

XML in IBIS Based Buffer Modeling

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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.



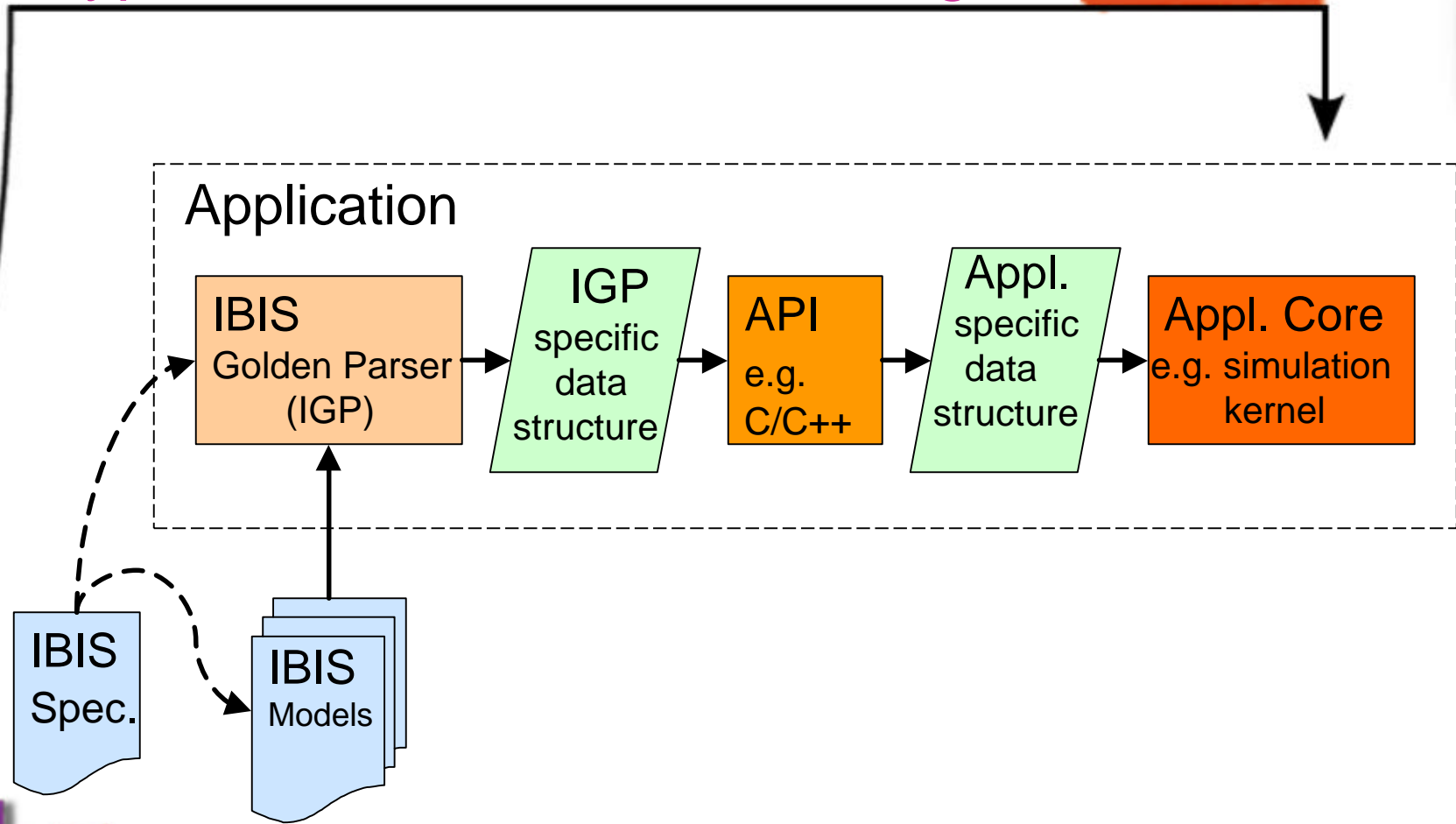
Tasks & Challenges in Modeling

- 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 if vdiff is given in [Diff Pin] section Vinl/Vinh from [Model] section are superseded/overwritten 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

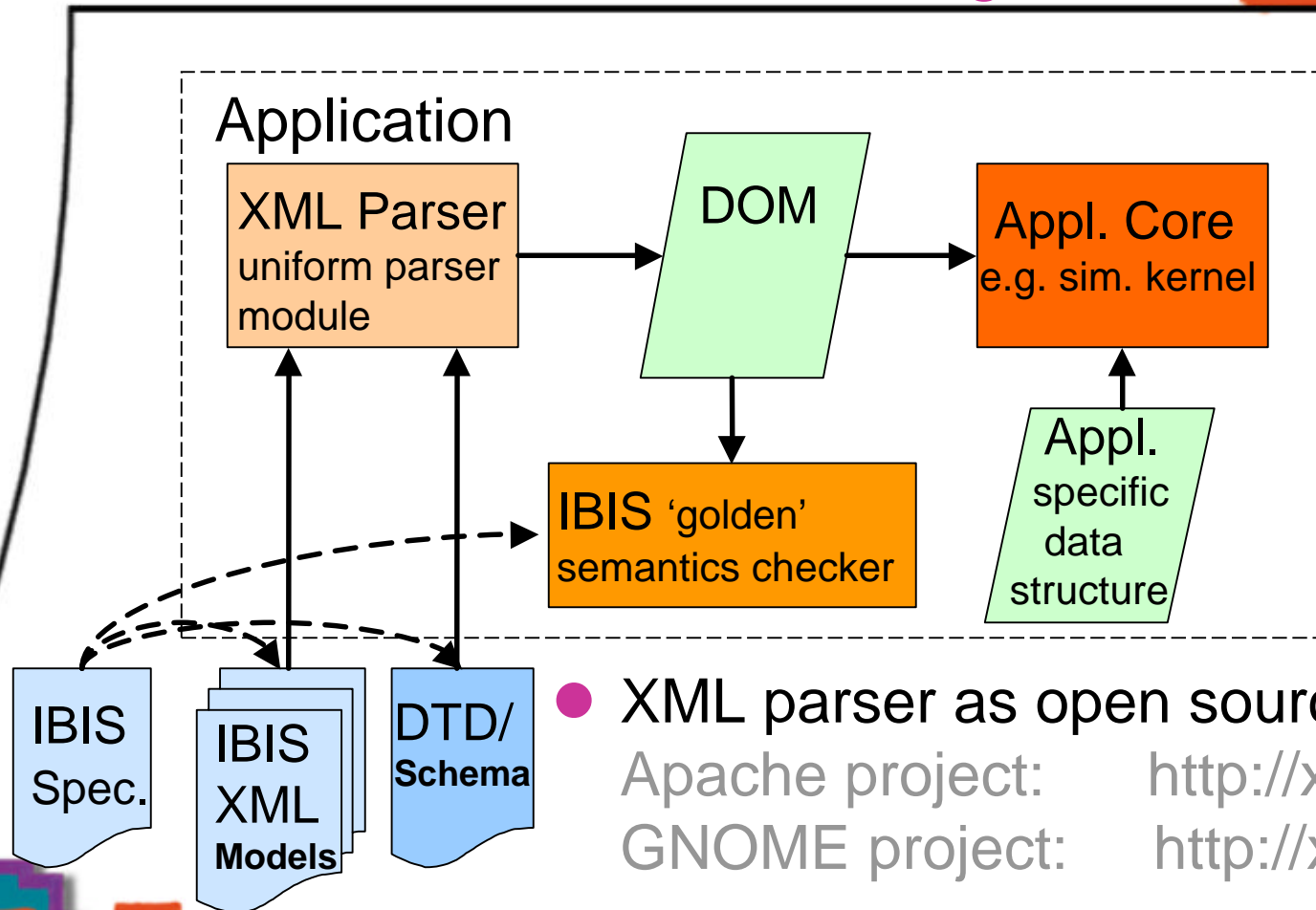


On IBIS Standard Change...

- 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 <

