



Systems & Technology Group

Cloud computing for System z



Novell[®]

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Cloud-onomics...

CLOUD COMPUTING



...leverages virtualization, standardization and automation to free up operational budget for new investment



... allowing you to optimize new investments for direct business benefits

Cloud Computing Delivery Models

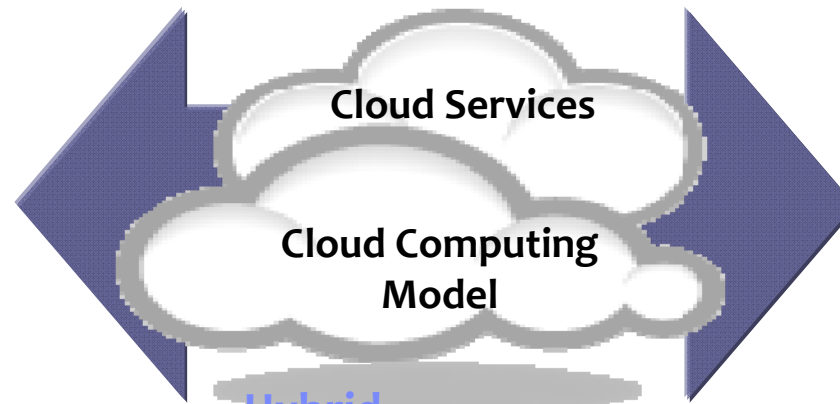
Flexible Delivery Models

Public ...

- Access by Service provider owned and managed.
- subscription.
- Delivers select set of standardized business process, application and/or infrastructure services on a flexible price per use basis.

Private ...

- Privately owned and managed.
- Access limited to client and its partner network.
- Drives efficiency, standardization and best practices while retaining greater customization and control



Hybrid ...

- Access to client, partner network, and third party resources

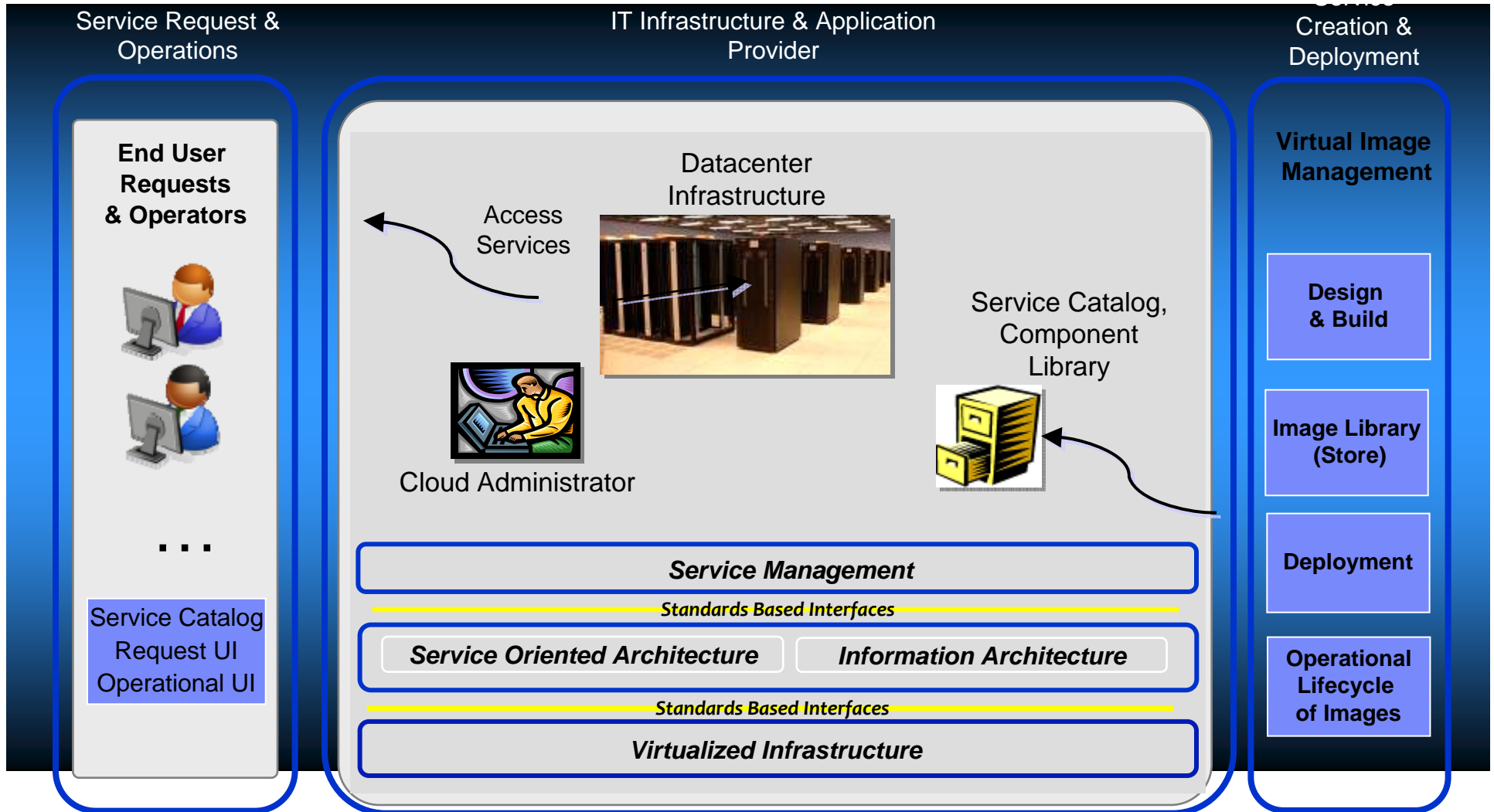
.... Standardization, capital preservation, flexibility and time to deploy

.... Customization, efficiency, availability, resiliency, security and privacy

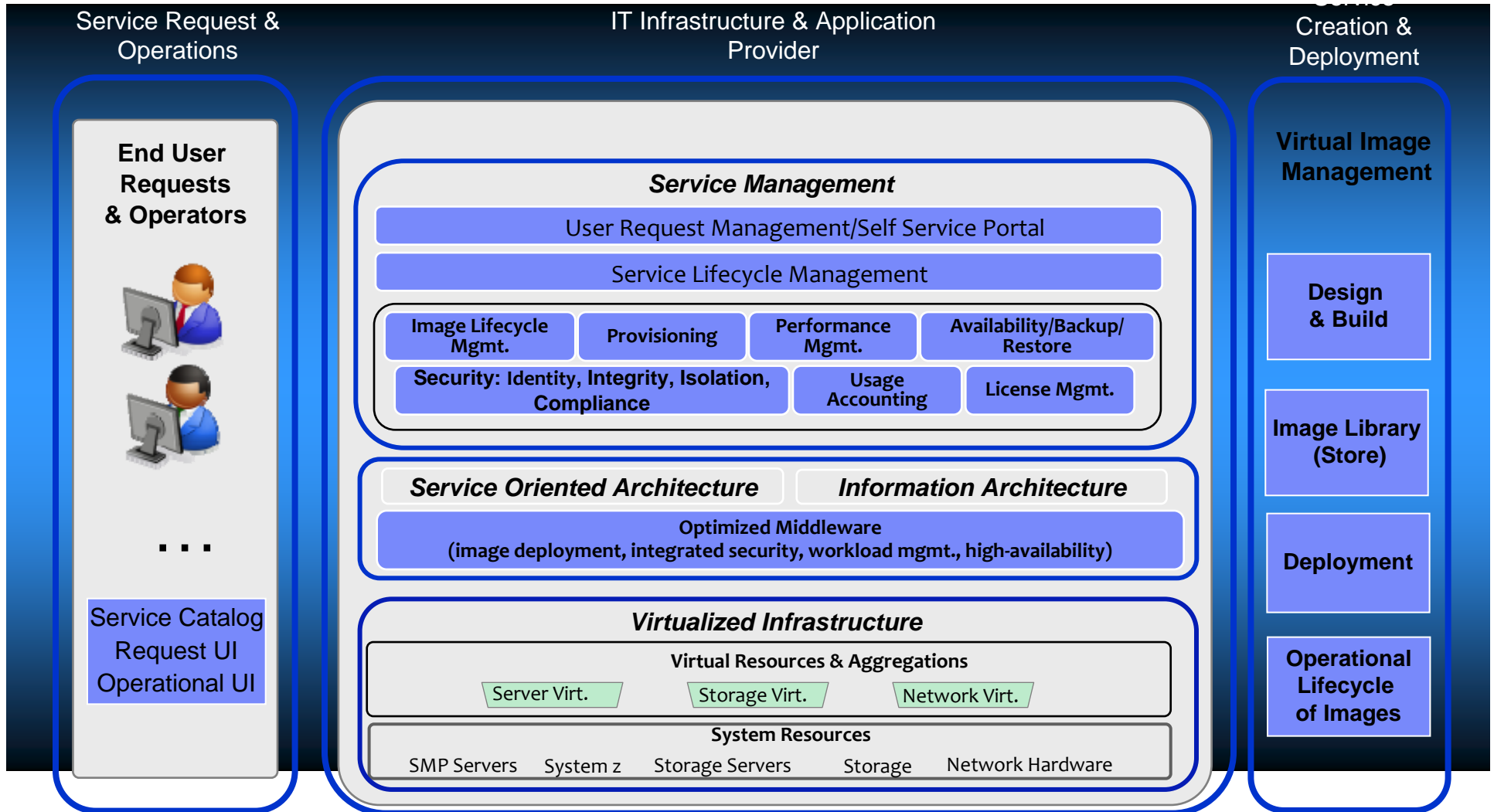
ORGANIZATION → CULTURE → GOVERNANCE

...service sourcing and service value

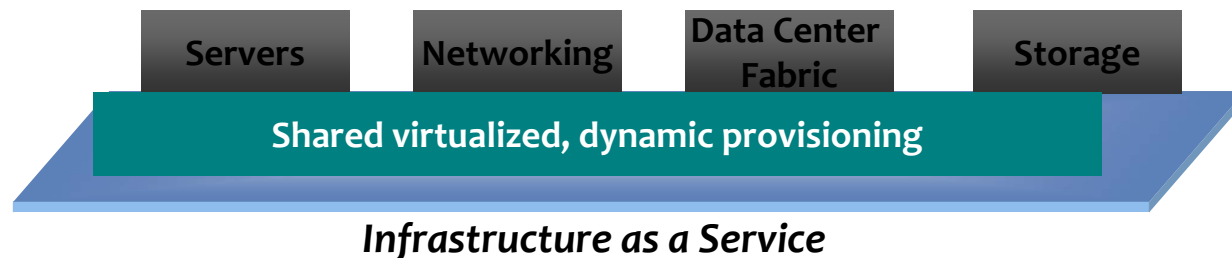
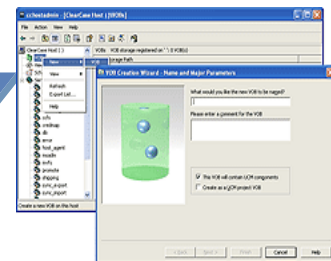
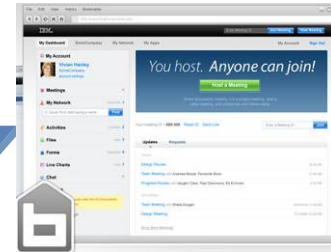
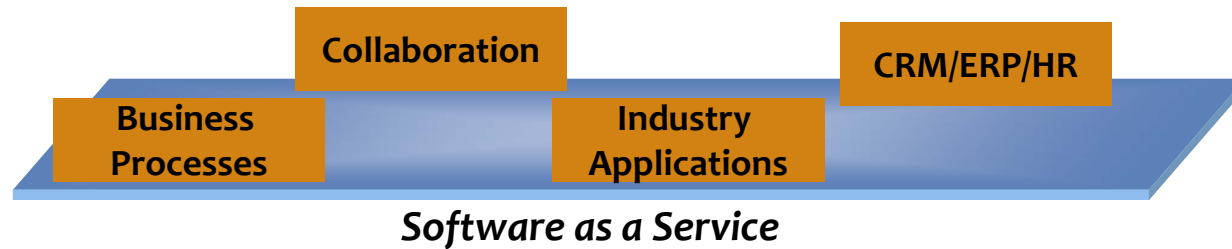
An Architectural Overview for Cloud Computing



An Architectural Model for Cloud Computing



The layers of IT-as-a-Service



The Mainframe Cloud agenda

Focus on Strengths

Extend the Data Serving and Massive Virtualization Strategy of System z to embrace Cloud Computing

Take advantage of System z efficiencies

As the industry drives the focus from capital to operational costs, the opportunity to grow the presence of the mainframe is clear

Extend the mainframe strategy

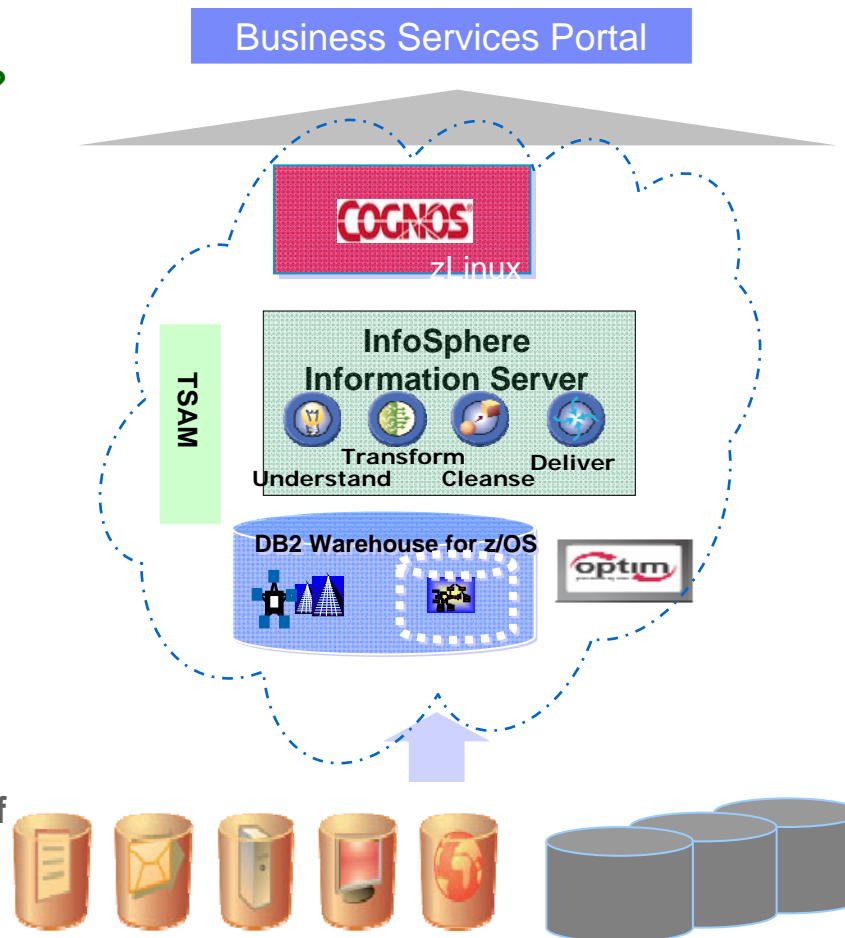
Use the traditional strengths of System z to offer a differentiated IBM Cloud offering to our enterprise customers and transparently to the broader community.



System z Data Cloud allows customers to bring BI services with less cost and higher qualities of availability and security.

What is a Data Cloud?

- Centralize BI using Cognos on z/Linux
- Take Data from anywhere: structured, unstructured, applications, mainframe, or distributed
- Deliver consumer driven services to a broad set of users / lines of business
- Automate delivery of services



Leverage the data centric strengths of z: allows for multi-tenant data support, Sysplex enablement and massive consolidation at the application layer

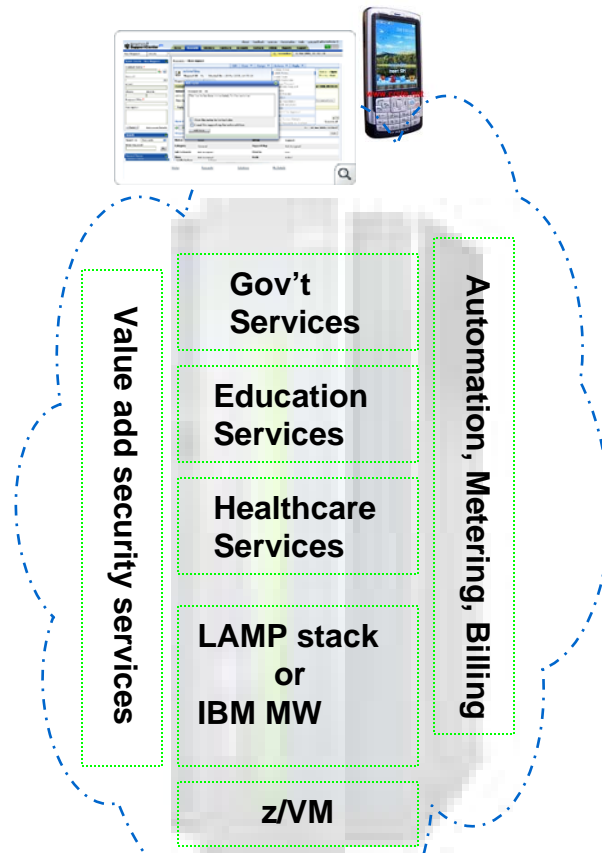
Why z for data clouds?

- Save costs with operational efficiencies of z and virtualization
- Deliver qualities of service: availability, security, recoverability
- Allow for elastic growth in tenants and data
- Prevent unforeseen operations costs that occurs with a patchwork IT investment pattern

System z Public Sector Cloud delivers a robust and secure open source solution for efficiently reaching massive volumes of users.

What is a Public Sector Cloud?

- Education, healthcare or government services that can be hosted by university, corporate & government entities
- Partnership with open source & low cost application vendors in the public sector space
- Designed for effective use of the available resources – skills, power, etc. for maximum impact



Why z for the Public Sector Cloud?

- Leverages limited IT pool most effectively
- Operationally efficient with broadest reach
- Highly virtualized with LPAR isolation and shared everything infrastructure
- Supports an open source environment
- Runs mixed workloads effectively

OSS workload examples:

Government services:

- Disaster recovery *finding missing people, managing aid, managing volunteers, tracking camps effectively between Government groups, civil society and victims*



Consumer & business services:

- Virtual Linux desktops



Healthcare services:

- Open Medical Record System for standardized medical informatics



Education services:

- Education ERP *for financials, student administration and research*
- Learning Management System *for remote course mgmt, collaboration, and content*



A summary of client insights from engagements

What we've learned...

- **Cloud is a strategic C-Suite discussion**
 - Clients focused on how cloud solves business problems (and in today's economy) in a self-funding manner
 - Center discussion on business drivers, how our solution solves their issues, ROI, and lessons learned
- **IBM has brand permission to assert leadership**
 - Clients want clear view of architectural vision, security, notion of an enterprise cloud, range of capability and expertise of IBM
- **Competitors are encouraging clients to “push” IBM**
 - How to questions - How will you deploy applications on Amazon Cloud? Azure Platform?
 - Strategy questions – Does IBM have hosted cloud capability similar to Amazon? What is your ecosystem?
 - Case Studies and References – Where else has this been done?



IBM Research Computing Cloud (RC2)

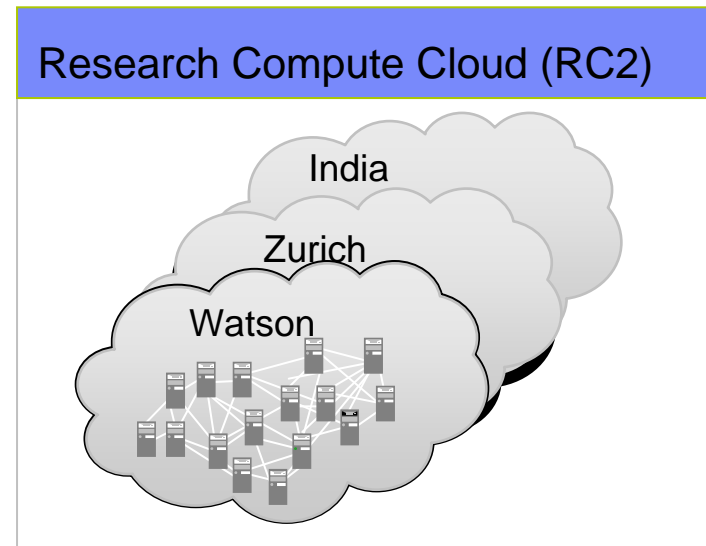
A living lab to advance Research strategies

Provides self service “on demand” delivery solution for research computing resources

Zero touch support for the full life cycle of service delivery

- Order creation
- Approval process
- E-mail notification
- Automated provisioning
- Monitoring

A System z cloud in the Tokyo Research Lab is being integrated into RC2 (April)



Research Compute Cloud RC² Hello, You are logged in as aashaikh@us.ibm.com Log out

Welcome [New Request](#) [Projects](#) [Reports>>](#) [Help>>](#)

OS	Type	No. of CPUs	Memory(GB)	CPU Speed(MHz)	Storage(GB)	Quantity	Available	
<input type="radio"/> Windows	Xen-VM	2	2	3200	20	1	19	Add to Cart
<input type="radio"/> AIX	LPAR	2	2	2100	25	1	41	Add to Cart
<input checked="" type="radio"/> Linux	Xen-VM	2	2	3200	20	1	19	Add to Cart
<input type="radio"/> LAMP	Xen-VM	2	2	3200	20	1	19	Add to Cart

[Prev](#) [Cancel](#) [Next](#)

Financial Services Company builds a zTest cloud

Business Problem

- Complex IT environments, lacking automation. This results in long lead times for requests, and high cost for deploying and managing environment.
- Little standardisation of configuration leading to quality issues and additional maintenance overhead. Want to improve audit results and IT compliance for development and test.
- Need to improve capacity without increasing cost

Lessons Learned

- “Don’t eat the elephant in one go!”
- Set scope around a process not around a function – focus on the people and the skills to drive rapid implementation.
- This is transformative and crosses organizational boundaries. Executive sponsor support is vital.

Solution Overview

- Phased pilot, with first phase completed in Q408.
- Use TSAM as the cloud management solution (incl. service management) in a pilot.
- Manage the deployment of distributed WAS ND instances on zLinux, z/VM, DASD.
- Implement and prove a set of scenarios:
 - Instantiation of a distributed WAS ND cluster running on zLinux.
 - Increase capacity of a WAS ND cluster service instance.
 - Delete a WAS ND cluster service instance.
- Tangible results from Pilot:
 - Simplified – Requires less interaction with developers to get a new WAS ND Cluster.
 - Faster time-to-market for developed apps.
 - 100% consistent deployment of environment

TRANSZAP Mainframes for SW As a Service

Leading SaaS provider of ePayable, digital data, and spend analysis solutions

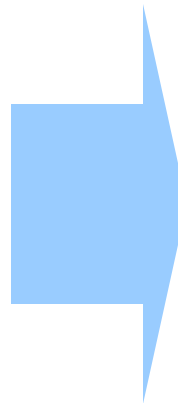
- 44,000+ users
- 4,200 companies
- \$80 B in transaction detail, processed



• Available • Secure • Elastic

Traditional Intel shop

- Challenge to scale, manage, secure
- Complex configurations
- Linear costs for growth



New z9 Business Class shop

- 100% YTY growth-plan to production
- Flexible capacity on demand
- Centrally managed & secured
- Manageable cost of incremental growth

“The IBM z9 provides the stability and scalability needed to accommodate Transzap’s triple digit volume growth in a SaaS environment.”

– Peter Flanagan, President



Systems & Technology Group

SUSE Linux from Novell



Novell® and IBM Partnership Highlights

- SUSE® Linux Enterprise runs on all IBM hardware platforms
- IBM and SUSE Linux Enterprise co-developed Linux for Power Systems and System z
- IBM/Novell co-developed IBM Retail Environment on SUSE Linux Enterprise (IRES)
- Dedicated Alliance Teams at Novell and IBM
- Novell is Strategic IBM Alliance Partner since December 2005
- IBM support-line on SUSE Linux Enterprise
- SUSE Linux Enterprise Server is on IBM's Passport Advantage (PPA) Program

SUSE® Linux Enterprise Server for System z Built for Demanding Conditions

- Over 1,000 certified applications available
- SUSE Linux Enterprise Server for System z includes over 180 features requested by IBM
- SUSE Linux Enterprise Server is recognized as a leading platform for mission-critical computing:
 - Higher reliability than Windows, Red Hat and Solaris; according to Yankee Group
 - #1 in the SAP-on-Linux market (75% share)
 - #1 in the mainframe Linux market (80% share)
 - #1 in High Performance Computing (6 of the top 10)





Thank you!

**For more information, please
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