Why Again XML on IBIS Summit

- June 2000
  Mike LaBonte shows a general approach using XML to represent current IBIS data.

- Januar 2002
  Atul P. Agarval shows how XML can be used to make IBIS more applicable as it already is applying advanced web techniques.

- Today we would like to show how XML can help to simplify tool vendor tasks in modeling.
Tasks & Challenges in Modeling

- Treating structured but many different kinds of defined model information in various variants.
  > IBIS 1.x to 3.x; currently 17 different model types <

- Models itself imply complex dependencies which leads to flexible descriptions/data representations.
  > if vdiff is given in [Diff Pin] section Vinl/Vinh from [Model] section are superseded/overwritten <

- Make use of latest most advanced modeling techniques in simulation environments.

The top two items are related to general data management!
Typical Current IBIS Processing

Application

IBIS Golden Parser (IGP) → IGP specific data structure → API e.g. C/C++ → Appl. specific data structure → Appl. Core e.g. simulation kernel

IBIS Spec. → IBIS Models

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On IBIS Standard Change...

- An official new IBIS standard version released by the IBIS Committee respectively ANSI/EIA is required.
- The availability of an IBIS Golden parser in accordance with the latest standard is needed.
- Exchange of Golden Parser in application has to be done since IGP probably generates modified data structure.
- Adaption of internal API and data structure considering the modified conditions is necessary.
- The application core has to be extended to take advantage of the enhancements.
XML Based IBIS Processing

XML parser as open source software:
Apache project: http://xml.apache.org
GNOME project: http://xmlsoft.org

Document Object Model (DOM) provides standard data representation and API.
http://www.w3c.org/DOM
On Standard Change Now…

- Beside textual standard description an official DTD/Schema has to be released by the IBIS Committee respectively ANSI/EIA.
- If needed the DOM related semantics checker module has to be provided.
- The DTD/Schema is applied to the XML parser. > no need to exchange the parser module <
- Semantics checker has to be integrated into application. > this should be very simple since SC uses the DOM <
- Again in this case the application core has to be extended to take advantage of the enhancements.
XML in IBIS Can Help...

- To provide a more formal standard definition
  > this typically improves a standard <

- To simplify implementation of standard based applications by providing also standardized API
  > the DOM is the open door to access the information <

- Tool vendors to focus on their real tasks
  > just make use of data instead of struggle with its representation <