COMPAQ

Software Product Description

PRODUCT NAME: Compaq OMNI MMS Version 3.1 **SPD 47.89.07**

DESCRIPTION

Compaq OMNI MMS is a network communication product that provides a solution for the connection and management of manufacturing/utility control devices and systems. Compaq OMNI MMS implements the Manufacturing Message Specification (MMS), ISO/IEC 9506-1 and ISO/IEC 9506-2. When combined with prerequisite hardware and software, Compaq OMNI MMS interoperates with other systems supporting the Manufacturing Message Specification ISO/IEC9506-1 and ISO/IEC 9506-2 specifications.

Features

Compaq OMNI MMS is an implementation of the Manufacturing Message Specification (MMS), ISO/IEC 9506. It relies upon the Compaq OMNI API product that provides a high level applications programming interface (API) with a high degree of functionality built in. The interface is easy to use and requires very little support code. For more information, please refer to the Compaq OMNI API Software Product Description (SPD 47.88.xx).

Alternatively, Compaq OMNI MMS can be integrated with the BASEstar Open Server product (SPD 47.87.xx) for connection to plant devices which use the MMS protocol.

Compaq OMNI MMS provides, as a minimal set, the Client Conformance requirements for the services specified in MAP Implementation Class MAP3.

The product is able to connect to those devices that have implemented to ISO/IEC 9506 (MMS).

CONFORMANCE TO STANDARDS

The conformance of Compaq OMNI MMS software to OSI standards is specified in Appendix A of this SPD.

INSTALLATION

Only experienced customers should install Compaq OMNI MMS software. Compaq recommends that all other customers purchase Compaq Installation Services. These services provide for installation of the software product by an experienced Compaq software specialist.

Installation steps for Compaq OMNI MMS consists of the following:

- Verification that all components of Compaq OMNI MMS have been received
- Verification that the necessary versions of the prerequisite software and documentation are available
- Verification of the appropriate system parameters
- Verification that the system meets the minimum hardware and software requirements as specified in this SPD
- Installation of the Compaq OMNI MMS software by creating the necessary directories and by copying the software from the distribution media
- Verification that Compaq OMNI MMS has been installed correctly by using the IVP

Compaq OMNI MMS Installation Verification Procedure (IVP)

The Compaq OMNI MMS IVP performs a series of tests to verify proper installation.

HARDWARE REQUIREMENTS

Alpha Processors Supported

All Alpha processors supported by the Compaq OMNI API and BASEstar Open Server products.

Disk Space Requirements (Block Cluster Size = 1):

For OpenVMS Systems

During Installation	Permanent Use
20,000 blocks	10,000 blocks

For Tru64 Unix Systems

Component	Installation	Permanent Use
File System Root	340 Kbytes	340 Kbytes
/usr/opt	7 Mbytes	6 Mbytes
/usr/var/opt	5 Mbytes	2 Kbytes
Total	13 Mbytes	9 Mbytes

SUPPORTED PRODUCTS

This SPD defines the following Compaq OMNI MMS products:

- Compaq OMNI MMS for Tru64 Unix Version 3.1
- Compaq OMNI MMS for OpenVMS Alpha Version 3.1

SOFTWARE REQUIREMENTS

YEAR 2000 READY

YEAR 2000 READY This product is Year 2000 Ready. Year 2000 Ready is defined: "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 product documentation and provided that all hardware, firmware and software used in combination with such products properly exchange accurate date data with the products.

For OpenVMS Systems:

- Either:
  - — OpenVMS Alpha Operating System V6.1, V6.2, V7.0, V7.1,V7.2 or
  - — OpenVMS VAX Operating System V6.1, V6.2, V7.0, V7.1, V7.2
- Compaq DECnet/OSI for OpenVMS V6.3 to V7.1, V7.2
- Compaq OMNI API for OpenVMS Version 3.1

For Tru64 Unix Systems:

- Tru64 Unix Operating System V3.2 or V4.0
- Compaq DECnet/OSI for Tru64 Unix V3.2 or V4.0
- Compaq OMNI API for Tru64 Unix Version 3.1

GROWTH CONSIDERATIONS

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

DISTRIBUTION MEDIA

This product is distributed with the Compaq CD-ROM software libraries for OpenVMS Alpha and for Tru64 Unix.

ORDERING INFORMATION

For OpenVMS Alpha systems:

Software Licenses: QL-2QD**-**
Documentation Kit: QA-2QDAA-GZ
Software Product Services: QT-2QD**-**

For OpenVMS VAX systems:

Software Licenses: QL-4VAA*-**
Documentation Kit: QA-2QDAA-GZ
Software Product Services: QT-4VA**-**

For Tru64 Unix systems:

Software Licenses: QL-2YU**-**
Documentation Kit: QA-2YUAA-GZ
Software Product Services: QT-2YU**-**

* Denotes variant fields. For additional information on available licenses, services, and media, refer to the appropriate price book.

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

SOFTWARE LICENSING

The Compaq OMNI MMS license gives the user the right to use the software on a single CPU and includes the delivery of a license product Authorization Key (PAK) to enable Compaq OMNI MMS software. This software is furnished under the licensing provisions of Compaq Equipment Corporation's Standard Terms and Conditions for software licenses. For more information about Compaq licensing terms and policies, contact your local Compaq office.

License Management Facility Support

This layered product supports the OpenVMS and Tru64 Unix License Management Facility. For more information on the License Management Facility, refer to the appropriate operating system SPD or documentation.

SOFTWARE PRODUCT SERVICES

A variety of service options are available from Compaq. For more information, contact your local Compaq office.

SOFTWARE WARRANTY

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

Warranty Limitations

Compaq has produced this product according to Protocol Specifications produced by the International Organization for Standardization (ISO) defined in Appendix A of this SPD.

Compaq warrants this product to conform to these Protocol specifications, as described by these International Standards.

Compaq cannot assume responsibility for problems caused by:

- Other vendors' nonconformance to the International Standards that Compaq OMNI API implements
- Ambiguities in the International Standards implemented by Compaq OMNI MMS
- Flaws in the protocol design appearing in the International Standards implemented by Compaq OMNI MMS

Assistance requested of Compaq for problems resulting from any of the errors listed above will result in all associated service calls being billed at the prevailing per call rates. To minimize the risk of problems, Compaq has tested this product against selected other ISO/IEC 9506-1 and ISO/IEC 9506-2 implementations.

APPENDIX A: Conformance to Standards

This appendix defines the conformance of Compaq OMNI MMS Compaq OMNI MMS product to International Organization for Standardization (ISO) international specifications for protocol standards as specified in ISO/IEC 9506-2 clause 18.

Table 1
PICS Part 1: Implementation Information

Attribute	Value
Implementation's Vendor Name	Compaq
Implementation's Model Name	Compaq OMNI MMS
Implementation's Revision Identifier	V3.0
Machine Name(s) and Version Number(s)	-
Operating System(s)	OpenVMS, Tru64 Unix
MMS Abstract Syntax	[1 0 9506 2 1]
MMS Version Number Supported	1
MMS Companion Standard Abstract Syntaxes	None
MMS Companion Standard Version Number Supported	N/A
Calling MMS-user (indicate "Yes" or "No")	Yes
Called MMS-user (indicate "Yes" or "No")	Yes
List of Standardized Names	None

Table 2
PICS Part 2: Service CBBs

Service Conformance Building Blocks	S(erver), C(lient), or B(oth)
Initiate	B
Conclude	B
Cancel	-
UnsolicitedStatus	B
Status	B
GetNameList	B
Identify	B
Rename	-
GetCapabilityList	B
Read	B
Write	B
InformationReport	B
GetVariableAccessAttributes	B
DefineNamedVariable	-
DefineScatteredAccess	-
GetScatteredAccessAttributes	-
DeleteVariableAccess	-
DefineNamedVariableList	B
GetNamedVariableListAttributes	B
DeleteNamedVariableList	B
DefineNamedType	-
GetNamedTypeAttributes	-
DeleteNamedType	-
Input	-
Output	-
TakeControl	-
RelinquishControl	-
DefineSemaphore	-
DeleteSemaphore	-
ReportSemaphoreStatus	-
ReportPoolSemaphoreStatus	-
ReportSemaphoreEntryStatus	-
AttachToSemaphore	-
InitiateDownloadSequence	C
DownloadSegment	S
TerminateDownloadSequence	S
InitiateUploadSequence	C
UploadSegment	C
TerminateUploadSequence	C
RequestDomainDownload	S
RequestDomainUpload	S
LoadDomainContent	B
StoreDomainContent	B
DeleteDomain	B
GetDomainAttributes	B
CreateProgramInvocation	B
DeleteProgramInvocation	B
Start	B
Stop	B
Resume	B
Reset	B
Kill	B
GetProgramInvocationAttributes	B
ObtainFile	B
DefineEventCondition	-
DeleteEventCondition	-
GetEventConditionAttributes	-
ReportEventConditionStatus	-
AlterEventConditionMonitoring	-
TriggerEvent	-
DefineEventAction	-
DeleteEventAction	-
GetEventActionAttributes	-
ReportEventActionStatus	-
DefineEventEnrollment	B (See Note 9)
DeleteEventEnrollment	B (See Note 9)
AlterEventEnrollment	-
ReportEventEnrollmentStatus	-
GetEventEnrollmentAttributes	B (See Note 9)
AcknowledgeEventNotification	-
AttachToEventCondition	-
EventNotification	B
GetAlarmSummary	-
GetAlarmEnrollmentSummary	-
ReadJournal	-
WriteJournal	-
InitializeJournal	-
CreateJournal	-
DeleteJournal	-
ReportJournalStatus	-

Table 3
PICS Part 3: Parameter CBB

Parameter Conformance Building Blocks	Supported (Value)
STR1	Y
STR2	Y
NEST (>=0 . Give integer value.)	10
VNAM	Y
VADR	Y
VALT	Y
VSCA	N
TPY	N
VLIS	NY
REAL	N
CEI	N

Table 4
Supplemental PICS Table

Service Conformance Building Blocks	S(erver), C(lient), or B(oth)
FileOpen	B
FileRead	B
FileClose	B
FileRename	B
FileDelete	B
FileDirectory	C

Table 5
PICS Part 4: Local Implementation Values

Attribute	Value
Range of values for floating point numbers	See Note 1
Supported values of the floating point exponent width	See Note 1
Supported values of the floating point format width	See Note 1
Range of values for signed integer	12**32-1
Range of values for unsigned integer	2**32
The following semantics are defined for the use of the local detail calling/called fields. As a result, a limit is set for a maximum MMS PDU size which limits specific functions.	
Maximum length for BIT STRING in bits	See Note 2
Maximum length for OCTET STRING in octets	See Note 2
Address formats for VADR Parameter CBB	N/A
Maximum Input Time Out in seconds	N/A
Level of support for time	See Note 3
Granularity of time in milliseconds	N/A
Uninterruptible access to variable	See Note 4
Priority processing for semaphores	N/A
Capabilities of VMD	N/A
Local Detail	N/A
File Name Syntax	See Note 5
Range of Maximum Services Outstanding Calling	See Note 6
Range of Maximum Services Outstanding Called	See Note 6
Execution Argument	N/A
Additional Code in Error Type	See Note 7
Additional Detail in Error Type	See Note 7
Method for Extended Derivation of Status Information	N/A
Local Detail Calling/Called	See Note 8
Load Data Format	N/A
Maximum Number of Upload State Machines	N/A

Note 1:

VAX F floating point is supported. The range is 1.17545*10**-38 through 1.17545*10**38. An exponent width of 8 bits is supported. A format width of 32 bits is supported.

Note 2:

The effective length for strings is limited by the maximum PDU size. See Note 8.

Note 3:

Date and Time are supported. Support for Time Sequence Identifier is N/A.

Note 4:

Read and Write indications are delivered to user written code and thus uninterruptible access is application dependent.

Note 5:

The syntax and semantics for file name are specified by the OpenVMS operating system. This is documented in the OpenVMS documentation under "Full File Specification". Wildcard specifiers are not permitted.

The file name must be specified in the first graphic string of the FileName production. Any information in additional graphic strings will be ignored.

Note 6:

The range is 1-infinity. Acceptance of indications is under programming control. The actual number of outstanding requests allowable is dependent upon process memory limits which is set by either the programmer or system manager.

Note 7:

This implementation does not specify additional code nor additional detail in error type.

Note 8:

The following semantics are defined for the use of the local detail calling/called fields. As a result, a limit is set for a maximum MMS PDU size, which limits specific functions.

The semantics of this field are contained in the implementation agreements of the NIST (National Institute for Standards and Technology - OSE Implementor's Workshop) Special Publication 500-214 titled *Stable Implementation Agreements for Open Systems Interconnection Protocols*, Version 7, Edition 1, December 1993, Part 20 (MMS) Sections 8.2.0.3 and 8.2.0.4.

Note 9:

The optional parameter of Event Actions on an Event Enrollment is not supported.

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