COMPAQ

Software Product Description

PRODUCT: TeMIP Access Module for GPT EMOS Element Manager SPD 80.14.01

DESCRIPTION

The TeMIP EMOS Access Module (AM) provides an interface to the GPT EMOS Element Manager - Operations System (Release 3.03) managing SDH equipment from GPT. The EMOS Access Module supports fault management capabilities with a basic Information Model (2 global classes), receiving and processing unsolicited messages (Basic Fault Management).

TeMIP for Tru64 UNIX® is a family of software products for the management of telecommunications and corporate networks, including fixed wire and mobile/cellular voice and data, multi-vendor, multi-technology networks. TeMIP V4.0 provides comprehensive off-the-shelf fault and trouble management functions such as Alarm Handling, Event Logging and Trouble Ticketing for telecommunications network management.

TeMIP supports the International Standards Organization (ISO) management standards ISO 10164-x and ISO 10165-x, the OMNIpoint 1 standards as defined by NMF and T1M1. TeMIP and its features are applicable in the context of the International Telecommunication Union-Telecom Standard Sector (ITU-T) X.73x and Telecommunications Management Network (TMN) M.3010 and M.3100 Recommendations. TeMIP gives network operators a global view of their networks, and enables them to activate management functions and operations from single or multiple workstations.

TeMIP is built on top of the TeMIP Framework and fully benefits from the object oriented and truly distributed software architecture.

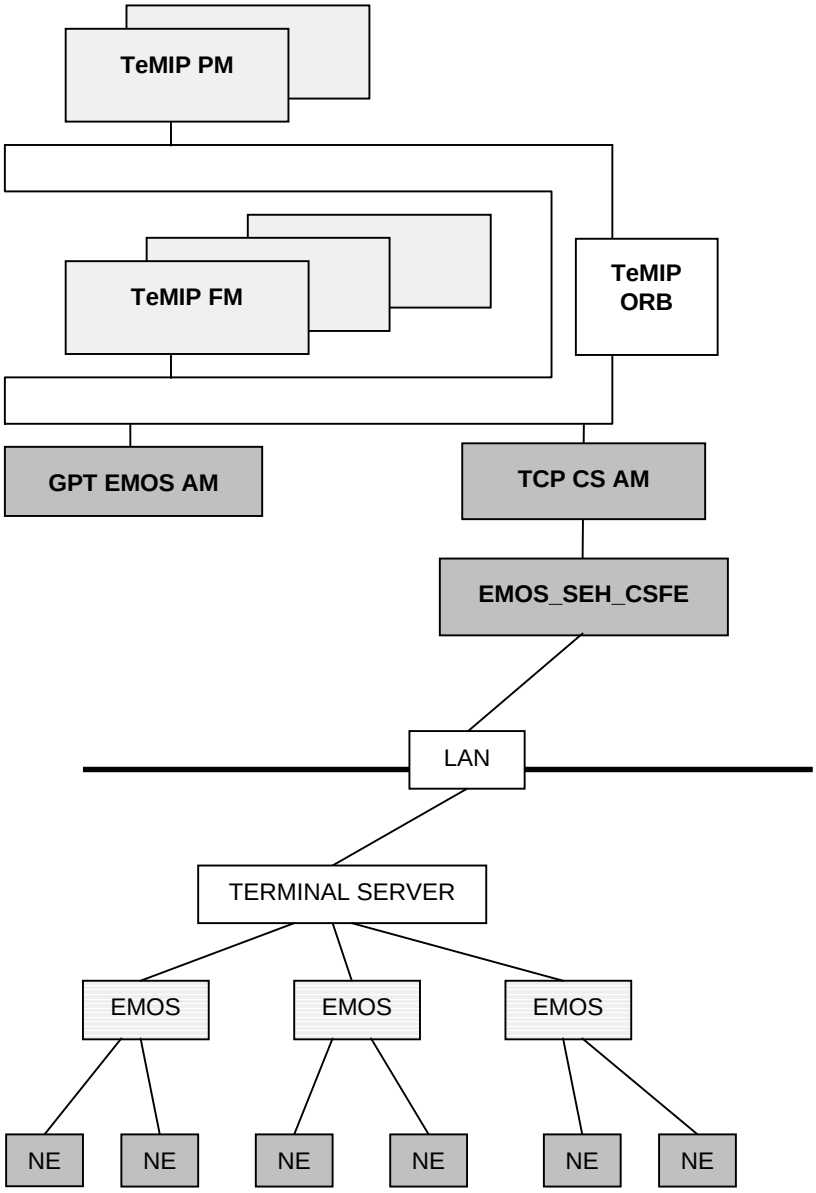
SOLUTION COMPONENTS

The GPT EMOS Element Manager is directly interfaced to TeMIP by means of a combination of Management Modules and Applications:

- The Communications Server Front-End Application whose purpose is to moderate the byte stream before the Communications Server processing,
- The TCP Communications Server Access Module, responsible for establishing and maintaining the physical connection to the Front-End. (As an alternative to the TCP Communications Server, either the X.25 (SVC) or RS232 Communications Servers could also be envisioned, along with modifications of the Front-End process),
- The EMOS AM, responsible for the Information Model representing the management capabilities of the equipment as well as all associated semantic translations between its ASCII-based messaging interface and TeMIP data models.

The solution components are shown in Figure 1.

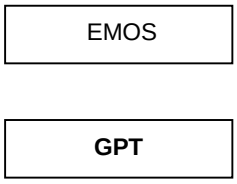
Figure 1: Solution Components



INFORMATION MODEL OUTLINE

The EMOS is represented by the information Model shown in Figure 2

Figure 2: Information Model



The meaning of each class is described in Table 1.

Table 1: GPT EMOS Hierarchy Description

Class	Description	Cardinality
EMOS	This class represents an GPT EMOS system connected to an EMOS AM	N
GPT	This class models a Network Element.	N

MANAGEMENT CAPABILITIES SUMMARY

Unsolicited Messages Support

The GPT EMOS Element Manager can generate a large amount of various messages classified into 5 different types, according to *"Serial Event Hand-off Facility, Operator Manual", 1QDF60138 CBG, Issue 1. Marconi Communications/GPT*.

The messages can be further separated into 2 major formats: status and alarm messages depending on the leading identifier byte.

The handled messages are the following:

Alarm Messages:

- Alarm Change
- Audit Message

Status Messages:

- EMOS start-up Message
- EMOS shutdown Message
- Heartbeat Message

Alarm Correlation

Several unsolicited messages have a correlated alarm clearance. For these messages the EMOS AM generates the necessary information so that the correct alarm correlation can be performed.

According to ITU-T standards, the clearance of an alarm is done based on the following rule:

- An alarm is cleared when another one with severity clear and with same event arguments for **Managed Object** and **Notification Id** is received.

Alarm Duplication and Synchronization

The EMOS AM supports alarm suppression and synchronization of the access module alarm state with that of the Network Elements. For this purpose, EMOS AM mirrors the total alarm states of the network elements by keeping a list of pending alarms for each known NE. No alarm state is preserved for unknown NEs. No alarm state is kept for status alarms, since these are never cleared.

MISCELLANEOUS MANAGEMENT CAPABILITIES

The EMOS AM shall also implement the feature listed below:

- Automatic detection and reporting of communication failure.

HARDWARE REQUIREMENTS

Supported Alpha AXP Processors:

DIGITAL Personal Workstation au series
DIGITAL Ultimate Workstation
AlphaStation 600
AlphaServer 800, 1000A, 1200
Compaq AlphaServer DS10, DS20

AlphaServer 2000, 2100, 4000, 4100
Compaq AlphaServer ES40

AlphaServer 8200, 8400
Compaq AlphaServer GS60, GS140

Disk Space Requirements:

Disk space required for installation:
Subset copy: 9 Mbytes
Installation: /usr 26 Mbytes

Disk Space Required for Use (Permanent):
No specific requirement

Memory Requirements:

The minimum memory supported, due to a TeMIP Framework prerequisite, is 128 Mbytes.

However, the use of this software in conjunction with increased memory capability improves performance.

SOFTWARE REQUIREMENTS

Compaq Tru64 UNIX® Operating System V4.0F

TeMIP Framework V4.0

OPTIONAL SOFTWARE

TeMIP Graphical ASCII Toolkit V4.0

GROWTH CONSIDERATIONS

The minimum hardware/software requirements for any future version of this product may be different from the current version requirements.

YEAR 2000 READY

This product is Year 2000 Ready.

"Year 2000 Ready" products are defined by Compaq as products capable of accurately processing, providing, and/or receiving date data from, into and between the twentieth and the twenty-first centuries, and the years 1999 and 2000, including leap year calculations, when used in accordance with the associated Compaq product documentation and provided that all hardware, firmware and software used in combination with such Compaq products properly exchange accurate date data with the Compaq products.

For additional information visit Compaq's Year 2000 Product Readiness web site located at http://www.compaq.com/year2000

To ensure that this product is Year 2000 Ready, code assessment and system tests to verify the transition between December 31st 1999 and January 1st 2000 were utilized.

To ensure that this product interoperates properly with other hardware and software, the system tests involving Compaq's TeMIP V4.0 are applicable, as this product was verified as being Year 2000 Ready.

DISTRIBUTION MEDIA

This software is available by electronic means, distributed directly by Compaq TeMIP Engineering Team in Sophia Antipolis, France. The team can be contacted through your local Compaq office, which sends an internal e-mail to vbetemipsupp@compaq.com (containing customer identification and proof of license purchase).

ORDERING INFORMATION

Compaq TeMIP Access Module for GPT EMOS Element Manager (Basic Fault Management)

Software License:

- QM-6F1AA-AA

Software Product Services:

- QT-6F1**-** or QR-SP6F1-A9

Notes:

1. * denotes variable fields. For additional information on available services refer to the appropriate price book.
2. The QM number corresponding to the TeMIP Graphical ASCII Toolkit V4.0 (Run-Time) must also be purchased (QM-5SMAA-AA).

SOFTWARE LICENSING

This software is furnished under the licensing provisions of Compaq Computer Corporation's Shrink-wrap Terms and Conditions. The license is a Corporate wide license, i.e. can be copied as many times as necessary on systems using the same TeMIP Namespace.

However, one Graphical ASCII Toolkit runtime license per copy of the Access Module is required.

For more information about Compaq's licensing terms and policies, contact your local Compaq office.

COMPAQ TRU64 UNIX LICENSE MANAGEMENT

This product uses the FLEXlm Software License Key system.

A FLEXlm key must be obtained using information provided with the license deliverable. An authorization number is provided for each license, which allows the user to obtain license keys from an Internet Web Server according to instructions provided with the License Certificate.

SOFTWARE PRODUCT SERVICES

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SOFTWARE WARRANTY

This software product is provided by Compaq with a 90-day conformance warranty in accordance with the Compaq warranty terms and applicable to the license purchase.

The above information is valid at the time of release. Please contact your local Compaq office for the most up-to-date information.

TRADEMARK INFORMATION