

Pulse2011



Session 10, Track 1: Successful IBM led Deployments in the Cloud

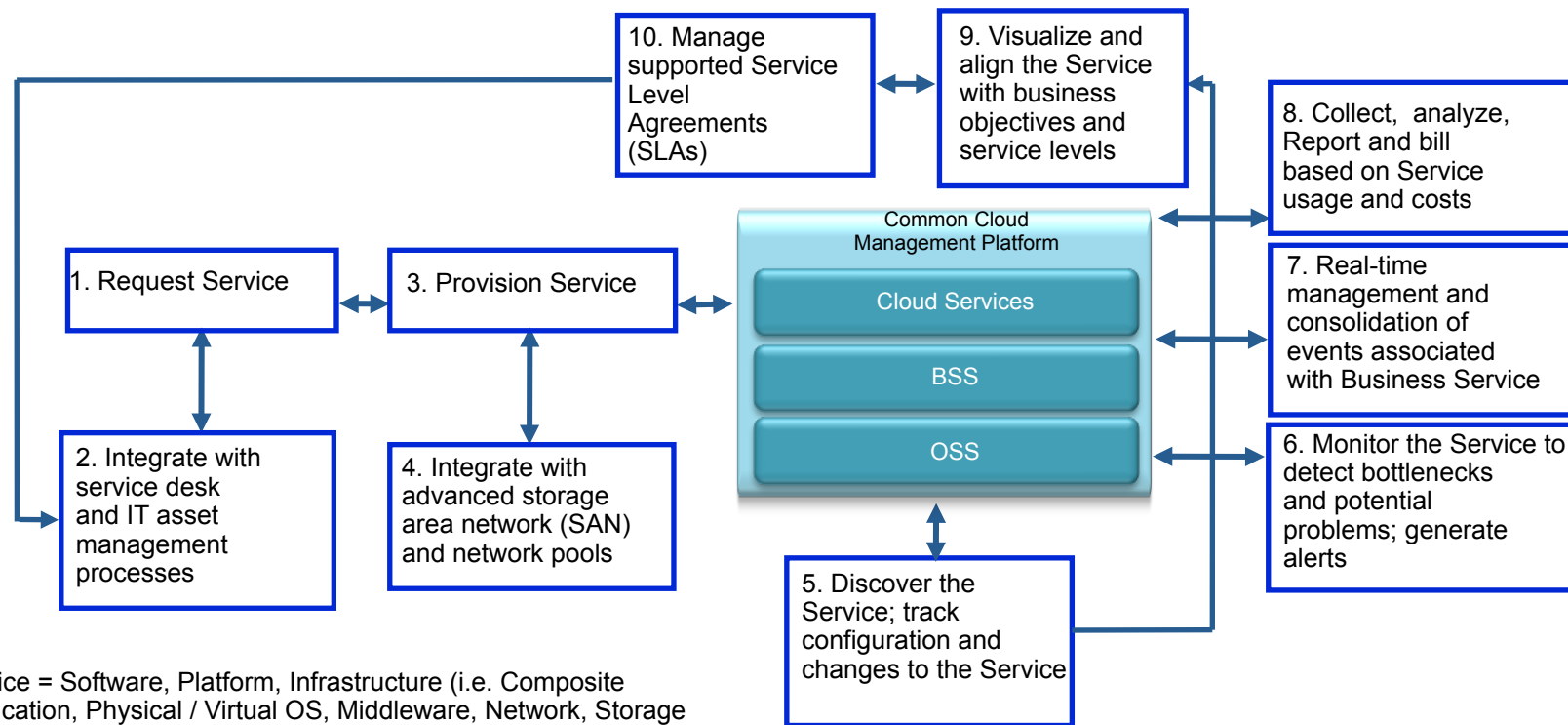
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WW Integrated Service
Management

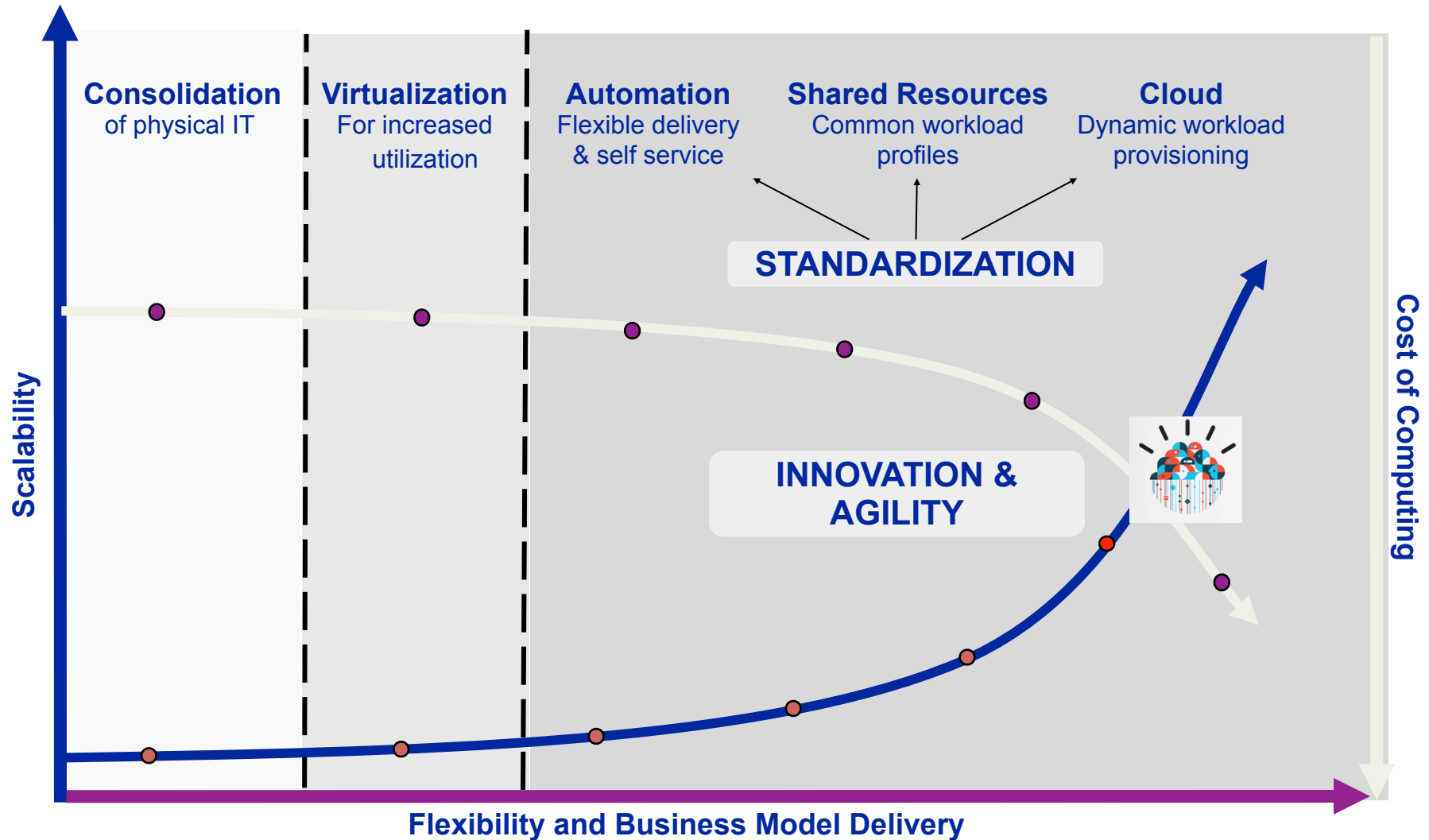


Lets Start by Understanding What a Cloud Use Case Might Look Like



The economics and flexibility of workload optimized systems

Movement to standardized infrastructure is driving greater automation and optimization



References



NORTHROP GRUMMAN



U.S. AIR FORCE



Sinopec Corp.



ManTech
International Corporation



NISSAY



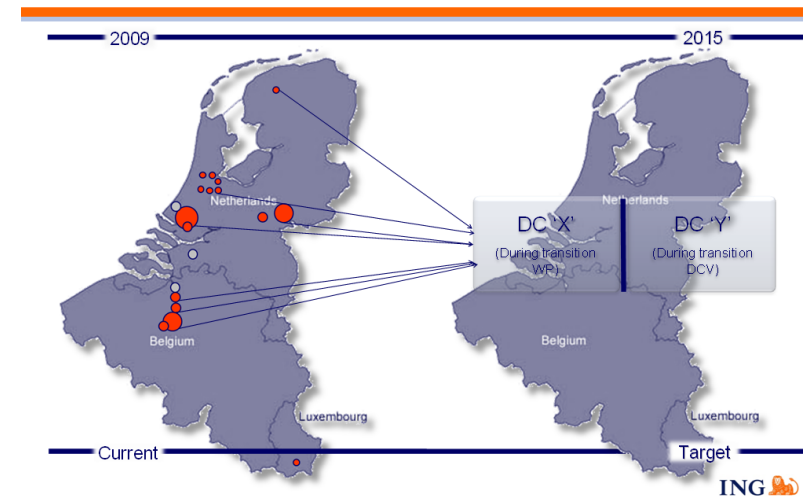
Nissay Information Technology Corporation

ING Challenge and Approach

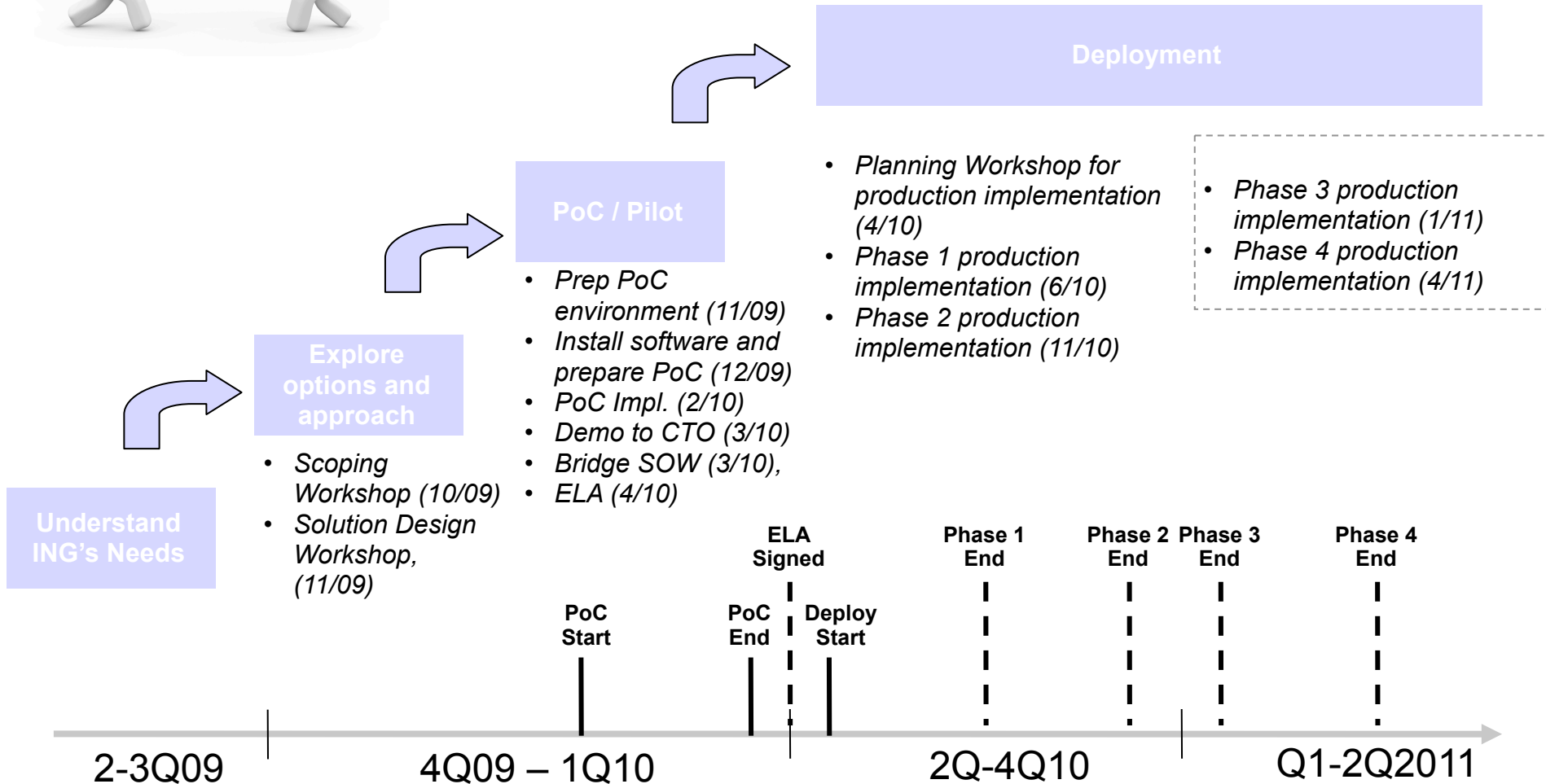


- **Challenge:**
 - Significant pressure to reduce their CAPEX and OPEX in order to remain competitive in the post credit crisis market.
 - Need to drive down IT costs dramatically
 - Need to significantly improve time to deliver new IT environments to the Business
- **Awareness:**
 - Data center management efficiency is about half of a comparable company
- **Vision :**
 - Transform towards a “new world” private cloud IT environment capable of automated delivery and management of standardized software stacks.
- **Strategy:**
 - Embark upon a large data center consolidation project - merging 16 worldwide data centers into 2 local and highly efficient "lights out" centers.
 - Automated delivery and management of software stacks and distributed applications within a single integrated solution

Datacenter consolidation



ING Private Cloud Timeline



ING Private Cloud Solution Overview



Workloads

- Service measurement
- Service reporting
- Usage accounting
- Auditing and controls

Web, Collaboration and Infrastructure

Technology
Highly Threaded
Throughput-oriented
Scale Out Capable
Lower Quality of Service

Analytics and High Performance Computing

Technology
Compute intensive
High I/O Bandwidth
High Memory Bandwidth
Floating point
Scale out Capable

Transaction Processing and Database

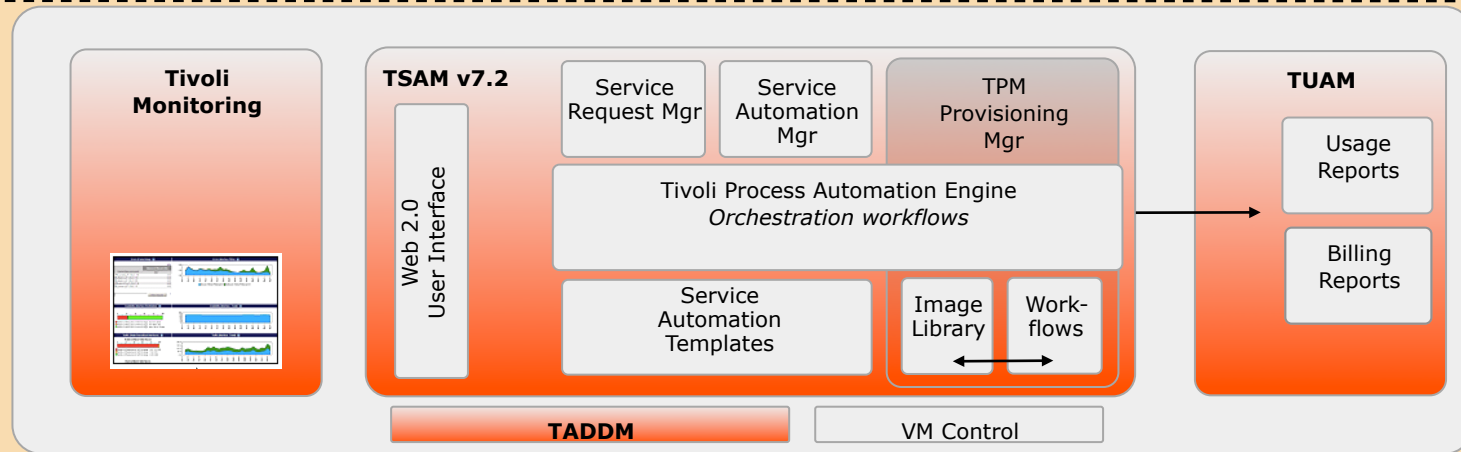
Technology
Scale
High Transaction Rates
High Quality of Service
Handle Peak Workloads
Resiliency and Security

Business Applications

Technology
Scale
High Quality of Service
Large Memory Footprint
Responsive Infrastructure

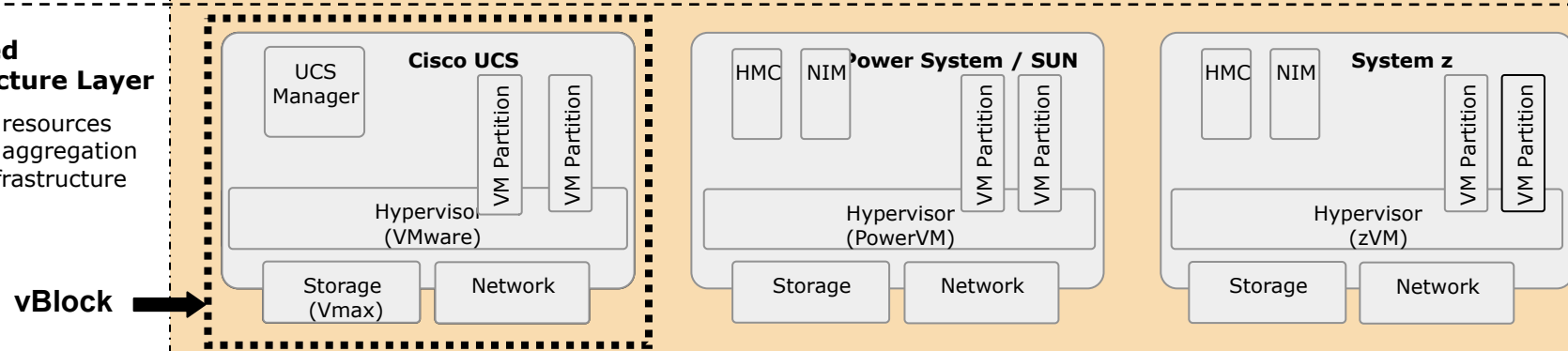
Tivoli Service Automation Layer

- Automate process of instantiating and managing a distributed IT environment.



Virtualized Infrastructure Layer

- Virtualized resources
- Virtualized aggregation
- Physical infrastructure



End to End Service Management

Design of the end to end service management capabilities for the solution



Enterprise user needs are met...

Finance & accounting users

- Usage accounting
- Auditing and controls

IT users

- Service catalog mgmt.
- Availability/capacity mgmt.

Security users

- Information security mgmt.
- Access management

Business users

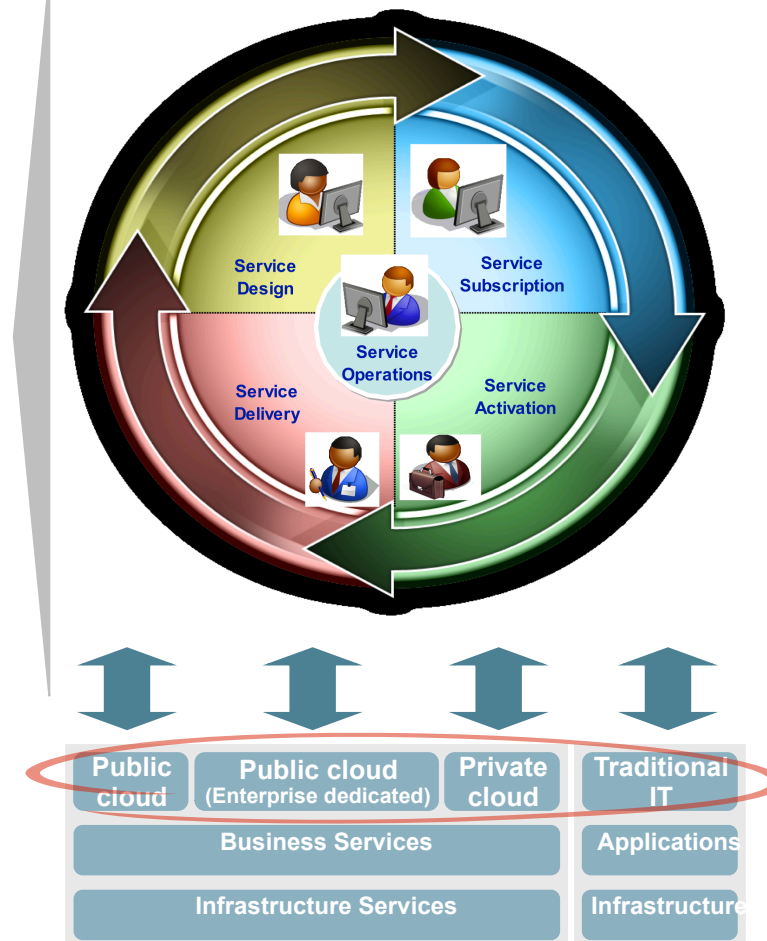
- Service measurement
- Service reporting

... through a single window with several capabilities...

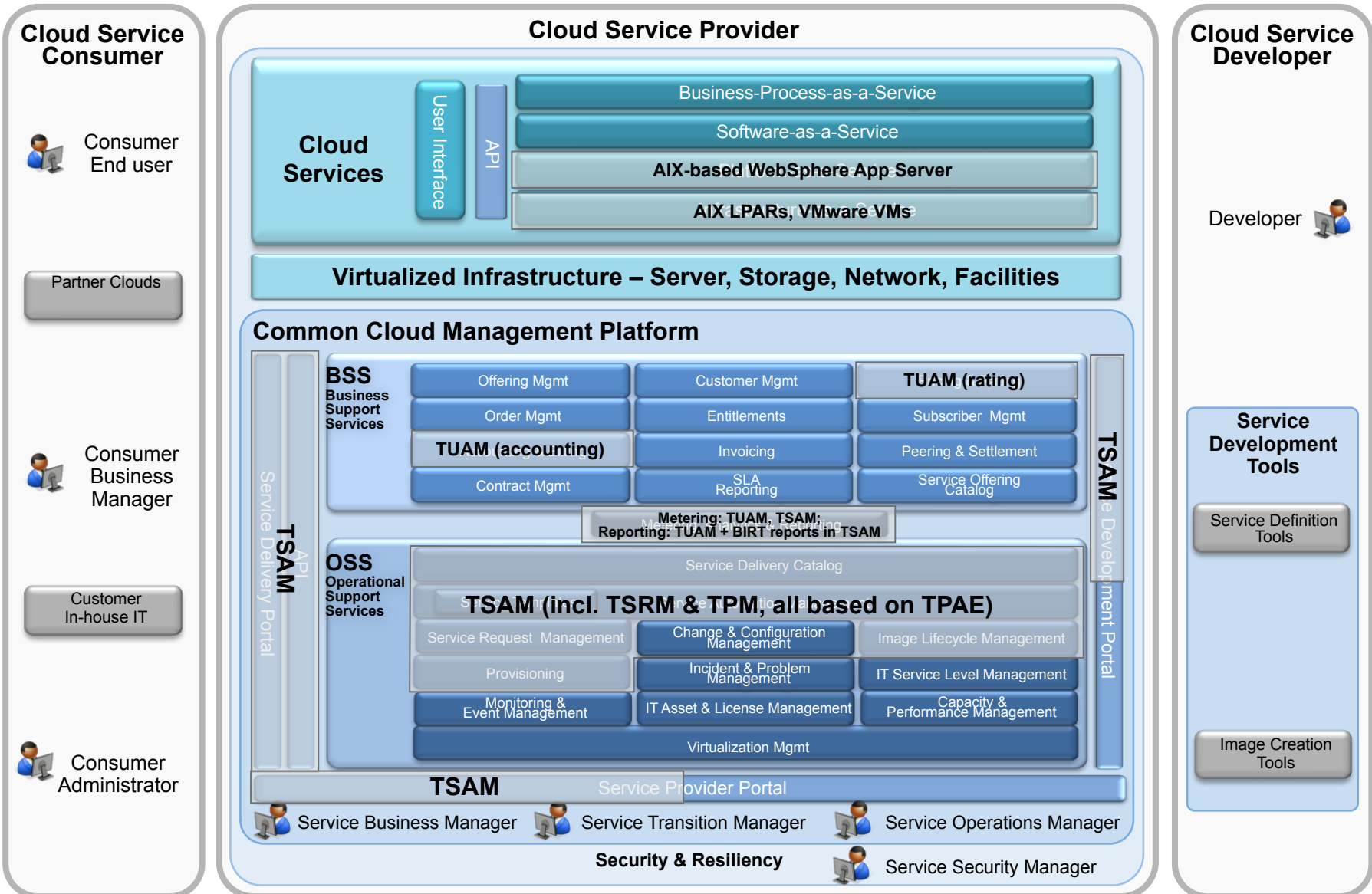
Single window

• Self service portal
• Dashboards
• Reporting
• Services Catalog
• Services Requests

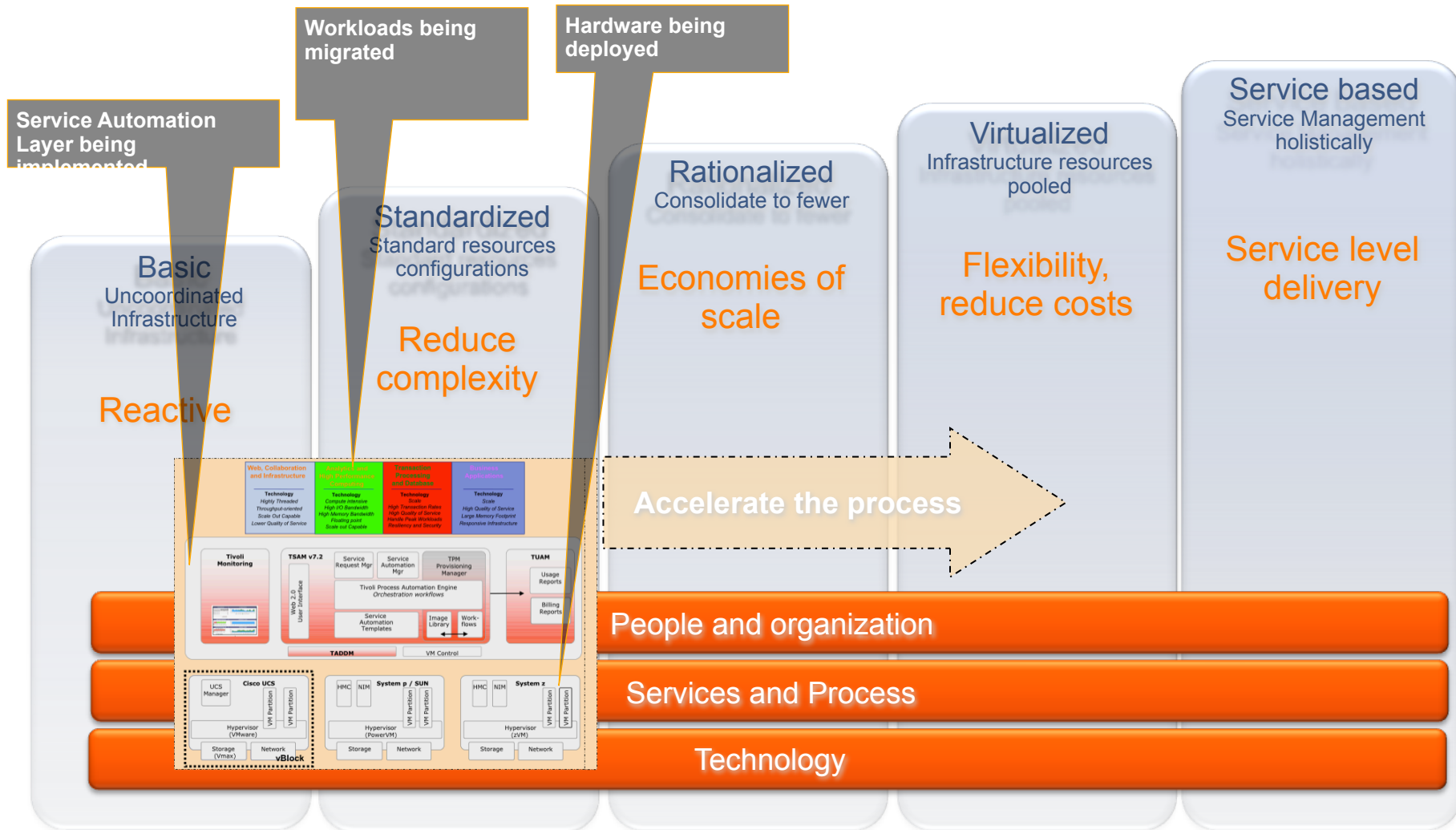
... delivered using service management in traditional, private & public environments



Mapping the capabilities needed in the solution to IBM technologies and products



Bringing it all together: Aligning the solution implementation with ING's Roadmap

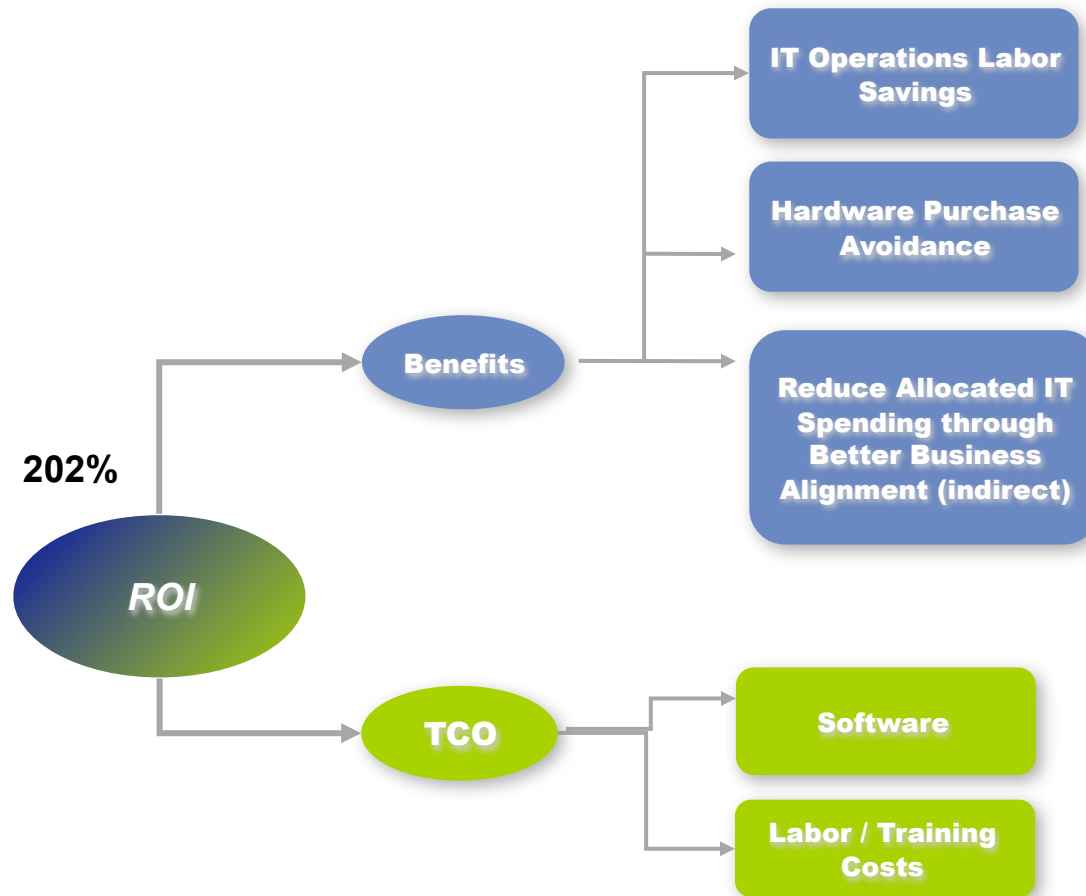


ING PoC: Objectives and Results



- **Automated, consistent, predictable & controlled software stack deployment.**
 - Only minutes for deployment of stacks to Cisco vBlock, Power Systems
- **Self service request driven provisioning.**
 - Implemented simple service catalog with 2 x IaaS, 1 x PaaS offerings.
- **Single management platform for multiple resources.**
 - Tivoli Service Automation Manager managing two different resource pools – System p and Cisco vBlock.
- **E2E Service lifecycle management.**
 - ING scheduled provisioning, de-provisioning and service topologies (WAS).
- **Automation platform extensibility.**
 - Management platform and resource pools implemented in different ING data centers.
- **Metering and accounting.**
 - Implemented simple charging and resource usage reporting.
- **Tivoli manages Cisco UCS just like any other x86 / VMware platform.**
 - No customization required to manage Cisco vBlock, using standard VMware APIs.

Cloud computing provided a pathway to business value for ING. ...



ING Benefit Summary



The proposed project is expected to help the company meet the following goals and drive the following benefits:

- Improve ING's risk profile (goes down) because of better control (16 datacenters to 2)
- Improve IT Staff Efficiency / Productivity and Collaboration due to standardization
- Improve Time to Market for New Offerings, staff can focus more on quality, so operate more on a tactical/strategical level
- Improve Operations Savings
- Reduce IT Infrastructure Costs – e.g. less hardware needed
- Improve IT System Availability / Service Levels
- Reduce Application Development Deployment and Maintenance Cost
- Helps ING reap the benefits of cloud computing
- Lowers cost of service delivery through automation and reduced skill requirements
- Deploys IT services faster to meet the increased need for development, test, pre-production and production systems
- Delivers a higher degree of standardization and automation for deployment and management of IT services while reserving skilled IT staff members' time for other high-value tasks
- Provides traceable processes and approval routings to serve as audit trails, and integrates with process governance
- Offers an integrated management capability that addresses the lifecycle changes of a cloud service
- Provides adaptable and automated best practices for building and managing IT infrastructures



Vietnam Technology and Telecommunication



Customer Profile

- Vietnam Technology and Telecommunication (VNTT) provides Technology Services to Industrial Parks in the Binh Duong Province in the South East of Vietnam. This area is one of the most attractive for foreign investments; several high-profile Western Companies have set up factories and plants in the region.
- Established in 2008 with capital funding from Vietnam Post & Telecommunication Corp., Becamex IDC Corp., and the Bank for Investment and Development of Vietnam, VNTT aims to make and support enterprise-class IT facilities available to small- and mid-sized businesses that dominate the Vietnamese economy.

Customer Challenges and Objectives

- An estimated 80% of business in Vietnam employ 500 people or fewer; and many of these companies lack the financial capital to invest in state-of-the-art IT infrastructure and software solutions. Indeed, companies at the smaller end of the scale are unlikely even to have skilled IT personnel.
- VNTT set out to create a shared central infrastructure that could deliver flexible services to small- and mid-sized companies, enabling them to access the latest business applications for a low monthly fee.

Solution Overview

- VNTT built a new Cloud Center based on IBM's Service Delivery Manager (ISDM) solution, deploying IBM System x and IBM BladeCenter servers, IBM System Storage Disk and Tape Solutions, and a variety of IBM Tivoli and Lotus solutions.
- **IBM Software**
 - IBM Service Delivery Manager
 - IBM Lotus Domino
 - IBM Lotus Foundations
 - IBM WebSphere Portal Express
 - IBM Tivoli Storage Manager
- **IBM Servers**
 - IBM System x
 - IBM BladeCenter
 - IBM System Storage

Business Benefits

- The VNTT Cloud Center enables companies in the Binh Duong industrial park to access anything from an individual hosted virtual server right to a full virtual data center. The Cloud Center also provides Software-as-a Service (SaaS), enabling companies to run corporate portals, email systems, collaboration and more – and the entire environment is supported by the IBM Cloud Labs in Vietnam.
- Shared infrastructure leverages economies of scale to deliver high-quality IT Services at low cost. Virtual resources can be flexed up and down as business requirements change. Cloud removes need to understand the underlying infrastructure allowing businesses to focus on innovation.

Northrop Grumman Technology



Business Background

- Prototyping lab for arm of United States Government
- Chartered with discovery and integration of new technologies that enable interoperability and information sharing between US Government programs
- Issues with virtualized test and development environment:
 - Manually developing virtual machines was labor intensive and error prone
 - Difficulty managing licensed software on deployed virtual machines
 - Lack of monitoring tools for software utilization
 - Lack of auditing tools to verify configuration compliance
 - Lack of a request management system to track requests

Solution Overview

- Private cloud :
 - built on IBM and HP blades and storage
 - Linux and Windows operating systems
 - VMWare-based virtual infrastructure
- Design point :
 - environment to provide infrastructure services to Department of Defense users
- Tivoli Service Automation Manager enables users to request, deploy and utilize virtual machine environments through a service catalog containing customized offerings

Cloud Business Benefit

- Reduced service delivery time from days to hours
- Increased accuracy, repeatability, traceability and compliance
- Reduced operational expense

Prototyping Lab leverages infrastructure as a service

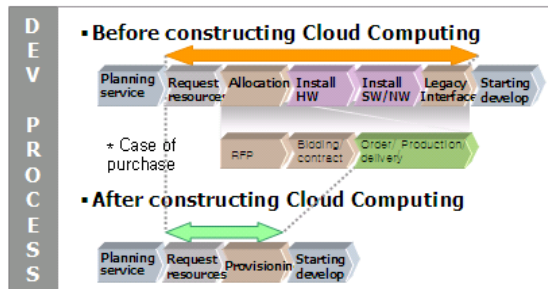
SK Telecom

Business Background

- SK Telecom is a unit of SK Holdings, one of South Korea's largest *chaebol* conglomerates .
- SK Telecom has #1 market share in the domestic wireless market, and #2 market share in the domestic fixed line market.
- SK Telecom has a reputation of technology innovation and leadership.

Cloud Business Benefit

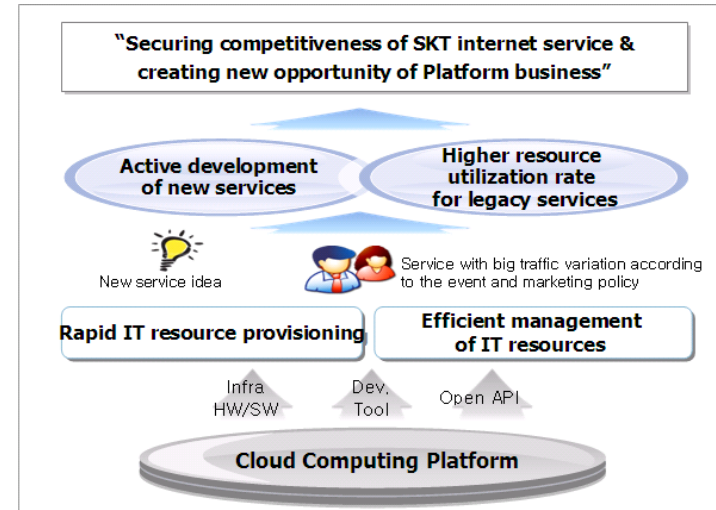
- New services delivered with partners with faster time to market, creating competitive market advantage.
- Optimized use of IT infrastructure delivering reduction in capital and operational expenses.



Solution Overview



- Korean language portal based on API extensions to Tivoli Service Automation Manager.
- Tivoli Provisioning Manager-based Development Platform-as-a-Service offering to allow Business Partners to quickly test, develop, and publish new end-user focused WAP services available on SK Telecom network.
- Service Management-enabled Cloud Delivery platform to run new WAP services in a workload optimized fashion.



Platform as a service accelerates service innovation



United States Air Force



Business Background

- The United States Air Force (USAF) provides aerial, space and cyber warfare for the United States Armed Forces. The USAF consists of 10 major commands, 100 military bases, and 700,000 personnel worldwide.

Business Benefit

- IBM will provide research, design and demonstration of a secure cloud computing infrastructure for the USAF.
- IBM is helping the USAF understand how to manage, monitor, and secure the information flowing through the USAF, Department of Defense and other intelligence agency networks.
- IBM will demonstrate an unprecedented level of security, network resiliency to the USAF networks.
- The resulting architecture will provide the USAF with an advanced level of “Situational Awareness” by implementing sensors, monitors, detection devices, security policy management, compliance management, and advanced analytic stream processing.
- The new cloud architecture will reduce the time it takes to respond to cyber threats by leveraging automated mission prioritized workload and capacity management systems.

Solution Overview

- Demonstration of a security focused cloud computing architecture that can manage, monitor and secure the information flowing through the Air Force network.
- Advanced analytic processing from InfoSphere Streams coupled via sensors, monitors, and other detection devices
- Automated mission prioritized capacity management
- Real-time situational awareness of the cloud environment
- Policy based security compliance reporting and enforcement
- IBM hardware – System x , BladeCenter, DataPower, ISS Proventia
- IBM software – Tivoli, Rational, WebSphere and InfoSphere

Addressing cyber threats with a secure, mission oriented cloud



Automotive Customer

Onsite Accomplishments to date

- Completed Hybrid Cloud Integrator appliance installation and configuration. Applied development provided fix for proxy server connections.
- Completed Base Installation and configuration of ISDM (Provisioning, Monitoring & Usage and Accounting)
- Demonstrated VM Provisioning for 4 template images. (Linux and Windows)
- Demonstrated server hardening through post provisioning workflows
- Demonstrated OS and VCenter level monitoring
- Assisted customer-led demo to key technical stakeholders

Onsite Work in Progress

- Complete Active Directory integration
- Implement 2 software stack installation workflows
- Assisting customer in preparation for demo to executive stakeholders
- Installation and configuration of HCI upgrades to TSAM 7.2.1
- Demonstrate SEC and EC2 cloud provisioning scenarios



In Summary

IBM has extensive experience of planning, installing, and implementing Private Clouds

IBM has a complete, and comprehensive Reference Architecture that accelerates the design and build of Client Cloud solutions

IBM has an Integrated, Automated, end-to-end Solution set that implements the reference architecture, and provides the customer with the Visibility, Control, and Automation necessary to support and manage Private Clouds effectively

IBM and it's Business Partners have delivered successful Private Cloud solutions across a broad range of Industries



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