

Cloud Computing: The Next Big Thing in IT

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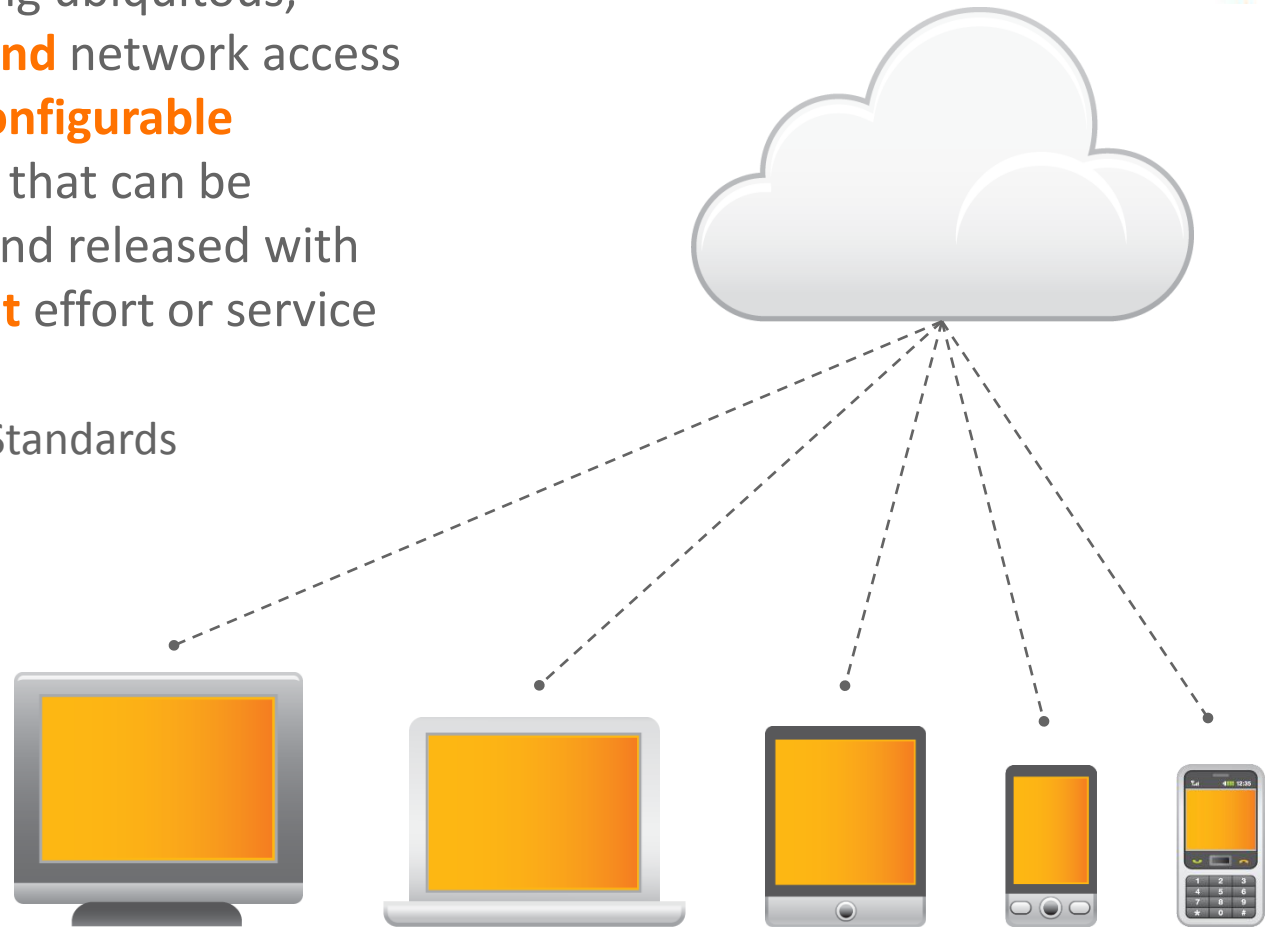
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What is “Cloud Computing”?

“...a model for enabling ubiquitous, convenient, **on-demand** network access to a **shared** pool of **configurable computing resources** that can be **rapidly provisioned** and released with **minimal management** effort or service provider interaction.”

- National Institutes of Standards and Technology



AT&T Cloud-based, On-demand Solutions Meet Customer Needs

Improve My Productivity

- Real time collaboration across employees, partners, customers
- Requirements for applications to work across devices



Reduce My Cost

- Low storage and server utilization in non-peak periods
- Desire to pivot from Capex to Opex

Remove the Complexity

- Simplification due to limited IT staff down market
- End-to-end ownership vs. multi-vendor service integrations

Demand to mobilize and virtualize assets, applications and activities



- Off-premise
- On-demand
- Easy to Use
- Web-enabled
- Device Agnostic
- Tiered Support



Cloud Deployment Models Transfer Responsibility

		Customer Management Responsibility	Service Provider Management Responsibility
Software as a Service	Application		●
	Database		●
	Operating System		●
	Servers		●
	Storage		●
Platform as a Service	Application	●	
	Database		●
	Operating System		●
	Servers		●
	Storage		●
Infrastructure as a Service	Application	●	
	Database	●	
	Operating System	●	
	Servers		●
	Storage		●



Cloud Deployments:

Infrastructure as a Service

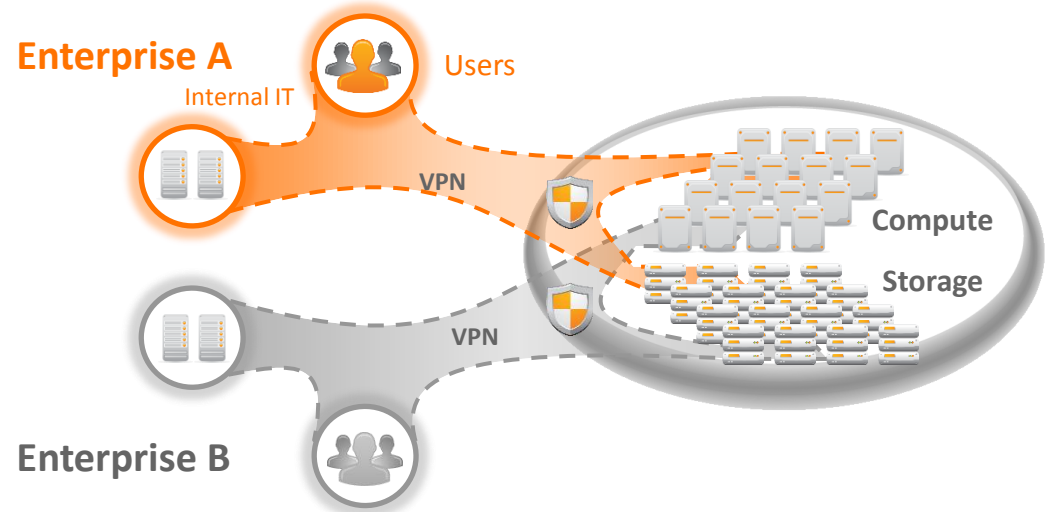
AT&T Synaptic Storage and AT&T Synaptic Compute

- **Benefits**

- Reduced capital costs
- Increased flexibility
- Meet dynamic demand for applications

- **AT&T Difference**

- Combine network + IT resources for greater control
- Network based security



What is Infrastructure as a Service?

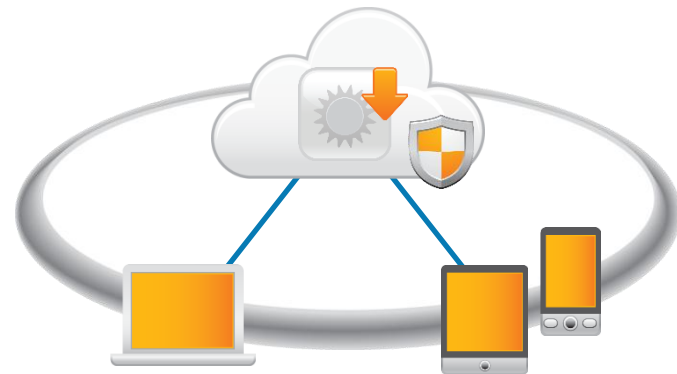
- Storage and Computing resources delivered via the network.
- Provision easily and immediately via a portal.
- Turn on and turn off resources as-needed.
- Pay for only what you use.

Cloud Deployments:

Platform as a Service

AT&T Platform as a Service

- Benefits
 - Quickly launch applications
 - Automate business processes
 - Meet needs of users
- AT&T Difference
 - Broad portfolio of complementary services like mobility and networking.
 - Stability, scalability, performance and global reach



What is Platform as a Service?

- Complete, ready-made technology stack.
- Standardized infrastructure on which you can deploy applications.
- Scale up as you draw more users.
- Pay per user, per month.



Software as a Service

AT&T Workforce Delivered & Siebel® Case Management

AT&T Today

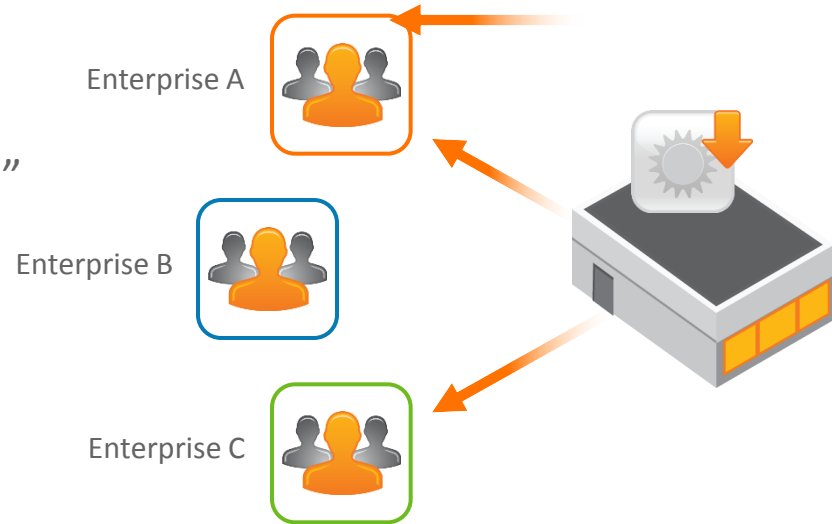
- Software on shared infrastructure
- Subscription licenses offered on a “term” basis for certain applications
- Initial upfront payment for hardware
- Per user, per month fee thereafter for certain applications

AT&T Tomorrow

- One application instance deployed in AT&T IDC
- Multiple organizations access and use the application.

Benefits

- Lower total cost of ownership for applications
- Easy access for distributed workforces
- Reduce time to deployment



Software as a Service?

- Full software functionality
- One software instance delivered to multiple customers over the Internet
- At term end, customer has no access to application.
- Pay per user, per month.

AT&T Platform as a Service

Build, Run, and Mobilize your Applications in the Cloud

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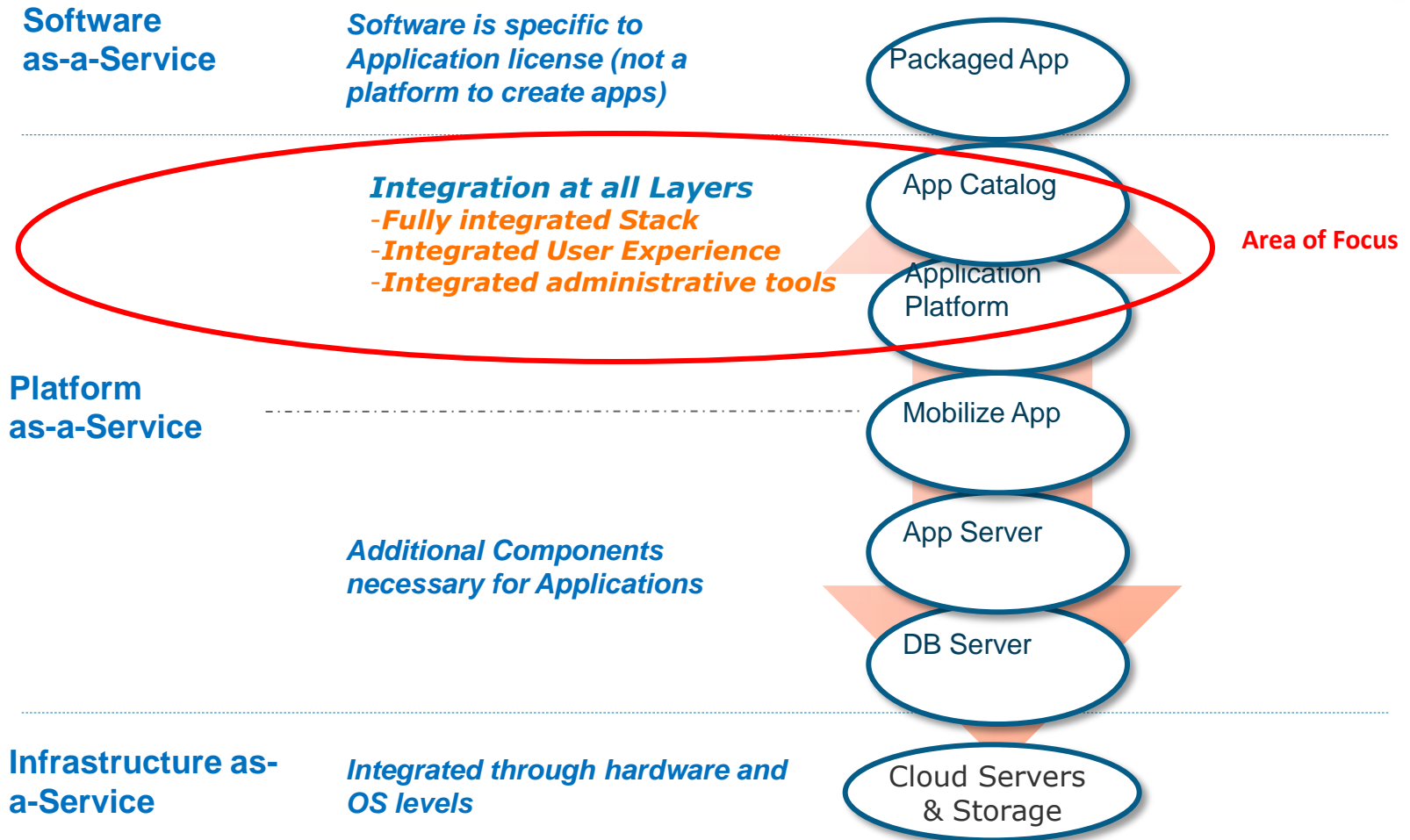
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Cloud Continuum



AT&T Platform as a Service

Quickly build and run your applications in the cloud

Create business productivity apps without writing a single line of code

Over 45 Pre-built application templates included:

- Sales Force Automation
- Expense Management
- Project Management
- Job Leads
- Office Space (shared calendar and other productivity tools)
- **Many others**

Developers – ISVs, enterprise developers, or LoB owners



Fully managed PaaS Environment

Includes: Web Srvr, App Srvr
DB, Prog Language, IDE

Social Networking (Relay)

Enterprise user – Access app from standard browser interface

Mobile client – extend apps to mobile devices seamlessly (mobile web today, mobile app in future)

Flexible ♦ Secure ♦ Expansive ♦ Efficient



3 Easy Ways to Build an Application

The screenshot shows a web interface titled 'My Applications' with a sub-header 'Create New Application'. Below this are three tabs: 'Create Using Template', 'Create By Import', and 'Create Using Wizard'. The main content area is titled 'Catalog' and lists four applications: 'Campus Management', 'Dine Out Manager', 'Support Case Manager', and 'OfficeSpace'. Each application has a description and an 'Install' button. Three callout boxes with dashed orange borders and numbers 1, 2, and 3 point to the 'Create Using Template' tab, the 'Create By Import' tab, and the 'Create Using Wizard' tab, respectively.

1 Create using one of the pre-built app templates in our catalog

2 Import from spreadsheet

3 Create with easy to use wizard

Catalog

- Campus Management**
Track maintenance schedules and work orders for buildings such as schools, universities and office parks. You will be able to track the cost for maintenance tasks and labor.
- Dine Out Manager**
The Dine Out Manager application can be used to take orders for lunch runs made by your company or teams. You can track who has paid and who has not paid.
- Support Case Manager**
Complete case management support solution with built-in customer self-service portal that provides interactivity with your customers with complete backend interface to account and contact records.
- OfficeSpace**
Team productivity tools for collaborating within your business or workgroup including shared group calendar, document and file

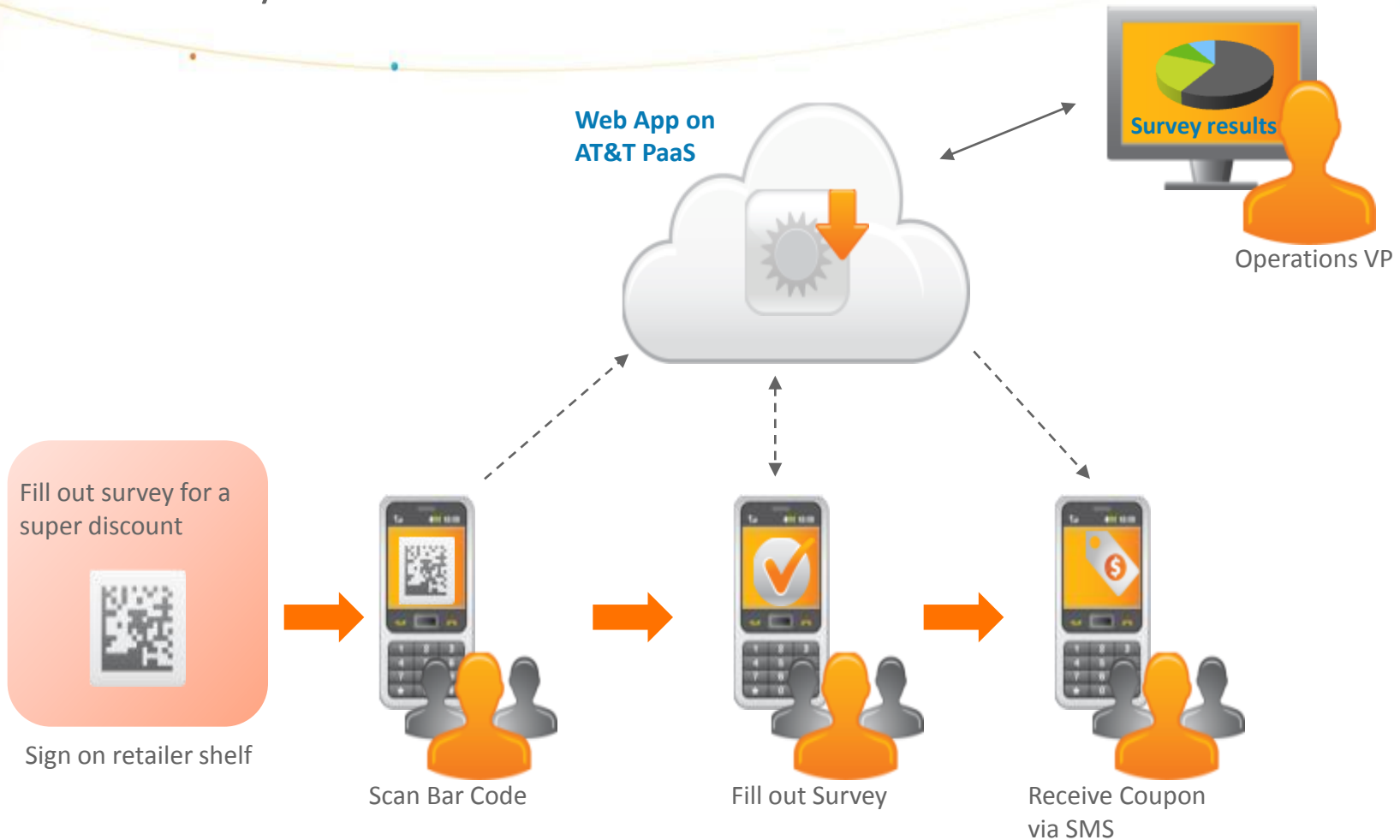


DEMO TIME



PaaS Demo with Web Interface

In store survey



Saber Tooth Athletic Apparel





Sabertooth Athletics

Got a
smartphone?

Scan the code
below; fill out
our survey &
get a **FREE GIFT!**

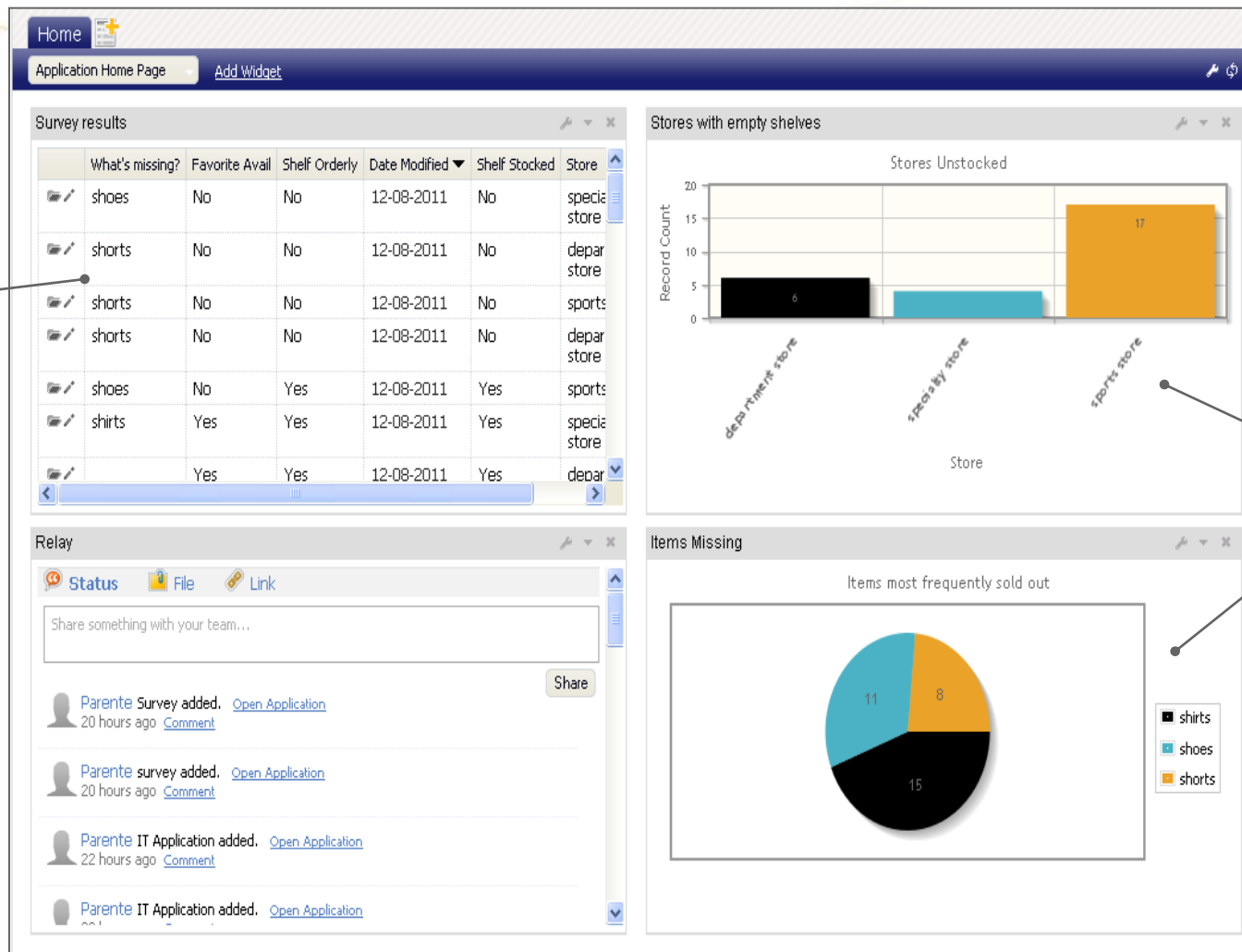


Mobile Web Interface



Real Time Reporting to drive Business Intelligence

All data collected from surveys



Custom reports for driving business decisions



Rethink Possible®



Demo Instructions

- 1) Have customer use AT&T QR-Code Scanner to scan the QR-Code on the ad on previous slide
- 2) Ask them or you fill-out the Survey to get a Coupon Code
- 3) Log-in to PaaS: <https://paas1.attplatform.com/>
User ID: rt7186 PW: CH1let3U
- 4) Show the record the customer just entered on the Top Right panel (All Survey).. You can click on each record to see the discount code (Record ID), customer information, etc.
- 5) Show the automatically generated Analytic reports on the Left panels
- 6) Talk about how we created this demo in less than 3 hours



Tax Policy Challenges for Cloud Based Services



Characterization

- No Clear Tax Treatment – What is the service?
 - Software – delivered electronically versus access
 - Data Processing Service
 - Computer Service
 - Information Service
 - Lease of Tangible Personal Property
 - Communication Service
 - Ancillary Service
 - Storage Services – Does ITFA apply?
 - Not Enumerated Taxable Service



Characterization (cont'd)

- Why does characterization matter . . .
 - Determining taxability – states have different definitions
 - What use based exemption may be applicable
 - Resale, Manufacturing, R&D, etc.
 - What state properly asserts that tax - sourcing



Sourcing

- Where is the service taxable?
 - Server Location
 - Contracting Address
 - Billing Address
 - User Location – potentially multiple locations
 - Duplicate taxation of the same transaction
 - User not always purchaser



Nexus

- When a customer purchases cloud computing services, does the vendor's server location create nexus for the customer?
- Whose footprint matters?
 - Customer?
 - Vendor?
 - Both?



Overview of the States

- Most states treat “prewritten computer software” as tangible property, but taxability may vary:
 - Tangible storage media
 - Downloaded
 - Remotely accessed
- Most states exempt services unless specifically identified in statute
- Where do “Cloud Based Services” fit?



Key Issues for Policymakers

- What is it?
 - Software
 - A service
 - Combination of the two
- Is there a non-Cloud Based equivalent service?
 - Is the equivalent taxed?
- Where is the service performed / delivered?



Key Issues for Policymakers

- Economic impact / economic development
 - Impact on providers of cloud based services
 - Impact on purchasers of cloud based services
- Potential for tax pyramiding



NCSL Task Force Principles

- Consensus process including:
 - Legislators
 - Tax administrators / SSTP reps
 - Industry
- Approved by Task Force on August 6, 2012
- Frame issues for legislatures wishing to examine taxation of Cloud-Based Services



NCSL Task Force Principles

- 1A -- Establish consistent sourcing rules to prevent double taxation or tax avoidance
- 1B -- Do not impose discriminatory taxes on Cloud Based Services
 - Tax rate discrimination – higher rates on CBS
 - Tax base discrimination – tax CBS while exempting equivalent non-CBS
 - Key question – is there an equivalent?



NCSL Task Force Principles

- 2 -- Base tax decisions on the service, not the type of provider
- 3A -- Tax imposition decisions should be made by legislators, not administrative rulings
- 3B -- Make definitions clear to avoid uncertainty



NCSL Task Force Principles

- 3C -- Recognize that Cloud Based Services encompasses a broad range of services which need to be addressed in statute
- 3D -- Design impositions on specific and clearly delineated services or, in states where statutes already tax services broadly, make exemptions (if any) clear



NCSL Task Force Principles

- 3E -- Involve providers of Cloud Based Services in drafting statutes governing taxability and sourcing
- 3F -- Provide clear and consistent rules to govern bundled transactions involving Cloud Based Services



Concluding Thoughts

- NCSL principles can help guide legislative discussions
- Tax imposition decisions should be made by the legislature
- Legislative review may trigger broader conversations about taxation of services



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