STOP
FOLLOWING.
START
LEADING.

Taking Charge of Change

31st January 2008

Smart Objects

- Computing not just from computers

- 2001: 60 million transistors per human

- 2010: One billion transistors per human
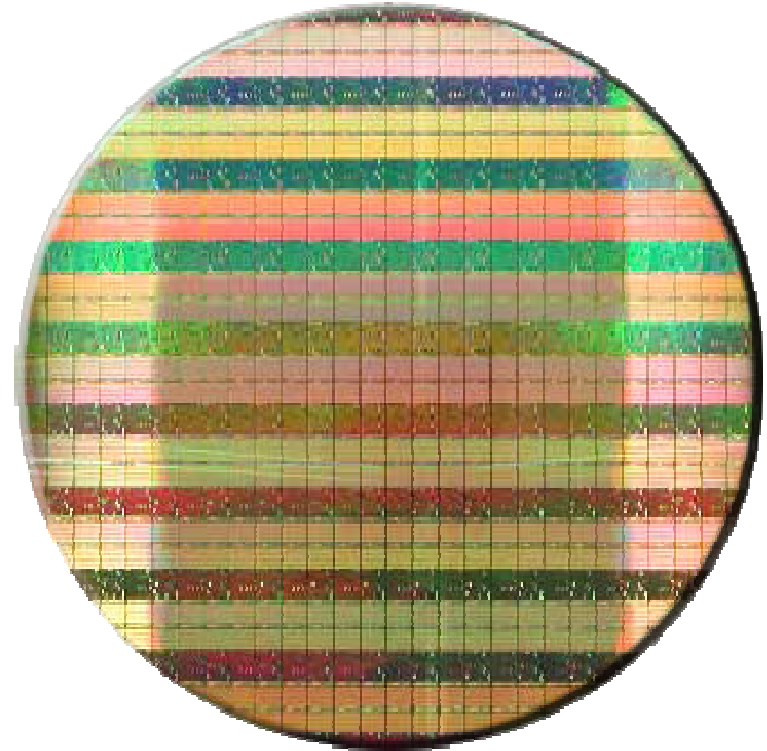
Source: IBM Global Technology Outlook, 2005

Communication / Collaboration
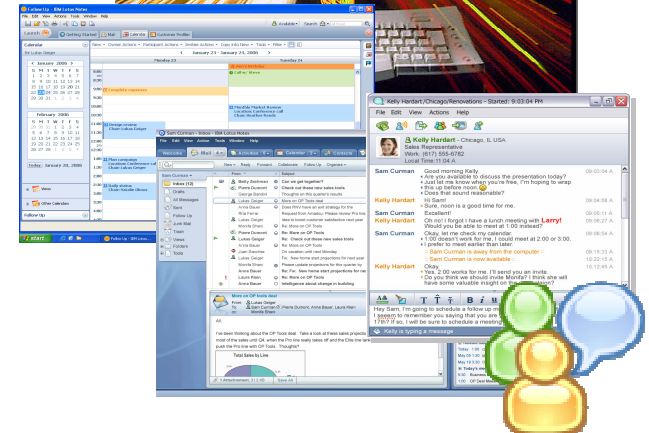
Internet Usage

1996:   48 million users

2006:   1.1 billion users

2010:   1.6 billion users (est.)

e-mail Mailboxes

1998: 253 million (1 trillion e-mails)

2006:   1.6 billion (22 trillion e-mails)

2010:   2.0 billion (est.)

Corporate Instant Messaging

2002:   41 million users

2010: 250 million users (est.)
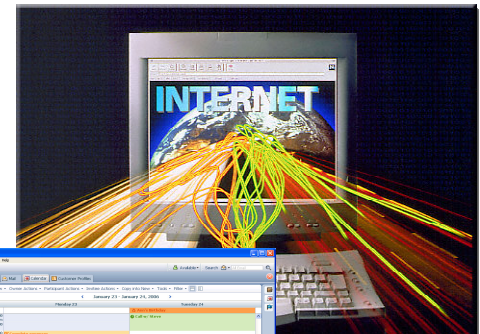
In 2006, e-mail traffic from one person to another –   i.e., excluding spam – accounted for __6 exabytes (or 3%) of the digital universe__

Source: IDC, 2007; IBM

The Digital Universe
Information Created, Captured and Replicated

**6-Fold Growth
in Four Years**

**2006
161 Exabytes**

**2010
988 Exabytes**

About ***25% of the digital universe is original*** (pictures recorded, keystrokes in an e-mail, phone calls etc.), while ***75% is replicated*** e-mails forwarded, backed up transaction records, etc.)

Source: IDC, 2007

IBM **TAKING CHARGE OF CHANGE**

How We Deal With All This Content

Information workers spend (hours per week):

- 14.5 hours reading and answering e-mail

- 13.3 hours creating documents

- 9.6 hours searching for information

- 9.5 hours analyzing information

An organization employing 1,000 knowledge workers *loses $5.7 million* annually just in time wasted having to reformat information as they move between applications

Not finding the information costs the same organization *an additional $5.3 million per year*

The Virtual Workplace

58% of IT Executives consider their company to be a virtual workplace

90% of employees work in locations other than headquarters

Between *60% and 70%* of employees work in different locations from their managers

The number of virtual workers has increased by *800%* over the past five years

Source: Nemertes Research, Inc.

IBM's CEO Study

750 CEOs cited ***collaborative innovation*** as the most important competitive advantage they must cultivate

IBM 2010 CIO Outlook

Priorities:
1. Employee driven integration
2. Global collaborative innovation
3. Aggressive pursuit of simplicity and hosting

Digital Collaboration Infrastructure

SOA Connects People, Processes, and Information

People

- Business Users
- Executives
- IT Staff
- Developers
- Data Analysts

Business Applications

Portals

Composite Applications

Workflows

SOA

Business Processes

Information Services

Application Adapters

Data & Content
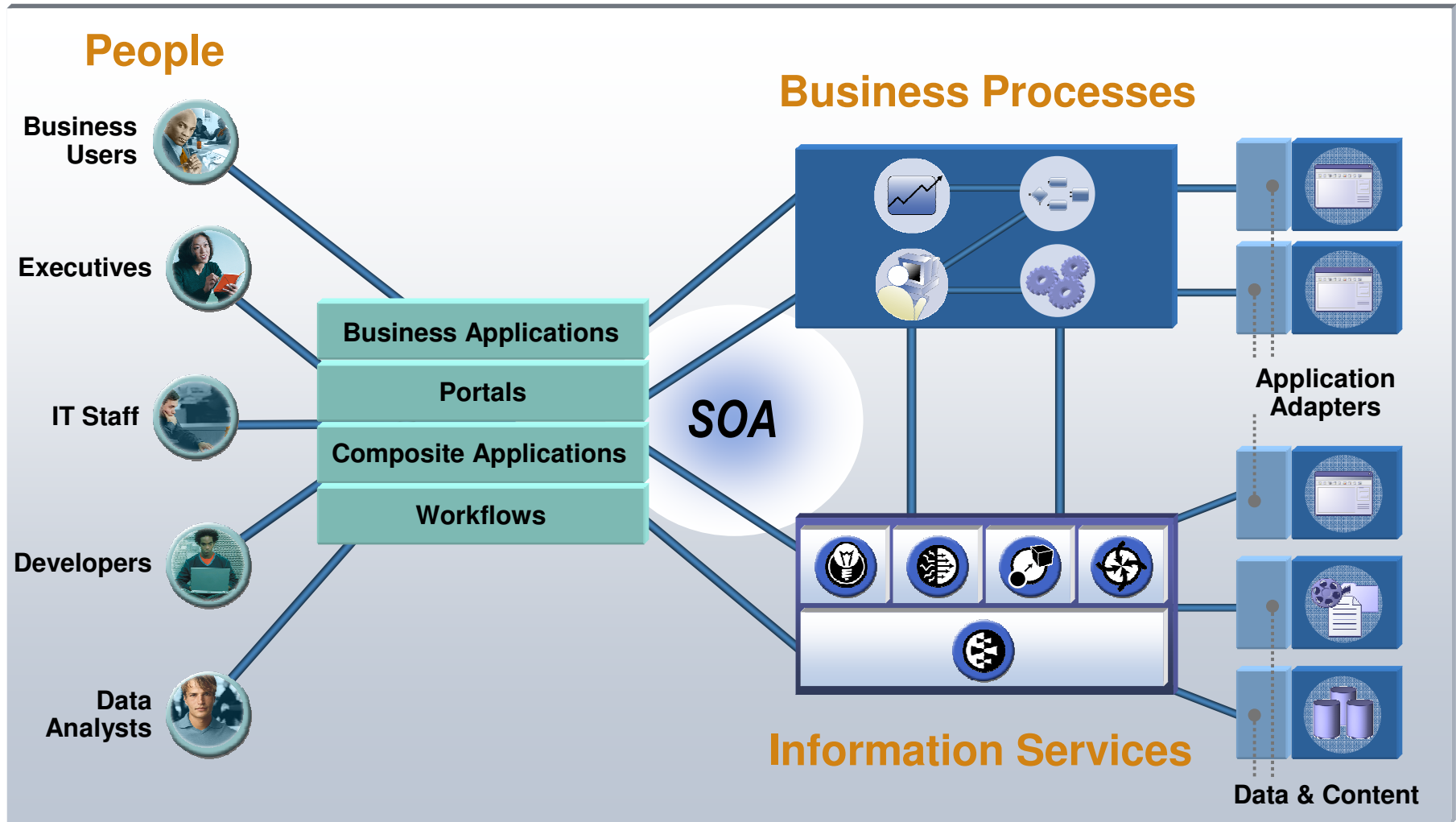
Service Oriented Architecture Changes the Game

SOA allows you

to create a set of related and integrated "services" -- i.e., repeatable business tasks -- that support a business process."
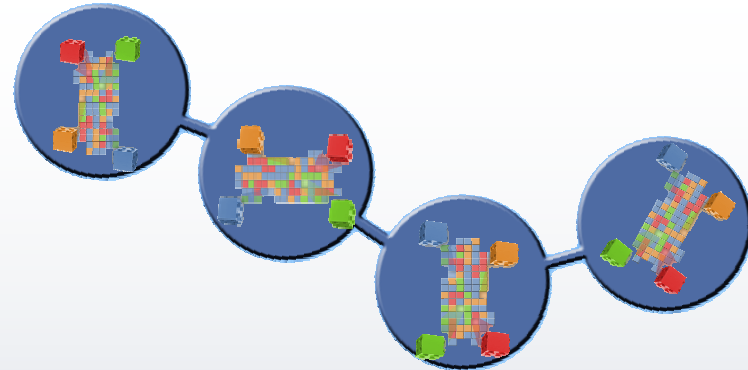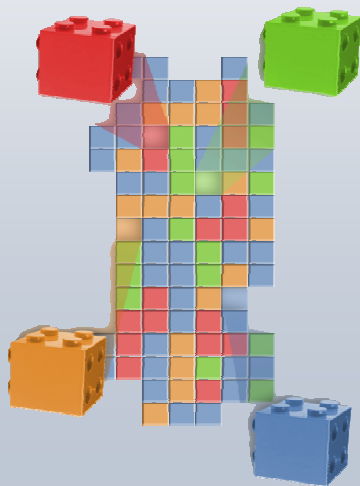
SOA is at the core of Business Process Management

SOA improves how you
Design, Manage, and Optimize your business processes by enabling:

- Solution Building Efficiency
- Reuse of existing assets
- Flexibility in change

Standard Life Insurance (UK)
Improved Distribution Channel

SOA Solution

- Exposed and deployed business services for reuse by business partners with a service oriented architecture approach to make internal systems directly available to distribution channels

Business Benefits

- Simplified process of doing business with multiple channels
- *Reuse of 51% of services*, resulting in *savings of over £3 million* in development costs
- *Increased transaction rate by 900%* without increasing operations staff
- Improved responsiveness to market change and customer needs
- Improved quality & manageability of business applications

Travelex (UK)
Business Service Reuse

SOA Solution

- Travelex consolidated its disparate foreign exchange systems onto an open, SOA integration platform, eliminating the need for point-to-point integration; a standardized application development environment enables Travelex to reuse existing software components

Business Benefits

- *85% reduction in time required* for customer processing of foreign exchange transactions
- Administrative and application *support costs reduced by 20%*
- Employing reusable software components decreased application development costs and *reduced cycle time by 30%*
- Easy integration with partners

Robust Capabilities Connected in an Open, Flexible Manner

IBM's SOA Reference Architecture

Development Services

Management Services

Business Services

Interaction Services	Process Services	Information Services

ESB

Partner Services	Business App Services	Access Services

Infrastructure Services
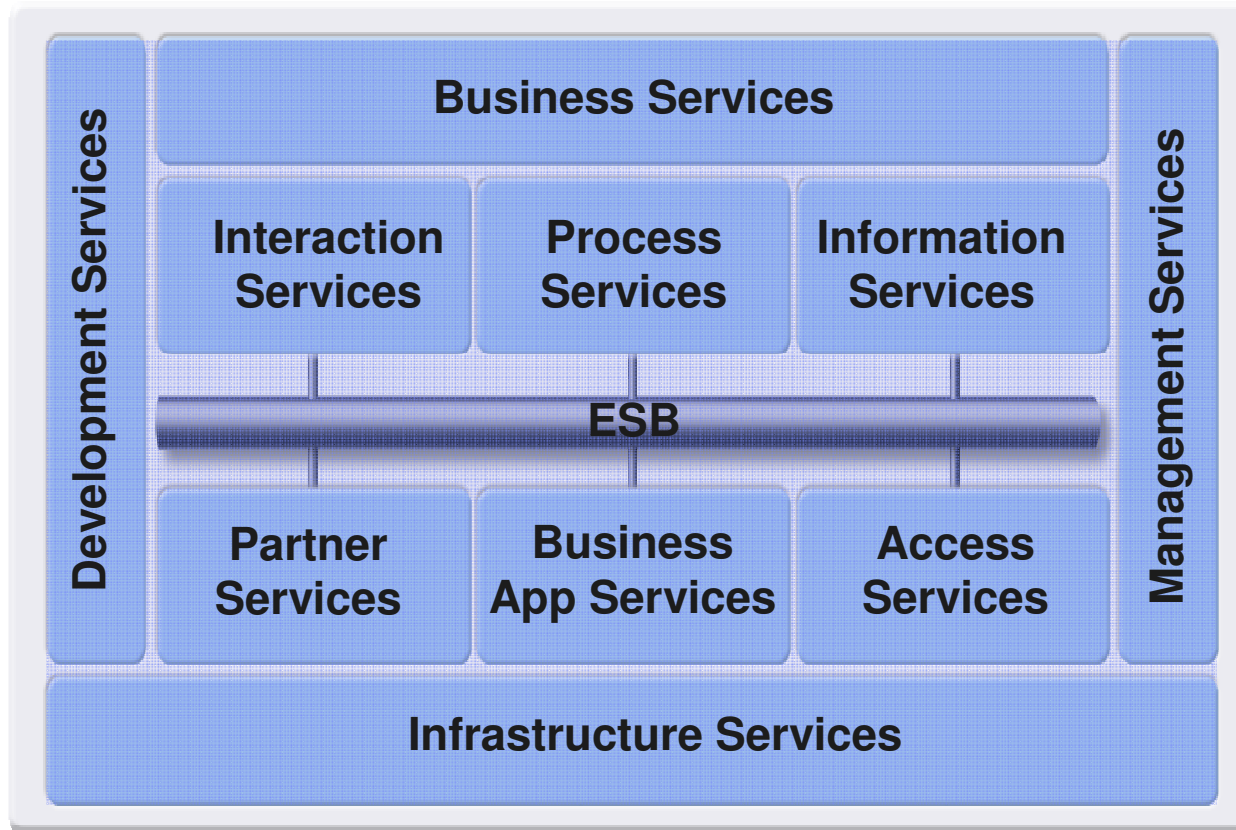
Modular product portfolio built on open standards

Functionally rich, adopted incrementally

Simple to develop, deploy and manage

Integrated role-based tools for development & administration

…delivering
the value of SOA, today

IBM's SOA Reference Architecture

Rational Tools

WebSphere Business Modeler

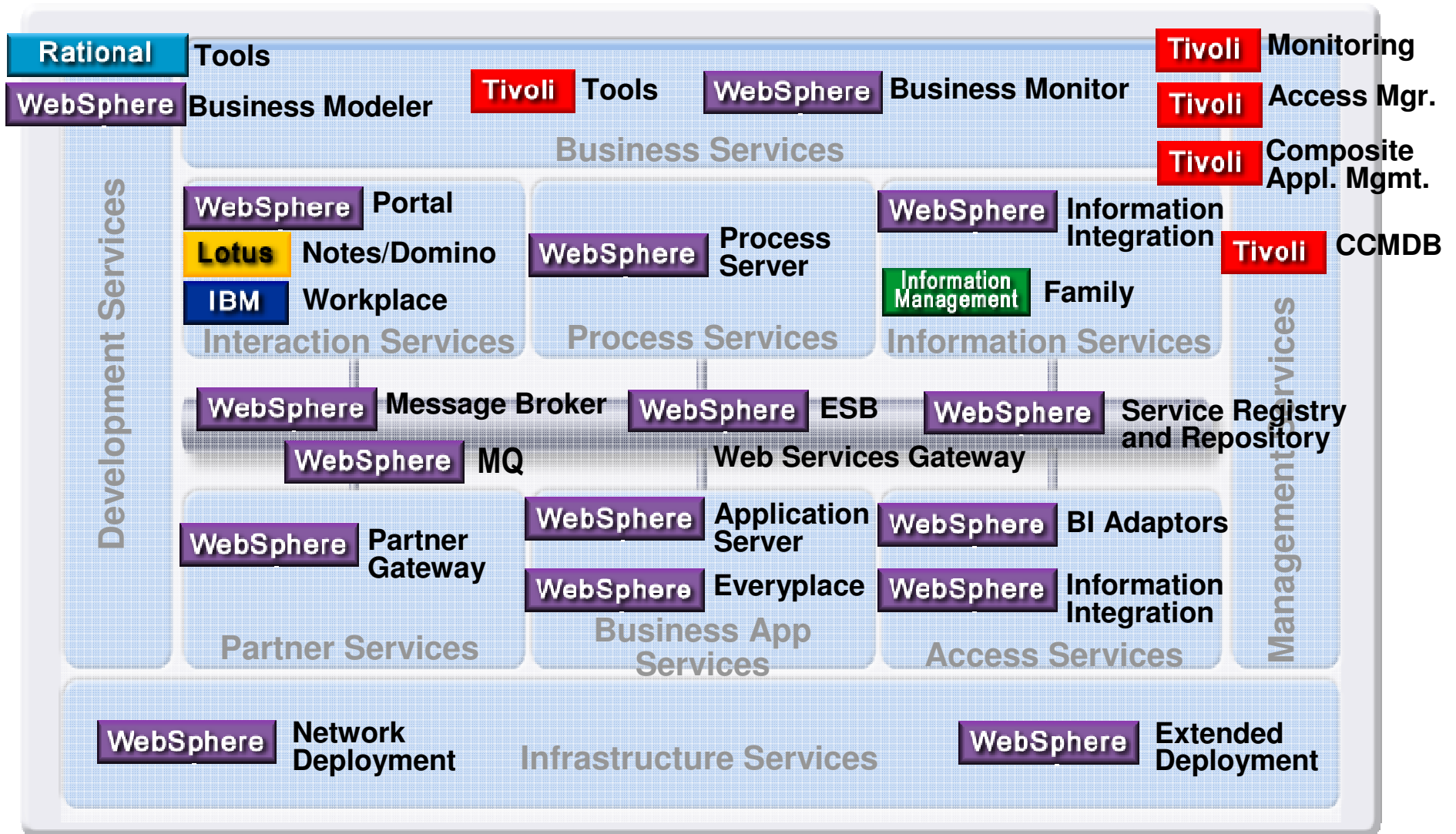**Tivoli** Tools

WebSphere Business Monitor

Tivoli Monitoring

Tivoli Access Mgr.

Tivoli Composite Appl. Mgmt.

Development Services

Business Services

WebSphere Portal

Lotus Notes/Domino

IBM Workplace

Interaction Services

WebSphere Process Server

Process Services

WebSphere Information Integration

Information Management Family

Tivoli CCMDB

Information Services

WebSphere Message Broker

WebSphere MQ

WebSphere ESB

Web Services Gateway

WebSphere Service Registry and Repository

WebSphere Partner Gateway

Partner Services

WebSphere Application Server

WebSphere Everyplace

Business App Services

WebSphere BI Adaptors

WebSphere Information Integration

Access Services

Management Services

WebSphere Network Deployment

Infrastructure Services

WebSphere Extended Deployment

Information Management Evolution

Disconnected Silos of Information

Dynamically Deliver Master Information

People, Processes, Applications

Rich Standards, Flexible Architecture

Integrated Information Platform

Repositories, Applications
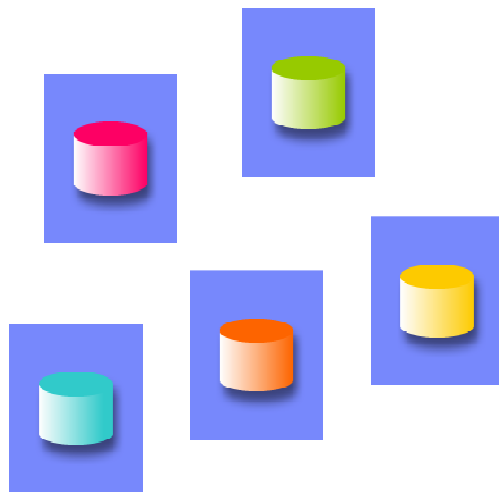
70% of people's time can be spent finding relevant information
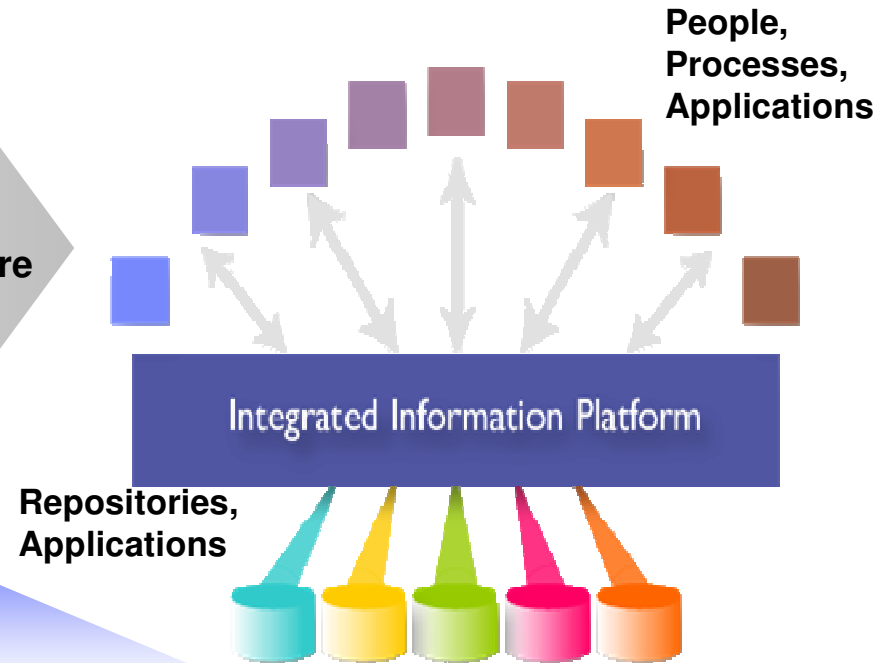
60%+ of CEOs say they need to do a better job leveraging information

5X more value creation by organizations effective at using information
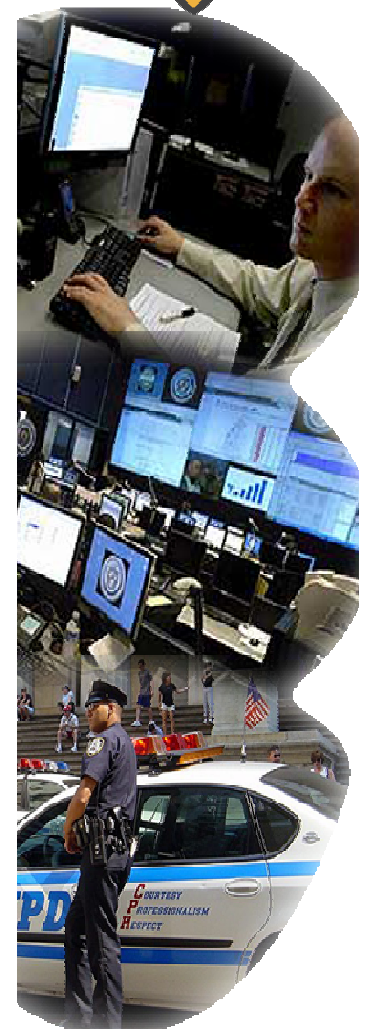
New York City Police Department
Transforming the Use of Information

Solution

- Created real-time Crime Information Warehouse providing a single, easy-to-use point of access integrating data from multiple siloed crime data systems
- Use of business intelligence software, along with GIS mapping and visualization tools, provides ability to detect crime patterns as they are forming
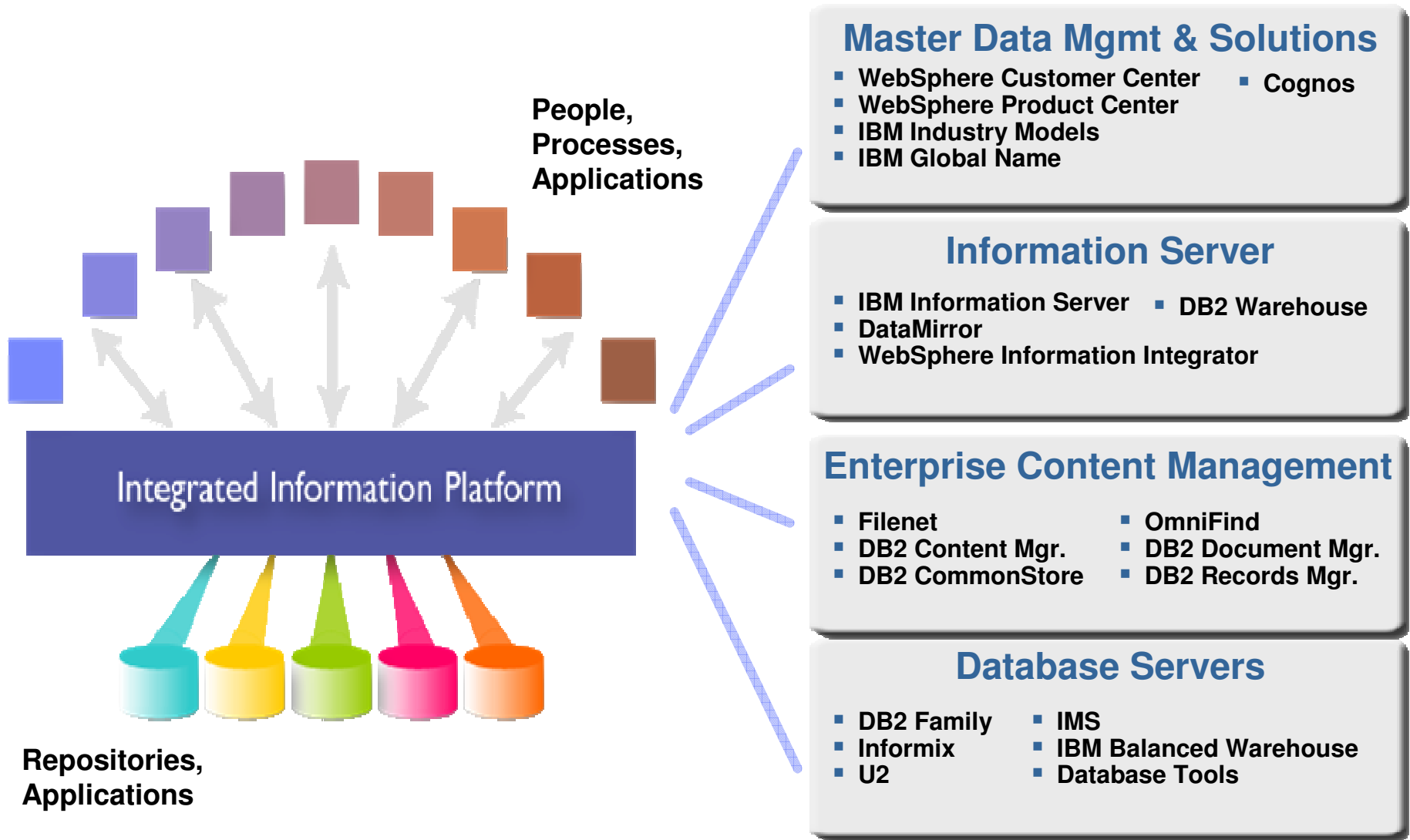
Benefits

- Support for more proactive policing tactics by virtue of an ability to see crime trends as they are happening
- Faster and higher rate of case closing through more efficient gathering and analysis of crime-related data
- Reports that could take weeks or months are now available instantly

IBM

TAKING CHARGE OF CHANGE

IBM's Information Management Portfolio

People, Processes, Applications

Integrated Information Platform

Repositories, Applications

Master Data Mgmt & Solutions

- WebSphere Customer Center
- WebSphere Product Center
- IBM Industry Models
- IBM Global Name

- Cognos

Information Server

- IBM Information Server
- DataMirror
- WebSphere Information Integrator

- DB2 Warehouse

Enterprise Content Management

- Filenet
- DB2 Content Mgr.
- DB2 CommonStore

- OmniFind
- DB2 Document Mgr.
- DB2 Records Mgr.

Database Servers

- DB2 Family
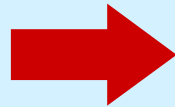- Informix
- U2

- IMS
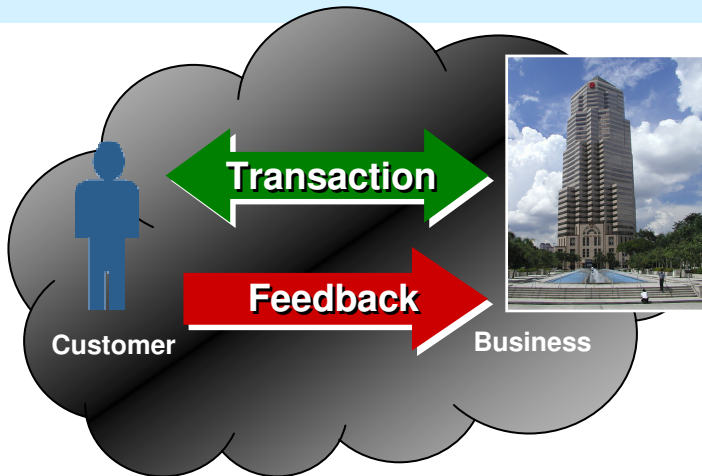- IBM Balanced Warehouse
- Database Tools

TAKING CHARGE OF CHANGE
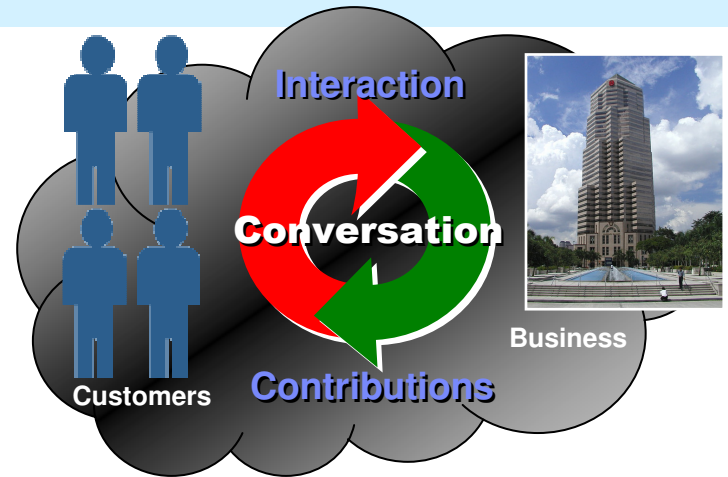
The Evolving Web Platform

Web 1.0 was about _**connecting computers**_ and making technology more efficient for computers. ➡ **Web 2.0** is about _**connecting people**_, and making technology efficient for people.

Transaction

Feedback

Customer

Business

Web 2.0 changes the way in which businesses interact with its customers

Interaction

Conversation
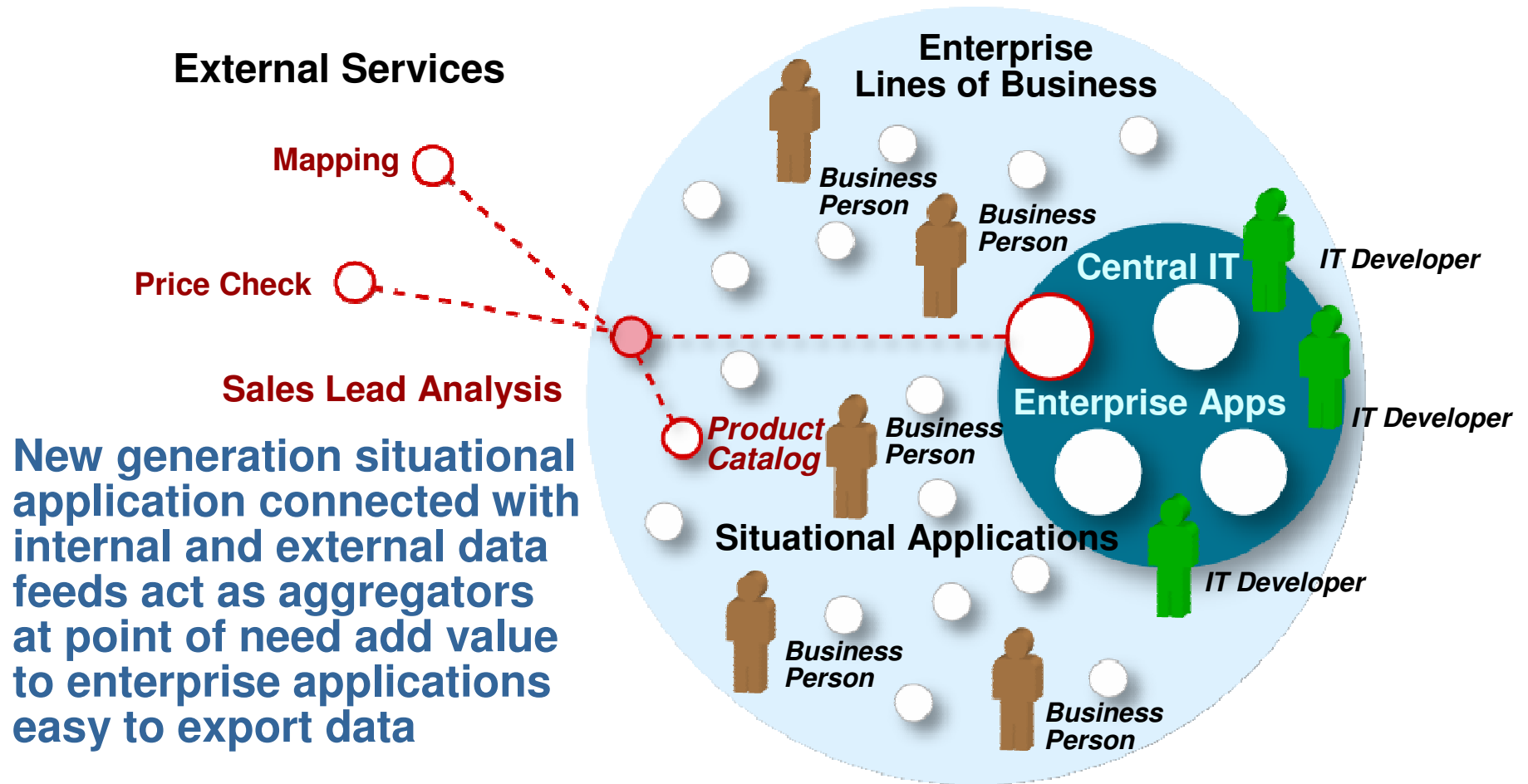
Contributions

Customers

Business

Web 2.0:

- Is about communities and social networks
- Builds contextual relationships and facilitates knowledge sharing
- Is about people and the way they collaborate

myspace.com — a place for friends

flickr GAMMA

amazon.com

BitTorrent

Google

ebaY

"Composite" Applications

External Services

Mapping ○

Price Check ○

Sales Lead Analysis

New generation situational application connected with internal and external data feeds act as aggregators at point of need add value to enterprise applications easy to export data

Enterprise Lines of Business

Business Person

Business Person

Central IT

IT Developer

IT Developer

Enterprise Apps

Product Catalog

Business Person

Situational Applications

IT Developer

Business Person

Business Person

In the future, applications, data and collaboration tools will "mash up" into composite applications

Greater *Transparency* Through Data Mashups

This example is a "mashup" of data from local deed registrars and real estate listings

IBM Social Software for Business – *Lotus Connections*

Lotus Connections is a new social software offering that lets you use the collective knowledge of your organization by dynamically building new connections between people and the information they know while you work on your daily tasks

Connections provides an integrated user experience for five components that are extensible and deliver enterprise-level security and scalability
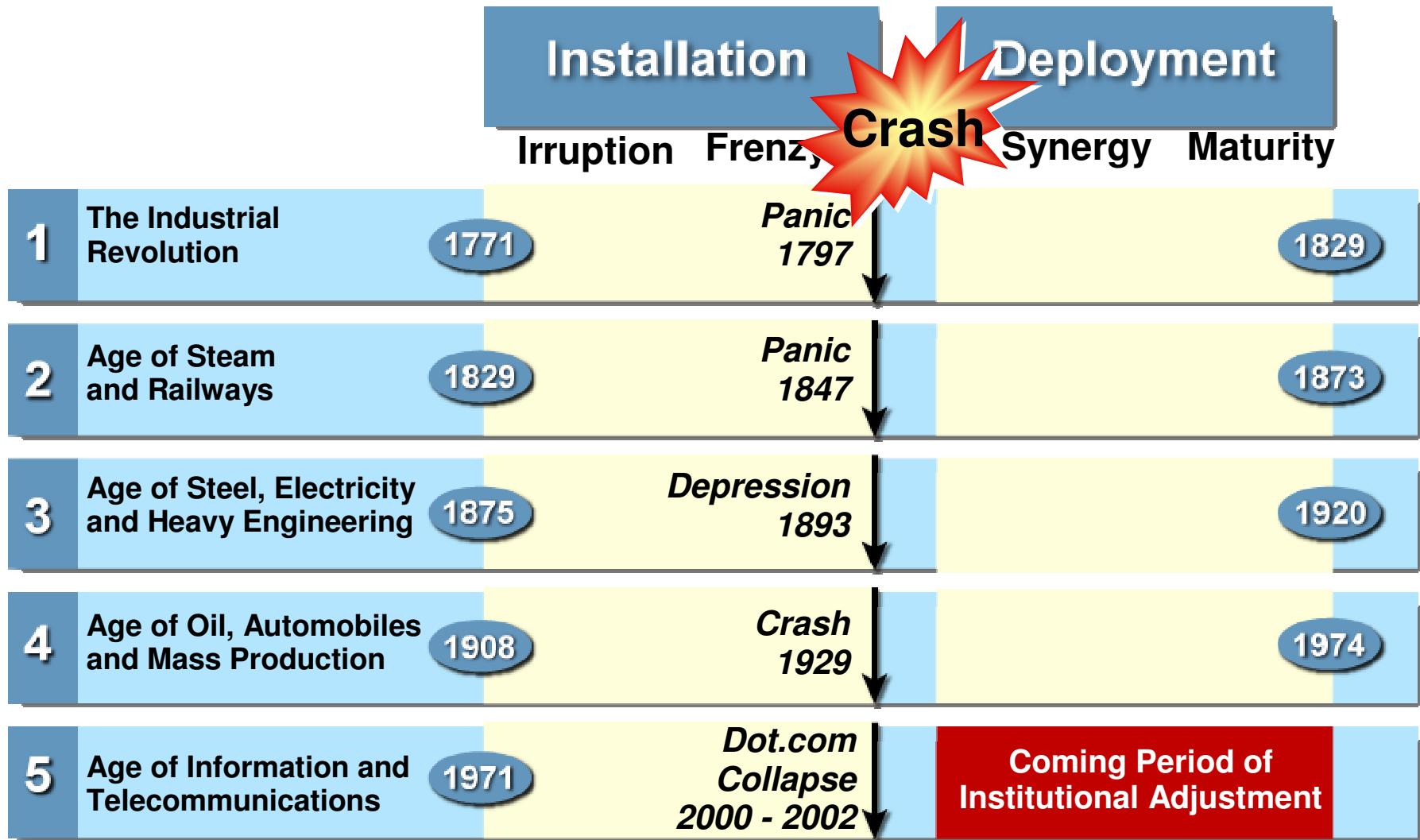
Profiles	Communities	Blogs	Bookmarks	Activities

4 out of 5 of these services are live today, being used internally by IBMers

Five Historical Waves of Economic & Social Transformation

		Installation		Crash	Deployment	
		Irruption	Frenzy		Synergy	Maturity
1	**The Industrial Revolution**	1771	*Panic 1797*			1829
2	**Age of Steam and Railways**	1829	*Panic 1847*			1873
3	**Age of Steel, Electricity and Heavy Engineering**	1875	*Depression 1893*			1920
4	**Age of Oil, Automobiles and Mass Production**	1908	*Crash 1929*			1974
5	**Age of Information and Telecommunications**	1971	*Dot.com Collapse 2000 - 2002*		**Coming Period of Institutional Adjustment**	

Source: "Technological Revolutions and Financial Capital", Carlota Perez, 2002

e-Business 2.0 Marks Onset of Deployment Period

Installation		Crash	Deployment	
Irruption	Frenzy		Synergy	Maturity

5 Age of Information and Telecommunications — **1971** — *Recent Period of Technology Development* — **1998** — **2006** — Coming Period of Institutional Adjustment
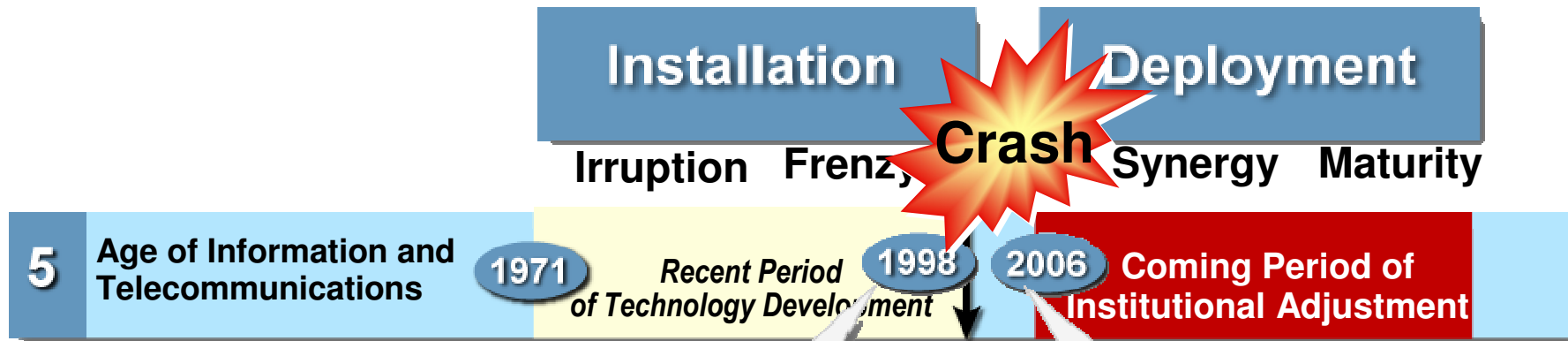
e-Business 1.0 marked end of installation period

- Invention and build-out of Internet
- Widespread broadband connectivity
- Basic e-Commerce
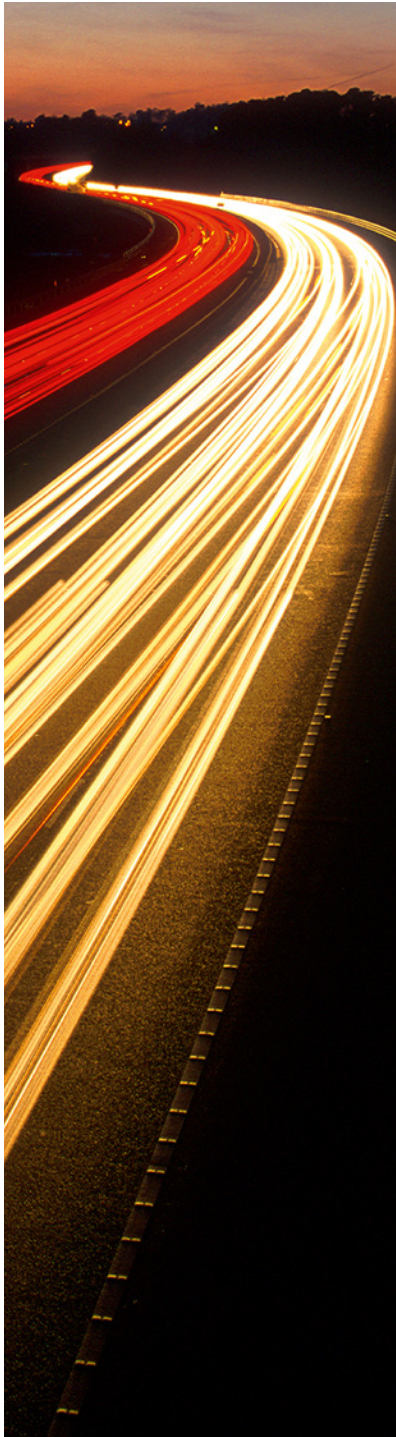- Broad digitization of the enterprise

e-Business 2.0 marks beginning of deployment period

- Broadening use of standards
- Evolving, modular business designs
- Changing nature of process & services
- New focus on information value