Electronic Component Information eXchange

QuickData Documentation Set

Version 2.0-050100

Introduction

The QuickData architecture is documented by a variety of specifications, slide presentations, graphics, DTDs, whitepapers, and other documents. Some of these documents are high-level overviews useful for a quick exposure to QuickData. Other documents provide examples of, or ideas about using QuickData.

At the core, however, is a set of normative specifications that, by themselves alone, define exactly what QuickData is, including all the details necessary to develop an implementation that can interact with other implementations reliably.

Care has been taken to make clear separation between normative and informative documents and references.

Normative

Normative information prescribes conformance rules, semantics, or constraints that must be followed. Automated or manual processes that claim compliance to a specification must comply to all normative information in the document and the relevant parts of other documents to which normative references are made.

The normative QuickData specifications have been modularized so they can be reused in more than one document. Rather than copy the information into each document that makes use of it, the document makes references to information it needs in other ECIX specifications, DTDs, and/or DTD instances. This technique simplifies maintenance by eliminating redundany.

Figures 1 and 2 illustrate this network of references. In addition, many of these documents make references to non-ECIX standards, specifications, or DTDs (but these are not shown in the figures). All documents in the figures are **normative**. The solid arrows in the figures represent normative references to other documents.

Informative

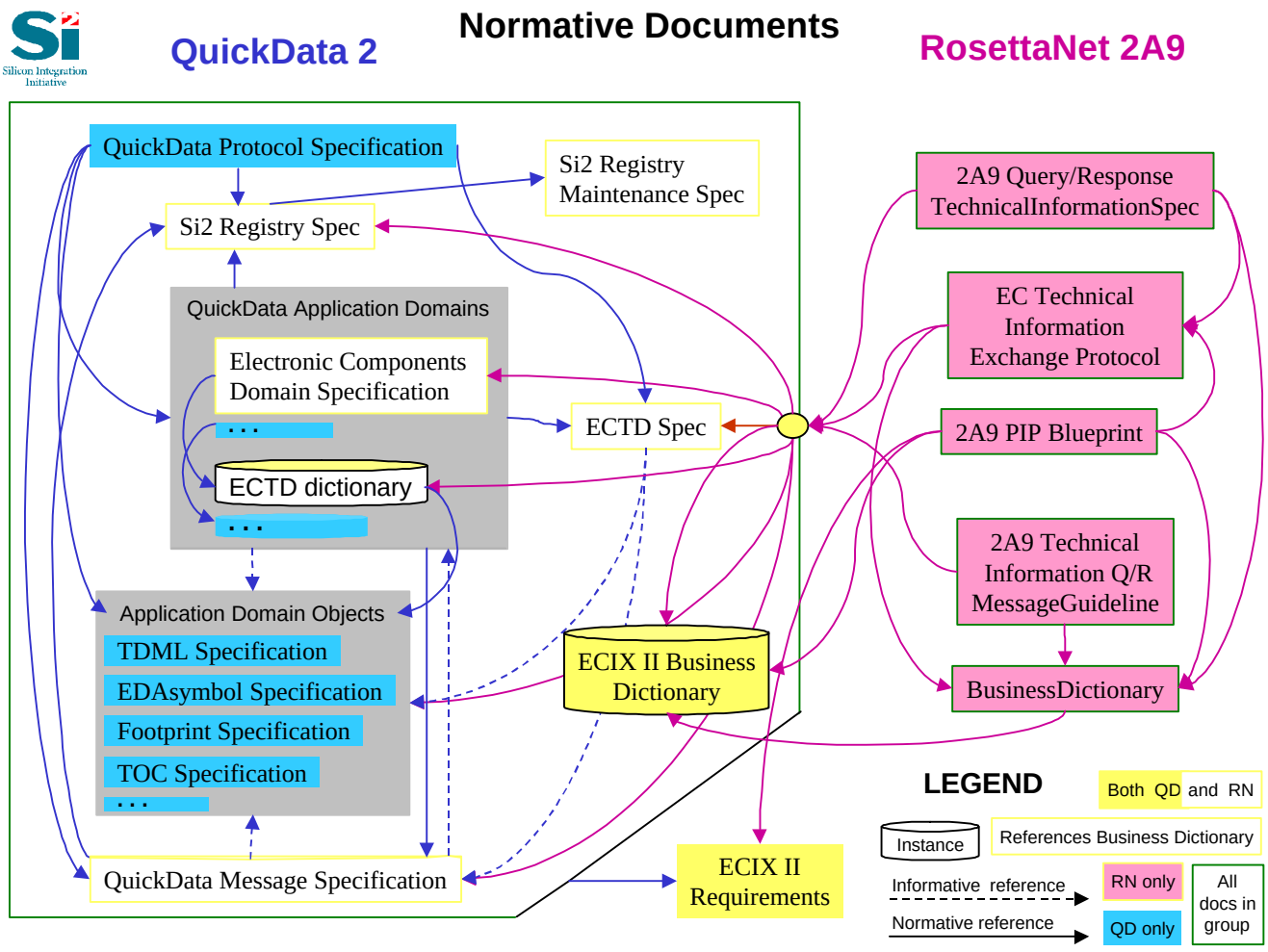
Informative documents and information is not normative. It is information that may be helpful in understanding

a specification, however, is not part of the information to which implementions must comply. This type of information includes overviews, examples, presentations, tutorials, and sample code, and elaborations on normative material.

The normative documents in the figures consist almost entirely of normative information. However, there are rare cases where a non-normative note or example is included to clarify a point. The method for identifying such non-normative information is identified in each document in the section documenting notation conventions. In some of the specifications, instead of including a non-normative example in-line, a non-normative reference is made to another specification. Such a reference may be to a normative document, but it is not required for implementation of the current specification. These references are indicated by dashed arrows in the figures.

The figures do not show the various non-normative documents that help explain QuickData. However, they do show non-normative references between normative documents.

Figure 1: Normative Document Relationships



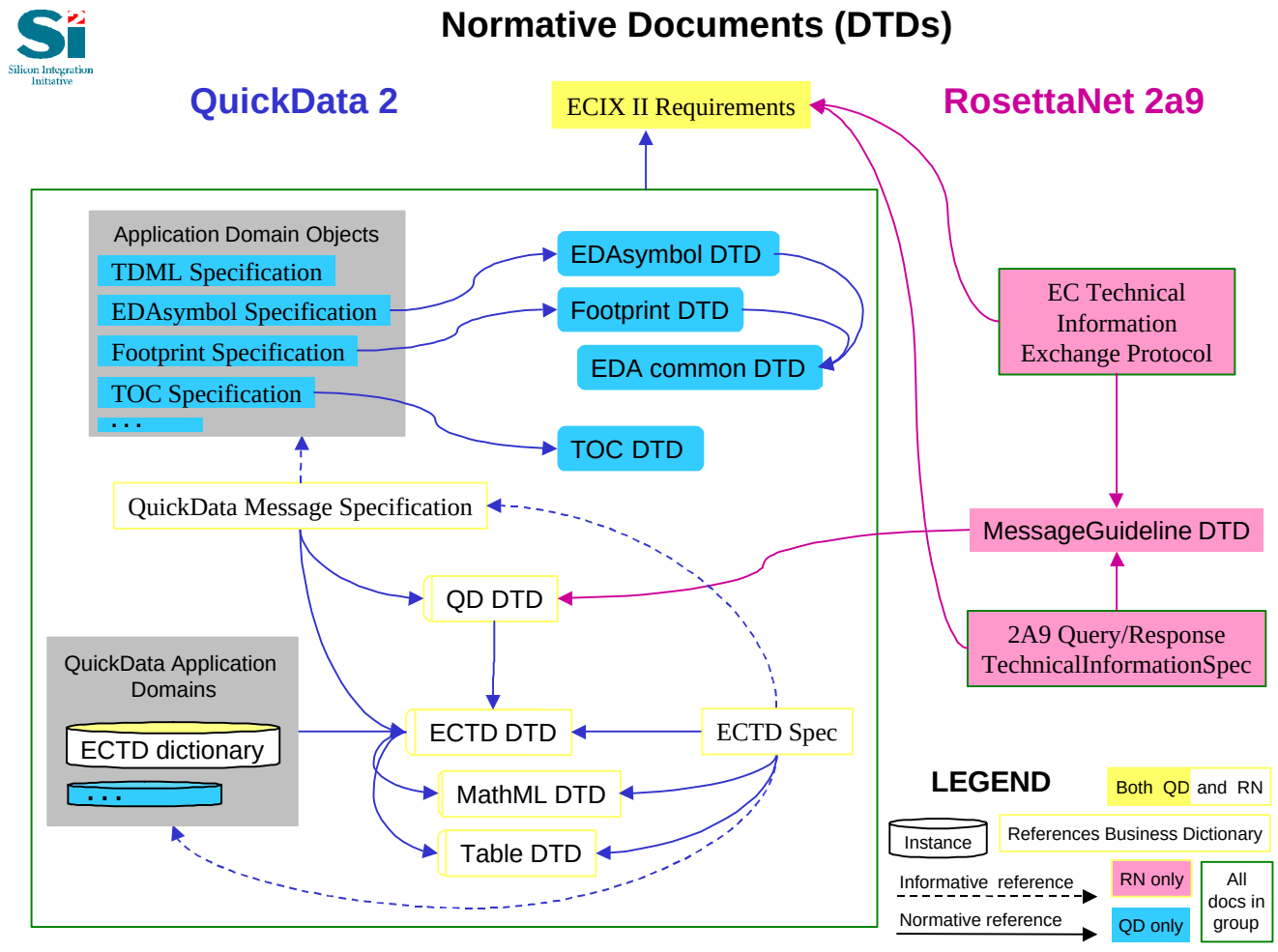
Specifications

At the top level, identified in blue, is the "QuickData Protocol Specification". It references other specifications, but the other specifications do not reference it.

The specifications in yellow are those referenced by other specifications, either normatively or informatively. When a set of specifications that all reference the same specification, a green box is drawn around that set, and only a single arrow emanates from the box (to reduce the clutter of arrows that would be necessary if drawn individually). Note that all specifications were derived from a set of requirements that were developed over several analysis sessions and review processes.

A gray box groups sets of documents that are of a particular type.

Figure 2: Normative Document Relationships to DTDs



Application Domain Specifications

The "QuickData Message Specification" defines a protocol that can be reused to send messages with content and semantics that differs across domains of use. For example, the kind of information and its meaning that is exchanged for electronic components is different from that for virtual components. Yet that information can be exchanged using the same communications protocol and message structure. These are considered different application domains of use for the protocol. Each domain has a specification that defines the semantics and constraints specific to that domain.

Application Domain Dictionaries

A given domain specification may reference a unique dictionary that defines its vocabulary and the rules governing exchange of information. The format, i.e., internal structure, of the dictionary information is the same across all domains, and is defined by the ECTD Specification. However, each domain may have a different instance of that ECTD, with different content.

Application Domain Objects

While a substantial amount of product information can be exchanged as properties and values, the QuickData protocol also supports transfer of any Product Information Object (PIO) – arbitrary "blobs" of data that may have any internal structure, format, and encoding. The details necessary for processing a simple PIO may be completely specificed in a special entry in the domain dictionary. A more complex PIO might require its own specification, even additionsl objects, such as DTDs referenced by that specification.

PIOs illustrated in the figures are EDA Symbol and EDA Footprint. The structures of these objects are defined by DTDs. Other kinds of objects (not pictured) that can be exchanged in a QuickData message include simulation models in VHDL or Verilog, EDIF netlists, application notes, datasheets (in any number of formats, such as HTML, PDF, PCIS).

Informative References

The following documents are mentioned by or may assist in comprehension of this document.

Requirements

ECIX II Requirements: requirements.html.

ECTD Requirements: http://www.si2.org/mallis/rn/use.cases.html

QuickData Specifications

QuickData Protocol Specification: qd_protocol.doc.

QuickData Message Specification: qd_message.doc.

QuickData Application Domains

QuickData Application: Electronic Components Domain Specification: qd_application.doc.

Product Information Object Specifications

EDA Footprint Specification: http://si2.org/ecix/PIO/EDAFootprint.

EDA Symbol Specification: http://si2.org/ecix/PIO/EDAsymbol_20000330.

Product Information Object DTDs

EDA Footprint DTD: http://si2.org/ecix/PIO/EDAFootprint/EDAFootprint.dtd.

EDA Symbol DTD: http://si2.org/ecix/PIO/EDAsymbol_20000330/EDASymbol.dtd.

EDA common DTD: http://si2.org/ecix/PIO/EDAFootprint/EDALib.mod.

DTDs

QuickData DTD: DTD\QD\qd.dtd.

EC Technical Dictionary DTD: DTD\ECTD\ec-new.dtd.

XML Exchange Table Model: DTD\ECTD\soextblx.ent.

Mathematical Markup Language (MathML) Version 2.0: DTD\ECTD\mmlents.

Dictionaries

Electronic Components Technical Dictionary instance: ectd_qd2.xml

Other Specifications

Si2 Registry Specification: si2_registry.doc.

Electronic Components Technical Dictionary Specification: ectd.doc.

ECTD Maintenance Specification.

Extensible Markup Language (XML) 1.0 W3C Recommendation 10-February-1998: http://www.w3.org/TR/REC-xml.