Understanding Current Cloud Market Drivers and Responses

Thomas Murphy
@metamurph

thomas.murphy@gartner.com
The Change That Demands a Response

The pervasive continuity of the personal and business computing, emergence of Citizen IT

Explosion of digital social activities and collaborations

Internet of Things brings OT close to IT, devices close to software systems

Contextual, personal, cloud-backed, mobile applications, apps

Technological advances allow real-time analytics and real-time complex event processing

The death of the 9 to 5 work day (always-on decision making)

Imperative of rapid innovation and change

NoSQL, Hadoop and the gradual isolation of the relational model

Web scale and ubiquity of cloud services and resources
PaaS at the Peak of Inflated Expectations

Innovation Trigger
Peak of Inflated Expectations
Trough of Disillusionment
Slope of Enlightenment
Plateau of Productivity

Plateau will be reached in:
- less than 2 years
- 2 to 5 years
- 5 to 10 years
- more than 10 years
- obsolete
- before plateau

From "Hype Cycle for Platform as a Service (PaaS), 2013," 31 July 2013, G00251072

© 2014 Gartner, Inc. and/or its affiliates. All rights reserved.
Applications created in 2013 using traditional architecture models will be an IT-constraining legacy by 2016.

The leading business applications of 2016 are currently designed using nexus-ready application architecture principles.
The Next Application Architecture Must Serve the Next Business Outcomes

**Nexus Ready**
- Social
- Mobile
- Cloud
- Information

**Real Time**
- Observe
- Orient
- Act
- Decide

**Context Aware**
- Data Modeling
- Process Modeling
- Decision Modeling

**Person Centric**

© 2014 Gartner, Inc. and/or its affiliates. All rights reserved.
Consumers Now Drive IT

PC
The Computer Gets Personal

Client/Server
Data Without Programmers

Web
Instant WW Information

Nexus
The Consumer Takes Control

80s ➔ 90s ➔ 00s ➔ 10s

... and Consumers Now Define Quality
Employees Don't Stop Being Consumers

- No Longer "Users"
- Consumers at "Work"
- Information Rich
- IT-averse
- Team Motivations
- Self-directed
Cloud Computing Lets You Focus

• IaaS – Compute Power Available in Cloud as a Utility like Electricity Generation – Your applications run like always

• PaaS – Cloud Platforms that support building new Software and Simplifying Collaboration and Deployment – Think Telephony Services

• SaaS – Software Built and Optimized for Cloud that you Consume – Anywhere, As You Need

We Don’t Generate Our Own Electricity or Run Our Own Telephone Network
Improving The Business/IT Conversation

Better Ideas

New Ideas

Business Leader

Common Ideas

Apps/IT Leader

One Size Fits All
How Do Other "Systems" in Industry Deal With Varying Rates of Change? Pace Layering/Shearing Layers

<table>
<thead>
<tr>
<th>Structure</th>
<th>30 – 300 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>20 Years</td>
</tr>
<tr>
<td>Space Plan</td>
<td>3 – 30 Years</td>
</tr>
<tr>
<td>Services</td>
<td>7 – 15 Years</td>
</tr>
<tr>
<td>Stuff</td>
<td>1 Day to 1 Month</td>
</tr>
<tr>
<td>Site</td>
<td>Eternal</td>
</tr>
</tbody>
</table>

Note: For more on pace layers and shearing layers in building architecture see “How Buildings Learn” (1994) by Stewart Brand
A Pace Layered View of Systems

New Ideas

Better Ideas

Systems of Innovation

Systems of Differentiation

Common Ideas

Systems of Record
Think Nexus-ready Architecture: The Future Is Closer Than It Appears

Think Mobile:
- Consider user in context
- Consumer-grade user experience
- Loosely coupled (service oriented)
- Frequently changed
- Fast attrition
- Intermittent access
- Reduced chattiness
- Minimal message sizes

Think Cloud:
- Service oriented
- Loosely coupled
- Stateless and "hoardless"
- Multitenant ready
- Event driven
- Continuously versionable
- Parallel and in-memory ready
- Instrumented for governance
- Low chattiness
- Frugal use of resources
- Industrially packaged
- Platform independent
- Composed and composable
- Public access ready
Public Cloud Services Market Is a Fraction of the Overall IT Spending …

Public cloud services market grows from 3% to 5% of overall IT spending

---


© 2014 Gartner, Inc. and/or its affiliates. All rights reserved.
... and yet Everybody Wants in: Enterprise Cloud Computing Bazaar
Public PaaS Market Is a Fraction of the SaaS and IaaS Markets …

<table>
<thead>
<tr>
<th>Five-year CAGR (2012-2017)</th>
<th>SaaS</th>
<th>PaaS</th>
<th>IaaS</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.5%</td>
<td>23.5%</td>
<td>37.8%</td>
<td></td>
</tr>
</tbody>
</table>

... and yet Everybody Wants in: The Diverse Public PaaS Marketplace

Source: "Platform as a Service: Definition, Taxonomy and Vendor Landscape, 201
The Old Architecture Does Not Measure Up

- Monolithic design
- Over-provisioning and hoarding of resources
- Stateful
- No support of parallel or in-memory computing
- Not open for programmatic access
- Tightly coupled
- Not modular
- Assumes predictable connectivity

- Not designed for 24/7 use
- Discontinuous versioning
- Not horizontally scalable
- Not instrumented for introspection
- Single-channel front-end
- Complex
- Expensive
- Locked into proprietary frameworks, platforms, and vendors
Cloud vs. Enterprise: Vendors Must Master Both to Lead

<table>
<thead>
<tr>
<th>Cloud natives:</th>
<th>aPaaS</th>
<th>Enterprise natives:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• apinso appeleon</td>
<td></td>
<td>• IBM SmartCloud Application Services</td>
</tr>
<tr>
<td>• AppPoint AppsOnAzure</td>
<td></td>
<td>• IS Tools Hosted Platform</td>
</tr>
<tr>
<td>• Caspio Bridge</td>
<td></td>
<td>• Mendix App Platform</td>
</tr>
<tr>
<td>• CloudBees RUN@cloud</td>
<td></td>
<td>• Microsoft Windows Azure Cloud Services</td>
</tr>
<tr>
<td>• cloudControl</td>
<td></td>
<td>• MioSoft MioEdge</td>
</tr>
<tr>
<td>• dotCloud</td>
<td></td>
<td>• OpenText (Cordys Cloud)</td>
</tr>
<tr>
<td>• Engine Yard Cloud</td>
<td></td>
<td>• Oracle Java Cloud Service (limited access)</td>
</tr>
<tr>
<td>• Fhoster Platform</td>
<td></td>
<td>• Pramati (WaveMaker)*: CloudJee</td>
</tr>
<tr>
<td>• Google App Engine</td>
<td></td>
<td>• Progress Software Rollbase Hosted Cloud (Rollbase)*</td>
</tr>
<tr>
<td>• Indra Gnubila</td>
<td></td>
<td>• Red Hat (OpenShift Online)</td>
</tr>
<tr>
<td>• OrangeScape Cloud</td>
<td></td>
<td>• SAP HANA Cloud Platform AppServices</td>
</tr>
<tr>
<td>• salesforce.com (Heroku)* and Force.com</td>
<td></td>
<td>• ServiceNow PaaS</td>
</tr>
<tr>
<td>• TrackVia Application Platform</td>
<td></td>
<td>• Software AG AgileApps Live (LongJump)*</td>
</tr>
<tr>
<td>• Wolf OnDemand Public Cloud</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• WSO2 StratosLive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Zoho Creator</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*acquisition
Design for Continuous Delivery

Continuous Development Integration Operations

- IT Developers
- Cloud Providers
- IT Operations
- OT Engineers
- Citizen Developers
- Business Partners
The Bottom Line 1: Mind Your Architecture

Nexus-ready Architecture Principles

<table>
<thead>
<tr>
<th>1. Build on SOA</th>
<th>Plan for modular, distributable, discoverable, shareable, and replaceable services</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Cloud first, mobile first</td>
<td>Avoid instant-legacy applications, plan &quot;future-first&quot;</td>
</tr>
<tr>
<td>3. Separation of concerns</td>
<td>Separate services by role, cadence, semantics, and scope</td>
</tr>
<tr>
<td>4. Business-out design</td>
<td>Establish core business services before designing clients and sources</td>
</tr>
<tr>
<td>5. Hybrid Business Solutions</td>
<td>Design into a network — local, multi-site, and global</td>
</tr>
<tr>
<td>6. Event-driven architecture</td>
<td>Implement event processing for real-time operations</td>
</tr>
<tr>
<td>7. Context-aware computing</td>
<td>Seek context for situation-aware intelligent operations</td>
</tr>
<tr>
<td>8. Managed service ecosystem</td>
<td>Control your ecosystem of resources</td>
</tr>
<tr>
<td>9. Global class</td>
<td>Be ready to consume and provide global services</td>
</tr>
<tr>
<td>10. Continuous delivery</td>
<td>Manage the life cycle of continuous change</td>
</tr>
</tbody>
</table>
The Bottom Line 2: People First

Cultural Change

- Fight the Not-invented-here Syndrome
- Socialize, Listen, and Be Transparent
- Avoid Stovepipe Projects and Applications
- Be Systematically Opportunistic
- Avoid Rigid Policies: Plan, Act, Learn, and Change
- Think Integrated Business (All Business Is IT Business)
Recommended Gartner Research

- The Nexus Effect and How the Nexus of Forces Alters Established Architecture Models
  Yefim V. Natis (G00238661)
- Ten Ways to Avoid SaaS Delivery Problems and Protect Your Organization
- Toolkit: SaaS Security Decision Framework
- Don't Believe the Hype: SaaS Only Reduces Part of the Effort Needed to Implement and Operate Business Applications
- Risks and Opportunities of PaaS at the Peak of Inflated Expectations
- Calculating and Comparing Public Cloud SaaS Costs

For more information, stop by Gartner Research Zone.

© 2014 Gartner, Inc. and/or its affiliates. All rights reserved.