

Build and Execute an Enterprise Information Management (EIM) Strategy

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Agenda

- **Who** needs EIM?
- **What** is EIM?
- **Where** can EIM be most effective?
- **Why** EIM for utility business and IT?
- **When** is the right time to start EIM?
- **How** to start the journey of EIM?

Business Drivers

- The Energy Policy Act of 2005 requires the energy and utility industries to invest in technologies to deal with the increasing imbalance between demand and supply. Within utilities, we see that:
 - The convergence of Operational Technology and Information Technology at utilities to enable Smart Grid and Intelligent Enterprise requires them to manage much more data and information and with increasingly in real time.
 - Operationally, utilities are also moving towards process-centric business which requires interoperability both internally and externally.
 - Continued pressure to cut costs and increase revenue in an environment where both infrastructure and workforce are aging and costly to replace.
 - Evolving perspectives on deregulation and maturing markets pressure utilities to be more flexible with systems and processes.

Information Technology Drivers

- Utility IT has been trying to become an enabler of business transformation rather than a cost center. Some of the key areas of focus are:
 - Program management office and portfolio management
 - Data center and infrastructure management
 - Enterprise Architecture
 - Service-Oriented Architecture and enterprise integration technology
 - Business Intelligence and customer portal
 - etc.
 - However, what has been missing with all of these investments is a holistic strategy and approach to manage data and information as assets cross business silos. Therefore, business continues to “struggle” to get to the right information at the right time.

Utilities of Today

- Over time, data have been exchanged, duplicated and changed from applications to applications without formal governance and management; resulting in data quality, integrity, security, accuracy and consistency issues in many areas.
- Size and variety of data have grown exponentially and will only increase in the future; yet data and information remain locked within silos of business and technologies.
- Major programs such as Advanced Metering Infrastructure (AMI), Smart Grid, Asset/Work Management, Geographical Information System (GIS) etc. will introduce many times more data with more vendor applications and their new proprietary data formats, resulting in potentially more silos.

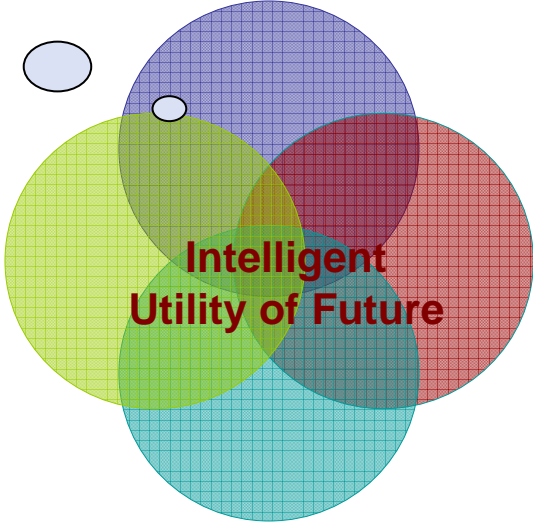
An Intelligent Utility of the Future Requires.....

You can not expect to become an intelligent utility without a **consistent view** of your customer, work, assets, cost/revenue, and performance.....

Single View of Customer

Single View of Business Performance

Single View of Assets



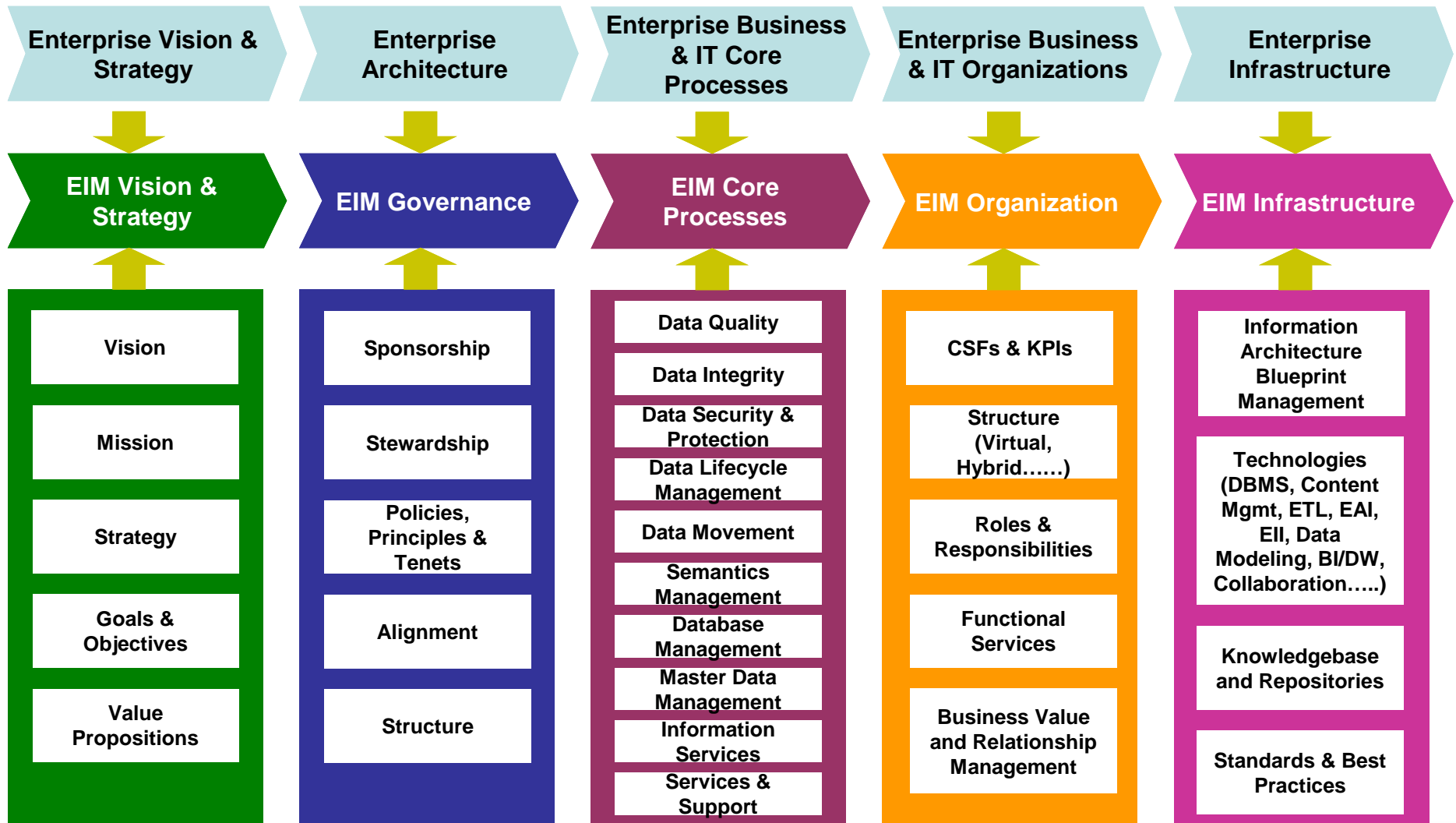
Single View of Work

What is Enterprise Information Management?

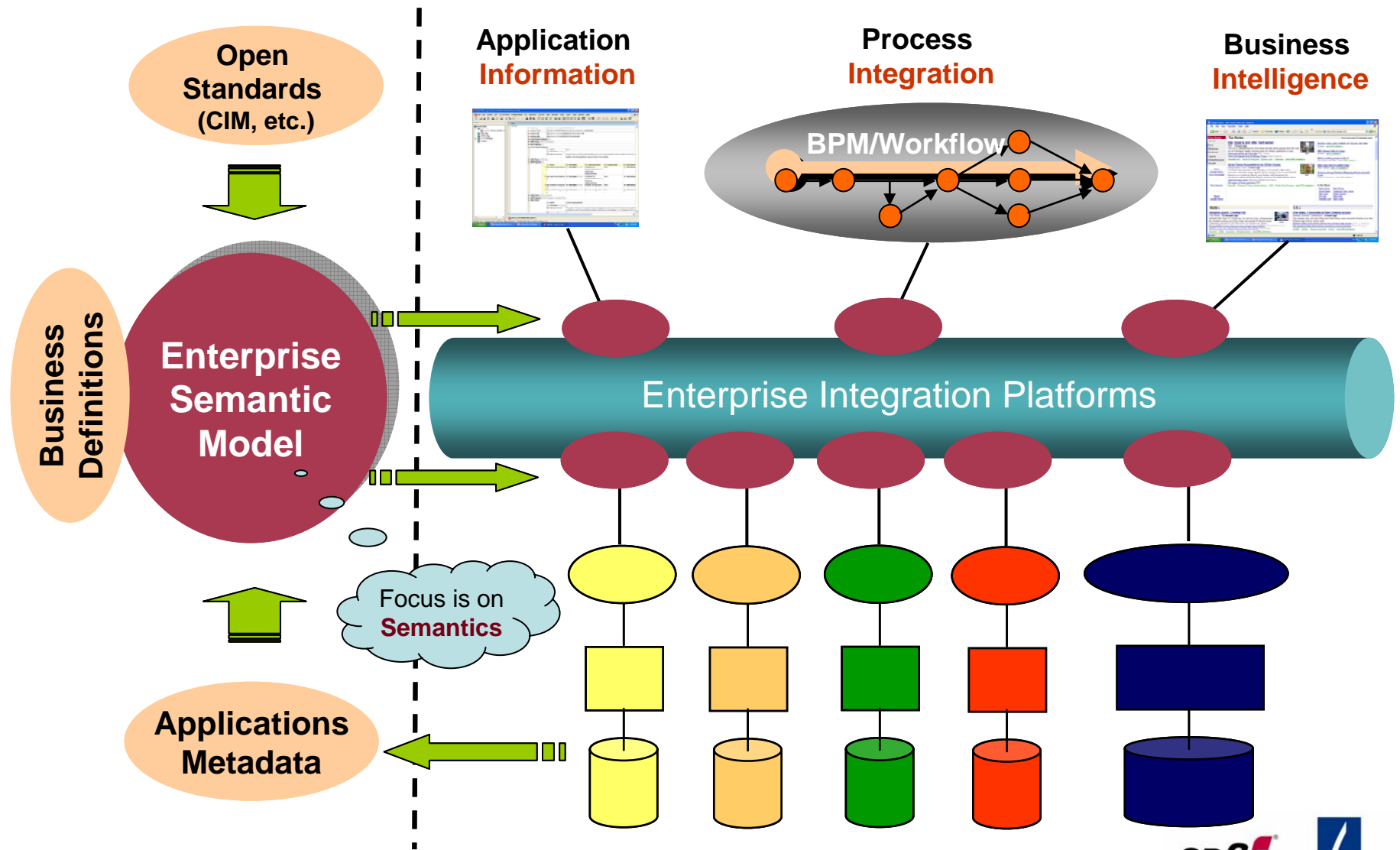
Enterprise Information Management is an organizational commitment from both business and IT to establish people, process and technology to drive the right information so that it enables increased business transformation and performance.*

*The right information is defined as the "truth" where/when a user wants it within the context of what the user is looking for.

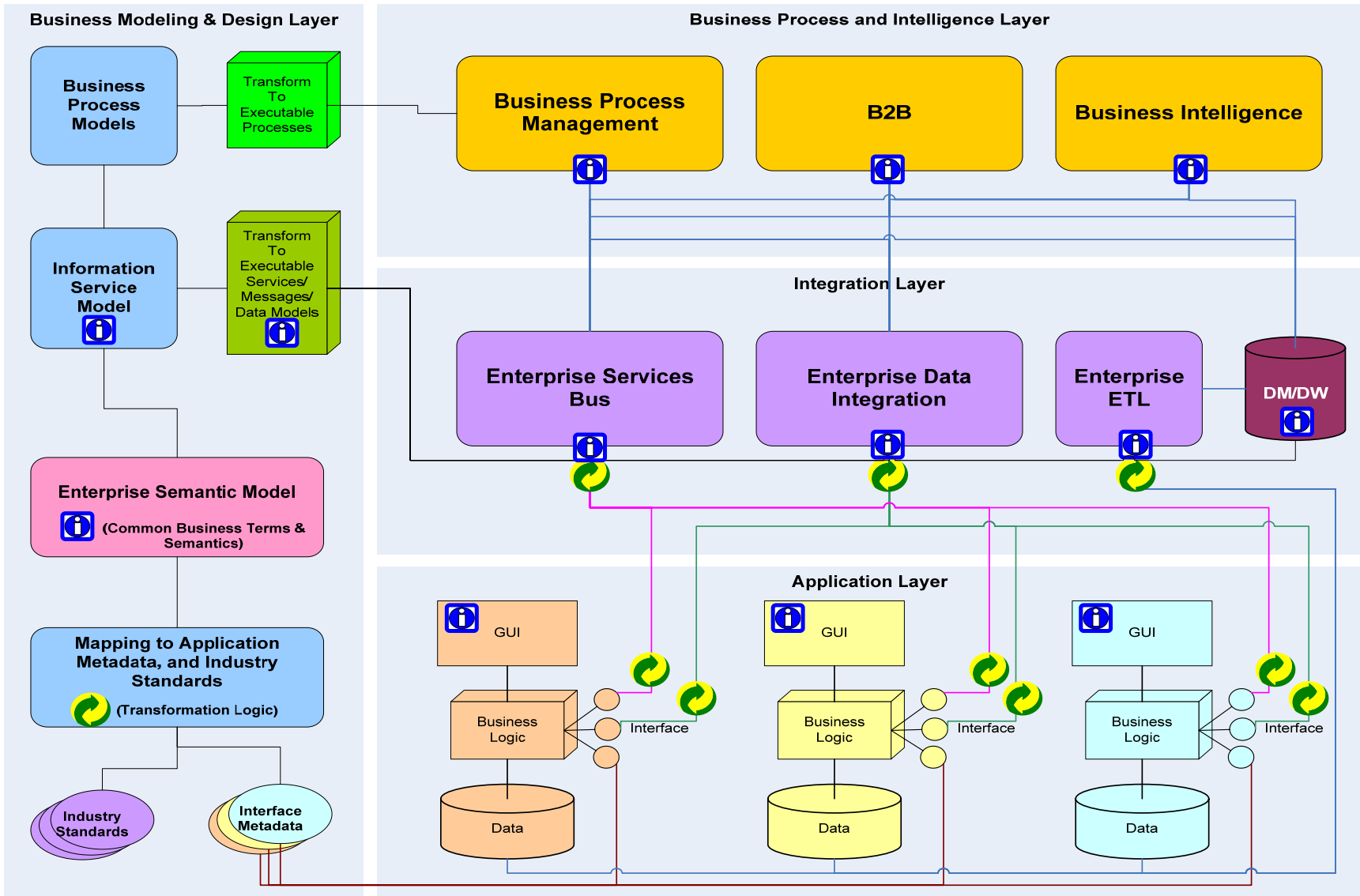
An EIM Framework



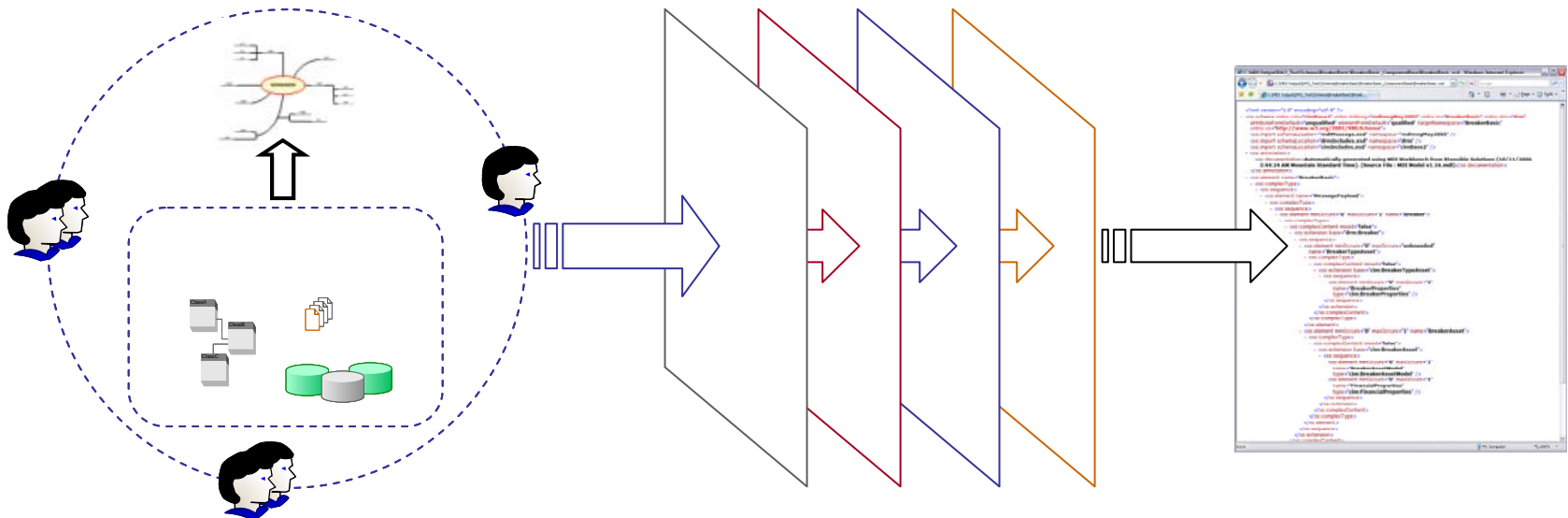
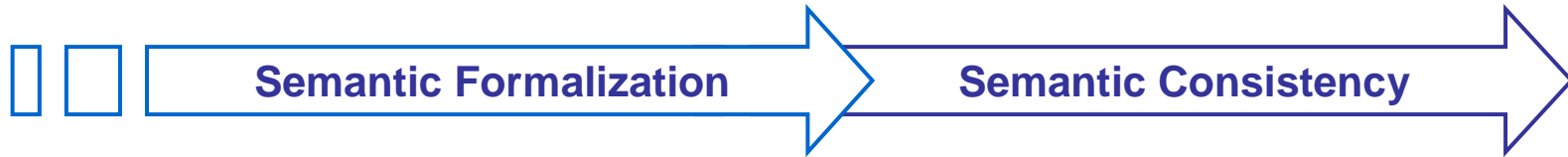
Where can EIM be Most Effective – the Semantic Inconsistencies?



Introduce Semantic Consistencies into Enterprise Architecture



Developing and Applying Enterprise Semantic Model



Establish Vocabulary

- Controlled Content
- Collaborate
- Identify and refine semantics

Develop Common Model

- Model using vocabulary terms
- Refine context

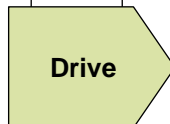
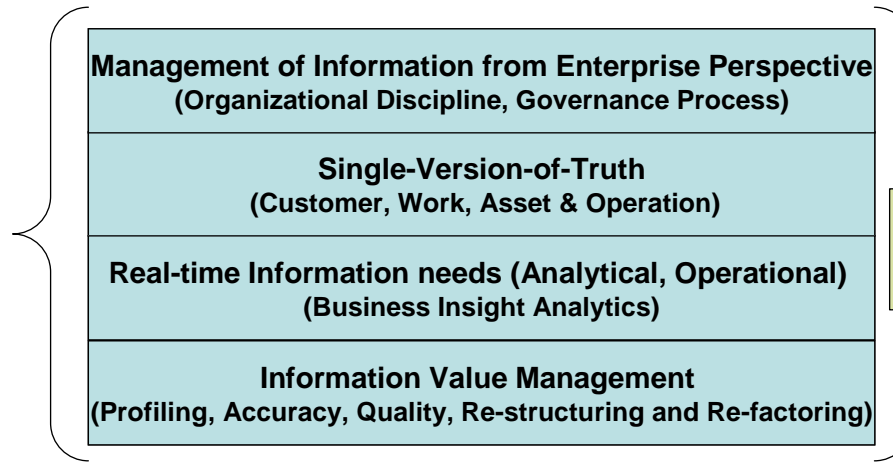
Generate Implementation

- Semantically Consistent Artifacts



Why EIM for Utility Business and IT?

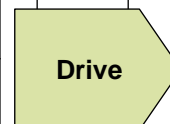
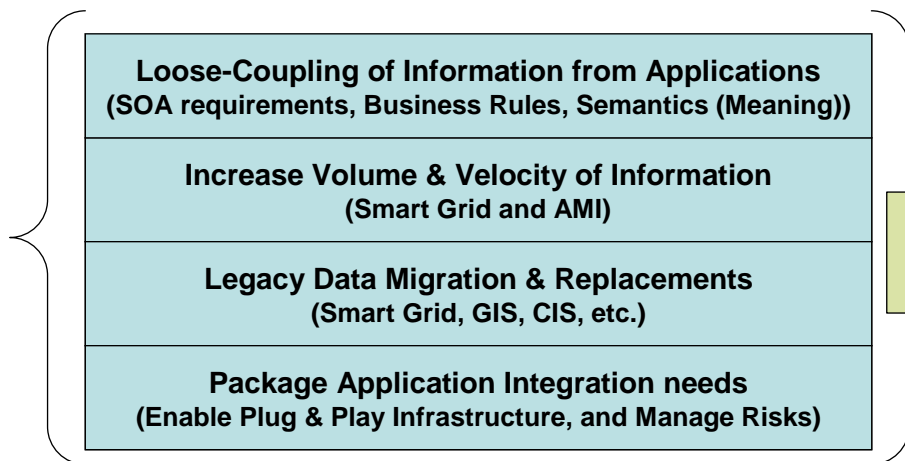
Business Drivers



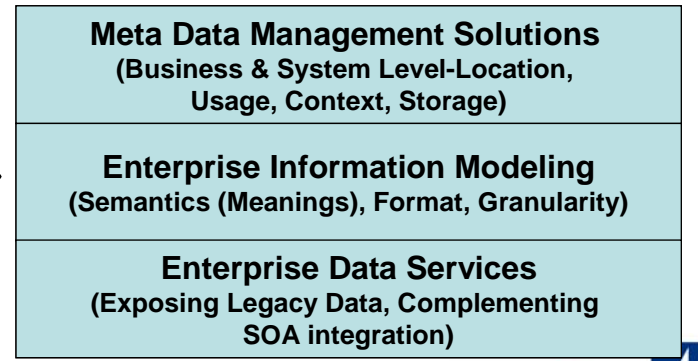
EIM Deliverables



Technical Drivers



EIM Deliverables



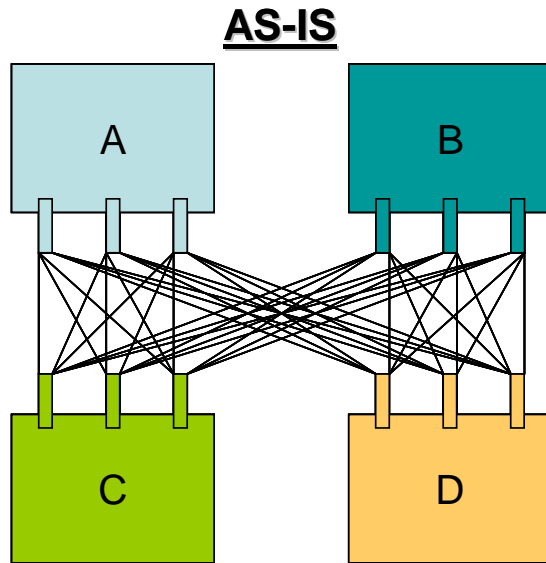
EIM Value Propositions

- To transform a business from silos of application-centric world to a process-centric world of intelligence, EIM plays a significant role. It:
 - Enables business to take ownership, responsibility and accountability for the improvement of data quality and information accuracy and consistency.
 - Enables business to establish single version of truth for data over time.
 - Improves business process and operational efficiency and effectiveness.
 - Provides a strategy and technique to mitigate the risks as well as maximize the value of implementing commercial packaged applications.
 - Reduces the number and effort of integration over time.
 - Enables the control of unnecessary data duplication and proliferation.
 - Enables a more flexible and scalable process integration.
 - Improves the data quality, integrity, consistency, availability, and accessibility over time.
 - Maximizes the return on investment of SOA related technologies.
 - Establishes a critical component of the Enterprise Architecture.

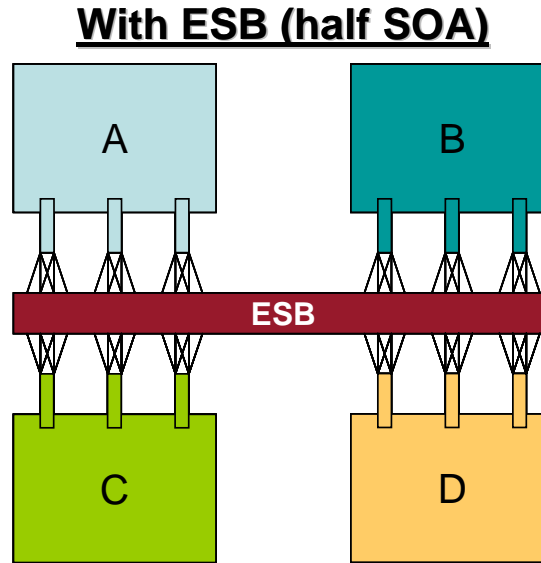
EIM Tangible Benefits

- **Enabling the benefits of Major Business Programs** – EIM is essential for delivering the business solutions in the right way to enable intended business benefits, and to reduce total cost of ownership.
- **Business Productivity Gains (avoided cost)** – reduced time to discover, analyze, use, and act on data/information due to more consistent definition and data services.
- **IT capital project savings (avoided cost)** – reduced effort of rediscovery and reinvent for the “**analysis and design**” phase of lifecycle for capital project systems integration work. This complements SOA benefits in the same category which focuses on the “**development**” phase of a capital project.
- **IT integration O&M saving (avoided cost)** – reduced number and effort of maintaining interfaces (services) due to increased reuse and decoupling of systems at the data level.
- **IT BI O&M saving (avoided cost)** – reduced number and effort of developing new or changing existing reports due to increase reuse and more consistent understanding of data.

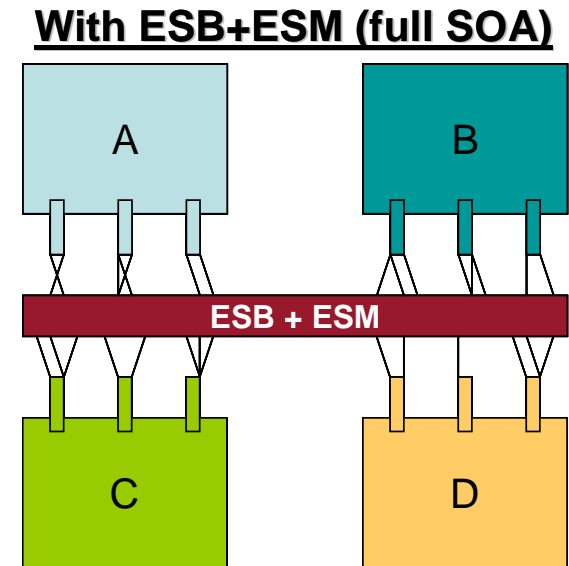
Why EIM/ESM is Required for SOA?



- Point to point
- Complete coupled and ripple effect of change
- Duplication of data and logic, no control of data quality and consistency
- Costly to maintain and change
- Can't enable business process integration



- Interoperability through Web Services technology
- Managed integration
- Reuse of connectivity of systems to ESB
- Reuse of application level services
- Enable business process integration

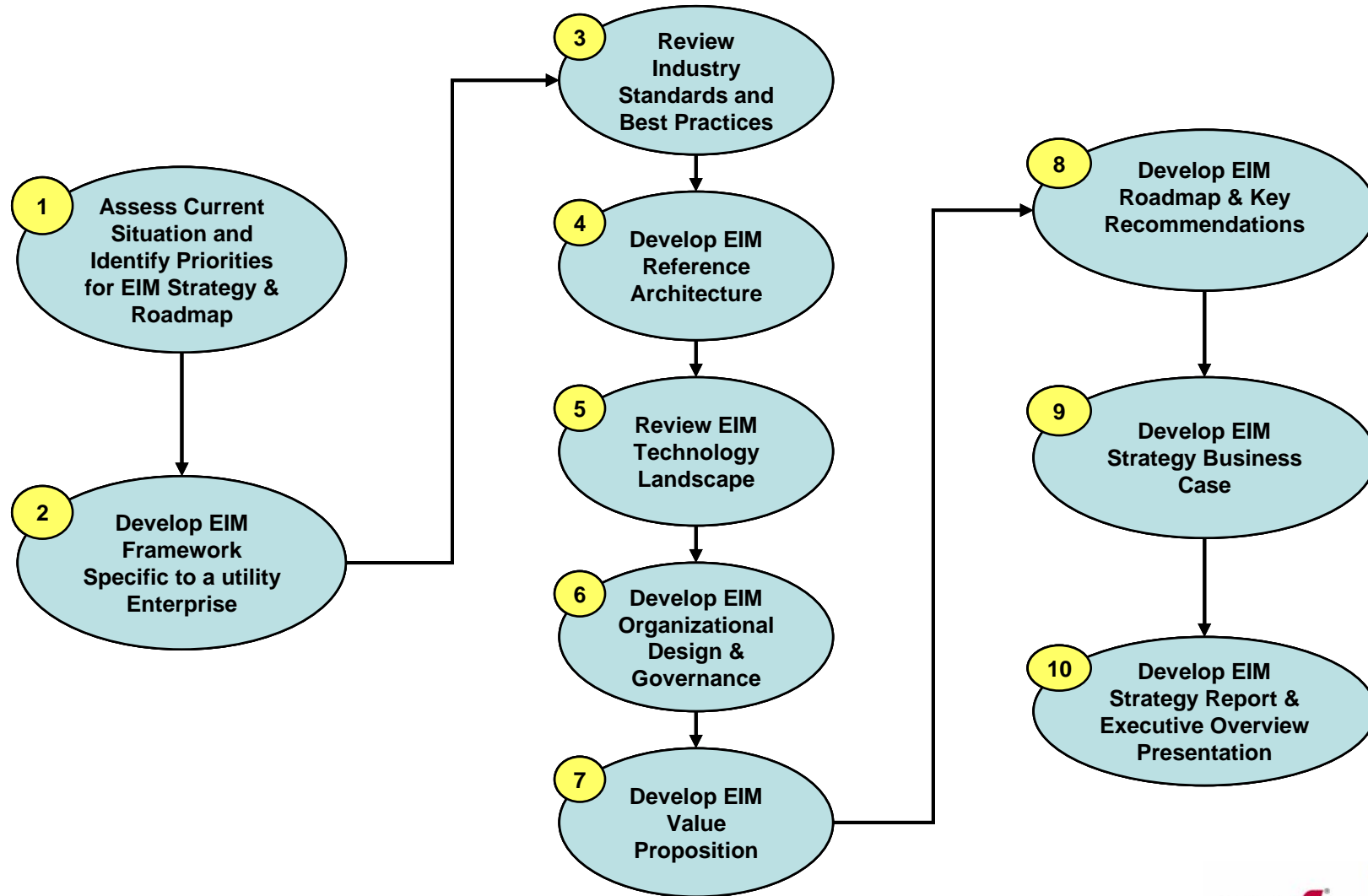


- Interoperability through common semantics
- Complete decouple of systems
- Reuse of services, leads to less number of interfaces
- Reduced total cost of ownership
- Improved data quality and consistency
- Enable higher level business services (information, intelligence, process, etc.)

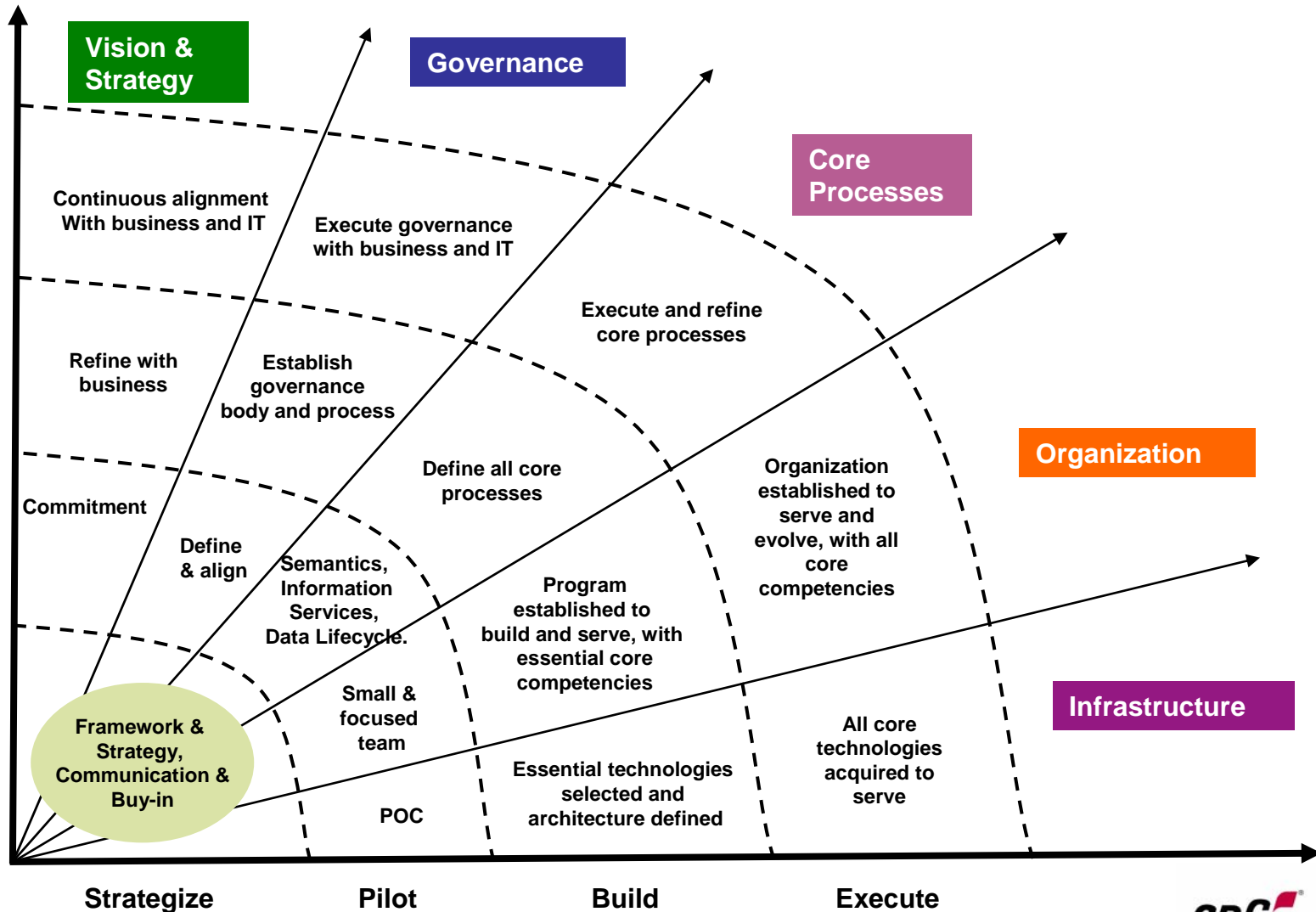
When is the Right Time to Start EIM?

- EIM should be considered as part of Enterprise Architecture initiative and be hand-in-hand with investments in integration architecture and BI related technologies.
- When a SOA strategy and investment is considered, EIM should be part of it to solve the “semantic Interoperability” issues, otherwise, the SOA strategy will be incomplete and yield less benefits.
- Basic tenants and capabilities of EIM should be in place prior to major business IT programs so that the new systems and processes are built in the “right” way. Retro-fitting with EIM will have no business case to support it.
- Utilities are investing millions and millions of dollars to meet regulatory and market demands, and the right time is now to invest in EIM to affect positive changes.

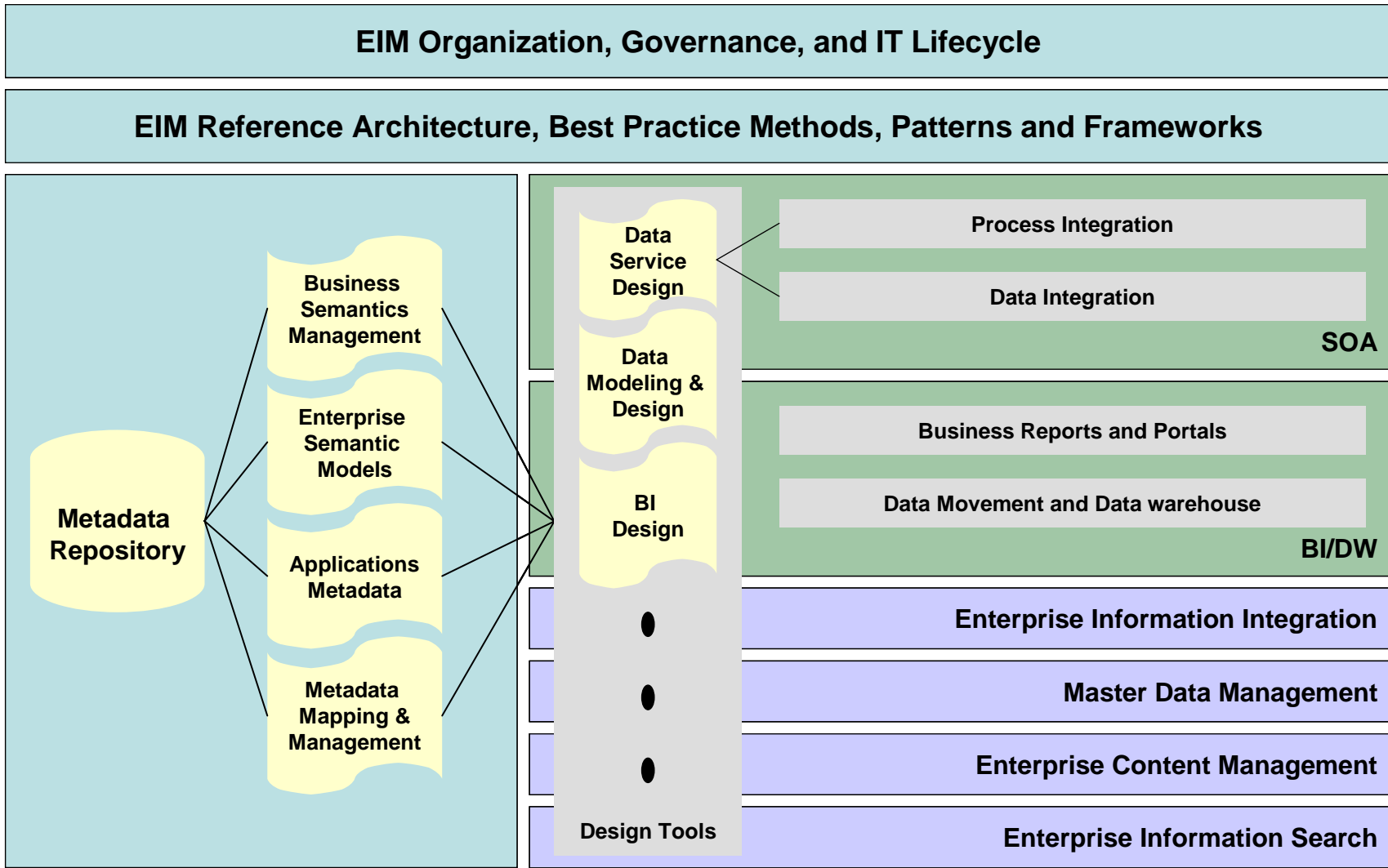
How to Start the Journey of EIM?



EIM Roadmap



EIM Solution Architecture



Existing Enterprise Platforms

Essential EIM Technologies

Future EIM Technology Considerations

Southern California Gas Company

Takeaways

- Intelligent utilities of the future requires a solid foundation of EIM.
- EIM is about solving semantic inconsistencies across application silos from both transactional and analytical standpoint. It is about breaking down the boundaries of IT and business silos.
- EIM include people, process, and technology, and should work within the context and framework of Enterprise Architecture.
- EIM can be implemented incrementally and iteratively.
- The impact of EIM will be the most significant if it is introduced at the start of major business IT programs, rather than as an afterthought.
- EIM is not a one time technology investment, but a transformational strategy and commitment to enable IT to be more responsive to business needs with regard to data and information management.

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