



**Tech-Doc Producer/Consumer
Version 3.0 Specification**

Production Release

August 11, 2004

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Tech-Doc Consumer/Producer Version 3.0 Specification

August 11, 2004

This document defines the requirements of a MIMOSA Open System Architecture for Enterprise Application Integration (OSA-EAI) *Tech-Doc* Producer and Consumer. The purpose of this specification is to facilitate data exchange between an application with information which it needs to publish periodically and other consumer applications which need to unambiguously read this information. The actual communication method of the XML document exchange between a producer and consumer is not specified. Uses for this specification include:

- Complete export and import of asset/segment registry information from one system to another (Reg-Doc Producer and Reg-Doc Consumer)
- Periodic "incremental" export of asset/segment registry information from one system to another (Reg-Doc Producer and Reg-Doc Consumer)
- A SOAP client/server application which passes vibration data between two systems (Dyn-Doc Producer and Dyn-Doc Consumer)
- An OPC XML-DA Complex client/server application which passes oil sample data between two systems (Sample-Doc Producer and Sample-Doc Consumer)
- *Tech-File* Export applications which create a physical XML file which complies with the *Tech-Doc* Producer specification.

Technology Types

An application which is *Tech-Doc* Producer compliant publishes information in an XML document which validates against **Tech-Doc Schema V3-0.xsd**. An application which is *Tech-Doc* Consumer compliant reads and utilizes information from an XML document which validates against **Tech-Doc Schema V3-0.xsd**. A producer or consumer application can support one or more multiple technology types which correspond to different types of information a server might manage:

Technology Type	Description
Asset Registry Management Information (REG-Doc Producer/Consumer Interfaces)	XML document producer/consumer of information related to segment hierarchical breakdown of facility, process, and machine systems, along with the "as-installed" asset information. Also allows the transport of nameplate and image data on individual assets and models, including component part breakdowns. Used by: <ul style="list-style-type: none"> - OEM Model Information Systems - Asset Registry Information Systems - Maintenance Management Systems - Piping & Instrumentation Design Systems

Reliability Management Information (REL-Doc Producer/ Consumer Interfaces) [“7000” series]	<p>Allows retrieval of reliability study information related to a service segment, a model of an asset, or a serialized asset. Allows the retrieval of information associated with hypothetical causal networks, reliability-centered maintenance information, as well as actual failure events. Used by:</p> <ul style="list-style-type: none"> - Reliability Information Systems - FMECA Analysis Systems - RCM Analysis Systems
Work/Action Management Information (WORK-Doc Producer/ Consumer Interfaces)	<p>XML document producer/consumer of information related to work management systems for a service segment or a serialized asset. Allows the transport of work orders and work order steps, and actual work completed information.. Also allows the transport of pre-planned work packages ("solution packages"). Used by:</p> <ul style="list-style-type: none"> - Maintenance Management Systems
Diagnostics / Health / Prognostics Information (DIAG-Doc Producer/ Consumer Interfaces)	<p>XML document producer/consumer of information related to human or "smart-agent" generated past, present, or future proposed asset health states, proposed diagnostic failure modes and casual trees, remaining useful life predictions, and recommendations. Also allows access to measurement evidence supporting the diagnoses/prognoses. Used by:</p> <ul style="list-style-type: none"> - Diagnostic Systems - Prognostic Systems
Trendable Scalar Data (TREND-Doc Producer/ Consumer Interfaces)	<p>XML document producer/consumer of information related to historical scalar measurements, abnormal data alarms, and operational event logs. Used by:</p> <ul style="list-style-type: none"> - Maintenance Management Systems for Usage-based PM Work Triggering - Process Data Historians - Process Condition Monitoring Systems - Operational Data Systems
Dynamic Data (DYN-Doc Producer/ Consumer Interfaces)	<p>XML document producer/consumer of information related to historical dynamic measurements (used with vibration and sound monitoring and including frequency spectra measurements and time waveforms), abnormal data alarms, and operational event logs. Used by:</p> <ul style="list-style-type: none"> - Vibration Condition Monitoring Systems - Sound Condition Monitoring Systems

Sampling Data (SAMPLE-Doc Producer/Consumer Interfaces)	XML document producer/consumer of information related to historical fluid, air, and solid sampling data, abnormal data alarms, and operational event logs. Used by: - Oil Sampling Condition Monitoring Systems - Air Sampling Condition Monitoring Systems - Solid Sampling Condition Monitoring Systems
Binary Data (BLOB-Doc Producer/Consumer Interfaces)	XML document producer/consumer of information related to historical binary large objects (BLOB) measurements (used with thermography and imaging monitoring), abnormal data alarms, and operational event logs Used by: - Thermographic Condition Monitoring Systems - Image Monitoring Systems

A given producer application may decide to publish an XML document with more than one technology type. For example, a maintenance management system may manage both asset registry information and work management information. The supplier may decide to build a *Tech-Doc* Publisher which includes both REG-XML and WORK-XML information.

Support Levels

A *Tech-Doc* Publisher application can support various levels of interfaces. With the V3.0 release, there are two support levels -- Level 1 and Level 2. Level 1 contains a basic set of CRIS entities, with level 2 supporting additional entities. During some mode of operation, a *Tech-Doc* Publisher must be able to create an XML document which includes one or more **main** CRIS entities for the technology type as defined in ***Tech-Doc* Producer XML Document Entities For Support Level *n* Compliance** for a supported level. During some mode of operation, a *Tech-Doc* Publisher must also have the ability to include in one or more XML documents all referenced foreign key entities as defined in ***Tech-Doc* Producer XML Document Entities For Support Level *n* Compliance** for the supported level which contain entries which are **NOT** published in MIMOSA's CRIS Reference Data Library.

Access Types

All *Tech-Doc* Producer applications are considered "Read-Only" because they do not alter the state of their data. A *Tech-Doc* Client application can support one of the following three types of access:

Read-Only – utilizes XML data for display only – does not permanently affect application's data storage

Write-Only – utilizes XML data to permanently affect application's data storage

Additional Requirements for *Tech-Doc* Publisher Applications

A *Tech-Doc* Publisher application must also meet the requirements as specified in the **OSA-EAI V3.0 Registry Compliance Requirements For All Producer-Export-Server Software** specification.