Instrumentation of Semantic Models

Stipe Fustar
Power Grid 360
10180 Parkwood Dr. #2, Cupertino, CA 95014
sfustar@powergrid360.com

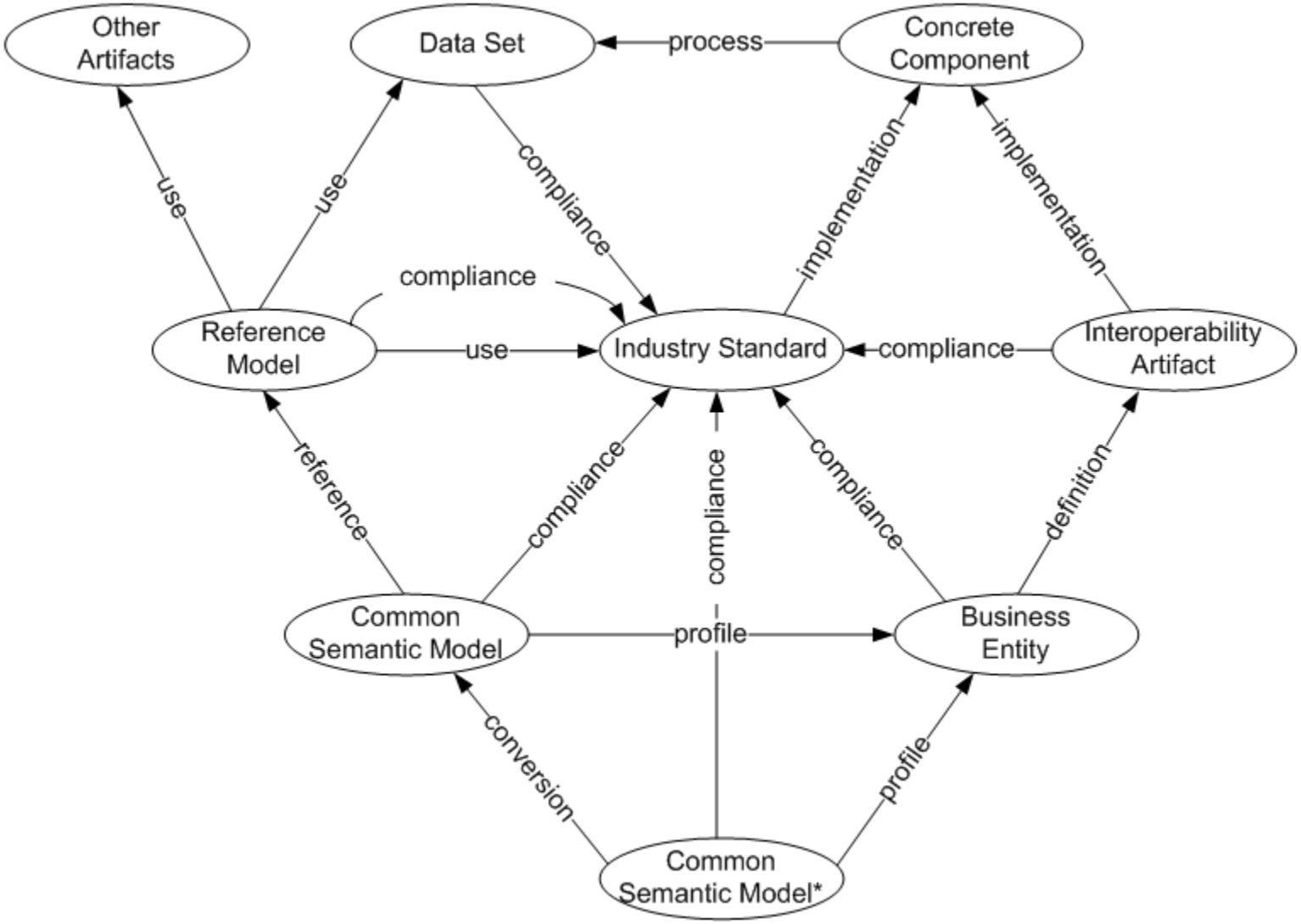
Presentation Outline

- Integration Implementation Process
- Smart Grid Platform
- Interoperability Meaning Diagram
- Instrumentation of Semantic Layer
- Top vs. Bottom Up Modeling
- Conclusion

Integration Implementation Phases

- Process and Data Usage analysis
- Semantic Layer Modeling
  - Common Enterprise or Interoperability Models
  - Integration Modeling of specific end points (message payloads, staging areas, Web Services)
- Define / generate syntax of end points
- End point Implementation
- Buy time required to develop standard strongly-typed end-points
- Eliminate a need for strongly typed end-points where possible.

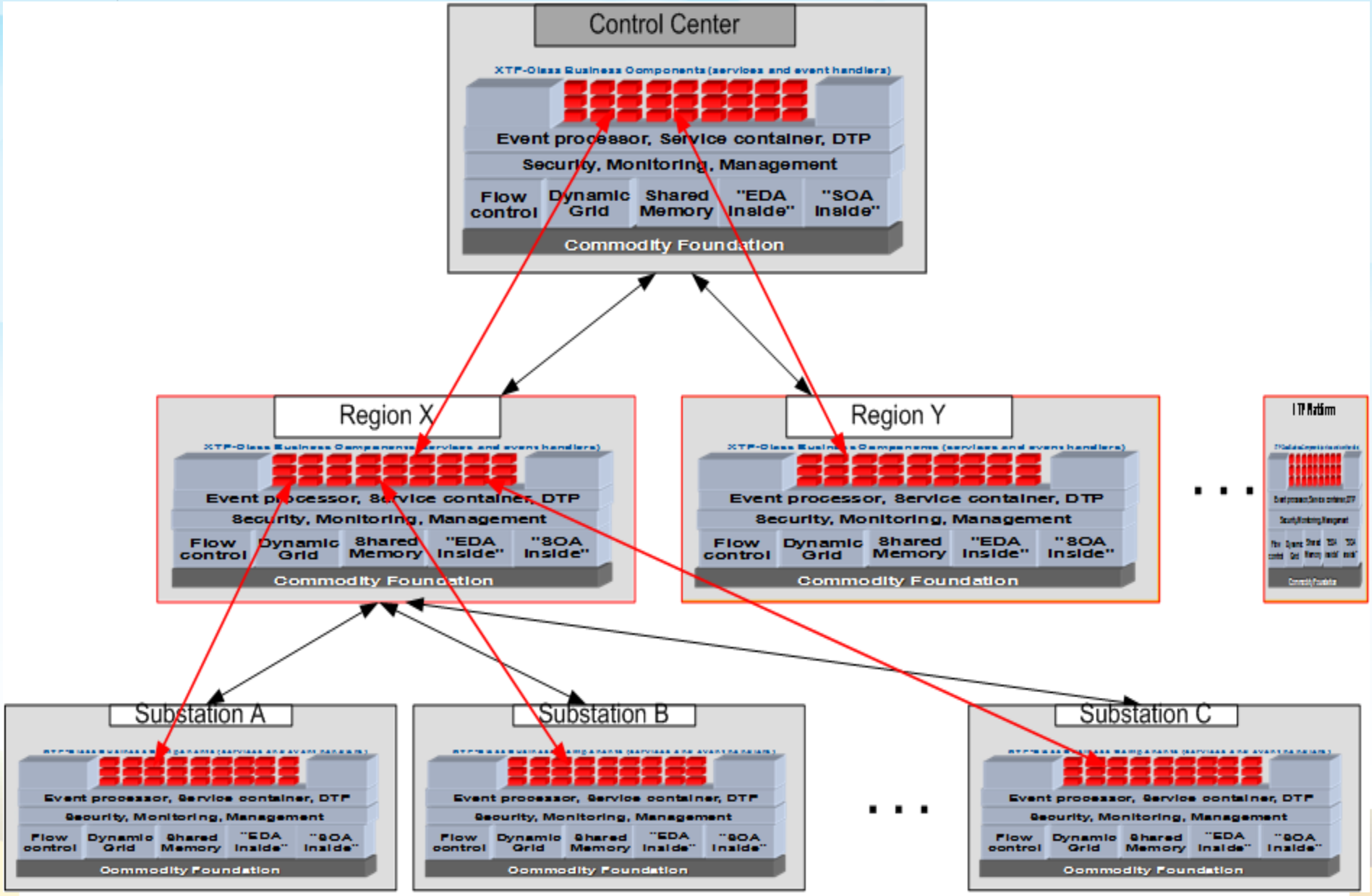
Interoperability Meaning Diagram



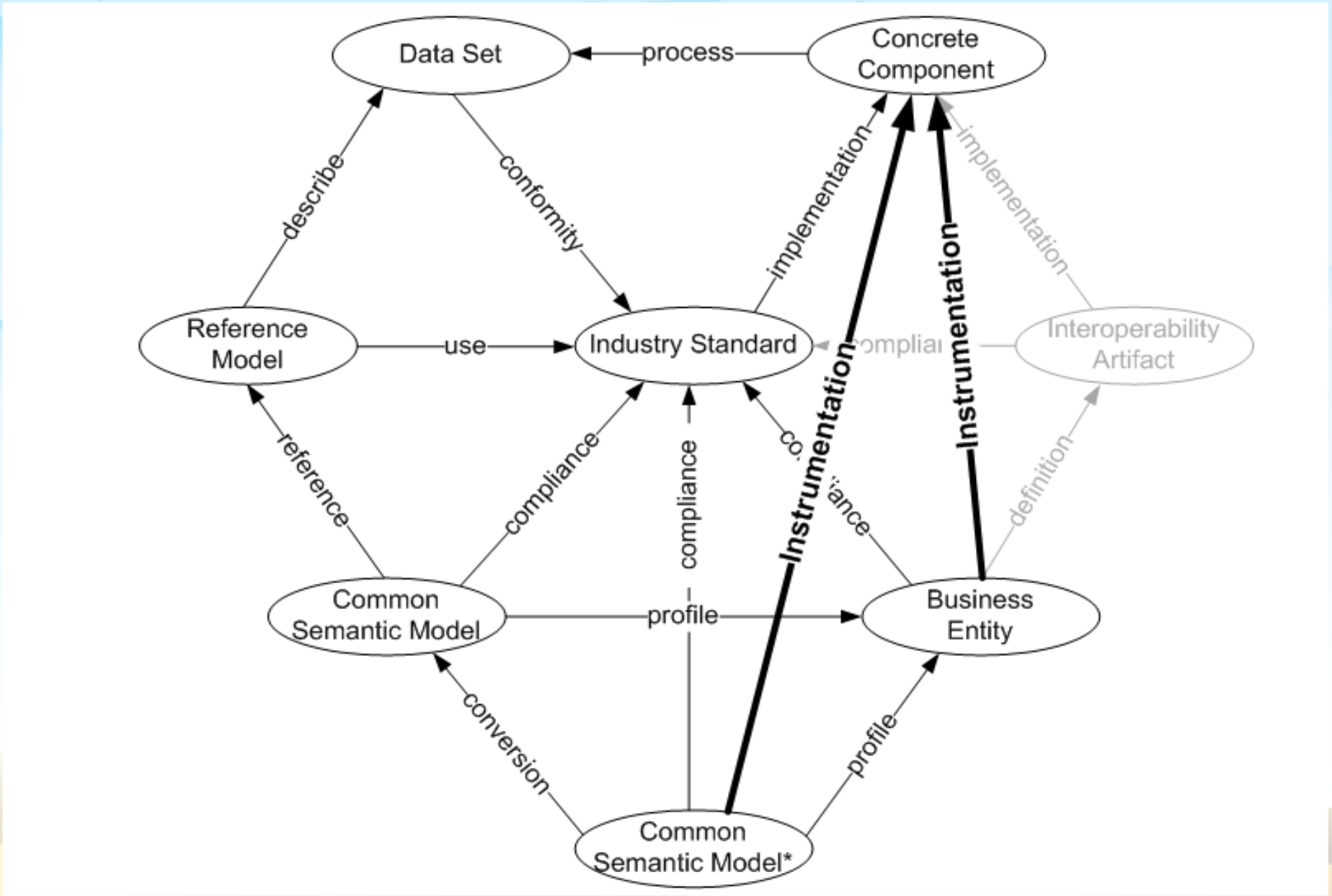
A Smart Grid Platform (1)

"The Smart Grid energy platform is seen as a high-performance, highly distributed operational data management infrastructure that encompasses hierarchically clustered gateways / agents with distributed memory resident data sources to provide very low-latency, predictable, high-throughput data sharing and event distribution. The platform is envisioned as dynamic massive server networks (dynamic grid), massive distributed and replicated memory spaces, use of event-based internal architecture for intra-systems communications (EDA and CEP inside) and use of an extensible modularity of platform technology (SOA inside)."

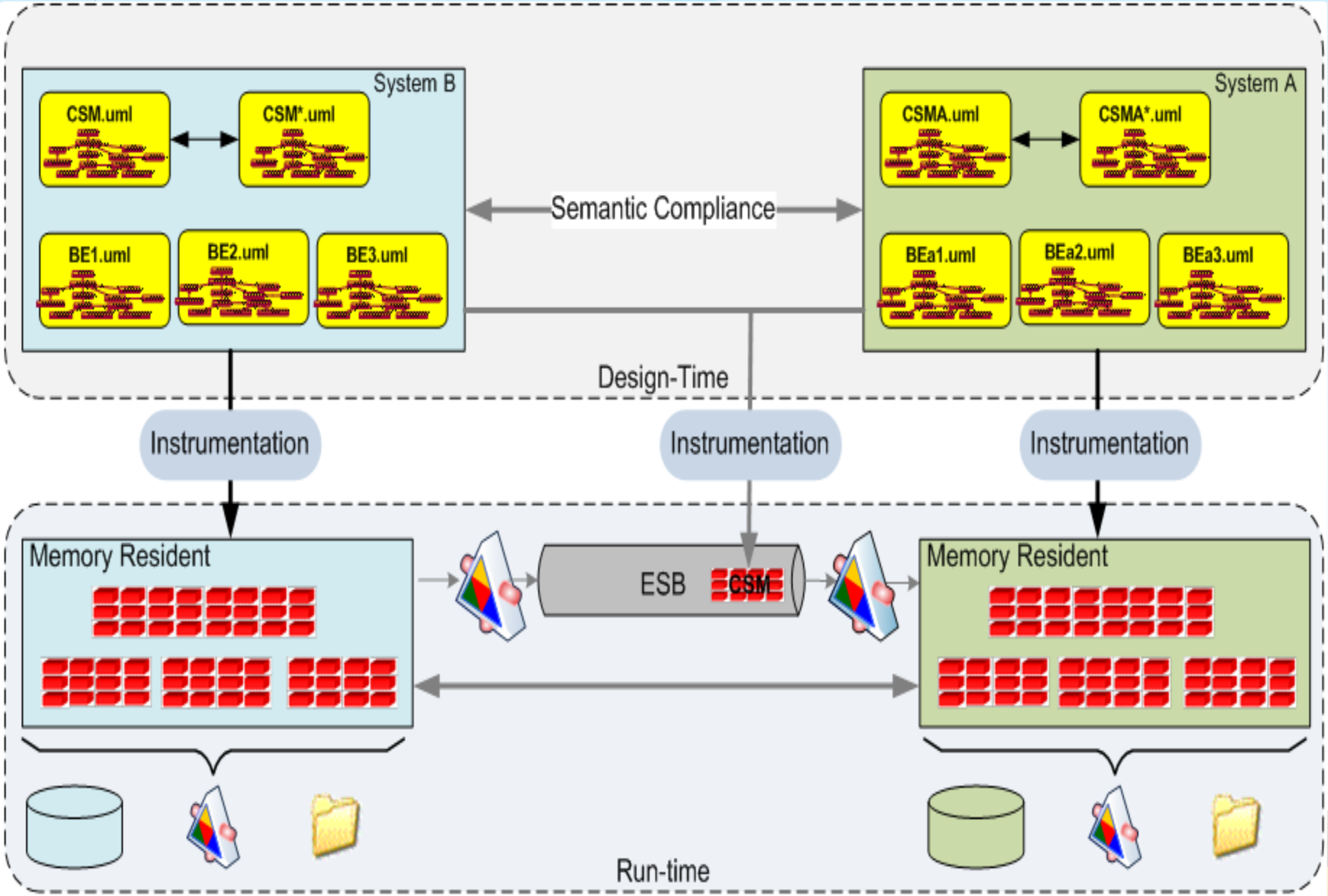
A Smart Grid Platform (2)



Interoperability Meaning Diagram



Instrumentation of Semantic Models (2)



Instrumentation of Semantic Models (1)

- *Make all interoperability decision at semantic layer*
- *Automate implementation*
- *Make end-point syntax design transparent*

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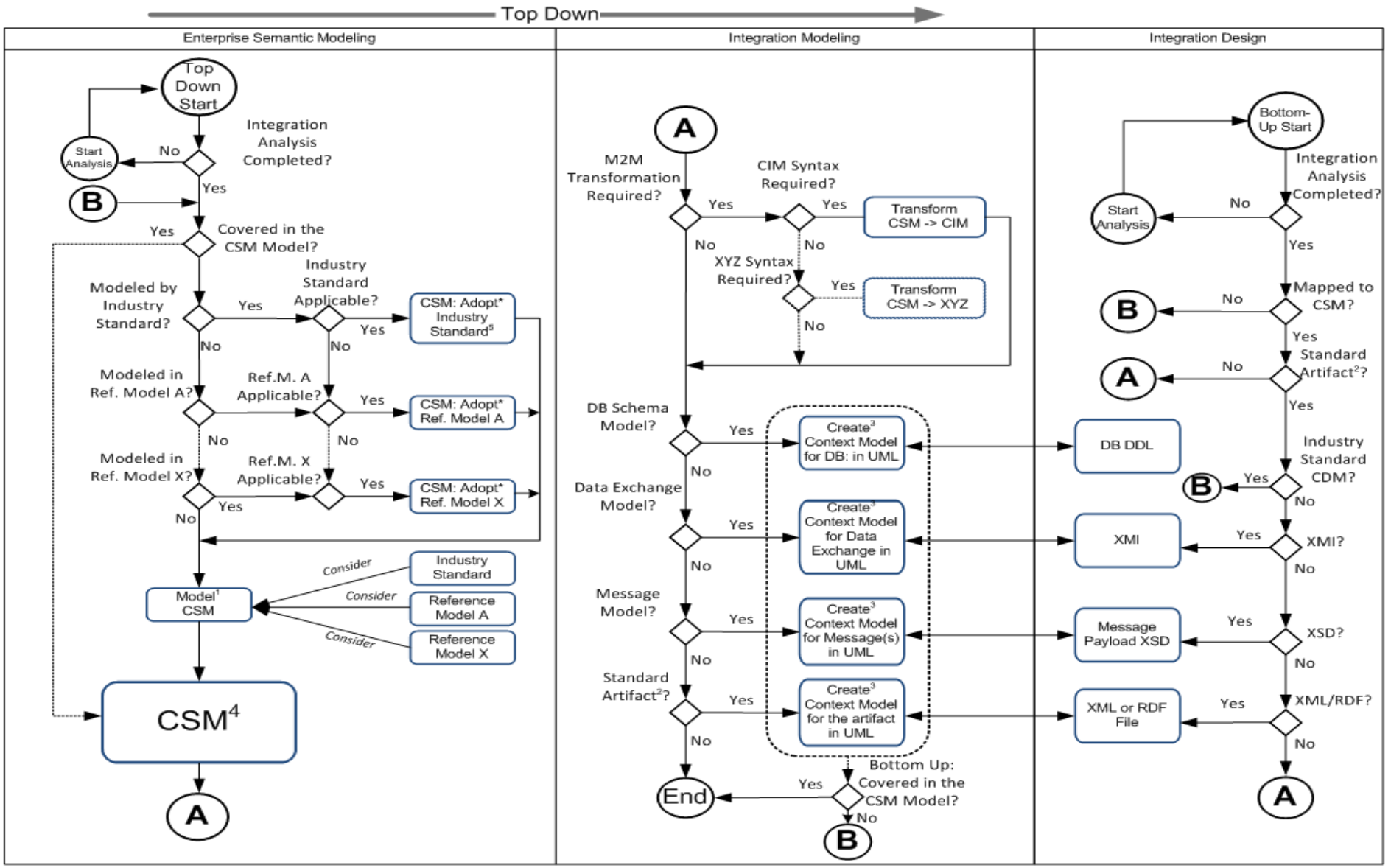
Top vs. Bottom Up Modeling



* - Adopt or Leverage; [1]- Follow MD3i Modeling Rules; [2]- E.g. WG14 message, WSDL or CPSM; [3]- Derive, transform or import; [4]- UML (.eap, ...), XMI; [5] – E.g. IEC CIM as CDM or profile (e.g. CPSM, CDPSM, UCTE)

Conclusion

- An Idea / Approach for Instrumentation of Semantic Models is introduced. The approach key benefits are
  - Reduce the need for strongly typed end-points
  - Buy time required to develop standard strongly-typed end-points
- A Vision of Smart Grid Platform is presented
- Role of Common Semantic Model is briefly addressed. The underlying idea is also
  - To standardize interoperability using a Semantic Model as a logical intermediary
  - To provide platform-independent logical model for all end-points and applicable data stores
- Top down vs. Bottom Up standard adoption process is elaborated

Questions

- Contact Information

Stipe Fustar

Power Grid 360

10180 Parkwood Dr. #2

Cupertino, CA 95014

sfustar@powergrid360.com

408-582-4418

Power Grid 360
Utility Consulting On-Demand