



Connected Manufacturing - New Collaboration Paradigm

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Agenda

Evolution of Manufacturing

4 Major Tech Trends Around You

Collaboration in Business



Evolution of Manufacturing



No two MINIs are exactly alike...
Over 10 million possible configurations



Almost \$2B in sales of a zero-inventory product (iTunes) and huge demand created with marketing and industrial design



60,000 people work in P&G Product Supply
from sourcing raw materials to delivering final
product to retail customer partners and consumers



What Do These Companies Have in Common?



Continuous Innovation

Customer Focus

Supply Chain Excellence

COLLABORATION

The Future of Manufacturing



“The supply chain is not going to be about buying things. It will be about managing relationships.”

Source: Supply Chain Management 2010 and Beyond, Michigan State Univ., Nov. 2006

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4 Major Technology Trends Around You

1: Always-on Connectivity Will Make the Internet Integral to People's Lives

By 2017

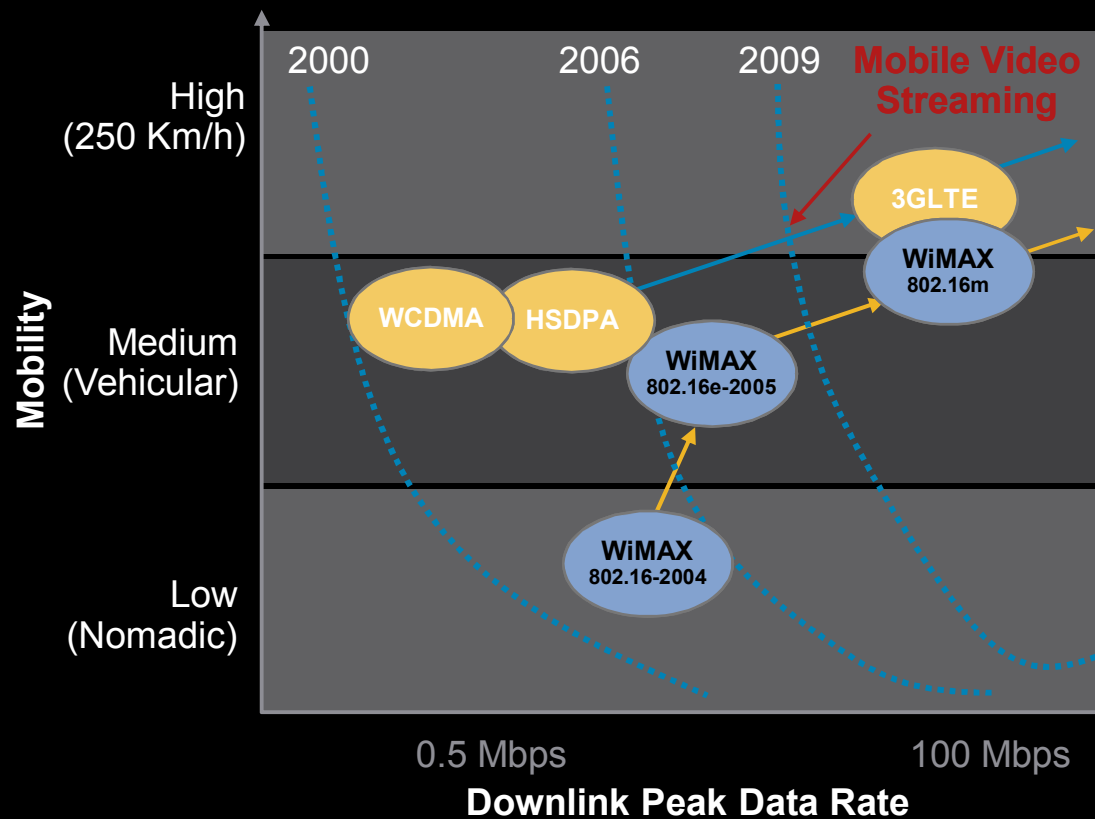
- Blanketed by connectivity 125 times faster than today
- Always-on, highly custom multimedia information available to any device, anywhere
- Billions of devices connected to the Internet will allow things to get done in the background making people's lives easier and more productive



Source: IDC, 2006; Cisco IBSG, 2007

Evidence

High-speed Downlink Packet Access (HSDPA), Long-term Evolution (LTE), and Mobile WiMAX Timeline

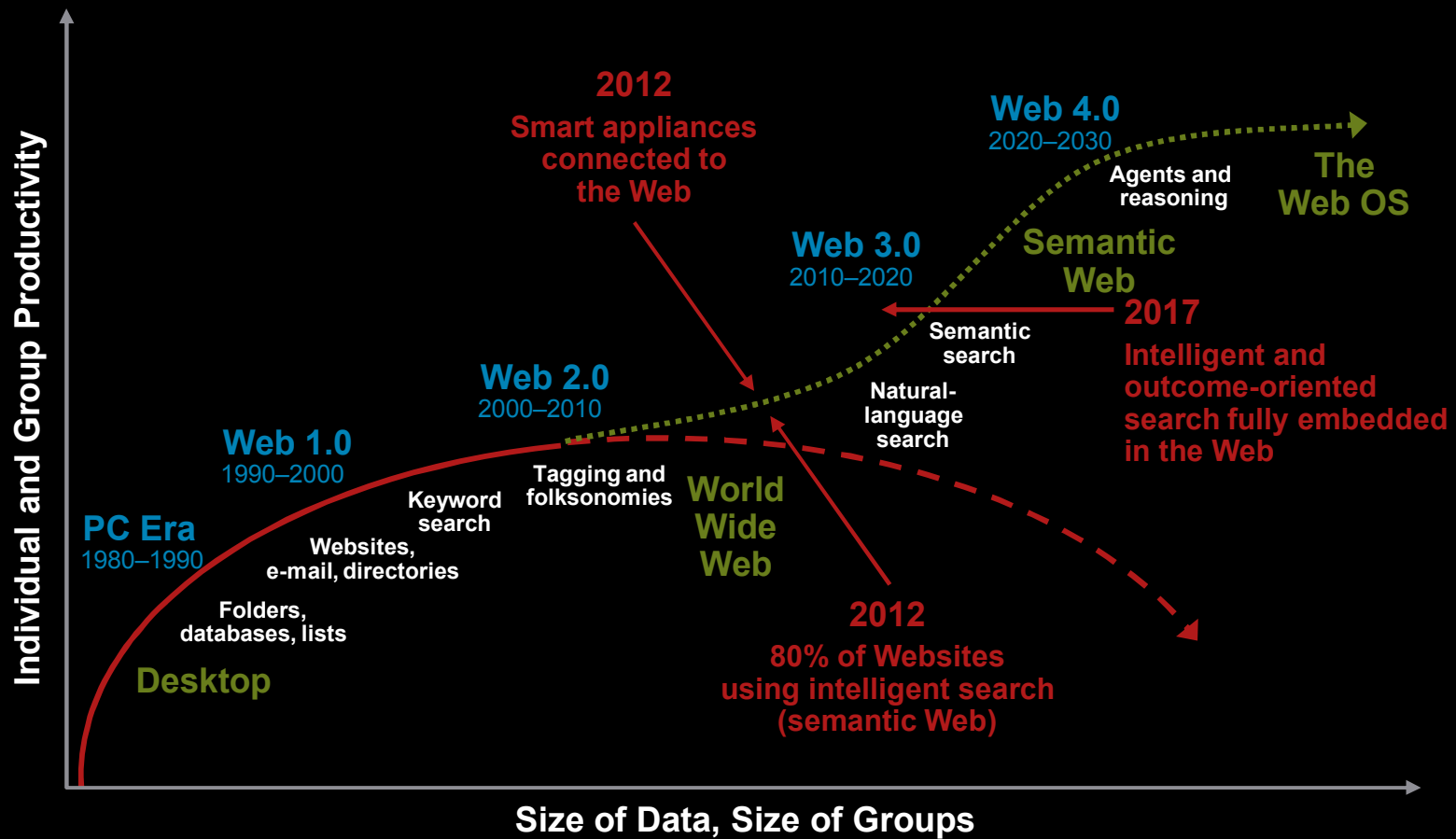


- 100,000 WiMAX subscribers in Western Europe today—by 2012, 5 million subscribers
- Mobile WiMAX will connect 8% of the world's 1.1 billion mobile broadband subscribers by 2012, or 88 million users worldwide
- NTT DoCoMo is testing 100 Mbps for mobile users and 1 Gbps for stationary users—launch in 2010

Sources: IDC, May 2007; Parks Associates, April 2007; Cisco IBSG, 2007

Evidence

The Future of Productivity



Sources: Radar Networks and Nova Spivack, 2007; Cisco IBSG, 2007

3: Richer Interactions Will Engage Customers in More Meaningful Ways

By 2017

- People will interact with objects and machines using voice, gestures, and touch
- New immersive types of interaction such as telepresence, holographics, robotics, artificial intelligence, haptics, and virtual reality will create rich, self-service experiences
- Personalized, intelligent virtual assistants will be a mainstream means to carry out daily tasks

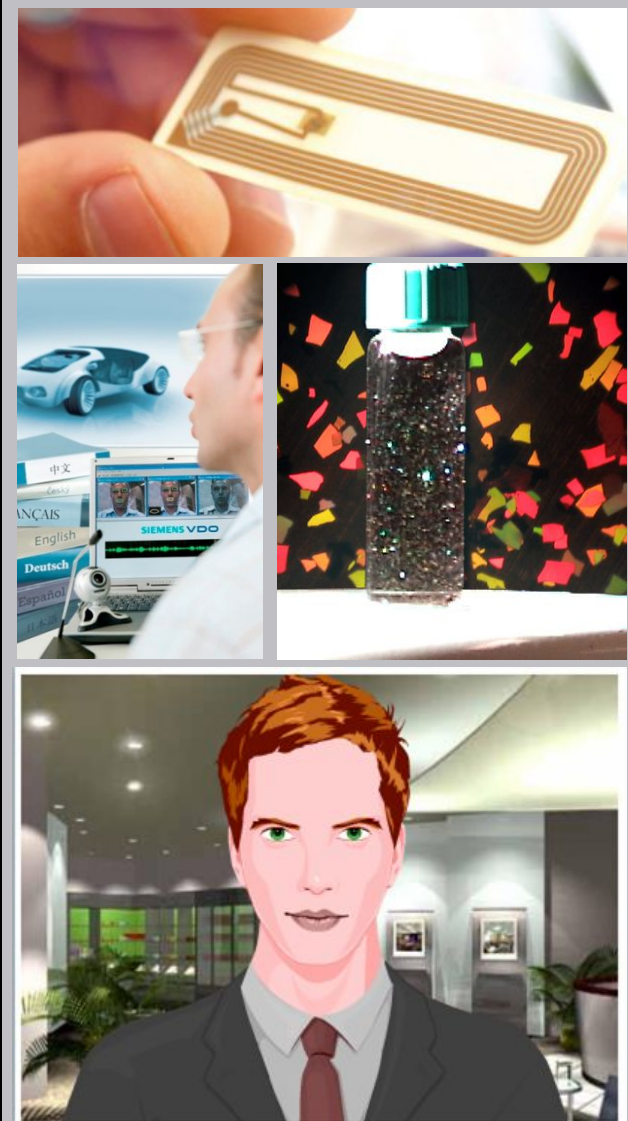


Source: Cisco IBSG, 2007

Evidence

- Annual North American subscription revenue from massively multiplayer online games will reach \$1.5B by 2011
- By 2011, 80% of Internet users and major companies will have avatars (digital replicas of themselves) for online work and play
- Virtual reality technologies will be used by 30% of the public by 2015

Sources: Gartner, 2006; Screen Digest, March 2007; Inter-American Development Bank, June 2007; SecureID News, November 2007; Cisco IBSG, 2007



4: Simple, Intuitive Devices Will Become the Main Way Consumers Interact

By 2017

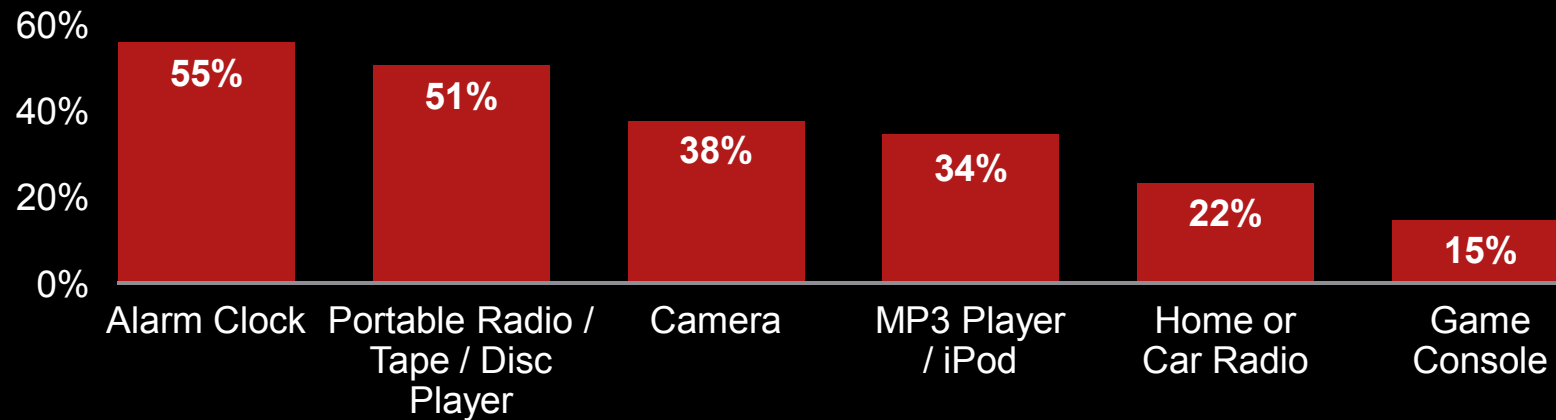
- Customers will shift seamlessly between devices and screens to complete tasks
- Consistent interaction models will allow customers to use new services effortlessly
- The mobile device will be the primary means of interacting with people and information
- Many devices will be wearable
- Mobile computing power will be 50 times greater, and screens will be so cheap, they'll be everywhere

Source: Cisco IBSG, 2007



Evidence

Percentage of people who say they **use stand-alone devices less** as a result of having similar functions on their mobile phone



Source: Ofcom research, July 2007; Cisco IBSG, 2007

To Summarize, you will

- Be always connected to network
- Be more intelligent thanks to social networks and more.
- Have richer interactions with things around you
- Have easier tools to access the information

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Collaboration in Business

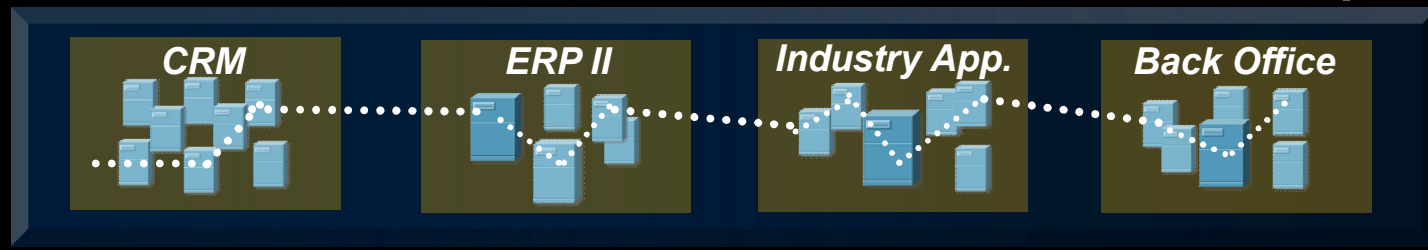


Collaboration: Operational Perspective

The Vision

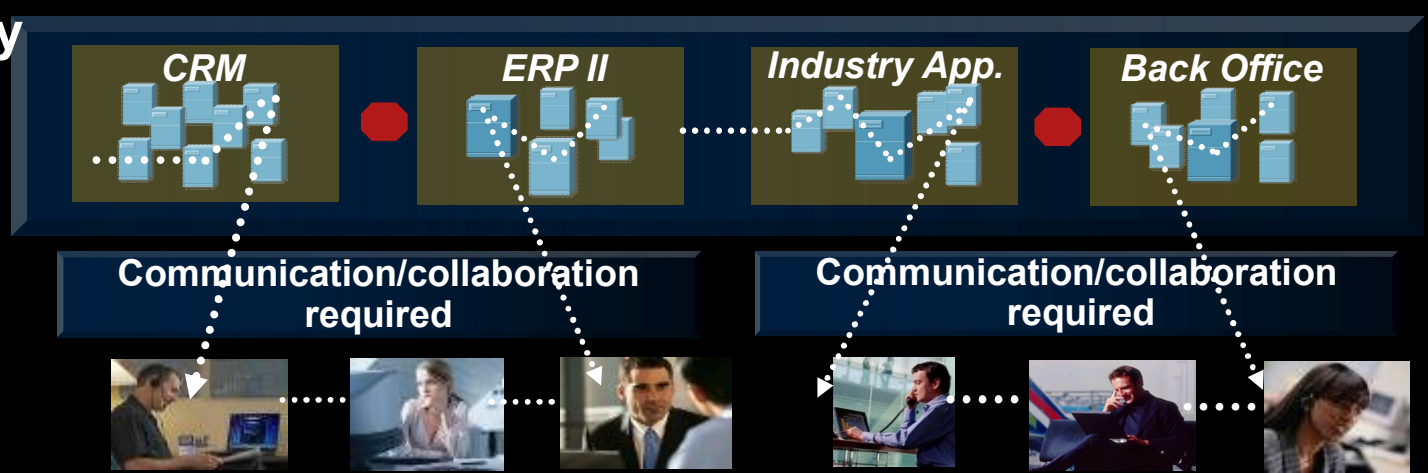
Extended Enterprise

Business Event



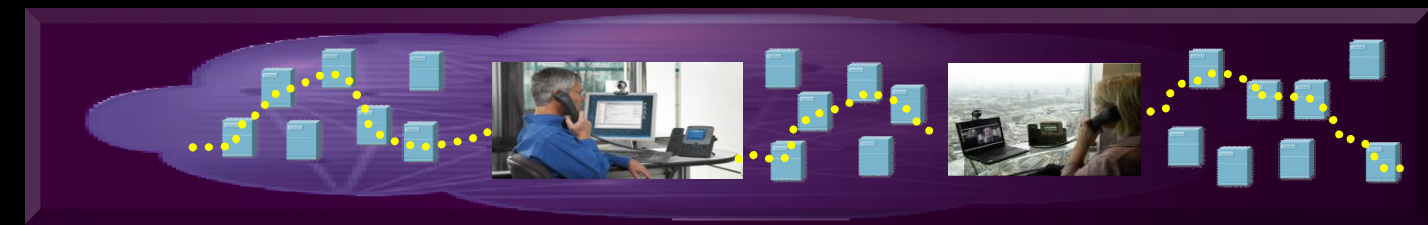
Current Reality

Business Event



Near Term Future – Streamlined Business Processes

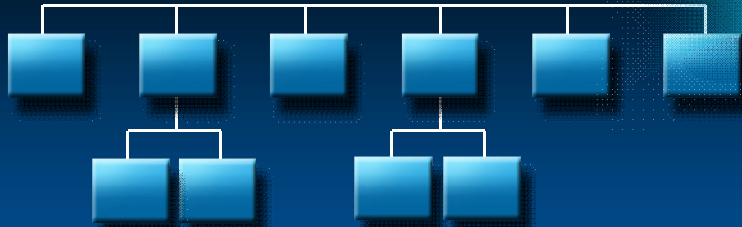
Business Event



Business Model Evolution...

To Be More Creative

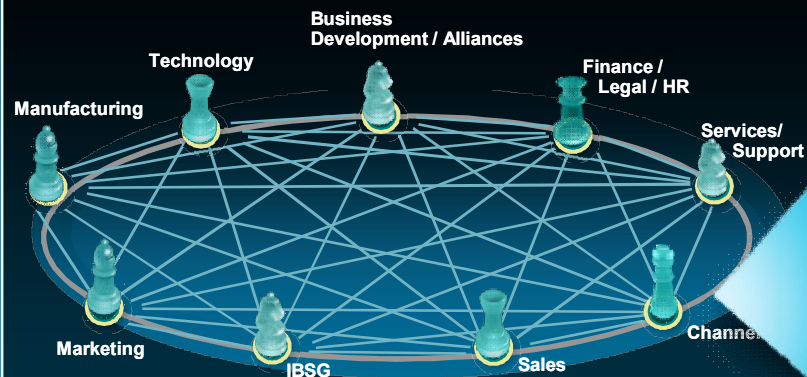
Line of Business



Command and Control

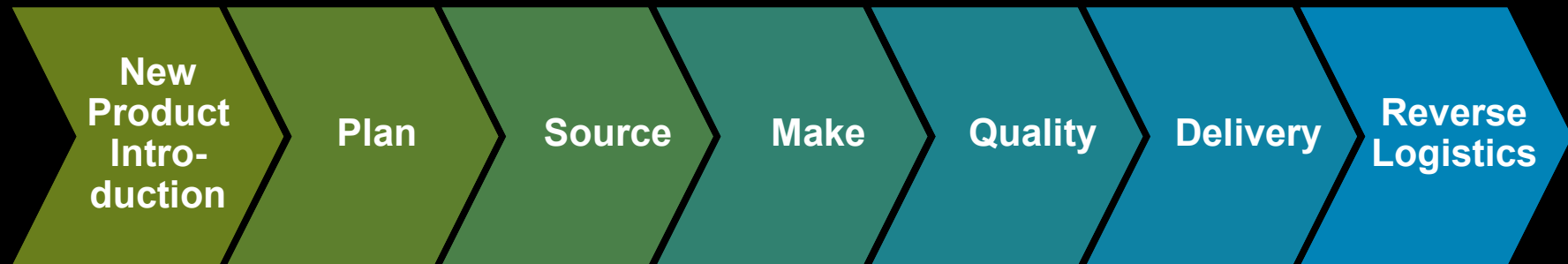


Collaboration and Teamwork



COLLABORATION and TEAMWORK

End-to-End Supply Chain Management



Always Connected

Social Networks

Rich Media Interaction

Easier tools to access

UC and Mobility

Open Innovation

Rich Media Collaboration

Workplace Portal

UC and MOBILITY



OPEN INNOVATION

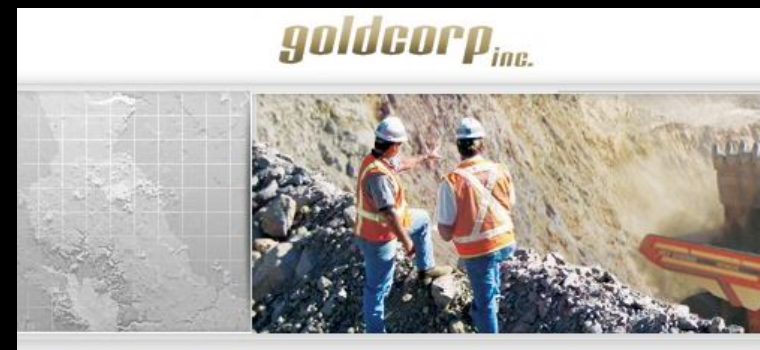
- **“Most of the Smart People in the World DON'T Work for Your Company”**

Bill Joy, Former Chief Scientist of Sun Microsystems

- The IBM Global CEO Study 2006 found that, to drive innovation, many top CEOs are collaborating beyond their organization, indicating that the CEOs are increasingly looking beyond their internal R&D team for ideas and innovation
- Only 17 per cent of the CEOs relying on R&D for innovative ideas, 41 per cent from employees and 38 from customers
- The Failure rates for strategic alliances hover near 50 per cent

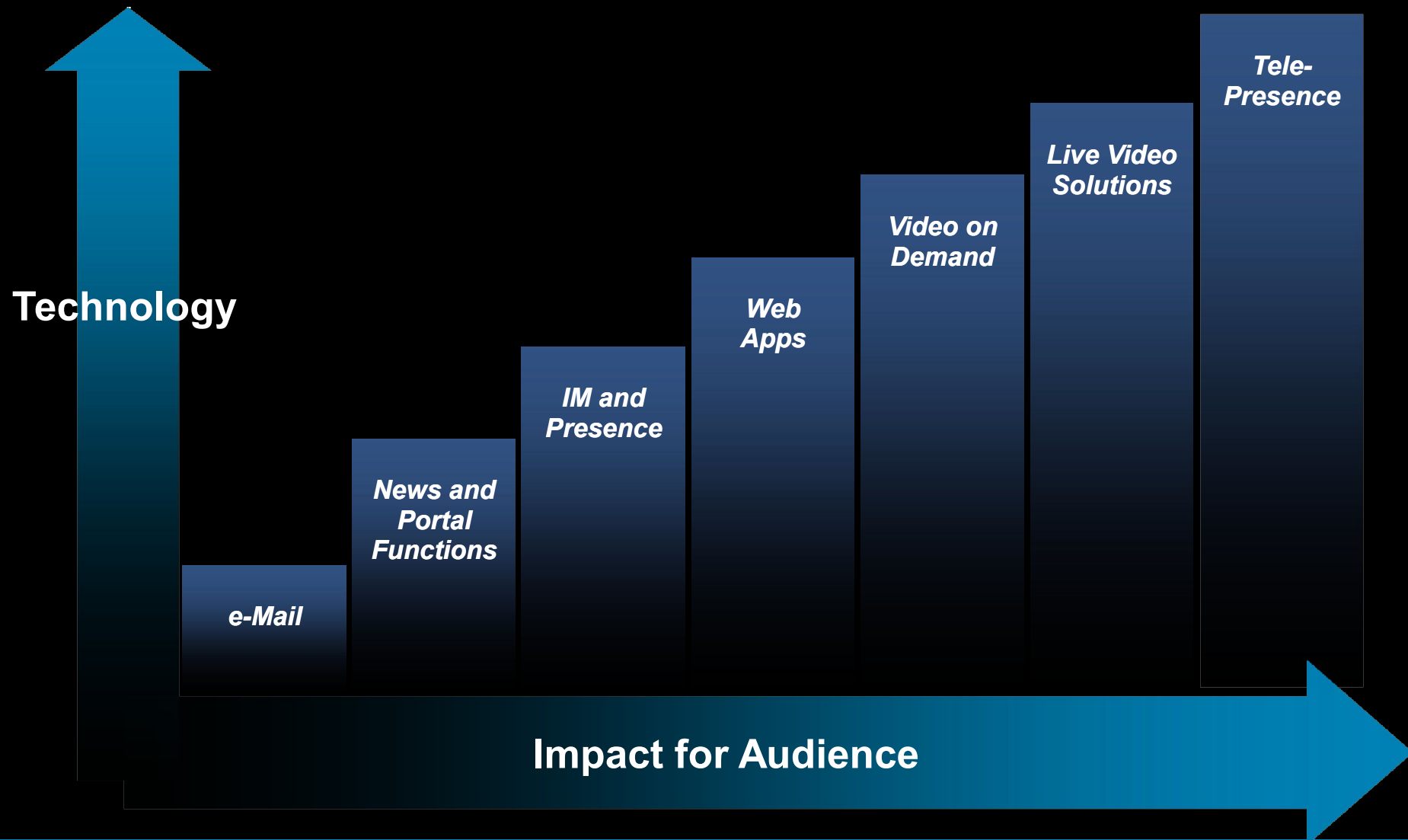


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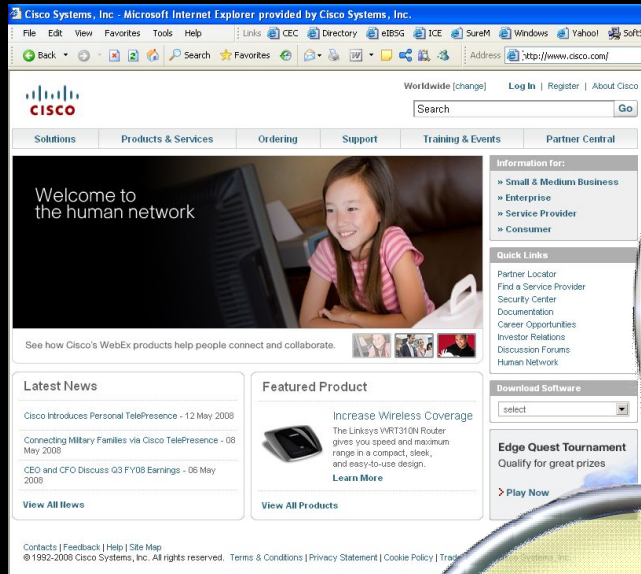


Source: IBM, 2007; Cisco IBSG, 2008, Berkeley Innovation Forum, 2008

RICH MEDIA COLLABORATION

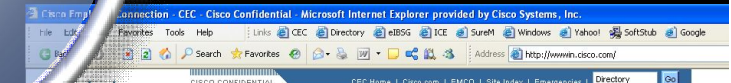


WORKPLACE PORTAL



Customer/Partner/ Supplier - CCO

- Internet Commerce
- Customer Support
- Product Doc/White Papers
- eMarketing
- Recruitment



- Workforce Optimization - Employee Self-Service
- Corporate Communications
- Collaboration

- Commerce Framework Support
- Supply Chain Management
- Procurement

Supplier/Partner/Customer - EMCO



Conclusions and Suggestions

- **Ubiquity, Social networks, Rich interactions and Easy Accessibility in the internet world require new collaboration paradigm in the business world.**
- **UC/Mobility, Open Innovation, Rich Media Collaboration and Workplace Portal will bring huge productivity improvement for the manufacturers.**
- **Personalization, interoperability and security will be big challenges.**
- **Enterprises need to have the collaboration architecture and the platform to go over the challenges .**

