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e business software

WebSphere Business Integration

Malcolm Smeal

IBM Software Group

Introduction

- We're living in a world of unprecedented connectivity
  - ► Call from a cell phone anywhere in the world
  - ► Search the web to find information from billions of potential sites
  - ► Shop from your PDA while you're on the move
- The commercial exploitation of this new world used to be called "e-business"...

- "Today, e-business is just business - real business... and the winners understand that this next phase of e-business is going to be all about two things: Integration and Infrastructure"
  - ► Lou Gerstner, Chairman and CEO IBM

- Integration - Enabling people and systems to work together
- Infrastructure - Supporting operations under the pressures of the interconnected world

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Business Integration

- Enables disparate people and computing resources inside and outside the enterprise to work together to support the company's business strategy.

- Breaks down traditional barriers between applications, internal departments and external organisations, leading to greater efficiency, improved business control and enhanced flexibility.

Integrated dealer network

Consolidated reporting

Manufacturing operations unified

Internet-based procurement

Improved customer reach

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Why is integration so important to business ?

> " *Up to $4.4 Billion was lost in e-commerce revenues in 1999 due to inadequate infrastructure that led to poor site and service performance.* "
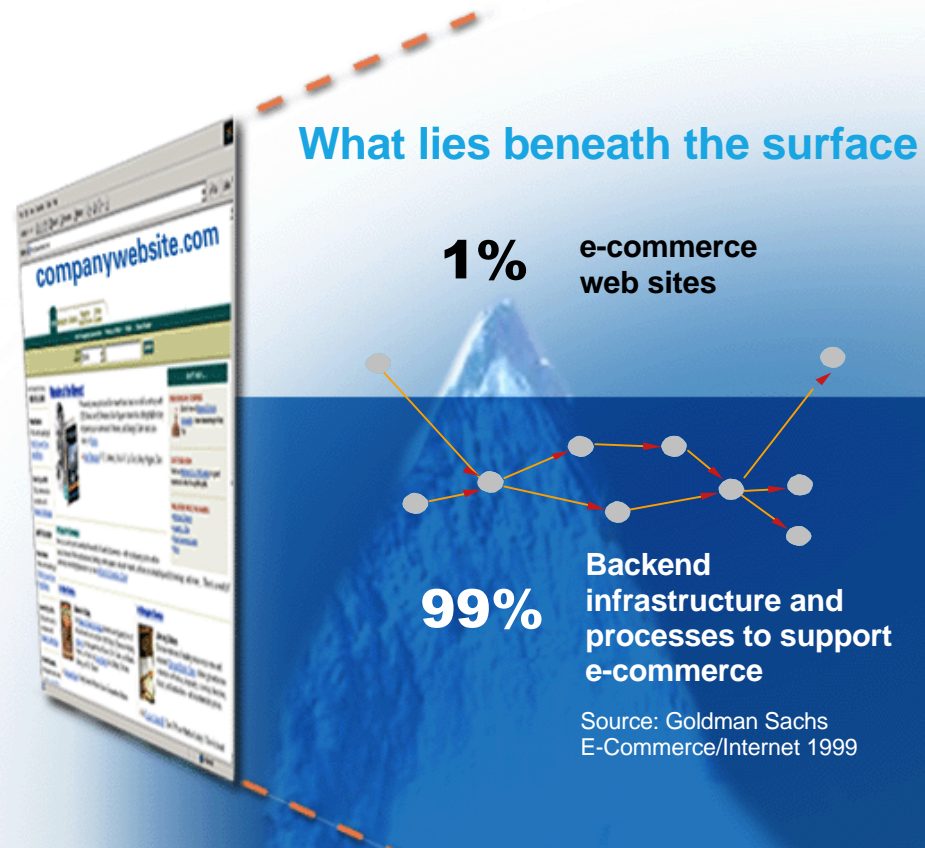> —Source: Zona Research

"*Resolution Strategies require solutions that can link the electronic world to the paper world. The key components of such solutions are strong process management or workflow; business rule creation, change and simulation; information movement, translation, and packaging across a variety of media.*"
—David Yochelson
Meta Group

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What lies beneath the surface

1% e-commerce web sites

99% Backend infrastructure and processes to support e-commerce

Source: Goldman Sachs
E-Commerce/Internet 1999

companywebsite.com

Unifying your information for a single "view of truth"
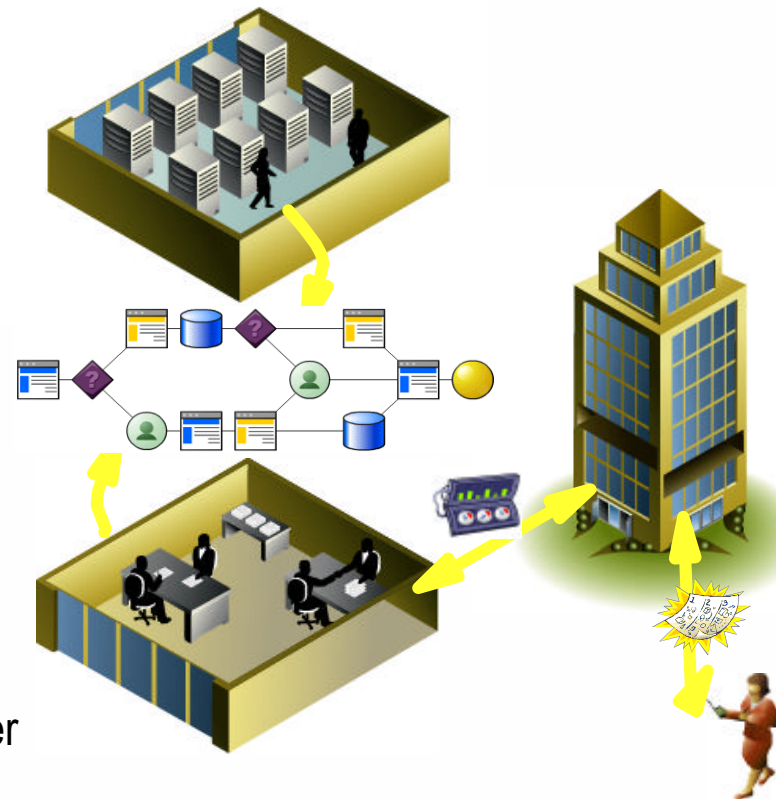## Information Connectivity

- Create a single view of information, and then make it available where and when it's needed
  - ▶ Standardize and route claim, referral and enrollment data submitted in accordance with the HIPPA federal regulations - enabling business engineers and application developers to view blueprints/models to update specifications from a unified location

- Ensure there's only one version of key business information that every part of the business can work on

- "... the functionality of WebSphere will help us best achieve full integration within our heterogeneous platform environment of multiple systems and applications, therefore best enabling multiple areas of our business."
  - – David Marckel, manager of Enterprise Document Management Systems, BCBST

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LOB
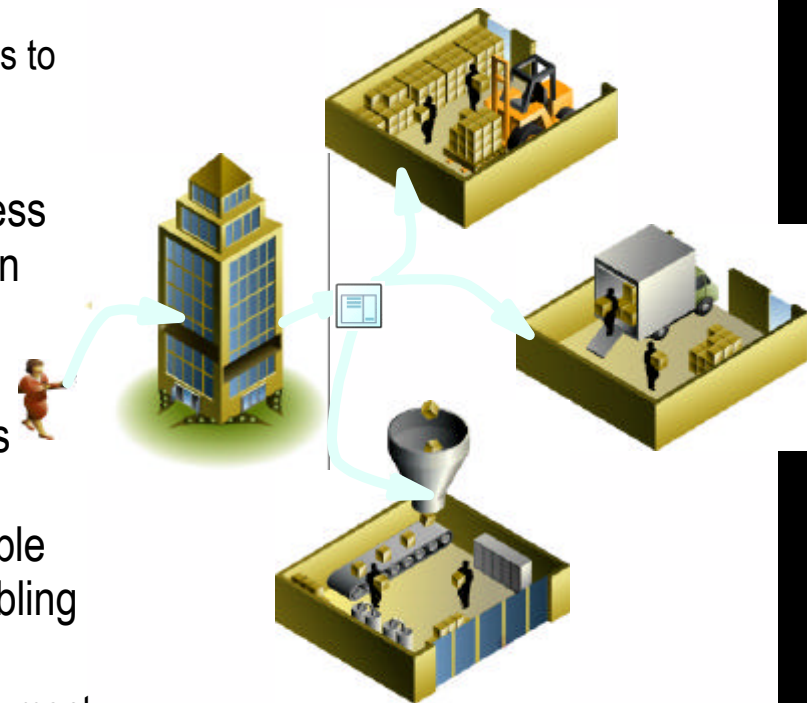
Optimizing business processes through automation
Process Integration

- Coordinate activities that span multiple systems and people to match the end-to-end business process
  - ▶ Integrate disparate internal systems and processes such as claims processing, new business acquisition, customer services and image processing into a paperless process

- Automate and improve business processes

- "In a very short space of time, we were able to implement the Criterion paperless office strategy with workflow and content management. I have never seen such a compelling ROI, and we look forward with great confidence to proposing this set to other clients."
  - – Richard Higgs, Managing Director Strategic Thought (BP for Criterion process integration)
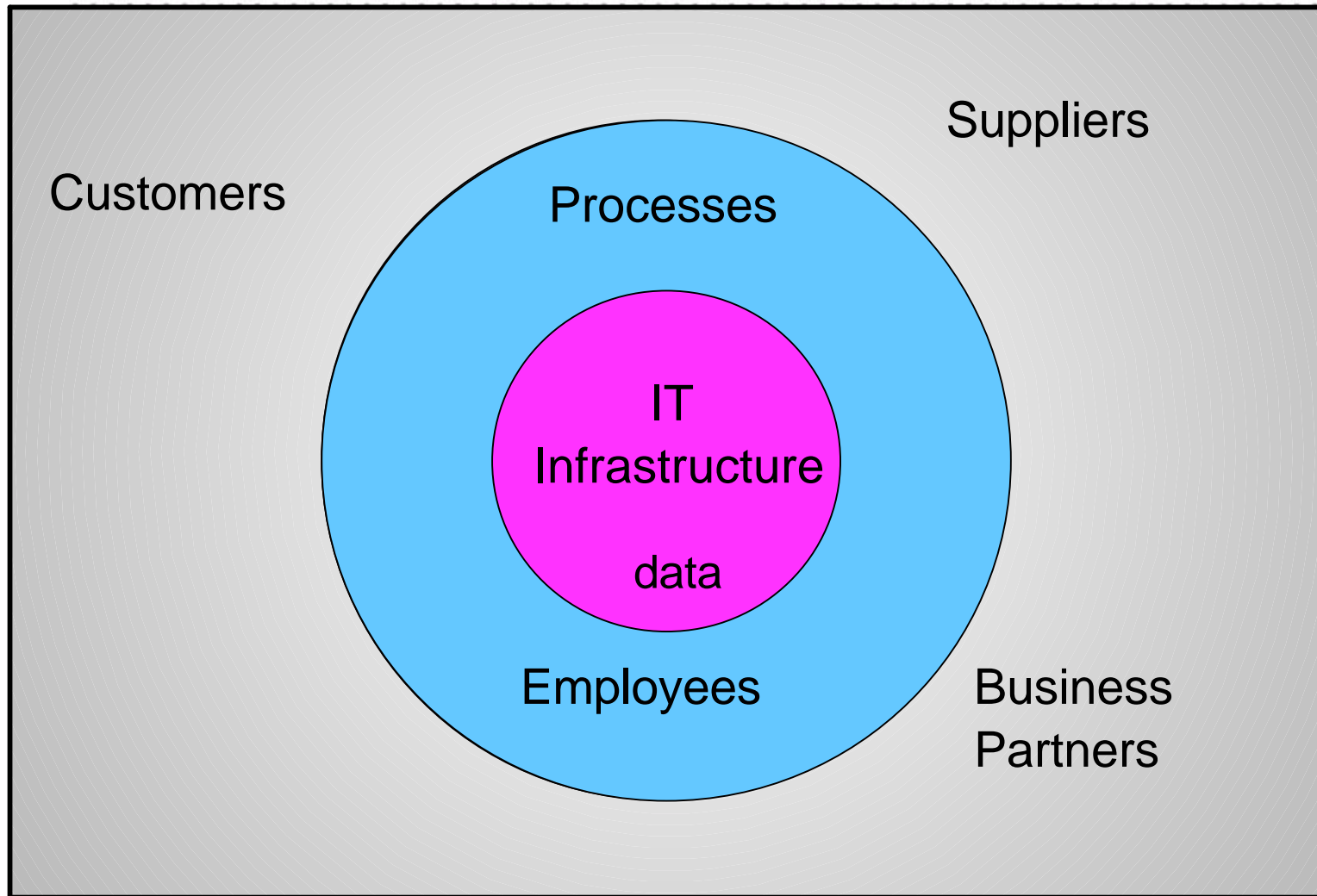
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e-Business drives Business Integration

Traditional Business

Customers

Suppliers

Processes

IT Infrastructure

data

Employees

Business Partners

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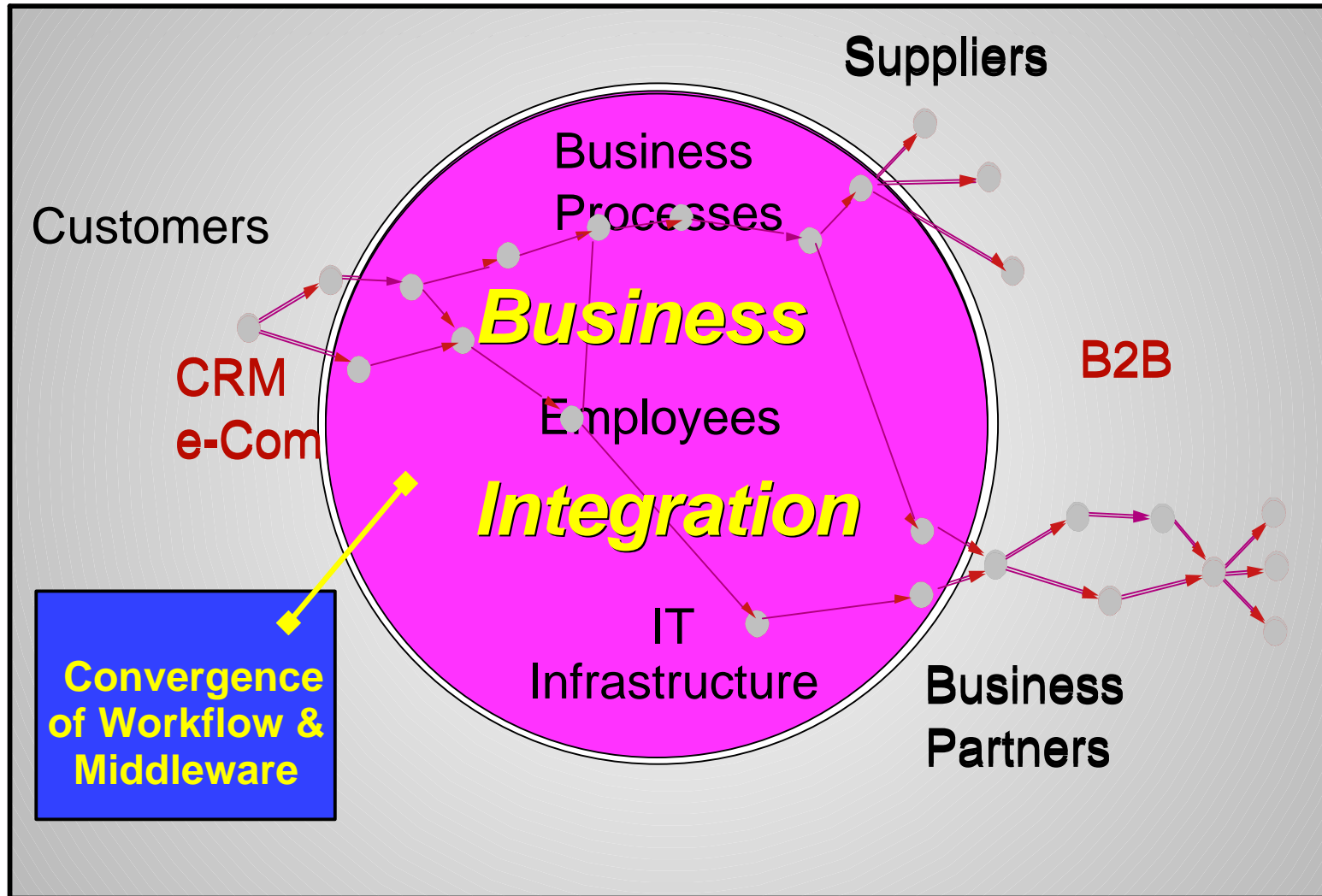
So business Integration is about unlocking the value of your assets

...in the form of
- ► Information
- ► Processes
- ► Applications
- ► People

...by
- ► <u>Distributing information</u> throughout the business so it can be used where and when it's needed
- ► <u>Aligning the processes</u> performed by people and systems with the needs of the business
- ► <u>Creating flexible applications</u> to meet changing business requirements by harnessing existing applications as reusable services

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Distributing information throughout the business

Business Integration - the technical challenges

Business process modeling, simulation and monitoring

Common tooling

User appls.

Internet

online appls.

Industry protocols

PVC browser replication messaging

ext. data

Integration servers:
WAS
CROSSWORLDS
WMQI

J2EE connectors, adapters, links.

ERP
CRM
SCM
sys.

OLTP

Data

security access

common management

suppliers

BtoB

Data

WebSphere softw

messaging backbone

IBM
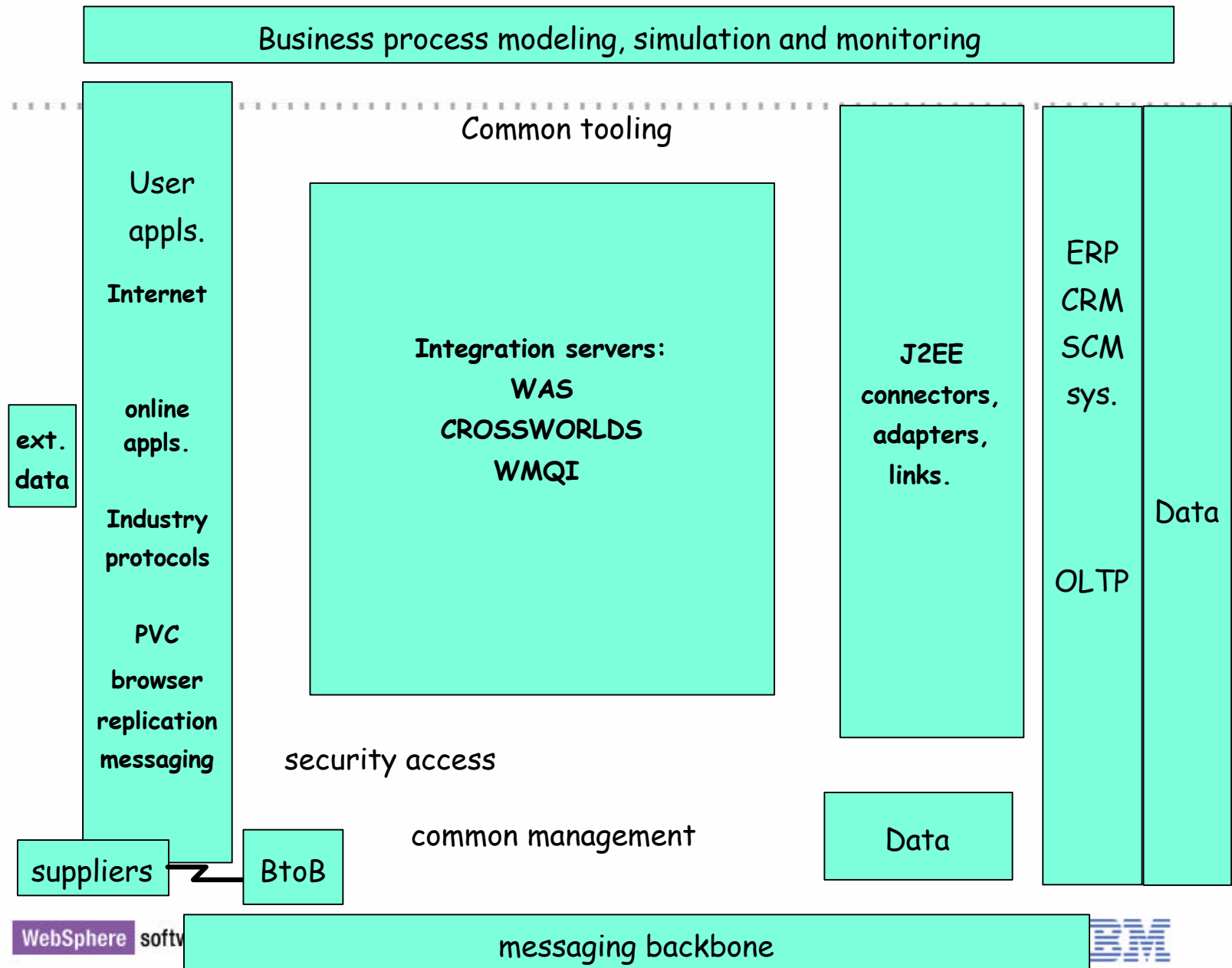
Business Integration WEBSPHERE Application Server

Business process modeling (HOLOSOFX/MQ Workflow)

Common tooling

User appls.

Internet

online appls.

Industry protocols

PVC browser replication messaging

ext. data

WAS
J2EE applications
Java base
Enterprise JAVA beans (EJBs.)
synchronous heritage
transaction management
Web heritage
integrated with WMQ
synchronous/asynchronous
publish/subscribe

J2EE connectors, adapters, links.

ERP
CRM
SCM
sys.

OLTP

Data

security access

common management

Data

suppliers

BtoB

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messaging backbone 35 platforms

Business Integration - CROSSWORLDS

Business process modeling (HOLOSOFX/MQWorkflow)

Common tooling

User appls.

Internet

ext. data

online appls.

Industry protocols

PVC

browser

replication

messaging

CROSSWORLDS
broker technology
integrated adapters
pre-built collaborations
common business objects
based on JAVA
transformation
built-in B2B
publish and subscribe

J2EE
connectors,
adapters,
links.

ERP
CRM
SCM
sys.

OLTP

Data

security access

common management

Data

suppliers

BtoB

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messaging backbone 35 platforms

Business Integration with WEBSPHERE MQ integrator

Business process modeling/monitoring HOLOSOFX/MQWorkflow)

User appls.

Common tooling

Internet

online appls.

Industry protocols

PVC replication messaging

ext. data

WMQI
generic broker
publish/subscribe
transformation
intelligent routing
enrichment
message flows
open architecture
multi-broker arch.

J2EE connectors, adapters, links.

ERP
CRM
SCM
sys.

OLTP

Data

security access

common management

Data

suppliers

BtoB

messaging backbone 35 different platforms

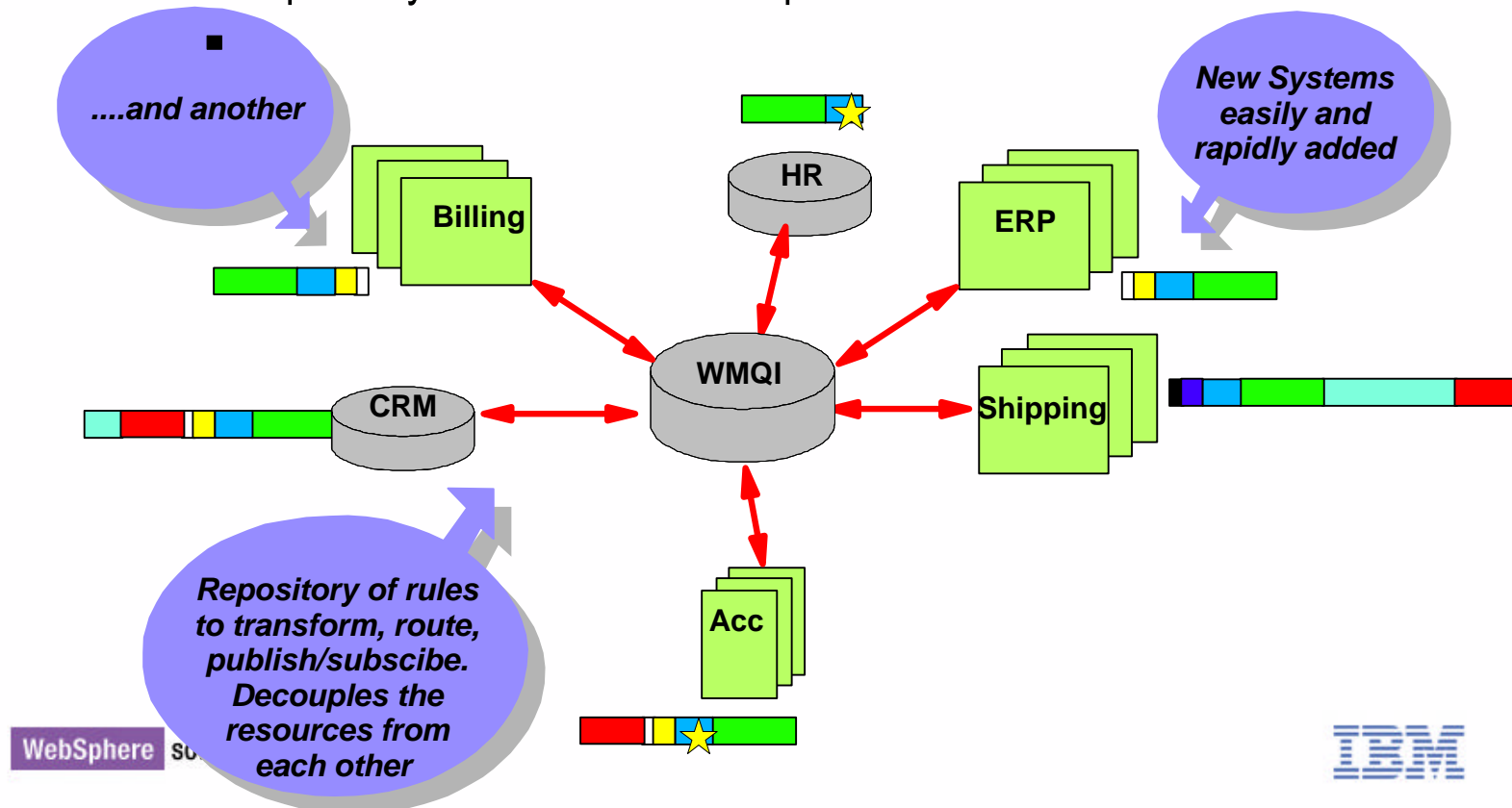# WebSphere MQ : Any-to-Any Simple Enterprise Connectivity

- Shields complexities of infrastructure from developers
- Consistent API across 40+ platforms
- 3 out of 4 MOM customers use MQSeries
- Easy to use
- Assured delivery - even across the Internet
- Asynchronous
- Highly scalable
- Transactional
-

CUSTOMERS

SUPPLIERS

MQ

MQ

MQ

MQ

DEC

AS400

SUN

HP

IBM

TANDEM

OS/2 LAN

AS400

NT

SUN SPARC

NOVELL

VAX

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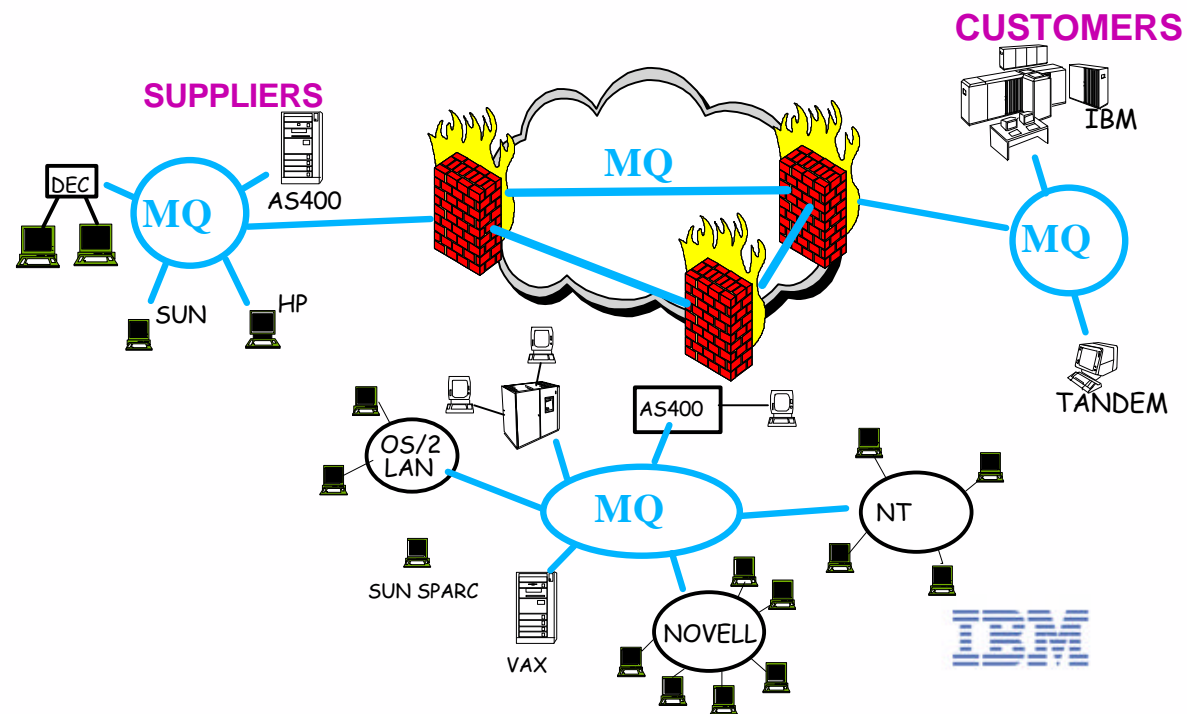
WebSphere MQ Integrator : Message Brokering
Making sense of information

- Transforms information flowing between resources
- Routes information to one or more resources
- Allow resources to be selective about the information they receive
- Context and content of enterprise information understood
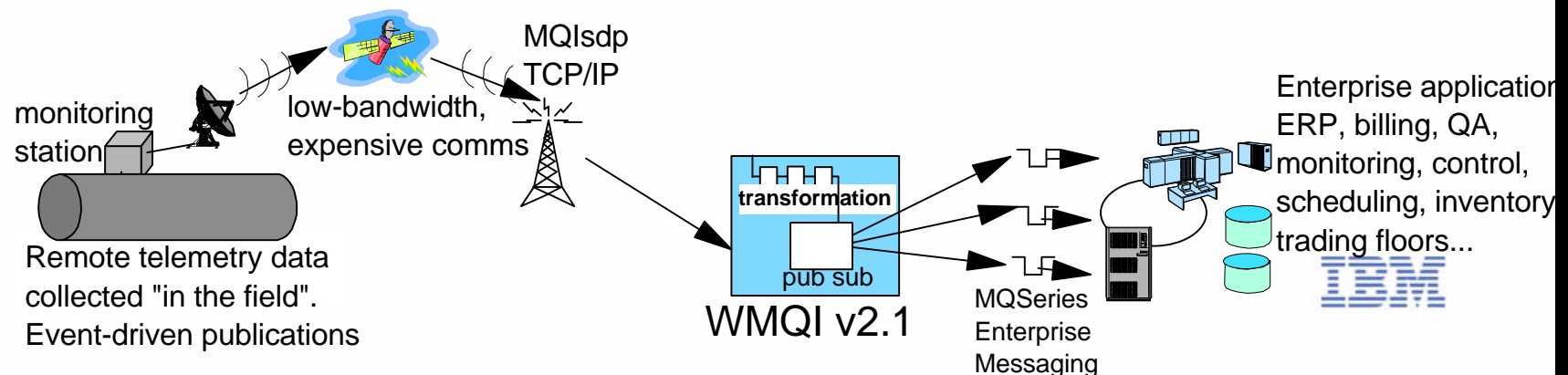- Repository of rules about enterprise information
-

....and another

Billing

HR

ERP

New Systems easily and rapidly added

WMQI

CRM

Shipping

Acc

Repository of rules to transform, route, publish/subscibe. Decouples the resources from each other

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Publish and Subscribe - puts you in control of events

Benefit:

✓ Provides you with the information <u>you</u> want, when you want it.

✓ Allows applications/ users to be specific about the information they need (subject level or content)

✓ Enables agility by ability to quickly specify in real time changes of subject and content interest

✓ Reduces unwanted information on the network or through your door

Uses (limitless)

✓ "Tell me when a pressure valve "A" on a remote pipe line in the desert reaches a particular level and then automatically open "B" and "C"

✓ "Alert me if stock prices for company X reaches $XXX per share"

✓ "Let me have all results for a sporting event between for the next three hours"

✓ "Shut down all appliances if the electricity usage exceeds X units between hours of 2am and 6am."

★ 1000s of concurrent clients

★ Support for :

  ★ MQSeries

  ★ MQe

  ★ SCADA

  ★ IP

monitoring station

low-bandwidth, expensive comms

MQIsdp TCP/IP

Remote telemetry data collected "in the field". Event-driven publications

transformation

pub sub

WMQI v2.1

MQSeries Enterprise Messaging

Enterprise application ERP, billing, QA, monitoring, control, scheduling, inventory trading floors...
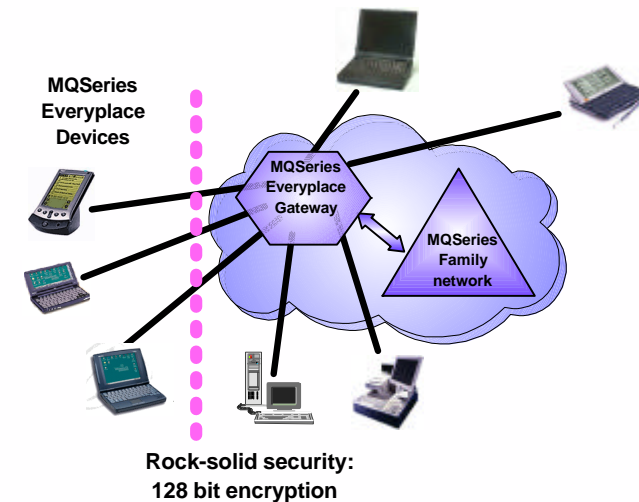
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Distributing information inside and outside the enterprise
Extending to a Mobile Workforce

MQSeries Everyplace for Multiplatforms, Version 1 Release 2

Brings a reliable connection into a hostile world

- **Extend the messaging network**
  - ► **Empower the mobile workforce**
    - Secure access to business data
      - Get connectivity to the messaging backbone
    - Enable transactions on the move
    - Exploit the new devices for business
      - Palm, Pocket PC, …
    - Connect to the source of new messages
      - Create the demand for more infrastructure
  - ► MQSeries Everyplace input node in WebSphere MQ Integrator

MQSeries Everyplace Devices

MQSeries Everyplace Gateway

MQSeries Family network

Rock-solid security: 128 bit encryption

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Why IBM for Business Integration ?

★ **eAI Journal MQSI gets gold award for "Solution of the Year 2001" and MQSeries Everyplace with a silver award for "Product of the year 2001"**

★ **Customer Success**
  - ✓ **10,000 customer sites using MQSeries !!!!**
  - ✓ **1,300 customers using WMQI**
  - ✓ **1,000 (nearly) using MQSeries Workflow**

★ **Four out of five customers who buy interapplication messaging systems buy MQSeries (Wintergreen)**

★ **MQSeries won 'Best Java Messaging Tool' in the highly prestigious Java Developers Journal Readers' Choice Awards**

★ **9 out of the top 10 Fortune 100 customers rely on MQSI everyday.**

★ **More than 550 independent vendors offer MQSeries-based services and products**

★ **More than 3000 people, representing more than 1000 different companies worldwide have passed an MQSeries Family certification test.**
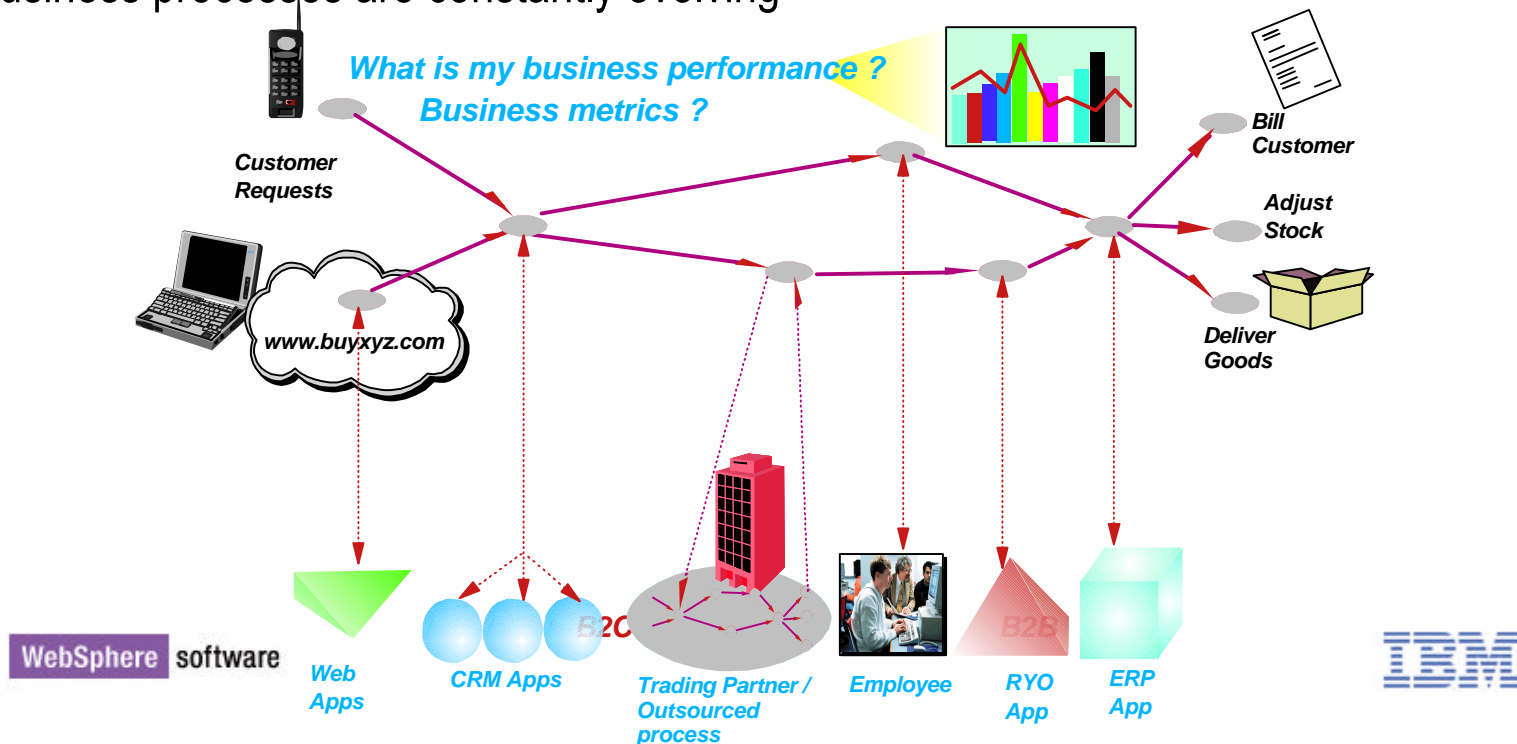
# Aligning your processes with the needs of the business

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MQSeries Workflow and HOLOSOFX - Integrates and Manages your Business Processes

- Define the business process in HOLOSOFX
  - ► This is a key input for an IT requirements document
- Simulate and cost of each manual and automatic step
- Run the process under the control of MQWorkflow and record status
- Monitor the events in real time with HOLOSOFX and WORKFLOW
- Monitor costs
- Business processes are constantly evolving

What is my business performance ?
Business metrics ?

Customer Requests

www.buyxyz.com

Bill Customer

Adjust Stock

Deliver Goods

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Web Apps

CRM Apps

B2C

Trading Partner / Outsourced process

Employee

RYO App

B2B

ERP App

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WebSphere Partner Agreement Manager-Business to Business Integration

- 'Public Process' agreed by consensus between two or more parties
- defines business protocols for BtoB environments
- View, EDI and full BtoB options
- Companies still maintain privacy of their own processes
- 'Process Firewall'

Enterprise 1   **Enterprise 2**

Private Processes   **Public Processes**   **Private Processes**

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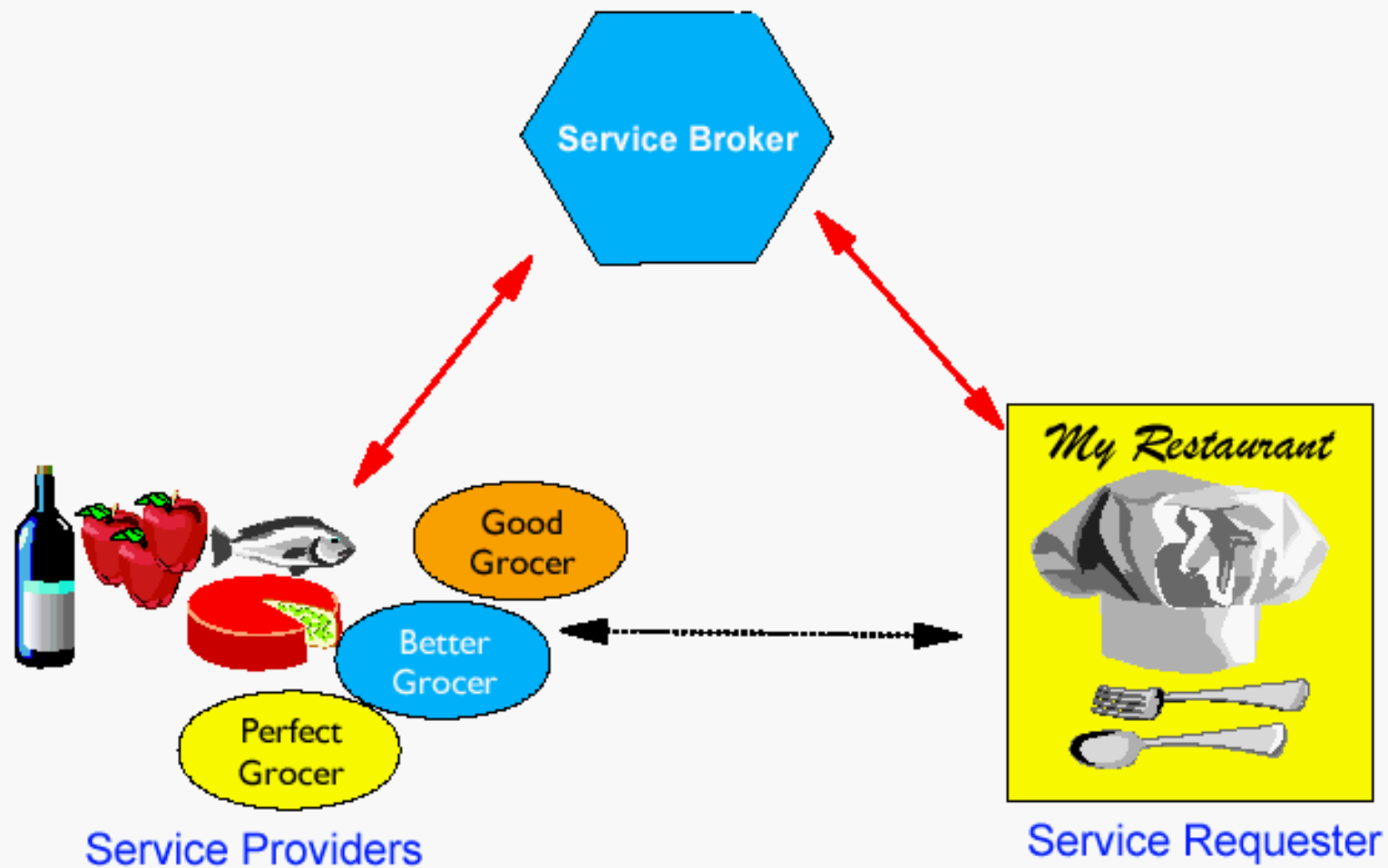
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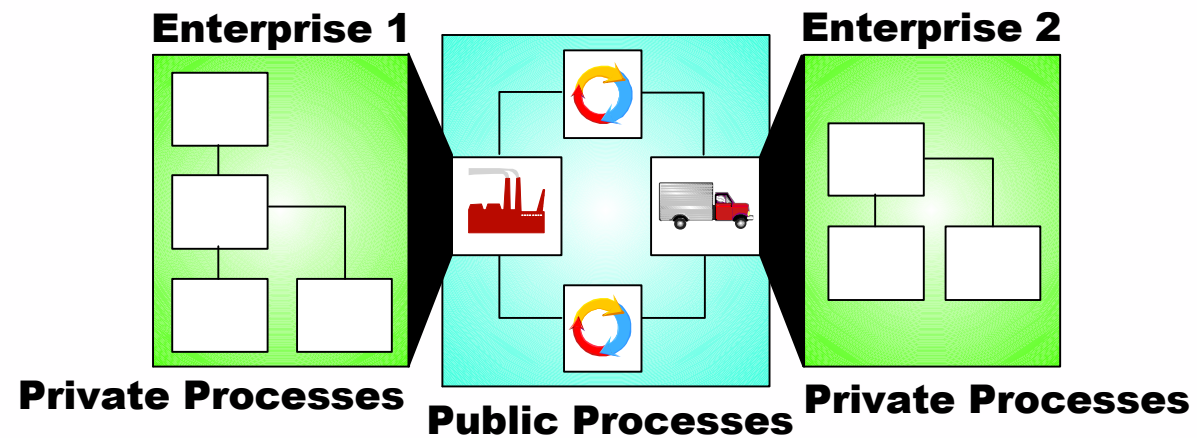
Widening your Horizons beyond Traditional BtoB

- Need to increase global reach and market share
- Who can provide the 'best' service to me
- How do I contact another company and find out about their service
- How do I use an available service ?
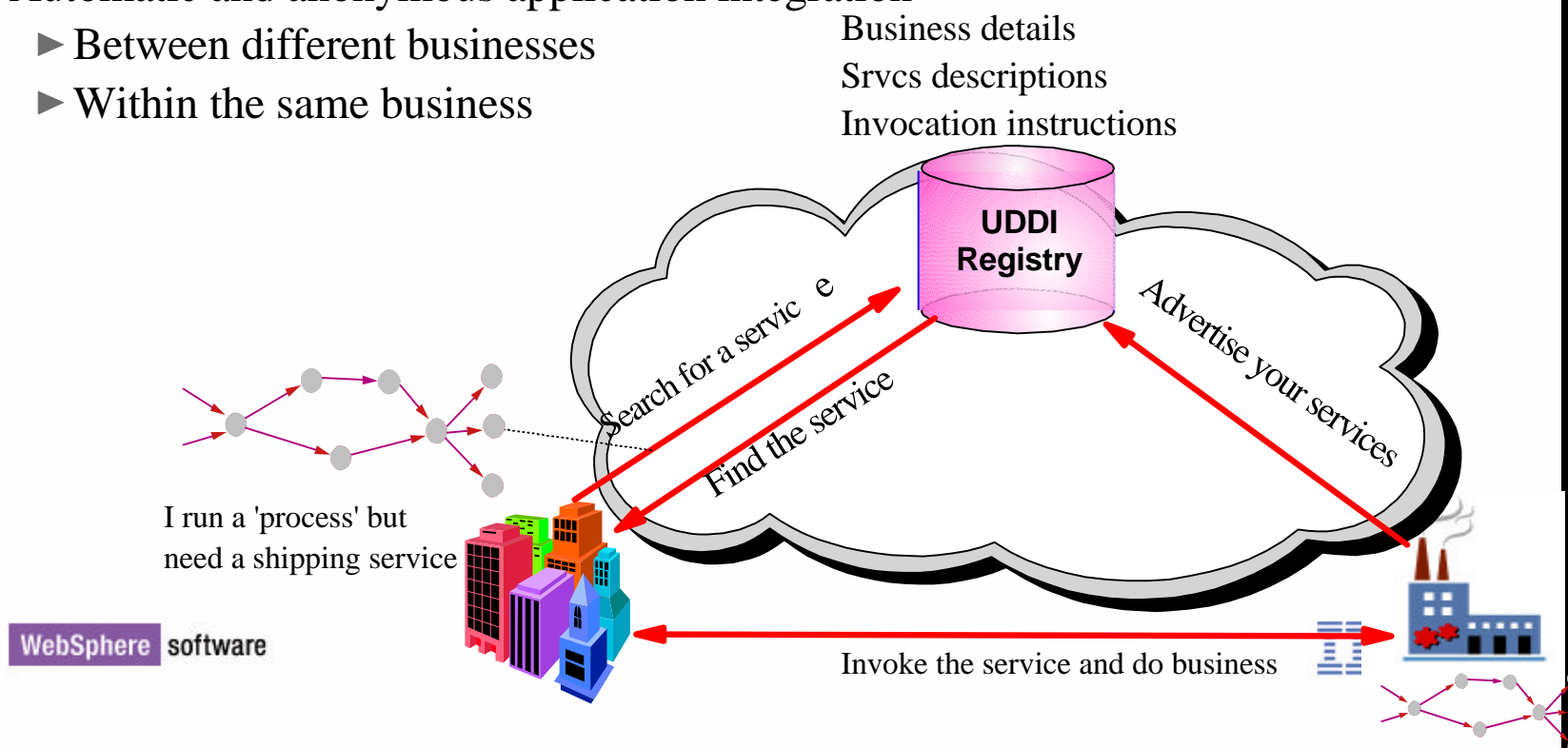
Any one out there ?

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Why Web Services?

Service Broker

Good Grocer

Better Grocer

Perfect Grocer

My Restaurant

Service Providers

Service Requester

IBM Web Services - extending and integrating your services WW

- Make your services and processes available WW
  - ► Increase your business' WW presence
  - ► Increase visibility of internal services
- Discover other WW processes (even at run time) and use them
  - ► Bring the best to your customers for competitive differential
- ...It standardizes integration, makes it dynamic
- Automatic and anonymous application integration
  - ► Between different businesses
  - ► Within the same business

Business details
Srvcs descriptions
Invocation instructions

UDDI Registry

Search for a servic e

Find the service

Advertise your services

I run a 'process' but
need a shipping service

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Invoke the service and do business

Creating Flexible Applications

WebSphere Studio Workbench - One set of tools for Business and IT

Interface tooling
- Practical implementation of standards
- Web Services for repository & access

Solution construction
- Flow paradigm for implementing sophisticated logic
- Robust, scalable runtime

Development Environment
- Support for full life-cycle
- Extensible

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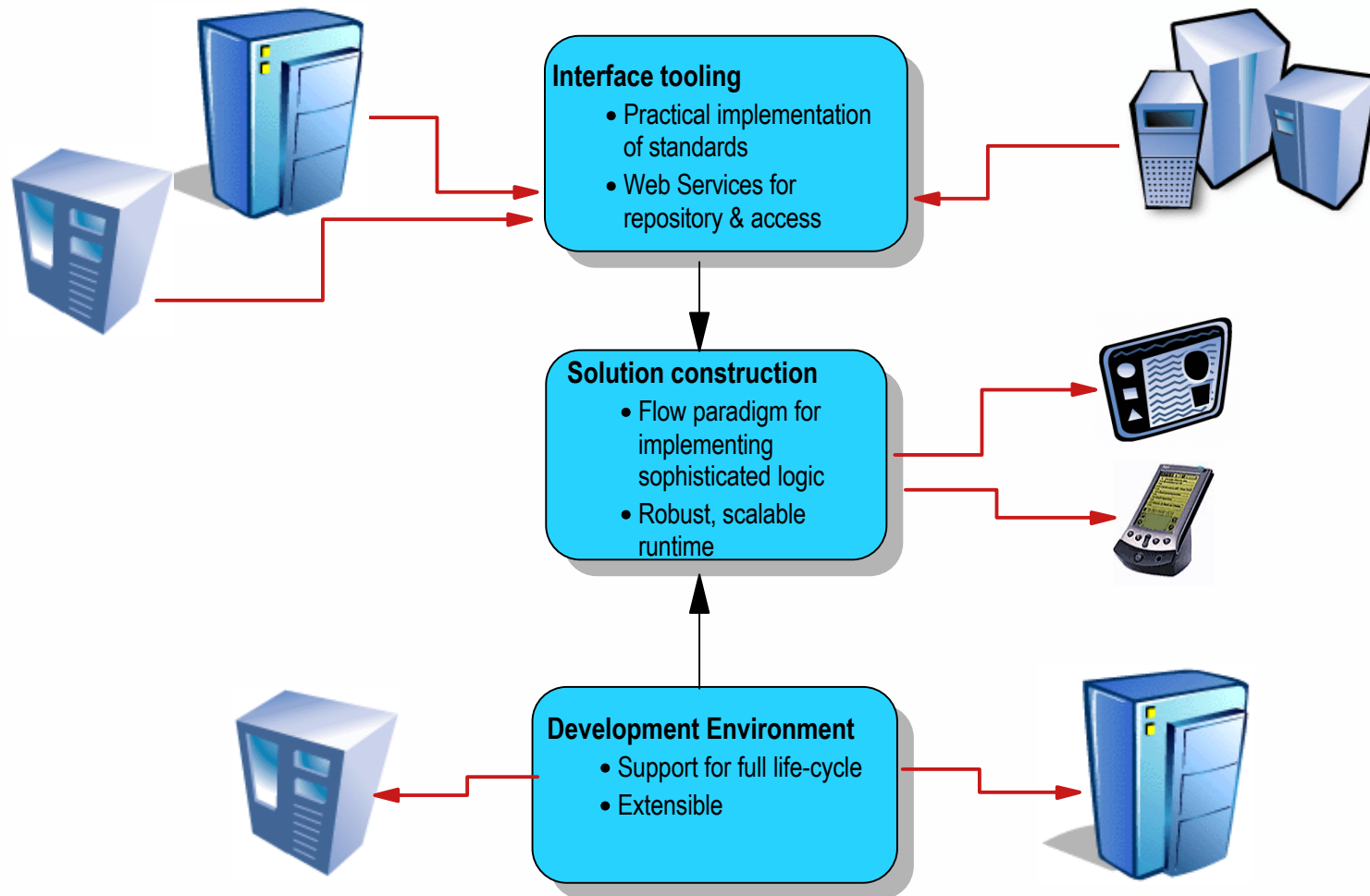
A consistent view of enterprise resources

Legacy + Packaged Apps

Databases

Message Hub

Common Tool set for Developers, Analysts

Logic Hub

Internet Clients

Web Services

Trading Partners

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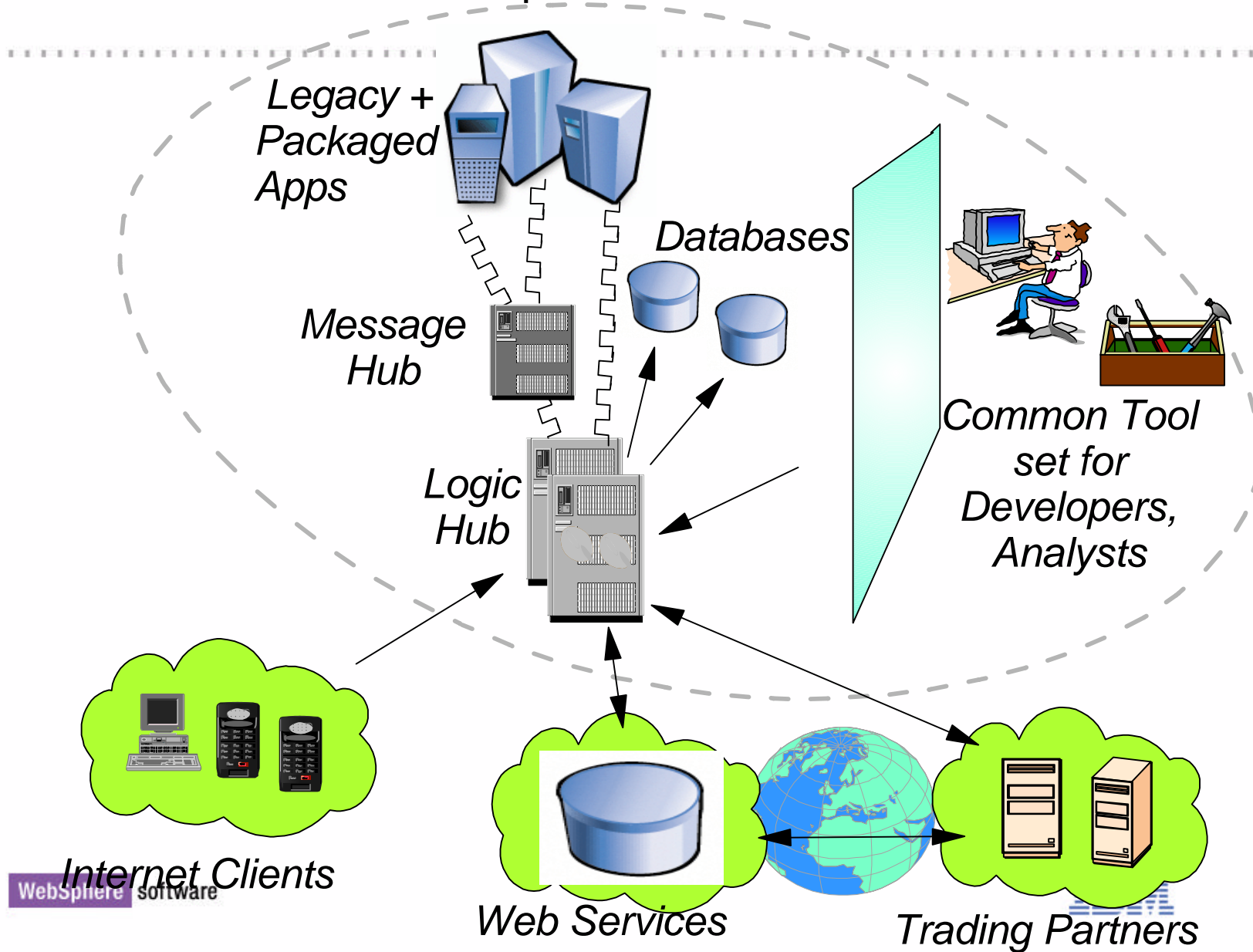
Wouldn't it be good if you...

- ...didn't need to source connectors/adapters for packaged app's?
  - ► Web Services standards are defining an open way for app vendors to expose integration interfaces
- ...could find resources easily?
  - ► Web Services implementations are providing infrastructure to describe and discover services
- ...could work from IT to business levels and across functions with one set of metadata and process information?
  - ► Eclipse provides an extensible tooling framework, common model for metadata and process
  - ► Unified programming model describes low-level app logic up to high-level business flows in a common way
- ...could create new business logic from existing services?
  - ► Web Services standards are evolving to provide descriptions of the way that services are coordinated to deliver business function
- ...could modify and extend existing business logic within app's?
  - ► Applications built on the web services standards will allow functions to be replaced, shared and augmented

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WebSphere Differentiators

- Simple, portable programming APIs
  - ▶ Native for major languages across 35+ platforms, plus Java, CICS, IMS, COM, etc.
  - ▶ Encapsulate configuration and data formatting
- Multiple delivery options
  - ▶ Guaranteed once-only
  - ▶ High performance in-memory
  - ▶ Confirmation of delivery
  - ▶ Distribution lists
  - ▶ Publish & subscribe
  - ▶ Rules-driven routing
- Exploit platform-specific strengths
  - ▶ Availability & scalability
- Scalable
  - ▶ From Palm to Windows to z/OS
- Flow control for people and applications

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Single Vendor Advantages

- Product synergies
  - ► Common design points
- Documentation
  - ► Common style and format
- Education
  - ► Consistent approach
- Support
  - ► Single vendor responsibility
- Conferences
  - ► One event covers multiple products - PartnerWorld, Technical Conferences
- Purchasing
  - ► One client team / software account manager

- Bottom line - lower Total Cost of Ownership (TCO)

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The WebSphere Software Platform has you covered

Delivering an End-to-End Business Integration Portfolio

Integration of content, and personal assets "at the glass"

Reach and User Experience

Business Integration

WebSphere

Foundation and Tools

Building new business logic requiring programmable integration of application assets

Improve Business

Connect Assets

Business Process Management

Enterprise Application Integration

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