



## Total Enterprise Access Management TEAM® SNMP Solutions

### Highlights:

- Standards-based management via SNMP and MIBs
- Fully integrated into HP OpenView Enterprise and Distributed Enterprise environments
- Centralized control of GDC access products plus any IP-addressable network elements
- Unique GDC View presents front panel status LEDs
- Detailed graphics show GDC devices in the proper card slots
- Management of multiple GDC devices via a single IP address



**Overview** GDC's Total Enterprise Access Management (TEAM®) provides a convenient, user-friendly means to manage, control and maintain GDC's SNMP-equipped products. TEAM is a collection of applications seamlessly integrated into Hewlett-Packard's HP OpenView network management software platform. These applications use an intuitive point-and-click architecture that provides easy access to powerful management tools.

**A New Point of View** TEAM delivers the high visibility, distributed architecture and open, standards-based platform essential for the control of GDC's SNMP access products. With TEAM Network Management, every node, however remote, is as close as a network administrator's workstation. A custom designed graphical user interface (GUI) generates realistic views of any GDC shelf, front panel, or control card complete with LED status indicators. Unlike other systems, this unique "GDC View" of the network enables intuitive interaction with remote devices and immediate access to all management functions without a complex hierarchy of menus.

The next best thing to having an expert staff member on site at every node, TEAM's distributed approach allows management via multiple controllers located throughout the network. With its support for a large number of network elements, it is particularly effective in environments with many unattended remote sites.

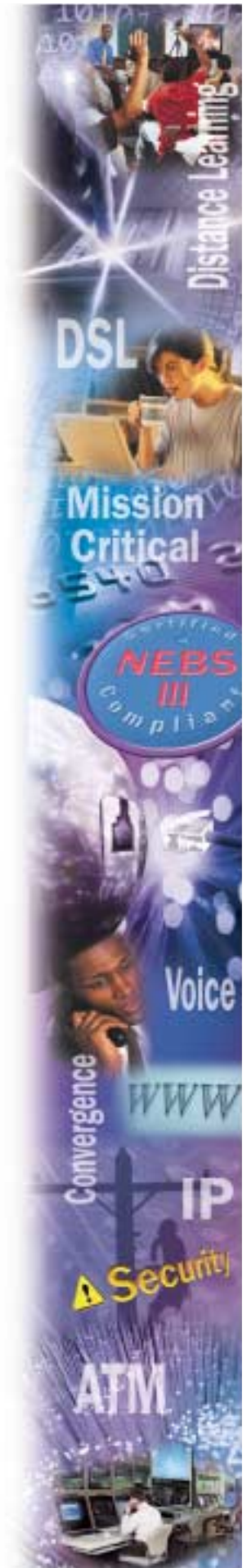
**Standards-Based Management Today** Conformity

with a standards-based management protocol and an open management platform are fast becoming basic requirements for any network manager. TEAM Network Management uses SNMP, the standard internetworking management protocol, and HP OpenView — widely-adopted as the open management platform of choice. It also makes use of the powerful multitasking capabilities of UNIX, using HP/UX and Solaris operating systems.

**Capabilities** GDC's TEAM applications provide Fault Management through SNMP traps. HP OpenView receives, stores and displays alarm and fault information from all network devices and TEAM provides the detailed information required to isolate the faults. Pull down menus and pop up windows simplify Configuration Management. All configurations can be saved to the unit or as a template for subsequent device configurations.

TEAM applications implement Performance Management through detailed reports that display critical line parameters. Reports are customized to specific devices, such as ESF statistics on a digital access product or number of drop outs on a V.34 modem. Reports also offer Accounting Management by displaying and storing network usage information like data rates and connect times. TEAM applications make use of user-defined SNMP community names for Security Management.

**Global Control** Most network management systems provide only a single point of control from a central



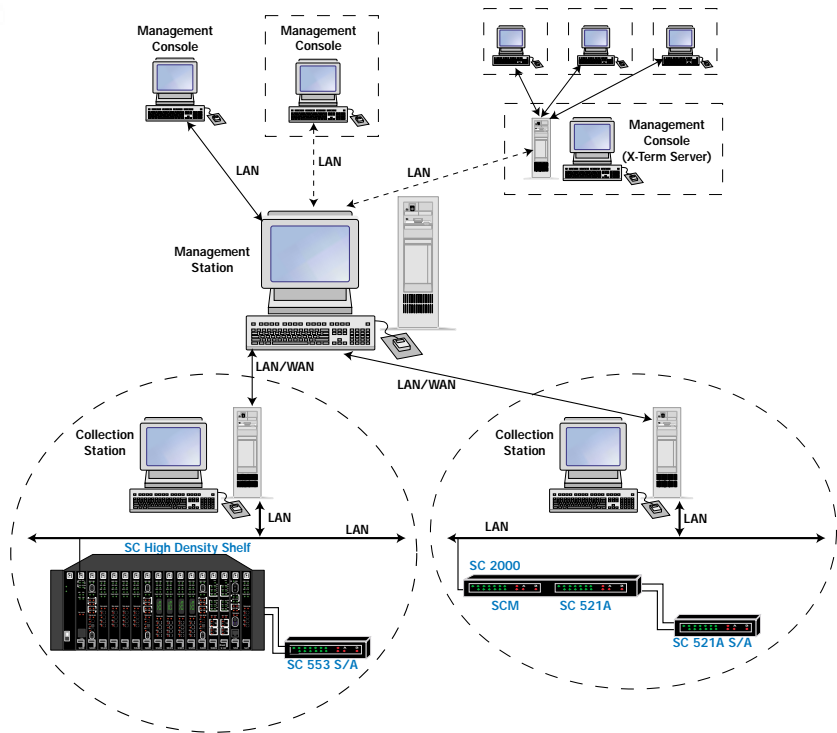
**Total Enterprise Access Management**  
TEAM® SNMP Solutions

site. In some cases the controller must be co-located with the managed devices. In contrast, TEAM network management allows both local and remote configuration, monitoring and control via multiple managers. Alarms can be sent either to a single controller at a central location or to multiple controllers. The result — a comprehensive, up-to-the-minute view of network element activity, even at unattended sites, from anywhere on the network. A diagnostic dial backup capability maintains visibility into operations even if a LAN connection is lost.

**System Components** TEAM's flexible architecture promotes a variety of distributed management alternatives. Major system components include:

- Standalone, IP-addressable, SNMP access products, such as CSU/DSUs and V.34 modems
- Shelf-mounted GDC access products controlled through the SpectraComm Manager (SCM), an SNMP proxy agent. One SCM manages up to two SpectraComm shelves of 31 plug-in modules and their corresponding

**TEAM Is...**



- remotes while occupying only one IP address
- TEAM Management System Controller, a workstation running HP OpenView and connected to a backbone LAN

- Product-specific TEAM Management applications integrated into HP OpenView

**Simple SNMP** TEAM offers a user-friendly alternative to the complexity of the "MIB browser" utilities found on most  
**Imaginative...**

## Informative...

SNMP software packages. Devices are controlled and monitored via communications between the TEAM applications and the GDC devices in the form of SNMP messages. However, all SNMP commands are completely transparent to the user. There is no need for an in-depth knowledge of SNMP commands or MIB structures.

**High Visibility** TEAM applications ensure real-time, around-the-clock visibility via a unique “GDC View” of the network. Shelves of SpectraComm devices are realistically portrayed. Front panels with dynamically updated LED indicators provide an instant snapshot of key status parameters.

The front panel view also provides a direct path to a full array of management functions. Users can display additional



information about the devices, configure or modify options, display specific alarms, and perform diagnostic tests. Product specific features are available for individual TEAM applications to best manage each GDC device.

Other time-saving advantages are gained through the system's multi-window display capability. The UNIX platform even allows more than one front panel or configuration to be viewed at the same time, users can watch test results at both the send and receive ends of a diagnostic routine or compare two configuration settings.

**Proactive Management** With TEAM, network administrators can detect system malfunctions early — before they affect service to users. They can also evaluate current network usage to cost-justify future network changes.

The alarm status of an entire network can be viewed at a glance through a change in icon color or at the element level through a change in an LED indicator. Statistics can also be periodically updated, providing snapshots of performance and utilization. Also useful for rapid fault isolation is an alarm reporting feature for viewing a subset of specific alarms.

**Applications Flexibility** Custom-designed TEAM network management software packages are available for the full range of GDC's analog and digital SNMP-managed access products, including DSUs, CSUs, modems, intelligent access multiplexers, digital access products, and DSLware™ products.

For flexibility in satisfying application needs, TEAM is offered both as a stand-alone application package and as a complete systems solution including hardware/software manager platform and a fully-integrated applications package.

## Interactive...

### Intuitive...



## TEAM Management Applications

SOFTWARE FAMILY	PRODUCTS SUPPORTED
<b>SpectraComm Products (UNIX-based)</b>	
TEAM CORE	SCM
TEAM SC 553	SC 553
TEAM 800 T3	SC 800T3
TEAM V.34/Dual V.34	SC V.F 28.8, Dual V.34
TEAM SC 521A	SpectraComm 521A
TEAM 202	SpectraComm 202
TEAM 5001	SpectraComm 5001 LTU
TEAM 5520	SpectraComm 5520
TEAM 5553	SpectraComm 5553
TEAM 5034	SpectraComm 5034
<b>UAS Products (UNIX-based)</b>	
TEAM 600	UAS 600 Series and GT 128
TEAM 700	UAS 700 Series
TEAM 7000	UAS 7001, 7002 and 7022
TEAM 7624	UAS 7624
TEAM 7600	UAS 7626, 7616
TEAM 7700	UAS 7722
TEAM 2011	SC 2011 DATX
<b>Metroplex Products (UNIX-based)</b>	
TEAM 6000	Metroplex 6000

## System Specifications

### PLATFORMS:

SUN SparcStation running SUN Solaris UNIX operating system

HP 9000 running HP/UX UNIX operating system

### SNMP AGENTS:

SpectraComm Manager (SCM) and SCM software in SpectraComm and UAS applications

(SCM controls: one or two 16-card SpectraComm Shelves or up to 62 access products and corresponding remotes)

### INTERFACES:

LAN: Ethernet (10BaseT, 10Base2)  
WAN: EIA-561, 19.2 or 9.6 Kbps, switch selectable  
Serial: Point-to-Point Protocol (PPP) or Serial Link Interface Protocol (SLIP)  
Dial Backup: EIA-561 using PPP or SLIP

### SNMP SUPPORT

Protocol Version: Simple Network Management Protocol (SNMP), Version 1  
MIBs: Compliant with the RFC 1213 and 1215 MIB II (basic SNMP support); RFC 1155 (for management information structure); RFC 1157 (for network management protocol); RFC 1331 (PPP definition); and device-specific RFCs  
Object groups supported by SCM: Address Translation Group, IP Group, ICMP Group, TCP Group, UDP Group, Transmission Group, and SNMP Group  
Enterprise MIBs for GDC SpectraComm devices and SCM  
Traps: Four of the six generic Traps (coldStart, linkDown, linkUp and authenticationFailure); enterpriseSpecific Traps for alarm reporting

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Printed in U.S.A

00512-0501EO