Category: Approved

Industrial^{IT} Basic and Extended Set of Aspects

Summary: This document aims at giving the audience guidelines of what to consider when developing and evaluating products that aims to be certified according to the Industrial^{IT} concept.

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1. Introduction

1.1 Purpose and scope

The document is intended to be used as a guideline for people that develop products based on the Aspect Object architecture, and where the intention is to have them Industrial IT certified, both internal and external .

1.2 Background

This document is to be used as a reference for designing or evaluating products according to the Industrial^{IT} standard. The products are divided into the main categories HW and SW:

1.2.1 HW

The HW category includes Devices, Network components, Server/ Client Workstation/Low-end Client Workstation and Control Network.

Devices are mainly Field-bus devices, Control network devices or other devices connected to an 800xA as part of process control or supervison. The devices are mainly connected via approved Control Networks for 800M or field buses like ProfiBus or FF but can also be connected via other communication interfaces available on the controllers and supported by OPC server.

Network components includes switches, routers or other devices included in the communication network of 800xA.

Server/ Client Workstation/Low-end Client Workstation are all execution units included in the distributed execution and monitoring of 800xA.

Control Network is a category that just covers the communication and is used for networks that has families of devices that are connected to a specific control network. Separate certification of the control networks makes the certification of device using the certified Control Network more easy.

1.2.2 SW

The category SW has two main groups of products; Connectivity's and other SW packages that leverage the functionality of 800xA as.

Connectivity is any package that presents the data of a connected device or system to 800xA as OPC properties. The connectivity does also include a library of Graphics and Faceplates to be used for the presentation of the data.

Any SW package not defined as a Connectivity that can be integrated into 800xA to treat data or in other ways leverage the functionality of 800xA.

1.3 Related Documents

[1]   3BSE012770, Aspect Object Architecture Document
[2]   3BSE023959, Aspect Integrator Platform Programmer's Guide
[3]   3BSE030335R101, 800xA – Engineering, Graphics

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[4]   9AKK100809, Contents of level 0 objects and AFW-files

[5]   3BSE028312, Predefined Aspects Reference Manual

1.4 Aspects of an Aspect Object

An Aspect Object is a container of related information. The information, which is put into an Aspect Object, is contained in aspects. These aspects provide the value of an Aspect Object. Typical aspects are Control, Documentation or Graphical Display Aspects.

An aspect is application data and methods integrated into System 800xA, see [1].

2. BASIC SET OF ASPECTS

The basic set of aspects are to be considered when developing a product based on the System 800xA, with the intention of an being Information Enabled as being base for IIT Certification. The aspects that have been identified as basic are listed below.

It is not allowed to redefined aspect categories for the basic aspects. It is however allowed to add aspect categories when required by the product complexity.

For a detailed specification of the Aspects within the Basic Set of Aspects please refer also [4].

2.1 Aspect Categories for Documentation

Basic Aspects containing documents must be of predefined aspect categories of either the file viewer aspect type or the web page aspect type. **It is recommend that aspect categories of the file viewer aspect type are used.**

A file viewer based basic aspect must include a public document. For details refer to [5].

When aspect categories of the file viewer aspect type are used, documents must not be duplicated in the aspect object. A document that corresponds to two or more of the basic aspects shall be put in one file viewer aspect and then referred to from bookmark aspects representing the other basic aspects applicable to the document. Those bookmark aspects must refer to appropriate pages in the document.

Two different products represented by two aspect objects may also share documents this way. Note that this needs to be addressed when packaging and distributing the objects, so that the documents are always available.

2.1.1 Manuals

It is mandatory to have a set of aspects containing manuals covering the entire lifecycle of the product. The following phases in the life cycle shall be covered; engineering, installation, commissioning, operation, applications, maintenance, and service. The functionality of the product should be described in a technical reference manual or similar.

Depending on the complexity of the product the information may be supplied in the form of one single manual, or a set of manuals of different document kind (e.g. Instruction, Guide line etc).

The contents of the set of manuals should correspond to the set of aspect categories defined below:

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- Installation Manual

- Application Manual

- Operating Manual

- Maintenance and Service Manual

- Technical Reference Manual This manual must include technical performance and technical data of a product, unless they are stated in Product Ratings/Product Properties or Data Sheet (see **Error! Reference source not found.** and 2.5 below).

The documents shall be provided in Adobe Acrobat Reader format (*.pdf), in addition the HTML format may be used as a complementary format.

2.1.2 Declaration

- Declaration of Conformity according to e.g. CE marking is MANDATORY for products to be supplied to the European market. The corresponding is valid for other markets and conformity standards.

- Provision of Environmental Information is MANDATORY. The structure of the information should follow the template 3BSE026335 available in 800xA.

- Provision of an Environmental Product Declaration EPD is OPTIONAL.

These aspects are not applicable to products that consist of only software.

2.1.3 Product data

All relevant product data must be included as aspects. The product data can be included in:

- o Technical reference manual or other document covering product data (see 2.1.1)

- o Data sheet

- o Product ratings/product properties (2.5).

2.1.4 Test Report

The Test Report must exist to for enabled products it is however optional to include the test report as aspect.

2.1.5 Aspect Categories for Additional Documents

For additional documents that may be added to the aspect object, and that do not fit any of the predefined aspect categories mentioned above, the predefined aspect categories "File Viewer" and "Web Page" must be used.

2.2 Product Identification

The Product Identification aspect is mandatory.

For a description of its properties, please refer to [4].

Properties must not be removed from the aspect, properties can however be added..

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2.3 Serial Information

The Serial Information aspect is mandatory for instantiated products. Its properties show instance specific information: serial number, manufacturing date, and optionally other information.

2.4 Aspect Categories for CAD Data

These are mandatory for hardware products

- Electrical CAD information
- Electrical Drawing
- Mechanical Drawing

The aspect shall be symbols or other detailed design information in manuals or drawings that can be used to define CAD symbols. [4]

2.5 Other Aspects

- Object Icon. This aspect is mandatory.

- Product Ratings or Product Properties. This optional aspect for holding relevant technical data has two different names. If you use it, choose the name appropriate for the product's context.

- Commercial Information. This aspect is optional. It is intended to contain information related to the delivery, such as customer order number, customer part number, manufacturing work order number, supplier order number, etc.

- Support Information. This aspect is mandatory. It should contain telephone numbers, email addresses (generic, not tied to one person), web links, service center locations, etc.

- Product Home Page. This aspect is optional. It is intended to contain telephone numbers, addresses, etc. for contacts regarding the product.

2.6 Naming of the Basic Aspects

The basic aspects must be named using the aspect category name as name, so that the aspect name is the equivalent to the aspect category it belongs to.

Exceptions:

- When the aspect is documents (manuals) the name of the aspect may be extended with the name of the document e.g. Installation manual - Installation Guide 3BSE123987

- When two basic aspects belong to the same aspect category, they must be named differently, so that the user can distinguish between them. Example:
  - o "Application Manual - Arc welding"
  - o "Application Manual - Spot welding"

3. EXTENDED SET OF ASPECTS

The extended set of aspects are to be considered when developing a product based on the System 800xA, with the intention of an Industrial IT Enabled certification as SW (Connectivity) or HW with connectivity. The aspects that have been identified as extended are listed below:

- GSD files. This aspect is mandatory for certification of Profibus and HART devices.

- Faceplate (see [3]). This aspect is mandatory.

- Graphical Element (see [3]). This aspect is mandatory.

- DTM (Device Type Manager). This aspect is mandatory for certification of Profibus and HART devices.

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REVISION

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1/1	All	First draft	010920 LT/FOS
2/1	All	Second draft	011017 LT/FOS
3/1	3	Third draft	011022 LT/FOS
1/2	All	Revision -	011022 LT/FOS
A		Test report and contact list now basic aspects. Graphical element now in extended set of aspects. References updated.	021203 ATCF/PP/M MM
B	2	Added info regarding what is optional and mandatory, respectively	2003-01-29 ATCE/PP/M MM
C	All	Restructured + updated according to 9AKK100809.	2003-12-09 ATCE/PA/MS MM
D	All	According to refocused IIT concept	2005-11-09 XA/FS RS