

The size of the hardware platform required will vary by the size of the network. More information is available in the Statistics Server Collector Users Guide. The Professional Services group is available to help with server sizing.

Q. Can I run Statistics Server and NavisCore (CascadeView) together on one platform?

If the network is small (under 5 nodes), the two applications can be run together. This is not recommended for larger networks, although the size of the hardware platform (for example high-end Sparcstation with lots of RAM, multiple processors and several GBs of hard disk will support a larger network). The Professional Services group is available to help with server sizing.

Q. How can I measure network and circuit availability in an Ascend network?

There are several statistics and traps which are available to measure network availability. The most accurate way to measure availability today is through correlation of SNMP traps.

The cktDlciStatusChange traps are sent any time a PVC in the network changes state. They provide real-time data that accurately reflects a PVCs availability. Several statistics are returned along with the trap: cktSrcIciIndex, cktSrcDlci, cktOperStatus, cktFailReason, cktFailNode, cktFailPort. The trap can be received by any SNMP trap application, including the HP OpenView event browser, the HP OpenView trapdlog file, or through the NavisXtend Fault Server. The cktFailReason (sent with the trap) by can be used to obtain the cause of the problem and to properly indicate if the problem was induced by the network. These traps can then be correlated to determine circuit up and down times.

Q. What is Ascend's direction with regard to TMN?

Ascend is committed to providing network management products that can be fully integrated into service provider TMN architectures. Currently Ascend's management systems offer several standard and documented APIs for integration with Service Level Managers. Ascend is also working with other members of the networking community, through the Network Management Forum, to help refine the implementation specifics of the TMN standards.

Q.Are CPU and resource statistics available for the switches?

Ascend provide full resource utilization data (CPU, IOP, SP) in compliance with SNMP MIB II. This data is available through any standard SNMP manager. There are current plans to incorporate this data into our Statistics and Reporting applications. Planned availability for this enhancement is Q3 98.

Q. Does Standby Server require a dedicated hardware platform?

Yes, a dedicated machine is required for the back-up Sybase database; the Standby Server applications can also run on this system

Q. What does Standby Server replicate?

Standby Server replicates the data in the NavisCore (CascadeView) database. This includes all configuration information.

Q. What percentage of a Management-Only trunk is actually used to carry NMS traffic?

When a Management-Only truck is defined, the entire trunk is used to carry NMS traffic. If a Normal Trunk is defined, both user data and NMS traffic can be carried. In this case, 5% of the trunk is reserved for NMS traffic, but the full amount of bandwidth on the trunk can be used if it is available. If the trunk is oversubscribed, the 5% will not be guaranteed.

Q. Will a Management PVC be connected over a Management-Only trunk, as in the case of managing nodes across LATA's?

Yes.

Q. Is there a way to give SNMP traffic a higher priority over TFTP management traffic? The concern is that the NMS might loose communication to a node while a Statistics Server file is being dumped.

There is no way to give SNMP traffic a priority, but Fault Server and the newer releases of switch code do sequence traps to help ensure delivery.

Q. Where can I find information on hardware platform sizing for NavisCore (CascadeView)?

This information is detailed in the "Network Management Station Installation Guide", which is also available on the intranet at <http://intranet/techpubs/released/released.html>

Q. Can a single Report Generator application be configured to point to multiple NMS Configuration DBs and multiple Statistics Server DBs?

Yes, one Report Generator can draw from multiple databases. The configuration must be set up to allow for reports to be specified from the different database. Specifically, each database must have a distinct entry in its interface file. Then when a report is run, it is targeted to a specific database. A report cannot be run that consolidates data from different target databases.

Q. How quickly can the Fault Server processing incoming events?

The Fault Server can process traps/events/alarms at the rate of 2.3 traps/sec sustained. It can forward traps at the rate of 15/second if no processing is required.

Q.Can I run NavisAccess, NavisCore, and NavisXtend servers on a single hardware platform?

Yes, all of the applications can be run under Solaris UNIX on a single platform with HP OpenView for smaller networks. The only exception is that Fault Server cannot be run in conjunction with OpenView, since both applications contend for the SNMP listen port. Larger networks will want to separate the applications across dedicated platforms.