

Real-time Supply Chain

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Industry trends

Manufacturing market view

Market trends

- Consolidation of ERP instances
- Supply chain optimization
- Collaborative product development
- Distributed operations
- Service-centric experience

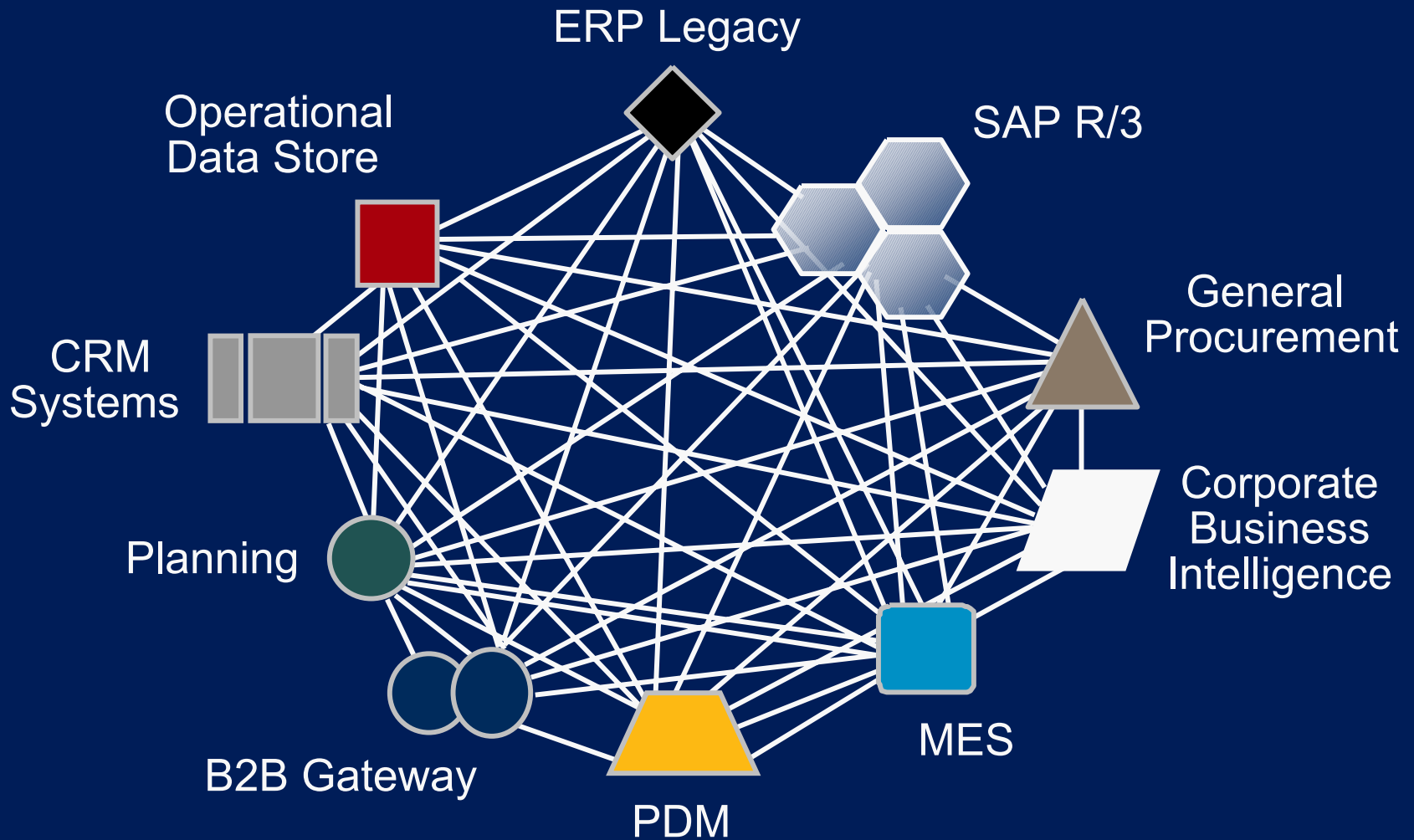
Issues

- Managing transaction volumes
- Bullet-proofing the infrastructure
- Security and manageability
- Integrating Web-based processes
- Real-time access to customer data
- Standardization to lower costs

Drivers

- Decrease time to profit
- Reduce inventory and procurement costs
- Create new markets and capture new customers
- Optimize partner interactions
- Super-efficient processes

Supply chain landscape: integration challenge

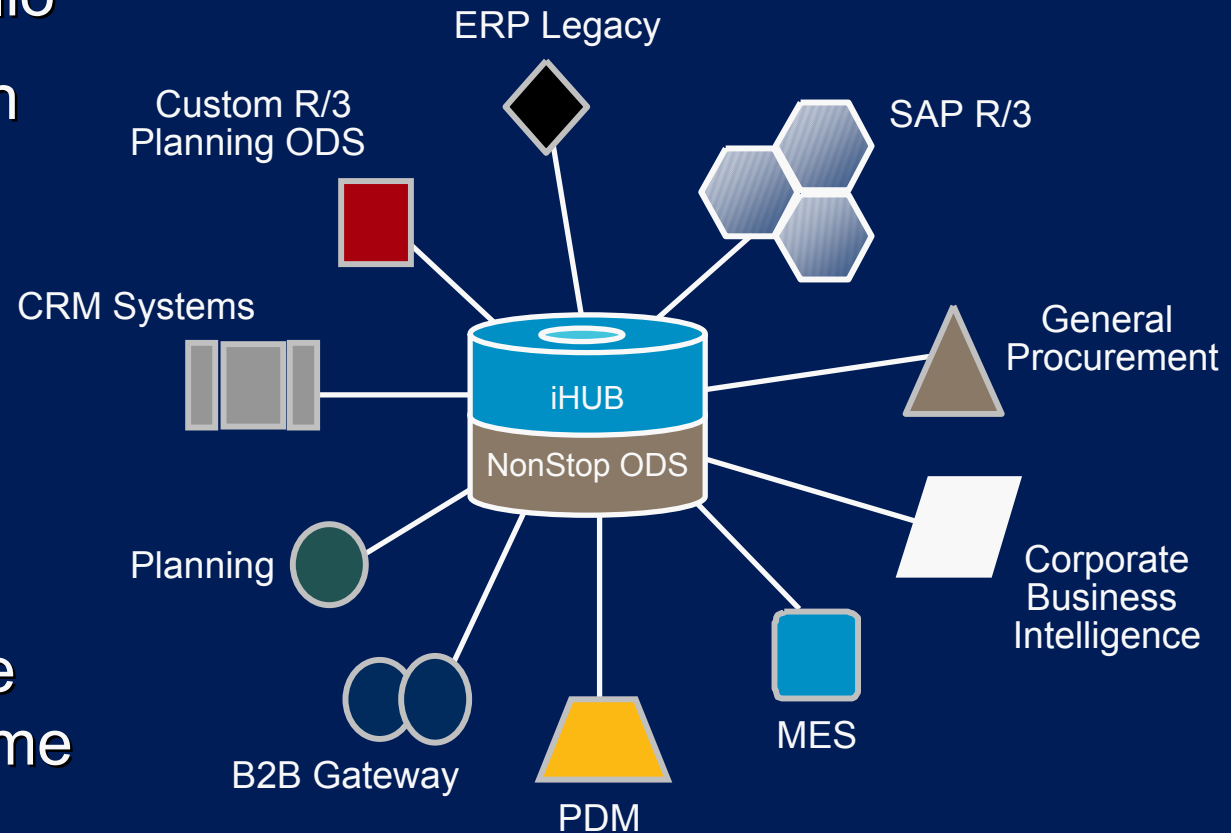


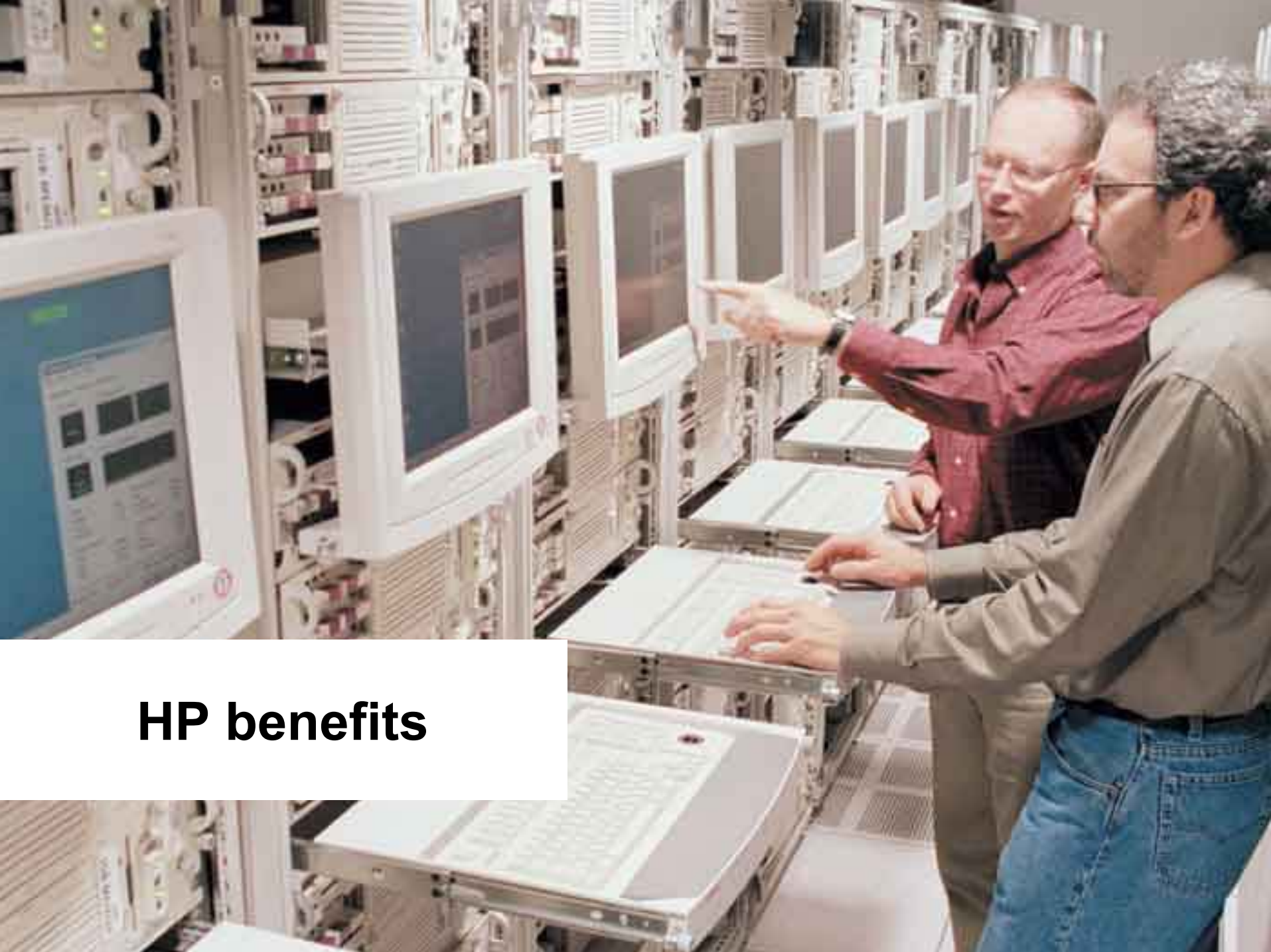


The HP solution

Adaptive supply chain solution internal project – Integration Hub

- Enhances existing applications portfolio
- Enables integration and consolidation programs
- Centralizes key data from across the supply chain systems
- Enables immediate response to real-time changes in the supply chain





HP benefits

HP program objectives

- Create an up to the minute Global View of the entire supply chain
- Enable the push into direct selling
- Reduced the costs of integration

HP Integration Hub — financial benefits



Estimated savings on implementation

Total IT benefits	More than US\$6 million per year
Total operational benefits	More than US\$1 million per year
Total strategic benefits	More than US\$2 million per year
Order cycle time	Improved by 15%
Net present value	US\$37 million over 5-year period

Non-quantified and intangible IT benefits



Improved end-user productivity

- Enables the interoperability of information through the consistent use of shared data for business intelligence assets
- Establishes “the” authoritative source of data
- Improves critical business response time

Faster system deployment

- Leverages an available platform for other HP projects (e.g., utilizes the ZLE iHub for CRM, metrics, and reporting, etc.)
- Simplifies system integration due to more efficient architecture and technology, resulting in a faster capture of business benefits from system deployments

Improved IT infrastructure

- Enables continual deployment of the iHub with nominal incremental hardware and software costs using a highly scalable architecture
- Improves system reliability with HP NonStop server technology



Real-time Supply Chain

Typical integration progression

Point to point

- Typically batched data movement
- Not 24x7
- Impacts performance
- Difficult to manage and maintain

EAI

- Improvement over point to point
- Maintenance is still complicated
- Not very scalable
- No integrated data source
- Not 24x7

Information consolidation

- Enterprisewide data source
- Dependable data source 24x7
- Complements standard EAI technologies (SAP XI and webMethods)
- Supports multiple methods of access (real-time synch and asynch, and batch)

Real-time Supply Chain vision

Comprehensive supply chain services to:

- Enable real-time applications and enhanced business process
- Enhance power of applications through access to real-time data (CRM, available to promise, decision support, analytics, etc.)

Real-time

- Enhance operations and decision making through real-time visibility tools
- Create real-time exception management processes
- Enhance visibility tools with access to an enterprisewide view of supply chain data

Visibility

- Create a single view of supply chain, customer, etc.
- Drive out batch where possible
- Implement standard software integration
- Focus on integration
- Establish foundation layer

Integration

Transform
the
Business



Optimize
the
Business

Real-time Supply Chain solution

Upper layer

- Best practices
- Key services
- Business knowledge

Real-time
Supply Chain

Middle layer

- Supply chain application, such as:
 - Visibility
 - Planning
 - Analytics

Visibility

Planning

Analytics

Execution

Other
Applications

Lower layer

- Supply chain model
- SAP XI Interface
- webMethods EAI
- Data cleansing

Synchronization

Data Management

Collect

Distribute

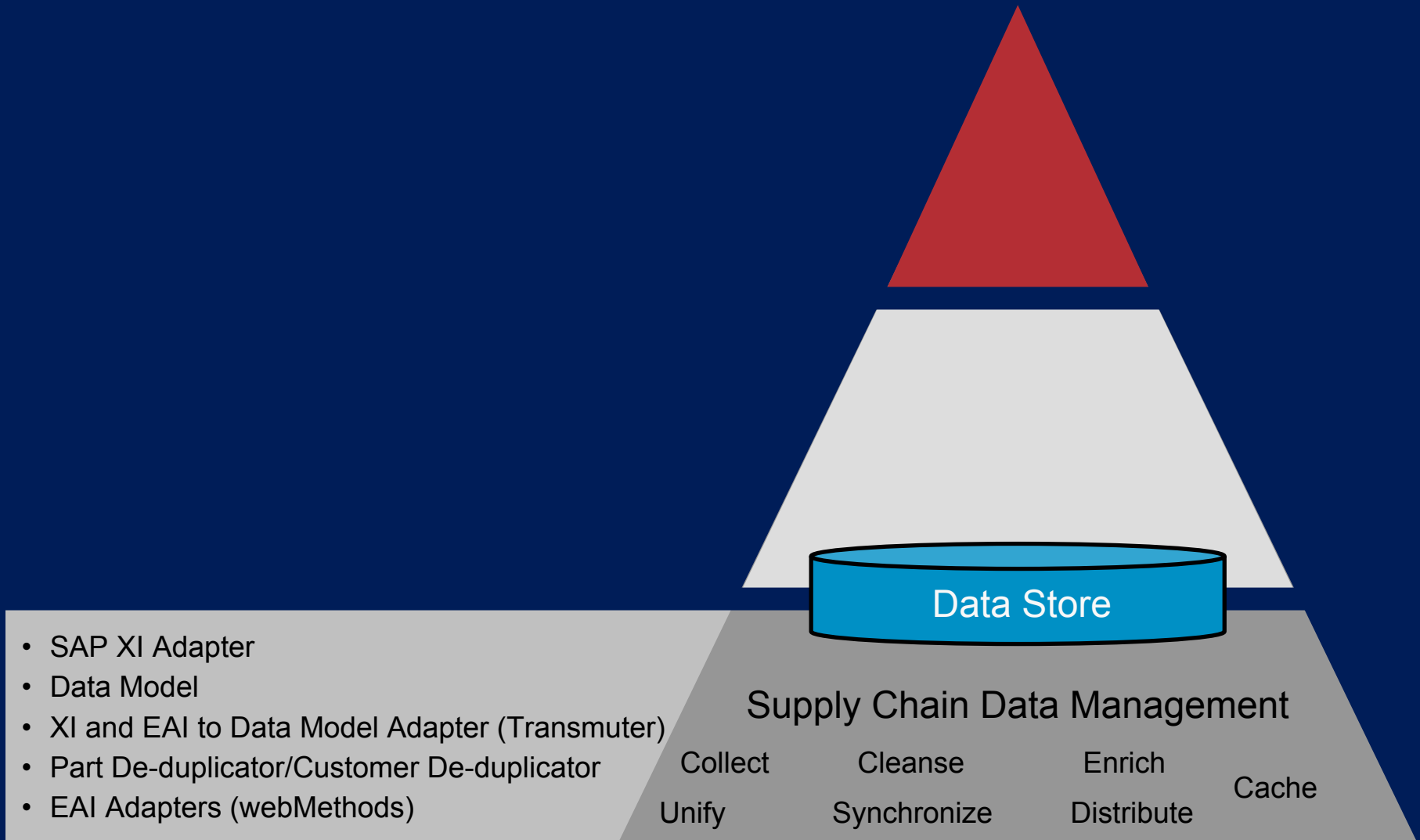
Enrich

Unify

Cleanse

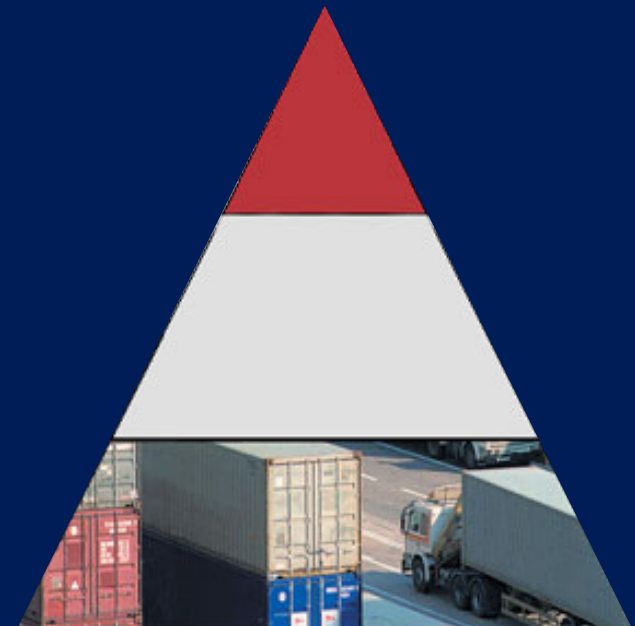
Analyze

Real-time Supply Chain data management components



Data management components

- SAP XI adapters for both online and batch updating
- EAI adapters work with webMethods and BEA WebLogic Server for non-SAP data sources
- Data model is manufacturing supply chain–specific
- Transmuter
 - Data mapping
 - Insertions
 - Subscriptions
- Part de-duplicator/
customer de-duplicator
 - Both internal routines and external interfaces offered



Supply chain data management benefits

- RTSC data management components represent years of HP database design best practices (patent-pending technology)
- SAP XI provides interchange technology for SAP integration
 - Integrates different software versions
 - Integrates multiple SAP instances
- webMethods provides interchange technology for other supply chain environments
 - Integrates industry-leading supply chain applications
- Customer and parts data, real-time cleansing provides more accurate and consistent information
- Enhances industry-leading supply chain applications, thereby unleashing the value of your existing supply chain investments



Real-time Supply Chain application components

Leading supply chain visibility tools

- Viewlocity, SAP, etc.

Leading supply chain analytics/data mining

- GENUS/SAS, etc.

Others under evaluation

Visibility

Planning

Analytics

Execution

Other Applications

Supply chain visibility tools

Viewlocity

- Respected vendor of supply chain solutions
- Application captures metrics against selected attributes in the following areas:
 - Key financial metrics
 - Key value buckets
 - Key performance indicators
- Application provides business activity-monitoring dashboard
- Enables real-time exception management

Data mining tools

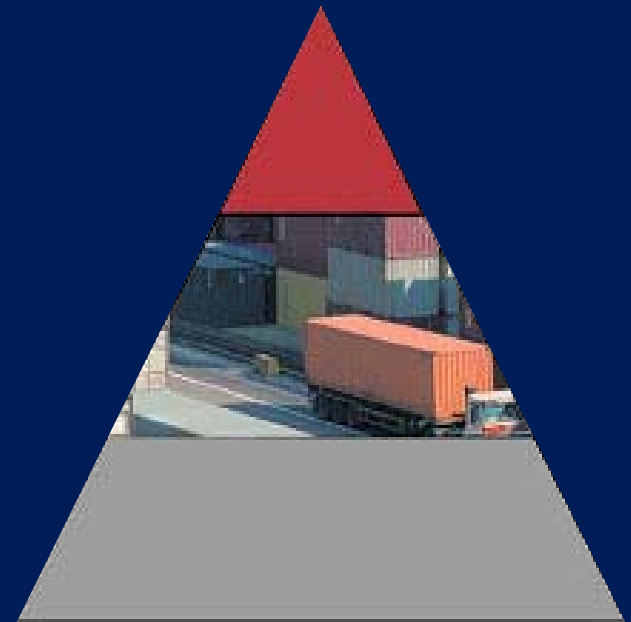
■ Goal

- To reduce the complexity inherent in the data-mining process
- Reduce end-to-end cycle times
- Provide tools that facilitate data mining

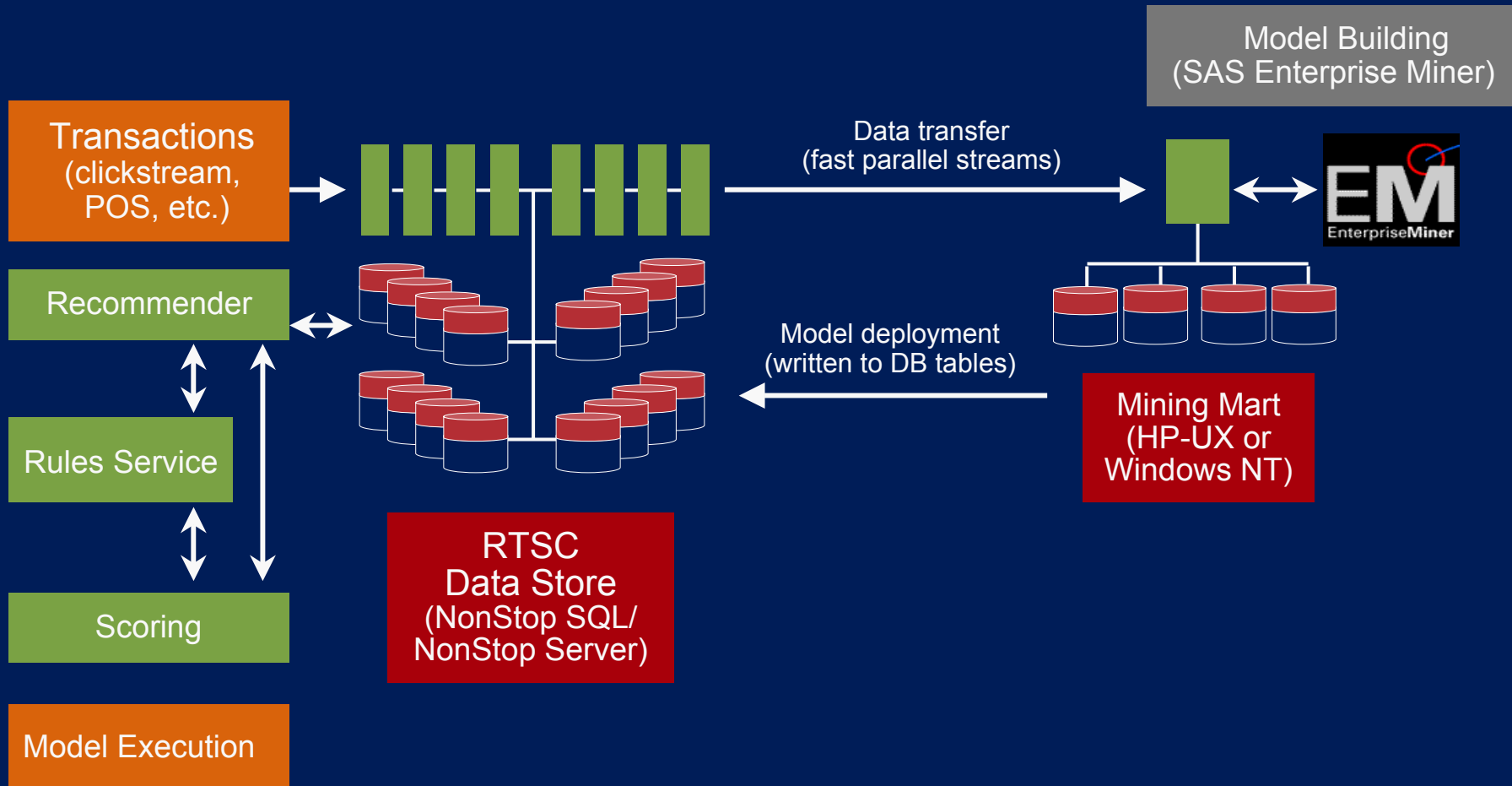
■ Genus Mart Builder includes a data-preparation tool and a data-transfer tool

■ Genus Integrator

- Enables real-time scoring with up-to-the-minute data from the RTSC data store
- Transfers the data to the SAS Enterprise Miner running off-platform



Real-time Analytics system architecture



Real-time Supply Chain solution

Services and best practices for building a Real-time Supply Chain

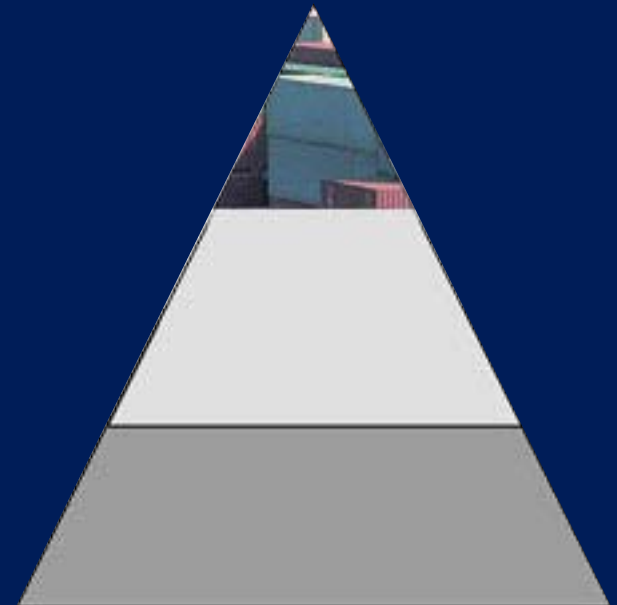
- HP manufacturing and industry consultants
- Leading SIs — Deloitte Consulting and CGE&Y
- HP C&I manufacturing services
- NonStop ZLE services

Real-time
Supply Chain



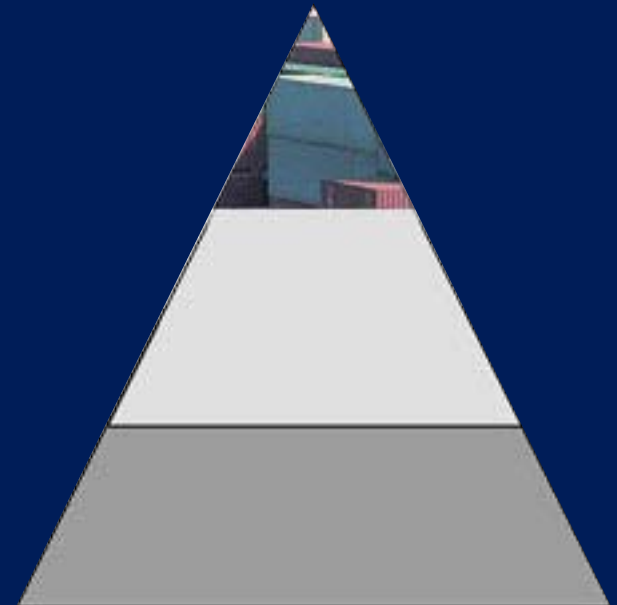
Building an RTSC solution

- HP and its partners deliver leading industry knowledge, expertise, and best practices and services for implementing an RTSC integration solution
 - Manufacturing industry consulting
 - SAP integration
 - Supply chain data consolidation
 - ZLE architecture deployment
 - Supply chain implementation skills



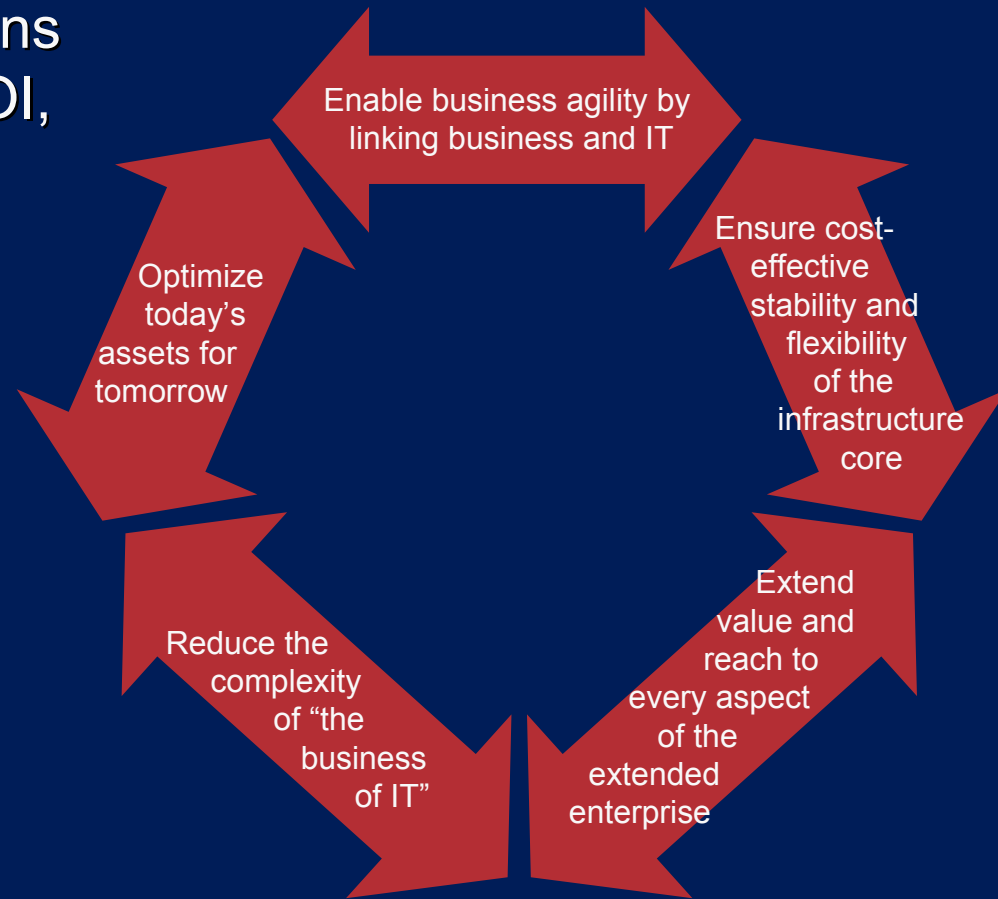
Delivering RTSC – implementation expertise

- HP consulting partners for the delivery of the HP Real-time Supply Chain solution
 - Via HP Consulting and Integration (C&I) supply chain services include
 - Collaborative Business Initiative
 - Extensive experience in SAP installation
 - Via key SI partners
 - Deloitte Consulting in Americas
 - CGE&Y in Americas and EMEA
 - Independent consulting groups
 - Hawkeye Consulting



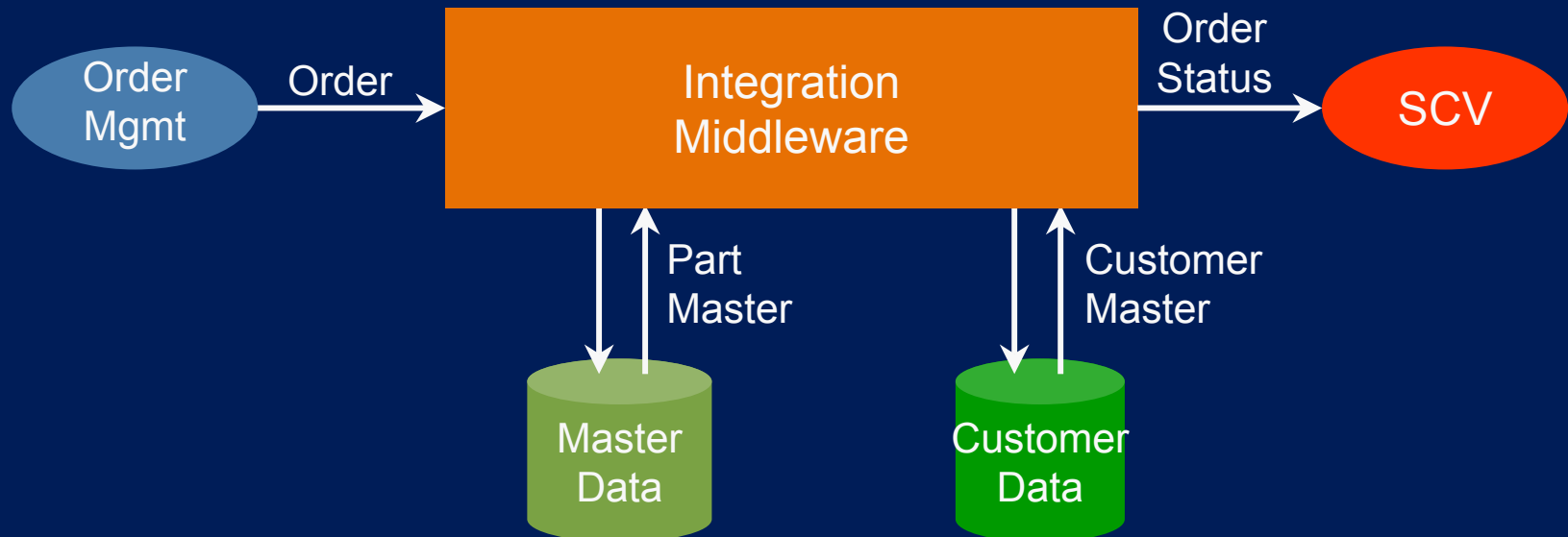
HP C&I supply chain services

- HP's proven experience in deploying supply chain solutions reduces risk, returns faster ROI, and speeds time to market
- Professional services include
 - Discovery services
 - Supply chain business process consulting
 - Implementation and deployment services
 - Managed services



Integration middleware experiences

- Complexity of transformations
 - Require multiple steps and data from multiple systems
- Service level of applications
 - Building dependencies between applications does not scale

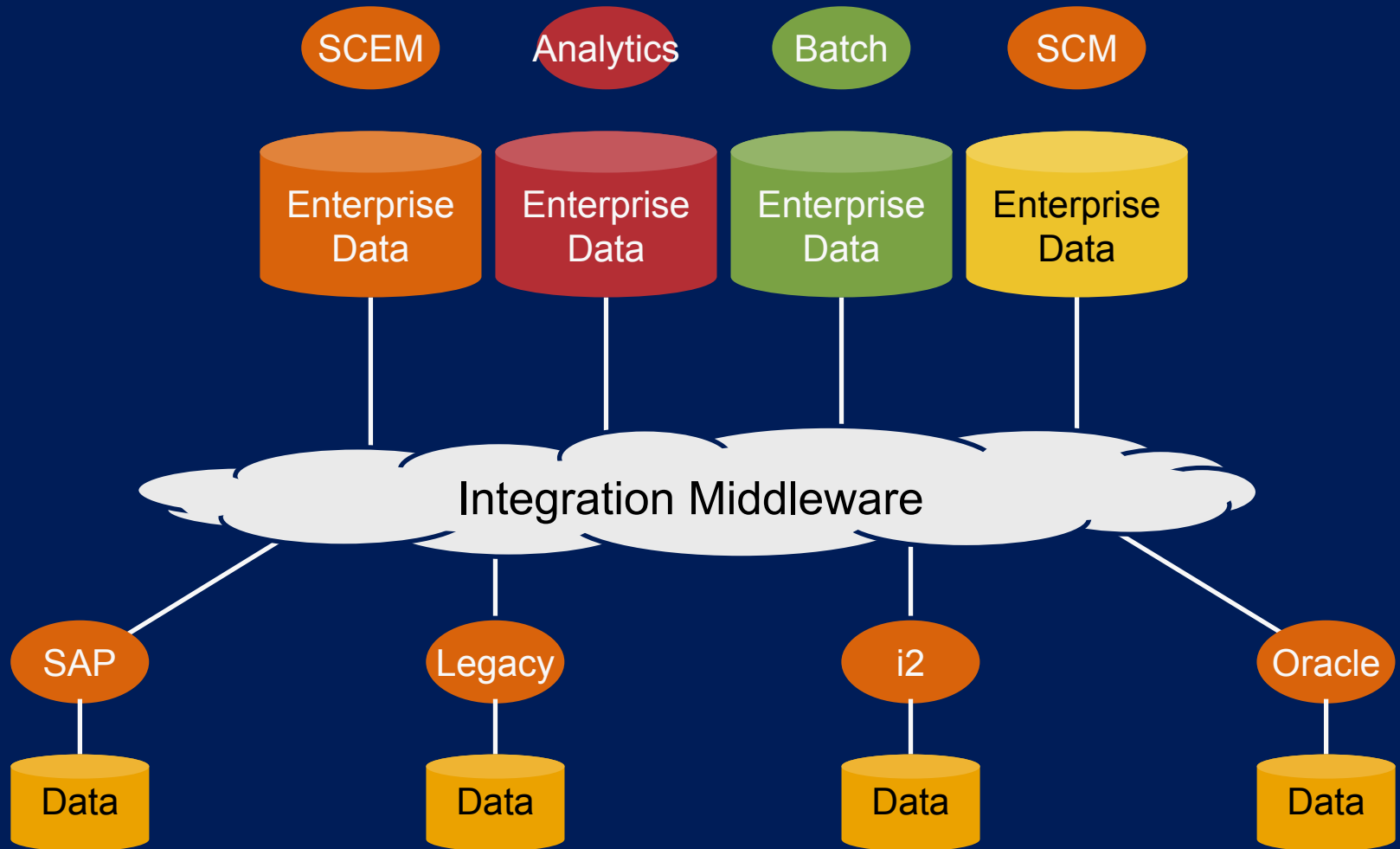


HP IT observations

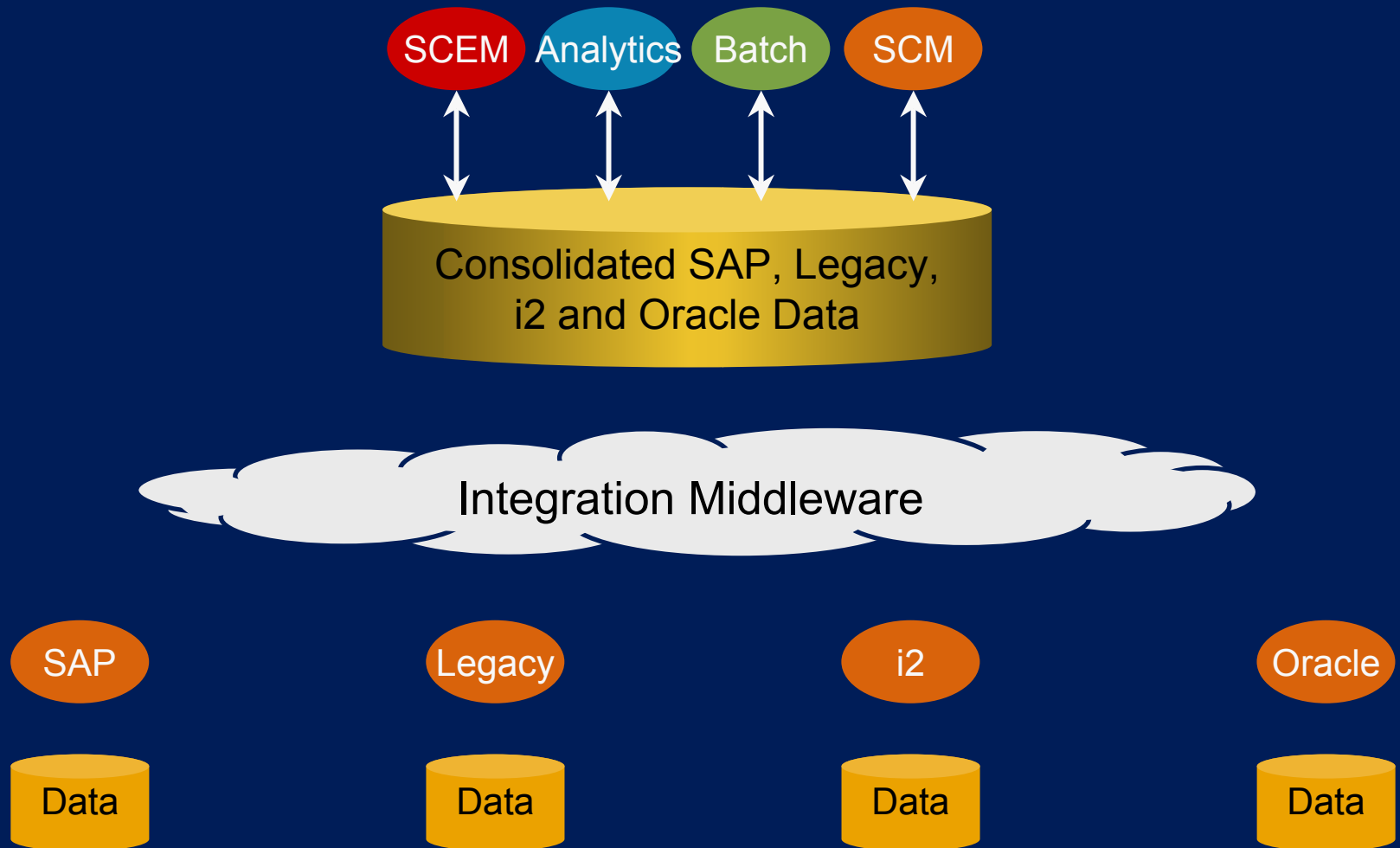
- No single Enterprise Application will be the center (hub) of our business
 - Even enterprise applications are islands of data (spokes)
 - Operational data is scattered across the company
- There is a need to be centralized AND distributed
 - Our business processes are localized and distributed
 - Need to act locally but enable global horizontal processes
 - Require ability to offload functions and data from various islands (require that we unlock the data in our enterprise)

The key is Real-time integration of global information

The architectural challenge

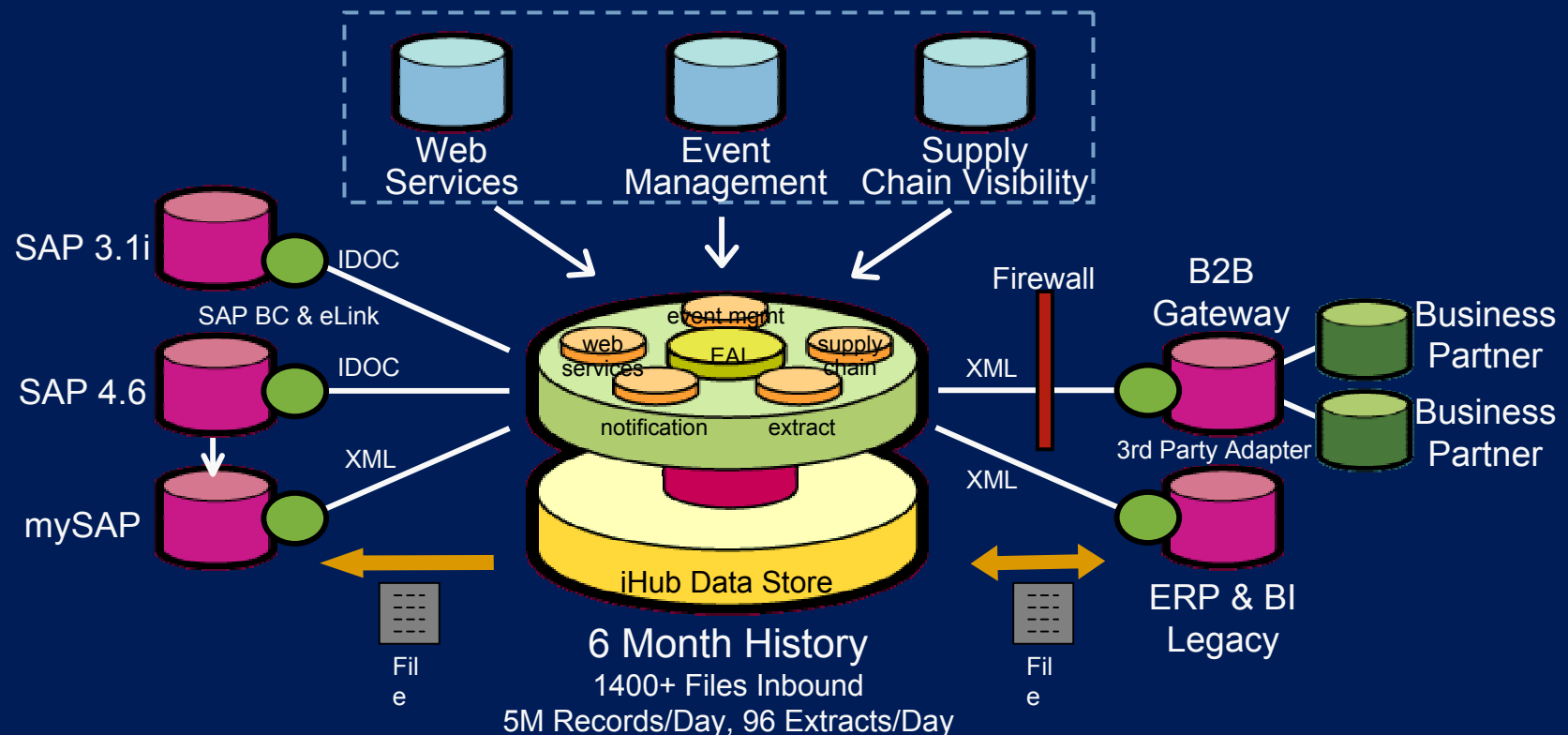


Our approach



Benefits of the approach HP integration hub

- Enable immediate responses to real-time changes in the supply chain
- A way to host new and powerful functionality against and thus enhance our existing portfolio solutions
- Become a key enabler for integration and consolidation programs



iHub implementation

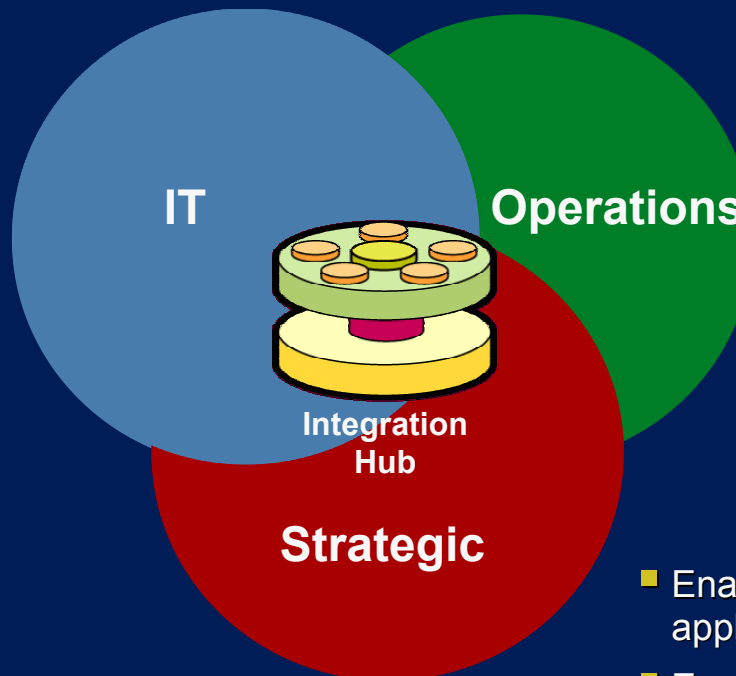
- Deployed on the HP NonStop Server
- Interfaces in place to production systems
- Executive level sponsorship of iHub as our integration solution post merger
- Support product fulfillment migrations
- Enable world wide product planning
- Deploying unify business intelligence for business units and functional organizations (global accounts, regions, horizontal functions)



ROI study

- Reduces costs for supporting interfaces, batch jobs and operational data stores
- Provides a flexible systems architecture, thus simplifying and accelerating system integration
- Supplies a scalable and robust platform for mission critical applications

**Cost Improvements
5%**



Total supply chain visibility provides:

- Improved labor productivity
- Improved customer service
- Improved inventory utilization
- Procurement efficiencies

**Operational
Efficiencies
Improved 20%**

- Enable deployment of real-time applications
- Enables enhanced customer/supplier relationships via extended enterprise integration

Order Cycle Time by 15%

Customer benefits



Why HP and RTSC?

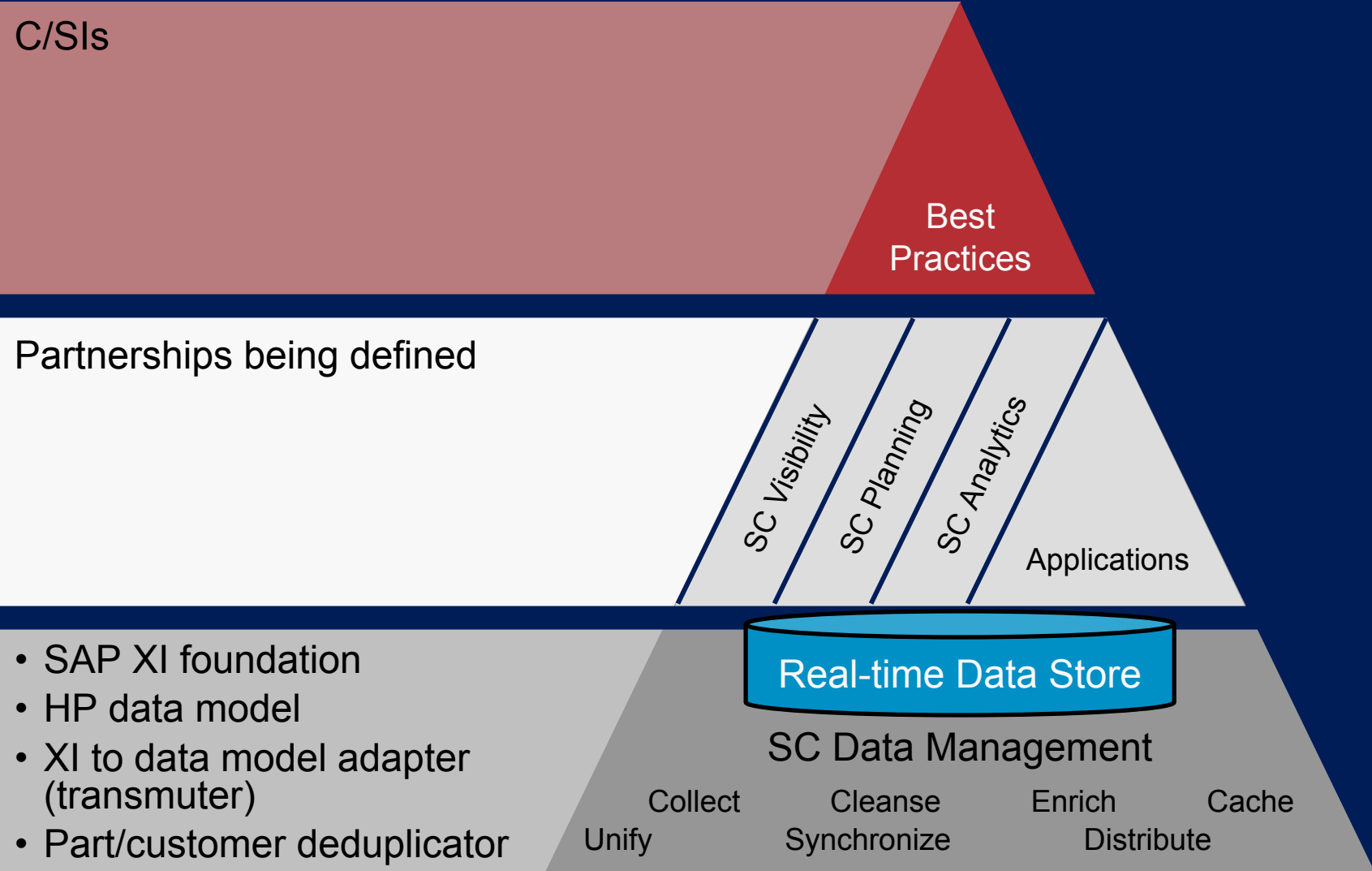
- HP has a proven track record of implementing supply chain solutions
- HP has proven RTSC technology in its own internal implementation



RTSC customer benefits

- Investment protection
- Access real-time data
- React quickly to changing business conditions
- Reduce costs
- Reduce risks
- Simplify the real-time integration of multiple supply chain applications and multiple versions of existing applications
- Generate insights that companies can act on across the supply chain in Real-time

The Zero Latency Integrator for supply chain management



Summary: Real-time Supply Chain



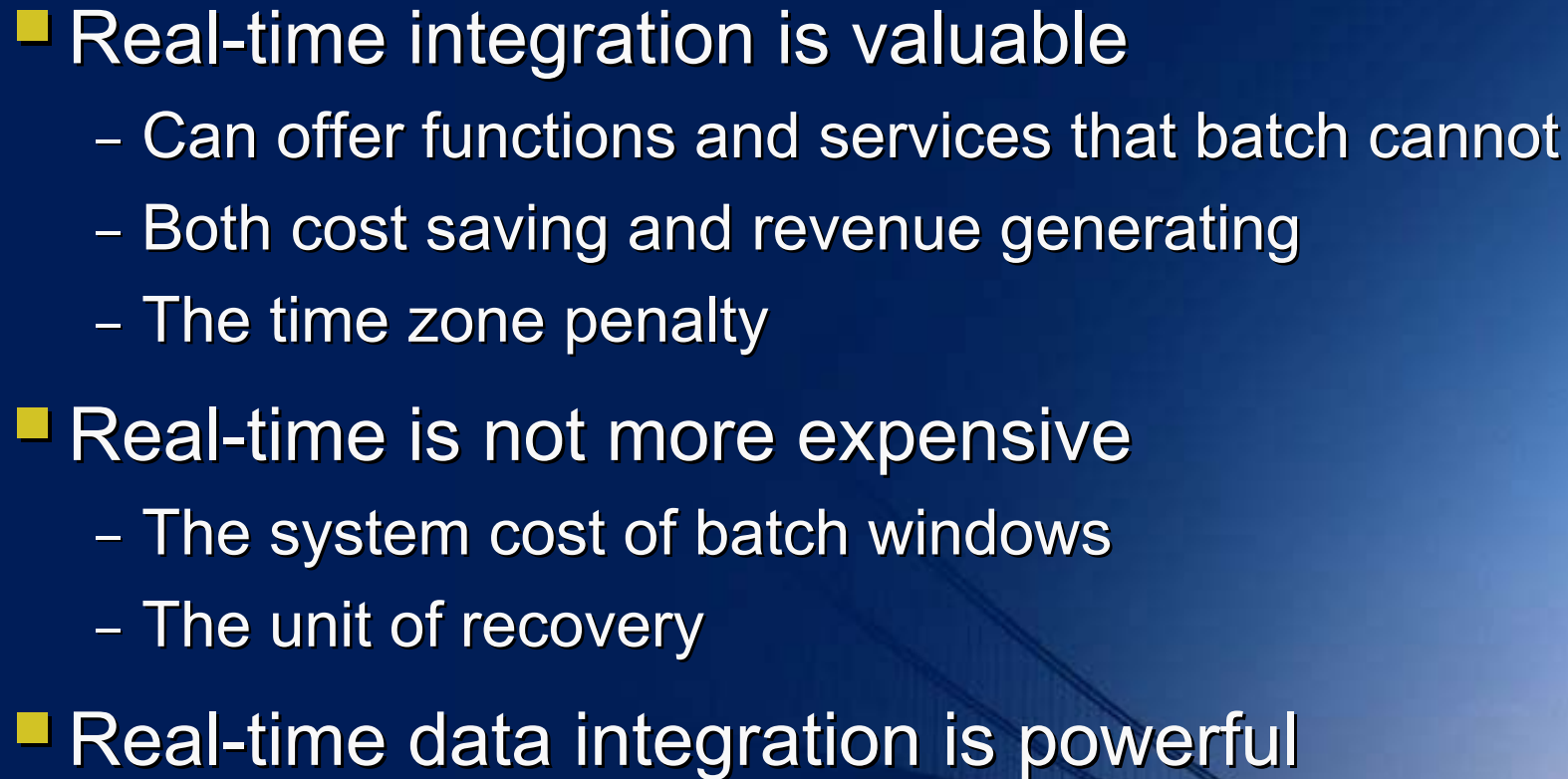
- RTSC provides a single, real-time enterprise-wide view of the supply chain to enable
 - Real-time decision making
 - Up-to-the-second view of your business
 - New functionality
 - Competitive advantage
- RTSC is designed to easily integrate the largest SAP installations
 - Multiple instances
 - Multiple versions
- RTSC delivers key HP intellectual property derived from an extensive internal integration project
- RTSC allows you to do more with less!

RTSC will unleash the value of your existing supply chain investment

Lessons learned?

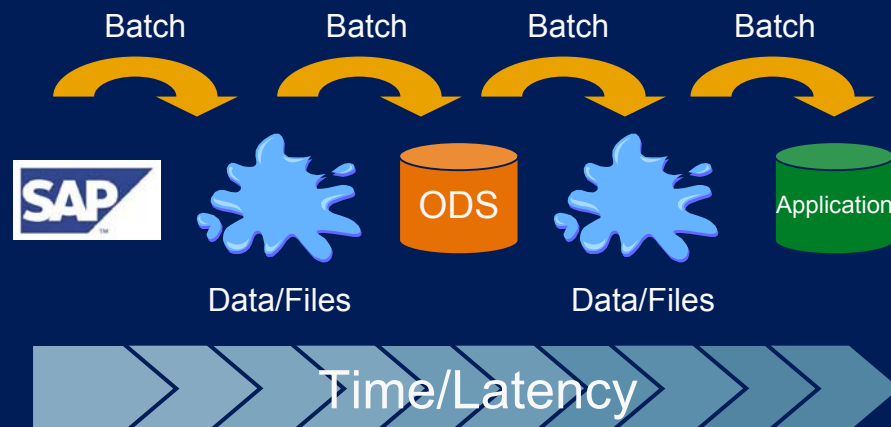
- Real-time requirements can transform the way our business plans, monitors, and executes its supply chain. Opportunities are easy to find — we just needed to ask.
- We discovered ROI are huge and can be realized quickly, but it requires a top down senior executive level focus to drive the transformation of the business — we did not start without.
- When left to their own, application teams, business process owners, etc. will revert to batch and point to point interfaces to drive their business tactically — we needed to provide them a better answer.

Conclusion

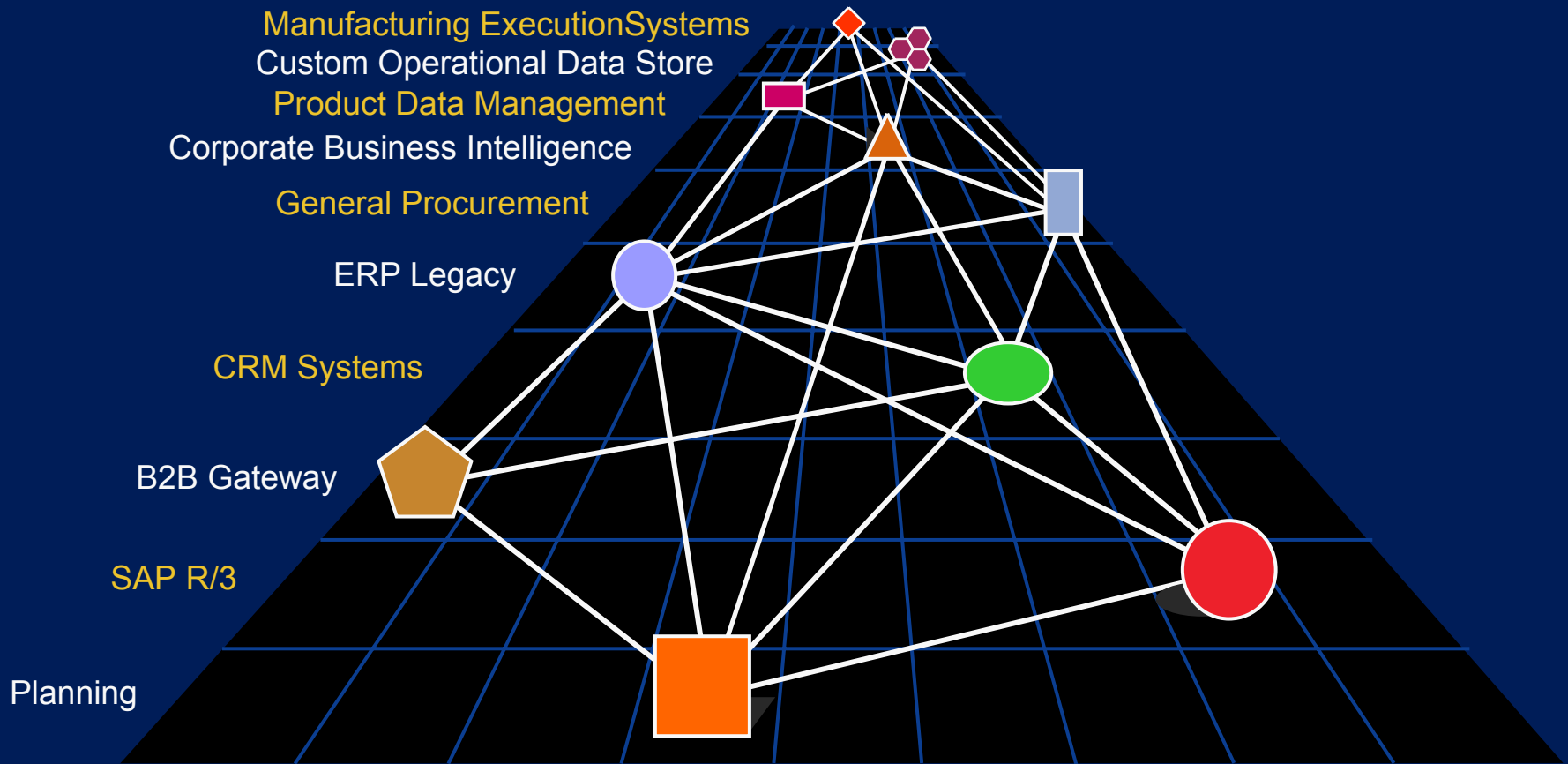
- Real-time integration is valuable
 - Can offer functions and services that batch cannot
 - Both cost saving and revenue generating
 - The time zone penalty
 - Real-time is not more expensive
 - The system cost of batch windows
 - The unit of recovery
 - Real-time data integration is powerful
- 

Current state

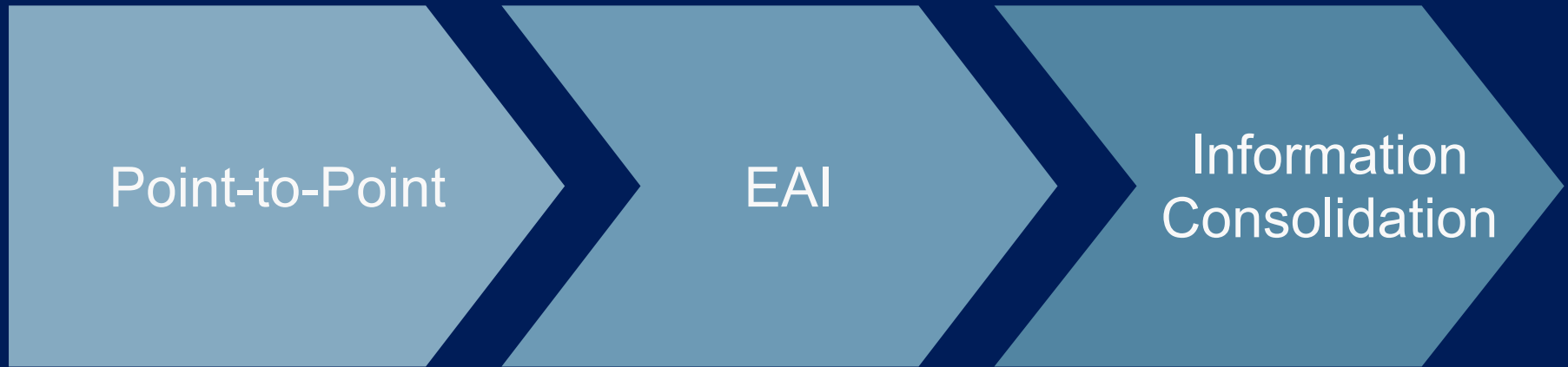
- Batch integration is the norm
 - Batch is not cheap (tangible and hidden costs)
 - Landscape built with inherent latency from the start
- Extreme complexity does not create flexibility
 - Thousands of applications
 - Constantly shifting business requirements



The complexity of our landscape



HP's integration progression



- Typically high latency data movement
- Not 24x7x365
- Impacts OLTP performance
- Few concurrent users
- Summarized event details
- One direction integration
- Unable to handle large event volumes
- Point-to-point maintenance complicated
- Not every asset can use
- Host resource constrained
- No message store (memory)
- Not 24x7x365



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