



Dolby[®] Simple Network Management Protocol for DSS100

Issue 1

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Simple Network Management Protocol for DSS100

The DSS100 supports remote monitoring through Simple Network Management Protocol (SNMP). An internal SNMP v.3 server (agent) supports SNMP messages in v.1/v.2/v.2c formats. The v.2c public context (community name) allows access to the supported MIBs. The SNMP agent supports the following Internet standard MIBs:

- Access basic SNMP status through SNMPv.2-MIB and SNMP-FRAMEWORK-MIB.
- Configure notification of clients with the SNMP-TARGET-MIB and SNMP-NOTIFICATION-MIB.
- Manage security levels and access control through USM-MIB, VACM-MIB, and SNMP-COMMUNITY-MIB.

The agent provides for remote monitoring of the DSS100 with the DOLBY-SHOWSTORE MIB and DOLBY-SHOWPLAYER MIB.

Dolby-ShowStore MIB

Information and Administration

Table 1 describes the variables used for information and administrative purposes.

Table 1 Information and Administrative Variables for Dolby Show Store

Variable	Description
showStoreSerialNumber	A writable string to hold the serial number of an individual Show Store.
showStoreAssetTag	A writable string to hold the owner's inventory tag.
showStoreSWVersion	A read-only string containing the version number of the Show Store software package.

System Hardware Status

The Show Store MIB offers three tables of status information about the system hardware.

- Storage variables table. Status of the RAID array and its individual disk drive components.
- Temperature variables table. Temperature status and readings for various hardware components.
- Hardware variables table. Status information for miscellaneous non storage components.

A separate scalar variable holds the current measurement of available storage space in the RAID array.

In Table 2 each column represents each system hardware status information table.

Table 2 System Hardware Status Variable Tables for Dolby Show Store

Storage Variables	Temperature Variables	Hardware Variables
showStoreStorageStatusTable	showStoreTempTable	showStoreHardwareStatusTable
showStoreDiskSpaceAvailable RAID storage space available (in megabytes).	showStoreTempID A string (name) identifying the component. Currently we measure the temperature for the CPU and the individual disk drives in the RAID.	showStoreHardwareID A string (name) identifying the component. The Show Store power supply unit is the only non storage component we currently monitor.
showStoreStorageID A string (name) identifying the storage component.	showStoreDeviceTempStatus A string describing the range in which the component's temperature reading currently lies. This variable provides a go/no go assessment of a storage component's temperature.	showStoreHardwareStatus A string describing the overall status of the component. This variable provides a go/no go assessment of a hardware component's condition.
showStoreStorageStatus A string describing the overall status of the component. This variable provides a go/no go assessment of a storage component's condition.	showStoreDeviceTemperature An integer reading of a component's temperature, in degrees Celsius. For the CPU, a temperature of 44 or less corresponds to the status ok, 45-49 corresponds to warning, and 50 or above corresponds to fail. For the disk drives, a temperature of 38 or less corresponds to the status ok, 39 corresponds to warning, and 40 or above corresponds to fail.	showStoreHardwareStatusValue A numeric value corresponding to the status description.
showStoreStorageStatusValue A numeric value corresponding to the status description.		showStoreHardwareStatusDesc A string describing the status details for the particular hardware component. Current allowed values are notAvailable, ok, and error.
showStoreStorageStatusDesc A string describing the status details of the storage component. Allowed values are (0) notAvailable, (1) ok, (2) unknown, (3) invalid, (4) fault, (5) rebuilding, (6) initializing, and (7) degraded.		

Notification Events for Status Deterioration

When the overall status of any of the monitored components reaches a value of `warning` or `fail`, the SNMP server sends notification events to the configured notification targets. The events contain the pertinent data for the component that triggered the notification.

Table 3 lists the notification event variables for Dolby® Show Store.

Table 3 Notification Events for Dolby Show Store

Variable	Description
<code>showStoreStorageEvent</code>	The agent sends a <code>showStoreStorageEvent</code> notification when any device reaches a <code>showStoreStorageStatusValue</code> other than <code>notAvailable</code> or <code>ok</code> . The notification carries the current states of the entry in the <code>showStoreStorageStatusTable</code> for the component: its ID, overall status, numeric status value, and the description of the status value.
<code>showStoreTempEvent</code>	The agent sends a <code>showStoreTempEvent</code> notification when any device reaches a <code>showStoreDeviceTempStatus</code> value of <code>warning</code> or <code>fail</code> . The notification carries the current states of the entry in the <code>showStoreTempTable</code> for the component: its ID, overall status, and numeric temperature value.
<code>showStoreHardwareEvent</code>	The agent sends a notification when any device reaches a <code>showStoreHardwareStatusValue</code> corresponding to <code>error</code> . The notification carries the current states of the entry in the <code>showStoreHardwareStatusTable</code> for the component: its ID, overall status, numeric status value, and the description of the status value.

Dolby-ShowPlayer MIB

Information and Administration

Table 4 describes the variables used for information and administrative purposes.

Table 4 Information and Administrative Variables for Dolby Show Player

Variable	Description
showPlayerSerialNumber	A read-only number that holds the serial number of an individual Show Player. A value of 0 means that the serial number could not be read.
showPlayerAssetTag	A writable string to hold the inventory tag of the owner.
showPlayerSWVersion	A read-only string containing the version number of the Show Player software package. The string <code>notAvailable</code> means that the software version could not be read.
showPlayerMainBoardVersion	A read-only string containing the version number of the main board of the attached Show Player. The string <code>notAvailable</code> means that the main board version could not be read.
showPlayerScreenNumber	A read-only string containing the number of the screen associated with the attached Show Player. The string <code>notAvailable</code> means that the screen number could not be read.
showPlayerIPAddress	A read-only string containing the IP address of the Show Player. The string <code>notAvailable</code> means that the IP address could not be read.
showPlayerPublicKeyHash	A read-only string containing the hash value of the public encryption key for the attached Show Player. The string <code>notAvailable</code> means that the hash value could not be read.

System Hardware Status

The Show Player MIB offers three tables of status information about the system hardware.

- Cooling fan variables table. Status of the cooling fans.
- Power supplies variables table. Status values for the power supplies.
- Network connection variables table. Status information for the network connection between the Show Store and Show Player.

In Table 5 each column represents each system hardware status information table.

Table 5 System Hardware Status Variable Tables for Dolby Show Player

Cooling Fan Variables	Power Supplies Variables	Network Connection Variables
showPlayerFanStatus A numeric value corresponding to the status description.	showPlayerPSUID A string (name) identifying the power supply. Valid values are PSU1 and PSU2.	showPlayerConnectionStatus A numeric value corresponding to the status description.
showPlayerFanStatusDesc A string describing the status details of the storage component. Allowed values are (-1) notAvailable, (0) ok, (2) fan1Error, (3) fan2Error, (4) fan3Error, and (5) allError.	showPlayerPSUStatus A string describing the overall status of the power supply. This variable provides a go/no go assessment of a power supply's condition.	showPlayerConnectionStatusDesc A string describing the status details of the network connection. Current allowed values are (0) disconnected and (1) connected.
	showPlayerPSUStatusValue A numeric value corresponding to the status description.	
	showPlayerPSUStatusDesc A string describing the status details for the particular power supply. Current allowed values are (0) notAvailable, (1) ok, and (2) error.	

Notification Events for Status Deterioration

When the overall status of any of the monitored components reaches a value of warning or fail, the SNMP server sends notification events to the configured notification targets. The events contain the pertinent data for the component that triggered the notification.

Table 6 lists the notification event variables for Dolby Show Player.

Table 6 Notification Events for Dolby Show Player

Variable	Description
showPlayerFanEvent	The agent sends a showPlayerFanEvent notification when any fan reaches a showPlayerFanStatus other than (1) notAvailable or (2) ok. The notification carries the current states of the Fan Status variables: numeric status value and the description of the status value.
showPlayerPSUEvent	The agent sends a showPlayerPSUEvent notification when any power supply reaches a showPlayerPSUStatusValue other than (1) notAvailable or (2) ok. The notification carries the current states of the entry in the showPlayerPSUStatus table for the component: its ID, overall status, numeric status value, and the description of the status value.
showPlayerConnectionEvent	The agent sends a showPlayerConnectionEvent notification when showPlayerConnectionStatus reaches a value of disconnected. The notification carries the current states of the Connection Status variables: numeric status value and the description of the status value.