e-business Infrastructure
“Technology for Business”

Kevin Malone
Software Technical Strategist
IBM Software
Fellow of The British Computer Society
Fellow of The Institute of Engineering and Technology
kevin_malone @ uk.ibm.com
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IBM Values …

Dedication to every client’s success

Innovation that matters,
for the IBM company and for the world

Trust and personal responsibility in all relationships

IBM Research Worldwide

5 Nobel Laureates

IBM Software - Research & Development Locations

Integration is the Key
Connecting All the Dots
What are Businesses trying to Achieve?

Connectivity Services

Partners, Applications, Applications & Data

People, Processes, Information

Historical Cycles

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Historical Cycles

- The Industrial Revolution
  - Formation of Mfg. industry
  - repeal of Corn Laws
  - opening of trade
- Steam and Railways
  - joint stock companies
  - Industry exploits economies of scale
- Steel, Electricity
  - Separation of savings, investment banks
  - SEC
- Oil, Automobiles
  - Build-out of Interstate highways
  - IMF, World Bank
- Information and Telecommunications
  - Current period of Institutional Adjustment

The Three Waves of IT

- 2000s / 1990s Network Based Computing: e-business
  - Connection / Integration
- ’80s/’90s Client / Server
  - Local Empowerment
- ’60s/’70s Centralized Computing
  - Functional Automation

The Vertical Silo Problem

Division “A”
Division “B”
Division “C”
Division “D”
Division “E”

Process Improvement

"An on demand business is an enterprise whose business processes are integrated end-to-end across the company and with key partners, suppliers and customers—can respond with speed to any customer demand, market opportunity or external threat."

"an evolutionary journey"
Infrastructures are Evolving

1990

- Basic Transport
- Network Mgmt.
- Application
- Security

Today

- Intelligent Network Security Directory Policy Migration
- Network Radio Caching
- Multimedia Class of Service Mobility
- Network Client

Horizontal Integration is the New Challenge

Bridging the gap between business transformation and IT

Open Standards are not a Luxury

Enable integration across value-net / Increase deployment speed / Reduce costs
How much data exists?

- **300 Exabytes** $10^{48}$
- **20 Exabytes** $10^{18}$
- **1000 Petabytes** $10^{15}$
- **100 Terabytes** $10^{12}$

**Analog data**
- Paper
- Film
- Videotape
- ‐CDs
- Digital cameras
- Tape

**Online**
- Internet
- HTML
- Disk drives
- File systems

**Off-line**

Information On Demand
Creating value with information

- **Value**
- Information on demand
- Information as a service
- Gaining insight
- Managing content
- Managing transactions

Time

IT Service Management

**IT Focus**
- Basic
- Managed
- Predictive
- Adaptive
- On Demand

**Element Management**
- Manual processes
- Ad hoc practices
- Reactive and tactically aligned
- Resource intensive

**IT Systems Management**
- Automated processes
- Local expertise
- Proactive and Predictive
- Automated provisioning

**IT Service Management**
- Integrated processes
- Best practices
- Automated, self managed environment
- Dynamic provisioning

Levels of Automation

Infrastructure Delivering Business

“With over 8,000 transactions per second, millions of users see how we do our jobs every day.”

- Converted 3 million lines of C++ to Java
- Reuse of Java components driving 1/3 reduction in code base
- 3 times/day, 6 days/week HTML rolls to the site
- Once a week significant feature releases go live-to-site
- Deployed internationally within 3 weeks
- Nearly 30K lines of code change weekly
- 8000 transactions / second
- 1000 million hits per day

Where eBay works

- From obscure to collectable art to memorabilia to weird – everything’s available.
- 135 Million registered users – 40% growth p.a.
- Average trade value >$1000 per second

The total value of goods sold on the site - $34 Billion per annum

Source: IDC, cited in eBay Press Release Feb 10, 2005

On a typical day, eBay sells…..

- Over 1 million items
- A Video game every 8 seconds
- An article of clothing every 2 seconds
- A car every hour
- A digital camera every minute
- A piece of Jewelry every 80 seconds
On an average day .....  

- 11 million bids  
- makes 9 million database calls  
- pumps out 40 million e-mails  
- >5 “Libraries of Congress” transmitted  
- spews out a log file that's a terabyte in size  

> 135 Million users !!

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eBay APIs – Driving volumes of transactions  

- eBay Web Services supports some 2.5 billion API calls per month  
- Approximately half of all listings on eBay.com involve eBay Web Services  
- 25,000 outside developers are using the APIs  
- Participating developers have produced more than 1,600 applications

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Web 2.0 Themes

The Intelligent Web

Harnessing Collective Intelligence

- Tools: RSS, AJAX, PHP, Ruby, Lightweight Java
- Standards: REST, XHTML, CSS
- Techniques: Mash-up, wiki, tagging, blogging

- Web as a Platform
- Data is the Competitive Advantage
- End of the Software Release Cycle
- Light-weight programming models
- Rich user experiences
- Software above a single device

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IBM Software -- Middleware Platform

- Processes
- Applications
- Middleware Environment
- Systems Environment

The New IT Infrastructure

- End-to-end integration of transactions
- Leverage existing applications and data
- Applications act as processes
- Workload optimized to any server
- Scalable, available, reliable, secure and manageable
Build ON demand business infrastructures with IBM Software

Thank You

Kevin_Malone @ uk.ibm.com