

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

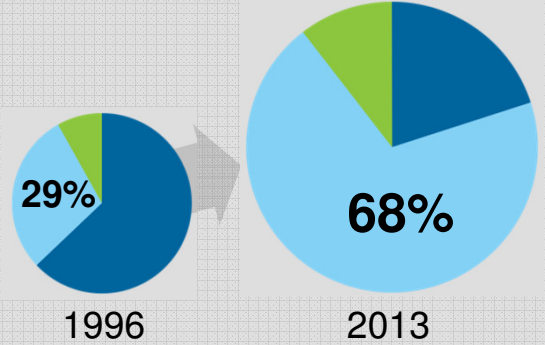


34% of new IT Projects
deploy late

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

Improve IT efficiency
to lower costs

- New server spending
- Power & cooling costs
- Server mgmt & admin 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



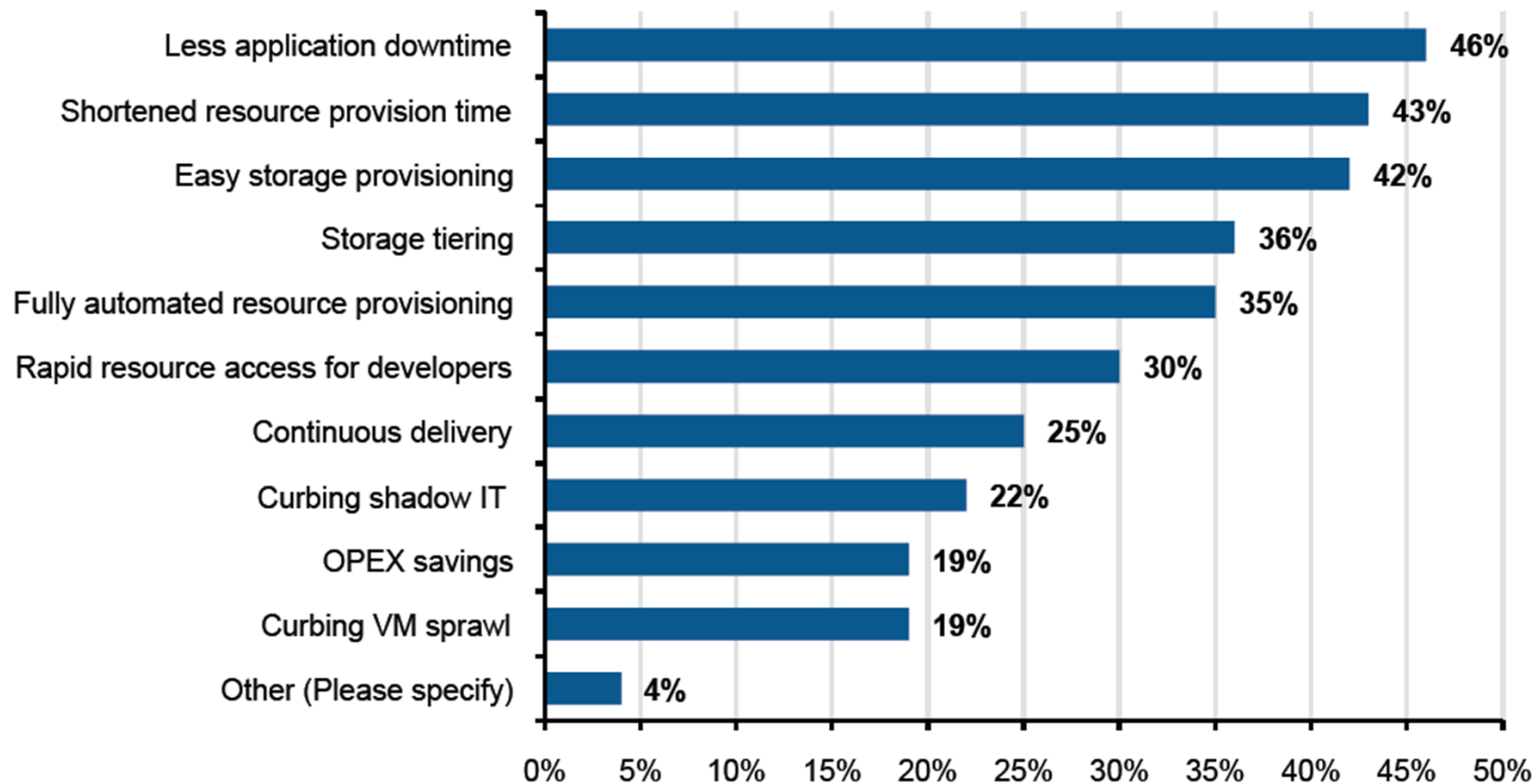
90% plan to implement cloud
by 2015

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

What our customers are saying




What were the key strategic goals of your private cloud?



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



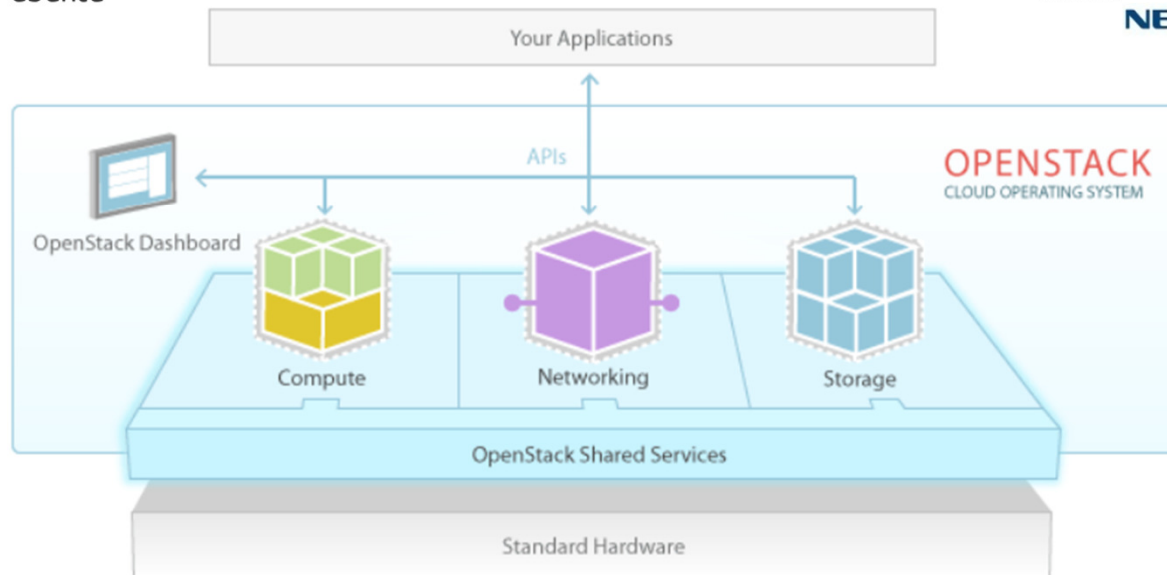
OpenStack is a global collaboration of developers & cloud computing technologists working to produce an **ubiquitous Infrastructure as a Service (IaaS) open source** cloud computing platform for public & private clouds.

Platinum Sponsors



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

Gold Sponsors



Organizations have a choice to make...



Open Source Only



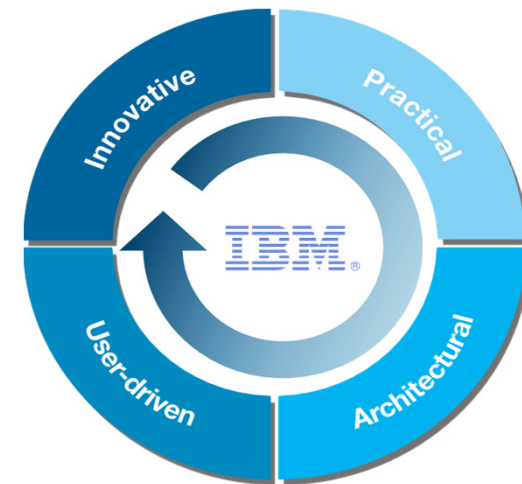
*'Some Assembly
Required'*

Proprietary



*Vendor Lock-in
Assured*

Open "Plus"



*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



SmartCloud Orchestrator

Orchestrate Services across multiple environments and domains

SmartCloud Provisioning

Automate Optimized Workloads



SmartCloud Provisioning

Automate Optimized Workloads



Automate Optimized Workloads



PureApplication System



Customer *integrated* hardware

PureFlex System

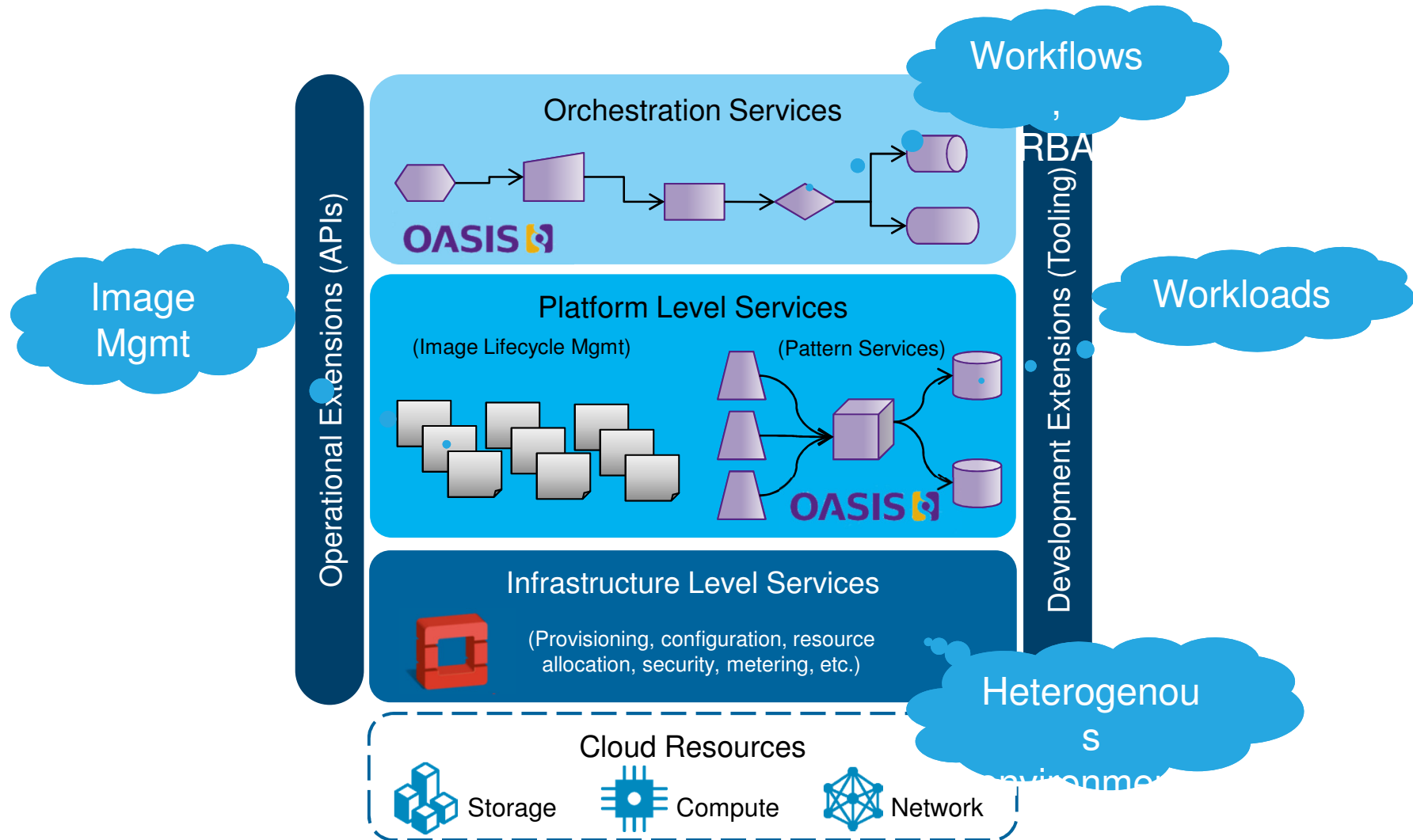


IBM SolutionsConnect 2013

SmartCloud Foundation Offering

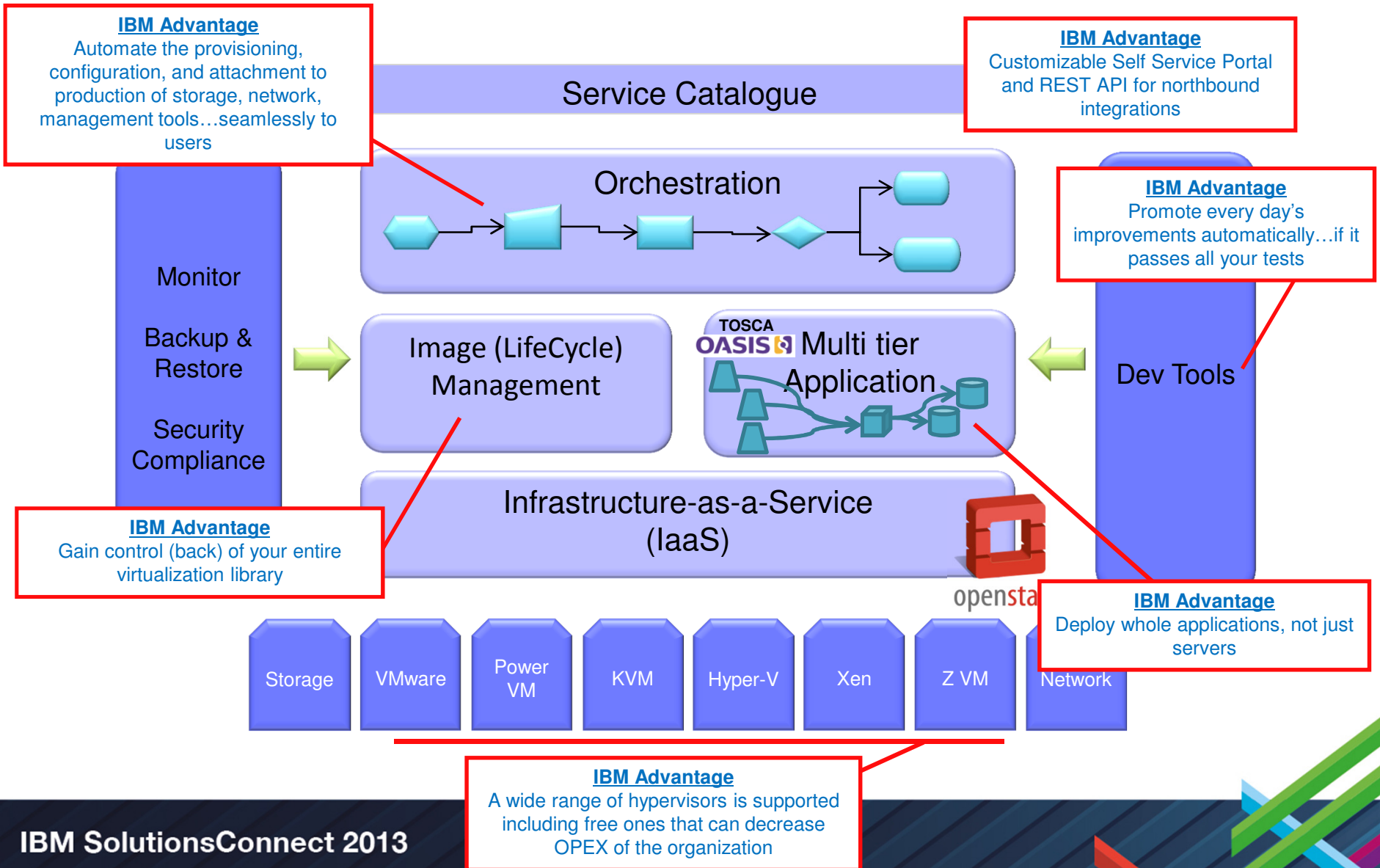
Factory Integrated & Optimized by IBM

Capabilities of IBM's common cloud management services



SmartCloud Orchestrator

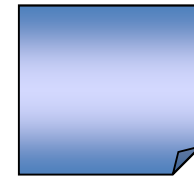
an open and scalable platform



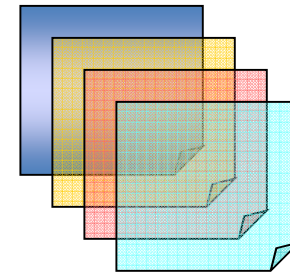
Virtual images and patching: the new reality!



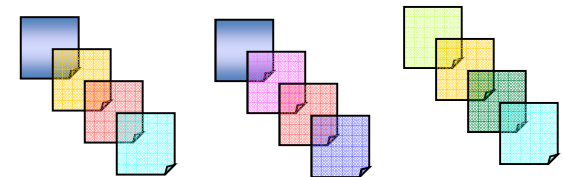
1 In the beginning, there was the **perfect image**...



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

The screenshot displays the IBM SmartCloud Orchestrator interface. At the top, the navigation bar includes 'Welcome', 'Instances', 'Catalog', 'Reports', 'Cloud', 'System', and 'Patterns'. The 'Catalog' tab is active, showing the 'Pattern Editor' for an 'SAP ERP Pattern'. The pattern is described as 'Deploys to ESX hypervisors' and was last updated on Aug 13, 2012 2:03:42 PM. The interface is divided into a left sidebar and a main workspace.

Left Sidebar:

- Search...** (input field)
- Showing parts for ESX.**
- Parts (6/6):**
 - OS Part (RHEL-57-64-CCS, 4.0.0, ESX, RedHat Enterprise Linux 64-Bit)
 - RHEL55-32-Small (RHEL55-32-Small, 0, ESX, RedHat Enterprise Linux 5 (32-bit))
 - SAP-Central Instance-RHEL-61 (SAP-Central Instance-RHEL-61, 0, ESX, RedHat Enterprise Linux 5 (32-bit))
 - SAP-Database-DB2-RHEL-61 (SAP-Database-DB2-RHEL-61, 0, ESX, RedHat Enterprise Linux 5 (32-bit))
 - SAP-Dialog Instance-RHEL-61 (SAP-Dialog Instance-RHEL-61, 0, ESX, RedHat Enterprise Linux 5 (32-bit))
 - win2003x64.basic (win2003x64.basic, 0, ESX, Microsoft Windows Server 2003 64-Bit)
- Scripts (3/3)**
- Add-Ons (4/4)**

Main Workspace:

The workspace shows three instances of the pattern components, each with a 'Configure ITM' button:

- Instance 2:** SAP-Dialog Instance-RHEL-61 (0)
- Instance 1:** SAP-Database-DB2-RHEL-61 (0)
- Instance 1:** SAP-Central Instance-RHEL-61 (0)

At the bottom of the interface, the copyright notice reads: '© Copyright IBM Corporation 2011. All Rights Reserved.' and the version information is '4.0.0.0-20120730091401 / 20120730-0904-439'.

... with orchestration in action...



The screenshot displays the IBM Business Process Manager Designer interface. The main workspace shows a process diagram for a system named 'System'. The process starts with a 'Start' node, followed by a 'Parallel' gateway. The flow then branches into two paths:

- The top path includes a decision diamond labeled 'Database?' leading to 'Add Storage Volume', 'Register Backup Agent', and 'Set DB backup policy'.
- The bottom path includes a decision diamond labeled 'Production?' leading to 'Create Firewall Rule' and 'Create Configuration Item'.

Both paths converge at an 'End' node. The 'Properties' panel at the bottom shows the configuration for a line connecting to the 'End' node:

Line	Common	Behavior
	Name: to End Name Visible: <input type="checkbox"/> Documentation: Click Edit to add or edit text.	Condition: Default Line Line Type: Happy Path

... initiated from a Self-Service portal



IBM SmartCloud Orchestrator

admin@admin | Help | About | Log Out

Home | Self-service | My Requests | Instances | Images & Patterns | Components | Reports | Configuration | Administration | My Inbox

Self-service

- All Offerings**
These are miscellaneous offerings with no specific categorization
- Storage and Backup Services**
These service offerings allow you to manage storage and backup services.
- Development and Test Services**
These service offerings allow you to define new development and test services.
- Software Installation**
These service offerings allow you to install software on a server.

Create MediaWiki Application Environment

Offering name: Create MediaWiki Application Environment

Description: Deploy MediaWiki with LB and FS

Offering icon: Web Icon

Category: Development and Test Services

Process: Sample Deploy Pattern

Process application or toolkit of selected Process: Sample_Support_vSys_ProcessApp

User Interface: Sample Deploy MediaWiki Pattern to Environment Profile

Process application or toolkit of selected Human Service: Sample_Support_vSys_ProcessApp

Access granted to: admin [owner]
Everyone [read] [remove]
Add more...

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.

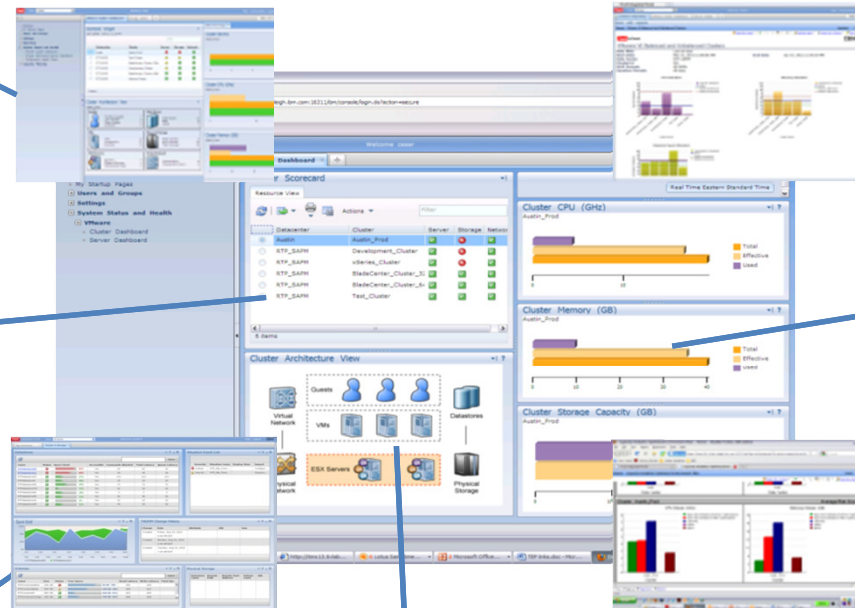
➤ **Reports** on the health trends of cloud components and workloads, powered by Cognos.

Health Dashboards

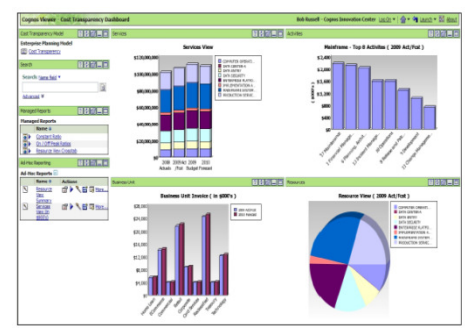
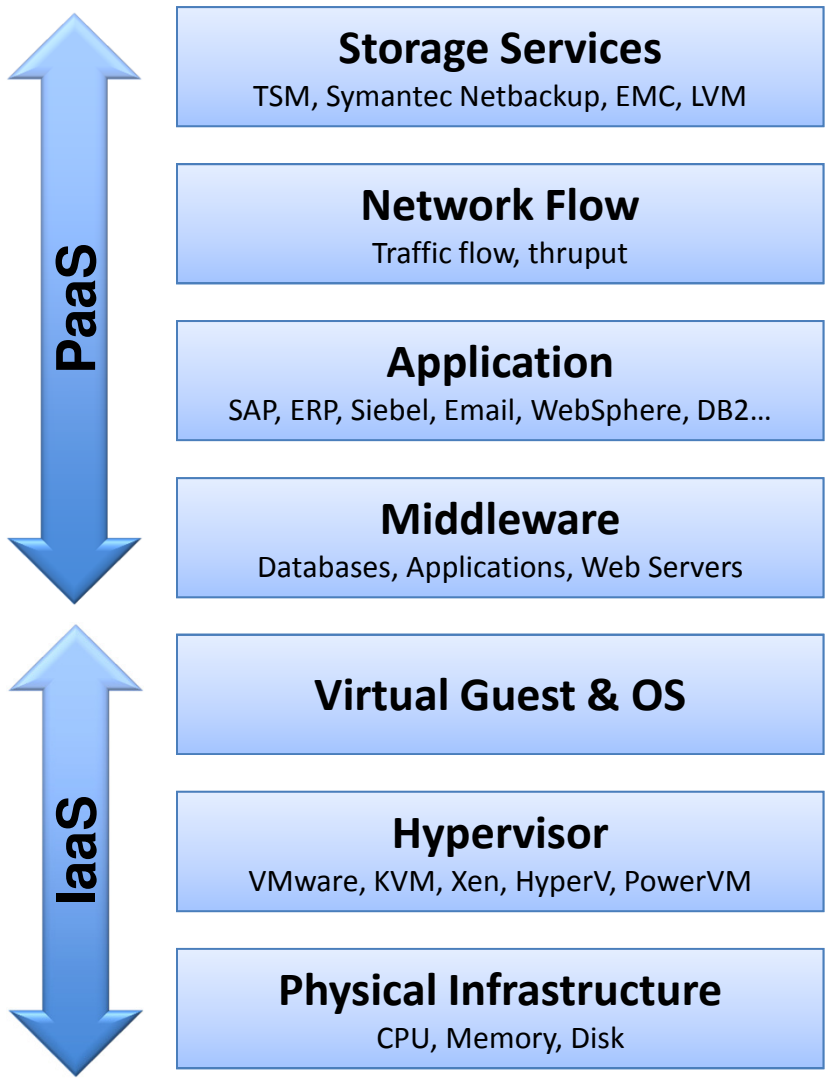
Capacity Assessments

Integrated Monitoring

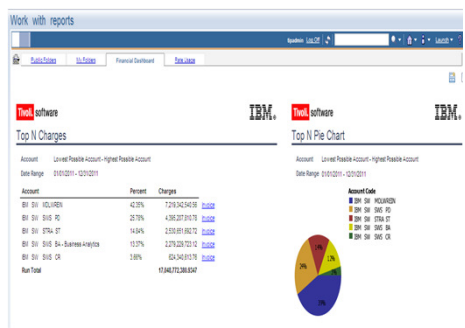
Capacity Planning



Cost management – Usage & Accounting



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

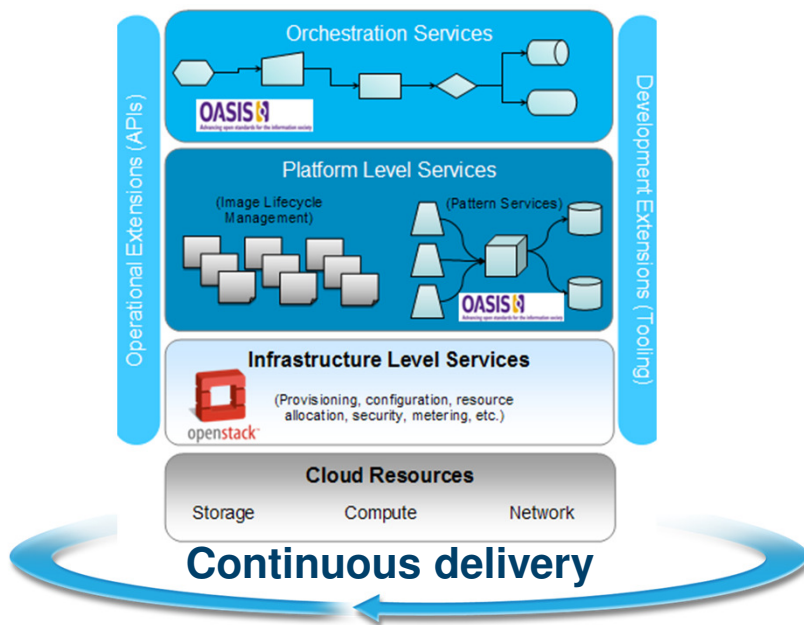


- Universal collectors
- Infrastructure collectors
- Virtualisation collectors

Key take-aways



IBM SmartCloud Orchestrator



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



THANK YOU



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/>