

SEMI E138-0305

XML SEMICONDUCTOR COMMON COMPONENTS

This standard was technically approved by the global Information & Control Committee. This edition was approved for publication by the global Audits and Reviews Subcommittee on December 10, 2004. It was available at www.semi.org in January 2005 and on CD-ROM in March 2005.

1 Purpose

1.1 This document is a central location for the definition of common XML elements that are not specific to a single standard, but common across multiple standards.

2 Scope

2.1 This document currently defines the representation of Error. This common component is used in association with other XML documents or schemas generated as part of a SEMI standard interface specification for communication between software entities.

NOTICE: This standard does not purport to address safety issues, if any, associated with its use. It is the responsibility of the users of this standard to establish appropriate safety and health practices and determine the applicability of regulatory or other limitations prior to use.

3 Limitations

3.1 The purpose of this document is to define basic components and to allow for future additions as common components are discovered and required. Only one component (Error) is being defined at this time.

4 Referenced Standards and Documents

4.1 SEMI Standards

SEMI E5 — SEMI Equipment Communications Standard 2 Message Content (SECS-II)

SEMI E87 — Specification for Carrier Management (CMS)

SEMI E121 — Guide for Style and Usage of XML for Semiconductor Manufacturing Applications

SEMI E125 — Specification for Equipment Self Description (EqSD)

SEMI E132 — Specification for Equipment Client Authentication and Authorization

4.2 Other References

Extensible Markup Language (XML) 1.0 (Second Edition) — W3C Recommendation, 6 October 2000; <http://www.w3.org/TR/2000/REC-xml-20001006>

XML Schema Part 1: Structures — W3C Recommendation, 2 May 2001; <http://www.w3.org/TR/xmlschema-1>

XML Schema Part 2: Datatypes — W3C Recommendation, 2 May 2001; <http://www.w3.org/TR/xmlschema-2>

NOTICE: Unless otherwise indicated, all documents cited shall be the latest published versions.

5 Terminology

5.1 Abbreviations and Acronyms

5.1.1 W3C — World Wide Web Consortium

5.1.2 WWW — World Wide Web

5.1.3 XML — Extensible Markup Language

6 Resources, Organizations, and Standards

6.1 Important resources and organizations used in the generation and definition of this document are found in:

6.1.1 *XML Schema Part 2: Datatypes* — W3C Recommendation

7 XML Type Definitions

7.1 *XML Schema* — This specification includes an XML schema file, “CommonComponents-V0305-Schema.xsd,” and should be provided with this document. That XML schema file provides the normative definitions of the types described here.

7.2 *Data Type for Error Handling* — Error handling in most cases even with standard interface specifications is implementation-specific. It is not practical for one specification to define all possible error conditions, error codes, descriptions and supplementary information that is needed to properly recover from the error. Regardless, a common approach to communicating error conditions can simplify error management for standards implementers and application developers.

7.3 *Error Data Structure* — The following data structure defines a common error structure that can be extended with additional implementation-specific information that can be used by other standards or suppliers.

Error
Source
Code
Description
Extension

Figure 1
Error Structure

7.3.1 *Source* — The “Source” attribute represents the document from where the attribute code value is defined. For error codes defined by SEMI standards, the content of Source is the urn representation of the standard number. For error codes defined by a supplier, it is the urn representation of the supplier’s name (i.e., for SEMI E132 errors, the content of “Source” is: urn:semi-org:E132; for supplier ACME errors the content is: urn:ACME-com). Additional information may be included by the supplier by adding such information after the “:” colon symbol and separating the fields with a “.” period symbol.

Table 1 Example of Error Sources

#	Source	Comment
1	urn:semi-org:E005	Standard Error Codes for Equipment – SEMI E5.
2	urn:semi-org:E087	Standard Error Codes from Carrier Management.
3	urn:semi-org:E125	Standard Error Codes from Equipment Self Description.
4	urn:<Supplier>-com[:<SupplierFields>]	Identification of the source of error codes.

7.3.2 *Code* — Error code is an integer value that directly maps to a particular specification error code list. The following is an example of a list of code ranges. This specification does not require the allocation of any code range by other specification. The following is just an example of codes.

Table 2 Example of Error Code Range

#	Code Range	Comment
1	1–63, 32768–65535	Standard Error Codes for Equipment – SEMI E5.
2	10000–10500	Equipment Supplier Specific enumerated error codes (Example).