Excellence in KVM and Video

Technology briefing

Simple Network Management Protocol and KVM Switches

Introduction

Draco tera KVM matrix switches are used extensively in control rooms, broadcast studios, post-production suites, emergency control centres and other mission-critical environments.

In these installations, Simple Network Management Protocol (SNMP) is regularly used to monitor and manage computers and other equipment on a network. The SNMP function allows all function-critical and safety-critical elements of the matrix to be monitored and queried. This function complies with the RFC 1157 conformal standard.

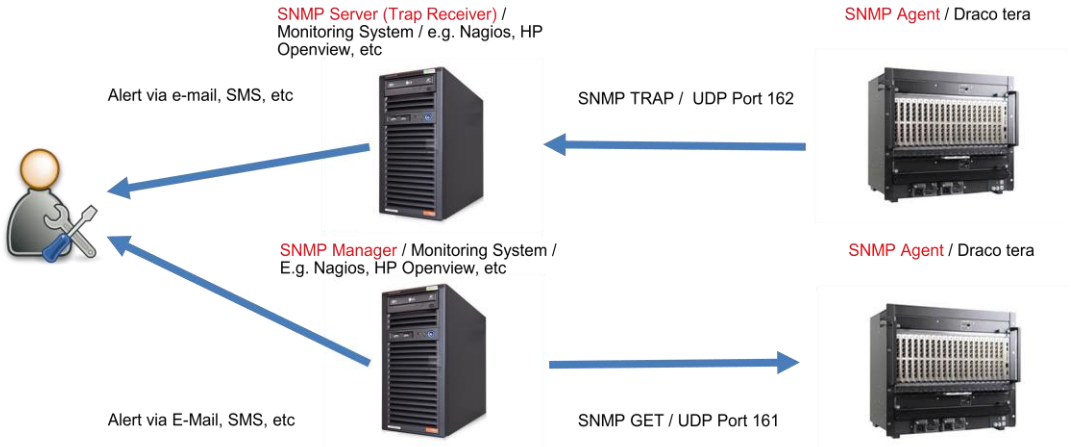
Purpose of this document

This Technology Briefing describes the sub-branches available to SNMP agents running on network management stations (NMPs) and the process involved in reporting information via SNMP to the manager.

SNMP traps are also generated by the Draco tera agent to report the occurrence of a range of events. Each trap can be activated individually by the use of the OSD or via Draco tera Tool and includes data from the teratask and teravar sub-branches.

Overview of features

All Draco tera KVM matrix switches are capable of reporting detailed information on the status and configuration of the system in response to SNMP *get* requests issued by the manager to the draco tera device.

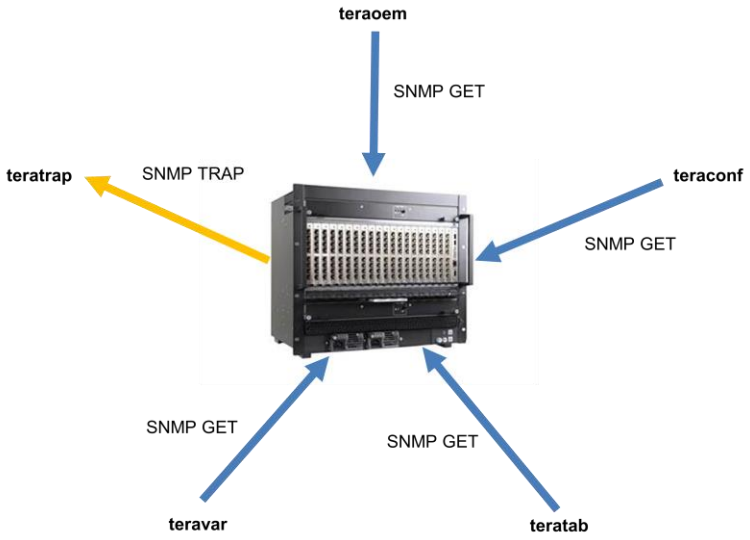


An SNMP agent running in the Draco tera firmware receives a *get* request from a software agent in an SMTP server on UDP port 161 and responds by returning the relevant data. SNMP traps are generated by the SNMP agent and transmitted to the manager on UDP port 162.

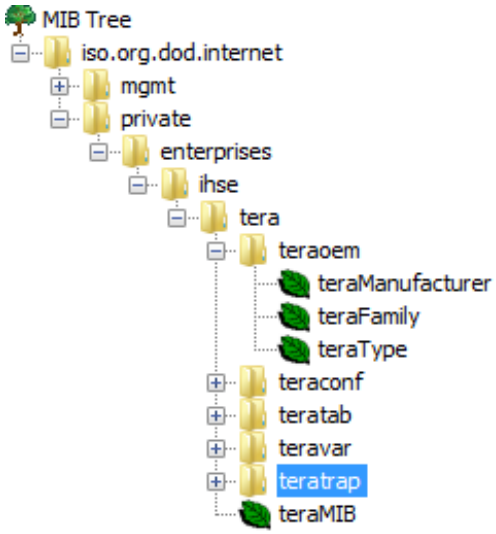
SNMP agent and trap activation and configuration settings are made using the OSD or Java Tool within the main configuration menu.

Currently, the following sub-branches are available for Draco tera systems:

- teraoem – Device manufacturer, family and type information.
- teraconf – Configuration details, including names.
- teratab – OS task, process, slot, port, extender, CPU and CON status information tables.
- teravar – Operational and system status information and ID details.
- teratrap - The sub-branch defining the information which includes an SNMP trap.



SNMP allows device-specific information to be read from different data areas organized in a tree structure, defined as MIB (Management Information Base). One branch within the MIB tree is officially registred for use by IHSE GmbH (.1.3.6.1.4.1.38034).



Sub-branches contain specific information and each single item of information possesses a distinct address within the MIB tree: the OID (Object Identifier).

Detailed Object Identifiers and data descriptions

teraoem

	Object Identifier	Description
	teraManufacturer	Manufacturer
	teraFamily	Product type
	teraType	Type of tera unit

teraconf

	Object Identifier	Description
	teraName	Name of current configuration
	teraInfo	Configuration information
	teraDevice	Host name of Draco tera

tertab

	Object Identifier	Description
teraTaskTable	teraTaskIndex teraTaskName teraTaskStatus teraTaskCounter teraTaskCycle	Task index List of processes Status of processes Number of task cycles passed Duration of task cycles (microseconds)
teraSlotTable	teraSlotIndex teraSlotStatus teraSlotVersion	Slot index Status of particular slots Type and firmware version of I/O board
teraPortTable	teraPortIndex teraPortStatus teraPortOutput teraPortExtenderIndex teraPortExtenderID	Port index Status of ports Connected port Port extender index ID of connected extender
teraExtenderTable	teraExtenderIndex teraExtenderStatus teraExtenderID teraExtenderType teraExtenderPort teraExtenderCpuConIndex teraExtenderCpuConID teraExtenderCpuConType	Extender index Status of extender Extender ID Type of extender Port connected to the extender Extender CPU/CON index CON ID/CPU ID CPU or CON type
teraCpuTable	teraCpuIndex teraCpuStatus teraCpuID teraCpuRealCpuIndex teraCpuRealCpuID teraCpuConIndex teraCpuConID	CPU index Status of CPU ID of CPU Real/virtual CPU index ID of real/virtual CPU CPU/CON index ID of CON connected to the CPU
teraConTable	teraConIndex teraConStatus teraConID teraConVirtualConIndex teraConVirtualConID teraConCpuIndex teraConCpuID	CON index Status of CON ID of CON Virtual CON index ID of virtual CPU CON/CPU index ID of CPU connected to CON

teravar

	Object Identifier	Description
	teraStatus	Status of central matrix
	teraTemperature	Temperature of central Matrix
	teraInsertSlot	Most recent I/O board slot insertion
	teraRemoveSlot	Most recent I/O board slot removal
	teraInvalidSlot	Most recent I/O board slot Invalidation
	teraInsertExtender	Most recent logged-on extender ID
	teraRemoveExtender	Most recent logged-off extender ID
	teraSwitchFromUser	Most recently switched user ID
	teraSwitchFromCon	CON ID of most recent switch order
	teraSwitchCpu	Most recently switched CPU ID
	teraSwitchCon	Most recently switched CON ID
	teraSwitchMode	Mode of most recent switching operation
	teraFan1status	Status of fan #01
	teraFan1Speed	Speed of fan #01
	teraFan2Status	Status of fan #02
	teraFan2Speed	Speed of fan #02
	teraPower1Status	Status of CPU #01
	teraPower2Status	Status of CPU #02
	teraPower3Status	Status of CPU #03

teratrap

	Object Identifier	Description
	teraTrapStatus	Status of central matrix
	teraTrapTemperature	Temperature of central matrix
	teraTrapInsertSlot	Most recent I/O board slot insertion
	teraTrapRemoveSlot	Most recent I/O board slot removal
	teraTrapInvalidSlot	Most recent I/O board slot Invalidation
	teraTrapInsertExtender	Most recent logged-on extender ID
	teraTrapRemoveExtender	Most recent logged-off extender ID
	teraTrapSwitch, includes: teraSwitchFromUser teraSwitchFromCon teraSwitchCpu teraSwitchCon teraSwitchMode	Switching command report: Most recently switched user ID CON ID of most recent switch order Most recently switched CPU ID Most recently switched CON ID Mode of most recent switching operation
	teraTrapFan1	Status of fan #01
	teraTrapFan2	Status of fan #02
	teraTrapPower1	Status of CPU #01
	teraTrapPower2	Status of CPU #02
	teraTrapPower3	Status of CPU #03

Availability

Support tools for the administration, configuration and troubleshooting of Draco tera devices are available as separate software bundles.

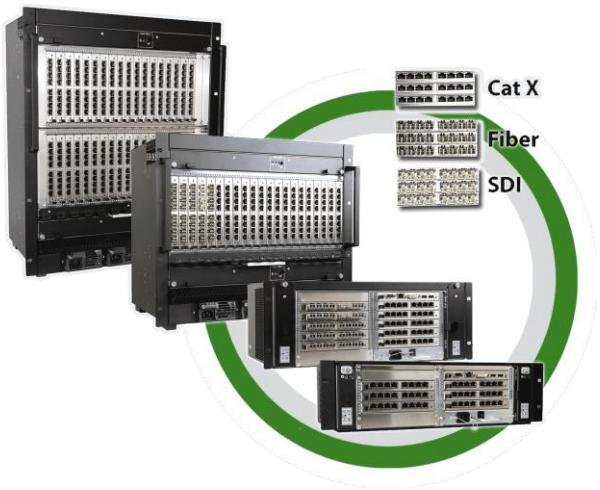
SNMP software is offered as option Bundle 3 (*Part No. 480-B3)*

The Draco tera range

The highly successful Draco tera family has opened a new chapter in the world of enterprise-scale digital video and matrix switching of up to 288 ports in a single system. Based on well-established multiple Gigabit technology, Draco tera enables a cost-effective, modular switching and extension solution supporting DVI video, together with USB, serial, and analogue or digital audio options. The Draco tera KVM switch is available in a range of formats to suit every application

All common DVI Single-Link resolutions up to 1920 x 1200, including High-Definition 1080p are supported and Dual-Link, including 2560 x 2048 pixels and up 4K. Support for even higher resolutions will be added as a future interface option. To enhance its application in broadcast and video editing environments the Draco tera also supports seamless switching of full-rate HD and 3G-SDI video.

The Draco tera solution has been designed for the utmost level of performance and flexibility and to provide scalability for application and future growth. Its non-blocking, high-speed video switch delivers instant millisecond switching between sources and displays, making it ideal for mission-critical control room applications. It can handle the most complex KVM and video routing installations including demanding broadcast and post-production environments, allowing multiple studios and edit suites to access common equipment thereby delivering greater productivity and efficiency.



Connections to source computers and display devices are made through CPU and Con Units. A wide variety of these units is available to support all common audio, video USB-HID and USB 2.0/3.0 signal types.

Please consult individual product brochures for detailed specifications.

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