

Top 10 Strategic Technology Trends for 2011

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New Realities, Rules & Opportunities

By 2015, "Revenue" Will Be the Key Factor Determining Compensation for Most New Global 2000 CIOs.

CIO Strategies

Ranking of CIO strategies CIOs selected as one of their top five priorities in 2010 and projected for 2013.

Ranking	2010		2009	2008	2007	2013
Delivering projects that enable business growth	1	↑	3	1	1	1
Linking business and IT strategies and plans	2	↓	1	2	2	3
Reducing the cost of IT	3	↓	2	10	12	11
Use of information/intelligence	7	↑	10	9	6	2

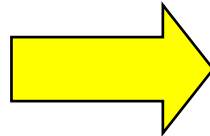
Key Issues

- What will have the biggest potential for significant enterprise impact over the next three years?
 - IT budgets, business operations, new business opportunities
- Which technologies or trends will drive significant change or disruption?
 - User behavior and expectations, industry models and economics, technology markets and pricing
- Are there changes or a tipping points occurring now or over the next one to two years that make the technology newly strategic or applicable to a wider market?
 - Price or functionality threshold, complexity barriers removed, vendor activities

Technologies You Can't Afford to Ignore — Tablets Hot Near Term; Midterm Fabric, Context & UXP Impact Is Big

Top 10 Strategic Technology Areas for 2010

1. Cloud Computing
2. Advanced Analytics
3. Client Computing
4. IT for Green
5. Reshaping the Data Center
6. Social Computing
7. Security — Activity Monitoring
8. Flash Memory
9. Virtualization for Availability
10. Mobile Applications



Top 10 Strategic Technology Areas for 2011

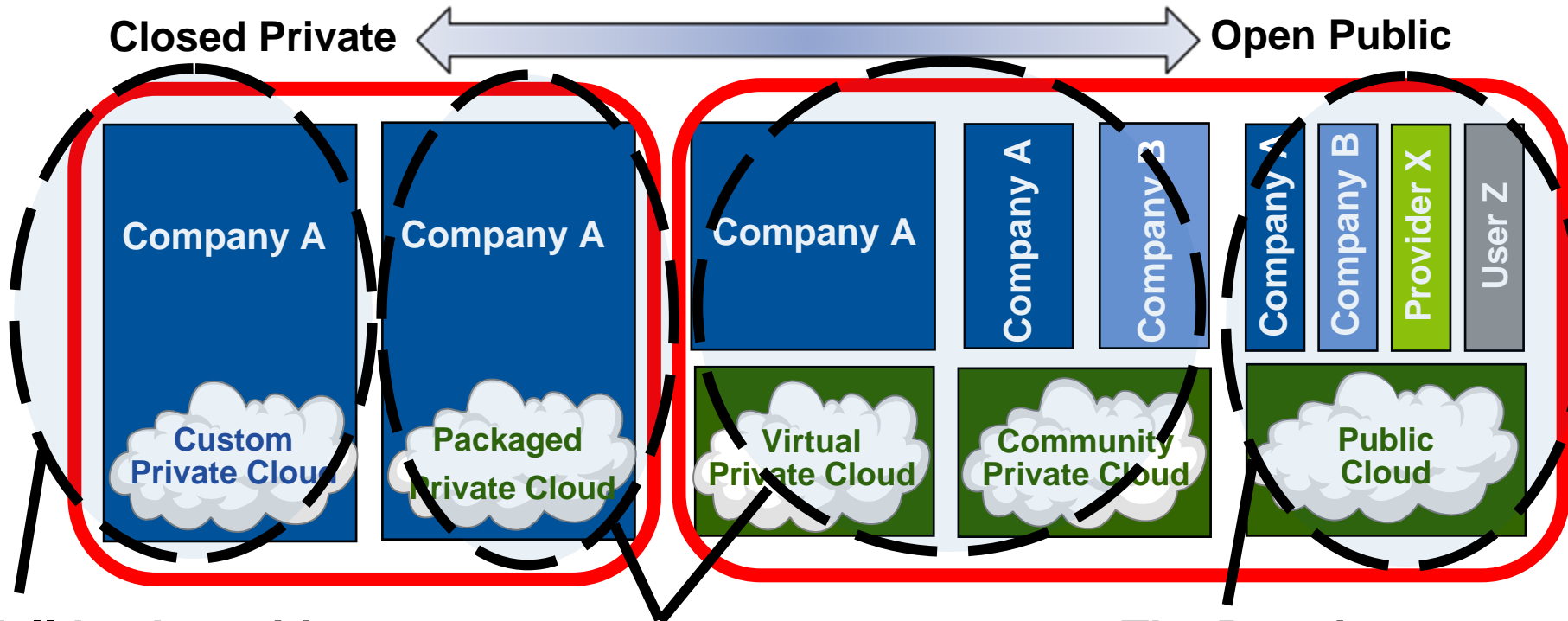
1. Cloud Computing
2. Mobile Applications & Media Tablets
3. Next-Generation Analytics
4. Social Analytics
5. Social Communications & Collaboration
6. Video
7. Context -Aware Computing
8. Ubiquitous Computing
9. Storage Class Memory
10. Fabric-Based Infrastructure and Computers

■ Modified for 2011

■ New for 2011

■ Dropped for 2011

Cloud Delivery Models



- Fall-back position
- Cloudwashing
- IT is comfortable
- Lead spend today
- Future

- Cloud svc provider
- A few large users

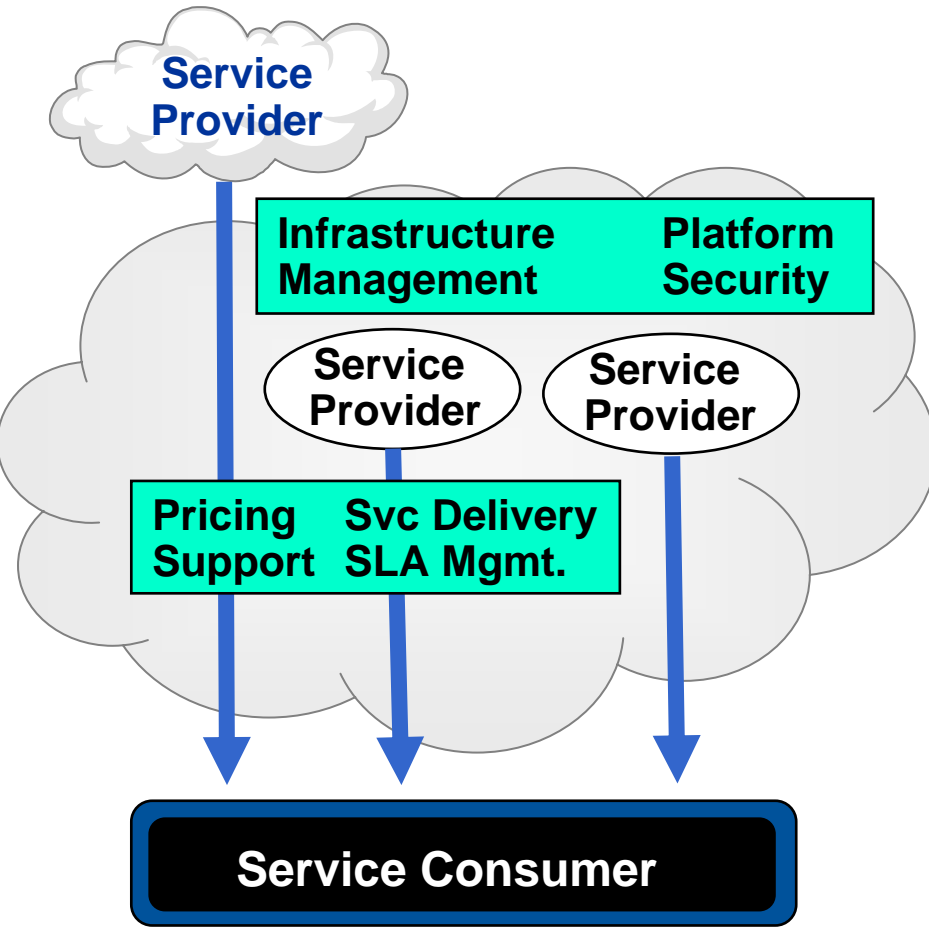
- Rising interest
- Few real options
- IT is intrigued
- Little spend today
- Future

- Business sweet spot
- Select SaaS providers

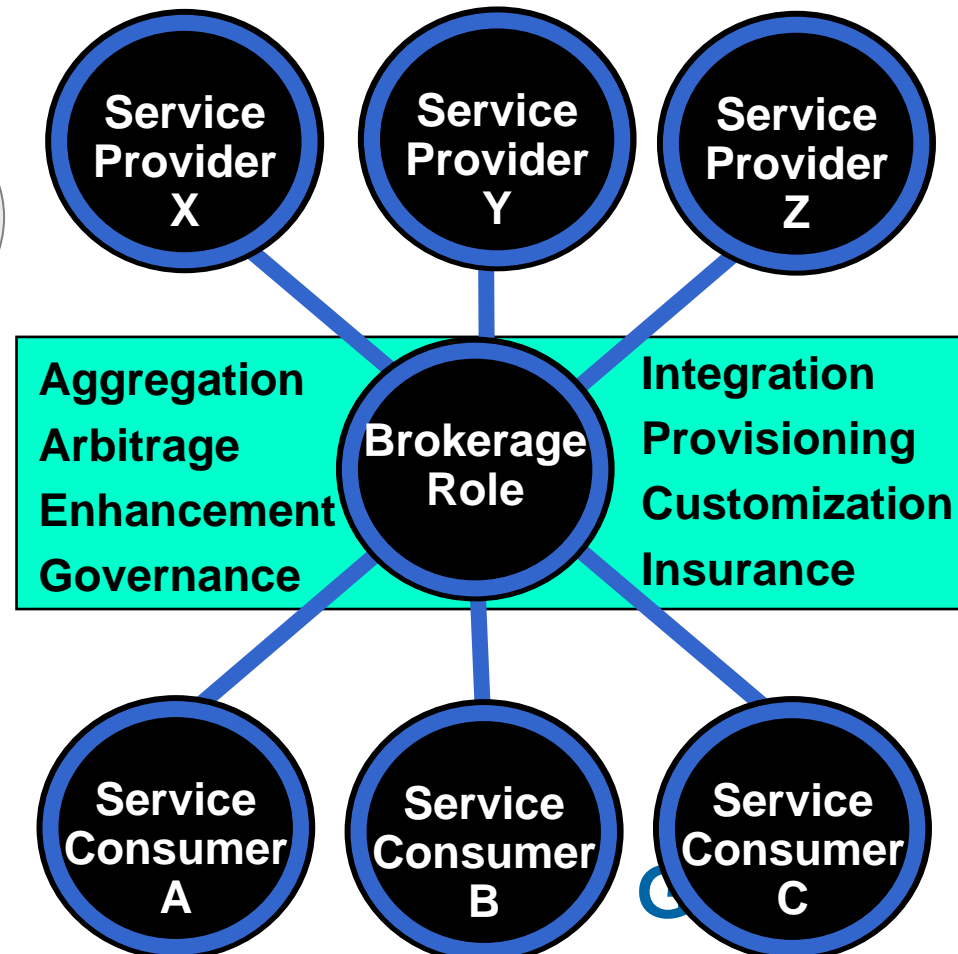
- The Promise
- Growing model
- IT is afraid
- Some spend today
- Future

- Individuals
- Select workloads

Cloud Brokers and Cloud Ecosystems

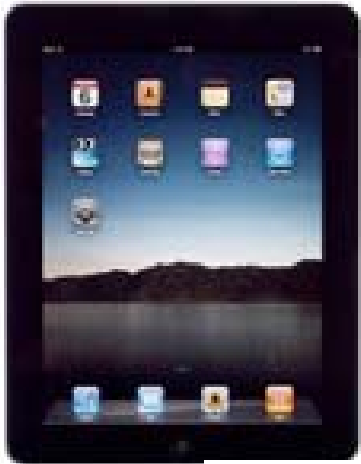


Brokerage: Where a third party is working on behalf of the consumer of one or more cloud services to add value to the service being consumed



Ecosystem: Where a provider delivers services that are used as a foundation to build/host, deliver and/or support a service delivered to cloud consumers

The Future Is Mobile



Many hundreds of thousands of new and more powerful applications are coming online. This will accelerate.

How Does It Affect You?

- Becomes an important design point
- Mobile applications can yield:
 - Stickiness
 - Customer behavioral inertia
 - Establishes valuable "real estate"
 - Company differentiation
 - Support for impulse interactions
- Proliferating device types
- Can be context aware including location, movement, orientation
- Delivery, management and support complexity will increase
- The rise of the "App Store" entity

iPad Ignites a Tablet Frenzy

- Tablet is not a new form factor but past success had been limited
- iPad leveraged existing iPhone ecosystem -100,000+ applications — plus a rich mobile-optimized user interface and consumer momentum
- Kindle, other e-readers, iPod spur interest in content-centric devices
- Consumerization trend already injecting iPad into the business realm



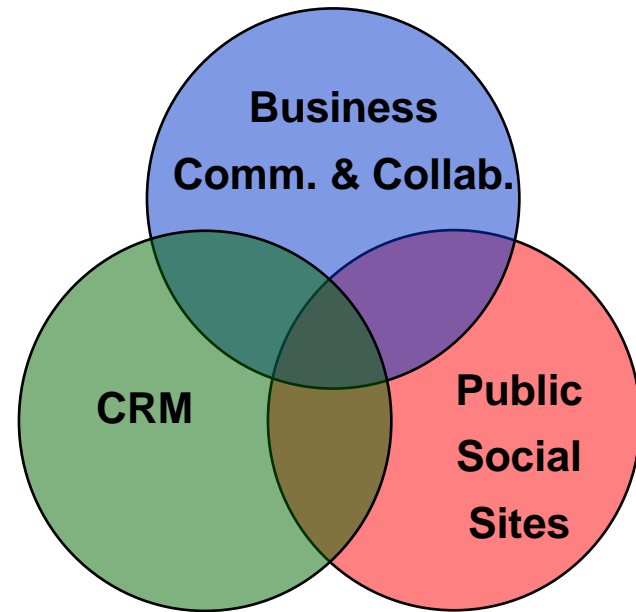
Most Desired

Business Applications

- Netbook replacement?
- Documentation/Repository
- Forms completion
 - Inspections
 - Surveys
- Advertising markup
- Image capture, content consumption
- Illustrations

Social Communications and Collaboration

- **UCC & Social Trends Converge**
 - UCC brings together many areas in 2011-2013
 - Social media in
 - Mobile UCC is a key driver
- **Social Worlds Collide**
 - Public, private & work persona
- **Collective Behavior Drives Value**
 - Collective intelligence, expertise location, interest cultivation , relationship leverage, flash coordination, emergent structures
- **Video Use Brings New Challenges**
 - Online video tops the list for social media tool usage



Social Media

Social networking: profiles, connections

Social collaboration: wikis, blogs, collaborative office

Social publishing: sharing, aggregation publishing, video

Social feedback: rating, ranking, commentary

Video Moves Into the Mainstream

- Tipping Points 2011-2013

- Ubiquitous low-cost portable video record & playback devices
- Consumer use and volume of user generated content exploding
- Low-cost & high-quality software
- Vendor investments ramp up

- The Implications

- Video content mgmt., delivery & archiving needed
- Must address potential for out of context & unintended use
- Need new design skills
- New E-discovery challenges
- Determine appropriate use of internal vs. cloud-based storage & delivery
- Privacy issues and use policies must be addressed
 - Conference rooms recorded by default?

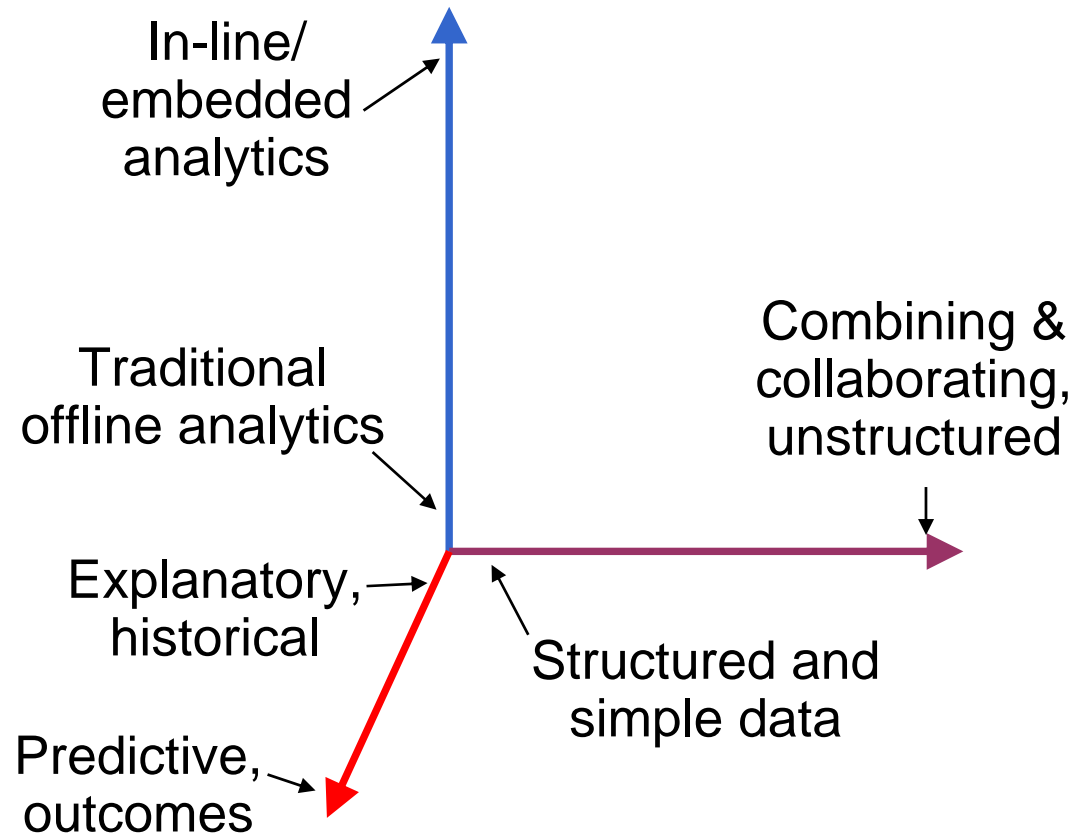


Next Generation Analytics: Operational Analytics to Optimize and Simulate

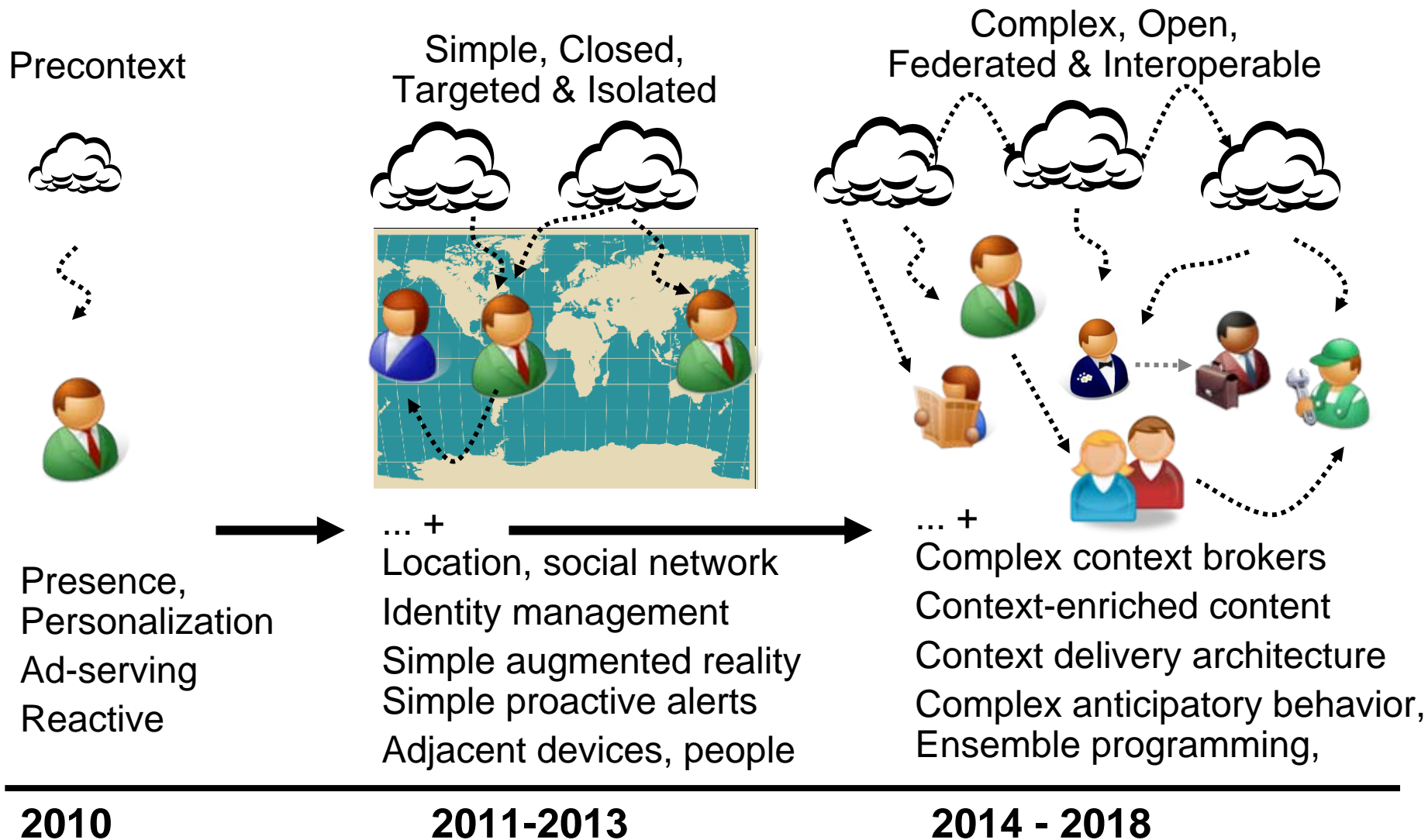
The third wave in support for decisions in organizations

Enabling Trends

- Connectivity more ubiquitous
- More-powerful processors — the Moore's Law dividend
- Sophisticated mobile applications are arriving
- Data mashup tools
- Social and BI integration
- BI search improvements

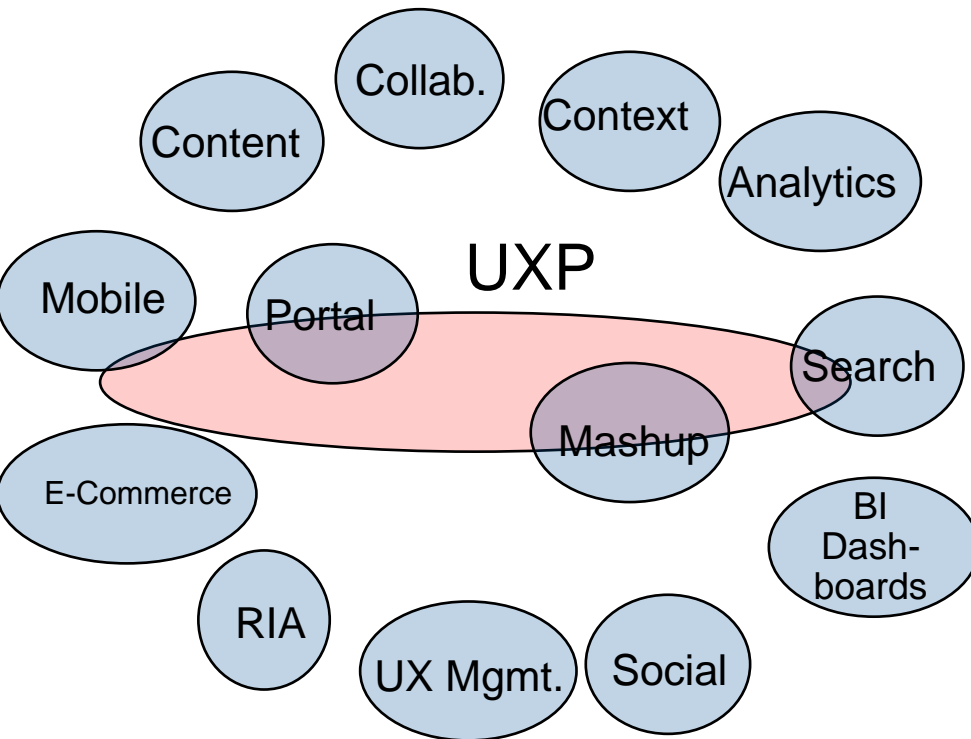


The Emerging Architecture of Context-Aware Computing



Context & the User Experience Platform

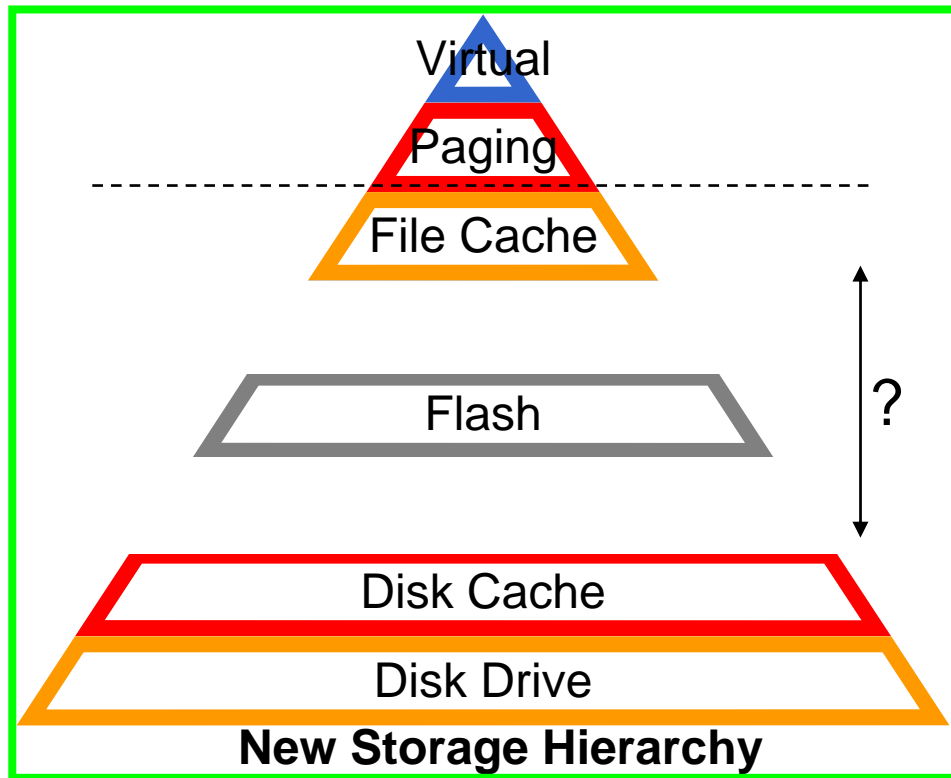
User Experience Platform



SOA/BPM/Web/Cloud Platform

- User Experience Platform Emerging in 2011-2013
 - UXP = Portals + Mashup + Mobile + Social
 - Includes tools to build and validate usability
- Near Term
 - Strategy needed for HTML5, Silverlight & Flash
 - Interactions shift to the most appropriate device
- Longer Term
 - Follow-me portal
 - Ensemble interactions
 - Hyper-personalization,
 - Model-driven user experience

Storage Class Memory — Flash and RAM



Flash Offers New Options

- Use as cache?
- Use as solid-state disk?
- Implement as a new layer?
- Internal or external location?
- New layer allows unique placement philosophy
 - Operating system chooses
 - Application/middleware picks
 - Formal OS interface helpful

RAM in Place of Disk

- In-memory database option
- Not persistent, limits use



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RAM

Flash

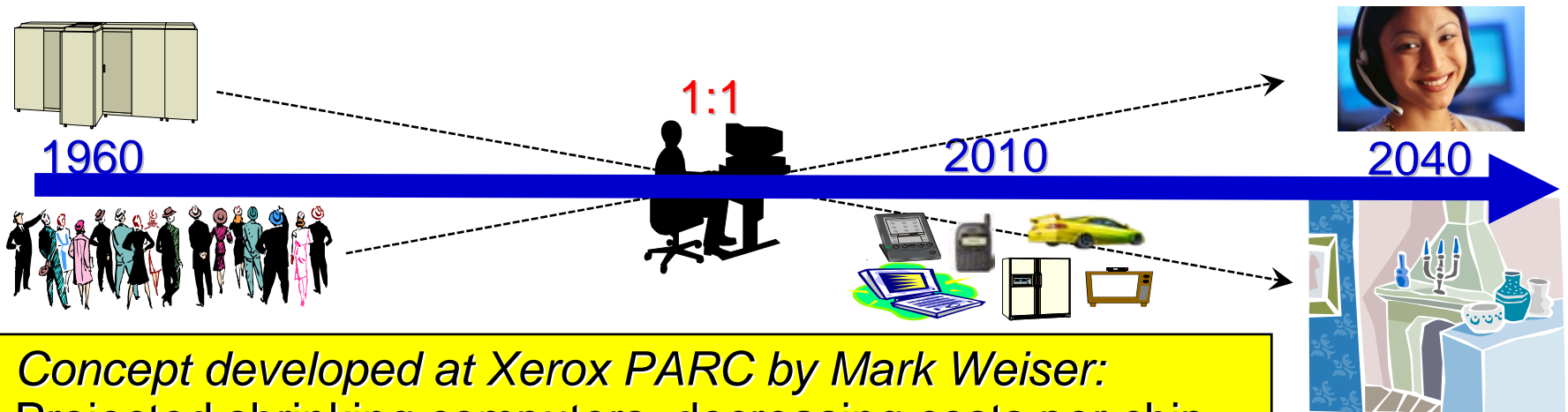
Disk

Volatile

Persistent

Persistent

Ubiquitous Computing — Changes Forced by Long-Term Technology Trends



Concept developed at Xerox PARC by Mark Weiser:
Projected shrinking computers, decreasing costs per chip, ratios of people to computers inverting, and the inevitable consequences of hundreds of computers per person

Implications of Ubiquitous Computing

- Computers disappear into objects (smart world)
- Many objects can and will need to communicate
- Connectivity changes — wireless, cells, scale
- Portable personalities and masking of data locale
- Device-insensitive access
- Location-awareness and contextual behavior

Using the Periphery

Calming Technology

Dust, Tabs, Pads, Boards, Skins, Clay

Gartner®

Fabric-Based Computers and Fabric Based Infrastructure — Two Distinct Ideas

RTI

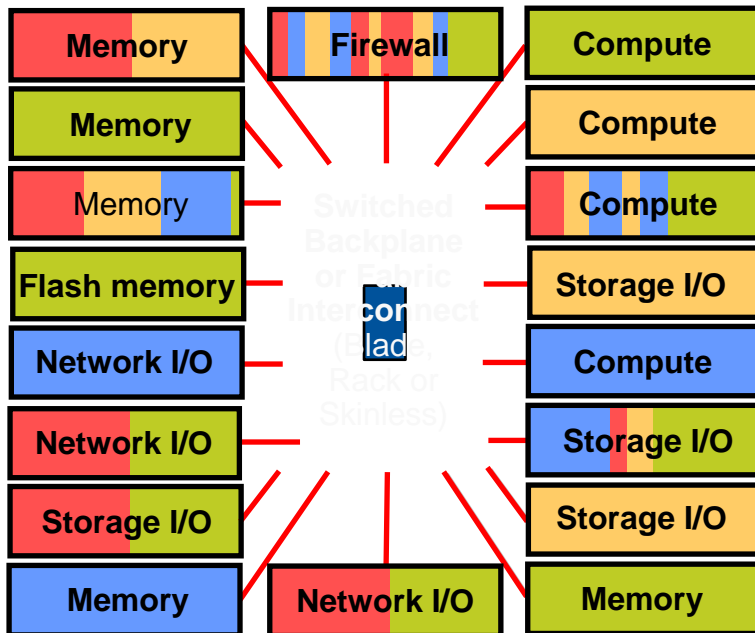
Workflow, Orchestration, Life Cycle, Policies, etc.

Applications

Purposing/Repurposing, Templates, Configure, Performance, Optimization/Placement

Infrastructure

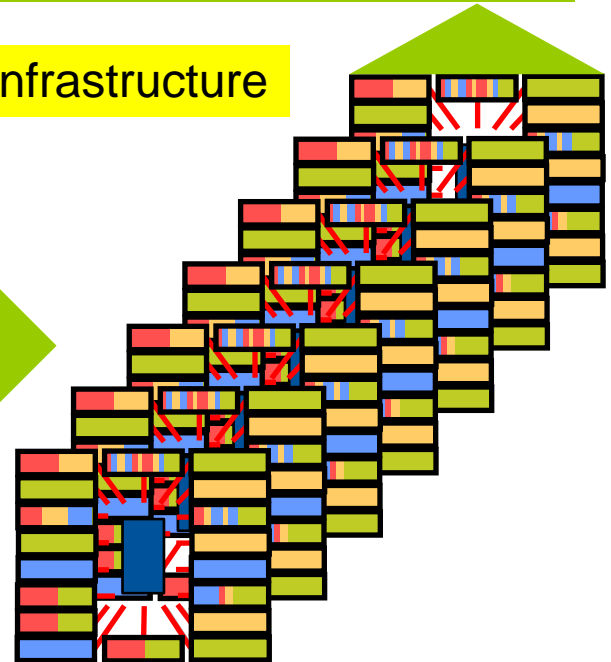
Discover, Virtualize, Provision, Capacity, Power, Bandwidth, Mobility, Administration



Fabric-Based Infrastructure

Software

Fabric Resource Pool Management (Select, Create, Maintain)



Fabric-Enabled Computer – what is shipping today (e.g. blade servers)

Fabric-Based Computer – the next stage of server evolution

Action Plan

Monday Morning

- Establish a cross-functional team consisting of IT, business user, procurement, legal and accounting professionals to develop and review cloud computing strategies.
- Establish governance policies for the use of user generated video content.
- Examine how social media is impacting your business and monitor what is being said on public social networks.
- Consider which applications could benefit from context enrichment.
- Identify current application performance issues and evaluate use of flash-based SSDs as a simple and quick fix.
- Kick off a search for combinations of information sources, including social sites and unstructured data, that may be mined for valuable insights.

Action Plan

Next 90 Days

- Develop a strategy for when to consume public and private cloud services and when to build private cloud implementations.
- Build a social analytics plan and integrate it with your BI and social communication and collaboration strategies .
- Look at reducing your need for expensive high-speed devices by leveraging flash-based SSDs in conjunction with lower RPM drives.
- Verify that expected benefits can be realized before choosing fabric-based infrastructure over lower-cost traditional approaches.
- Work with marketing departments to identify mobile applications and strategies that can enhance customer experience, support new offerings or increase sales.

Action Plan

Next 12 Months

- Establish a strategy to position IT as an internal cloud service broker and determine where third-party cloud brokerage services add value.
- Bring UCC, collaboration, social software and context-aware computing teams together and begin developing a coordinated strategy.
- Build a plan for the migration of analytic information and deployment of appropriate systems to support operational and predictive analytics when it is needed.
- Incorporate social analytics into customer-facing websites and internal decision-making systems.
- Build a strategy to exploit video in 2011-2015, including selection of appropriate tools to manage video creation, deployment and use.
- Pilot systems exploiting flash as a new memory layer where this can meet performance targets at substantially lower cost than existing alternatives.

Related Gartner Research

- **Hype Cycle for Cloud Computing, 2010**
David Mitchell Smith (G00201557)
- **What the iPad Will Mean to Retailers**
Hung LeHong, Van Baker (G00175778)
- **Seek Information Patterns with Data Mining and Predictive Analytics**
Bill Hostmann (G00205070)
- **Hype Cycle for Consumer Services and Mobile Applications, 2010**
Sandy Shen (G00200989)
- **The Business Impact of Social Computing: Real-World Results for Marketing**
Adam Sarner (G00172059)
- ***Using Social Network Analysis to Inform a Pattern-Based Strategy***
Carol Rozwell (G00172019)
- ***Pursue Four Goals with Video***
Whit Andrews (G00175978)
- ***Context-Aware Computing: A Looming Disruption***
Anne Lapkin (G00170550)
- **Use SSDs to Modernize and Green Your Storage Infrastructure**
Stanley Zaffos (G00174544)
- **Emerging Technology Analysis: Fabric-Based Computing, Server Technologies, 2010**
Adrian O'Connell, Andrew Butler (G00201682)