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Applying the Power of Oracle in the Utility Market

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Utilities have automated real-time operations and business functions — but most have not taken extensive advantage of business process automation in operational support. **Why not?**

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Strategic Issues

- Aging infrastructure
- Aging workforce
- Mergers and acquisitions
- Effective IT investment

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New Concerns

- How utilities view the future
- Culture of independence
- Implications of the Energy Policy Act of 2005

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What can utilities do to address this situation?

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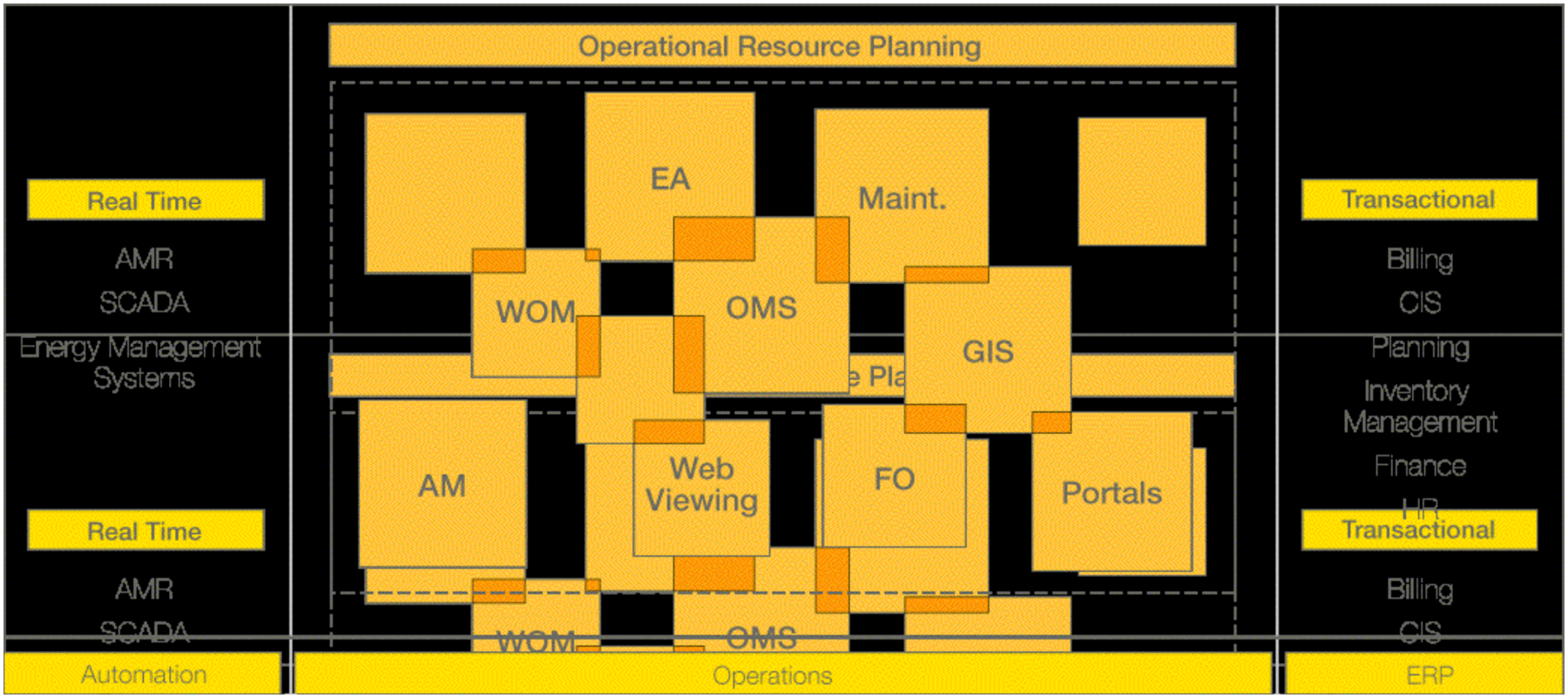
What is ORP?



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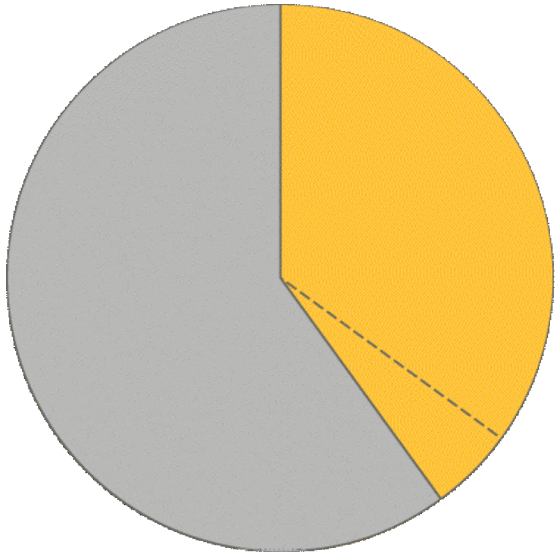
Operations and Maintenance



Operations and Maintenance (O&M) represent 35-40% of operating expense in a utility's T&D business

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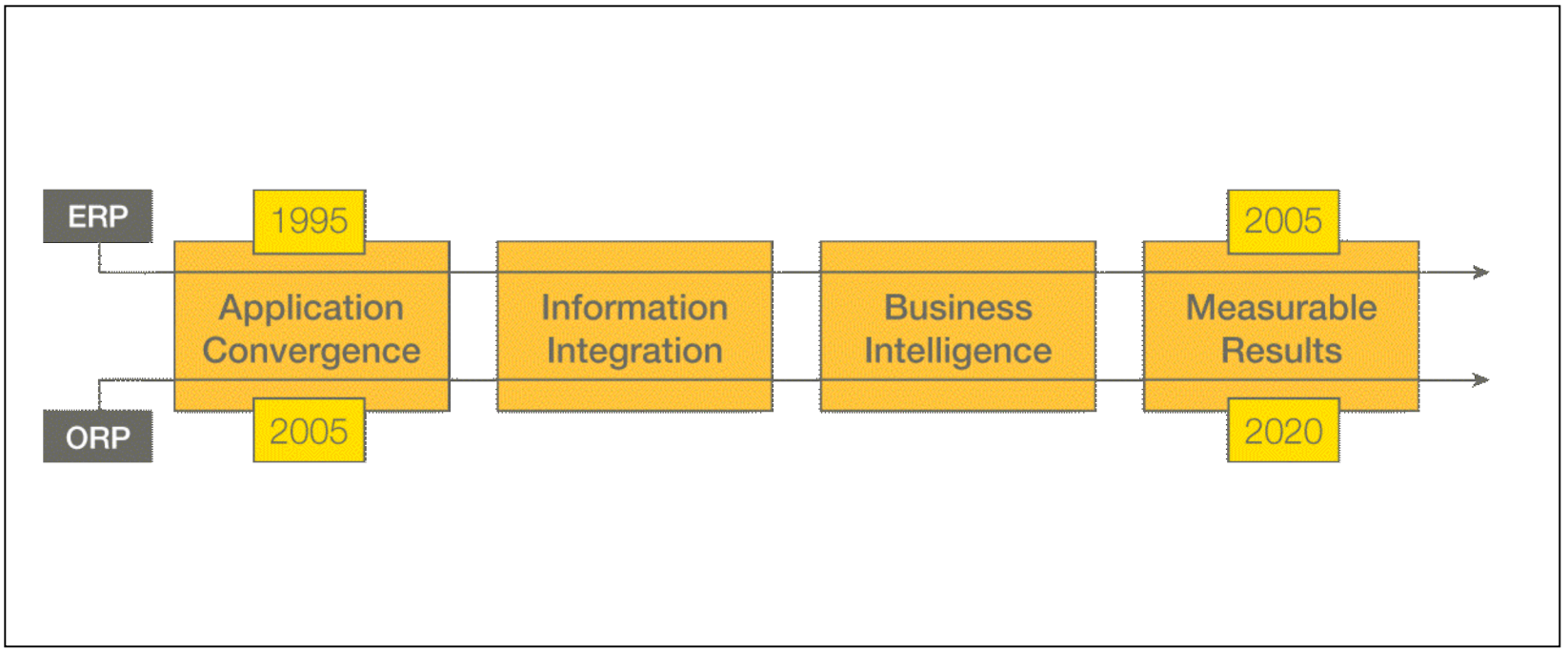
ERP/ORP Evolution



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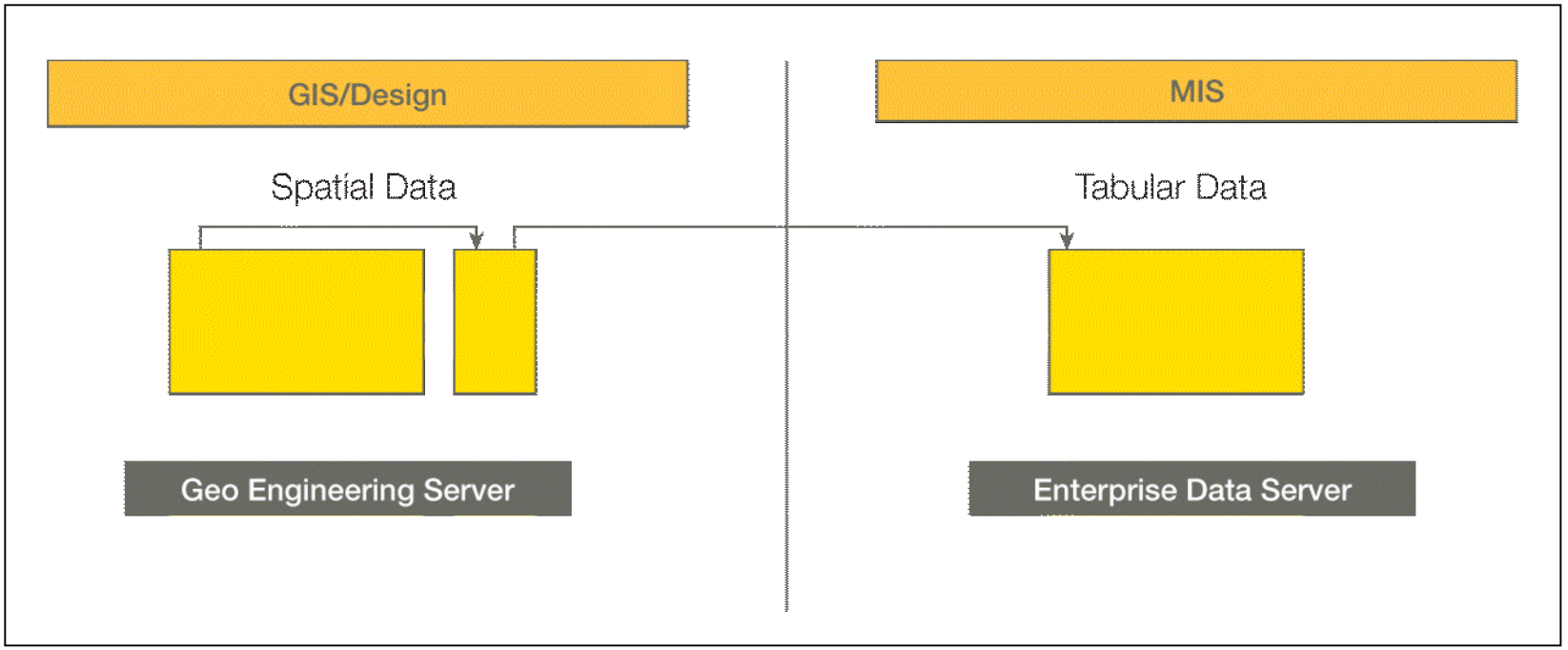
What are the technological barriers to integration?



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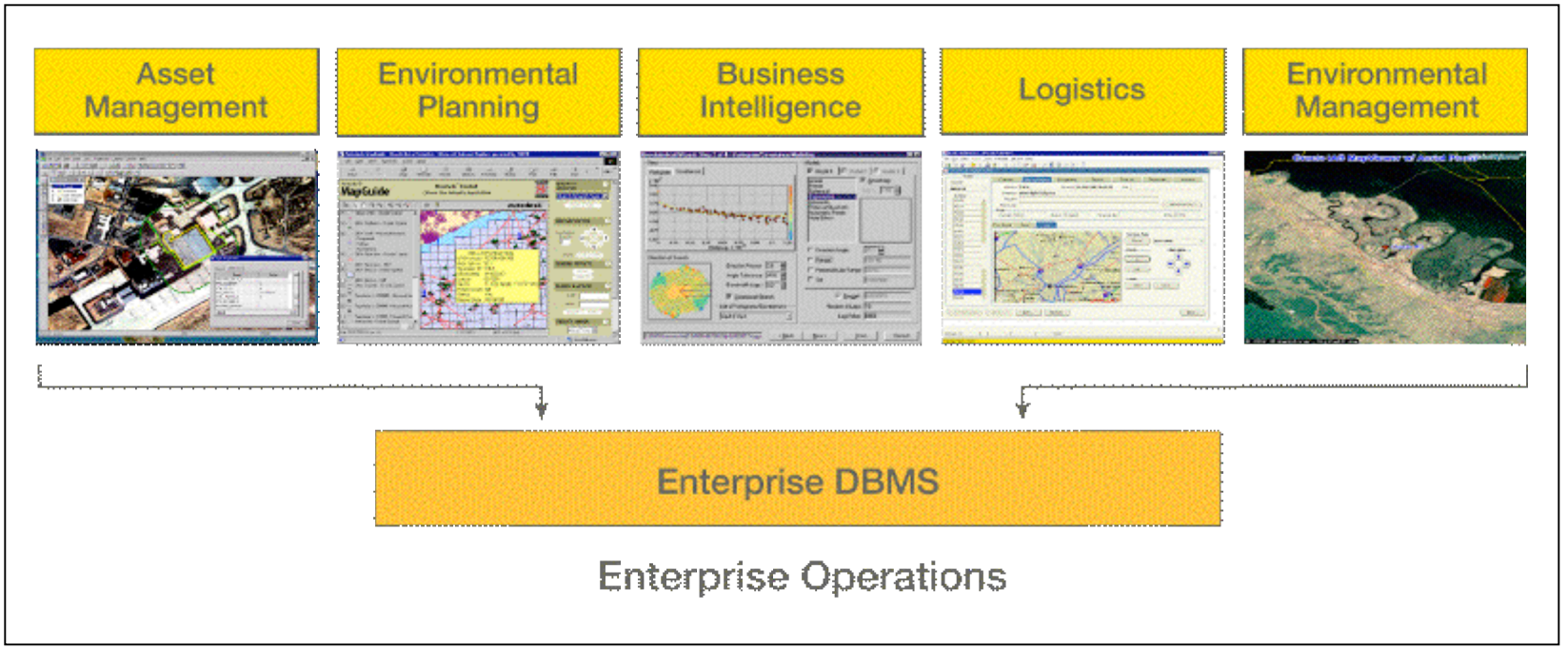
Common Data Model and SOA



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How did Benton PUD approach automation and integration?

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What are They Doing Today?

- Current system has served them well for over 10 years...
  - Still using a custom developed CAD/Mapping system
  - 366 separate map files to query/ analyze
  - Maintain 3 system models (CAD, SynerGEE, MapGuide)
- Use antiquated, manual, redundant work order processes to update maps and records
- No coordinated system in place
  - Multi-source data manually put together at considerable time/ expense

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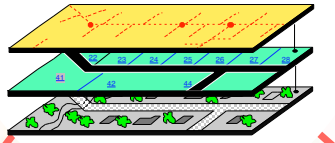
Current Challenges

- Paper maps (used by field crews) are out-of-date today
- Lack of information where needed in the field (e.g., maps, customer information, navigation)
- Inability for multiple departments to access data and conduct spatial analysis
- Need to unify data streams to improve efficiency and accuracy

Data Sources

Oracle Database

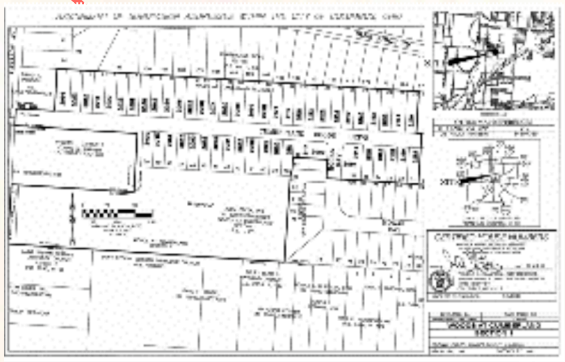


Automated Database

Data Form or Report

Vector Map/Aerial Image

Field Data Collection



Engineering Design/
As-Built Drawing

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Preparing for the Future

- Converting paper / microfilm to digital format for efficient storage, retrieval, access
- Improving map accuracy - Global Positioning Equipment
- 2004 - Local partnership purchased fly-over photos to enhance GIS

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Current situation…

Unconnected Islands of Information

- Limited purpose
- No coordinated strategy
- No focus on data standards
- Low level of information sharing

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The Future

Integrated Information

- Multipurpose, accessible, accurate
- Adherence to business objectives
- Emphasis on standards, consistency
- Designed for resource sharing

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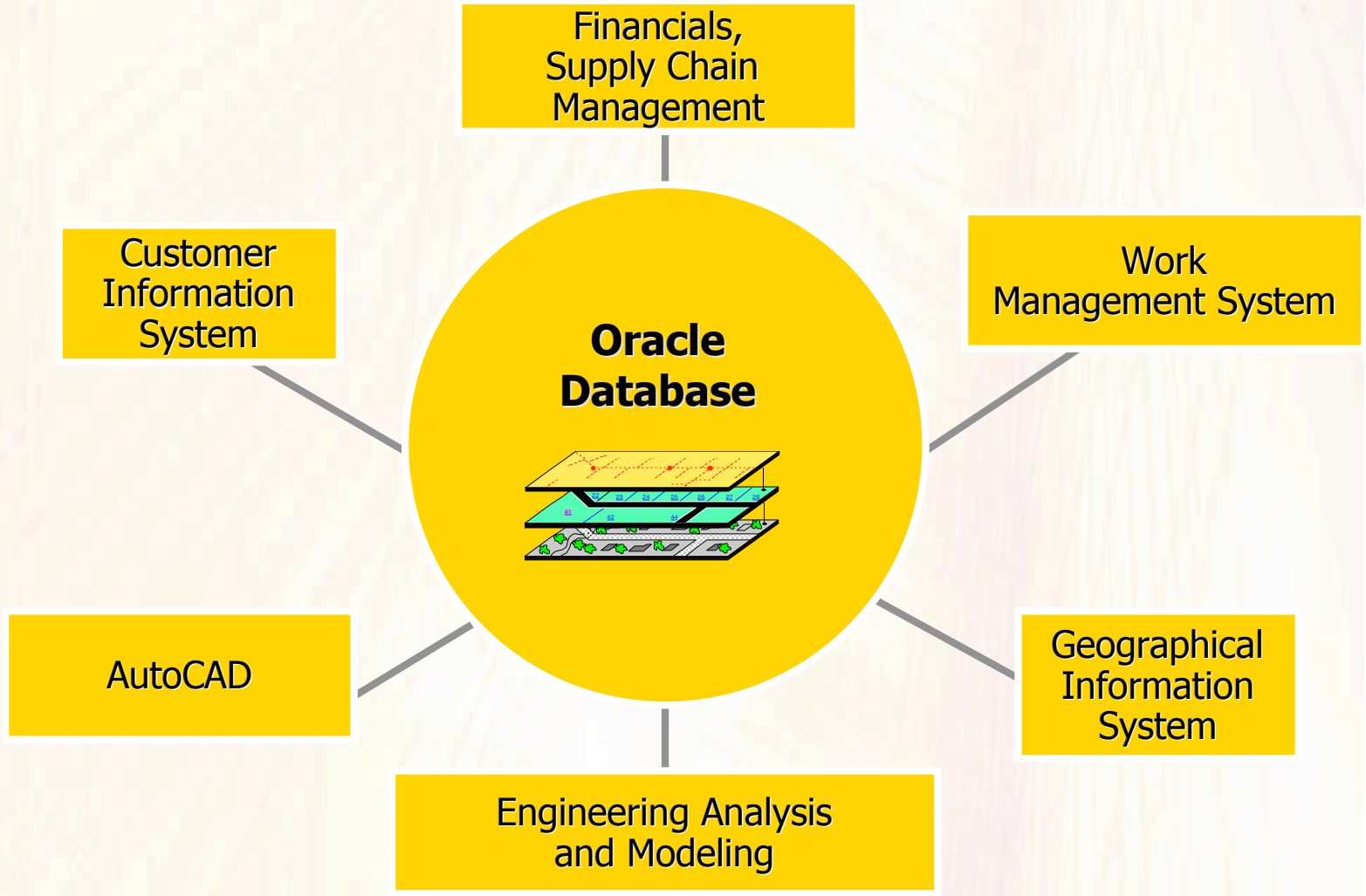
Key Business Drivers

- Cost reduction and process efficiency
- Customer information is accessible, easy to use
- Streamline information flows, ensure system interoperability
- Replace costly mapping and redundant work processes
- Increase access to facility information and worker productivity; extend data to the field

Centralized Information in the Enterprise Environment



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Data Interoperability

- Use of Open standards
  - Provides "exit strategy"
  - Promotes compatibility, drives down costs, supports greater reusability
  - Reduces tie to a single vendor technology
- Data sharing between entities:
  - City Level
  - County level
  - District level
  - Other firms/ suppliers

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Enhanced Field Capabilities

- View, query, update data in the field
- Trace electrical/communication circuits
- Navigate to facilities, route planning, tracing – aid emergency response
- Access plant records, drawings, easements, property information

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Savings/Benefits

- Increase:
  - Data sharing
  - Data quality
  - Accuracy of dispatch routing
  - System flexibility and scalability
- Improve:
  - Accuracy and timeliness of data
  - Customer relations
  - Scheduling and dispatch
  - Safety
  - Outage restoration time
- Eliminate:
  - Process redundancies
  - Redundant data stores
- Reduce:
  - Cost of Service
  - Vehicle/hardware costs
  - Reliance on out-dated paper records
  - Drive (windshield) time

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Elimination of Paper?

- District-wide access eliminates need for paper
  - Real-time map data available instead of relying on current as-built/print processes
- Producing paper “block” maps
  - Materials at $3,200/year
  - 630 labor-hours at $23,625/year
- Large wall facility maps – out of date, expensive to create/maintain
  - 120 labor-hours at $5,000
- Reduction of capital equipment expense
  - Large format plotter at $9,000

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What would a truly integrated utility look like?

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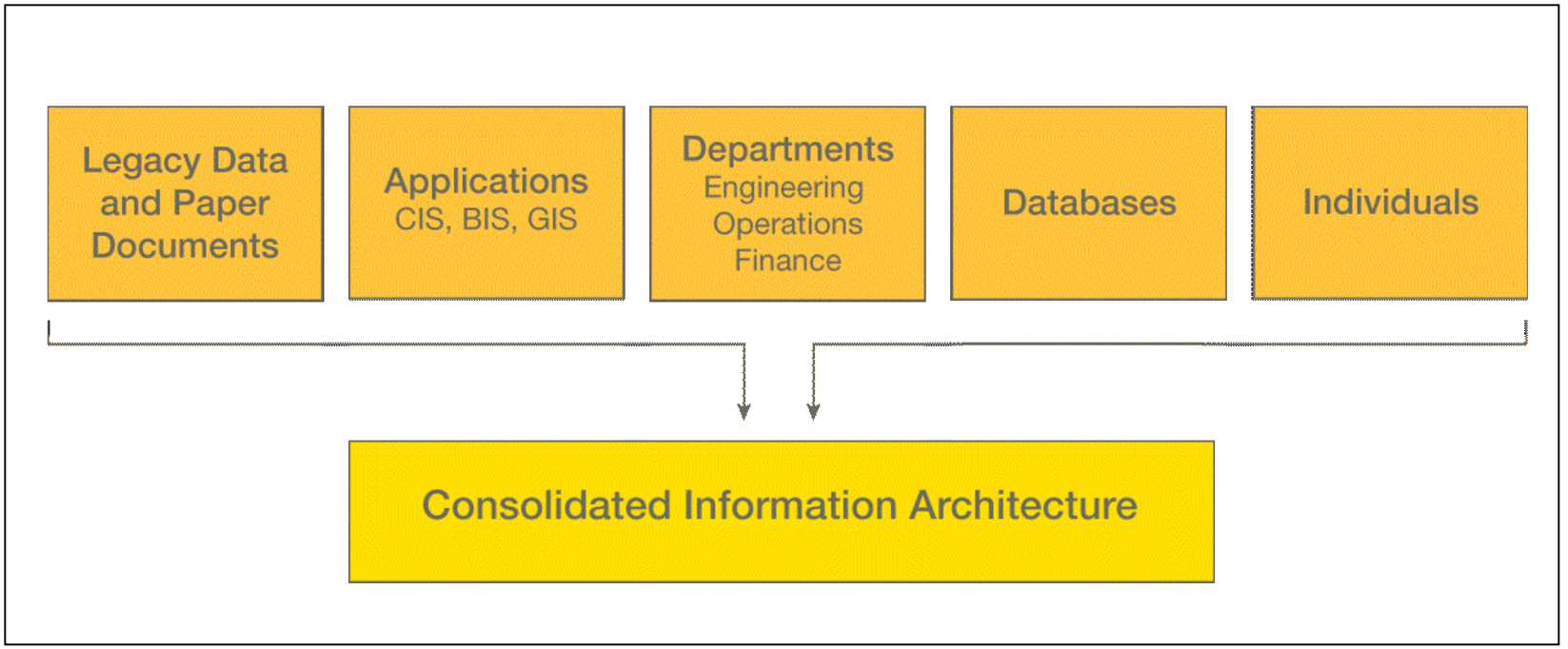
Convergence



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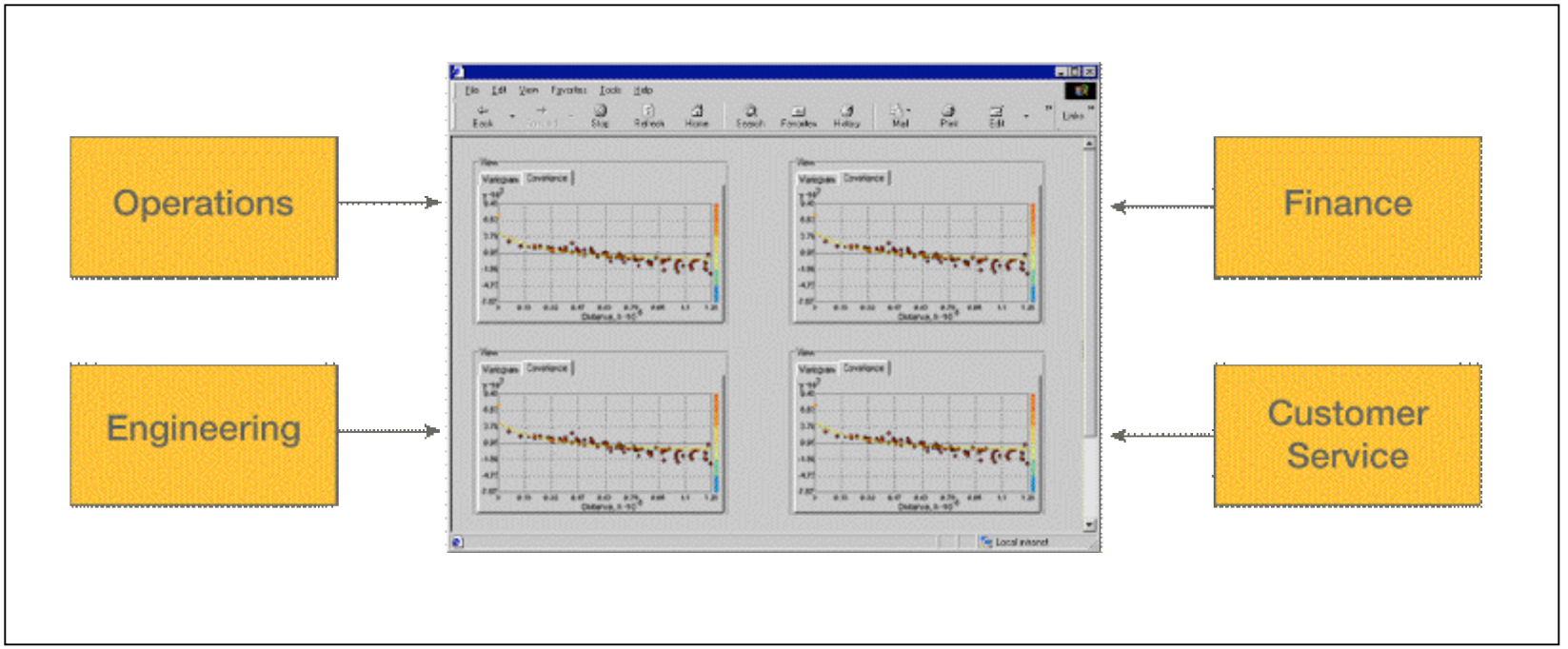
Utility Dashboard



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Benefits of Monitoring KPIs

- Adjust to changes faster
- Track multiple metrics in real-time
- Operate more efficiently
- Resolve issues earlier

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What technologies enable this kind of enterprise integration?

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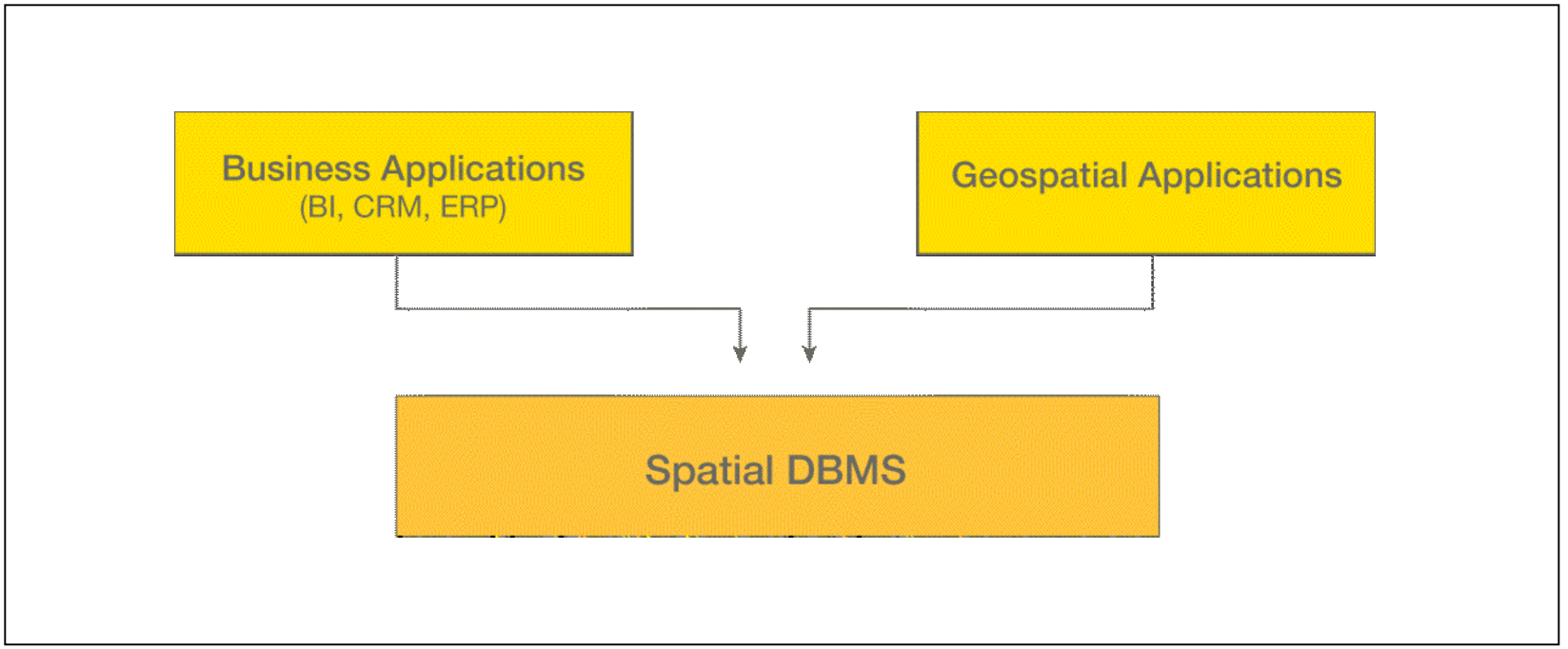
Enterprise Applications and DBMS



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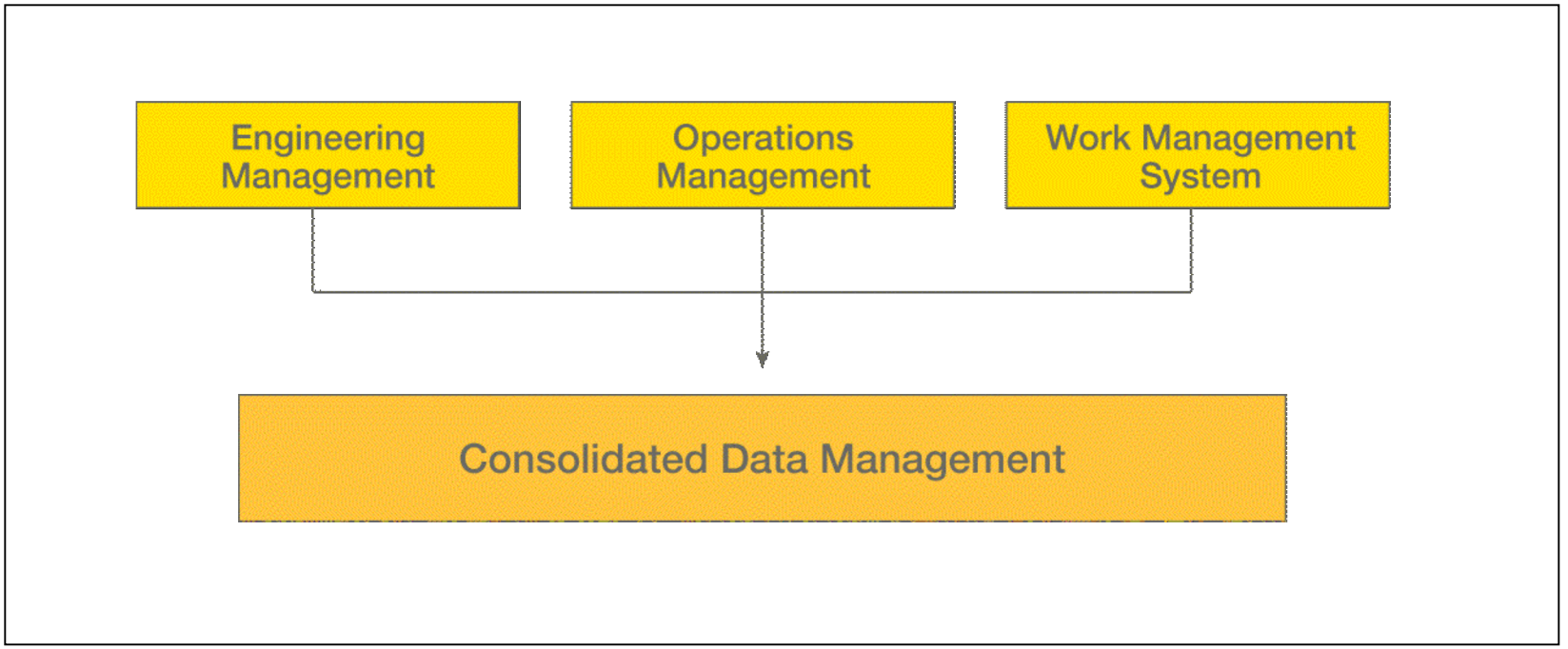
Location-Enabling Enterprise Applications



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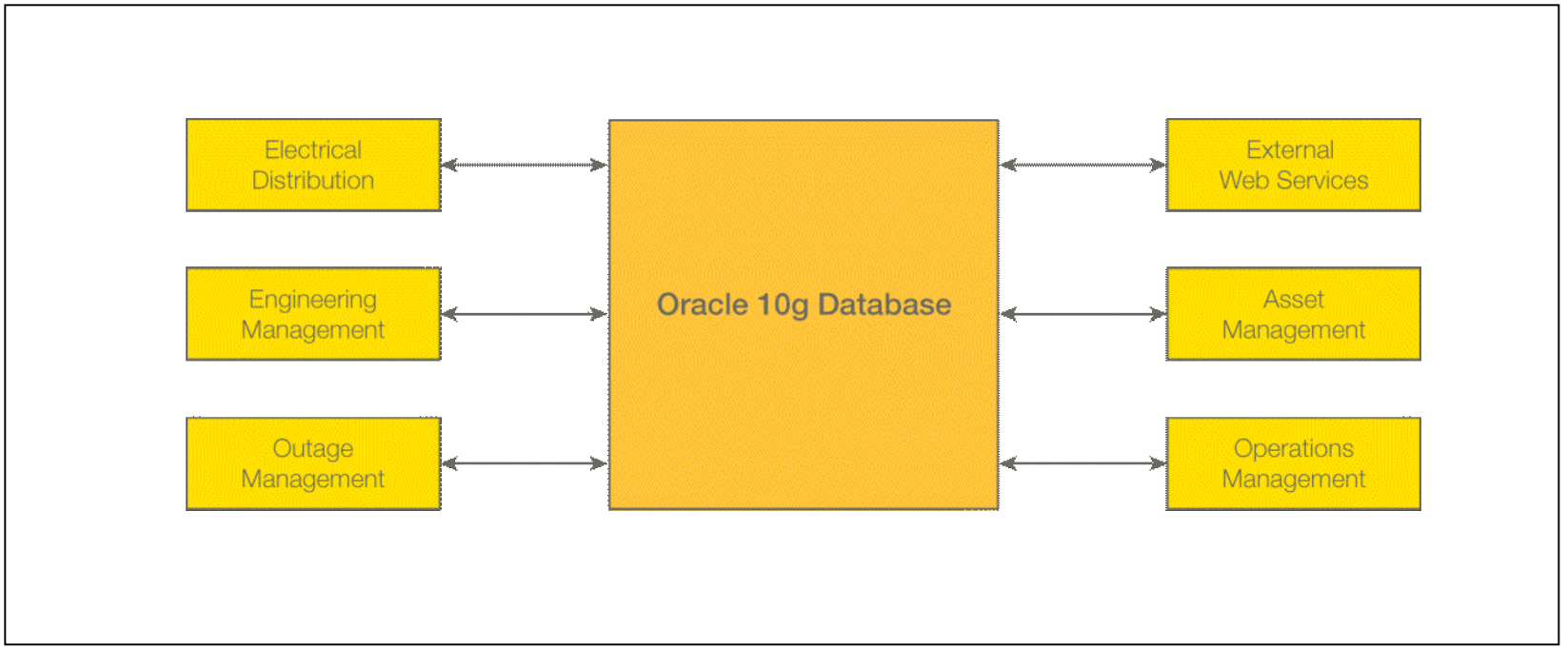
Oracle 10g Value Proposition



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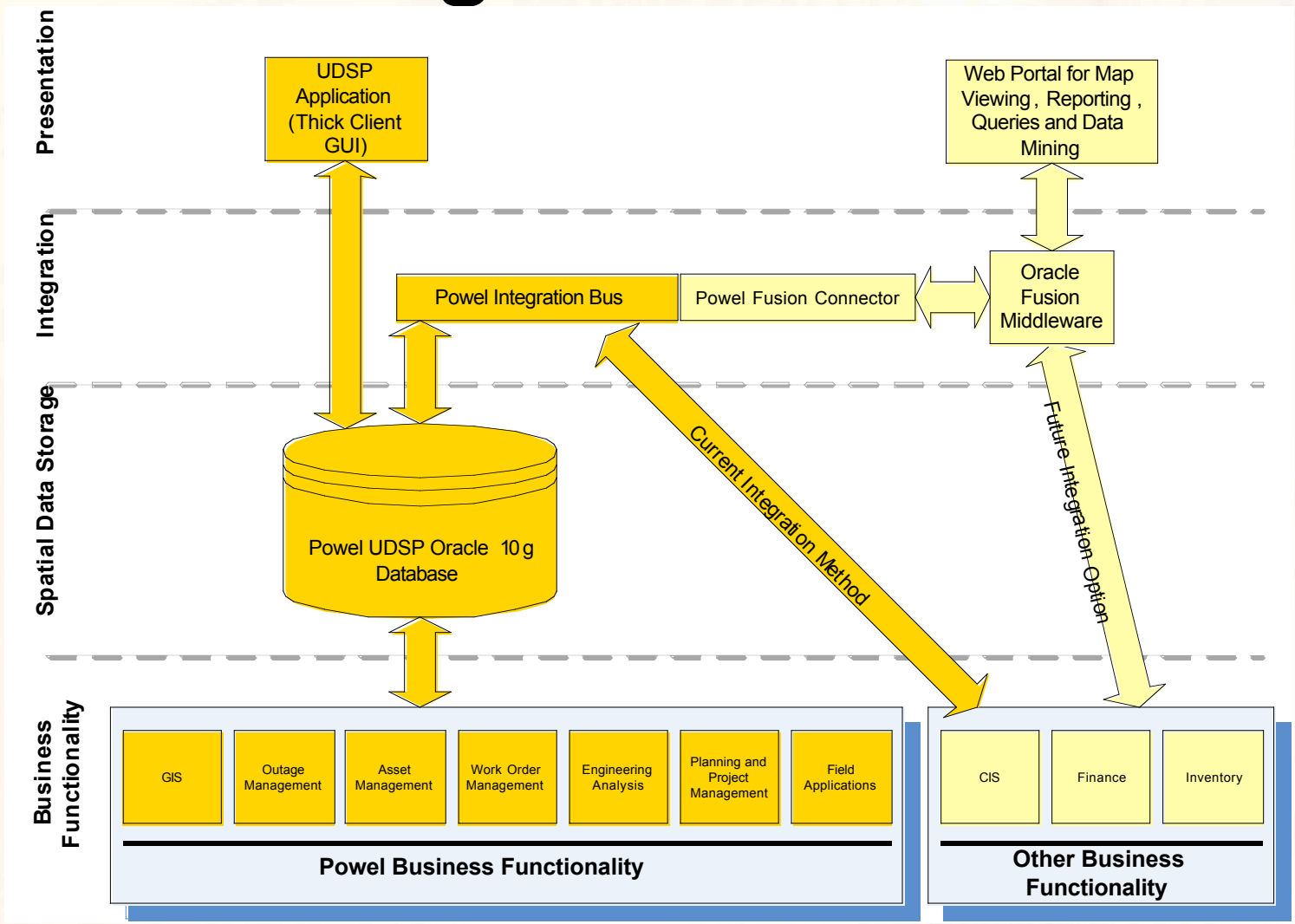
Powel – Oracle Fusion Integration Stack



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What will utilities need to do to successfully implement ORP?

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Converging to ORP

- Develop a technology plan
- Determine timing
- Decide where and how to store data
- Target key functional areas
- Pick an interface

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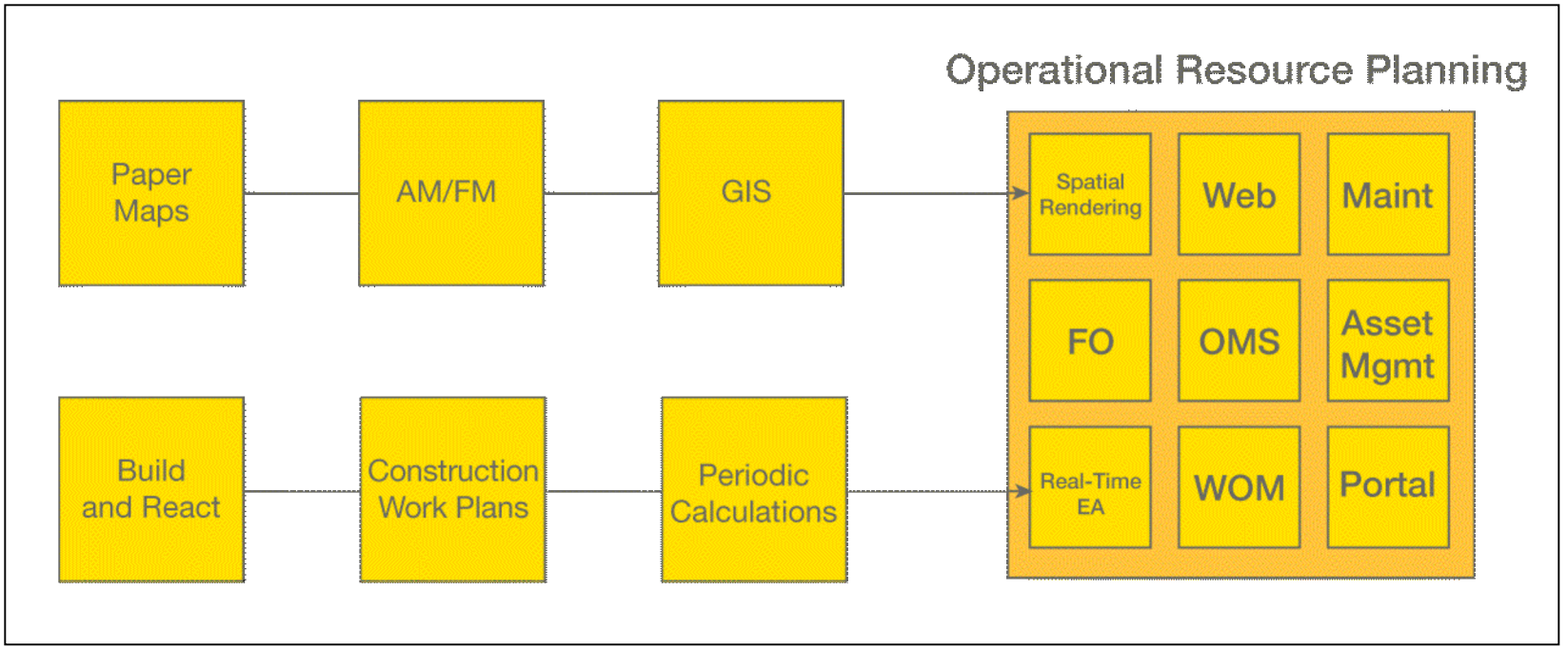
Converging to ORP



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In Summary

- All utilities do not share a similar outlook about the future
- Establishing an enterprise vision is critical to success
- New technologies are changing what the future can achieve
- Integrated ORP is one path utilities are taking