



Cloud Computing

The Importance of Integrated Service Management

IBM Software

PCTY2010

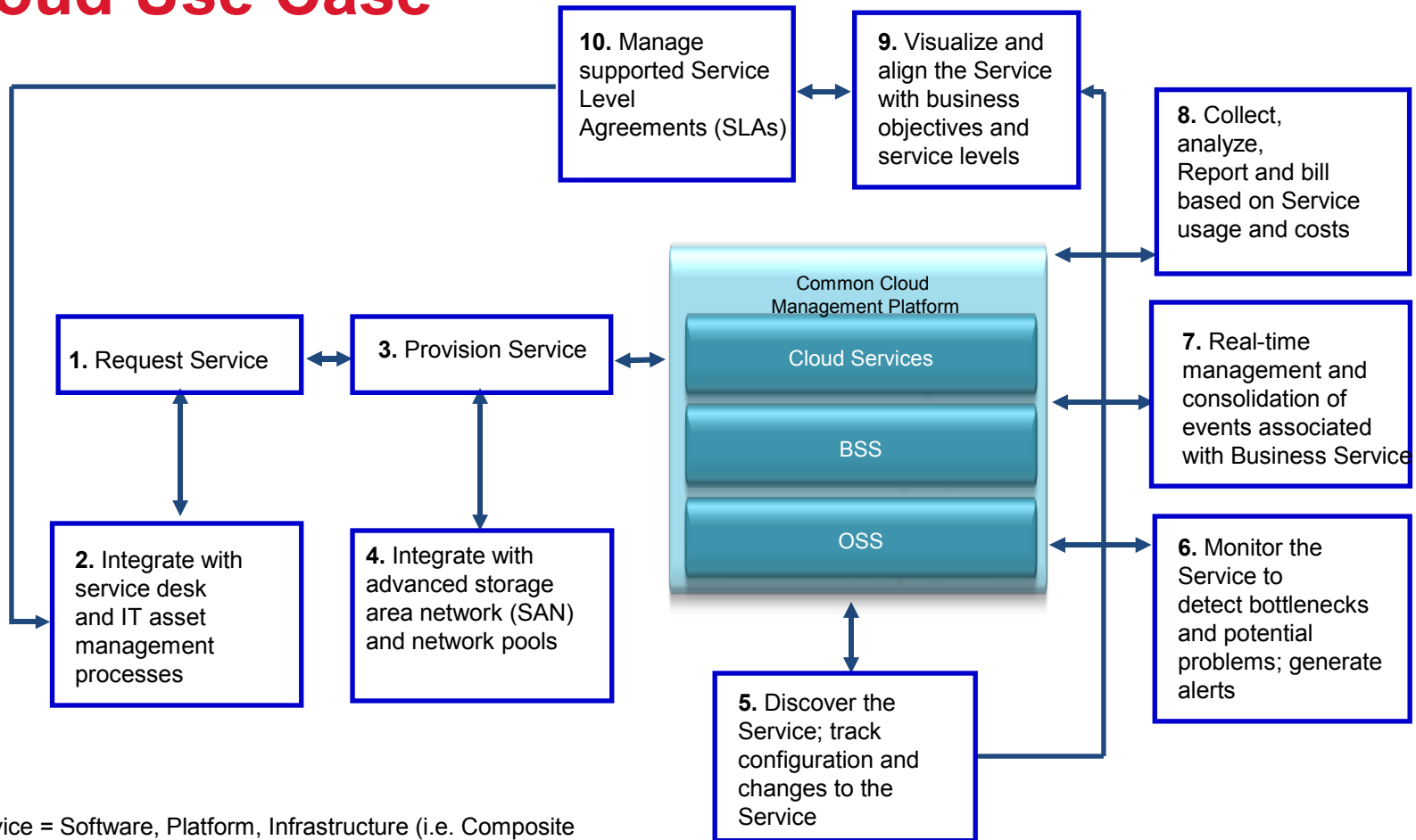


Pulse Comes to You

Optimising the World's Infrastructure

[27 May 2009 London, United Kingdom]

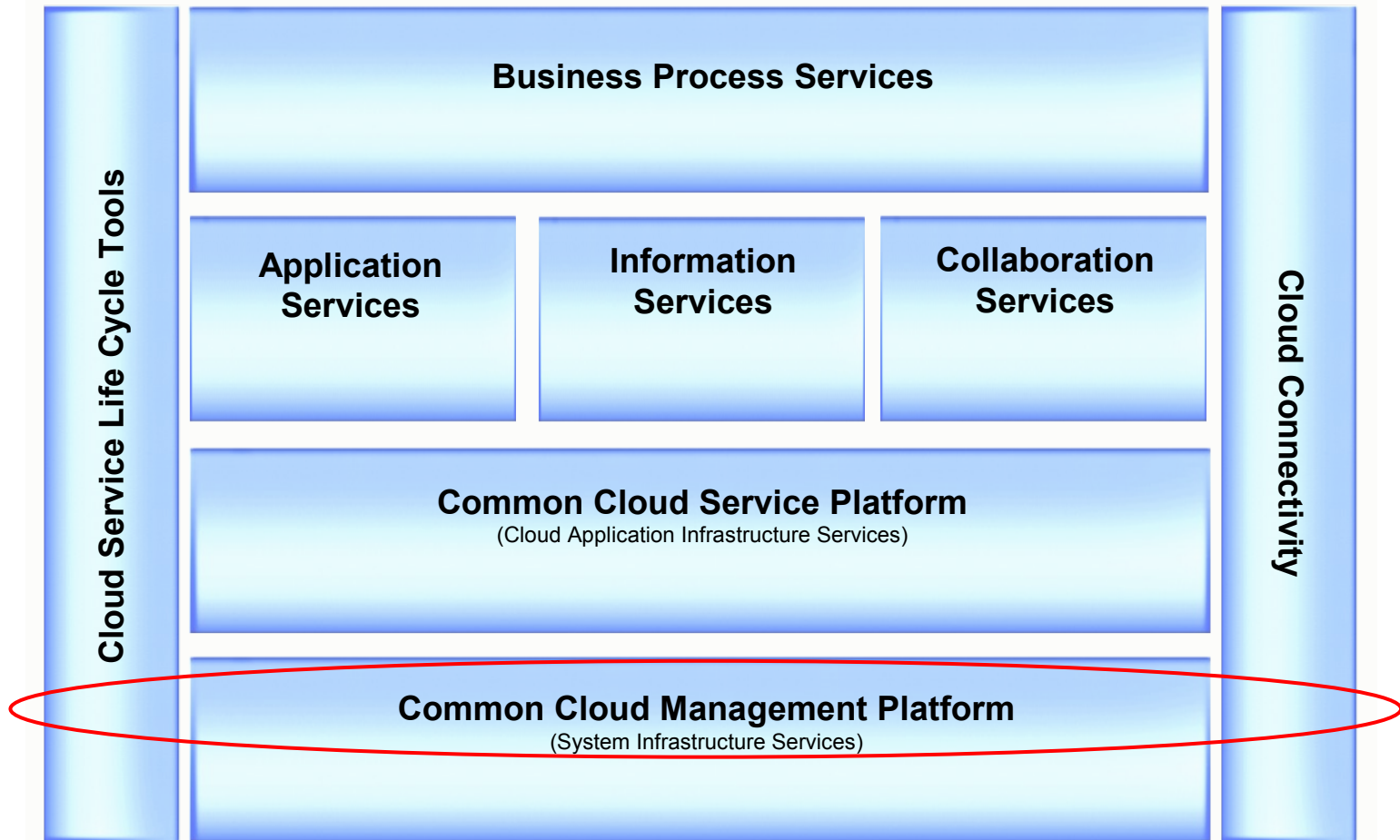
Why is Service Management Important: Typical Cloud Use Case



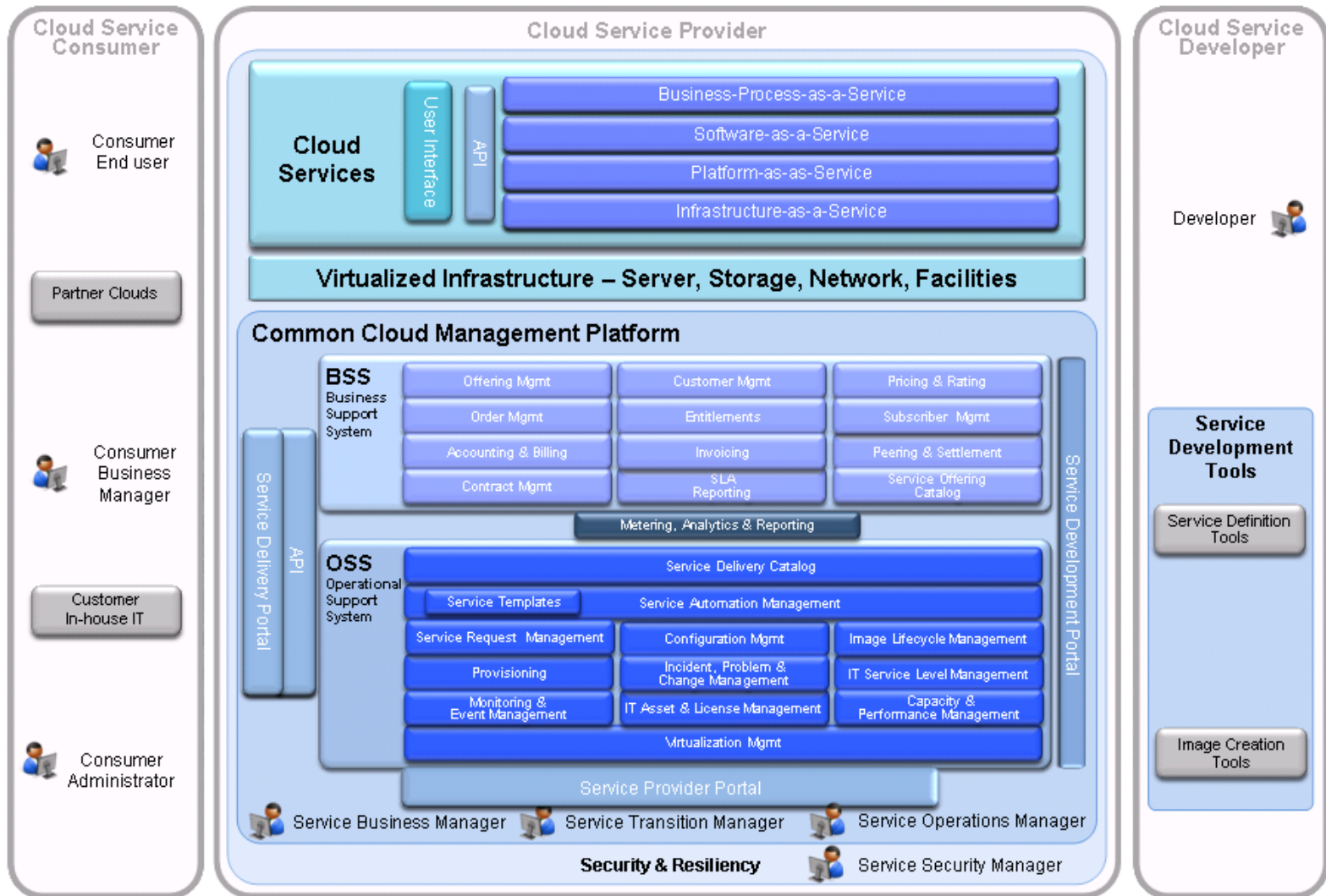
Service = Software, Platform, Infrastructure (i.e. Composite Application, Physical / Virtual OS, Middleware, Network, Storage)

Not in all cases will all steps exist in a client engagement

Cloud Platforms and Services

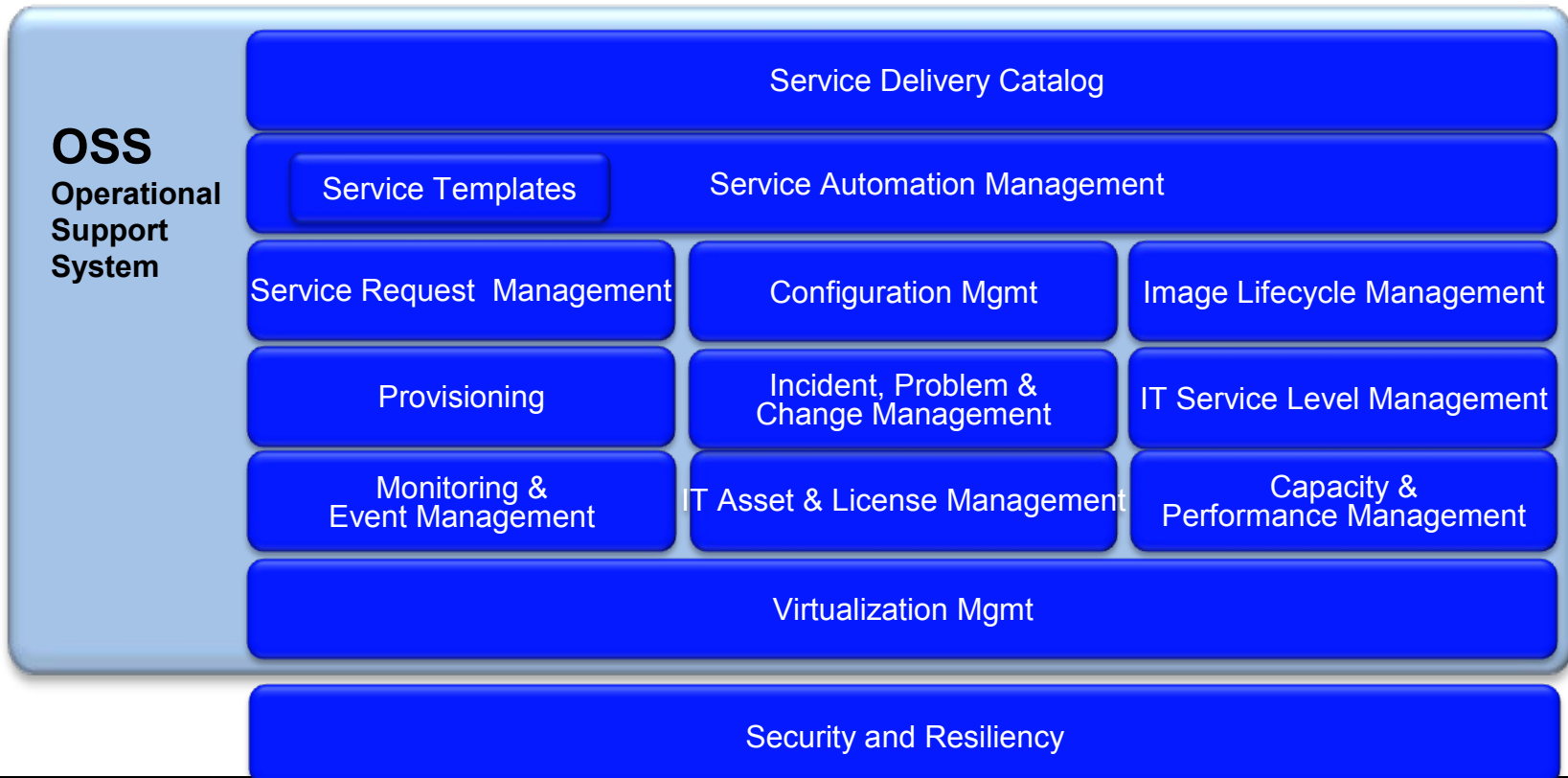


Common Cloud Management Platform Reference Architecture



Core operational support capabilities required Cloud platforms

- An operational support system is required to deliver cloud services
- Key capabilities are provided below and need to work together as a basis for customer cloud service delivery



Service Management Concerns in Cloud Computing

Service Automation Management

- Interpret and Execute Build- and Management Plans
- Orchestrate Management Componentry

Virtualized Resource Management

- Deploy cloud services on virtualized resources
- Manage virtual resources

Operational Support System

Service Templates

Service Automation M

Image Management

- Design, build and manage images for cloud services

Configuration

Metering and Accounting

- Flexible support of delivery models

Incident, Change M

Monitoring & Event Management

IT Asset & License Management

Capacity &

Heat and Power Management

- Control Energy Consumption

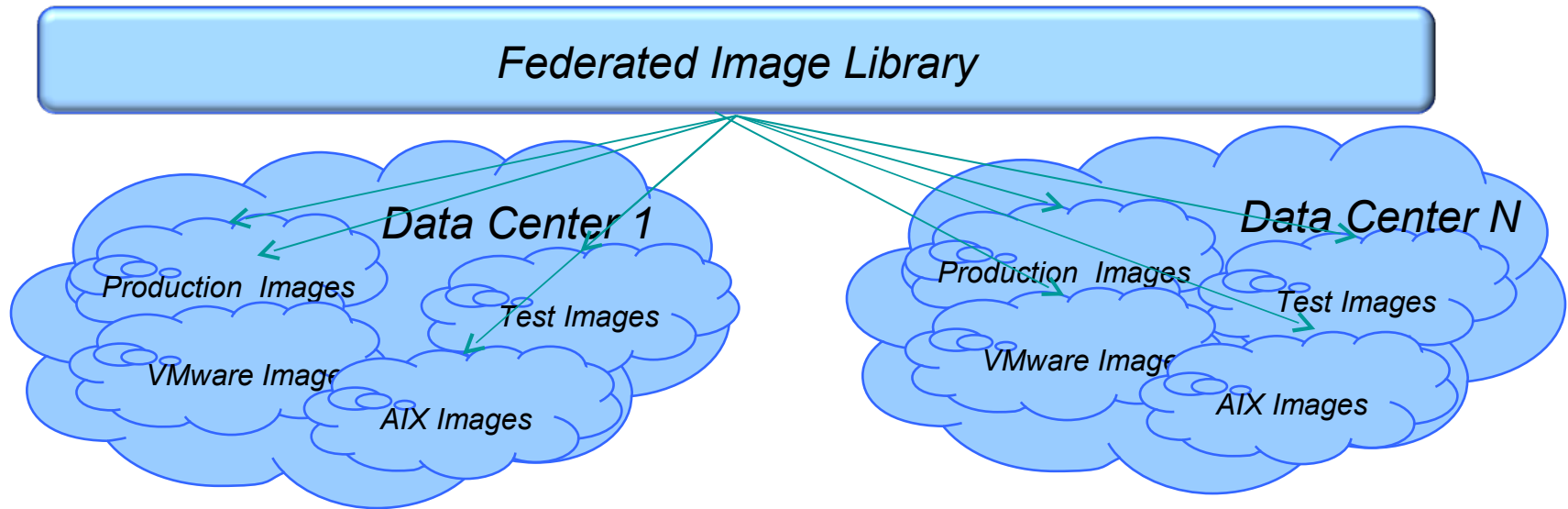
Virtu

Security

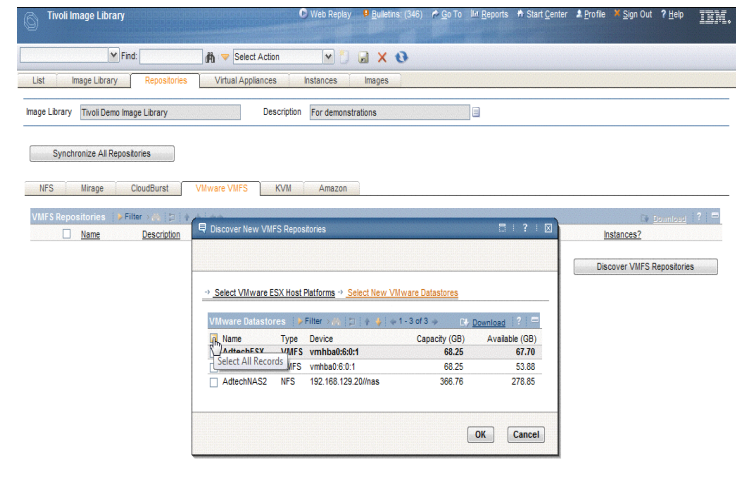
- Design for Multi-Tenancy
- Protect assets through Isolation, integrity, image- risk and compliance management

Sec

Image Lifecycle Management



- Federates Master and Instance images wherever they are in the datacenter
- Tracks versions, owners, deployments
- Tracks content of images using OVF
- Tracks provenance (Parent/child)
- Manages replication
- Federates IBM and non-IBM platform repositories (e.g. IBM Systems Director VMControl)



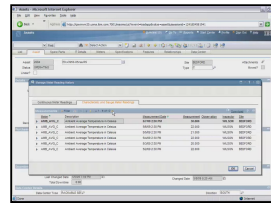
Cloud Heat & Power Management



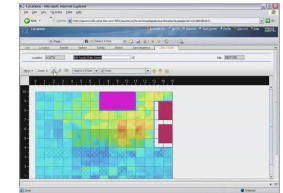
Information Technology

IT Operator/ Manager

Integration of Energy and Asset Data



Thermal Visualization of Data Center



Maximo for Energy Optimization



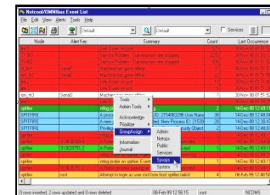
Data Center Infrastructure

Data Center Administrator

Centralized Energy Views & Reporting



Integrated IT and Facilities Alerts



Tivoli Monitoring for Energy Mgmt



Facility Manager / Engineer



Building

Cloud Metering & Accounting

- Automated tracking of CPU, memory and storage resource allocation within TSAM.
- Inbuilt integration in TSAM to automatically interface transactions to TUAM.
- Definition of rates and costs of resources allowing full cost reporting of resources used.
- Flexible reporting engine with 40 template reports.
- Granular reporting allowing drill down, and detailed data filtering.
- Usage reporting driving change in behaviour to match resources to business needs (and release unused systems back into the resource pool).
- Providing the basis for chargeback implementation or invoicing in the future.

The screenshot shows the 'Usage and Accounting Manager' interface. At the top, there is a navigation bar with 'Logout Reports Spreadsheets Favorites Help Home'. Below this is a 'Reports' section with a tree view of report categories:

- Invoices
 - Invoice by Account Level
 - Invoice by Account Level - Graph
 - Alternate Invoice
 - Run Total Invoice with Shifts
 - Run Total Invoice
 - Run Total Percent
 - Run Total Rate Group Percent
 - Account Total Invoice
 - Invoice with Shifts
 - Invoice with Shifts - Graph
 - Application Cost
- Account Reports
 - Account Summary YTD
 - Account Summary Daily
 - Account Summary Daily 2
 - Summary Crosstab - Charges
 - Summary Crosstab 2 - Charges
 - Summary Crosstab - Usage
 - Summary Crosstab 2 - Usage
 - Daily Usage and Accounting Manager
 - Daily Invoice
 - Week Invoice
 - Week Invoice Number 1
 - Monthly Date Range: 12/1/2009 to 12/11/2009
 - Monthly
- Top Usage
- Variance
- Trend

Below the menu, there is a summary table for 'Account Bertrand' with columns for Units, Rate, and Charge.

	Units	Rate	Charge
TSAM - Server hours	51.00	0.05000000	2.55
TSAM - CPU hours	105.00	0.10000000	10.50
TSAM - Memory (hrs) for VMWare	8.58	0.01000000	0.09
TSAM - Memory (hrs) for system p Lpar	98.30	0.05000000	4.92
TSAM - Capacity for Cloud Services			18.06
Total for: Account Bertrand			18.06

IBM Security Framework & Cloud Computing

Authentication and role-based access control

- Federated Identity including single sign-on

Isolation Management

- Server, Storage and Network

Security for Image Management

- Security Metadata, Access Control, Authorization

Integrity management

- Virtual Image integrity

Risk and Compliance

- Auditing and Configuration Management
- Enterprise-level Regulatory Compliance

Policy Management

Threat Management



Optimizing Cloud Management Platform deployments

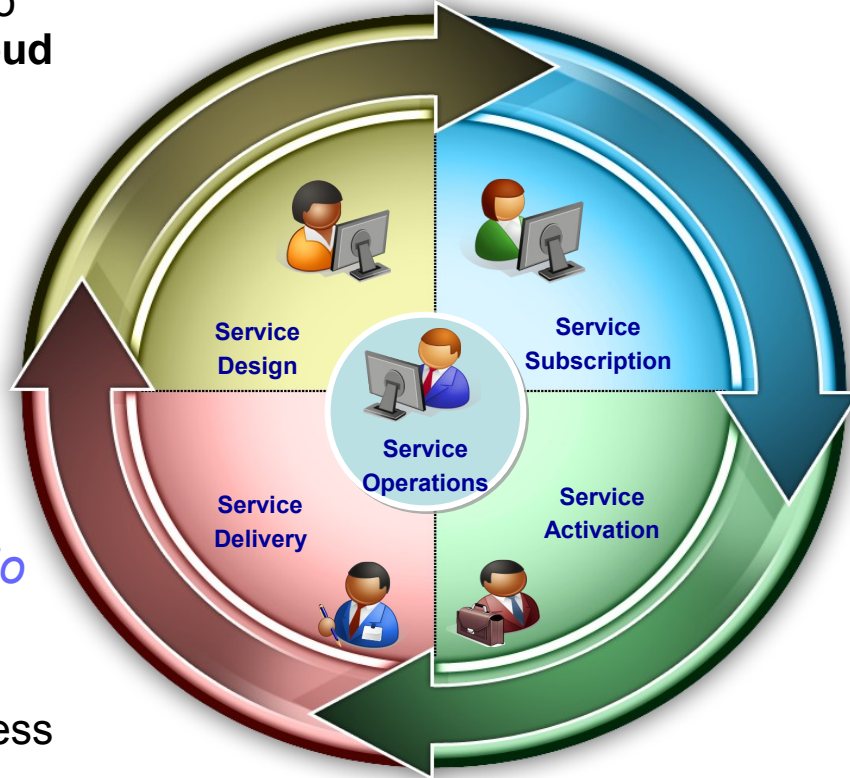
For those clients who wish to leverage a service management portfolio to build a **customized cloud solution**

Tivoli Service Automation Manger (introduced in November 2008)

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IBM Service Management Portfolio

Powered by Tivoli process automation engine and Service Management products.



For those clients who wish to rapidly deploy a **turn-key environment** with little to no customization

IBM CloudBurst (introduced in May 2009)

A purpose built service delivery platform that leverages the same software components in the Tivoli Service Automation Manager as well as integrated purpose built workflows

Case Study: SK Telecom

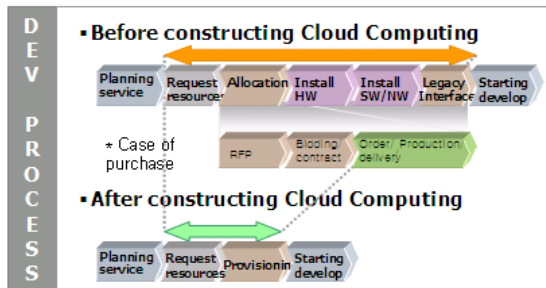


Business Background

- 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 is perceived as a technology leader in South Korea

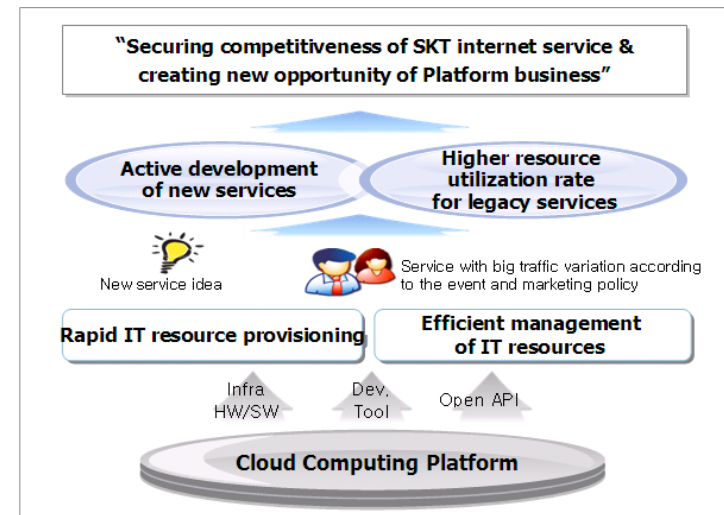
Cloud Business Benefit

- Reduction of new service development time, achieving faster time to market
- Efficient management of resources, delivering reduction in capex & opex

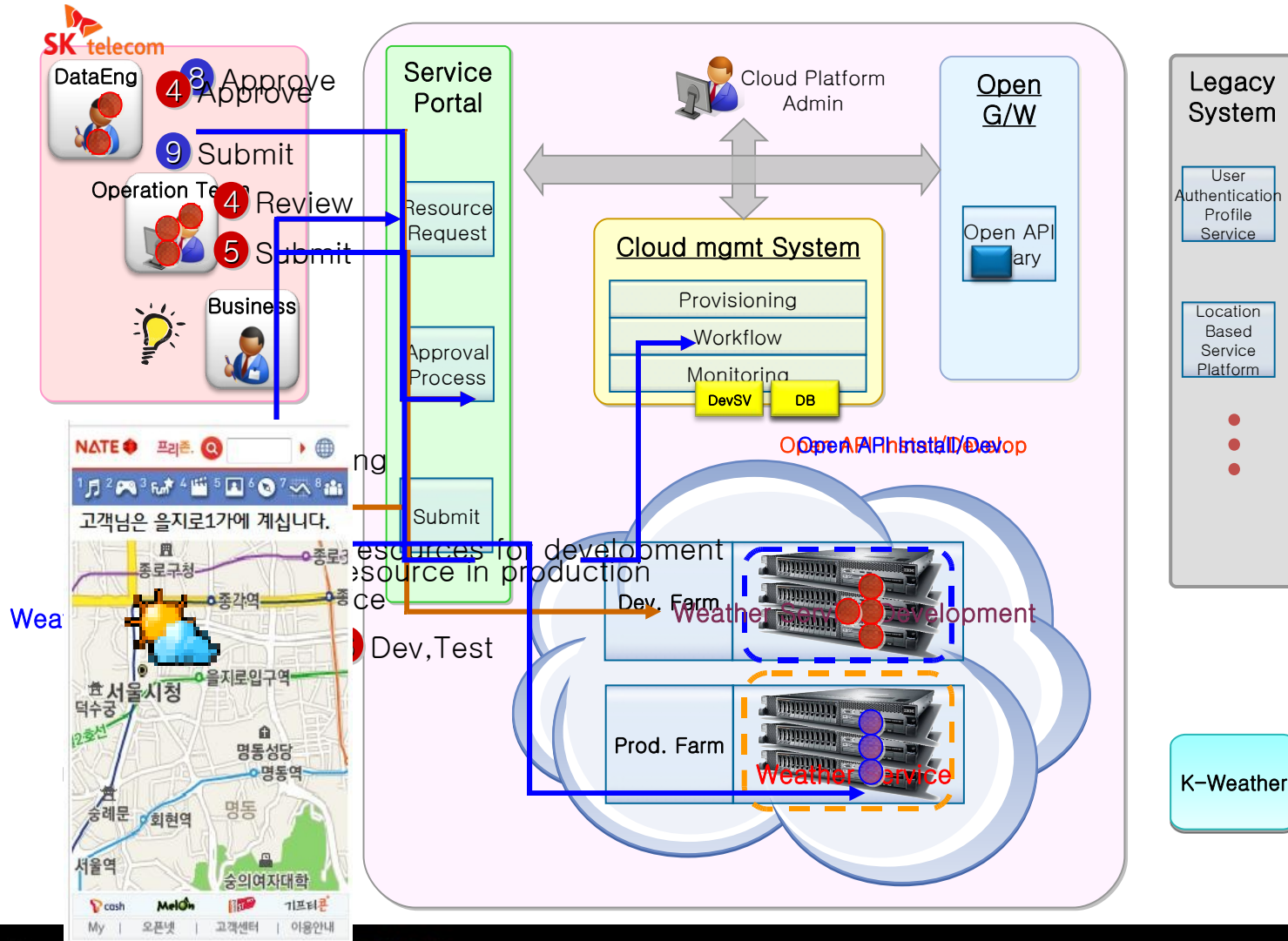


Solution Overview

- 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.



Service Management Integration: SK Telecom



In Summary...

- Cloud Computing Reference Architecture
 - OSS layer is comprised of key ISM elements
 - Supporting flexible deployment and business models
 - Enabling competitive delivery economics
- Integrated Service Management is essential for a Cloud Management Platform
 - Cloud Service Lifecycle Management
 - Image Management
 - Event Management, Business Service Management
 - Identity, Isolation and Compliance Management
- Enterprise use of Public Clouds will drive Hybrid Management, Security and Integration



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