IBM SolutionsConnect 2013
Turning Opportunity into Outcomes.

Cloud and Virtualization Management

Evolve your virtual environment to a business ready cloud with IBM OpenStack based SmartCloud Foundation solutions

Kristof Stroobants

IBM SolutionsConnect 2013
Turning Opportunity into Outcomes.

Kristof Stroobants

Service Management Solution Architect
IBM Belgium
+32 474 99 19 66
kristof.stroobants@be.ibm.com
http://be.linkedin.com/in/kristofstroobants/

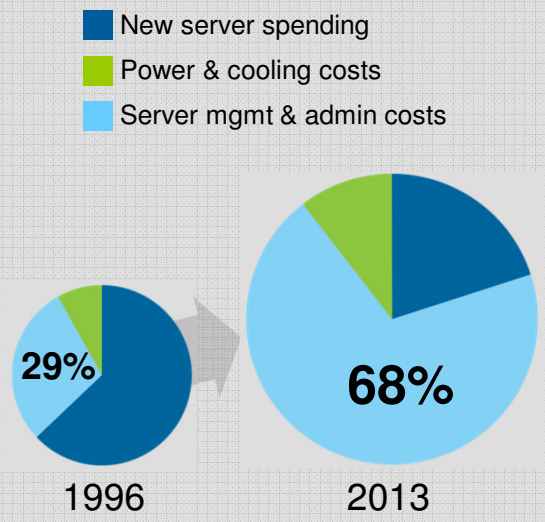
Some Interesting Statistics

Accelerate new business solutions
to improve time to value

34% of new IT Projects
deploy late

From a commissioned study conducted by Forrester Consulting on behalf of IBM

Improve IT efficiency
to lower costs



68% of IT
operating costs in 2013 will be for **management and administration**

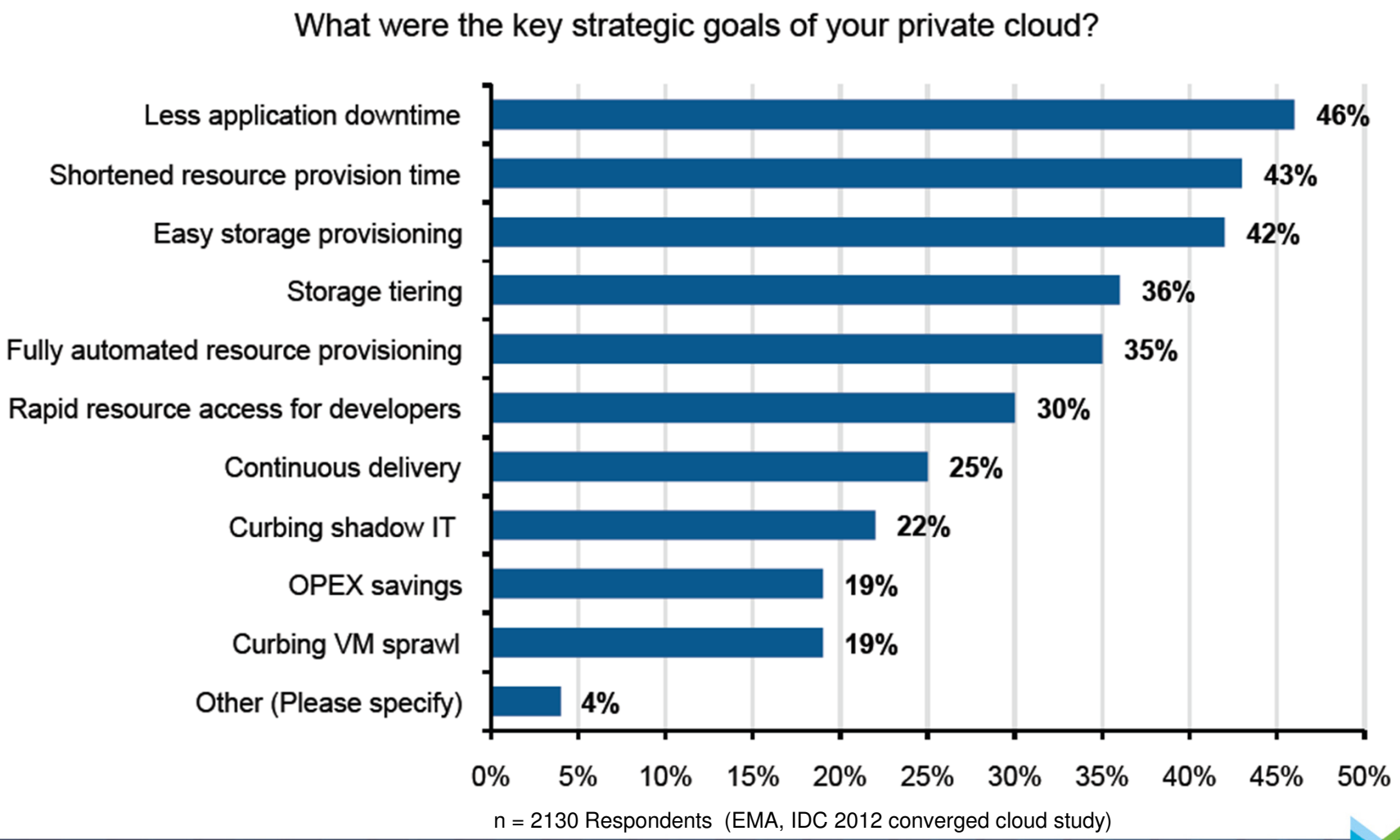
* IDC; Converged Systems: End-User Survey Results presentation; September 2012; Doc #236966

Simplify cloud transformations
for agility and cost effectiveness

90% plan to implement cloud
by 2015

* IBM GBS 2011 IBV Study, "The power of cloud: driving business model innovation

What our customers are saying



n = 2130 Respondents (EMA, IDC 2012 converged cloud study)

Agenda

- What is OpenStack?
- Introduction to SmartCloud Orchestration
- Management of your cloud environment
- Q&A

The OpenStack Goal

"Our goal is to produce the ubiquitous Open Source cloud computing platform that will meet the needs of public and private cloud providers regardless of size, by being simple to implement and massively scalable."

- Open Source (Apache 2.0 license)
- "Linux of the datacenter", avoid vendor lock-in, maintain workload portability
- Build a great engine, packagers will build a great car (think Linux vs RHEL/SUSW)

OpenStack Foundation: Exponential Ecosystem Growth

OpenStack is a global collaboration of developers & cloud computing technologists working to produce an ***ubiquitous Infrastructure as a Service (IaaS) open source*** cloud computing platform for public & private clouds.

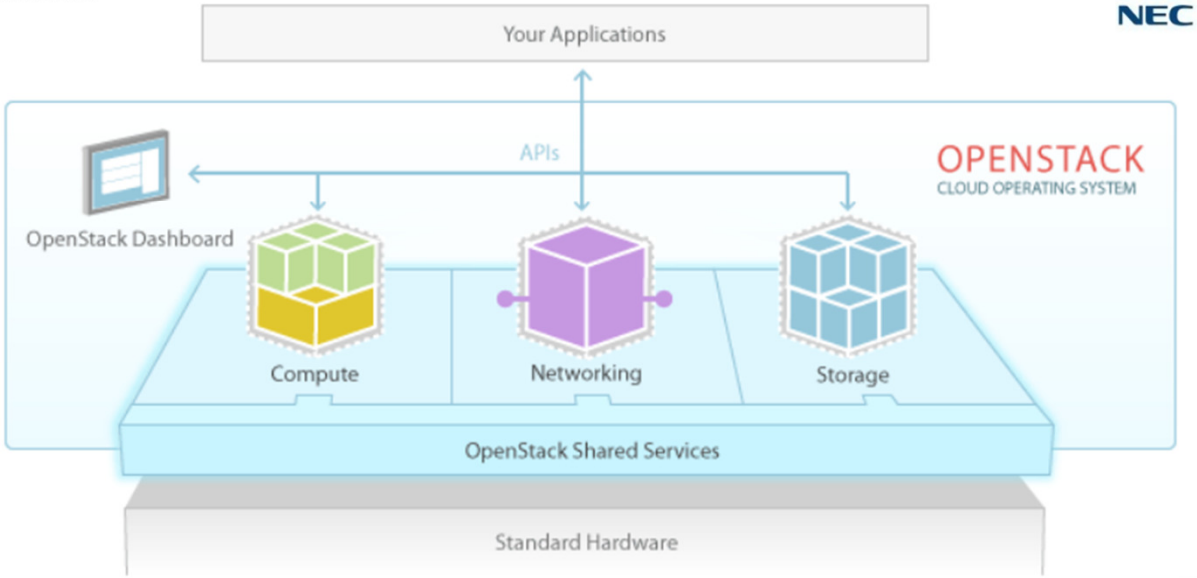
Platinum Sponsors

nebula, rackspace, redhat, SUSE, IBM, hp, at&t, ubuntu

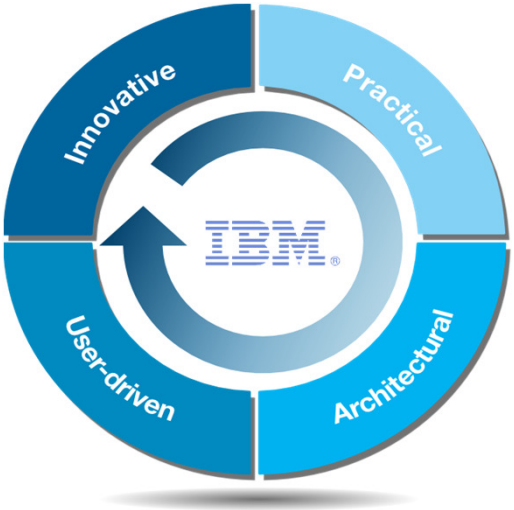
April 2012	*Exponential growth in 1 YR*	April 2013
150 Contributors		859 Contributors
2600 Individuals		8900+ Individuals

Gold Sponsors

NetApp, CISCO, YAHOO!, DreamHost, intel, DELL, MIRANTIS, MORPHLABS, vmware, NEC, Piston, cloudscaling



Organizations have a choice to make…

Open Source Only	Proprietary	Open "Plus"
		
'Some Assembly Required'	*Vendor Lock-in Assured*	*Enterprise-ready out of the box*

Agenda

- What is OpenStack and who uses it?
- Introduction to SmartCloud Orchestration
- Management of your cloud environment
- Q&A

IBM SmartCloud Foundations & OpenStack

Supporting an evolutionary approach

Simple 3 tier structure
… above and beyond
OpenStack

Related Standards & Organizations

International Organization for Standardization
CCRA
OSLC
Cloud Standards Customer Council
THE Open GROUP
TOSCA
DMTF
CIMI & OVF
openstack

SmartCloud Orchestrator

Orchestrate Services across multiple environments and domains

SmartCloud Provisioning
Automate Optimized Workloads

SmartCloud Provisioning
Automate Optimized Workloads

Automate Optimized Workloads

Customer *integrated* hardware

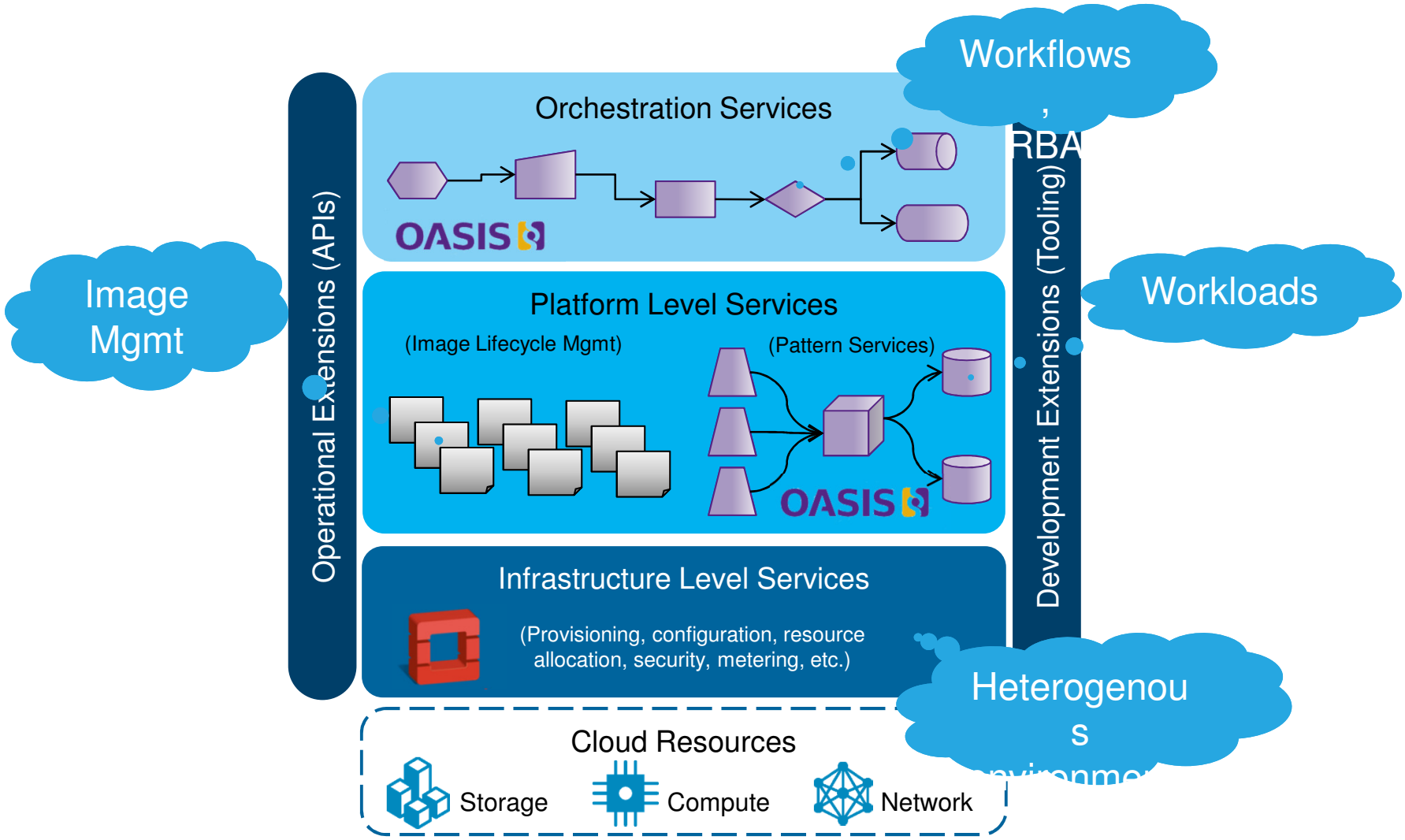
PureFlex System

PureApplication System

SmartCloud Foundation Offering

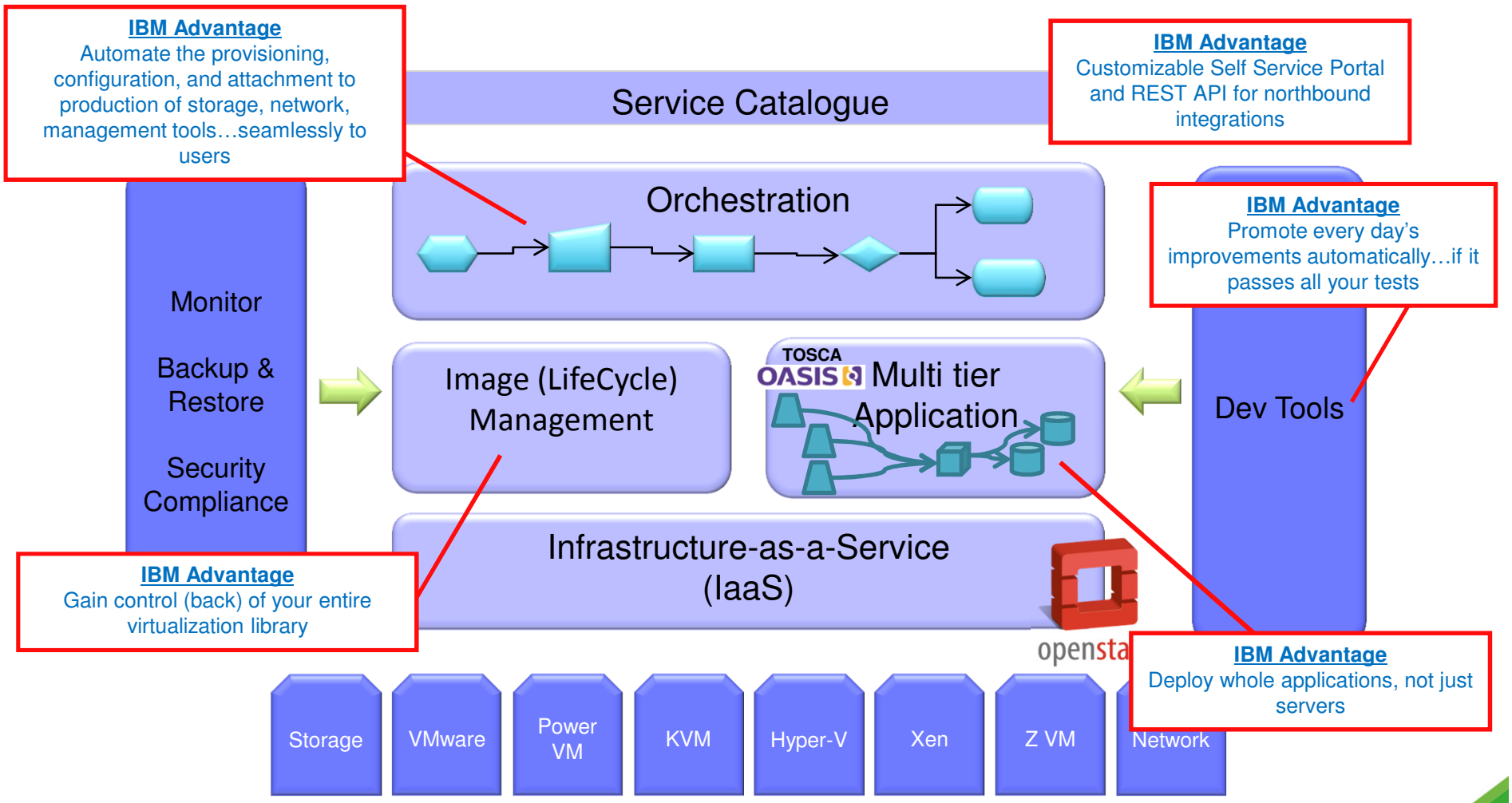
Factory Integrated & Optimized by IBM

Capabilities of IBM's common cloud management services



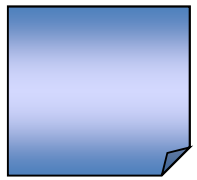
SmartCloud Orchestrator

an open and scalable platform

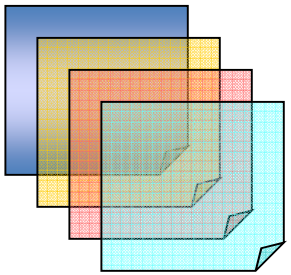


Virtual images and patching: the new reality!

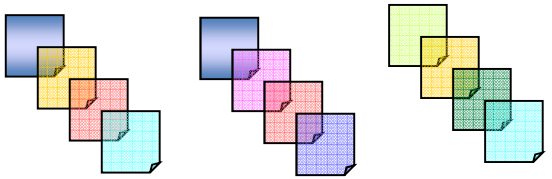
1. In the beginning, there was the **perfect image**…



2. Then users starting **making changes** and "snapshots"…
   …and what they put in the images is unknown…



3. Then they get copied to **multiple locations**…
   …and some change again…



4. Then you need to apply a critical security patch … **how?** … **where?**

Virtual Image Library capabilities

Operations

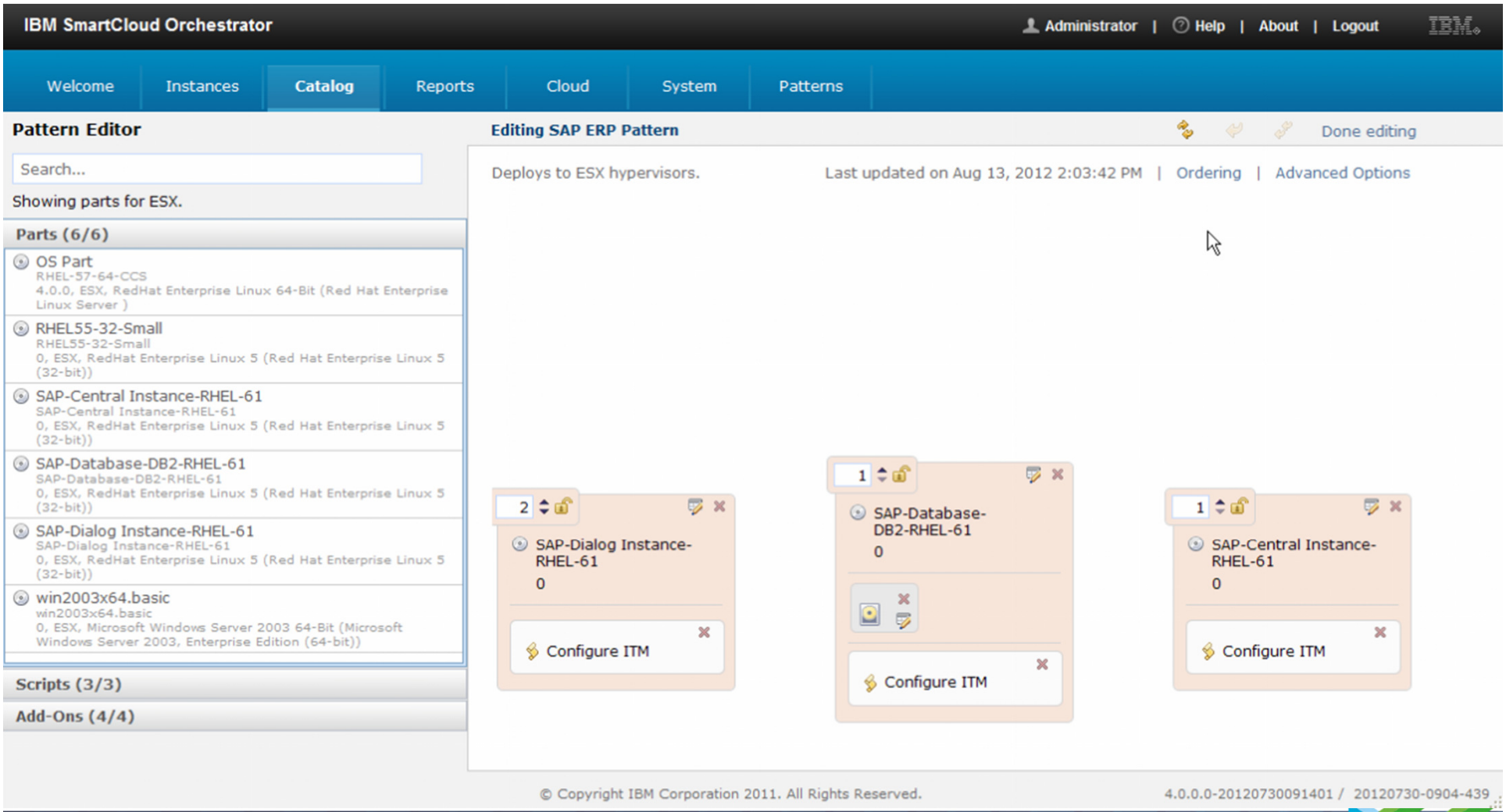
- multiple hypervisors – single view
- searchable
- check-in || check-out

Audit

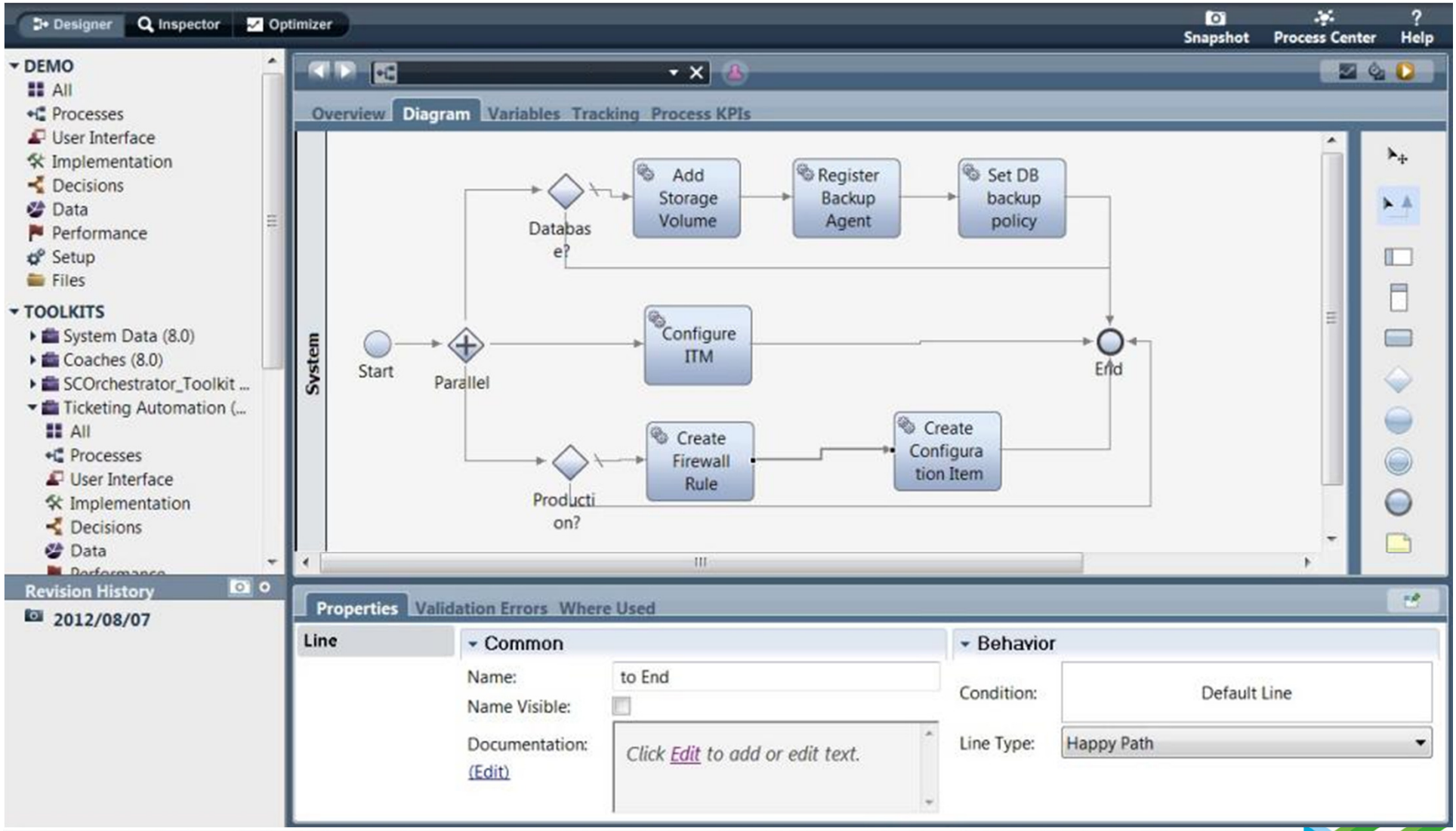
- compare (dynamic) state
- introspect image content
- find vulnerabilities

A typical scenario: create a new cloud service...

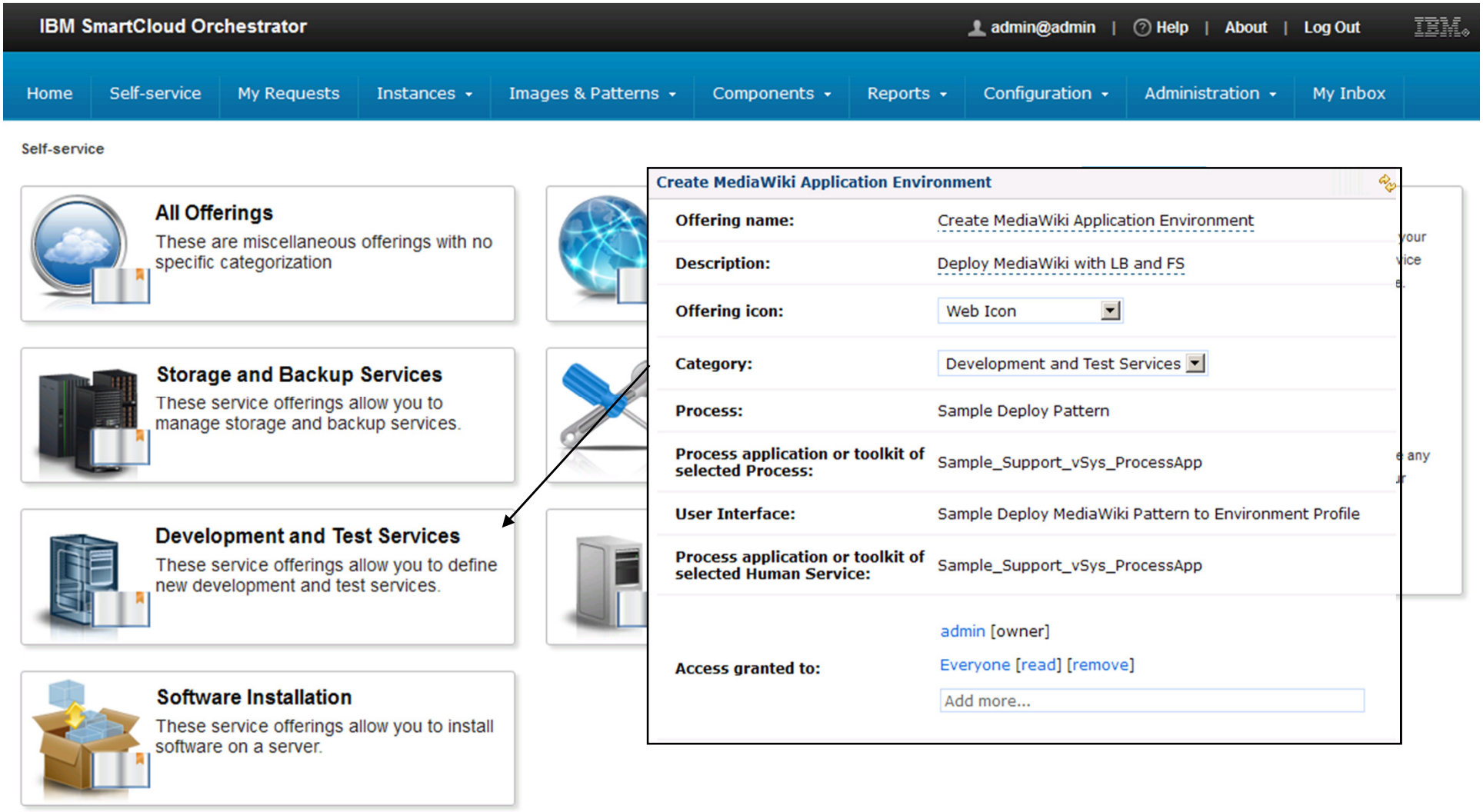
Graphically compose the application topology



… with orchestration in action…



… initiated from a Self-Service portal



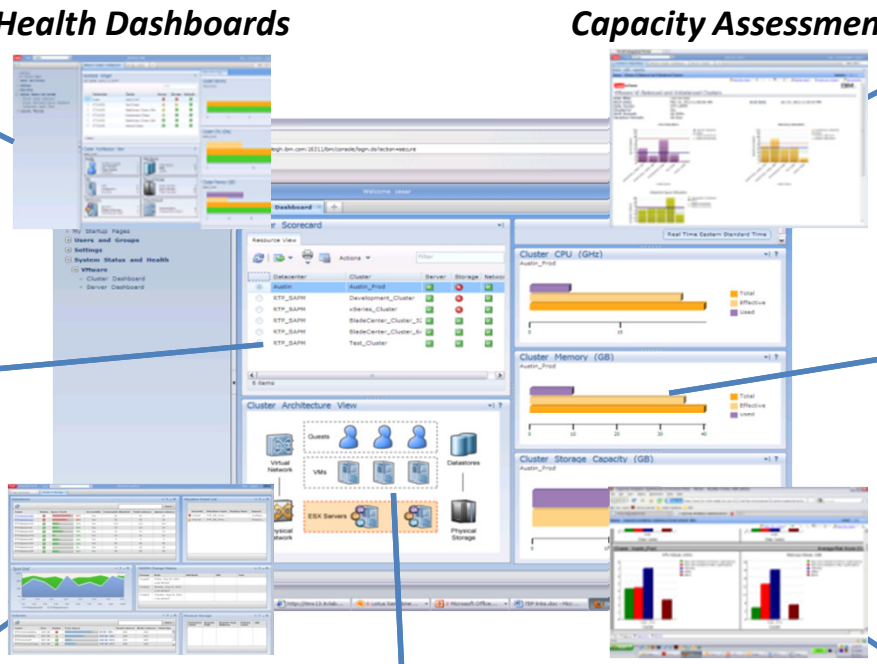
Agenda

- What is OpenStack and who uses it?
- Introduction to SmartCloud Orchestration
- Management of your cloud environment
- Q&A

Monitoring – A single tool for all: Physical – Virtual

➢**Health dashboards** to provide an instant, consolidated glimpse into cloud health.

➢**What-If** capacity planning scenarios.



➢**Performance Analytics** for right-sizing of virtual machines.

➢**Policy-Based** optimization to put workloads where they'll perform best, not just where they'll fit.

➢**Integration** with industry-leading Tivoli service management portfolio.

➢**Topology views** of the key interrelated components of the cloud.

➢**Reports** on the health trends of cloud components and workloads, powered by Cognos.

Cost management – Usage & Accounting

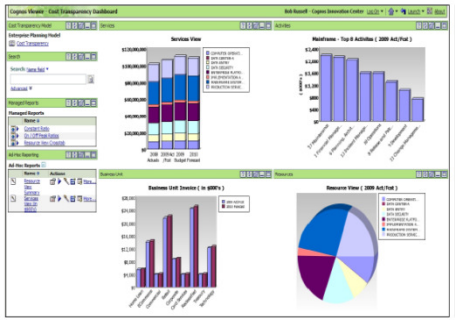
PaaS

Storage Services
TSM, Symantec Netbackup, EMC, LVM

Network Flow
Traffic flow, thruput

Application
SAP, ERP, Siebel, Email, WebSphere, DB2…

Middleware
Databases, Applications, Web Servers



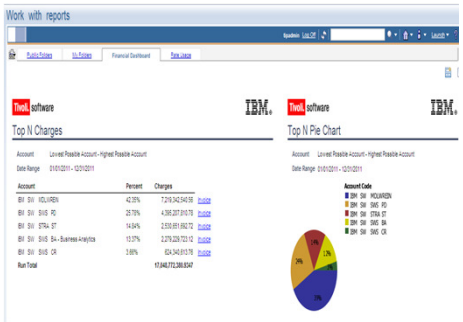
- App specific collectors
- Application usage
- Middleware usage
- Storage collectors
- Network flow collector

IaaS

Virtual Guest & OS

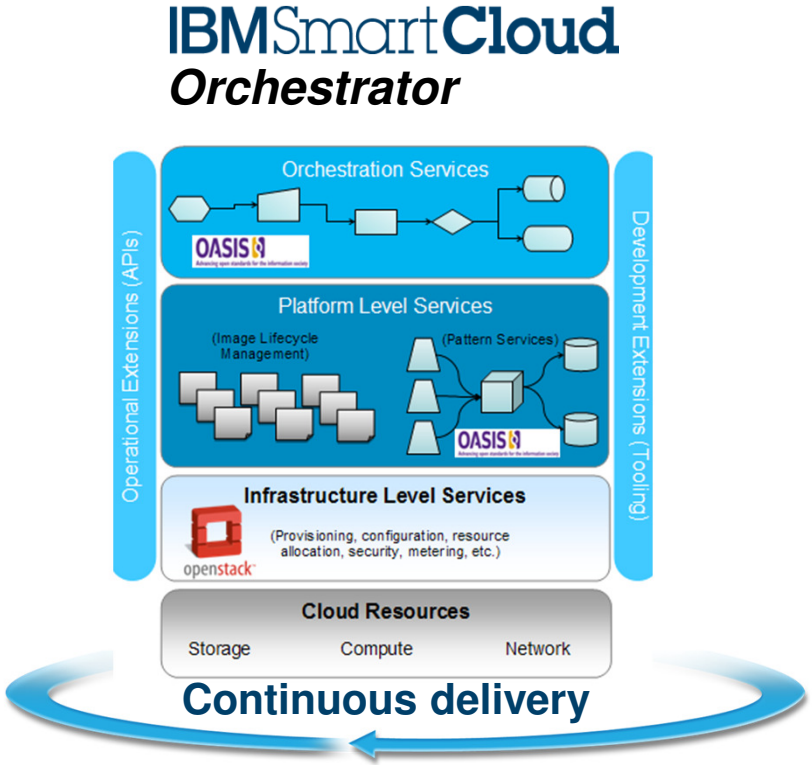
Hypervisor
VMware, KVM, Xen, HyperV, PowerVM

Physical Infrastructure
CPU, Memory, Disk



- Universal collectors
- Infrastructure collectors
- Virtualisation collectors

Key take-aways



1. Fully **automates** the deployment and **lifecycle management** of cloud services across resources, workloads and services
2. Built on a foundation of **open standards**, OpenStack, OSLC, and
3. Accelerated deployments with reusable **workload patterns**
4. Unified management of **heterogeneous** environments

Enabling YOU to decrease Administration & Management tasks!

Cloud – It is your opportunity to grab

IBM SolutionsConnect 2013
Turning Opportunity into Outcomes.

Kristof Stroobants

Service Management Solution Architect
IBM Belgium
+32 474 99 19 66
kristof.stroobants@be.ibm.com
http://be.linkedin.com/in/kristofstroobants/