Editorial Co

This document defines the syntax and semantics for EDIF Version 3 0 0, IEC 61690-1. EDIF Version 3 0 0 addresses EDIF Level 0 and Level 1. EDIF Version 3 0 0 completely addresses the Connectivity and Schematic views, including at Level 1 the ability to represent frames. It includes capabilities formerly found in the Document and Graphics views. A series of releases is planned in the near future to address those views not completely addressed in this version.

Since the release of EDIF Version 2 0 0 (ANSI/EIA-548-1988), considerable effort has been expended within the EDIF Technical Subcommittees and the EDIF Technical Committee to strengthen EDIF. Questions from the user community have been answered and published, and problems and limitations have been noted. Significant advances have also been made in the area of Information Modeling and this has led to a more rigorous approach to the development of this version of EDIF.

The objectives of this version of EDIF are summarized as follows:

- make the task of producing an EDIF reader easier, even at the expense of making the production of an EDIF writer a little more difficult;

- support the transfer of complex schematic drawings including more explicit description of special schematic drawing objects, the concepts of pin grids, global signals and detailed drawing information such as title blocks;

- support the transfer of structured connectivity information, including busses, bundles and wide ports;

- lay the foundations to support enhancements in the areas of Printed Circuit Board, Device Modeling and Verification, and Test, e.g. all angle rotation, use defined units of measure;

- be more specific, precise and unambiguous both in terms of the underlying information model and the expression of this in the syntax;

- make other improvements where users have encountered problems and limitations, e.g. improved naming conventions, international character set, elimination of symbolic constants, more compact representation of design annotation data.

The information modeling language EXPRESS N14 has been used to develop the underlying information model of EDIF, and the resulting model has received wide review. The EDIF Version 3 0 0 syntax is based on, and is intended to be consistent with, this underlying information model.

This release of EDIF includes capabilities such as iterated instances and schematic frames which are techniques utilized by current Computer Aided Engineering systems to represent multiple instances.

Views addressed in this release are Schematic and Connectivity (formerly known as Netlist). Less utilized views: Behavior view, LogicModel view, MaskLayout view, PCBLayout view, and the SymbolicLayout view, are presented by stubs in this release, and it is planned to reinstate these views in a later release of EDIF. New views are planned or are currently in development, including: an improved PCBLayout view; a new Test view; and views in other domains of Computer Aided Engineering.

It is intended that the Behavior view be completed by providing a reference to an external standard that represents behavioral information.

In EDIF Version 3 0 0, the Graphic view has been eliminated, and replaced with a more powerful instantiatable object capability within other views. The Document view has been eliminated, and replaced with a more appropriate documentation capability within other views. The Stranger view has been eliminated, and its capabilities replaced with the more appropriate userData construct.

Those people using EDIF Version 2 0 0 to represent data conveyed by any of the views represented by a stub in this release, should continue using EDIF Version 2 0 0 until the respective view is restored in a later version of EDIF.

At the syntactic level, the number of keywords is now over 600, but many of these are very simple and their use is easily understood. Much of the context sensitivity of keywords found in EDIF Version 2 0 0 has been eliminated and all symbolic constants have been removed. Although the syntax is larger, the definition of many objects is smaller and it is easier for an EDIF reader to understand the intentions of an EDIF writer.

This release incorporates comments received during the balloting process, in accordance with the bylaws of the EIA. Changes incorporated include the ability to represent font information, and schematic port attributes.

EDIF Version 3 0 0 addresses many of the inadequacies of EDIF Version 2 0 0. For example, developing EDIF readers is easier and there is better support for complex schematics. We believe this release can address 95% of the engineering challenges for information exchange between complex systems.

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