Collaborative Business Infrastructure CBI

Chris Stewart
HP

HP WORLD 2003
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Agenda

- Services Oriented Architecture
- .NET as an Enabling Platform

CBI – What is it?

Collaborative Business Infrastructure from HP, is a standards based architecture and approach to providing a Managed Infrastructure for the implementation of collaborative business processes both within the enterprise (between business units) and with external trading partners.

CBI.NET

What is it?

CBI.Net is an instantiation of the CBI architecture based on the Microsoft Dot.Net product suite coupled with HP IT solutions infrastructure.

CBI.NET utilises the .Net suite of components for Business Process Orchestration and Enterprise Application Integration implemented on an HP management platform.

Collaborative Infrastructure

Why is CBI significant within the Enterprise?

Manufacturing organisations are undergoing market driven continuous reform of business practices.

Internally the migration from business unit to value chain optimisation (cross business unit) requires increased levels of collaboration. Most departmental / functional application suites and data stores are ill-suited to restructuring to meet this need.

CBI provides the adaptive, flexible, managed and secure infrastructure offering a means of orchestrating existing, and new business processes, coupled with legacy application integration so providing the dynamic basis for process restructuring.

Collaborative Infrastructure

Why is CBI significant for Trading Partners / Extended Enterprise?

Increasing dependence on ‘competing supply chains’ with outsourcing of elements of design and manufacture means synchronisation of inter-company processes is becoming a necessity.

CBI.NET provides the process and data connectivity between distributed business processes operating across Trading Partners

CBI.NET also gives visibility to elements of the end to end process operating within trading partner organisations.

Key CBI Value Contributors

Flexibility: The means to rapidly change and prototype new working practices and business processes by adapting the underlying IT infrastructure.

Business Process Orchestration: Using BizTalk to link and coordinate elements of existing workflow supporting current business processes, building new operating procedures.

Enterprise Application Integration: Access to application transactions and distributed data stores in support of redefined business processes.

Business Activity Monitoring: Means to instrument, report and manage business processes – the Corporate Dashboard.

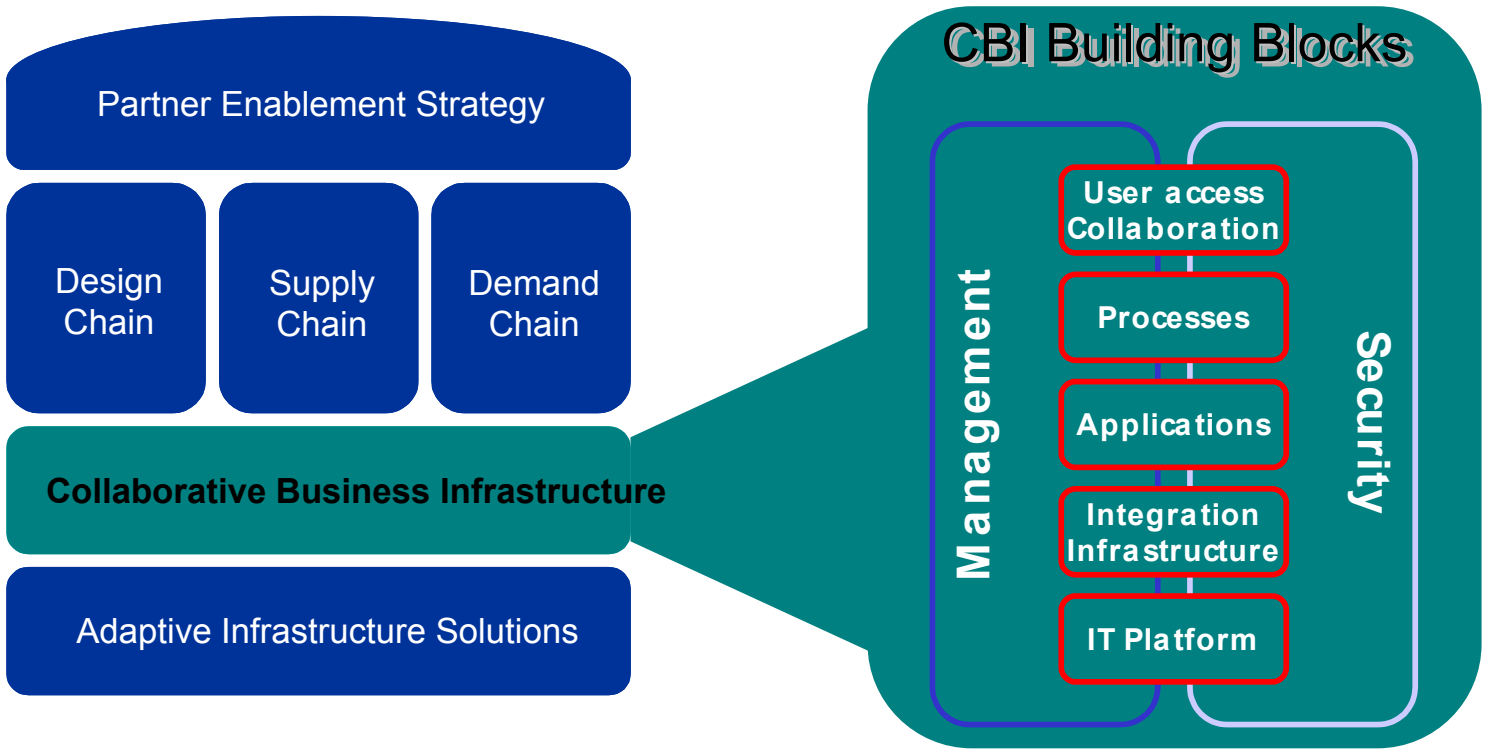
CBI.NET Value Proposition

- Simplifies adoption of intra/inter-enterprise collaborative processes
- Enables business agility
- Reduces risk of IT deployment
- Aggregates management of distributed IT
- Optimises performance of MFG business processes
- Provides cost savings through consolidation
- Provides a low risk, scaleable, performant and secure common platform for collaborative process adoption
  - Supply Chain Management / Execution
  - Demand Chain
  - Design Chain
  - Customer / Product Support
  - Enterprise

CBI: The MFG platform for managing change

A CBI is an Adaptive Infrastructure that provides an anchor point for key strategic initiatives with suppliers and partners in the Design, Supply, and Demand chains.

It helps to manage change in technologies, partners, or business models by providing an integrated platform for collaboration, and process standardization.



CBI.NET

Infrastructure Model

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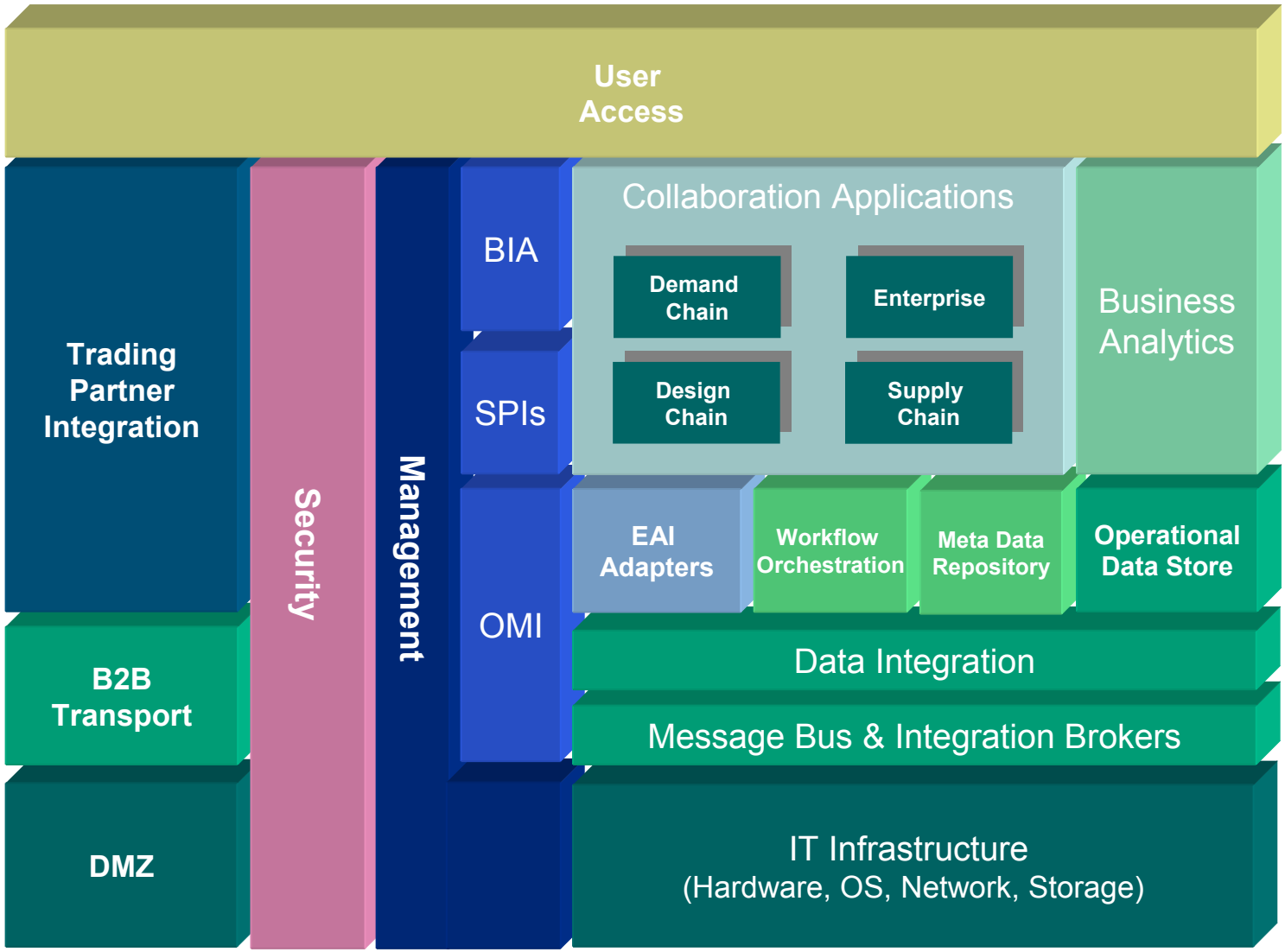
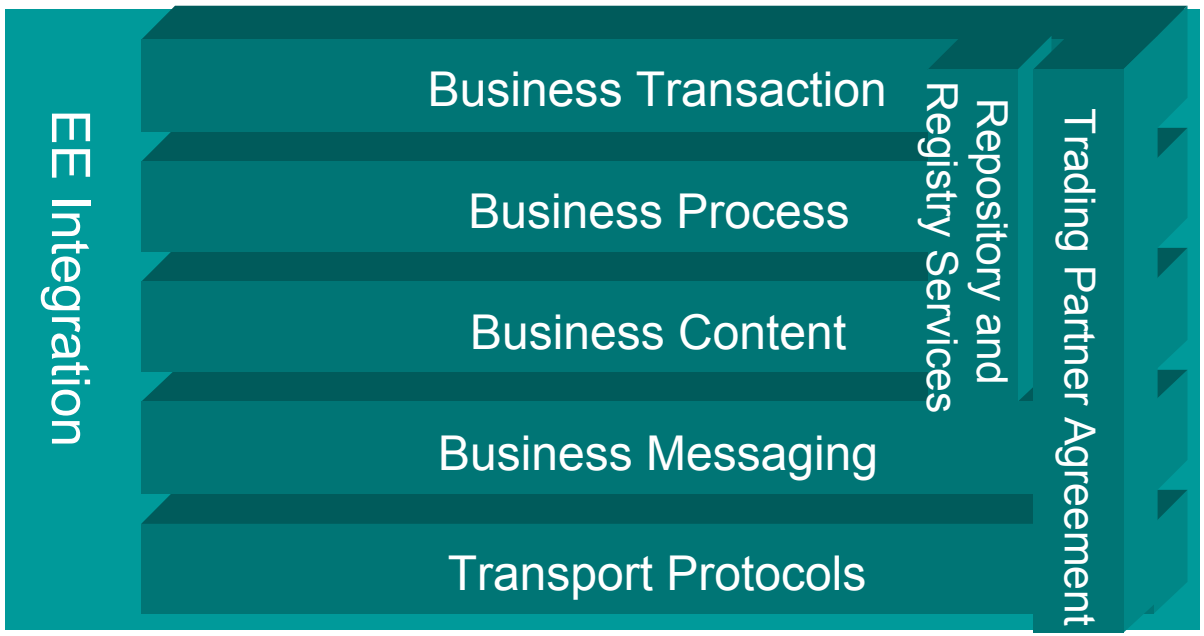
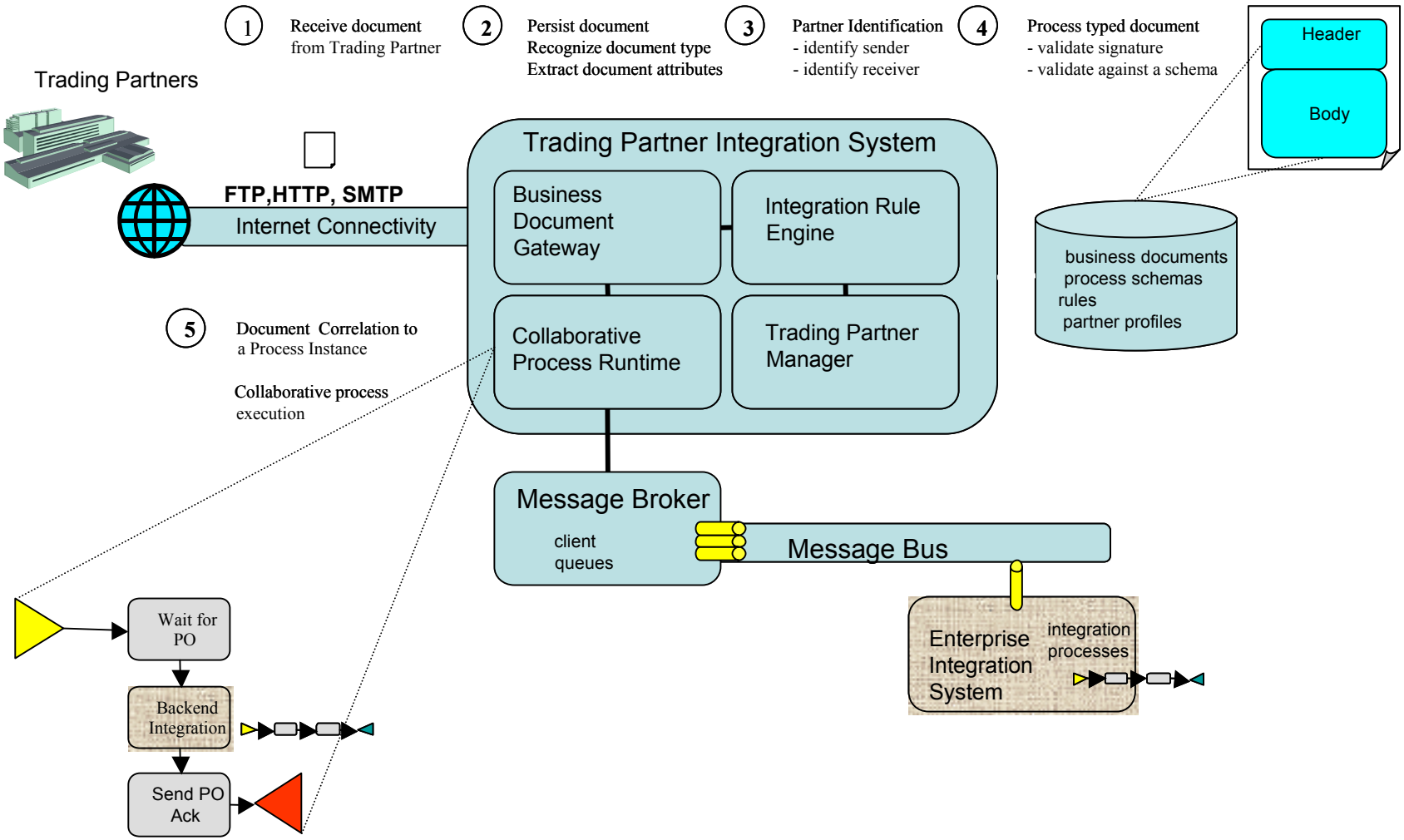
Collaborative Business Infrastructure



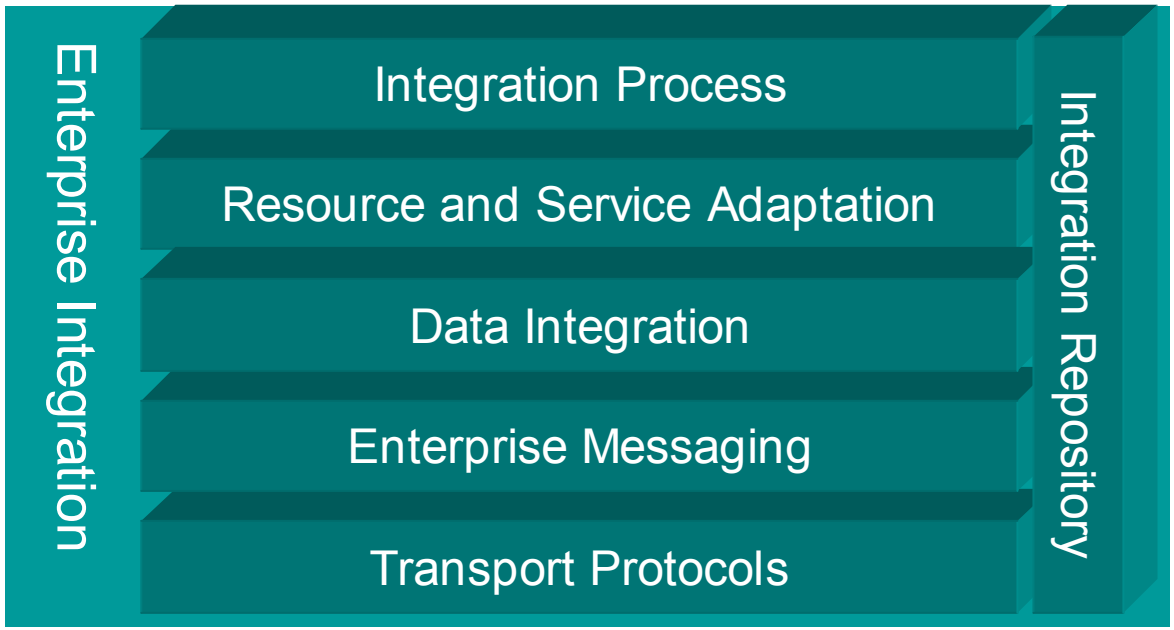
Extended Enterprise Interaction Layers



Extended Enterprise Integration Interaction

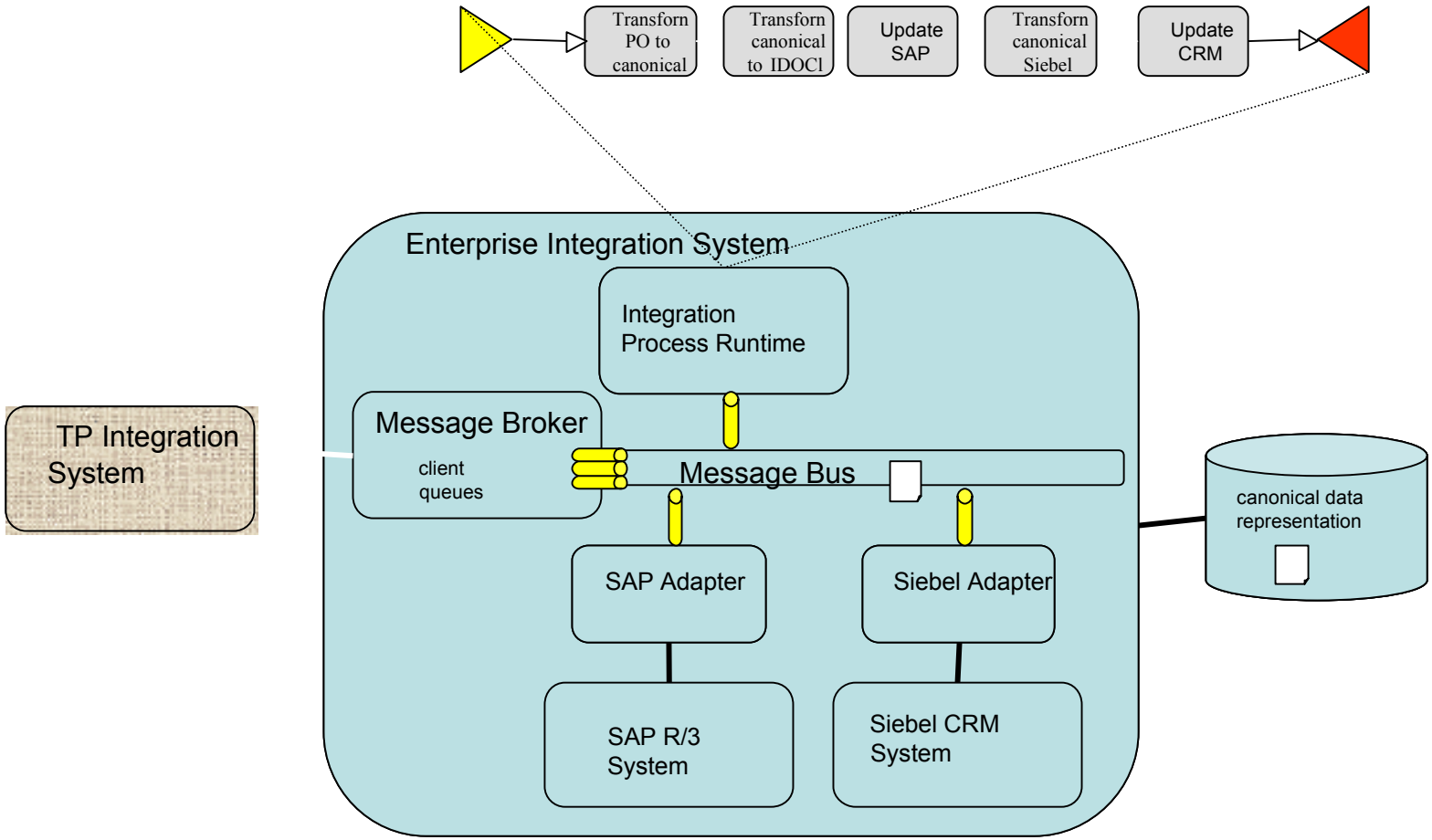


Enterprise Application Integration Layers



EAI System Interaction

1. Receive enterprise message from B2B Integration System
2. Transform PO to canonical form
3. Tranform to IDOC Update SAP
4. Tranform to Siebel Update Siebel



CBI.NET

.NET Infrastructure

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Message Broker / Message Bus

- Microsoft BizTalk Server
  - Can be viewed as a huge queue that can execute appropriate business logic on the right incoming documents.
  - Message routing capabilities
  - Native support for Web Services (BizTalk 2004)
  - Document submission can be either synchronous (BizTalk 2004 only) or asynchronous (BizTalk 2002 or 2004)
  - Pluggable architecture
  - Built-in support for multiple transports
  - Programmable support for all others

Transport Support

- MSMQT
  - MSMQ-based derivative
  - Can integrate with existing MSMQ clients
- SOAP
  - WSDL interface presented
  - WSDL interfaces consumed
- HTTP
  - Flexible to accommodate non-SOAP data transported via HTTP/S
- SQL
  - Uses SQL Server tables as transactional input and output queues
- File
  - For submission of formatted (e.g. XML, EDI) flat files
  - Great for immediate migration of existing EDI systems

BizTalk 2004 Pipelines

- Pre- and Post-processing applied to incoming and outgoing data.
- Custom formats can be accommodated here
  - .NET remoting with binary data format
  - Legacy system binary or text based formatting
  - Format is independent of the transport adapter: Same adapter can be re-used for multiple document types
- Pass-through capability if the message broker is used only as a router

BizTalk Adapters

- “Built-for-you” application plug-ins that are written to mesh with the BizTalk architecture
- Wide variety of applications supported
  - EDI
  - Siebel
  - SAP
  - PeopleSoft
  - Oracle Database / Applications
  - Mainframe
  - Terminal emulators for screen-scraping
  - Just about anything else imaginable

BizTalk Adapters

- Adapters allow developers and project managers to concentrate exclusively on the business logic to be developed.
- No need to focus on how different systems need to communicate – the adapter handles this.
- Greatly reduce the time necessary to develop new business-critical applications.

Workflow Orchestration

- BizTalk Orchestration Designer allows business process workflows to be graphically represented.
- Support for BPEL in BizTalk 2004 allows cross-platform or even cross-business workflows to be developed.
- Support for direct plug-ins of Web Services allow orchestrated workflows of business logic located anywhere that's accessible by the network.
  - Allows significant leverage of existing code.
  - Improves the ability to orchestrate legacy code.

.NET Web Services

- Has been the best implementation of the W3C Web services standard over the past several years.
- Already heavily incorporates the new standard “document” approach to interprocess communication.
- Still supports “rpc” approach to web services interprocess communication.
- Rich library of XML classes for data manipulation.
- Tight integration with other Microsoft applications.
- Effective integration with non-Microsoft applications.

.NET Integration

- OLEDB Services for integration with arbitrary SQL databases
- Native managed code providers for Oracle and SQL Server databases
- Native COM/COM+ integration with existing Microsoft applications
- Support for integration of managed code and unmanaged code into the same application to allow for Windows Platform code integration.
- Support for Web Services via WSDL imports for integration with other platforms that support web services (Java, mod_soap, custom)

Windows Server 2003

- Native application server with built-in support for XML web services.
- Improved scalability compared to previous versions of Windows – SMP scalability is now possible
  - Further details: **Session 2211** Windows Server 2003 Functionality, Scalability and Performance on HP ProLiant Servers
- Required for BizTalk 2004, supported for BizTalk 2002.
- Improved manageability features for IIS, e.g. Web Gardens, process monitoring, etc.
- Active Directory built in for security integration.

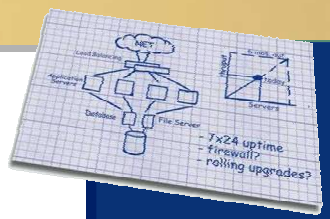
IT Infrastructure

- HP ProLiant (IA32) and Integrity (IA64) servers offer best-in-class performance, reliability, scalability, and manageability for Microsoft-based solutions.
- HP's partnership with Microsoft means that HP hardware platforms are the best platforms for Microsoft technology.
- HP management tools and software include integrated support for Windows and .NET
  - Insight Manager authentication against Active Directory
  - HP OpenView Web Services administration tools
  - ILO for out-of-band server management

IT Infrastructure

- Architecture: HP has years of experience in testing scalability and high-availability of Microsoft technologies on HP hardware.
- Dynamic Internet Solutions Architecture (DISA)
  - Best practices for scaling Web Services and BizTalk
  - Best practices for providing high levels of availability
  - Best practices for managing complex server systems

Dynamic Internet Solutions Architecture



Clients

Business Applications

Integration & Services

Operations & Management

Security

Access & Acceleration Resources

Web & Application Resources

Data Resources

Web Browsers/Client Applications

Firewalls, Load Balancers, Cache, SSL, VPN

Web & Application Servers

Database, Storage (NAS & SAN)

HP Services

- Customization services
- Hardware / software integration services
- .NET-specific services
- Infrastructure integration services
  - .NET / J2EE integration
  - Also see session 1500, .NET & J2EE Integration, with specific demos using BizTalk, .NET Web Services, and GLUE Web Services

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