



*Pioneering New Horizons – Solutions that Evolve*

Craig Cornell, Klaus Deinhart

**WebSphere.** software



## PLANS SUBJECT TO CHANGE

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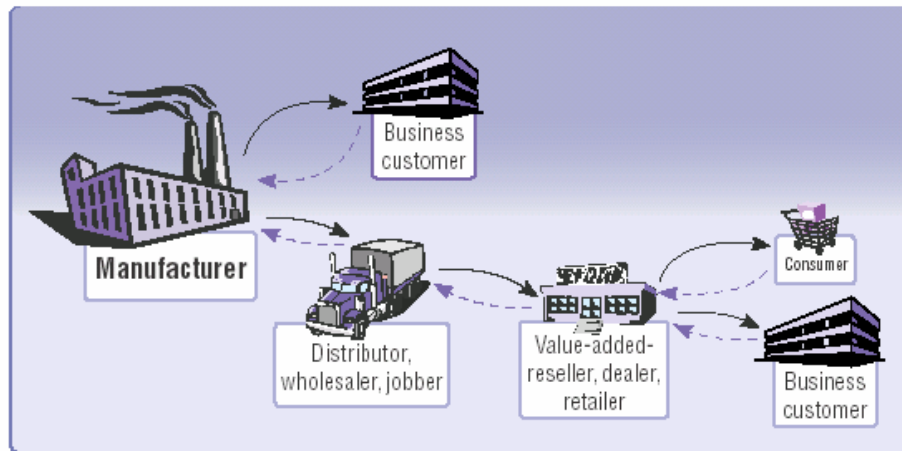
## Agenda

- **B2B Software Vision and Strategy**
- B2B Product Portfolio
- B2B Industry Trends
- Futures and roadmap

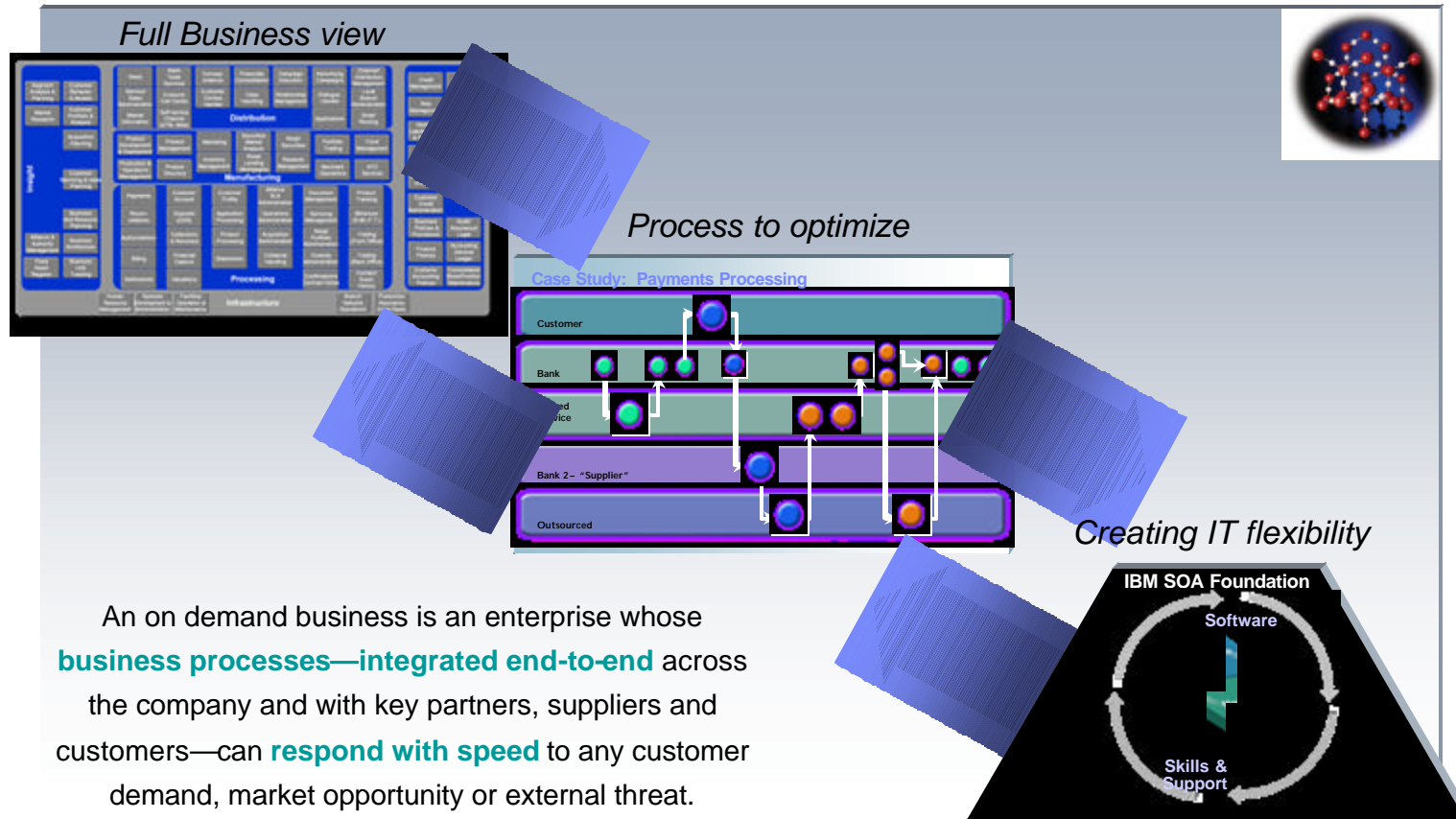


Enterprises depend increasingly on integration with other companies throughout the value chain. Expanding process integration beyond the enterprise.

- Business processes extended to include partners
- Visibility across the entire value-chain
- Improve and automate value-chain management
- Strengthen Partner Relationships through tighter business linkages
- Eases participation in and adoption of widely used market standards
- Standardized business processes behind and across the firewalls
- Quickly respond to changing value-chain requirements

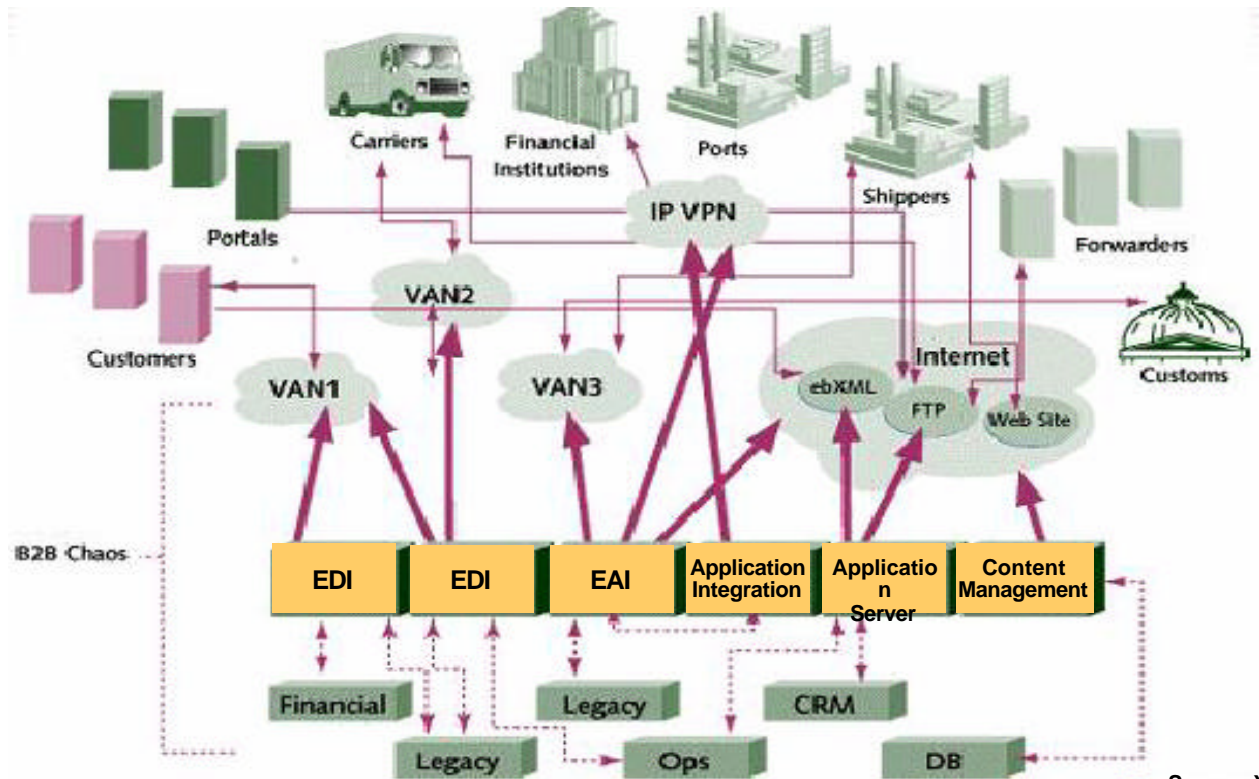


## On Demand : Flexible business requires flexible IT



## The challenge of B2B integration

“1000’s of partners each with their own unique requirements ...”



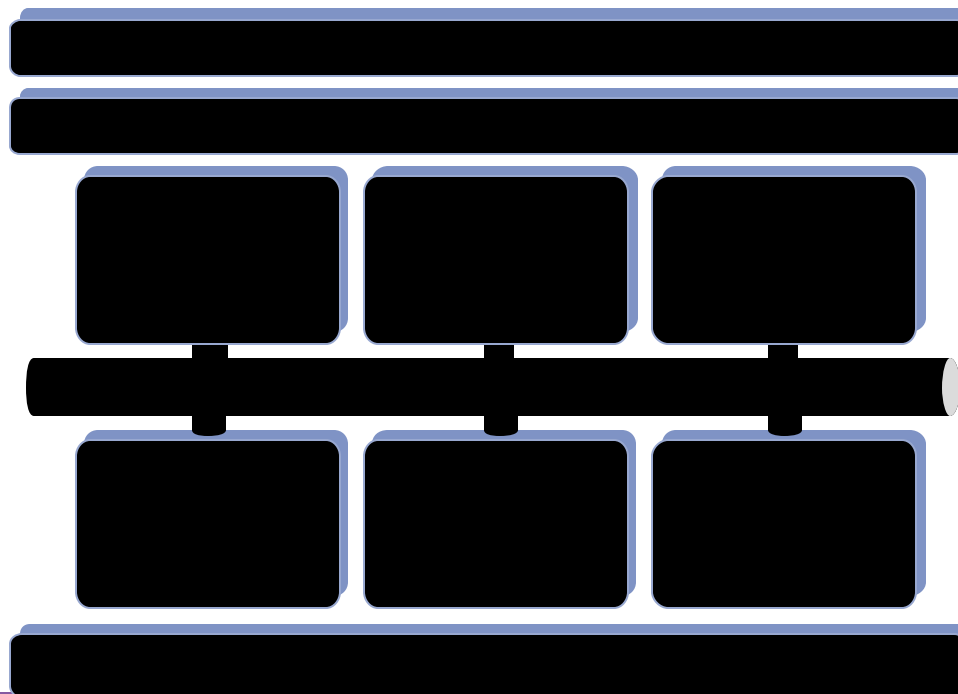
## IBM's B2B Software Vision

- **Best of Breed B2B Capabilities**
  - Rapid on-boarding of large partner communities
  - Investment in Standards, Research, Development, Eco-System
  - Leverage acquisitions: PureEdge (intelligent web-based EDI forms), Ascential (embeddable transformation)
- **Convergence of B2B with EAI and Business Process Management into a single unified middleware platform**
  - Common technology framework emerges. Web services catalyze many software innovations.
  - B2B leverages and extends common stack, supporting B2B standards and partner community integration
- **Enabler of End-to-End Process Integration**
  - Business process information exchanged with partners and suppliers at the edge of the enterprise,
  - Business Process Management for B2B will eventually encompass the entire process (i.e. Order to Cash) not just the edge-of-the enterprise sub process
- **Embedded into Industry & Middleware Solutions**
  - Consolidated B2B Gateway
  - Web Services Middleware
  - Industry Specific Solutions (e-Distribution Solution, EVCM, GDS)
  - Cross Industry Solutions (i.e. RFID)



B2B and Internal Integration extend each other.  
Common Services. Open Standards based Framework.

### IBM WebSphere Integration Reference Architecture



Internal process  
automation and integration  
strategies expanding to  
supply and value chain.

*WBI uses B2B*  
*B2B drags WBI*

External partner integration  
to leverage common  
middleware services and  
open internet standards.

# WebSphere Platform Strategy

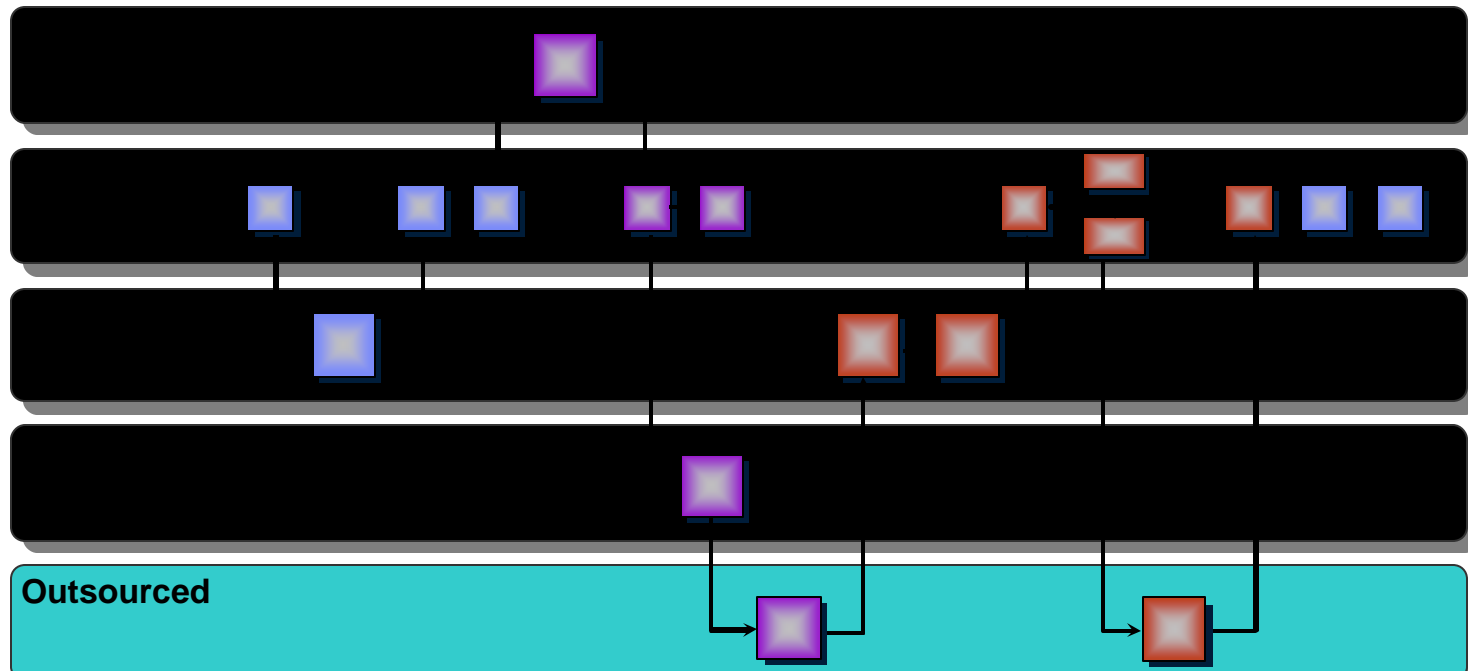
*Themes for Open Framework: Usability, Consumability, Manageability*

- **Provide a modular, integrated software portfolio**
  - that delivers class leading business integration capabilities
  - can be consumed in an incremental fashion
  - Scale Up, Scale Out
  - facilitates creation of composite applications (for IBM, Customers and Partners)
- **The portfolio will embody the following characteristics**
  - **Open** – supports open standards and our open computing strategy
  - **Simple** – to buy, sell, develop, deploy, manage
  - **Integrated** – modular components and products that complement and exploit each other
  - **Accessible** – to different classes of users (hobbyist, developer, ISV, SMB Enterprise)
- **Portfolio capabilities will center around a number of core services**
  - Based on a common programming model and service oriented architecture
  - Characterized by a common install, administration and security infrastructure
  - Supported by an integrated set of role based tools for development and management



## Supported by Industry-specific Component Business Models.

*Every process interaction with partners and suppliers represents a B2B opportunity.*



*Flexible Business Processes integrated end-to-end across the company and with key partners, suppliers, and customers. Reuse and combine process elements in SOA. Sharing business process information throughout organizations in the supply and value chain..*



## Software innovation - Common Technology Framework Emerges

*Increasing demands for B2B/Internet, Web services, EDI with EAI and BPM*

***“Web services are catalyzing many software innovations and, more important, the standardization of those innovations. Platforms built on such technology are emerging as key foundations for prudent software architectural decisions.” –Gartner***

***“Industry consolidation and the emergence of the concept of the software stack have blurred the lines between infrastructures and application software” –Gartner***

***“EDI will be combined with EAI and BPM. Increasing demands for more sophisticated B2B integration will lead to the increased usage of EDI in conjunction with EAI and BPM technology to deliver systems that incorporate both data and process integration capability.” –Forrester***

*“Trends 2005: Electronic Data Intechange, The More Things Change, The More They Stay The Same..”*

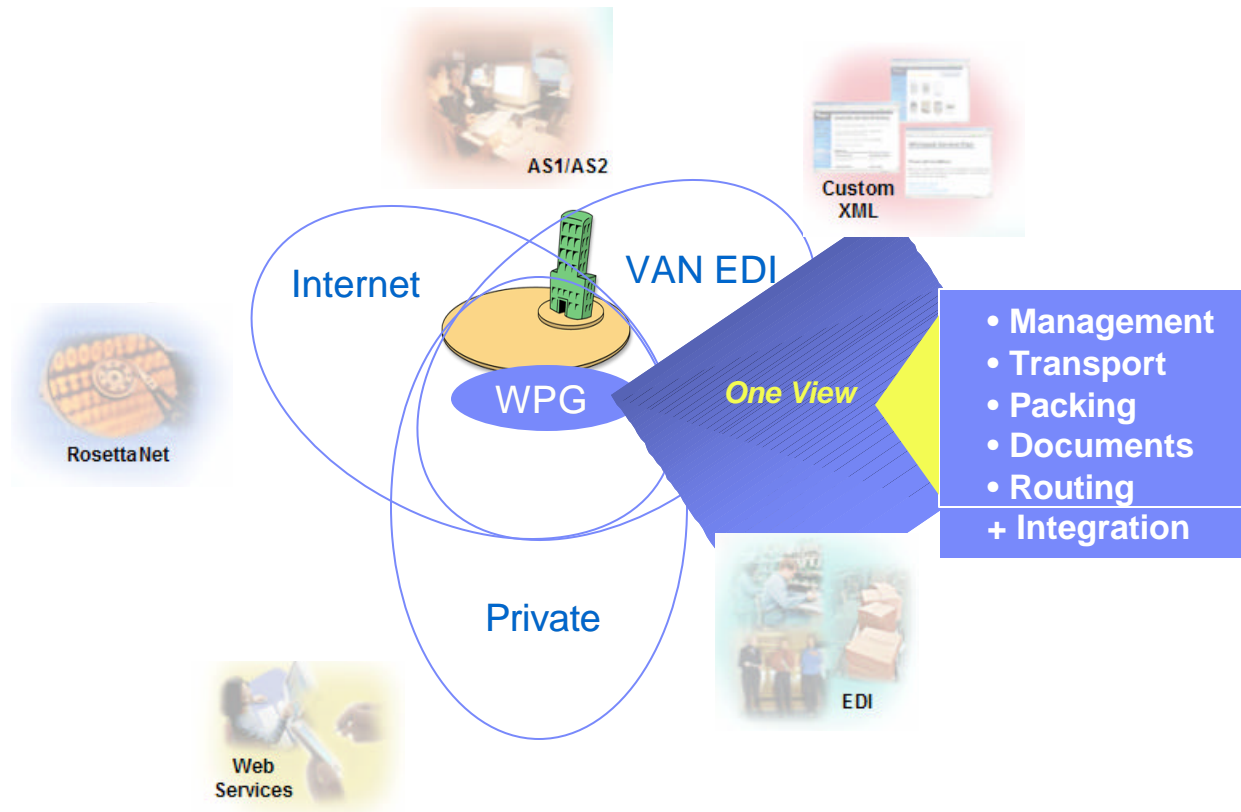


## Agenda

- B2B Software Vision and Strategy
- **B2B Product Portfolio**
- B2B Industry Trends
- Futures and roadmap



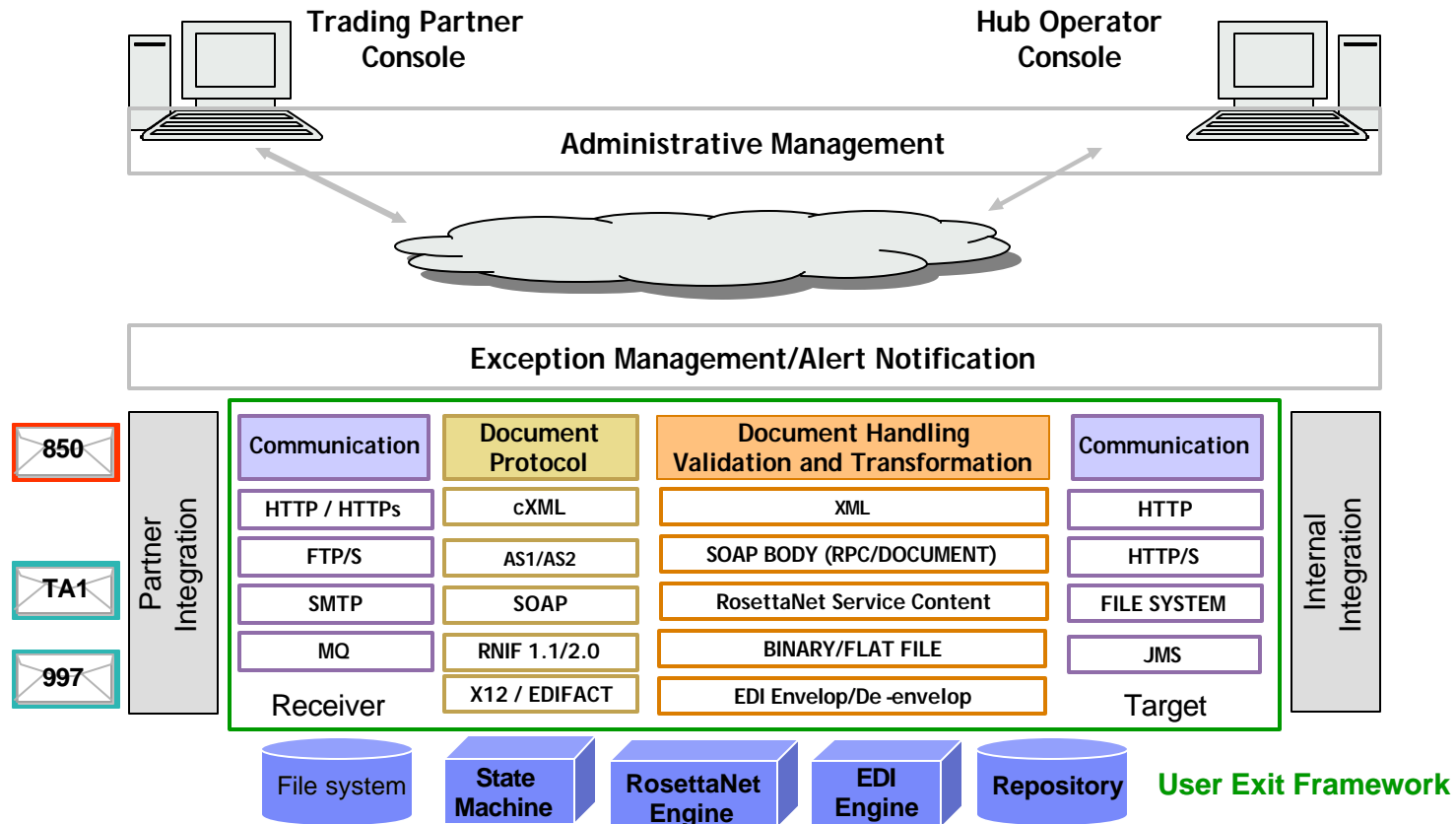
## Providing the Way for Gateway Consolidation



## Technology and Solutions



## Trading Partner Management via WebSphere Partner Gateway



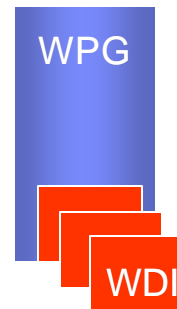
## WebSphere Partner Gateway – EDI Deployment Options

- **Standard EDI runtime engine**
  - Embedded in WPG runtime server
  - Low to moderate document volumes and message rate
- **Optional EDI Accelerators**
  - Installed on one or more servers
  - Moderate to high document volumes and message rate
  - WebSphere Data Interchange or Data Stage TX
- **Offers**
  - **One EDI mapping tool for WDI and WPG**
    - Data Interchange Services (DIS) client
    - Compiled maps optimized to runtime platform
    - Common business partner conversion tools for 3rd party maps
  - **Multiple Deployment Options**
    - Multiple server platforms: AIX, Linux, Solaris, Windows z/OS

### Standard



### Optional

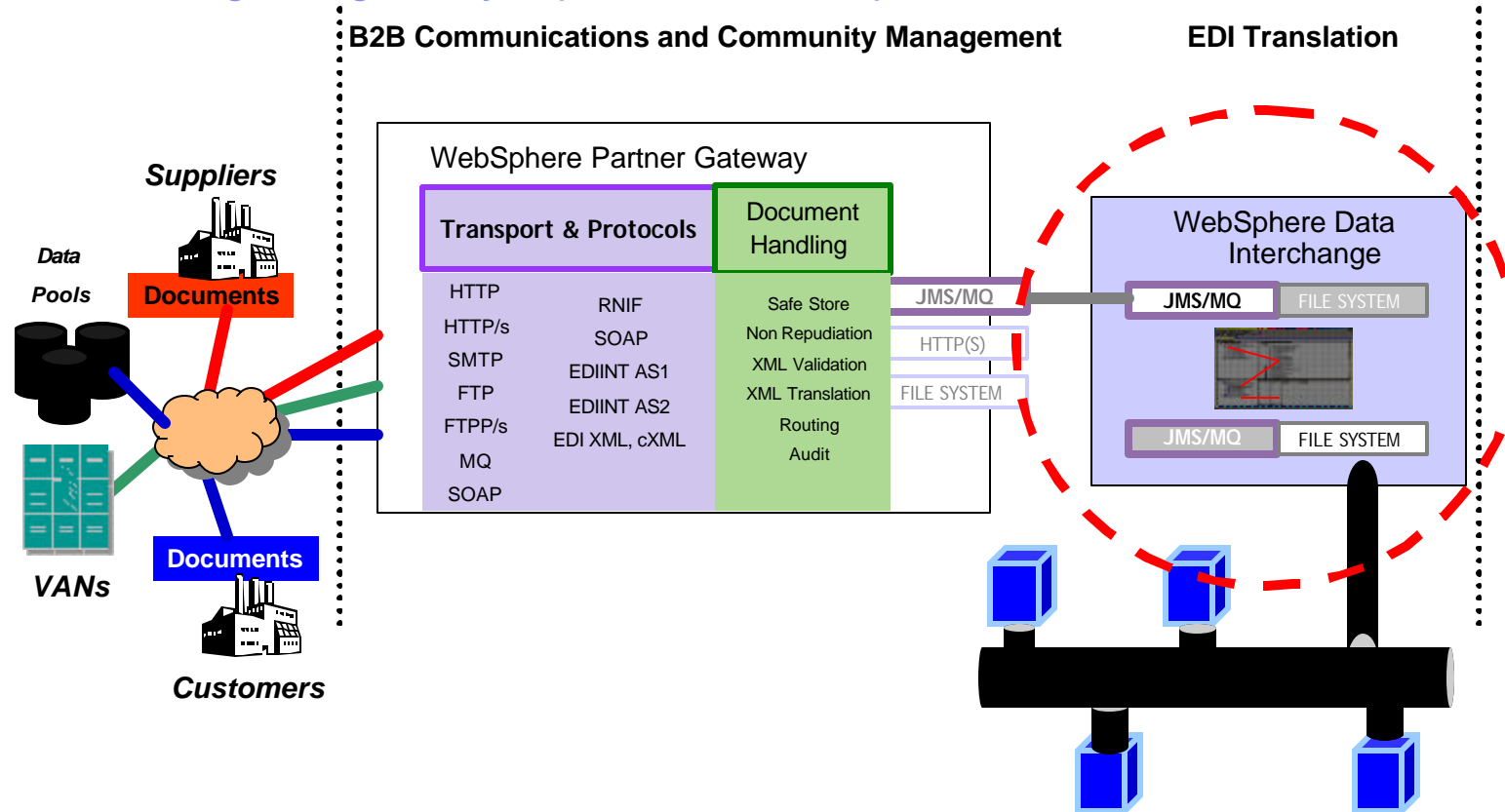


**EDI Accelerator  
Option**



## EDI Accelerator option: WebSphere Data Interchange

*Combining B2B gateway capabilities with a specialist EDI translator*



## WebSphere Data Interchange – Specialist EDI Accelerator

### ➤ Data Mapping Tool

**Common user interface** to all server platforms

Client available for Wintel desktop - no extra charge

GUI, Drag-and-drop client for mapping, administration and troubleshooting

Drop Down, color-coded selection for System Access (Dev, Test, Production)

Controlled promotion of Map and Trading Partner definitions between systems



**WDI  
Client**

### ➤ Specialist EDI Translator – Highly robust B2B solution

EDI validation, transformation, partner communication. EDI reporting and auditing

Platforms: AIX, Windows, z/OS

Client separated from server to maximize performance

Pre-requisite software included with WDI for Multiplatform

High Performance. GB message sizes. Compiled maps ensure fast translation.

Message Broker integration (MCD profile) and JMS/MQ for assured delivery.

Complete SAP status handling, as necessary for SAP CA/EDI certification

True Multi-threading. Batch, Interactive, and Real-time Support.

Direct any-to-any B2B transformation for EDI, XML and Flat file.

(Mapping with no intermediate transformation format)

Customize data standards, to fit modified EDI Standards or quickly changing XML standards

Fully customizable exits and APIs. HIPAA support pack.

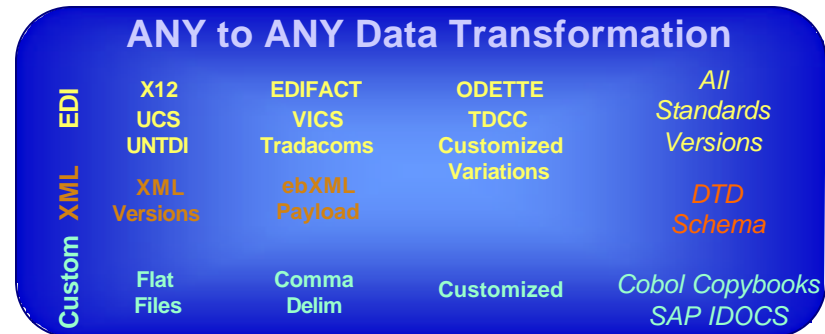


**WDI  
Server**



## WebSphere Data Interchange – Specialist EDI Translator

- Mapping support includes:
  - Any-to-any mapping
  - XML DTD import
  - Literals/constants
  - Boolean logic
  - Envelope field mapping
  - Hierarchical loop mapping
  - Qualified loop and element mapping
  - Accumulators, arithmetic and logical operations
  - Deferred mapping, Special Logic (DIMAPSWITCH, DIMAPCHAIN)
  - User exits at the field level
  - User-defined translation and validation tables
- One-Pass Inbound translation
  - Adds mapping flexibility
- Compiled maps
  - Byte-code representation
  - Reduces I/O operations, Improves performance



- Trading Partner Maps
  - Specific; One to many (shared); Multiple versions
  - Migration – Between Standards & Systems
- Execute from command line or API
  - Promote maps from development to production
  - Application Program Interface (API) to integrate directly with your application
  - Continuous throughput API: High performance option, start and forget
- Event driven: use included WMQ trigger program (multi-platform version), or CICS (z/OS version)



## WebSphere Data Interchange – EDI Reporting and Auditing

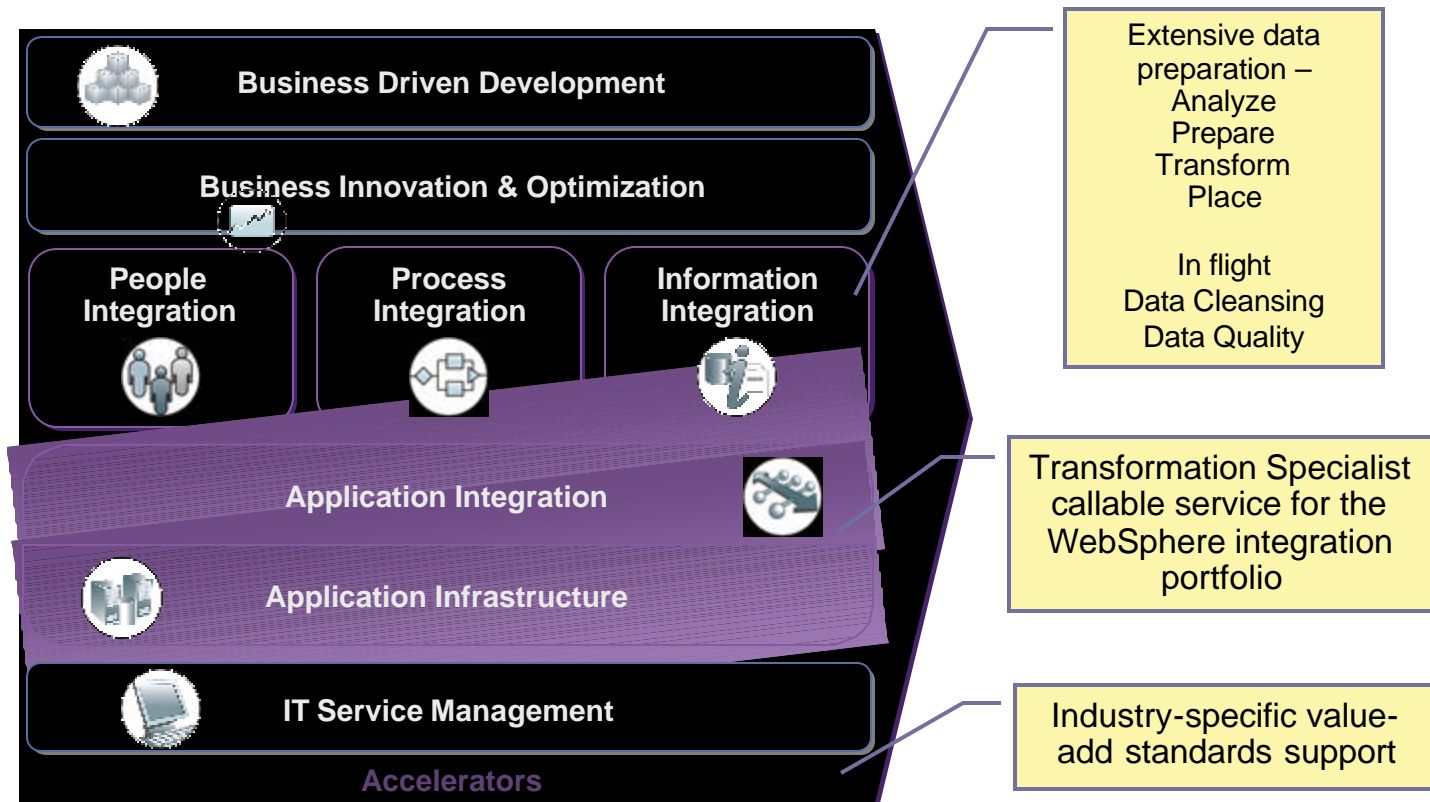
- Over 200 Predefined Audit, Management, and Troubleshooting Reports Predefined
- Full Ad Hoc Query to create user-defined and one-off reports
- Logging and History logs accessible to your programs through defined API's

**Application defaults**  
**Code list detail**  
**Constant detail**  
**Data element detail**  
**Data format detail**  
**Data format dictionary detail**  
**Data format record detail**  
**Data format structure detail**  
**EDI standard detail**  
**EDI standard segment detail**  
**EDI translation detail**  
**Envelope detail**  
**Interchange detail**  
**Interchange status Summary**  
**Interchange list**  
**List of transactions in Store**















Transaction ID	Transaction Name	Transaction Type	Transaction Status	Transaction Date and Time	Transaction User
1000000001	Transaction 1	Transaction 1	Success	2000-01-01 10:00:00	User1
1000000002	Transaction 2	Transaction 2	Success	2000-01-01 10:00:00	User1
1000000003	Transaction 3	Transaction 3	Success	2000-01-01 10:00:00	User1
1000000004	Transaction 4	Transaction 4	Success	2000-01-01 10:00:00	User1
1000000005	Transaction 5	Transaction 5	Success	2000-01-01 10:00:00	User1
1000000006	Transaction 6	Transaction 6	Success	2000-01-01 10:00:00	User1
1000000007	Transaction 7	Transaction 7	Success	2000-01-01 10:00:00	User1
1000000008	Transaction 8	Transaction 8	Success	2000-01-01 10:00:00	User1
1000000009	Transaction 9	Transaction 9	Success	2000-01-01 10:00:00	User1
1000000010	Transaction 10	Transaction 10	Success	2000-01-01 10:00:00	User1

**Mailbox profile detail**  
**Map variable detail**  
**MQ Series queue detail**  
**Network commands detail**  
**Network security detail**  
**Pending Funct Acks**  
**Services profile detail**  
**Trading partner detail**  
**Transaction Status Summary**  
**Transaction detail**  
**Translation table detail**  
**User exit detail**  
**User interface log report**  
**XML dictionary**  
**XML DTD detail**  
**Ad Hoc**

## How does Ascential fit ? What will you do with DTSX (Mercator)? WebSphere: Now Expanded by Ascential Acquisition



## EDI Accelerator Option: WebSphere DataStage TX (former Mercator)

Transactional & Operational Data		Many-to-Many Integration
	CRM	
	CRM, ERP, SCM	
	Complex data files	
	Hierarchical data	
	Complex standard formats—EDI, SWIFT, HIPAA	
	Complex messages	
	Complex formats	

- Validates and Transforms complex, hierarchical data without requiring coding
  - Integrates multiple data sources with interdependencies
  - Transforms from multiple different sources to multiple different targets in a single step
  - Efficiently integrates large, complex messages or data records
  - Supports complex data formats like SWIFT (financial services), HIPAA (healthcare), and EDI (cross-industry)
- Horizontal Any-to-Any Transformation Specialist
  - Includes support for hierarchical and nested data structures with interdependencies, without coding
  - Transformation performed independent of a partner connection – requires a gateway, eg for acknowledgements
  - Integrated and sold with WebSphere Message Broker
  - Embeddable engine. Proven OEM usage
- Vertical standards supported via industry-specific value-add packages, providing capabilities like HIPAA, SWIFT, X12, EDIFACT

## IBM B2B Portfolio - Positioning Summary

- **WPG V6 – Full function B2B offering**
  - Re-branded follow-on to WBI Connect V4
    - Adds EDI, FTP scripting, performance, usability, national language versions, new platforms.
  - Gateway can be combined with existing translators in middleware infrastructure
- **WDI – Dedicated EDI offering**
  - Continues to receive demand
  - Largest support for EDI standards. EDI translation, communication, and traffic reporting.
  - Can be added to existing gateways (IBM or 3rd party)
- **DataStageTX – Data Transformation Specialist with add-on EDI capabilities.**
  - Comprehensive Any-to-Any “enterprise-wide” data transformations without coding
    - Includes support for hierarchical and nested data structures with interdependencies
    - Vertical EDI standards supported via industry-specific value-add packages
    - Embeddable transformation
  - Transformation performed outside / independent of a partner connection
  - Requires a B2B gateway for EDI communication protocol handling
    - Enveloping, de-enveloping, functional acknowledgements, etc
    - WPG, if not DSTX Commerce Manager, or a 3rd party gateway



## Agenda

- B2B Software Vision and Strategy
- B2B Product Portfolio
- **B2B Industry Trends**
- Futures and roadmap



## B2B Gateways and EDI Translators in Enterprise Middleware

***“By 2007, 90 percent of all **B2B gateways** will have the necessary **transformation and mapping** capabilities of most **EDI and XML B2B interactions** (0.8 probability).”*** –Gartner, Magic Quadrant for B2B Gateway Providers, 2Q05

***“In preserving consolidated, **centralized** strategies, many companies with B2B integration strategies will prefer to use the **translation functionality** included **within their enterprise middleware**”*** – Gartner  
“B2B Gateways Let You Manage Connections to Anyone”, September 2004.

## Key B2B Industry Trend – Gateway Consolidation

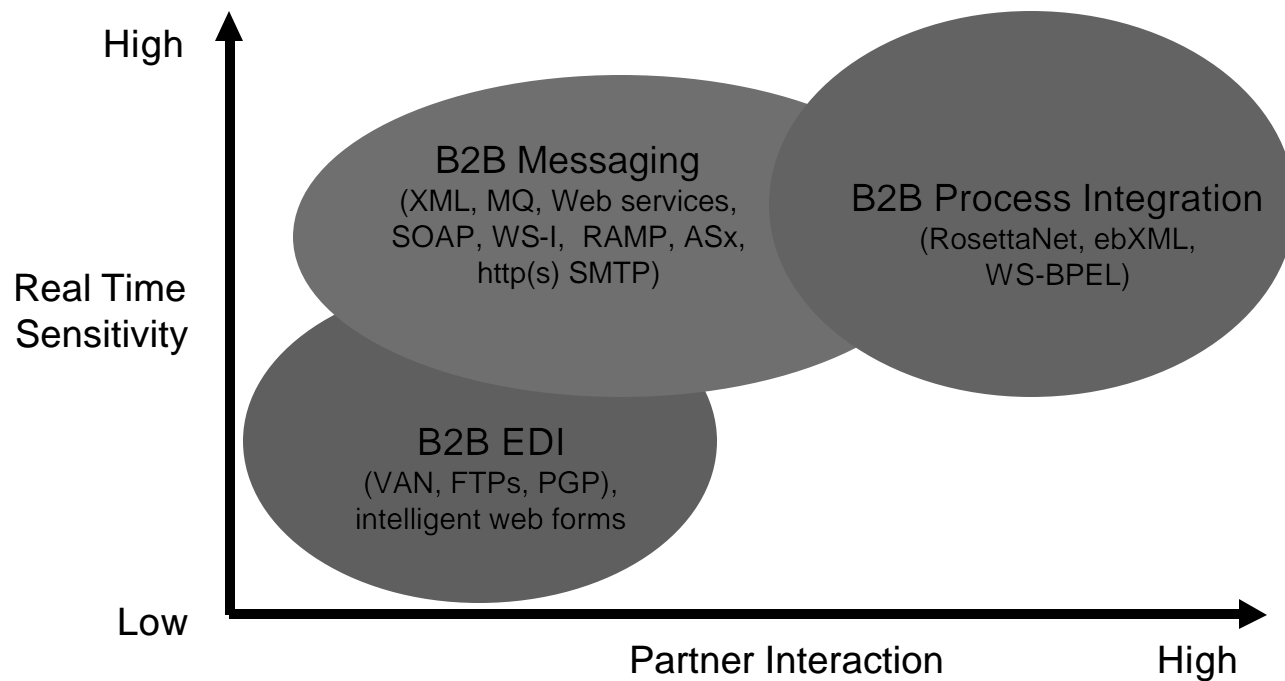
***“Through 2006, 70 percent of companies doing B2B will build multiple B2B gateways that are monolithic and inflexible because they are not coordinated with each other (0.8 probability)”***

***“The consolidated approach of a B2B gateway is recommended to promote the **reuse of connections and processes**, and for **centralization of management for logging and reporting**.“*** – Gartner  
*“B2B Gateways Let You Manage Connections to Anyone”, September 2004.*

***“By 2008, 50 percent of companies doing B2B application integration will use a consolidated B2B gateway to connect to 50 percent of their trading partners and integration service providers (0.7 probability).“*** – Gartner. *“B2B Gateways Let You Manage Connections to Anyone”, September 2004.*



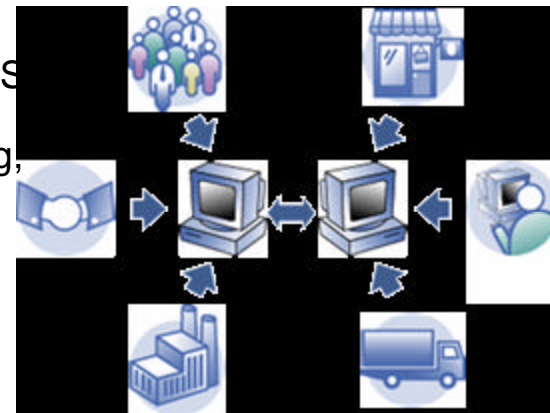
A consolidated B2B Gateway enables reuse and central management for all types of B2B Interaction, coordinating process information with partners and suppliers



## B2B Integration exchanging standard EDI documents

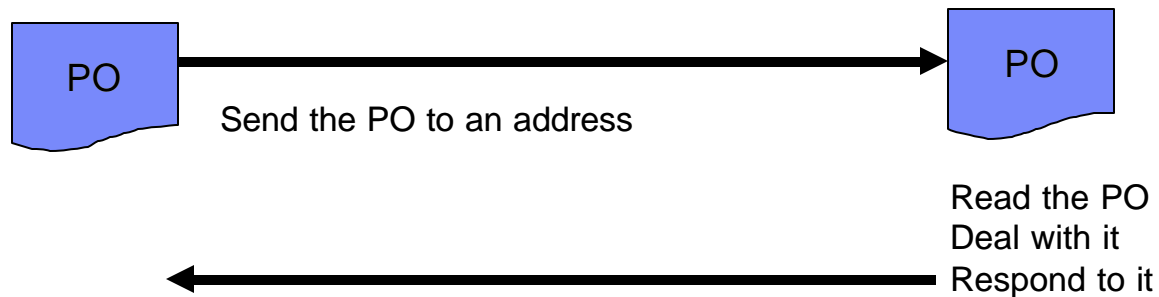
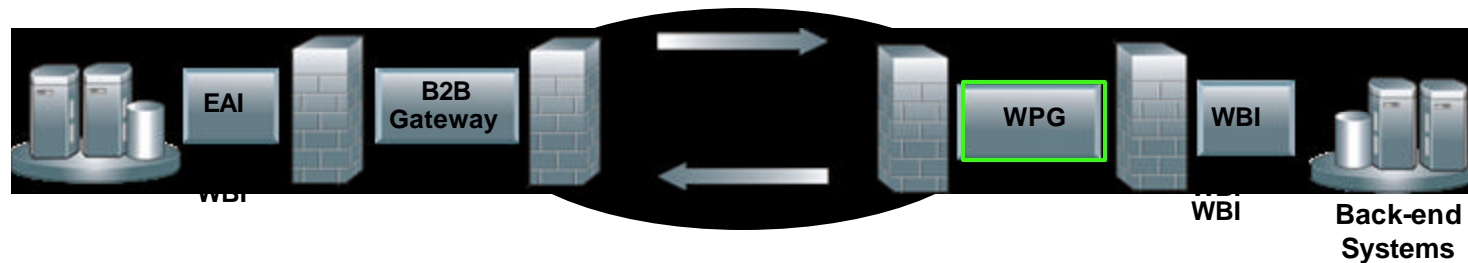
*Mission-critical for many, evolving usage*

- EDI is a mission critical part of companies B2B strategies
  - 95% of fortune 500 companies use EDI
  - 80% of business transactions are conducted via EDI Value Added Networks (VAN) today.
  - EDI continues to deliver significant return on investment
- EDI usage continues to evolve in response to new enterprise and industry requirements, and competitive pressures (e.g. HIPAA, AS1, AS2)
- Transition from batch to straight-thru processing, from VANs to real-time process integration.
- Trends: “EDI over the internet“, web-based intelligent forms for small businesses



## B2B Messaging – real time communication with partners

*Secure B2B XML standards for interoperability leveraging the internet*



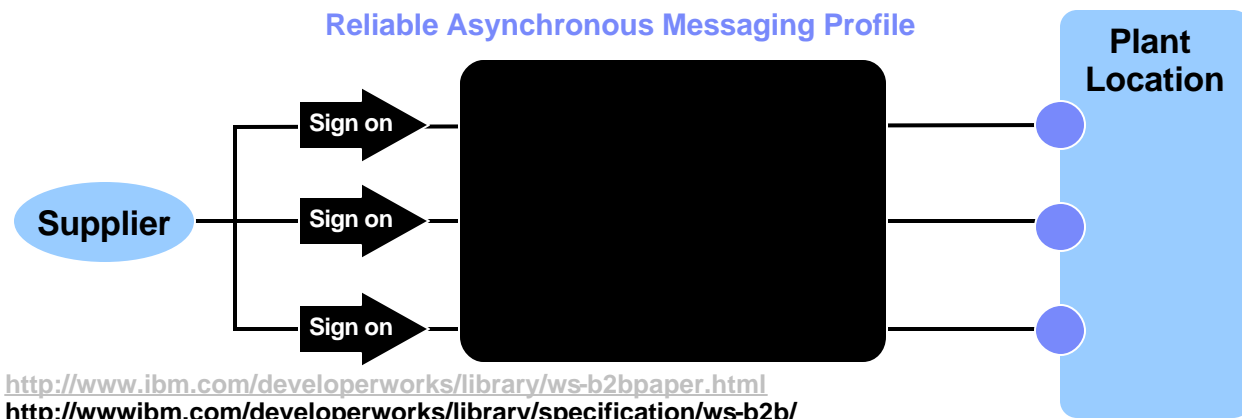
Emergence of internet standards for secure B2B XML messaging.  
Trend: Web service standards, industry-specific interoperability profiles.

## Reliable Asynchronous Messaging Profile (RAMP) for B2B communication using web services standards

*GM, Ford, DaimlerChrysler, IBM (aka "Basic B2B profile")*

Profile = a collection of (web services interoperability) standards, combined to form a specification for B2B communications

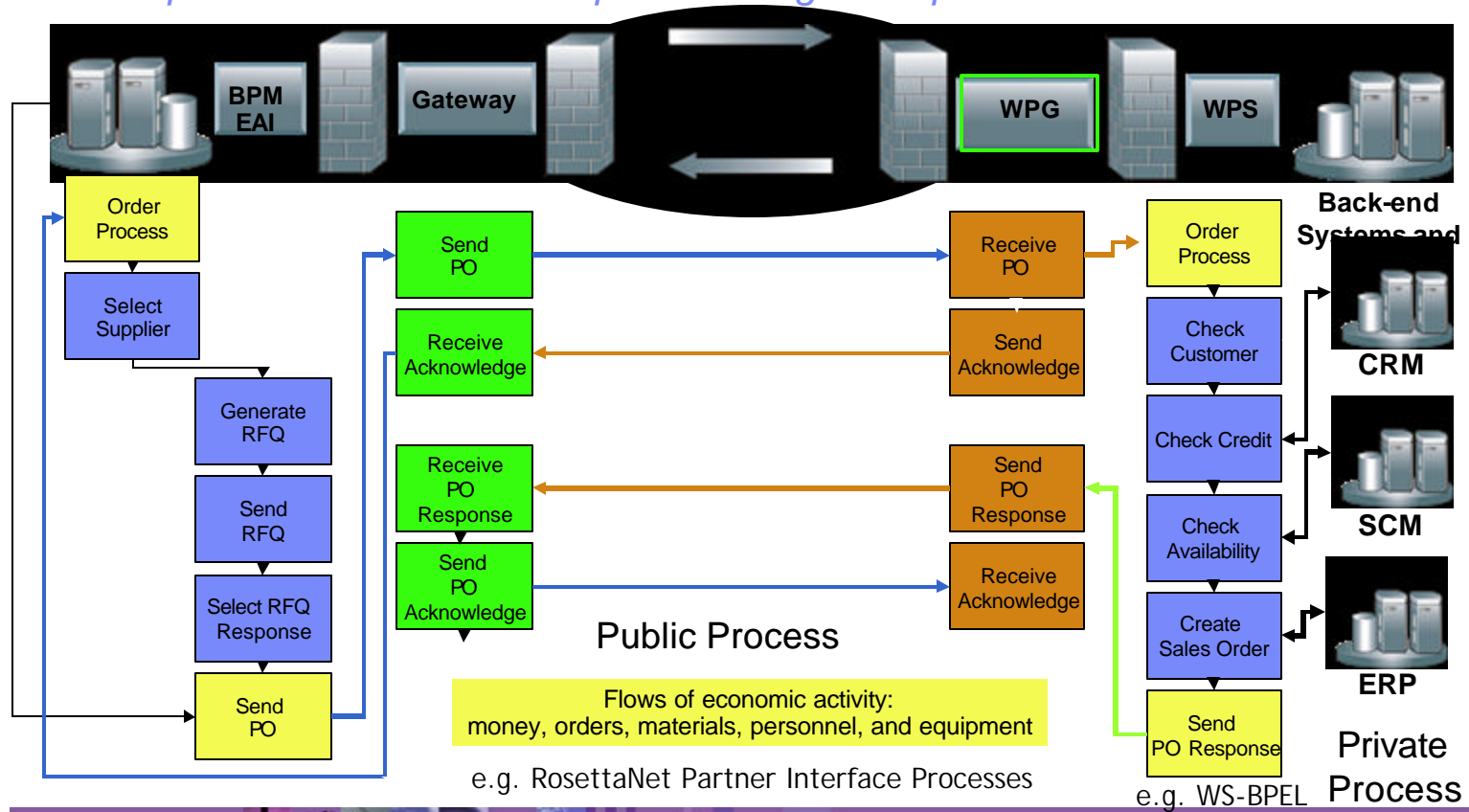
- **Standardization for endpoint references**
- **Message-level security (digital signature, encryption, etc.)**
- **Asynchronous message exchange patterns**
- **Reliable messaging**
- **Use of Complex Schema**



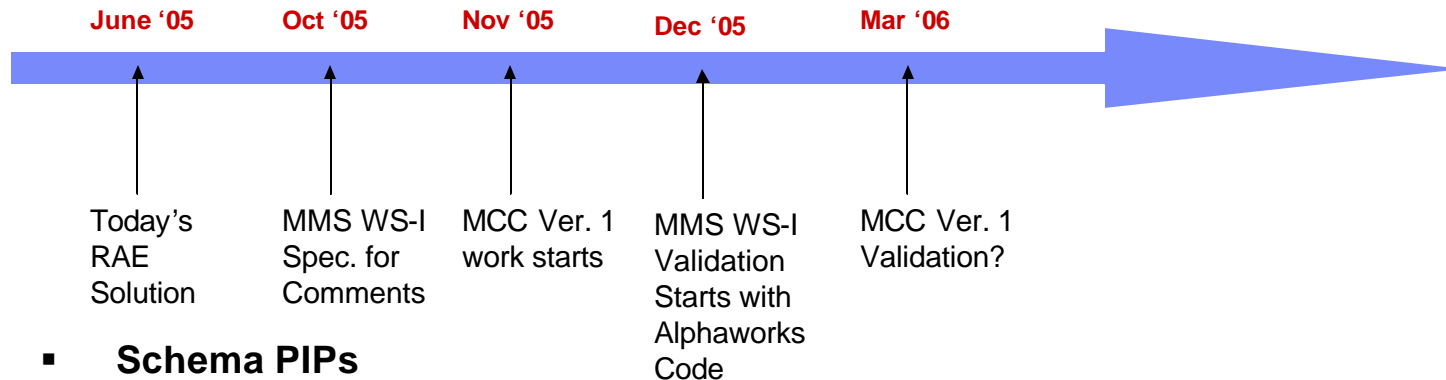
<http://www.ibm.com/developerworks/library/ws-b2bpaper.html>  
<http://www.ibm.com/developerworks/library/specification/ws-b2b/>

## B2B Process Integration – with enterprise services

*Public protocol standards and private integration processes*



## RosettaNet Standards Evolution – 2005/6



- **Schema PIPs**  
(Supported by WPG 6001)
- **Taking RosettaNet to a broader audience, boosting adoption**
  1. **Automated Enablement (RAE) - Embedded Forms and Partner Registry**
  2. **Multiple Messaging Services (MMS) – lower-level protocols**
    1. AS1/AS2, ebMS, WSDL, SOAP;
    2. WS-I, RAMP for RosettaNet
  3. **Capture processes: public, and private (business best-practice)**  
 Message Control & Choreography (MCC) - statefulness, BPEL
    1. 2Action PIPs
    2. Collection of logically interlinked transactions. (e.g. Order-to-cash, eLogistics).  
 Customizable Business best-practices. Multi-Transaction & Multiparty Choreography.



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## Order Management B2B Hub

Experienced Benefits - From EDI to B2B Process Integration



ARROW ELECTRONICS, INC.

### Traditional EDI Model

Order	Batch Processing	Error Rework	Sub line Rework	Post ship Rework
-------	------------------	--------------	-----------------	------------------

40% 2-4 hrs  
60% in 24 hrs

2-4 days

2-4 days

**Up to  
2 weeks**

- Schedule dates in 24 hrs at best
- Manual process on split line items
- Many acknowledgement failures
- Never ending cycle of reschedules

### RosettaNet Model With B2B Hub

Order	Real-time Rework
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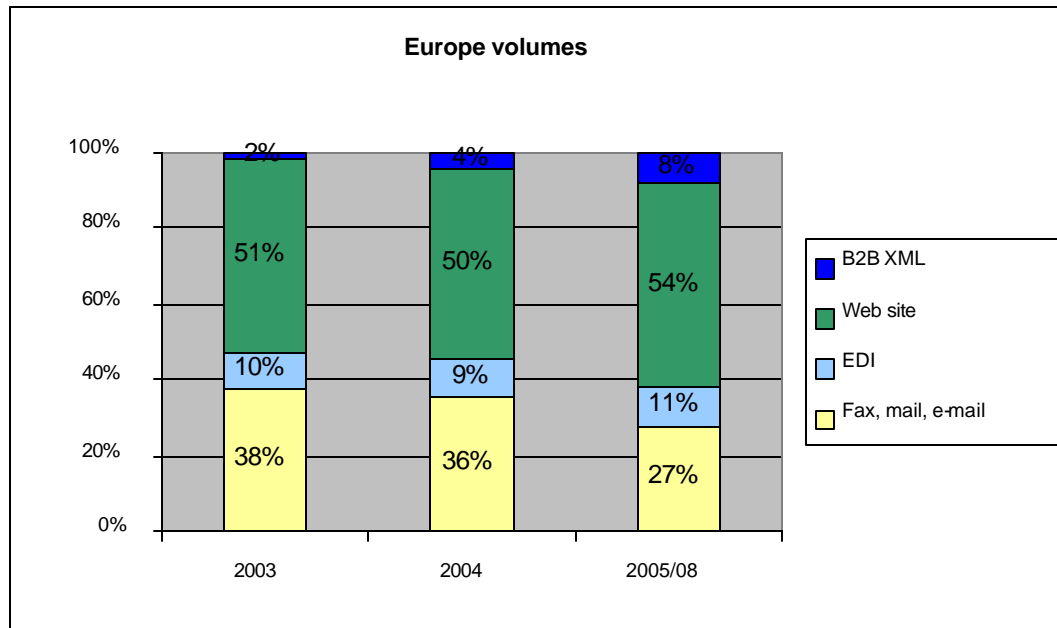
80% 2-4 min  
20% in 24 hrs

**Over 90%  
Reduction**

- Acknowledgements within minutes; rapid exception resolution
- Immediate visibility to all ship dates
- No acknowledgement failures
- Stabilized schedules, improved productivity



## B2B Methods used by ibm.com business partners



- Growing use of B2B Web site and B2B XML transactions
- Reducing use of Fax, mail, e-mail
- Continuing use of EDI



## Agenda

- B2B Software Vision and Strategy
- B2B Portfolio (product update)
- B2B Trends and Predictions
- **Futures and roadmap**



## First Principles

- Committed to integrated software platform
  - Eg: WPG and WebSphere Process Server (common WAS6 runtime)
- Committed to world-class EDI and B2B function
- Committed to working with our customers to protect their investments
- Evolving our products
  - Names and technologies may change
  - We would like your feedback



## Next Generation B2B Offerings - Guiding Principles

- Single robust B2B Gateway capability
  - Including XSLT transformations
- Single robust Data Transformation capability
  - Callable service. Any-to-any mapping. EDI support.
- Consistent with the WebSphere platform strategy
  - Employing a common tooling and administrative framework
  - Supporting end-to-end scenarios
- Seamless interoperability
  - Can be packaged and sold jointly.
- Investment protection moving install base customers forward



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## WebSphere B2B Roadmap

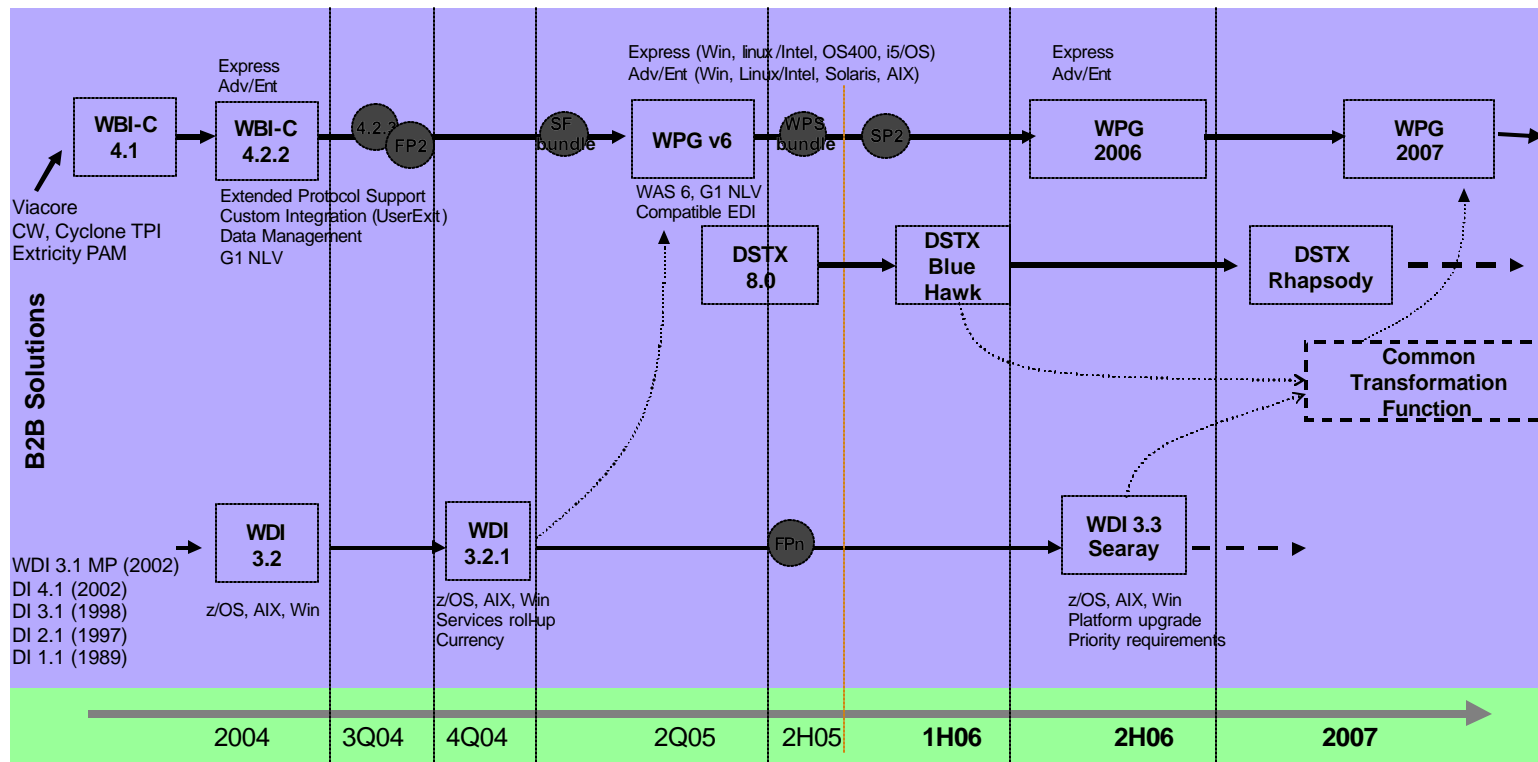
- IBM continues to extend and expand the capabilities and the value of our B2B solutions. This is done through product feature and function enhancements and extended platform support. These enhancements are targeted to be delivered to the field via annual product releases that will be available to all current maintenance users of our products.
- **Additional Features and Function:** IBM continues to be an industry leader in standards participation and integration innovation. Among the candidate capabilities being developed for future release are:
  - Ongoing expansion in support for additional data type maps
  - Ongoing expansion of supported protocols such as ebXML
  - Expanded use of Web Services for broader partner integration capabilities
- **Platform Support:** WebSphere provides world class capabilities as part of our overall Services Oriented Architecture approach to integration within and beyond the enterprise boundaries. As part of the WebSphere Product Portfolio, WebSphere Partner Gateway will continue to leverage the capabilities of this platform and provide greater access to these capabilities. As a result of this future releases will see:
  - Continued improvements in scalability, extensibility and user security
  - Tighter integration of Common Event Infrastructure events and alerting
  - Seamless integration to the WebSphere console
  - Use of common certificate stores between portfolio components
  - Common tooling for greater development productivity
  - Tighter integration to WebSphere's Modeler, Process Server, and Monitor capabilities
  - Greater access to Business Intelligence and Business Activity Monitoring from the edge of the enterprise to the core



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## WebSphere B2B Products Roadmap (tentative outlook)

... driving consolidation to closure: B2B standards, B2B gateway, software platform ...



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## Summary

- Best-of-breed B2B Capabilities for SOA platform
  - Consolidated B2B Gateway
  - Common Data Transformation & Mapping incl EDI.
  - Use standalone, with platform, and with industry solutions
  - Based on Open Standards. Simple. Integrated. Accessible.
- Significant consolidation going on in the industry.
  - Standards continue to evolve and mature.
- Committed to investment protection while evolving products
  - Names and technologies may change as we proceed
- *We would like your feedback and input*

धन्यवाद  
Hindi

多謝  
Traditional Chinese

ขอบคุณ  
Thai

Спасибо  
Russian

Gracias  
Spanish

Thank You  
English

شكراً  
Arabic

Merci  
French

Obrigado  
Brazilian Portuguese

Grazie  
Italian

多谢  
Simplified Chinese

Danke  
German

நன்றி  
Tamil

ありがとうございました  
Japanese

감사합니다



## WDI - Conversion Supported

- Sterling Gentran:Basic for Mainframe
  - Version 6.x
- Sterling Gentran:Server and Gentran:Director (Pro)
  - Version 5.x
  - Version 6.x
- Sterling Gentran:Server for Unix
  - Version 5.x
  - Version 6.x
- Mercator
- Supports Conversion of standards
  - Positional Flat File
  - Delimited Flat File
  - XML
  - X12
  - VICS
  - WINS
  - UCS
  - EDIFACT
  - EANCOM
  - Tradacoms
  - Odette
  - IATA



## WDI Unicode Support

- Three phase delivery

- Phase 1, Target October 2005

Provide EDI enhancements, especially to implement the UN/EDIFACT UN0B through UN0K control segment capability. Will also include UNOY support with UTF-8 encoding (no UTF-16). To be delivered in the WDI 3.2.1 Service stream.

- Phase 2, Target December 2005/January 2006

Provide additional capabilities which were identified by Nestle as longer-term requirements. Key functions include improved language support for the Data Formats (flat file records), the ability to specify the encoding information as a keyword or in the WMQ header, and support for the byte-order mark (BOM). Also to be delivered in the WDI 3.2.1 Service Stream.

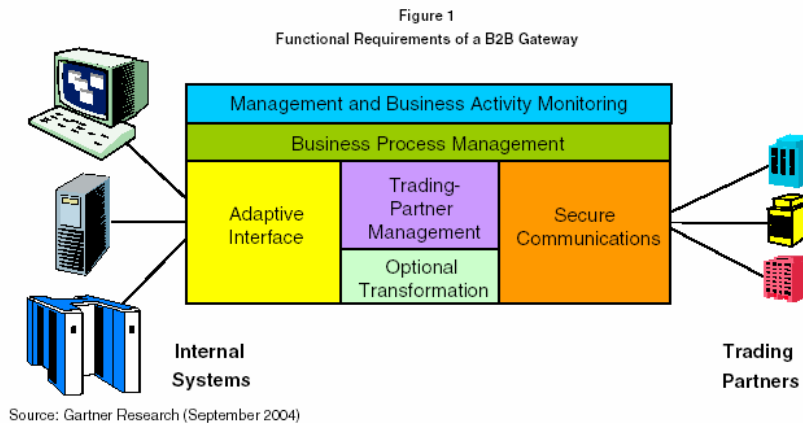
- Phase 3, Target 2H2006 (WDI 3.3)

Provide additional function that requires major data base modification, data migration, or data conversion to implement. Includes other requirements not fulfilled in phases 1 and 2 because they were considered less important or long range objectives. This includes UN0X and UN0Y (UTF-16) support. The nature of these functions require them to be delivered in a future WDI release instead of as part of the WDI 3.2.1 Service Stream.



A consolidated B2B Gateway is of particular value when multiple business units interact with the same partners or provision partners with similar processes.

***“Companies with individual lines of business that have separate business-to-business strategies and infrastructures should deploy a centralized B2B gateway to help leverage and potentially share the like processes and profiles associated with external business partners.”*** –Gartner, *B2B Gateways Let You Manage Connections to Anyone*, September 2004.



## Functional Requirements of a B2B Gateway

TPM: “Most important functionality”

profile creation, on-boarding, service-level management,  
profile change management, testing

Runtime Analysis Business  
Information about B2B events and  
traffic, from the edge of the  
enterprise. Console, Dashboards.

Figure 1

Functional Requirements of a B2B Gateway

