COMPAQ

Software Product Description

PRODUCT NAME: TeMIP Access Module for Nokia PDH   SPD 80.25.00

DESCRIPTION

The TeMIP Nokia PDH Access Module (AM) provides an interface to the Nokia PDH. The Nokia PDH Access Module supports fault management capabilities, receiving and processing unsolicited messages (Fault Management).

TeMIP 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 V3.2 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 Nokia PDH equipment is directly interfaced to TeMIP by means of a combination of Management Modules:

- The TCP Communications Server Access Module, responsible for establishing and maintaining the physical connection to the equipment. (As an alternative to the TCP Communications Server, either the X.25 (SVC) or RS232 Communications Servers could also be envisioned)

- The Nokia PDH 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.

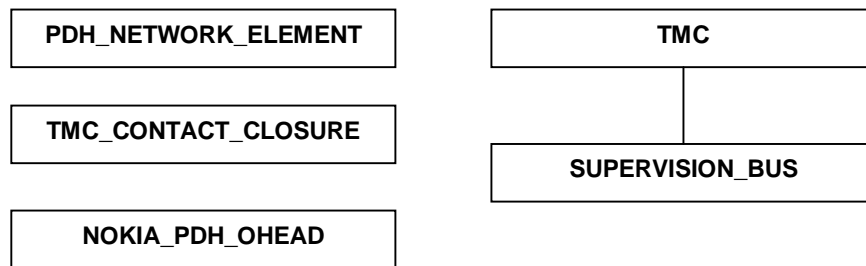The solution components are shown in Figure 1.

Figure 1: Solution Components
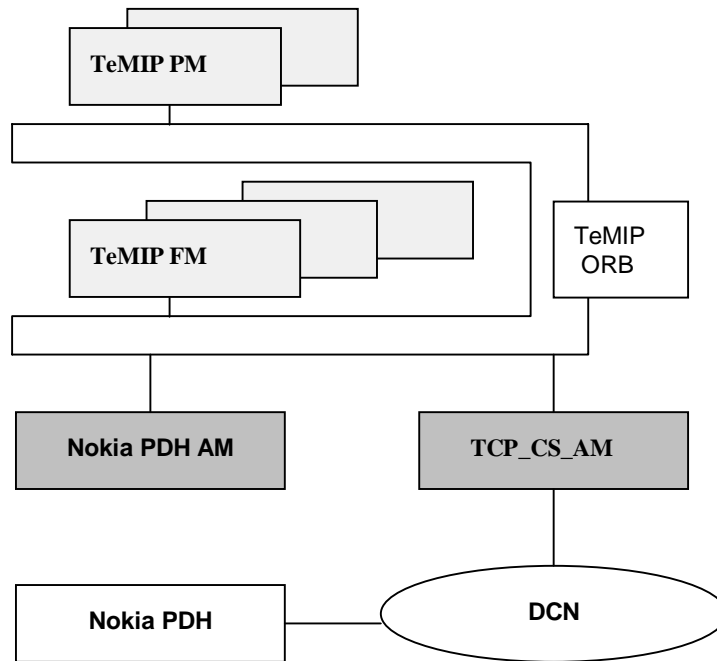
INFORMATION MODEL OUTLINE

The Nokia PDH 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: Nokia PDH Hierarchy Description

Global Class	Child class	Description	Cardinality
TMC		The TRANSMISSION MANAGEMENT COMPUTER (TMC) represents the transmission management computer. This AM has a direct connection to the printer port of the TMC which automatically receives all alarms dumped to it.	N
	SUPERVISION_BUS	The Supervision Bus sub-entity is a method by which Network Elements and Supervisory Substation Cards are connected to the TMC.	N
PDH_NETWORK_ELEMENT		If an entity is connected directly to the TMC via the Supervision Bus, then it is represented as an instance of the Nokia PDH Network Element class. Although the TMC Adaptor and the Supervisory Substation Card are part of the TMC itself, they each have their own bus address and subaddress so they will be represented as instances of the Nokia PDH Network Element class. • The network elements, DM2, DM8, DM34, DN2, NTU, DMR 38 Radio, OB1, OB4, DNT128, OB16, ODLC/8D, TCSM Transcoder, HOD, TPDU, PDU, PDH Multiplexer, are also represented by instances of the Nokia PDH Network Element class.	N
TMC_CONTACT_CLOSURE		If an entity is connected to the TMC via a Contact Closure then it is represented as an instance of the TMC Contact Closure class.	N
NOKIA_PDH_OHEAD		The NOKIA_PDH_OHEAD global entity is responsible for signalling received messages that cannot be correctly assigned to existent entities such as NE, MD or contact closures.	N

MANAGEMENT CAPABILITIES SUMMARY

Unsolicited Messages Support

The Nokia PDH AM shall handle the following unsolicited messages:

• REPT ALM: Report Alarm

• REPT ALM ENV: Report Alarm Environment

• REPT COND: Report Condition

• REPT EVT: Report Event.

Commands Support

The Nokia PDH AM provides no specific commands support.

Alarm Clearance

The Nokia PDH will ensure alarm clearance based on "Correlated Notifications" argument of the OSI alarm will be triggered in TeMIP standard Fault Management application (TeMIP Alarm Handling FM).

To make this possible:

• All alarms with severity different from "clear" will have a "Notification Identifier" argument

• All alarms clearing a pending alarm will have a "Correlated Notifications" argument referencing the "Notification Identifier" of the alarm to clear.

In order to clear a previous alarm, the Nokia PDH TMS sends a specific message with the same alarm number in the message body. The Nokia PDH AM generates a Notification Identifier in every alarm message, and also in the clear alarm, so the TeMIP Alarm Handling can perform the clear correlation whenever required.

Miscellaneous Management capabilities

The Nokia PDH AM shall implement the features listed below:

• Inactivity timeouts

• Processing error handling and reporting

• Unknown message "catch-all" mechanism.

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: 22,000 Kbytes
Installation: /usr 72,000 Kbytes

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 V4.0D or V4.0F

TeMIP Framework V3.2

A TeMIP Graphical ASCII Toolkit run time license per Access Module is also required

OPTIONAL SOFTWARE

TeMIP Graphical ASCII Toolkit V2.0

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

"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 V3.2 are applicable, as this product was verified as being Year 2000 Ready.

The testing used to confirm the Year 2000 readiness of this product included code assessment and system tests to verify transition dates.

DISTRIBUTION MEDIA

This software is available by electronic means, distributed directly by the Compaq TeMIP Engineering Team, who 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

TeMIP Access Module for Nokia PDH Fault Management

Software License:

• QM-6GFAA-AA

Software Product Services:

• QT-6GF**-T* or QR-SP6GF-A9

Notes:

1. * denotes variable fields. For additional information on available services, or hardware platform tiers, refer to the appropriate price book.

2. The QM number corresponding to the TeMIP Graphical ASCII Toolkit V2.0 (Run-Time) must also be purchased (QM-5SMAA-AA).

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