

# Top 10 Strategic Technology Trends for 2011

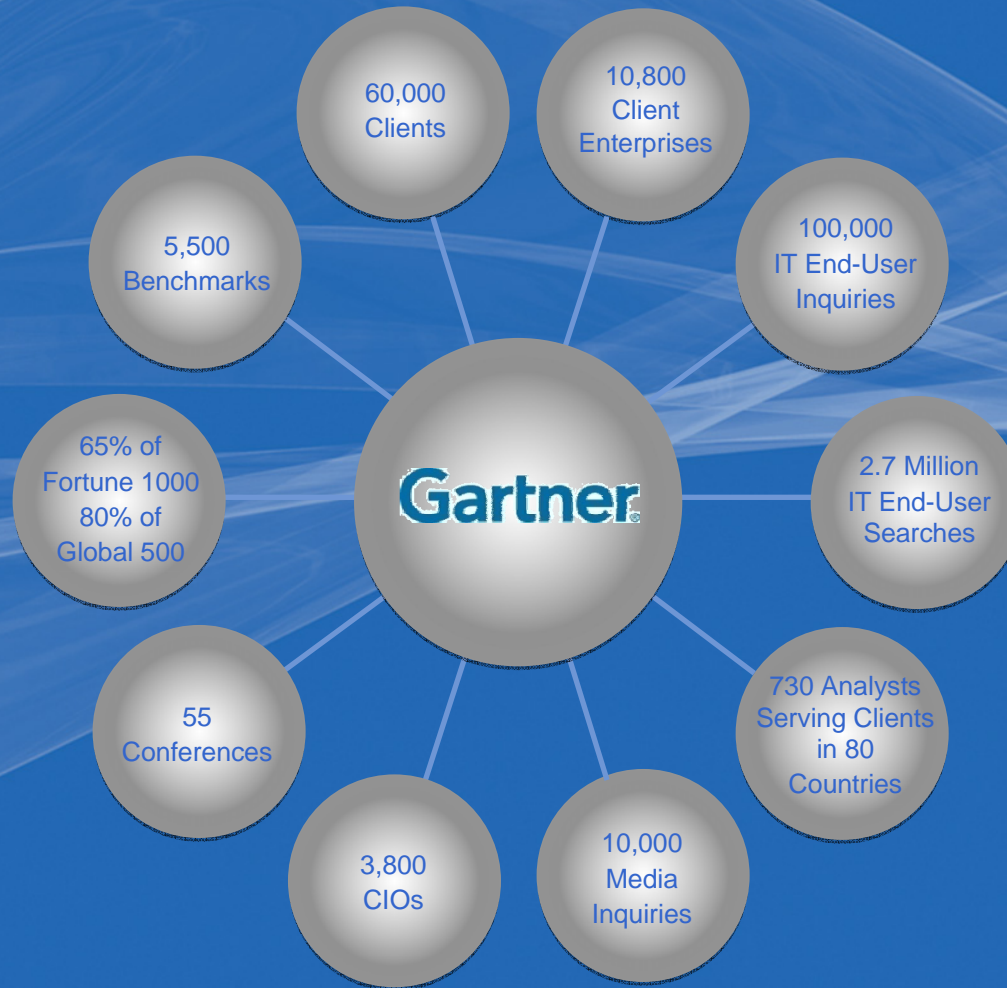
David Cearley

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# Top 10 Strategic Technology Trends for 2011

David Cearley

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# Key Issues

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1. What will have the biggest potential for significant enterprise impact over the next three years?
  - IT budgets, business operations, new business opportunities
2. Which technologies or trends will drive significant change or disruption?
  - User behavior and expectations, industry models and economics, technology markets and pricing
3. 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 Trends for 2011

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

 Modified for 2011    New for 2011    Dropped for 2011

# 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
- Competition heats up in 2011/2012



Most Desired

## Business Applications

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

# The Future Is Mobile

## Welcome to the Post-PC Era.

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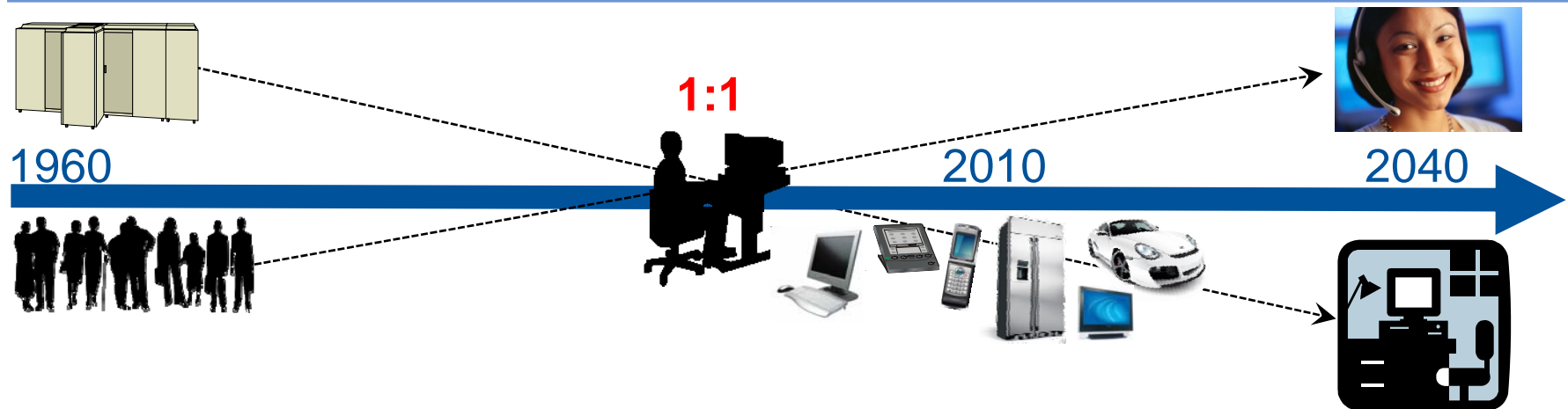


**Harbinger:** Many hundreds of thousands of new and more powerful applications are coming online. This will accelerate.

### How Does It Affect You?

- Proliferating device types
  - Personal & enterprise assets
- Shifts design point away from PC
- The rise of the "App Store"
  - External & Enterprise markets
- Newly empowered citizen developers
- Can be context aware including location, movement, orientation
- Delivery, management and support complexity will increase
- Closely linked to cloud market

# Ubiquitous Computing — Changes Forced by Long-Term Technology Trends



## 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
- IT and operational technology convergence

Using the  
Periphery

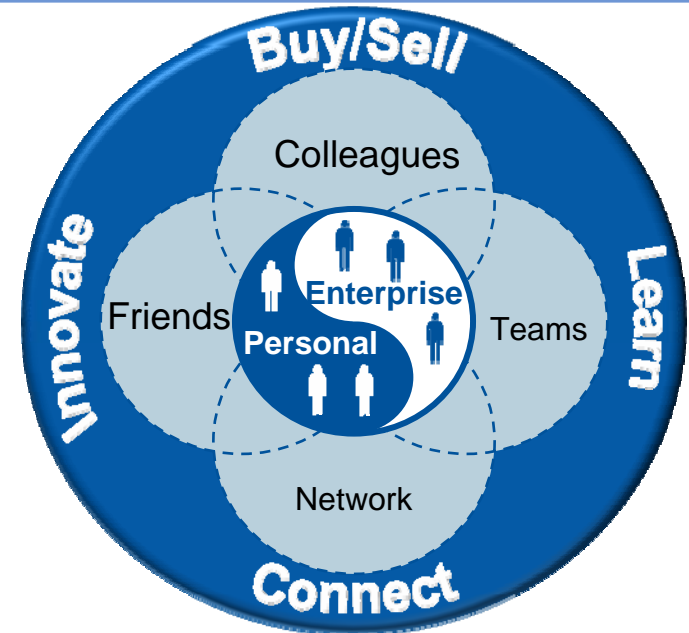
Calming  
Technology

Dust, Tabs,  
Pads, Boards,  
Skins, Clay

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# The Future is Social: Information, Interactions & Interfaces

- **Social Worlds Collide**
  - Personal & work persona
  - Public sites, Enterprise Collaboration, Customer Communities
- **Social Meets Applications**
  - Social interfaces & extreme collaboration
- **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

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# Video Moves Into the Mainstream

## • Tipping Points 2011-2013

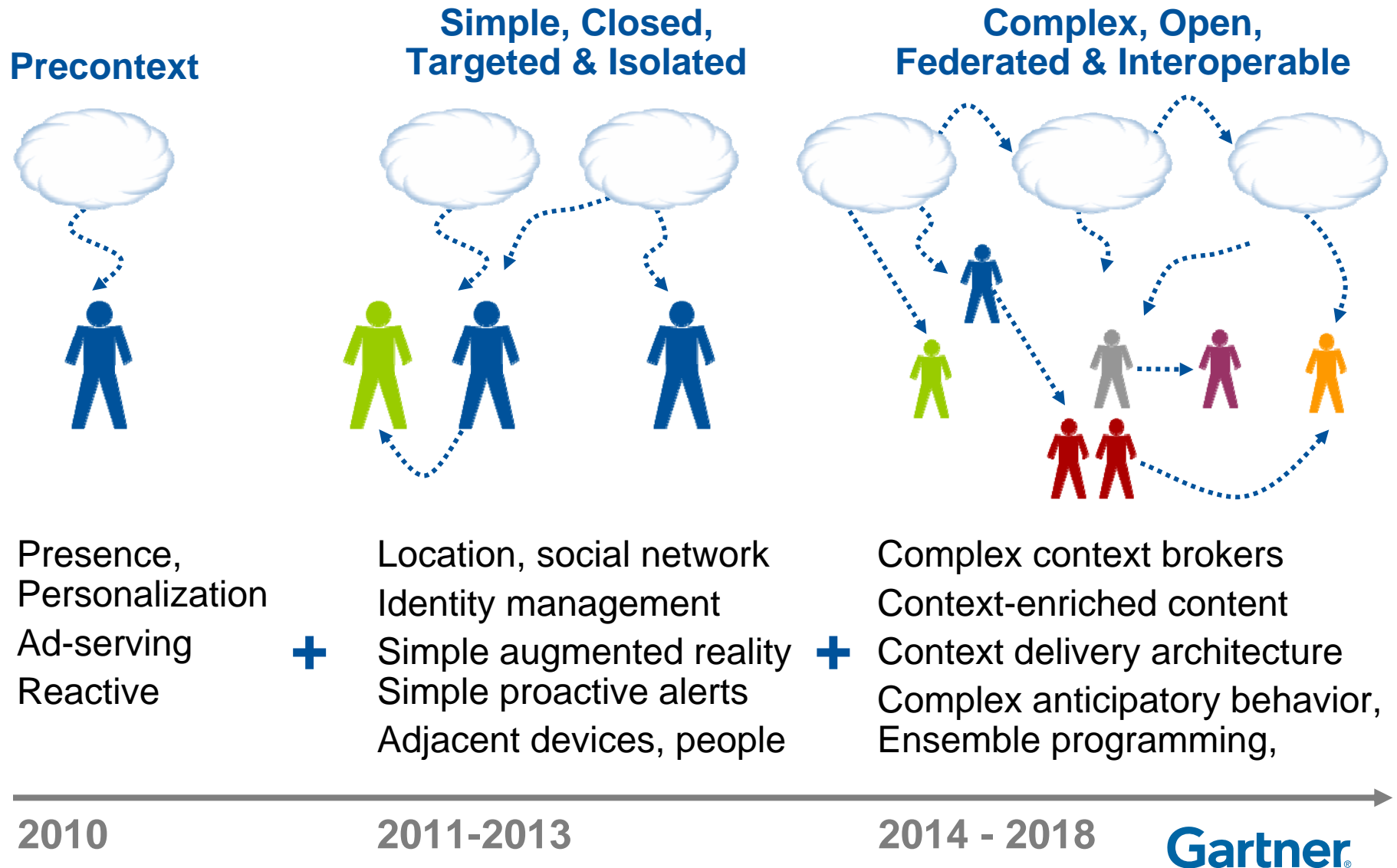
- Ubiquitous low-cost portable video record & playback devices
- Consumer use and volume of user generated content exploding
- Low-cost & high-quality software
- Vendor investments ramp up

## • 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?

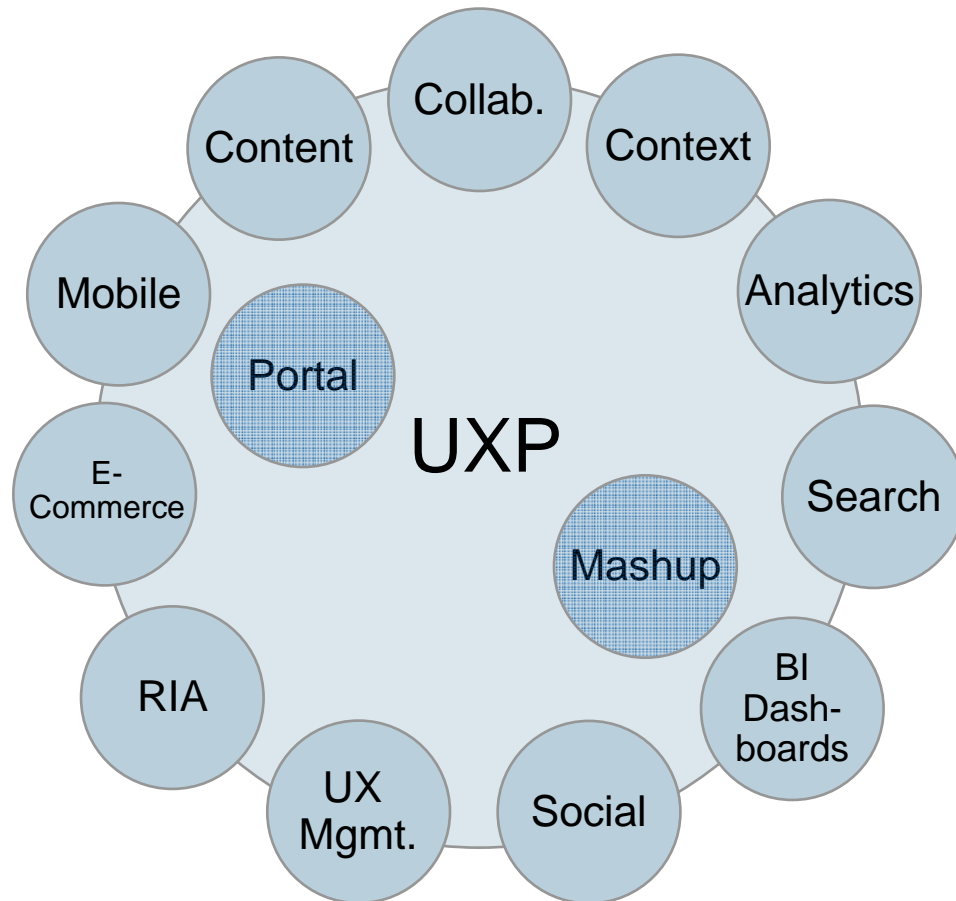


# The Future is Contextual User Experience & Smart Systems



# 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

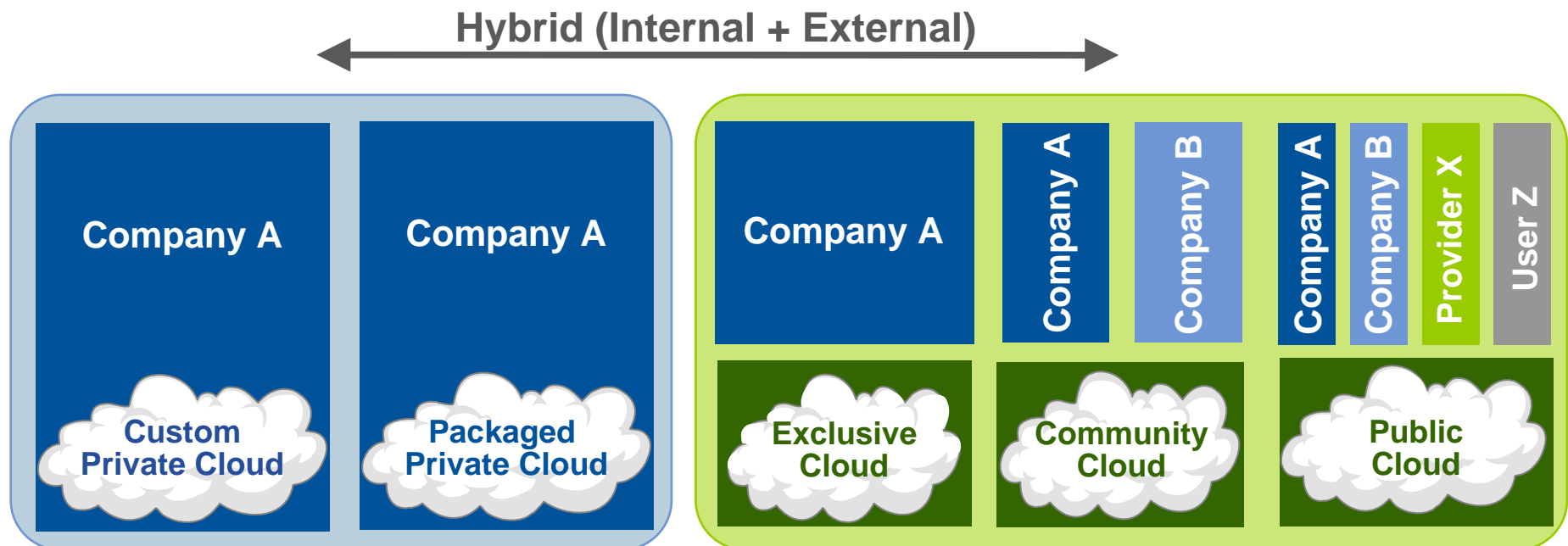
- **Near Term**

- 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

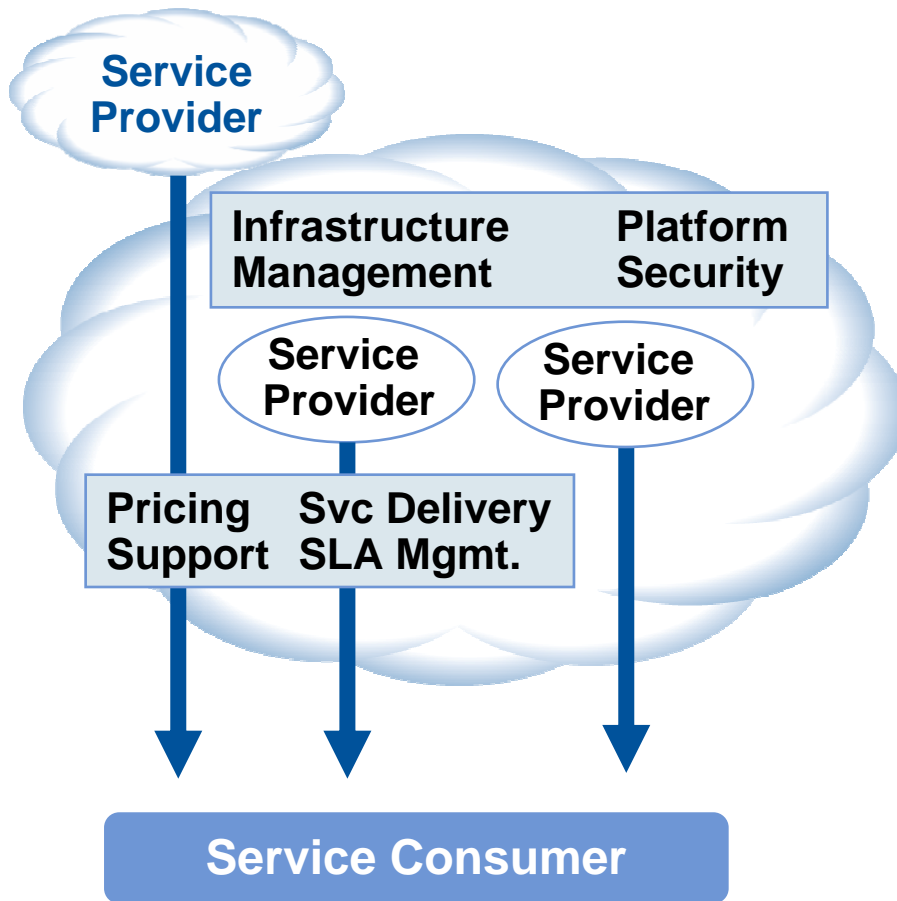
# Cloud Computing Delivery Models



- Implementing a Cloud Service
- HW, SW, Data Centers
- Manage the Implementation
- May Be Outsourced or Delivered as a Managed Service

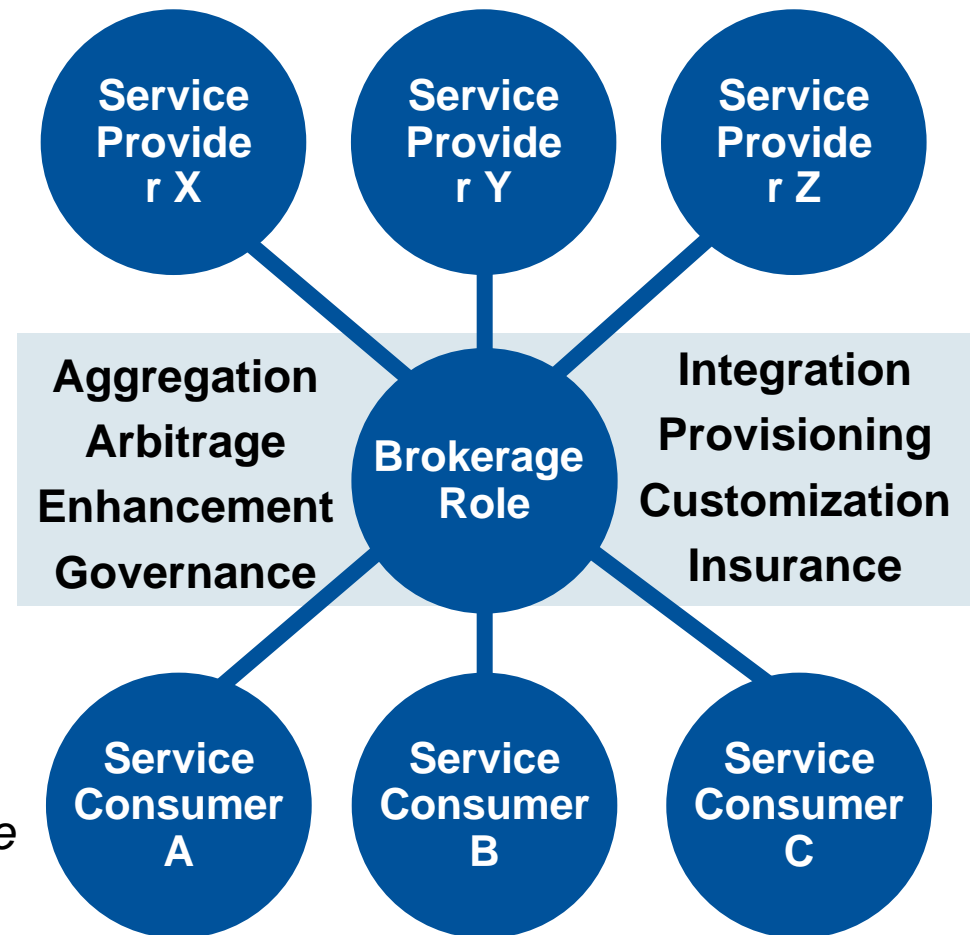
- Consuming a Cloud Service
- No Hardware, SW or Data Centers
- Manage the Service
- May Use Brokers to Facilitate Use of or Add Value to the Service

# Cloud Brokers and Cloud Ecosystems



**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

**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



# Next Generation Analytics: Operational Analytics to Optimize and Simulate

The third wave in support for decisions in organizations

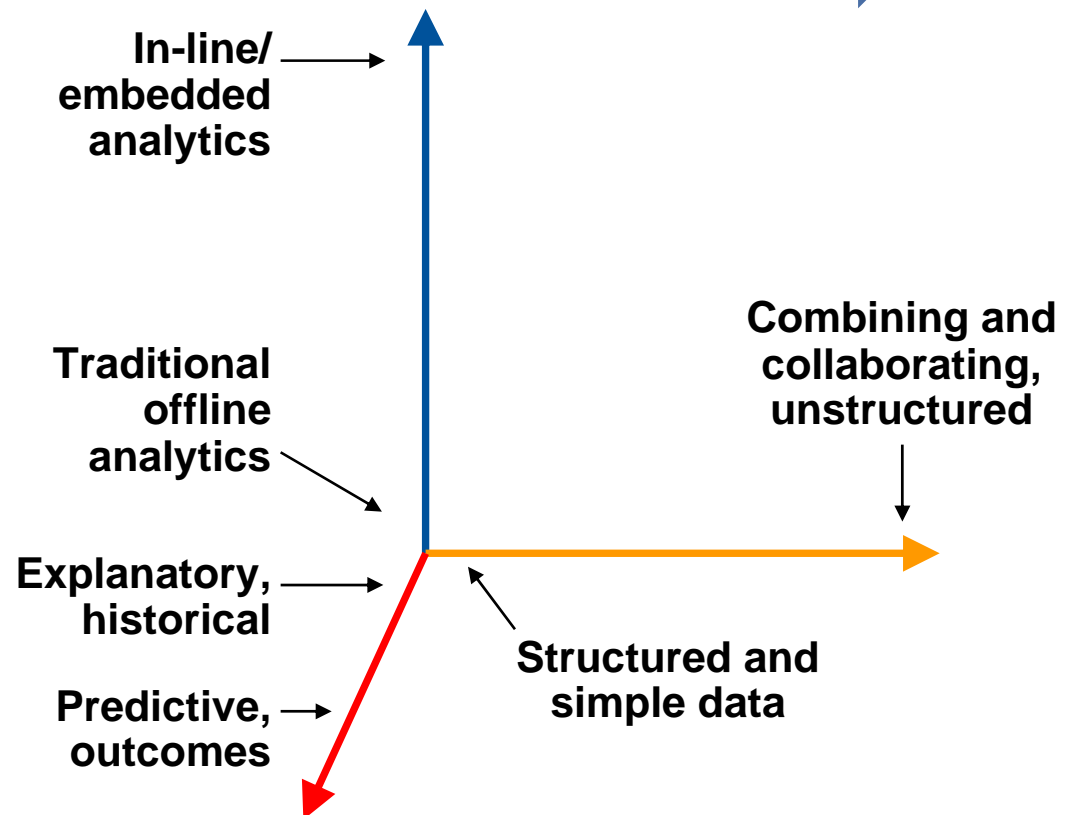
Fixed Rules

Data

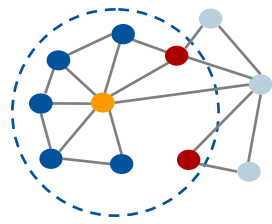
Predictions

## 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



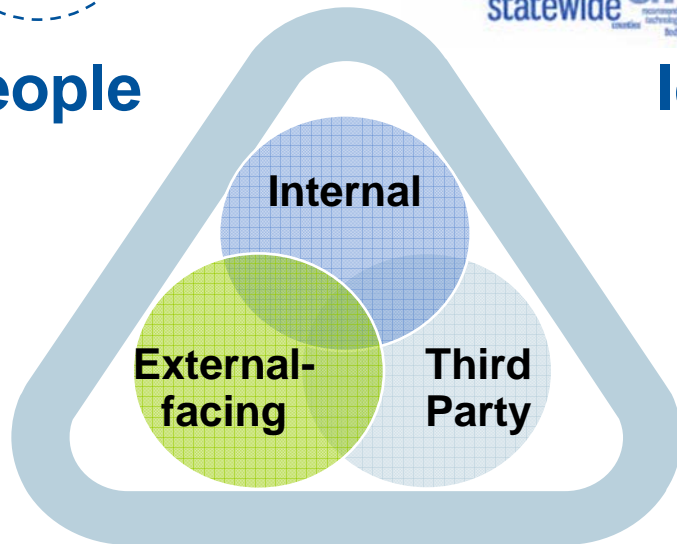
# Next-Generation Analytics: Adding the Social Dimension



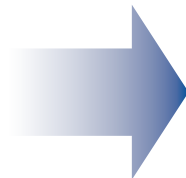
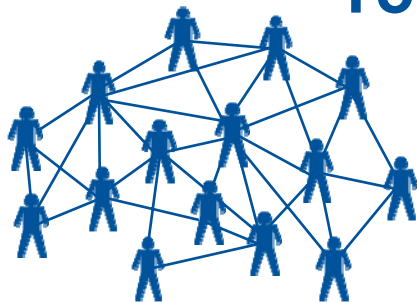
People



Ideas

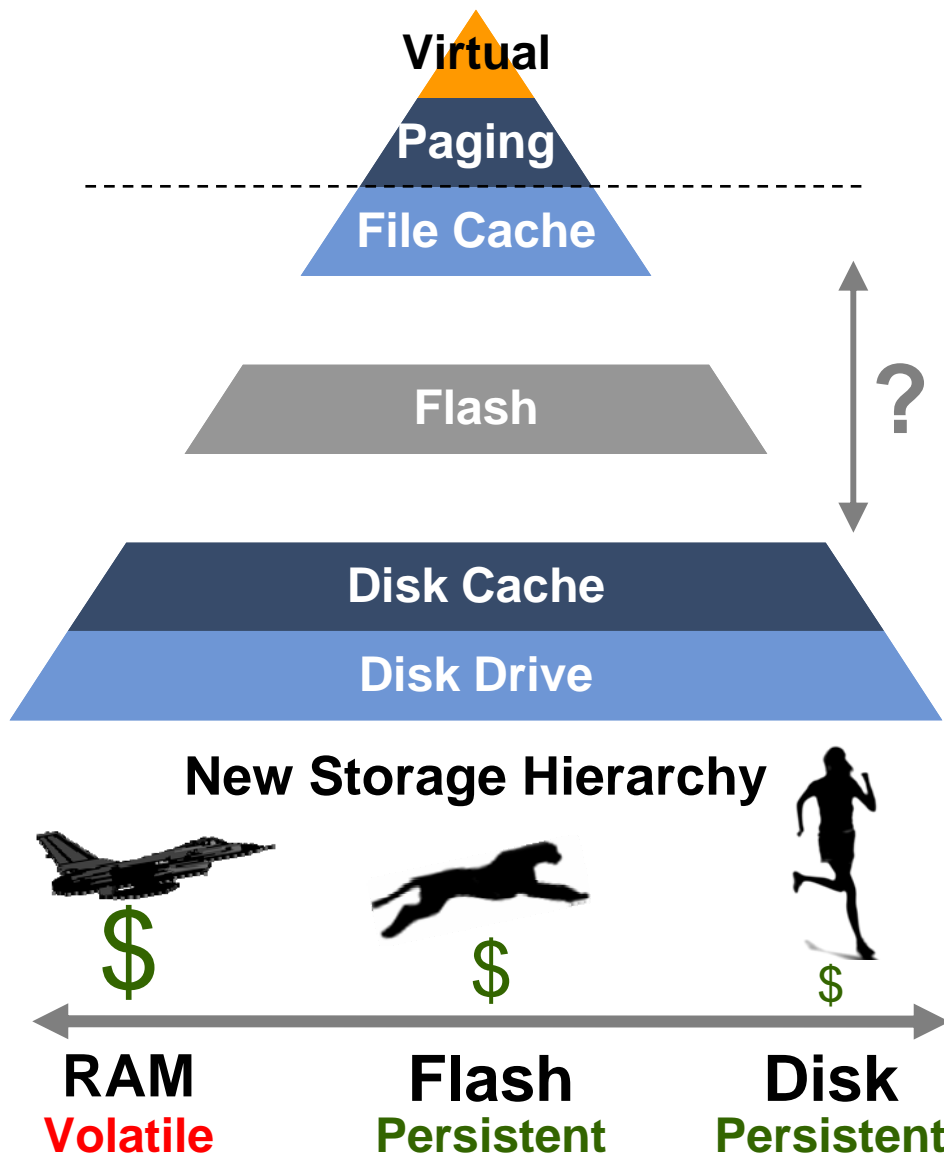


Topics



- Social network analysis
  - Organizational network analysis
  - Value network analysis
  - Social influence analysis
- Sentiment Analysis
  - Ratings, popularity, opinion
  - Reputation monitoring
- Contextual Analysis
  - Social network
  - Personal activity
  - Location

# 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

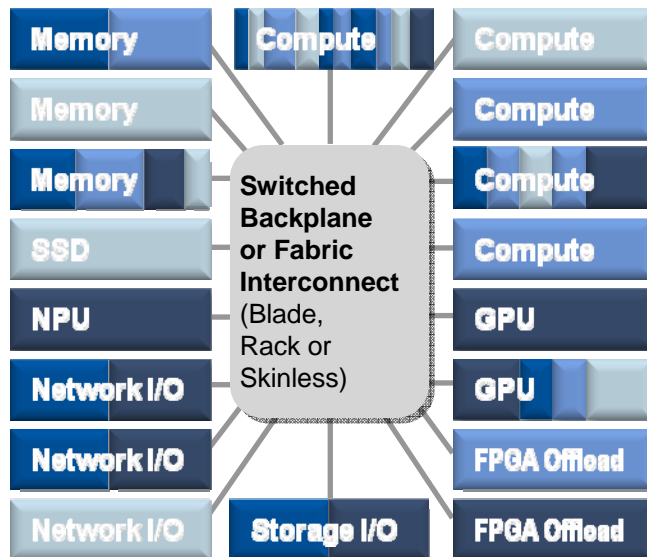
- In-memory database option
- Not persistent, limits use

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

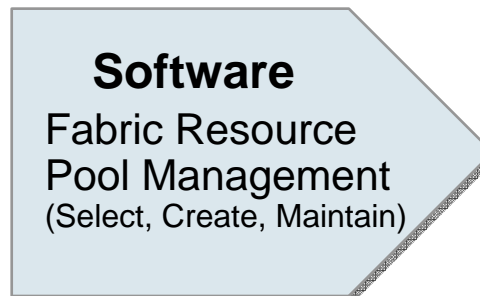
**RTI** Workflow, Orchestration, Life Cycle, Policies, etc.

**Applications** Purposing/Re-Purposing, Templates, Configure , Performance, Optimization/Placement

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



## Fabric-Based Infrastructure



**Fabric-Enabled Computer** – what is shipping today

**Fabric-Based Computer** – the next stage of server evolution

# Action Plan

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## 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

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## 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

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## 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.

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September 21 – 22, London, U.K.

### **Customer 360 Summit**

March 30 – April 1, Los Angeles, CA

### **SOA & Application Development and Integration Summit**

June 15 – 16, London, U.K.

### **BPM & SOA Summit**

June 30 – July 1, Tokyo, Japan

### **Application Architecture, Development & Integration Summit**

November 29 – December 1, Las Vegas, NV

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