



# DXi-Series SNMP Reference Guide

---

This document contains the following topics:

About the DXi SNMP Reference Guide .....	2
SNMP Configuration for DXi .....	4
About the DXi SNMP Agent and Quantum MIB .....	10
SNMP Traps .....	18
SNMP Trap Severity .....	53

---

© 2017 Quantum Corporation. All rights reserved. Your right to copy this manual is limited by copyright law. Making copies or adaptations without prior written authorization of Quantum Corporation is prohibited by law and constitutes a punishable violation of the law. Artico, Be Certain (and the Q brackets design), DLT, DXi, DXi Accent, DXi V1000, DXi V2000, DXi V4000, DXiV-Series, FlexSpace, FlexSync, FlexTier, Lattus, the Q logo, the Q Quantum logo, Q-Cloud, Quantum (and the Q brackets design), the Quantum logo, Quantum Be Certain (and the Q brackets design), Quantum Vision, Scalar, StorageCare, StorNext, SuperLoader, Symform, the Symform logo (and design), vmPRO, and Xcellis are either registered trademarks or trademarks of Quantum Corporation and its affiliates in the United States and/or other countries. All other trademarks are the property of their respective owners. Products mentioned herein are for identification purposes only and may be registered trademarks or trademarks of their respective companies. All other brand names or trademarks are the property of their respective owners. Quantum specifications are subject to change.

---

# About the DXi SNMP Reference Guide

Simple Network Management Protocol (SNMP) is a light-weight protocol designed for remote management and monitoring of network devices. DXi-Series systems (DXi V-Series, DXi4000, DXi6000, and DXi8500) provide SNMP support to use in monitoring the status of the system.

SNMP works by sending messages from SNMP managers on a host system to different parts of a network. SNMP compliant devices, called agents, store data about the devices in Management Information Bases (MIBs). The agents then return this data to the SNMP managers.

You can configure the DXi SNMP agent to generate alerts, called traps, each time that a service ticket is created. The agent then sends the traps to the SNMP manager on a specified host system.

**i Note:** For more information about service tickets, see the **Service Tickets** topic in your DXi Online Help or DXi User's Guide.

## Supported SNMP Functionality

The DXi supports specific SNMP functionality, allowing it to receive GET requests and send unicast traps. In addition, all DXi MIB variables are supported by Quantum for remote management of the system. Review the following list of specific SNMP features included in DXi-Series systems.

### SNMP Features

- SNMP version 2c for MIB information retrieval.
- SNMP v2 traps as defined by RFC 1157.

You can set the system to report SNMP traps v2. The timeout settings for SNMP requests to the system must be set to 10 seconds or greater (command line parameter-t).

- SMIv2 compliance only.
- Usage of port 161 for GET requests.
- Default community read/trap strings: publicCmtyStr.
- Trap Registration interface in the system's remote web client.

Use this interface to configure application IP addresses, transport protocols, and user-configurable UDP port numbers to receive traps.

### SNMP Information Support

DXi supports SNMP version 2c for MIB information retrieval. To access the system for SNMP information support, use the following value in the remote management application.

**Note:** For secure access to the system using SNMP, disable SNMP v2c access from the remote management console.

Field	Value
User name	Admin
Context name	Leave blank
Authentication protocol	MD5
Privacy protocol	Leave blank
Password	Your Admin password

## Terms

Review the following terms used throughout this guide.

### SNMP Manager

The SNMP manager resides on the host system from which you monitor the DXi. The manager sends GET requests and receives traps. See [SNMP Configuration for DXi on the next page](#).

### SNMP Agent

The SNMP agent resides on the DXi being monitored by the SNMP manager. The DXi SNMP agent automatically gathers predefined system alerts, and then sends these alerts as traps to the manager. See [About the DXi SNMP Agent and Quantum MIB on page 10](#) and [SNMP Configuration for DXi on the next page](#).

### Protocol Data Unit (PDU)

A PDU is included in each message sent between the SNMP manager and the SNMP agent. PDUs contain variable bindings fields that define the information being requested or sent. See [SNMP Traps on page 18](#).

### Management Information Base (MIB)

A MIB is a collection of information about DXi objects, such as the online status of partitions. This information defines the data that the SNMP manager can monitor by submitting GET requests or receiving traps. See [About the DXi SNMP Agent and Quantum MIB on page 10](#).

### Community Strings

Community strings act as passwords to authenticate messages sent between the SNMP manager on

the host system and the SNMP agent on the DXi. See [Adding Community Strings on page 7](#).

### **GET Requests**

GET requests are initiated from the SNMP manager and sent to the SNMP agent to gather status information about specific components of the DXi. See [SNMP Configuration for DXi below](#).

### **Traps**

Traps are predefined status alerts about the DXi. Each time a service ticket is created for the DXi, the SNMP agent automatically collects these alerts and sends them as traps to the SNMP manager. See [Configuring SNMP Traps on the next page](#).

---

## SNMP Configuration for DXi

Before monitoring your DXi system through SNMP, you need to configure your DXi to send traps from its agent and receive GET requests from the manager.

### DXi SNMP Agent

Configure the DXi SNMP agent to collect and send traps, and to receive GET requests on port 161. In addition, you need to create SNMP communities to define manager-to-agent relationships, which include community strings to authenticate communication between the manager and agent.

See the following topics for instructions on configuring the DXi SNMP agent:

- [Configuring SNMP Traps on the next page](#)
- [Adding Community Strings on page 7](#)

### SNMP Management Software

The DXi does not provide the SNMP management client software. You must provide your own SNMP manager, and configure it on a host system to communicate with the DXi SNMP agent.

Refer to the documentation that came with your SNMP management client software for configuration instructions. To access the DXi MIB file for uploading into the SNMP management client software, see [Viewing the DXi MIB File on page 16](#)

### **GET Requests**

The SNMP manager can periodically initiate GET requests to the MIB on the DXi. By querying the MIB, the SNMP manager can gather status information about specific components of the DXi.

However, because the SNMP agent is event-driven, frequent GET requests are not required, and in fact, we recommend limiting the frequency of GET requests. As with any SNMP device, excessive MIB queries can result in performance degradation for both the SNMP daemon and the network.

### Instance ID

When you issue GET requests from the manager, include an instance ID to identify the specific device from which to retrieve status information.

### Example

To determine whether the second partition on a DXi is online, access the MIB variable for the **system online** status and select the instance for partition 2.

## Configuring SNMP Traps

The DXi SNMP agent automatically collects traps when service tickets are created. The agent then sends the traps to the registered SNMP manager.

### Considerations

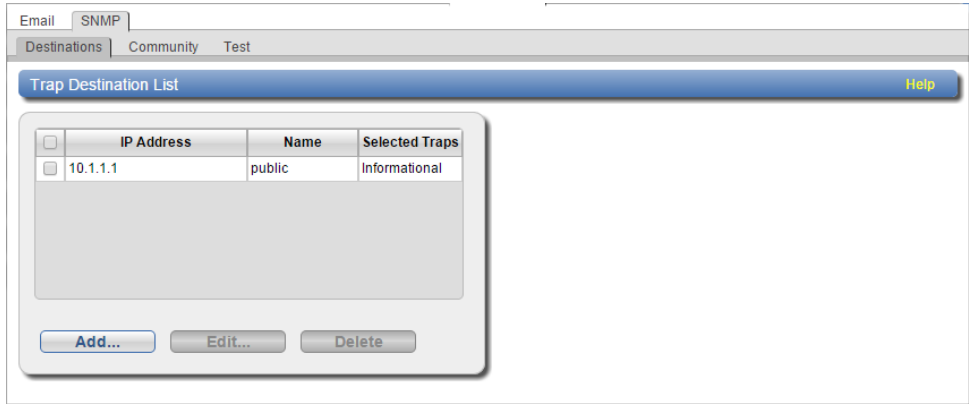
Review the following considerations before configuring the DXi to send traps.

- The DXi-Series systems support SNMP v2 traps as defined by RFC 1157. You must set the timeout settings for SNMP requests to the system to 10 seconds or greater (command line parameter-t).
- Only one application per UDP port can listen for traps.

## Configure SNMP traps

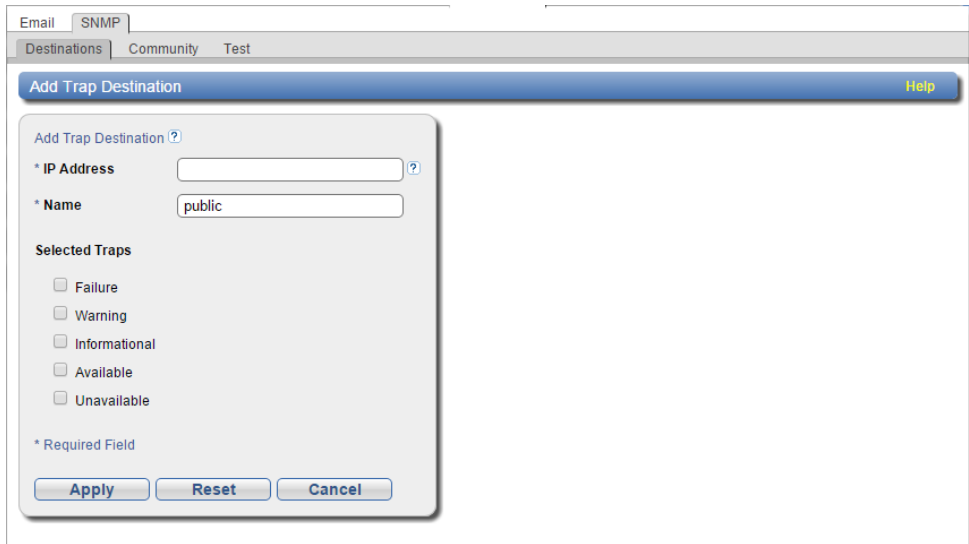
1. From the DXi remote management console, select **Configuration > Notifications > SNMP > Destinations** to display the **Trap Destination List** page.

**Figure 1: Trap Destination List Page**

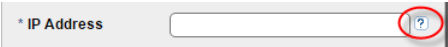


2. Click **Add** to display the **Add Trap Destination** page.

**Figure 2: Add Trap Destination Page**



## 3. Populate the following fields:

Field	Description
<b>IP Address</b>	<p>Enter the IP address of the host system on which the SNMP manager resides. This system receives the traps generated by the DXi SNMP agent.</p> <p><b>i</b> <b>Note:</b> When entering IP addresses, never use an address that is in a reserved IP address range. To see a list of reserved IP address ranges, click the <b>Quick Tip</b> icon.</p> <p><b>Figure 3: Quick Tip Icon</b></p> 

<b>Name</b>	Enter the name of the host system on which the SNMP manager resides.
<b>Selected Traps</b>	<p>Select one or more types of traps to send from the DXi SNMP agent to the host system.</p> <ul style="list-style-type: none"> <li>• <b>Failure</b> – Sends a trap when the system fails.</li> <li>• <b>Warning</b> – Sends a trap when the system is in distress.</li> <li>• <b>Informational</b> – Sends a non-distress trap regarding the system's state.</li> <li>• <b>Available</b> – Sends a trap when the system transitions from an unavailable to an available state.</li> <li>• <b>Unavailable</b> – Sends a trap when the system transitions from an available to an unavailable state.</li> </ul>

4. Click **Apply** to configure the trap.

## Adding Community Strings

An SNMP community string is a text string that acts as a password to authenticate messages sent between the SNMP manager and the SNMP agent. You must configure a community string for each SNMP community (manager-to-agent relationship) so that the DXi can send traps and receive GET requests.

### Considerations

Review the following information before adding a community string.

#### Format

The community string is included in every SNMP v2C packet transmitted between the SNMP manager

and the SNMP agent. This string is case sensitive, cannot be empty, and cannot exceed 32 characters.

### Request Matches

SNMP GET and GET-next requests are valid only if the community string sent in the request from the manager matches the community string defined at the agent. If the community strings do not match, do one of the following:

- Modify the community string at the agent so that it is the string expected from the manager.
- Modify the manager so that it uses the agent's community strings.

### IP Address and Network Mask Address Pairs

An IP address and network mask pair is valid if the logical bitwise **AND** operation being performed on the IP address and network mask results in the IP address ( $Y \text{ AND } 1 = Y$ ).

- i Note:** If you define a single community and set both the IP address and network mask to **0.0.0.0**, or leave both blank, then IP address-based access control is disabled. In such cases, the SNMP agent is accessible from any IP address.

### Examples of Valid and Invalid Pairs

The following table shows both valid and invalid IP address and network mask pairs.

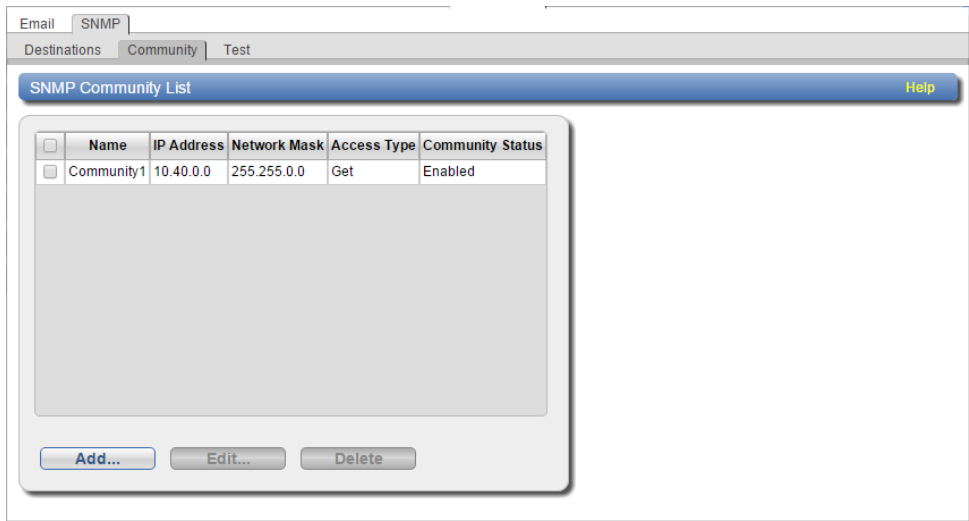
IP Address and Network Mask Pair	Result
10.40.166.87 AND 255.255.255.255	<b>Valid:</b> IP address AND network mask pair results in <b>10.40.166.87</b>
10.40.166.87 AND 10.40.166.87	<b>Valid:</b> IP address AND network mask pair results in <b>10.40.166.87</b>
10.40.166.87 AND 10.40.166.0	<b>Invalid:</b> IP address AND network mask pair does not result in <b>10.40.166.87</b>
10.40.166.87 AND 255.255.0.0	<b>Invalid:</b> IP address AND network mask pair does not result in <b>10.40.166.87</b>
10.40.0.0 AND 255.255.0.0	<b>Valid:</b> IP address AND network mask pair results in <b>10.40.xx.xx</b>

## Add a community string

1. From the DXi remote management console, select **Configuration > Notifications > SNMP > Community** to display the **SNMP Community List** page.

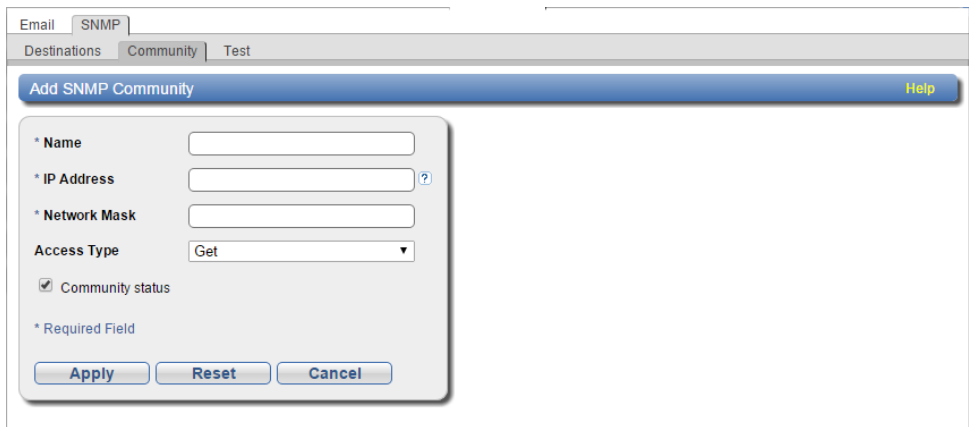


**Figure 4:** SNMP Community List Page



2. Click **Add** to display the **Add SNMP Community** page.

**Figure 5:** Add SNMP Community Page



3. In the **Name** field, enter a unique name — up to 20 characters — for the community string.
4. In the **IP Address** and **Network Mask** fields, enter a valid IP address and network mask pair. See [Considerations](#) above.

**Note:** When entering IP addresses, never use an address that is in a reserved IP address range. To see a list of reserved IP address ranges, click the **Quick Tip** icon.

Figure 6: Quick Tip Icon



5. From the **Access Type** drop-down list, select the access type for the community.

Access Type	Description
Get	Allows SNMP GET operations.
Get/Set	Allows both SNMP GET and PUT operations.

6. Select the **Community status** check box to enable the community string.
7. Click **Apply** to add the community string.

## About the DXi SNMP Agent and Quantum MIB

Your DXi operating system runs Linux, and the DXi SNMP agent is the Net-SNMP 5.7.1. Whenever a request comes in to the DXi SNMP agent, the agent parses the request and decides how to process it, as follows:

- If the request is for non-Quantum specific MIB objects such as the MIB-II (defined in rfc1213), the DXi SNMP agent responds directly to the request.
- If the request is for a Quantum specific MIB object, the DXi SNMP agent passes the data to the DXi SNMP subagent that processes all Quantum specific MIB objects. The DXi SNMP subagent processes the request and returns the data to the DXi SNMP agent.

### Quantum SNMP MIB

The DXi SNMP agent that supports the DXi system also supports the general Quantum MIB, **QUANTUM-SNMP.MIB**. The following illustrates the structure of the Quantum MIB object ID.

**Note:** The DXi SNMP agent also supports MIBII, SNMPv2, and UCD MIBs by default.

#### Structure

```
.iso (1) .org (3) .dod (6) .internet (1) .private (4) .enterprise (1) .atlp  
(2036) .quantum (2) .quantumsnmp (1)
```

or

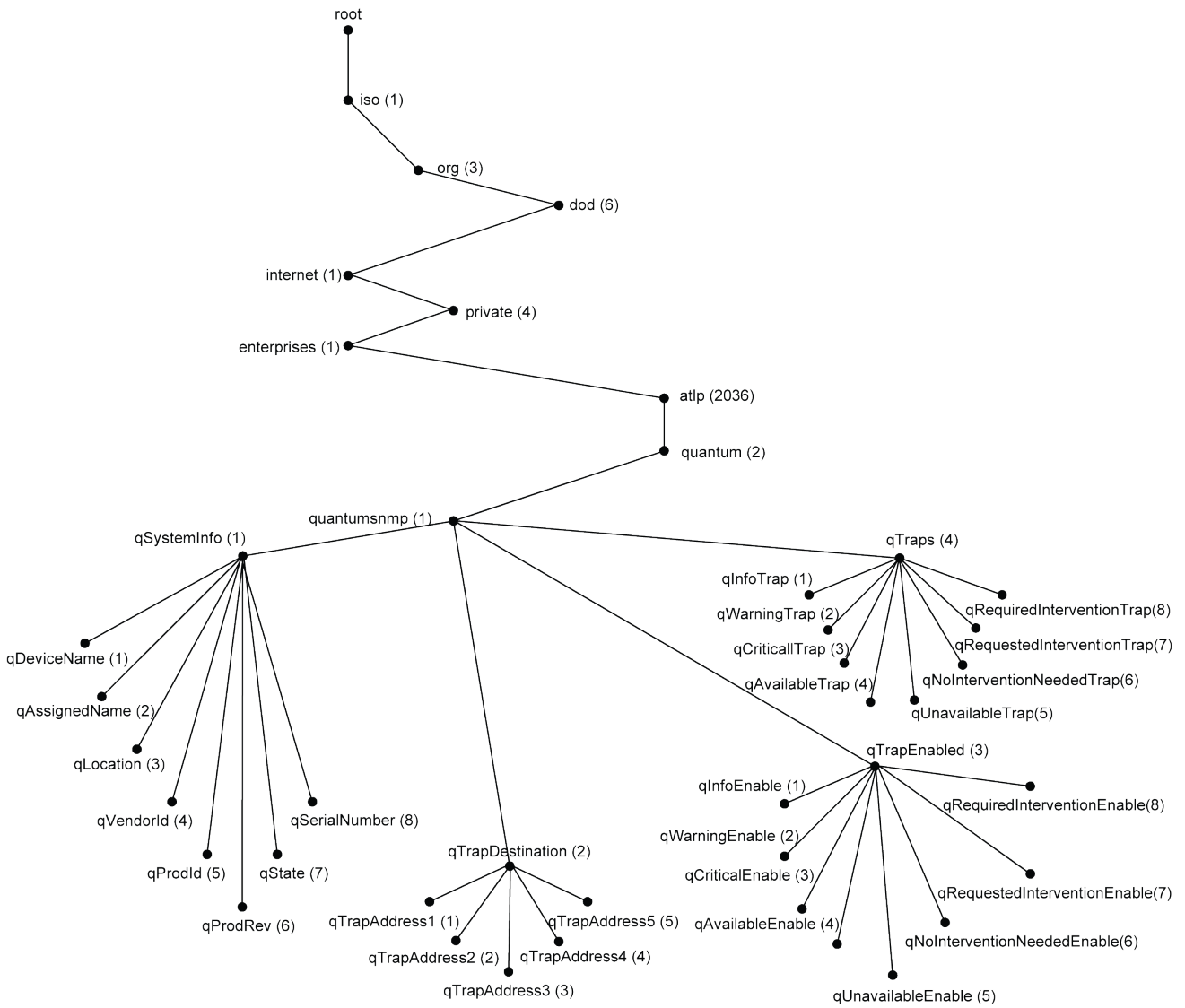
.1.3.6.1.4.1.2036.2.1

### Quantum SNMP MIB Groups

Four groups exist under the Quantum SNMP MIB tree.

<b>qSystemInfo</b>	.1.3.6.1.4.1.2036.2.1.1
<b>qTrapDestination</b>	.1.3.6.1.4.1.2036.2.1.2
<b>qTrapEnable</b>	.1.3.6.1.4.1.2036.2.1.3
<b>qTraps</b>	.1.3.6.1.4.1.2036.2.1.4

**Figure 7: Quantum SNMP Object ID**



## Quantum SNMP MIB Groups

The following groups exist under the Quantum SNMP MIB tree.

## Object Categories

Each group is comprised of a set of objects. These objects fit into one of the following categories.

### Read-Only (RO)

The SNMP manager can initiate only GET queries to RO objects.

### Read-Write (RW)

The SNMP manager can initiate both GET and SET queries to RW objects.

### Accessible-For-Notify

The SNMP manager cannot initiate either GET or SET queries to accessible-for-notify objects. Instead, these objects contain the information sent in notifications or traps.

## qSystemInfo Group

DXi supports the following 8 objects of the **qSystemInfo** group. These objects provide information about the DXi system.

Object	Description	Object Category	Object ID
<b>qDeviceName</b>	The host name of the device.	RO	.1.3.6.1.4.1.2036.2.1.1.1
<b>qAssignedName</b>	The emulated storage library name. If none is given, the default value is the name of the device.	RW	.1.3.6.1.4.1.2036.2.1.1.2
<b>qLocation</b>	The location of the DXi. If non is provided, the value is an empty string.	RW	.1.3.6.1.4.1.2036.2.1.1.3
<b>qVendorId</b>	The manufacturing vendor ID.	RO	.1.3.6.1.4.1.2036.2.1.1.4
<b>qProdId</b>	The product model number.	RO	.1.3.6.1.4.1.2036.2.1.1.5
<b>qProdRev</b>	The product revision number.	RO	.1.3.6.1.4.1.2036.2.1.1.6
<b>qState</b>	The current state of the emulated storage library.	RO	.1.3.6.1.4.1.2036.2.1.1.7
<b>qSerialNumber</b>	The serial number of the Quantum device.	RO	.1.3.6.1.4.1.2036.2.1.1.12

## qTrapDestination Group

DXi supports the following 5 objects in the **qTrapDestination** group. These objects contain the IP addresses of the SNMP manager's host systems to which traps will be sent.

Object	Description	Object Category	Object ID
<b>qTrapAddress1</b>	The IP address of the first SNMP manager's host system.	RW	.1.3.6.1.4.1.2036.2.1.2.1
<b>qTrapAddress2</b>	The IP address of the second SNMP manager's host system.	RW	.1.3.6.1.4.1.2036.2.1.2.2
<b>qTrapAddress3</b>	The IP address of the third SNMP manager's host system.	RW	.1.3.6.1.4.1.2036.2.1.2.3
<b>qTrapAddress4</b>	The IP address of the fourth SNMP manager's host system.	RW	.1.3.6.1.4.1.2036.2.1.2.4
<b>qTrapAddress5</b>	The IP address of the fifth SNMP manager's host system.	RW	.1.3.6.1.4.1.2036.2.1.2.5

## qTrapEnable Group

DXi supports the following 8 objects in the **qTrapEnable** group. These objects determine whether the specific type of trap is sent to the defined SNMP manager(s). If the object value is set to **1**, the trap is not sent. If the object value is set to **2**, the trap is sent.

Object	Description	Object Category	Object ID
<b>qInfoEnable</b>	Determines whether the device sends Informational notifications.	RW	.1.3.6.1.4.1.2036.2.1.3.1
<b>qWarningEnable</b>	Determines whether the device sends Warning notifications.	RW	.1.3.6.1.4.1.2036.2.1.3.2
<b>qCriticalEnable</b>	Determines whether the device sends Critical notifications.	RW	.1.3.6.1.4.1.2036.2.1.3.3
<b>qAvailableEnable</b>	Determines whether the device sends notifications when the library is available.	RW	.1.3.6.1.4.1.2036.2.1.3.4

Object	Description	Object Category	Object ID
<b>qUnavailableEnable</b>	Determines whether the device sends notifications when the library is unavailable.	RW	.1.3.6.1.4.1.2036.2.1.3.5
<b>qNoInterventionNeededEnable</b>	Not used by DXi.	RW	.1.3.6.1.4.1.2036.2.1.3.6
<b>qRequestedInterventionEnable</b>	Not used by DXi.	RW	.1.3.6.1.4.1.2036.2.1.3.7
<b>qRequiredInterventionEnable</b>	Not used by DXi.	RW	.1.3.6.1.4.1.2036.2.1.3.8

## qTraps Group

DXi supports the following 8 objects in the **qTraps** group. These objects represent the 8 different types of v2 traps, and contain the following information: **qAssignedName**, **qSenseKey**, **qAsc**, **qAscq**, and **qTrapDescription**.

Object	Description	Object Category	Object ID
<b>qInfoTrap</b>	Informational traps are sent if <b>qInfoEnable</b> is enabled.	Accessible-For-Notify	.1.3.6.1.4.1.2036.2.1.4.1
<b>qWarningTrap</b>	Warning traps are sent if <b>qWarningEnable</b> is enabled.	Accessible-For-Notify	.1.3.6.1.4.1.2036.2.1.4.2
<b>qCriticalTrap</b>	Critical traps are sent if <b>qCriticalEnable</b> is enabled.	Accessible-For-Notify	.1.3.6.1.4.1.2036.2.1.4.3
<b>qAvailableTrap</b>	Available traps are sent if <b>qAvailableEnable</b> is enabled.	Accessible-For-Notify	.1.3.6.1.4.1.2036.2.1.4.4
<b>qUnavailableTrap</b>	Unavailable traps are sent if <b>qUnavailableEnable</b> is enabled.	Accessible-For-Notify	.1.3.6.1.4.1.2036.2.1.4.5
<b>qNoInterventionNeededTrap</b>	Not used by DXi.	Accessible-For-Notify	.1.3.6.1.4.1.2036.2.1.4.6
<b>qRequestedInterventionTrap</b>	Not used by DXi.	Accessible-For-Notify	.1.3.6.1.4.1.2036.2.1.4.7
<b>qRequiredInterventionTrap</b>	Not used by DXi.	Accessible-For-Notify	.1.3.6.1.4.1.2036.2.1.4.8

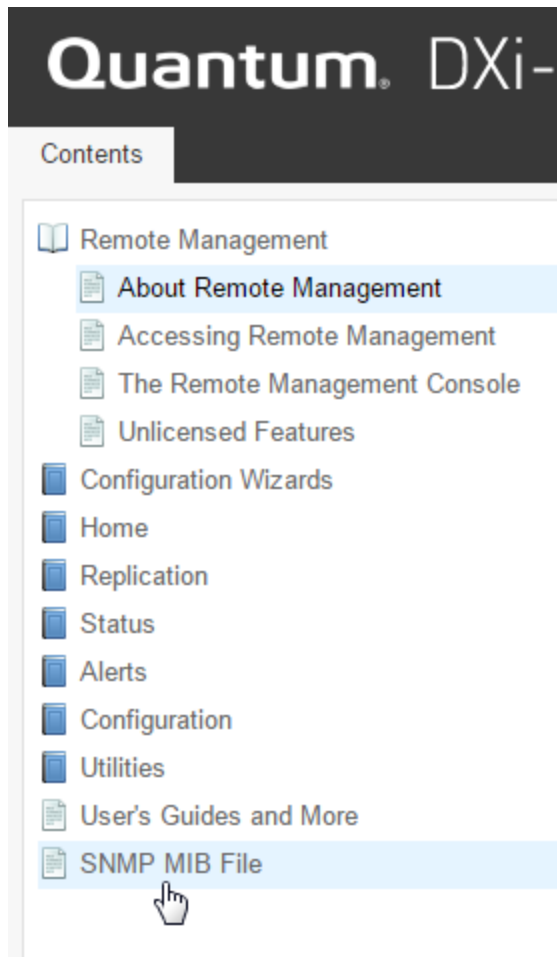
## Viewing the DXi MIB File

You can view the MIB file for your DXi from the Remote Management console.

### View the MIB file for your DXi

1. From the DXi Remote Management console's drop-down **Help** menu, select **Help Contents** to display the **DXi-Series Online Help**.

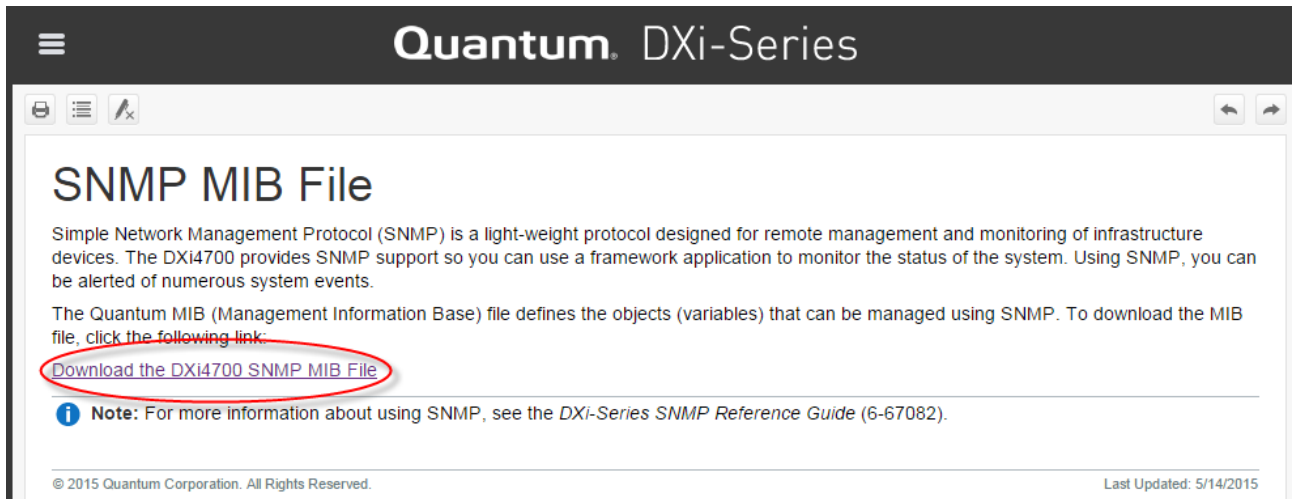
**Figure 8:** Online Help Contents





2. In the **Contents** tab, select **SNMP MIB File** to display the **SNMP MIB File** topic.

**Figure 9:** SNMP MIB File Topic



3. Select the **Download the DXixxxx SNMP MIB File** link to display the **Quantum\_SNMP-MIB Definitions** file.

**Figure 10:** Quantum\_SNMP-MIB Definitions File

```
QUANTUM-SNMP-MIB DEFINITIONS ::= BEGIN
--
--
-- Last changed: 6-24-2011
-- Author: Sunil Mohanty
--
-- Last changed: 9-6-2005
-- MMH Added serial number to the system info group
-- Last changed: 9-20-2003
-- Author: Pauline Boyd
--
-- Import required symbols from standard definitions
--

IMPORTS
    OBJECT-TYPE, MODULE-IDENTITY, NOTIFICATION-TYPE,
    Integer32, enterprises, IPAddress
    FROM SNMPv2-SMI
```

---

# SNMP Traps

When there is a change or failure in an individual component on the DXi, a service ticket is created, which in turn generates an SNMP trap. This section presents the service ticket events that generate traps and the DXi components against which the traps are reported.

The default SNMP trap severity (Trap\_Level) can be modified by the (see [SNMP Trap Severity on page 53](#)).

## Service Tickets

Service tickets are always reported against the violating field replaceable units (FRUs). The reporting FRU can be either of the following:

- The violating FRU itself.
- A peer FRU that has determined the violating FRU is in a bad state.

Service tickets can report both the violating FRU and the parent of the violating FRU. For more information about service tickets, see the **Service Tickets** topic in your DXi Online Help or DXi User's Guide.

## DXi SNMP Traps by Component

Click the links to review DXi SNMP traps by component.

- [I/O Server Traps on page 20](#)
- [Storage Traps on page 22](#)
- [Ethernet Traps on page 26](#)
- [Fibre Channel Traps on page 28](#)
- [Software Traps on page 29](#)
- [Replication Traps on page 32](#)
- [Blockpool Traps on page 43](#)
- [Space Management Traps on page 44](#)
- [Space Reclamation Traps on page 45](#)
- [VTL Traps on page 47](#)
- [NDMP PTT Traps on page 48](#)
- [Configuration Traps on page 49](#)

- [System Error Traps on page 50](#)
- [Activation Traps on page 51](#)

## Trap Message Formats

DXi-issued SNMP v2c traps are reported in a format that contains the following 4 PDU variable bindings fields (object ID (OID) / value pairs of data).

### Uptime

---

**OID** sysUpTimeInstance = 1.3.6.1.2.1.1.3.0

---

**Value** DXi system uptime

---

### Trap Type

---

**OID** snmpTrapOID = 1.3.6.1.6.3.1.1.4.1.0

---

**Value** One of the following Quantum trap OIDs:

- qInfoTrapOID – 1.3.6.1.4.1.2036.2.1.4.1 (Severity=Information)
  - qWarningTrapOID – 1.3.6.1.4.1.2036.2.1.4.2 (Severity=Warning)
  - qCriticalTrapOID – 1.3.6.1.4.1.2036.2.1.4.3 (Severity=Error)
  - qAvailableTrapOID – 1.3.6.1.4.1.2036.2.1.4.4 (Severity=Information, Library Online)
  - qUnavailableTrapOID – 1.3.6.1.4.1.2036.2.1.4.5 (Severity=Information, Library Offline)
- 

### IP Address

---

**OID** snmpTrapAddress = 1.3.6.1.6.3.18.1.3.0

---

**Value** DXi Mgmt IP address

---

### Trap Description

---

**OID** Quantum Trap Type OID from above.

---

**Value** OctetString: [Product=XXX][System=XXX][Severity=Information|Warning|Error]  
[Serial=XXX][Details=XXX]

---

## I/O Server Traps

The following table lists I/O Server trap details.

### RAS Ticket Help

The **Online\_Help\_Filename** column lists the service (RAS) ticket help file associated with the SNMP trap. If you are logged into the DXi remote management console, you can access the RAS ticket help file by doing one of the following:

- Enter the following path in a web browser: **<dx-hostname or IP-address>/online\_help/<online\_help\_filename>**.
- Click the **View Recommended Actions** link on the **Ticket Details** page.

Keep in mind that traps issued without a FRU do not have RAS ticket help files associated with them, including all Information traps and certain Error traps.

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
0101	7	Error	I/O Server <FRU_Inst> : Hardware fault	0101-TP003.htm
0101	8	Error	I/O Server <FRU_Inst> : Software fault	0101-TP003.htm
0101	10	Warning	I/O Server <FRU_Inst> : Over voltage	0101-TP001.htm
0101	11	Warning	I/O Server <FRU_Inst> : Under voltage	0101-TP001.htm
0101	31	Error	I/O Server <FRU_Inst> : Low voltage	0101-TP001.htm
0101	33	Warning	I/O Server <FRU_Inst> : Low temperature	0101-TP002.htm
0101	34	Error	I/O Server <FRU_Inst> : High temperature	0101-TP002.htm

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
0101	35	Information	I/O Server <FRU_Inst> : Under temperature	0101-TP002.htm
0101	36	Warning	I/O Server <FRU_Inst> : Over temperature	0101-TP002.htm
0101	52	Error	I/O Server <FRU_Inst> : Not responding	0101-TP003.htm
0101	77	Error	I/O Server <FRU_Inst> : Configuration mismatch	IOS_ConfigMismatch.htm
0101	95	Error	I/O Server <FRU_Inst> : Nonrecoverable temperature	0101-TP002.htm
0101	96	Error	I/O Server <FRU_Inst> : Nonrecoverable voltage	0101-TP001.htm
0101	115	Error	I/O Server <FRU_Inst> : Component is degraded	0101-TP003.htm
0102	9	Error	I/O Server I/O Server drive <FRU_Inst> : Not present	0102-TP001.htm
0102	22	Error	I/O Server I/O Server drive <FRU_Inst> : Drive failure	losDrvBoot.htm
0102	24	Error	I/O Server I/O Server drive <FRU_Inst> : IO Error	0102-TP001.htm
0103	9	Error	I/O Server I/O Server FC HBA <FRU_Inst> : Not present	0103-TP001.htm
0103	14	Error	I/O Server I/O Server FC HBA <FRU_Inst> : Link failure	0103-TP001.htm
0103	28	Error	I/O Server I/O Server FC HBA <FRU_Inst> : FC communication failure	0103-TP001.htm
0104	14	Error	I/O Server Ethernet port <FRU_Inst> : Link failure	IOS_EtherFail.htm
0104	29	Error	I/O Server Ethernet port <FRU_Inst> : Communication failure (internal bus)	IOS_EtherFail.htm
0106	9	Error	I/O Server power supply <FRU_Inst> : Not present	IOS_PowerSupplyNotPresent.htm
0106	17	Error	I/O Server power supply <FRU_Inst> : Power supply failure	IOS_PowerSupplyFail.htm

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
0107	9	Error	I/O Server fan <FRU_Inst> : Not present	0107-TP002.htm
0107	18	Error	I/O Server fan <FRU_Inst> : Low speed (tach counts)	IOS_FanFail.htm
0107	97	Warning	I/O Server fan <FRU_Inst> : High speed (tach counts)	IOS_FanFail.htm
0107	98	Error	I/O Server fan <FRU_Inst> : Critical speed	IOS_FanFail.htm
0107	99	Error	I/O Server fan <FRU_Inst> : Nonrecoverable speed	IOS_FanFail.htm
011A	146	Error	I/O Server Server memory <FRU_Inst> : Imminent hardware failure expected	ImminentHWFail.htm
011A	147	Error	I/O Server Server memory <FRU_Inst> : Memory misconfiguration detected	DIMMisconfig.htm
0806	7	Error	IPMI Controller <FRU_Inst> : Hardware fault	IPMI.htm

## Storage Traps

The following table lists Storage trap details.

### RAS Ticket Help

The **Online\_Help\_Filename** column lists the service (RAS) ticket help file associated with the SNMP trap. If you are logged into the DXi remote management console, you can access the RAS ticket help file by doing one of the following:

- Enter the following path in a web browser: <dx-hostname or IP-address>/online\_help/<online\_help\_filename>.
- Click the **View Recommended Actions** link on the **Ticket Details** page.

Keep in mind that traps issued without a FRU do not have RAS ticket help files associated with them, including all Information traps and certain Error traps.

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
0301	7	Error	storage subsystem chassis <ParFRU_Inst> controller <FRU_Inst> : Hardware fault	0301-TP003.htm
0301	25	Error	storage subsystem chassis <ParFRU_Inst> controller <FRU_Inst> : Communication failure	0301-TP005.htm
0301	114	Error	storage subsystem chassis <ParFRU_Inst> controller <FRU_Inst> : RPA Parity error	RaidCtrl.htm
0301	120	Error	storage subsystem chassis <ParFRU_Inst> controller <FRU_Inst> : Component is failed	RaidCtrl.htm
0301	124	Error	storage subsystem chassis <ParFRU_Inst> controller <FRU_Inst> : Needs attention	RaidCtrl.htm
0301	126	Error	storage subsystem chassis <ParFRU_Inst> controller <FRU_Inst> : Component is removed	RaidCtrl.htm
0301	127	Error	storage subsystem chassis <ParFRU_Inst> controller <FRU_Inst> : Component in service mode	RaidCtrl.htm
0301	128	Error	storage subsystem chassis <ParFRU_Inst> controller <FRU_Inst> : Component is suspended	RaidCtrl.htm
0302	22	Error	storage subsystem chassis <ParFRU_Inst> drive <FRU_Inst> : Drive failure	0302-TP001.htm
0302	23	Error	storage subsystem chassis <ParFRU_Inst> drive <FRU_Inst> : Drive removed	0302-TP001.htm

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
0302	117	Warning	storage subsystem chassis <ParFRU_Inst> drive <FRU_Inst> : Drive is bypassed	RaidDrv.htm
0302	118	Warning	storage subsystem chassis <ParFRU_Inst> drive <FRU_Inst> : Drive is replaced	RaidDrv.htm
0302	119	Error	storage subsystem chassis <ParFRU_Inst> drive <FRU_Inst> : Drive is unresponsive	RaidDrv.htm
		Error	storage subsystem chassis <ParFRU_Inst> drive <FRU_Inst> : Component is failed	
0303	7	Error	storage subsystem chassis <FRU_Inst> : Hardware fault	0303-TP001.htm
0304	9	Error	storage subsystem chassis <ParFRU_Inst> power supply <FRU_Inst> : Not present	0304-TP001.htm
0304	17	Error	storage subsystem chassis <ParFRU_Inst> power supply <FRU_Inst> : Power supply failure	0304-TP001.htm
		Error	storage subsystem chassis <ParFRU_Inst> power supply <FRU_Inst> : Component is failed	
0305	9	Error	storage subsystem chassis <ParFRU_Inst> fan <FRU_Inst> : Not present	0305-TP001.htm
0305	19	Error	storage subsystem chassis <ParFRU_Inst> fan <FRU_Inst> : Fan failure	0305-TP001.htm
		Error	storage subsystem chassis <ParFRU_Inst> fan <FRU_Inst> : Component is failed	
030B	115	Error	storage subsystem chassis <ParFRU_Inst> storage subsystem volume <FRU_Inst> : Component is degraded	RaidVol.htm



FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
030B	120	Error	storage subsystem chassis <ParFRU_Inst> storage subsystem volume <FRU_Inst> : Component is failed	RaidVol.htm
030C	34	Error	storage subsystem chassis <ParFRU_Inst> storage subsystem temperature sensor <FRU_Inst> : High temperature	0301-TP002.htm
030C	36	Information	storage subsystem chassis <ParFRU_Inst> storage subsystem temperature sensor <FRU_Inst> : Over temperature	0301-TP002.htm
030C	126	Error	storage subsystem chassis <ParFRU_Inst> storage subsystem temperature sensor <FRU_Inst> : Component is removed	RaidSensor.htm
030E	126	Error	storage subsystem chassis <ParFRU_Inst> storage subsystem SFP <FRU_Inst> : Component is removed	RaidSfp.htm
		Error	storage subsystem chassis <ParFRU_Inst> storage subsystem battery <FRU_Inst> : Component is degraded	
030F	120	Error	storage subsystem chassis <ParFRU_Inst> storage subsystem battery <FRU_Inst> : Component is failed	RaidBattery.htm
030F	123	Error	storage subsystem chassis <ParFRU_Inst> storage subsystem battery <FRU_Inst> : Component is near expiration	RaidBattery.htm
030F	126	Error	storage subsystem chassis <ParFRU_Inst> storage subsystem battery <FRU_Inst> : Component is removed	RaidBattery.htm
0312	116	Information	storage subsystem chassis <ParFRU_Inst> storage subsystem alarm <FRU_Inst> : Component is disabled	RaidAlarm.htm
0312	124	Error	storage subsystem chassis <ParFRU_Inst> storage subsystem alarm <FRU_Inst> : Needs attention	RaidAlarm.htm

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
0312	126	Error	storage subsystem chassis <ParFRU_Inst> storage subsystem alarm <FRU_Inst> : Component is removed	RaidAlarm.htm
0313	125	Error	storage subsystem chassis <ParFRU_Inst> storage subsystem support CRU <FRU_Inst> : Component is receiving no input	RaidCru.htm
0313	126	Error	storage subsystem chassis <ParFRU_Inst> storage subsystem support CRU <FRU_Inst> : Component is removed	RaidCru.htm
0314	7	Error	storage subsystem chassis <ParFRU_Inst> storage subsystem tray <FRU_Inst> : Hardware fault	RaidTray.htm
		Information	"Alarm <AlarmId>: encl=<xx>	slot=<xx>"
		Information	Alarm <AlarmId>: unit=<xx>	
		Information	Alarm <AlarmId>: vport=<xx>	
		Information	Storsave mode setup	
		Information	RAID Unit <(DXi6xxx) RaidVolume> Storsave Policy = performance . Setting to balance.	
		Information	RAID Unit<(DXi6xxx) RaidVolume> Storsave Policy = protection . Setting to balance.	
		Information	RAID Unit <(DXi6xxx) RaidVolume> Storsave Policy = unknown . Setting to balance.	

## Ethernet Traps

The following table lists Ethernet trap details.

## RAS Ticket Help

The **Online\_Help\_Filename** column lists the service (RAS) ticket help file associated with the SNMP trap. If you are logged into the DXi remote management console, you can access the RAS ticket help file by doing one of the following:

- Enter the following path in a web browser: **<dx-hostname or IP-address>/online\_help/<online\_help\_filename>**.
- Click the **View Recommended Actions** link on the **Ticket Details** page.

Keep in mind that traps issued without a FRU do not have RAS ticket help files associated with them, including all Information traps and certain Error traps.

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
0803	9	Error	Ethernet switch <FRU_Inst> : Not present	NWSLinkFail.htm
0803	14	Error	Ethernet switch <FRU_Inst> : Link failure	NWSLinkFail.htm
0803	20	Error	Ethernet switch <FRU_Inst> : Invalid switch type (non-QUANTUM)	NWSConfig.htm
0803	25	Error	Ethernet switch <FRU_Inst> : Communication failure	NWSComm.htm
0803	30	Error	Ethernet switch <FRU_Inst> : Wrong firmware level	NWSFirmware.htm
0803	105	Error	Ethernet switch <FRU_Inst> : MAC address variation	NWSMac.htm
0810	17	Error	Ethernet switch <ParFRU_Inst> power supply <FRU_Inst> : Power supply failure	NWS_PowerSupplyFail.htm
		Information	The Ethernet port <xx> has a communication failure. Device '<DeviceString>' is missing.	
		Information	The Ethernet port <xx> has a communication failure. Device '<DeviceString>' has failed.	
		Information	The Ethernet port <xx> link is down. Link '<DeviceString>' is down.	

## Fibre Channel Traps

The following table lists Fibre Channel trap details.

### RAS Ticket Help

The **Online\_Help\_Filename** column lists the service (RAS) ticket help file associated with the SNMP trap. If you are logged into the DXi remote management console, you can access the RAS ticket help file by doing one of the following:

- Enter the following path in a web browser: **<dx-hostname or IP-address>/online\_help/<online\_help\_filename>**.
- Click the **View Recommended Actions** link on the **Ticket Details** page.

Keep in mind that traps issued without a FRU do not have RAS ticket help files associated with them, including all Information traps and certain Error traps.

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
0201	9	Error	FC switch <FRU_Inst> : Not present	0201-TP002.htm
		Error	FC switch <FRU_Inst> : Link failure	
0201	15	Error	FC switch <FRU_Inst> : Port failure	0201-TP002.htm
0201	25	Error	FC switch <FRU_Inst> : Communication failure	0201-TP002.htm
0202	9	Error	FC switch <ParFRU_Inst> power supply <FRU_Inst> : Not present	FCS_PowerSupplyNotPresent.htm
0202	17	Error	FC switch <ParFRU_Inst> power supply <FRU_Inst> : Power supply failure	FCS_PowerSupplyFail.htm
0203	9	Error	FC switch <ParFRU_Inst> fan <FRU_Inst> : Not present	FCS_FanNotPresent.htm
0203	19	Error	FC switch <ParFRU_Inst> fan <FRU_Inst> : Fan failure	FCS_FanFail.htm

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
0204	9	Error	FC switch <ParFRU_Inst> SFP <FRU_Inst> : Not present	0204-TP001.htm
0208	7	Error	FC switch <ParFRU_Inst> Temperature sensor <FRU_Inst> : Hardware fault	FCS_Temperature.htm
		Information	The HBA <PortString> is missing.	
		Information	The HBA <PortString> link is down.	
		Information	The HBA <PortString> has failed.	

## Software Traps

The following table lists software trap details.

### RAS Ticket Help

The **Online\_Help\_Filename** column lists the service (RAS) ticket help file associated with the SNMP trap. If you are logged into the DXi remote management console, you can access the RAS ticket help file by doing one of the following:

- Enter the following path in a web browser: **<dx-hostname or IP-address>/online\_help/<online\_help\_filename>**.
- Click the **View Recommended Actions** link on the **Ticket Details** page.

Keep in mind that traps issued without a FRU do not have RAS ticket help files associated with them, including all Information traps and certain Error traps.

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
0108	41	Error	QUANTUM software Quantum software <FRU_Inst> : Configuration not supported	ATAC.htm
0109	65	Warning	QUANTUM software Virtual Tape System component <FRU_Inst> : System resource warning	VTS_ResourceWarn.htm
010C	1	Error	QUANTUM software : Storage Manager component <FRU_Inst> : Process/Task died (not restarted)	software.htm
010C	63	Error	QUANTUM software : Storage Manager component <FRU_Inst> : Duplicate barcode	dup_med.htm
010C	77	Warning	QUANTUM software : Storage Manager component <FRU_Inst> : Configuration mismatch	ConfigFileError.htm
010D	1	Error	QUANTUM software : File System component <FRU_Inst> : Process/Task died (not restarted)	software.htm
010D	24	Error	QUANTUM software : File System component <FRU_Inst> : IO Error	SNFS_IOError.htm
010D	25	Warning	QUANTUM software : File System component <FRU_Inst> : Communication failure	SNFS_MDCNetwork.htm
010D	41	Error	QUANTUM software : File System component <FRU_Inst> : Configuration not supported	SNFS_BadConfig.htm
010D	48	Error	QUANTUM software : File System component <FRU_Inst> : LUN communication failure	SNFS_IOError.htm
010D	52	Information	QUANTUM software : File System component <FRU_Inst> : Not responding	software.htm

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
010D	65	Warning	QUANTUM software : File System component <FRU_Inst> : System resource warning	SNFS_Resource_warn.htm
010D	72	Error	QUANTUM software : File System component <FRU_Inst> : License failed	SNFS_LicenseExpire.htm
010D	78	Error	QUANTUM software : File System component <FRU_Inst> : Initialization failure	SNFS_Startup.htm
010D	82	Error	QUANTUM software : File System component <FRU_Inst> : Label validation failure	SNFS_BadLabel.htm
010D	87	Warning	QUANTUM software : File System component <FRU_Inst> : Fail-over has occurred	SNFS_FailOver.htm
010D	88	Information	QUANTUM software : File System component <FRU_Inst> : LUN mapping changed	SNFS_LunsChanged.htm
010D	89	Error	QUANTUM software : File System component <FRU_Inst> : Failed to allocate disk space	SNFS_Nospace.htm
010D	90	Error	QUANTUM software : File System component <FRU_Inst> : Metadata error	SNFS_Metadata.htm
010D	92	Warning	QUANTUM software : File System component <FRU_Inst> : Error shutting down	SNFS_Shutdown.htm
010D	94	Error	QUANTUM software : File System component <FRU_Inst> : Missing LUNs	SNFS_MissingLuns.htm
010D	129	Error	QUANTUM software : File System component <FRU_Inst> : System resource critical	SNFS_Resource_crit.htm

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
010F	1	Error	QUANTUM software RAS component <FRU_Inst> : Process/Task died (not restarted)	software.htm
0110	51	Warning	QUANTUM software OS component <FRU_Inst> : Operation failure	TAC.htm
		Error	QUANTUM software OS component <FRU_Inst> : System resource warning	
		Error	DXixxxx: General DXixxxx Software <FRU_Inst> : Process/Task died (not restarted)	
		Error	DXixxxx: General DXixxxx Software <FRU_Inst> : Communication failure	
0804	51	Error	DXixxxx: General DXixxxx Software <FRU_Inst> : Operation failure	DXiOpFail.htm
0804	65	Warning	DXixxxx: General DXixxxx Software <FRU_Inst> : System resource warning	ResourceWarn.htm
0804	72	Warning	DXixxxx: General DXixxxx Software <FRU_Inst> : License failed	lic_excd.htm
0804	78	Error	DXixxxx: General DXixxxx Software <FRU_Inst> : Initialization failure	DXiInitFail.htm
0804	80	Error	DXixxxx: General DXixxxx Software <FRU_Inst> : Licence required	lic_fail.htm
		Error	DXixxxx: General DXixxxx Software <FRU_Inst> : Metadata error	

## Replication Traps

The following table lists Replication trap details.

### RAS Ticket Help



The **Online\_Help\_Filename** column lists the service (RAS) ticket help file associated with the SNMP trap. If you are logged into the DXi remote management console, you can access the RAS ticket help file by doing one of the following:

- Enter the following path in a web browser: **<dx-hostname or IP-address>/online\_help/<online\_help\_filename>**.
- Click the **View Recommended Actions** link on the **Ticket Details** page.

Keep in mind that traps issued without a FRU do not have RAS ticket help files associated with them, including all Information traps and certain Error traps.

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
0805	108	Error	Replication <FRU_Inst> : Namespace replication failure	Replication.htm
0805	133	Error	Replication <FRU_Inst> : Trigger replication failed	Replication.htm
0805	135	Error	Replication <FRU_Inst> : Trigger replication message notification failed	Replication.htm
0805	109	Error	Replication <FRU_Inst> : Replication paused	Replication.htm
		Information	: aud Synchronization of Partition: <vtl name> Failed. Reason: <details>	
		Information	: aud Failed to DB Initialization failed	
		Information	: aud Failed to process Delete request: <details>	
		Information	: aud Failed to process unpack request: <details>	
		Information	: aud Recovery of Synchronization Failed. Error: <details>	
		Information	": aud Source notification of synchronization recovery failed for source Sync_ID: <source ip address> source IP Address:<source IP> with status: <status>"	
		Information	: aud Synchronization of Share: <shareName> Failed	
		Information	: aud: Unable to open VP Messaging	

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	<share/vtl name> Failback replication cancelled	
		Information	<share/vtl name> Namespace replication cancelled	
		Information	<share/vtl name> Namespace replication failed	
		Information	<share/vtl name> Namespace replication partially complete	
		Information	A synchronization request is already submitted for: <nodename> Target: <target>	
		Information	Attempt to connect to the blockpool on the source host has failed. Details: <details>	
		Information	Attempt to parse section line failed for <details>	
		Information	AUD: Failed to process <delete   unpack> request: <details>	
		Information	blockpoolunpackBundle(): Error in unTarAttrBallTarFile fullPath: <path to file> Error Details: <details>	
		Information	"Cant find partition/share with trigger ID : <trigger id>, source : <source ip>"	
		Information	"Cant find share with trigger ID : <trigger id>, source : <source ip>"	
		Information	Could not open replication <properties   status   update> file (<path to file>) for reading.	
		Information	Could not open replication <properties   status   update> file (<path to file>) for writing. errno: <errno>	
		Information	Duplicate partition name <part name> detected	

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	Duplicate partition name <vtl name> detected	
		Information	Duplicate share name <share name> detected	
		Information	Encryption Method Unsupported on Failback Target <target> for Requested Method: <encryption method> Encryption	
		Information	Encryption Method Unsupported on Target: <target> for Requested Method: <encrypt method> Encryption	
		Information	Error calling attrBall load Target: <target> Error Details: < error string>	
		Information	Error calling holdTagsForAttrBall for directory: Target: <target> Error Details: < error string>	
		Information	Error creating share: <share name> Details: <details>	
		Information	Error creating tar file: <tar file>. Error returned: <details>	
		Information	Error during call to SysUtil::getHostByAddr(). Details: <details>	
		Information	"ERROR Encountered during read, ermo(<ermo>)"	
		Information	"ERROR Encountered trying to connect to <target host>, ermo(<ermo>)"	
		Information	Error getting encrypt info for target: <target> Details: <details>	
		Information	Error getting replication IP: <address> Details: <details>	
		Information	Error getting seer variable: <details>	
		Information	Error getting user information for user <user name> error: <details>	
		Information	Error in AttrBall Untar target: <target> fullpath: <bundle tar file name>	

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	Error in createSNFS_FilesFromAttrBall newsharename: <new share name> Error reason: <details>	
		Information	Error in unTarAttrBallTarFile fullPath: <bundle tar file name> Error Details: <details>	
		Information	Error moving continuous wait tags to destination queue for target: <target>	
		Information	Error notifying target or pre-posted file of file <file> details: <details>	
		Information	Error ocured removing host < target > as allowed host for replication to this system. Resolving the IP address to a fully qualified host name failed. Error details: <details>	
		Information	Error occurred during recovery process. Details: <details>	
		Information	Error occurred removing host <host> as allowed host for replication to this system. Resolving IP address to a fully qualified host name failed. Error details: gethostbyaddr failed. Returned error: <ermo>	
		Information	Error querying transaction: <details>	
		Information	Error replicating tags - reason: <details>	
		Information	Error retrieving list of partitions	
		Information	Error setting encrypt info for target: <target> Details: <details>	
		Information	Error starting query transaction: <details>	
		Information	Error: database api status error: <status>	

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	Error: Failed to receive TRIGGERD_SYNC response from NS_TRIGGERD: <detail>	
		Information	Error: Failed to send TRIGGERD_SYNC message to NS_TRIGGERD: <detail>	
		Information	Error: synchronization request query failed for: <nodename> Target: <target> with status: <status>	
		Information	Exception during failback details: <details>	
		Information	Exception during failback to target: <target> details: <details>	
		Information	Exception during generatereports details: <details>	
		Information	Exception during recovery details: <details>	
		Information	Exception during Trigger recovery details: <details>	
		Information	Failback Replication is either cancelled or failed for node <share/vtl name>	
		Information	Failback Replication: 2.0 files to pre-2.0 target node(<target>) is disallowed	
		Information	failbackUnbundle failure. Failback Replicatio is disallowed for the current task. <details>	
		Information	Failed in determining Target <target> AttrBall version.	
		Information	Failed in determining Target <target> level of support.	
		Information	Failed in saving Target <target> level of support to configuration file	
		Information	Failed in saving Target <target> NAS support setting to configuration file	

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	Failed in saving Target <target> VTL support setting to configuration file	
		Information	Failed to open dir <path to file> errno(<errno>): <errno String>	
		Information	Failed to remove file: <path to file> errno(<errno>): <errno String>	
		Information	Failure cancelling OST requests during replication startup. Details: <details>	
		Information	Fork of command failed (<command line>) <details>	
		Information	gethostbyaddr failed. Returned error: <errno>	
		Information	getHostByName failed for hostName:<hostname>. <detail>	
		Information	inet_aton failed	
		Information	Invalid Dedup <dedup value> request, recovery failed	
		Information	Invalid Permissions <permissions>, recovery failed	
		Information	Library name exceeds maximum number of characters allowed in library name (12) <part name>	
		Information	malloc failed	
		Information	Namespace Failback Replication did not complete successfully for task: <details>	
		Information	Namespace replication aborted	
		Information	Namespace Replication did not complete successfully for : <share/vtl name> to target: <target> . <details>	

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	Namespace Replication FAILED for task: <details>	
		Information	Namespace Replication resulted in only partial replication.	
		Information	NAS Replication Disabled for: <shareName> because target does not support NAS replication	
		Information	NAS Replication of <share name> from source <host> failed because NAS replication to this target system is not supported	
		Information	Node <shareName> is not enabled for Directory/File Based Replication	
		Information	Node <vtlName> is not enabled for Cartridge Based Replication	
		Information	NodeType(<nodetype>) is invalid	
		Information	Not all data was submitted for replication: <details>	
		Information	Not all secondary threads replicated successfully	
		Information	Partial Partition Recovery <status info lines>	
		Information	Partial Partition Recovery. Duplicate barcodes not recovered	
		Information	Partial Partition Recovery. Recover incomplete due to duplicate barcodes.	
		Information	Partition <partition name> does not exist in the replication configuration	
		Information	Partition Recovery failed. <details>	
		Information	Path <path> is not valid for share <shareName>	
		Information	QSRofstream close() failed on <file name> with errno: (<errno>)	

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	Recovery Failed or Partial Recovery	
		Information	"Recovery process halted. Details, is Running: <true false> isPaused <true false> pauseRequested <true false> "	
		Information	REDaemon cannot send message to Triggerd	
		Information	REDaemon: Replication service is <paused   resumed> to target: <target>	
		Information	REDestinationThread: <target> is not resumed as the target does not support the Requested Encryption Method	
		Information	"Remove replication source, clear cont. tags: <erno>"	
		Information	Removed source host <host> from the allowed source list.	
		Information	Replication is for <target host> in this system. Number of Directory/File Based Replication requests in queue = <number of queued requests>. Adding request for: <path for request>	
		Information	Replication is paused in this system - <details>	
		Information	Replication is paused in this system. Number of Directory/File Based Replication requests in queue = <xxx>. Adding request for: <file/directory name><details>	
		Information	Replication of barcode: <barcode> for vtl: <vtl name> failed. Details: <details>	
		Information	Replication of path: <path> for share: <shareName> failed. Details: <details>	



FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	Replication status for <share/vtl name> from host <source name> to target <target> is: not allowed. Details: <details>	
		Information	Send Namespace Replication Complete event to Target: <target> failed.	
		Information	sendContinuousTags command on target <target> failed. DETAILS <details>	
		Information	sendVpMessage - failed on Name: <partition>, Path: <path>, Trigger Id: <triggerId>, Target Host Id: <hostId> Source Host Id: <hostId> with Error: <errorString>	
		Information	sendVpMessage - failed on Name: <vtlName>,Barcode: <barcode>, Trigger Id: <triggerId>, NodId: <vtlSerial>, Target Host Id: <hostId>, Source Host Id: <hostId> with Error: <errorString>	
		Information	sendVpMessage - failed: <details>	
		Information	Share <sharename> does not exist in the replication configuration	
		Information	Share or partition type('<nodetype>') is invalid	
		Information	Synchronization of Cartridge or Directory/File FAILED	
		Information	Synchronization Recovery Failed	
		Information	"System has paused the replication service, possible reasons: 1, Either source or target is in low space state. 2, The target is down. 3, The target becomes unavailable for replication from this source."	
		Information	System has resumed the replication service	
		Information	Tag file for bundle already exists for file: <file name>	

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	Target host: <hostId> is not reachable.	
		Information	TargetNASReplication cannot be configured because the target <target> does not support NAS replication.	
		Information	TargetVTLReplication cannot be configured because the target <target> does not support VTL replication.	
		Information	Unable to get list of NAS shares: <details>	
		Information	Unable to load configured target from configuration file.	
		Information	Unable to prepost bundle tag. Details: <details>	
		Information	Unable to send bundle. Details: <details>	
		Information	Unknown error occurred during recovery process	
		Information	Unreachable targetHost <target>	
		Information	Validation of file/dir replication for target <target host> failed. Details from <target host>: <reason>	
		Information	Validation of file/dir/cartridge replication for target host <hostId> failed. DETAILS from <hostId>: <details>	
		Information	VTL replication cannot be enabled because the target does not support VTL replication.	
		Information	VTL Replication Disabled for: <vtl name> because target <target> does not support VTL replication	

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	VTL Replication of <vtl name> from source <source ip> failed because VTL replication to this target is not supported	
		Information	Wild cards are not allowed in path specification for replication	

## Blockpool Traps

The following table lists blockpool trap details.

### RAS Ticket Help

The **Online\_Help\_Filename** column lists the service (RAS) ticket help file associated with the SNMP trap. If you are logged into the DXi remote management console, you can access the RAS ticket help file by doing one of the following:

- Enter the following path in a web browser: <dx-hostname or IP-address>/online\_help/<online\_help\_filename>.
- Click the **View Recommended Actions** link on the **Ticket Details** page.

Keep in mind that traps issued without a FRU do not have RAS ticket help files associated with them, including all Information traps and certain Error traps.

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
0802	51	Error	Blockpool <FRU_Inst> : Operation failure	BFST_fail.htm
		Information	De-Duplication healthcheck Failure	
		Information	De-Duplication healthcheck was unable to run. The most recent failure indicated: <ErrorString>	
		Information	Integrity healthcheck was unable to run. The most recent failure indicated: <ErrorString>	

## Space Management Traps

The following table lists space management trap details.

### RAS Ticket Help

The **Online\_Help\_Filename** column lists the service (RAS) ticket help file associated with the SNMP trap. If you are logged into the DXi remote management console, you can access the RAS ticket help file by doing one of the following:

- Enter the following path in a web browser: **<dx-hostname or IP-address>/online\_help/<online\_help\_filename>**.
- Click the **View Recommended Actions** link on the **Ticket Details** page.

Keep in mind that traps issued without a FRU do not have RAS ticket help files associated with them, including all Information traps and certain Error traps.

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
0807	65	Warning	Space Manager daemon <FRU_Inst> : System resource warning	SpaceMgr.htm
0807	112	Warning	Space Manager daemon <FRU_Inst> : I/O Write Low Threshold state	SpaceMgr.htm
0807	113	Error	Space Manager daemon <FRU_Inst> : Stop IO due to no space	SpaceMgr.htm
0807	136	Warning	Space Manager daemon <FRU_Inst> : System is nearing full capacity	SpaceMgr.htm
		Information	Space Management: Entered Low Space Mode	
		Information	Space Management: More than 24 hours in Low Space Mode	
		Information	Space Management: Entered Critical Reserve Space/Stop Write Mode	
		Information	Space Management: Cleared Critical Reserve Space/Stop Write Mode	

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	Space Management: Critical Reserve Space dropped further. Entered NOSPACE mode.	
		Information	Space Management: Cleared NOSPACE Mode	
		Information	Space Management: Cleared Low Space Mode	
		Information	Space Management: The system has resumed to Normal Disk Space Mode.	
		Information	Space Management: In Low Space Mode at System Startup	

## Space Reclamation Traps

The following table lists space reclamation trap details.

### RAS Ticket Help

The **Online\_Help\_Filename** column lists the service (RAS) ticket help file associated with the SNMP trap. If you are logged into the DXi remote management console, you can access the RAS ticket help file by doing one of the following:

- Enter the following path in a web browser: **<dx-hostname or IP-address>/online\_help/<online\_help\_filename>**.
- Click the **View Recommended Actions** link on the **Ticket Details** page.

Keep in mind that traps issued without a FRU do not have RAS ticket help files associated with them, including all Information traps and certain Error traps.

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	Information Cannot start Compaction; Compaction is already running	
		Information	Cannot start Compaction. Possible reasons are: The Garbage Collection Daemon is not running or Compaction is already running or currently in Low Space state.	
		Information	Garbage Collection Deletion Failure	
		Information	Garbage Collection Compaction Failure	
		Information	Garbage Collection compaction running on host: <Hostname> failed. The most recent failure indicated: BFST write error	
		Information	Garbage Collection compaction running on host: <Hostname> failed. The most recent failure indicated: Failure detected during compaction	
		Information	Garbage Collection compaction running on host: <Hostname> failed. The most recent failure indicated: Network error	
		Information	Garbage Collection compaction running on host: <Hostname> failed open (). <errno:xx(ErrorString)>	
		Information	Garbage Collection compaction running on host: <Hostname> failed on /data/hurricane/gc.status with <errno:xx(ErrorString)>	
		Information	"Garbage Collection compaction running on host: <Hostname> failed. The most recent failure indicated: Could not open status file for writing: /data/hurricane/gc.status, <errno(xx): ErrorString>"	
		Information	"Garbage Collection compaction running on host: <Hostname> failed. The most recent failure indicated: Error encountered writing status file: /data/hurricane/gc.status, <errno(xx): ErrorString>"	

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	Error calling cleanupHoldList details: <ErrorString>	
		Information	Garbage Collection reconciliation running on host: <Hostname> has been unable to run for the last 24 hours. The most recent failure indicated: <ErrorString>	

## VTL Traps

The following table lists virtual tape library (VTL) trap details.

### RAS Ticket Help

The **Online\_Help\_Filename** column lists the service (RAS) ticket help file associated with the SNMP trap. If you are logged into the DXi remote management console, you can access the RAS ticket help file by doing one of the following:

- Enter the following path in a web browser: **<dx-hostname or IP-address>/online\_help/<online\_help\_filename>**.
- Click the **View Recommended Actions** link on the **Ticket Details** page.

Keep in mind that traps issued without a FRU do not have RAS ticket help files associated with them, including all Information traps and certain Error traps.

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	Virtual Library <Name> is now online	
		Information	Virtual Library <Name> is now offline	
		Information	<VirtualLibraryName>: Parameters changed	

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	<VirtualLibraryName>: Virtual Drive <SerialNumber> online	
		Information	<VirtualLibraryName>: Virtual Drive <SerialNumber> offline	

## NDMP PTT Traps

The following table lists Network Data Management Protocol (NDMP) Path to Tape (PTT) trap details.

### RAS Ticket Help

The **Online\_Help\_Filename** column lists the service (RAS) ticket help file associated with the SNMP trap. If you are logged into the DXi remote management console, you can access the RAS ticket help file by doing one of the following:

- Enter the following path in a web browser: <dx-hostname or IP-address>/online\_help/<online\_help\_filename>.
- Click the **View Recommended Actions** link on the **Ticket Details** page.

Keep in mind that traps issued without a FRU do not have RAS ticket help files associated with them, including all Information traps and certain Error traps.

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	"Failed to check-in a NDMP license,<ErrorString>"	
		Information	"Failed to check-out a NDMP license,<ErrorString>"	
		Information	"Failed to connect to the license manager,<ErrorString>"	



## Configuration Traps

The following table lists configuration trap details.

### RAS Ticket Help

The **Online\_Help\_Filename** column lists the service (RAS) ticket help file associated with the SNMP trap. If you are logged into the DXi remote management console, you can access the RAS ticket help file by doing one of the following:

- Enter the following path in a web browser: **<dx-hostname or IP-address>/online\_help/<online\_help\_filename>**.
- Click the **View Recommended Actions** link on the **Ticket Details** page.

Keep in mind that traps issued without a FRU do not have RAS ticket help files associated with them, including all Information traps and certain Error traps.

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	Network Configuration has changed and system is rebooting node	
		Information	System is rebooting	
		Information	System is rebooting node 1	
		Information	System is shutting down	
		Information	System is shutting down node 1	
		Information	Illegal upgrade path: <FromModelString> to <ToModelString>	
		Information	Secure shred initiated	
		Information	Secure shred completed successfully	

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	There is not enough free space on the boot drives to generate the System Diagnostics log file.	
		Information	NTP server/pool is empty!	
		Information	Network Configuration has changed	
		Information	Version: <VersionString> </br>Date: <UnixSeconds> </br>Summary: This software upgrade provides enhancements and bug fixes.</br>	

## System Error Traps

The following table lists system error trap details.

### RAS Ticket Help

The **Online\_Help\_Filename** column lists the service (RAS) ticket help file associated with the SNMP trap. If you are logged into the DXi remote management console, you can access the RAS ticket help file by doing one of the following:

- Enter the following path in a web browser: <dx-hostname or IP-address>/online\_help/<online\_help\_filename>.
- Click the **View Recommended Actions** link on the **Ticket Details** page.

Keep in mind that traps issued without a FRU do not have RAS ticket help files associated with them, including all Information traps and certain Error traps.

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	ISOLATED transition to DIAGNOSTIC due to health event	

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	PRIMARY transition to DIAGNOSTIC due to health event	
		Information	Transition to DIAGNOSTIC due to Restart Count exceeded	
		Information	Service '<ServiceString>' failed but was restarted successfully	
		Information	Failed to SEND: <ErrorString> TO: <EmailAddresses> after 30 retries	
		Information	The system was not shut down cleanly. Power failure?	
		Information	Exception during generatereports details: <ErrorString>	

## Activation Traps

The following table lists activation trap details.

### RAS Ticket Help

The **Online\_Help\_Filename** column lists the service (RAS) ticket help file associated with the SNMP trap. If you are logged into the DXi remote management console, you can access the RAS ticket help file by doing one of the following:

- Enter the following path in a web browser: **<dx-hostname or IP-address>/online\_help/<online\_help\_filename>**.
- Click the **View Recommended Actions** link on the **Ticket Details** page.

Keep in mind that traps issued without a FRU do not have RAS ticket help files associated with them, including all Information traps and certain Error traps.

FRU_ID	Event_ID	Trap_Level	Trap_Details	Online_Help_Filename
		Information	Capacity is now <xx> GB due to missing product key	
		Information	Capacity is now <xx> GB due to RR upgrade failure	
		Information	Capacity is now <xx> GB due to license installation	
		Information	Capacity is now <xx> GB due to upgrade license installation	
		Information	Capacity is now 256 GB due to start of trial license	
		Information	Couldn't contact activation server for RR upgrade (<Error>)	

# SNMP Trap Severity

The default severity of SNMP traps can be modified with the `snmptrap-severity-overrides` configuration file.

**Note:** SNMP trap severity modification requires the **ServiceLogin** user name and password. Contact the system DXi Administrator for the password.

1. Using a terminal emulation program that supports SSH (like PuTTY), connect to the DXi Node.
2. Enter **ServiceLogin** for the user name and then enter the service password.
3. Edit the `snmptrap-severity-overrides` file at `/etc/snmp/snmptrap-severity-overrides.conf`.

Severity overrides must be configured in the following format:

Severity | PERL RegExp

Severity	Severity can be one of the following: Information, Warning, or Error.
----------	---

PERL RegExp	PERL regular expression to match SNMP trap body.
-------------	--

## SNMP Trap Severity Override Examples:

Example - Ethernet/Fibre Channel Ports

```
Warning | (Ethernet|HBA) .*link is down
```

Example - Virtual Tape Library

```
Warning | Virtual Drive .*(online|offline)
```

Example - Replication

```
Warning | Replication service is (paused|resumed) to target
```

```
Warning | Synchronization .*Failed
```

```
Warning | Validation of file/dir.* replication for target .*failed
```

4. To apply changes to the `snmptrap-severity-overrides` file, restart the SNMP trap service:  
`/etc/init.d/ras_snmptrap restart`

**Note:** Errors parsing the file are logged to `/usr/adic/util/logs/sl_noti_snmptrap_monitor.log` by default.