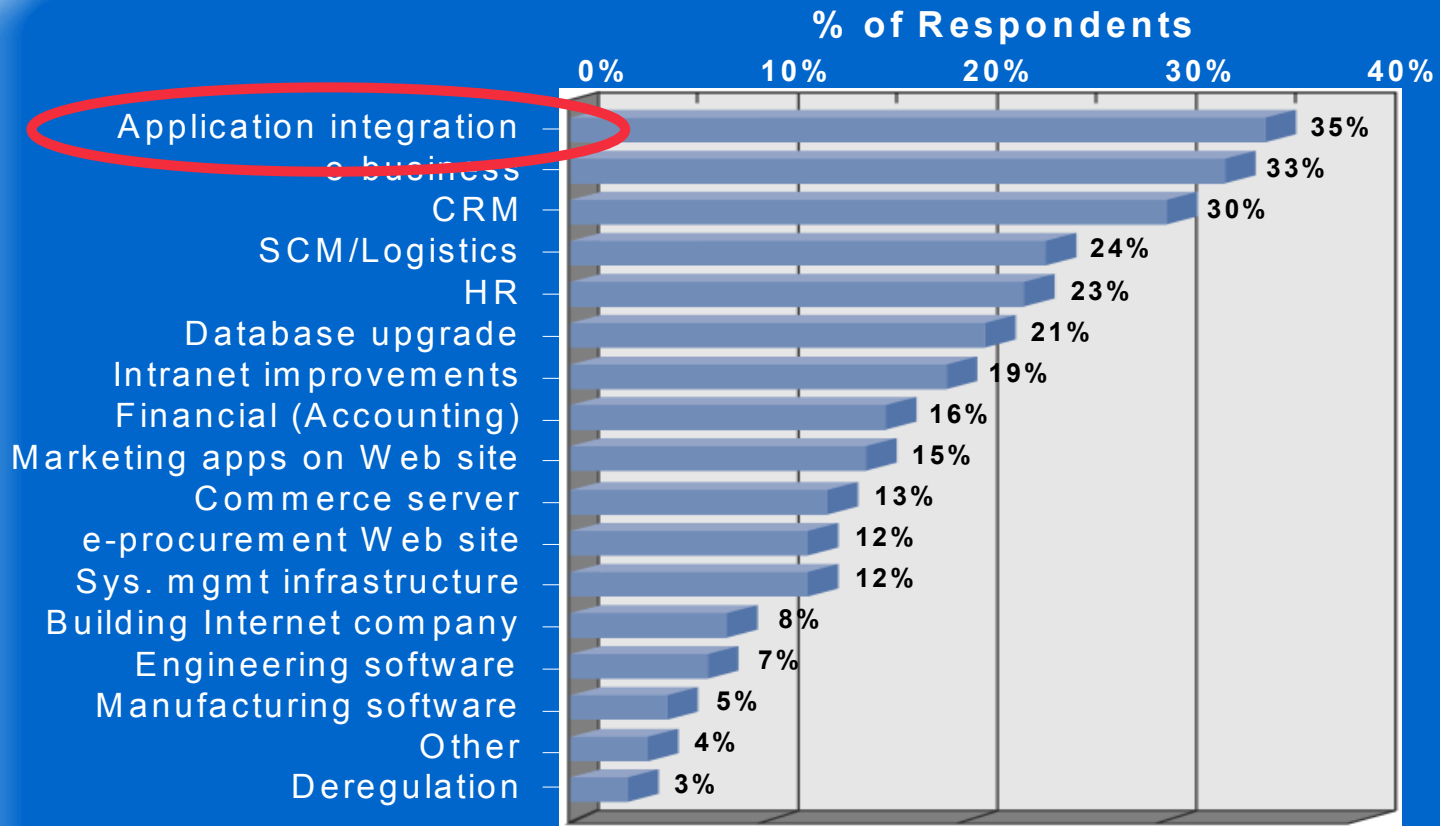# what are web services all about?

- *massive automation of business processes*

- *time-to-market business integration*

- *technical evolution…business dictate the pace of technology adoption*

- *repurposing existing"unique" IT assets to gain business advantage through new collaborations*

… the ability to change is more important than the ability to create…and the velocity of change is only going to increase.

Peter Fingar, The Death of e and the birth of the Real New Economy

web services-the ability to integrate

Software Globalization

% of Respondents

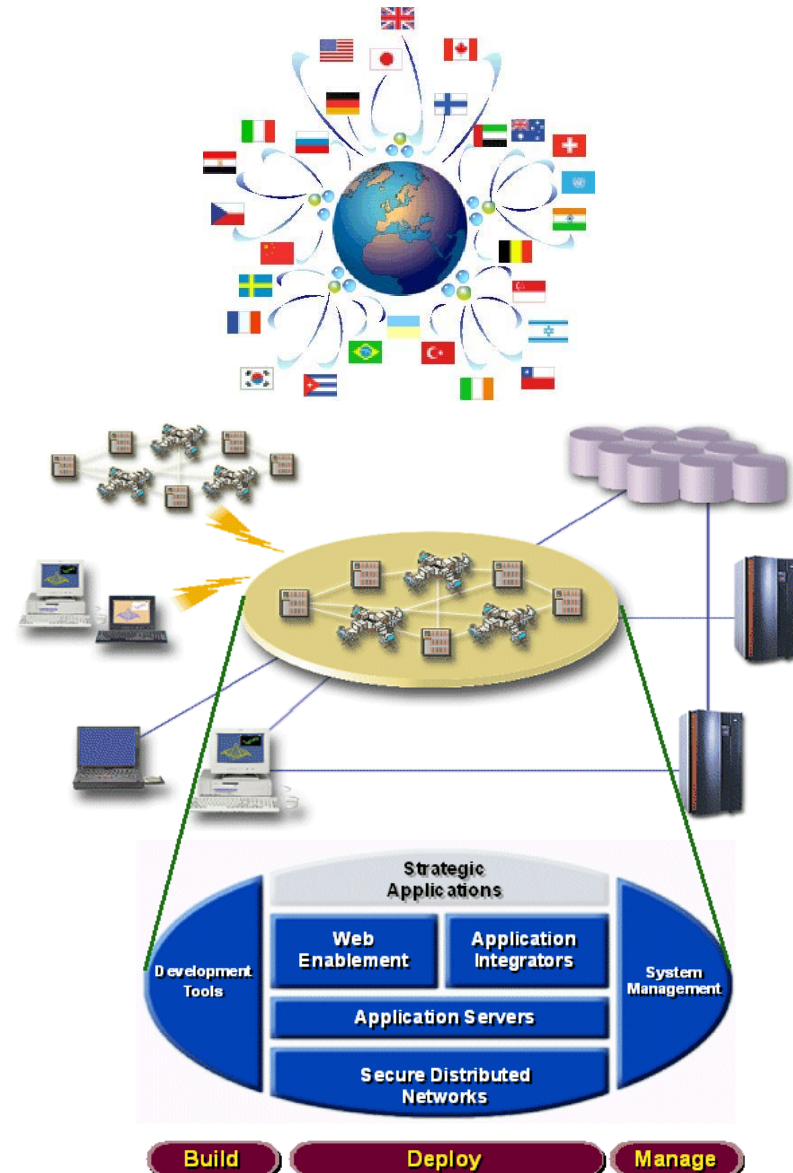| Category	Value
Application integration	35%
e-business	33%
CRM	30%
SCM/Logistics	24%
HR	23%
Database upgrade	21%
Intranet improvements	19%
Financial (Accounting)	16%
Marketing apps on Web site	15%
Commerce server	13%
e-procurement Web site	12%
Sys. mgmt infrastructure	12%
Building Internet company	8%
Engineering software	7%
Manufacturing software	5%
Other	4%
Deregulation	3%

Source: Morgan Stanley CIO Survey, May 2001
Note: Multiple responses permitted

***Integration now is synonymous
the ability to change rapidly***

IBM

what's driving this?

Software Globalization

- "…I want to do business across the Internet with my customers, partners, and suppliers without having to know the intimate details of how they built their IT systems."

- "…I want to integrate my custom and packaged enterprise applications using common tools, standards, and integration infrastructure, while not discarding my existing IT investments."

- "…I want to enable my computing resources to be accessed and shared across a heterogeneous wide area network while delivering Qualities of Service transparently."

Strategic Applications

- Web Enablement
- Application Integrators
- Development Tools
- System Management
- Application Servers
- Secure Distributed Networks

Build   Deploy   Manage

but what's driving this?

- Businesses around the world are not throwing away existing IT investments;

- Need evolutionary infrastructure technology to tie these systems together.

- Introducing new technology will not abate -- needs to work with & extend what we've got to make businesses work better – this is at the crux of *e-business*.

- A significant amount of knowledge from distributed systems, EDI, and the early XML will work to finally get this right and make it *standards* based.

Reach & User Experience

Business Integration

WebSphere

Foundation & Tools
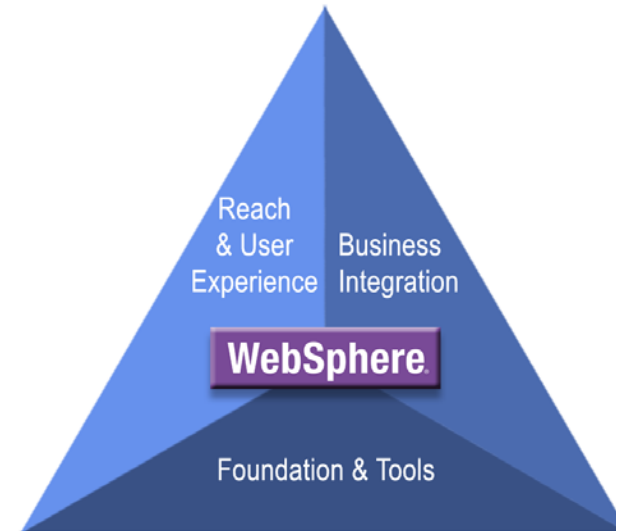
customer example: DaimlerChrysler

DAIMLERCHRYSLER

"DaimlerChrysler's strategy is to enable enterprise application integration through the use of open standards based technologies such as web services. IBM's WebSphere products and tooling that support these standards and IBM's integration experience with web services will enable us to rapidly build our skills and support business process owners who require distributed application solutions in addressing real world business needs."

Ik Kim,
Manager of eTechnology

Location: Auburn Hills, MI
Industry: Manufacturing
URL: www.dcx.com

Challenge: Integrating business processes with business partners in automating manual tasks that required information lookup and exchange, resulting in delays and inefficient use of resources

Solution: Enable DaimlerChrysler and business partner employees to directly query information between companies' backend systems in real-time, integrating process steps using web services with each participant playing the role of a web service consumer and web service provider.
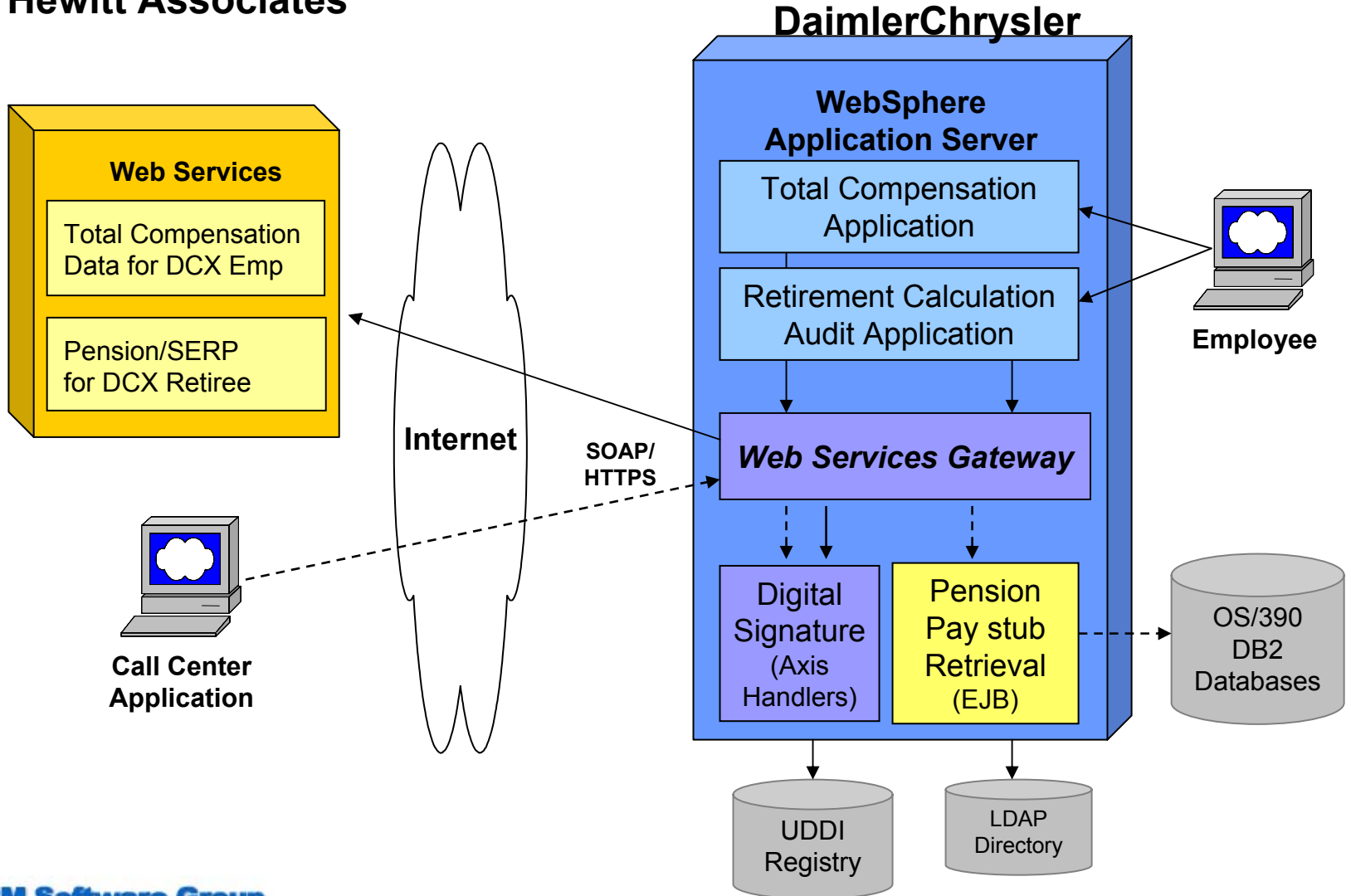
IBM Content: WebSphere Application Server, DB2, WebSphere Studio Application Developer, WSTK 3.2.2.

Value: Reducing operational costs as well as lowering costs of contracted services of their business partners. Better quality of service for employees (real-time access to information) enabling them to make better informed decisions.

customer example: DaimlerChrylser

DAIMLERCHRYSLER

Hewitt Associates

DaimlerChrysler

Web Services

Total Compensation Data for DCX Emp

Pension/SERP for DCX Retiree

Internet

Call Center Application

SOAP/ HTTPS

WebSphere Application Server

Total Compensation Application

Retirement Calculation Audit Application

Web Services Gateway

Digital Signature (Axis Handlers)

Pension Pay stub Retrieval (EJB)

Employee

OS/390 DB2 Databases

UDDI Registry

LDAP Directory

why is IBM investing?

This is the FOREMAN

That placed the Order

That went through the Dealer

That notified Contracts

That alerted Manufacturing

That checked with Accounting

That contacted Shipping

That sent the Delivery

That sealed the Process

That lives in the Business Integration Software

That we built Together

Moving away from a technology-centric approach to a dynamic business model world

Business Content is King!

The next "platforms" will be derived in business-centric contexts

Just-in-time integration of business partner software assets key
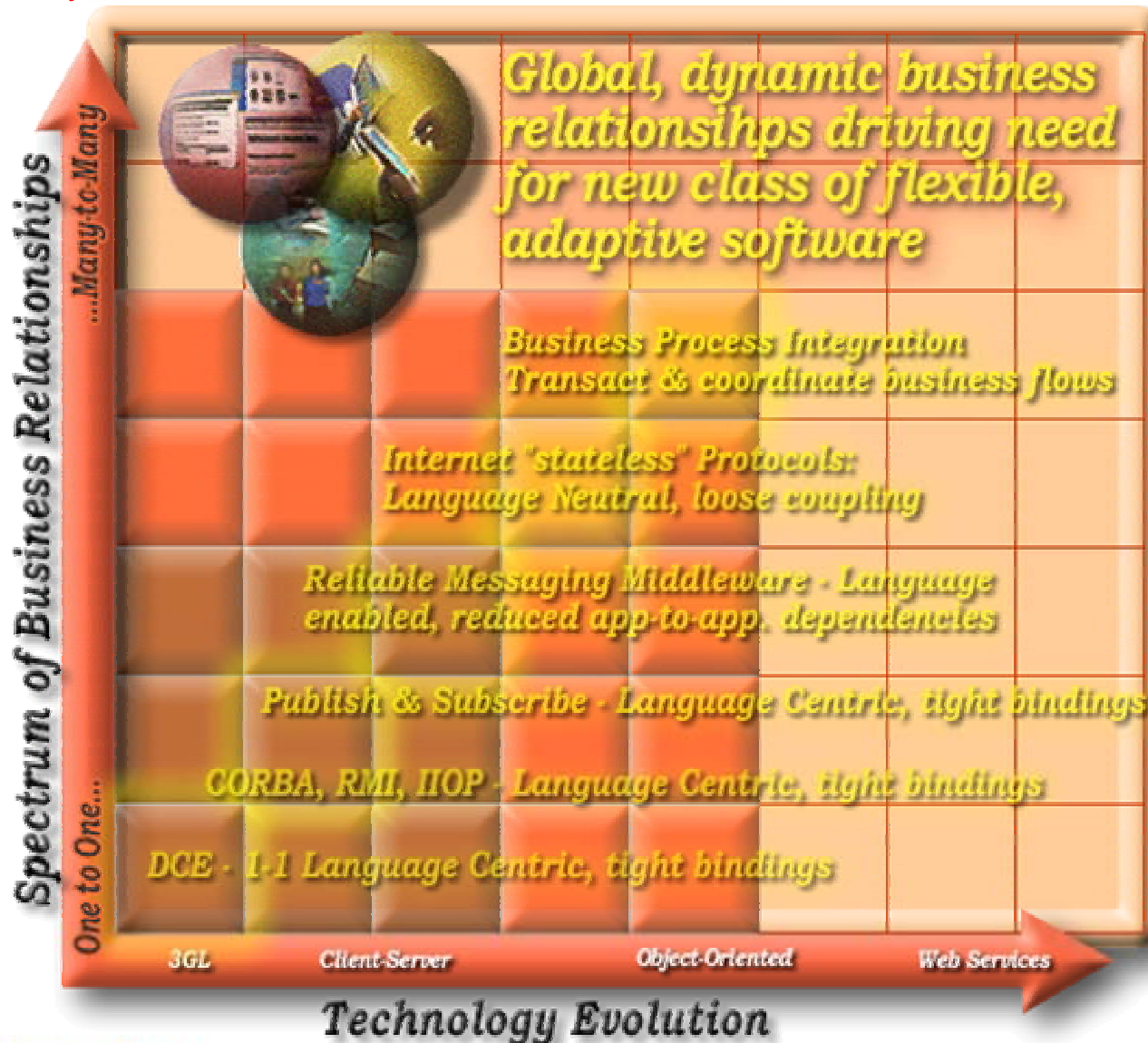
why is IBM investing?

The Challenge!

Empower the next generation of software assemblers by…

…creating "Ready to Assemble" middleware

…then season with reliability & scalability ingredients!

IBM Software Group

what's the impact to software design?

Software Globalization

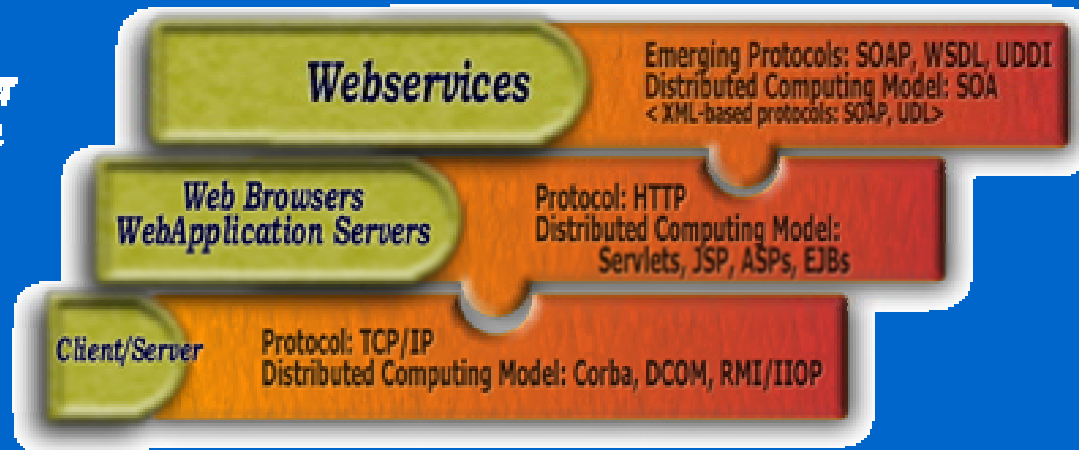# why the optimism ?

Every new widely adopted protocol layer ushers in a paradigm shift in distributed computing...

...and every major shift in computing architectures accelerates e-business growth

Webservices — Emerging Protocols: SOAP, WSDL, UDDI — Distributed Computing Model: SOA — < XML-based protocols: SOAP, UDL>

Web Browsers WebApplication Servers — Protocol: HTTP — Distributed Computing Model: Servlets, JSP, ASPs, EJBs

Client/Server — Protocol: TCP/IP — Distributed Computing Model: Corba, DCOM, RMI/IIOP

Ubiquitous Protocols Drive Change

Webservices protocol adoption will drive a similar large scale change

all this requires standards…and

Service Oriented Architecture

- SOAP submitted to the W3C in April, 2000, by 11 companies.

- WSDL submitted to the W3C in January, 2001, by 25 companies.

- W3C Web Services Workshop in April, 2001, attended by over 70 people.

- WS-I.org launched by 55 companies, 125 now members.

- UDDI.org membership topped 300 companies.

- WS-Security submitted to OASIS by 18 companies, now over 50 companies involved.

OASIS

W3C WORLD WIDE WEB *consortium*.

WS►I
WEB SERVICES
INTEROPERABILITY
ORGANIZATION

uddi.org

cultural change towards Standards

Timely, Reliable, Sophisticated, Technologies

SOAP

Linux

Huge Talent Pool

WSDL

Globus

Driving Innovation

Developing Standards

commitment to interoperability
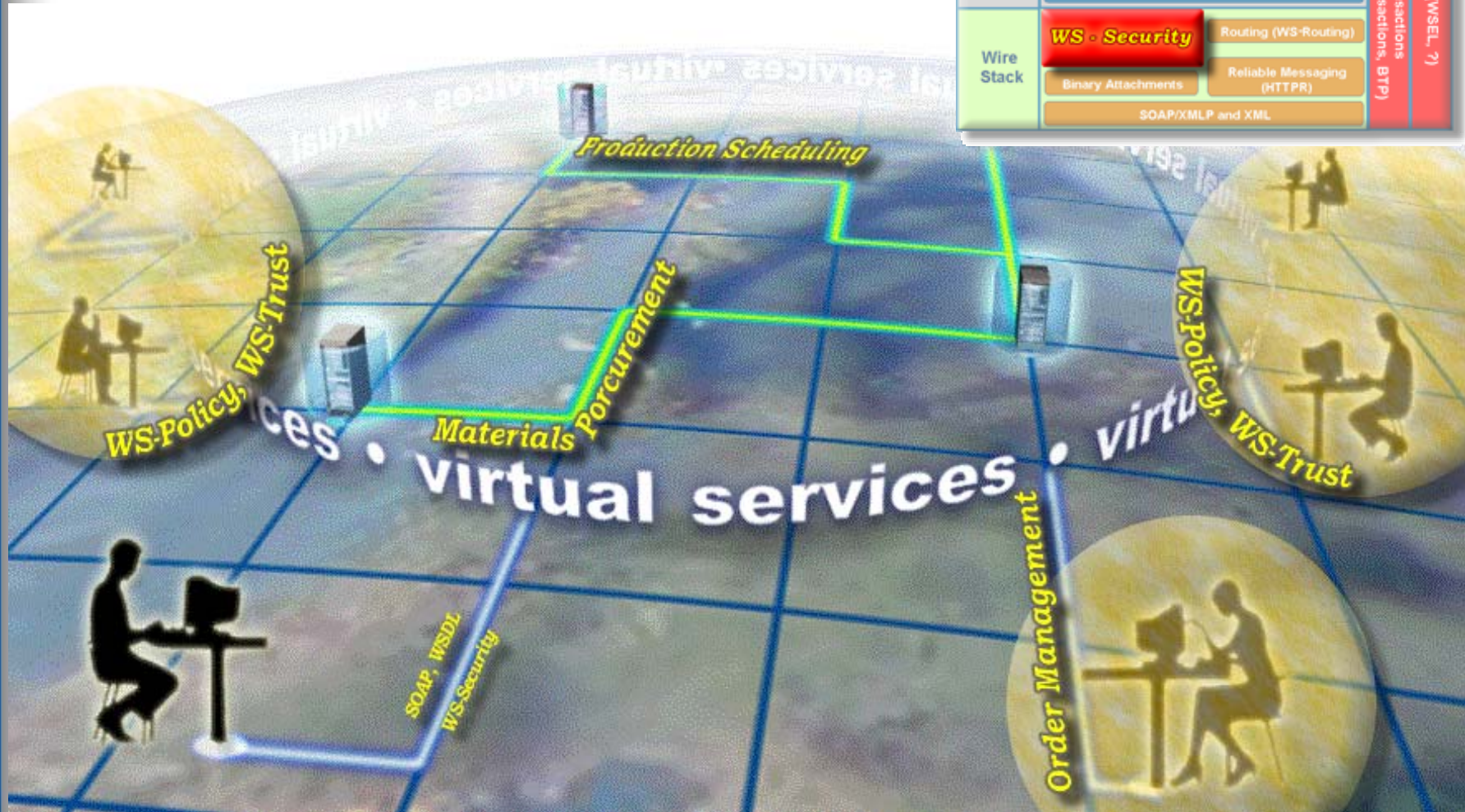
Service Oriented Architecture

- WS-I.org, the *Web Services Interoperability Organization,* is providing clarity and guidance for

  - CIOs, CTOs and others making investment decisions who need to understand when tools, runtimes, and Web services themselves are compatible.

  - developers who wish to build Web services that use the underlying standards correctly and according to industry conventions

- While Web services standards and technologies enable interoperability, they do not guarantee it.

- The WS-I deliverables are profiles, common or best practices, scenarios, testing software, and testing materials.

- Since its launch in February, more than 120 companies have joined WS-I

WS►I

WEB SERVICES
INTEROPERABILITY
ORGANIZATION

why is security so important?

what new business opportunities?

Network-Delivered Applications

Business Process Outsourcing

"Intelligent" Services Middleware

Hosting/ Bandwidth

Storage Utility Services

e-commerce and B2B Transaction Services

new company opportunities

Next Generation Business Applications

Audience: Business Development
- "Realtime" Business Dashboards
- "Visual" Busines Process Modeling
- User-rich Collaborative Process Experiences
- Business "Grids" - outgrowth of GGF-OGSA

Web Services Composition

Audience: Architects & Developers
- Discovery, Assemble, Deploy
- Transform/Repurpose Existing Assets
- Create New & Publish
- Process Flow Composition

Web Services Execution Components

Platform Neutral Services
- Transactions & Reliable Messaging
- Security, Encryption & Authentication
- Provisioning [Metering, Manage, Audit]
- Process Coordination Engines
- UDDI (private)

iSpheres™
real-time decision management

Corporate Oxygen

TALKING BLOCKS™

GRAND CENTRAL COMMUNICATIONS™

INFRAVIO

how is IBM contributing?

Service Oriented Architecture

summary: the big change

IT in a "Post-Technology" World

it's about:
- globalization
- business flexibility
- agile, dynamic business collaborations
- on-demand computing: anywhere, anytime

On Demand Computing
Mass Adoption

Network Computing
The Internet

Client/Server
PC's/LAN's

Mainframes
"The Glass House"

IBM Software Group

get started today

- Review the recommendations in today's presentations and the Giga Planning Assumption document – http://www.ibm.com/websphere/wstelecon

- IBM Customer References – http://www.ibm.com/software/success (select "Web services")

- Fusion, an interactive tool – http://www-1.ibm.com/services/bis/fusion_down.html

- IBM jStart Program – http://www.ibm.com/software/jstart/

- Web services by IBM – http://www.ibm.com/webservices

- Web services Zone on IBM DeveloperWorks – http://www.ibm.com/developer