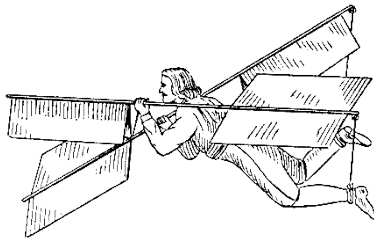**accenture**

High performance. Delivered.

Power Shift
8 trends that will reshape the technology landscape

Kishore Swaminathan
Chief Scientist, Accenture

A lot happened in the last 12 months

Market Caps (01/08)

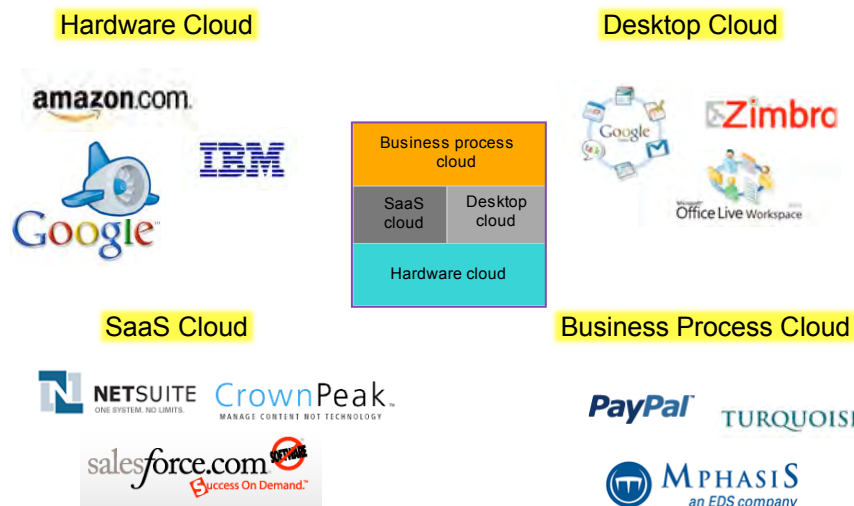|	
Apple	$176B
IBM	$147B
Intel	$146B

Power Shift
… from Technology to People

8 critical trends

1. Cloud computing & SaaS
2. Systems – Regular & Lite
3. Enterprise intelligence at scale

4. Continuous access
5. Social computing
6. User-generated content

7. Industrialization of SW development
8. Green computing

1. Cloud Computing

Hardware Cloud

amazon.com.

IBM

Google

Desktop Cloud

Google

Zimbra

Office Live Workspace

Business process cloud

SaaS cloud | Desktop cloud

Hardware cloud

SaaS Cloud

NETSUITE
ONE SYSTEM. NO LIMITS.

CrownPeak.
MANAGE CONTENT NOT TECHNOLOGY

salesforce.com
Success On Demand.

Business Process Cloud

PayPal

TURQUOISE

MPHASIS
an EDS company

Cloud Computing - Issues

- Data Location

SaaS Dominated Clouds

DB as a Service

- Privacy & Security

Gated-community clouds

- Performance

Ecosystem Clouds

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2. Systems – Regular & Lite

Regular

- Back-end apps

- SOA as the integration paradigm

- Small number of apps, maintained by CIOs

Lite

- End-user apps

- Mashups as the integration paradigm

- Large number of User (or User-group) created – shadow IT?

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Lite Systems – Enablers

- <u>REST</u> is a lighter protocol for inter-operability & data extraction
  - Easier to use, 6 to 10 times faster
  - Supported by Yahoo, eBay, Amazon, del.ici.ous, Facebook, Salesforce, J2EE 5.0, Oracle and many open source software
- <u>Mashups</u> are a way of combining data from multiple sources
  - Originated as a way of aggregating RSS feeds
  - Today: 2500+ Mashups, MDE environments (Yahoo Pipes, Microsoft Popfly), Enterprise Mashups (JackBe, IBM, Duet)
- <u>Widgets</u> and <u>Gadgets</u> are light-weight desktop UIs that continually update some data
  - Yahoo, Google, Microsoft, Apple and others
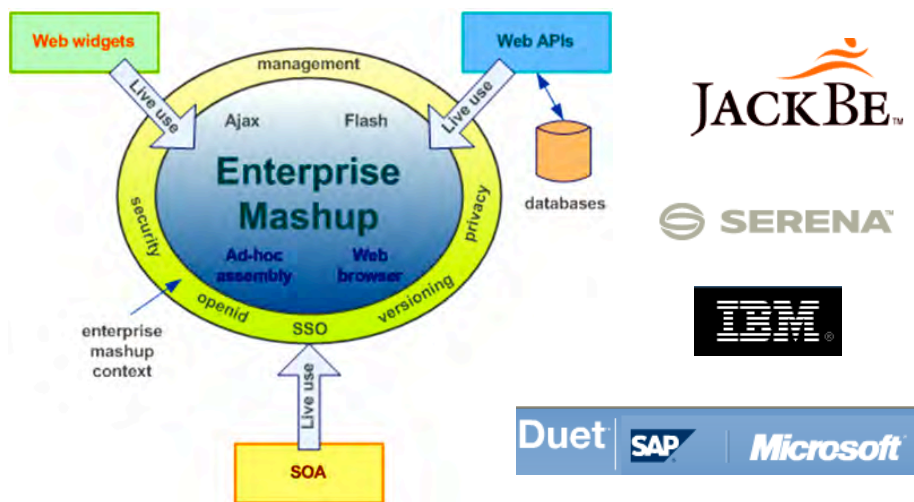 - 1000s of widgets exist

Widgets

Steve Jobs
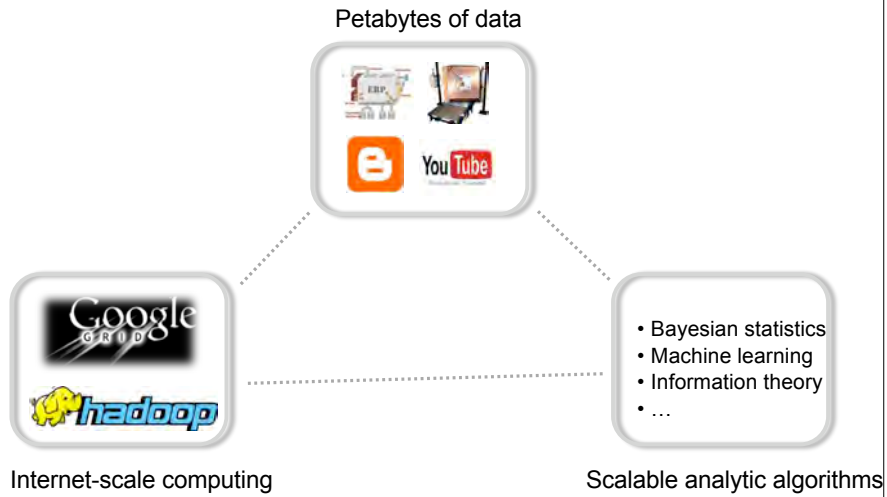CEO, Apple

Lite Systems

Eric Schmidt
CEO, Google

Enterprise Mashups are maturing…
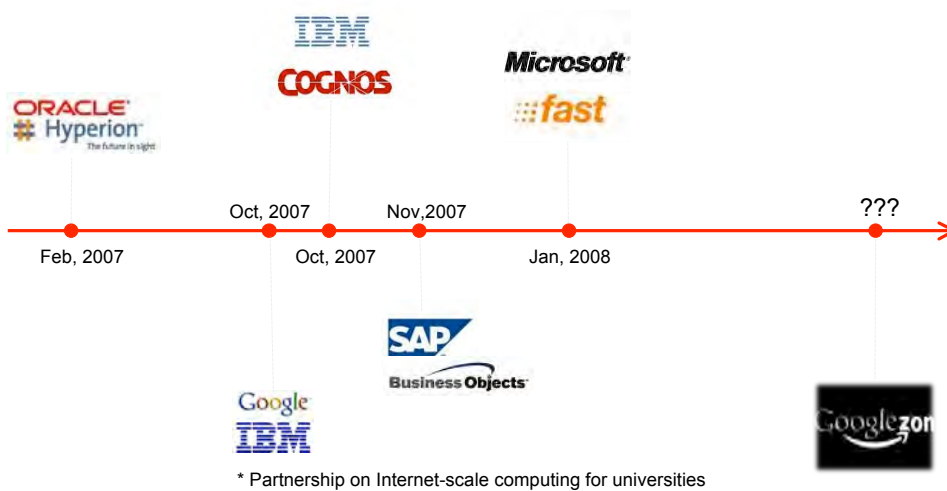
3. Enterprise intelligence at scale

Petabytes of data

• Bayesian statistics
• Machine learning
• Information theory
• …

Internet-scale computing   Scalable analytic algorithms

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What's new?

ORACLE # Hyperion
The future in sight

IBM
COGNOS

Microsoft
:::fast

???

Oct, 2007   Nov,2007

Feb, 2007   Oct, 2007   Jan, 2008

Google
IBM

SAP
Business Objects

Googlezon

* Partnership on Internet-scale computing for universities

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Enterprise Intelligence at scale - rampant use of data

Increasing sophistication in use of data

| | | Combine Internal & External | Combine Structured & Unstructured | Complex Analytics (Modeling, data mining, machine learning etc) |

Access

Reports

Access, Manipulation, Display

Web Services   Mashups   Widgets

Analytics/BI

Backend Systems (ERP, CRM, SCM etc)
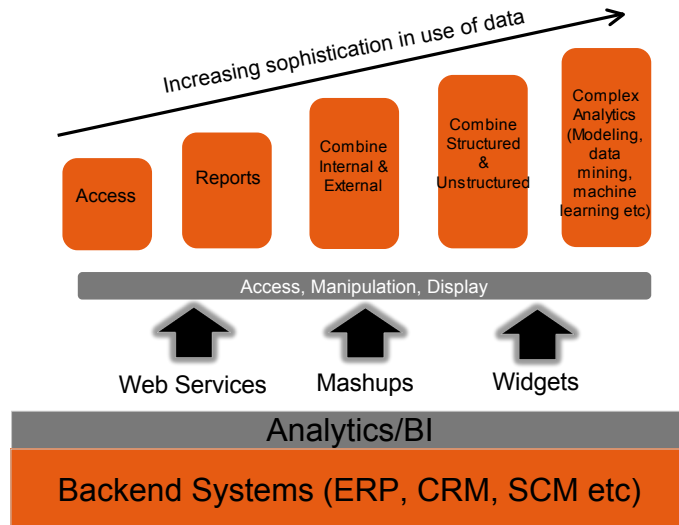
15

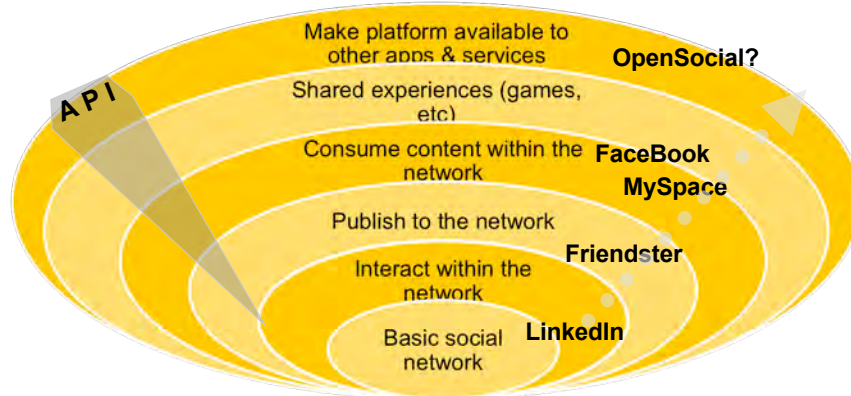
4. Continuous access to people and information

- Mobile devices become "first class" IT objects

- Location-based services

- No concept of an enterprise desktop?

iPhone

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5. Social Computing - Amplify the power of people & communities

- Three major SNS directions
  - Platformization , inter-operability, identity management

Her Majesty's Revenue through Facebook?

6. User-generated content

- New forms of CRM

- New forms of expression & entertainment

- Revenue erosion of traditional media companies

GROWTH IN DIGITAL ADVERTISING
US$ Million
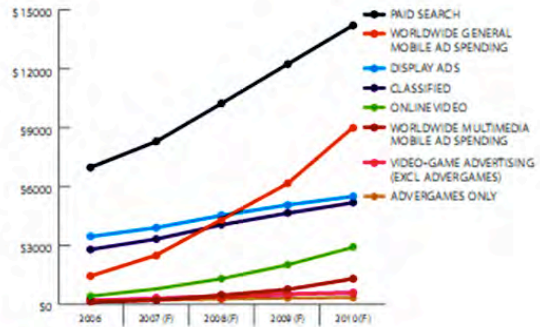
Source: eMarketer

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… but also new types of tax advice

New types of expression?

New genres of entertainment …

7. Industrialization of software development

Converging trends will ease integration:

- Predictive Metrics
- Model-driven development
- Service-oriented architecture
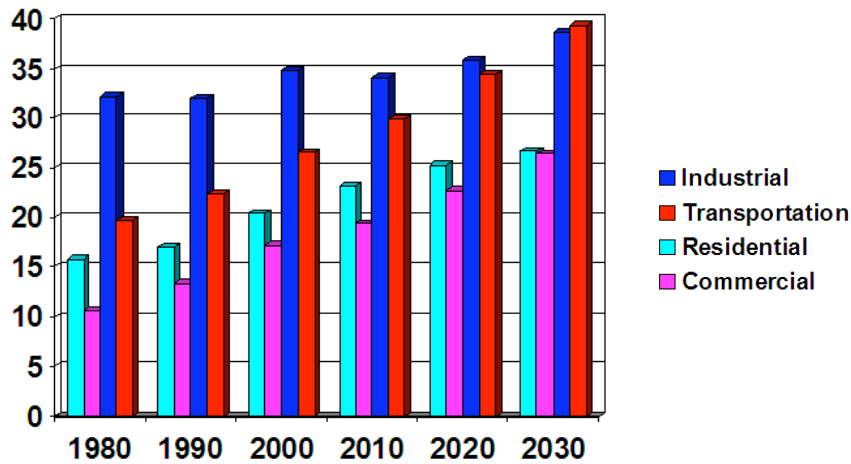- Agile development & Forever Beta

IBM   Microsoft   Borland   eclipse   Telelogic

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8. Green computing

- **Global warming**
- **Energy prices**
- **Consumer pressure**
- **Compliance**
- **Valuation**

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Green computing – aimed at reducing energy across major energy sinks

Legend:
- Industrial
- Transportation
- Residential
- Commercial

X-axis: 1980, 1990, 2000, 2010, 2020, 2030

Source: Energy Information Administration, Annual Energy Outlook 2007

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Carbon vs. Silicon: Replace energy-intensive processes with information-based processes

Green IT

Reduce power consumption of IT

Consolidation, Virtualization & Utility Computing

Green Workplace

Electronic processes: Reduced paper use, increased reliability

Reduced commute, travel through workplace collaboration, flexible work policies

Green Processes

Visibility of process carbon footprint

Environmental costing

Optimization, Substitution, Elimination of energy intensive processes

Green Policies

IT systems are a rich source of data about all aspects of an organization

Use this data to define sustainable policies

Particularly important for government agencies

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Did you know?