

WebSphere in the Cloud:

**WebSphere Cloudburst Appliance
WebSphere Application Server
Hypervisor Edition**

David Schlosser, August 2009





Smart
SOA

Public Clouds

Enterprise Private Clouds

WebSphere CloudBurst
WebSphere Application Server Hypervisor Edition

LotusLive

Enterprise Private Cloud

Enterprise Private Cloud

WebSphere CloudBurst Appliance

Service Registry

ESB

DataPower Appliance

Enterprise Data Center

DMZ

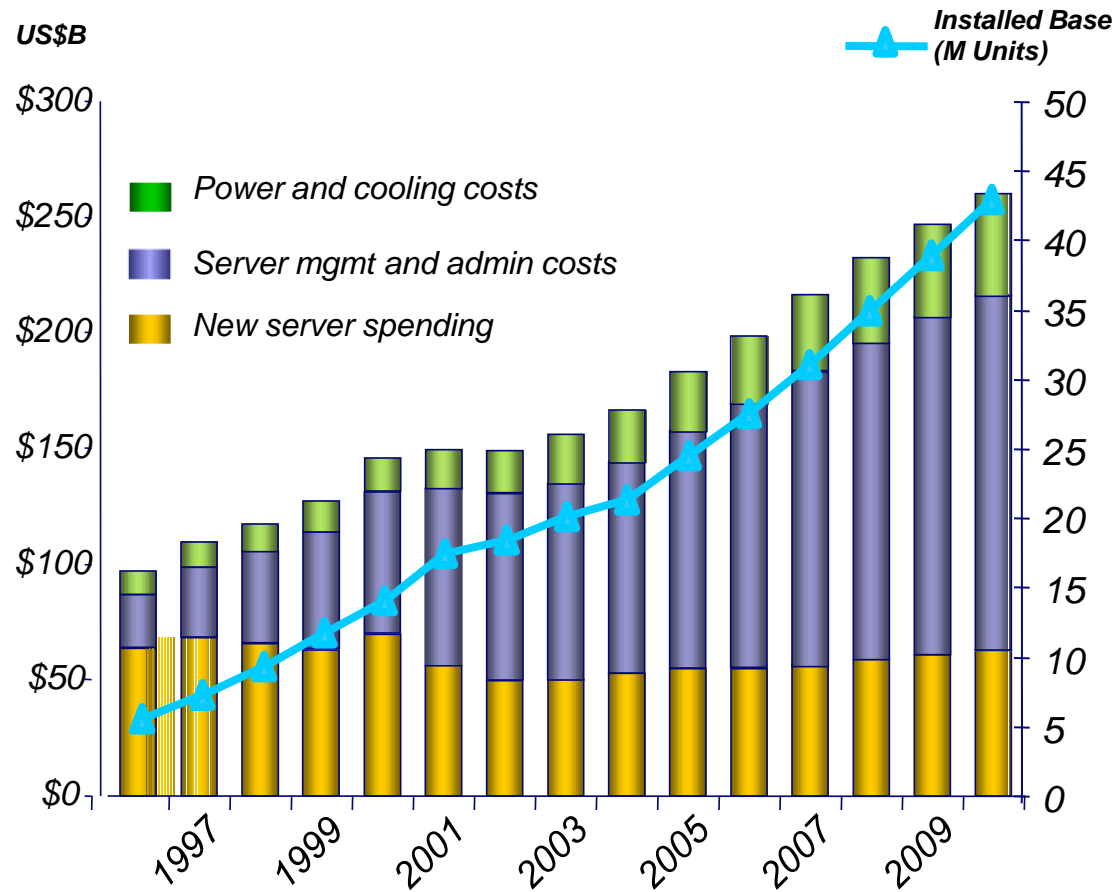
INTERNET



IT costs are increasing



- Costs to manage systems has doubled since 2000
- Costs to power and cool systems has doubled since 2000
- Devices accessing data over networks doubling every 2.5 years
- Bandwidth consumed doubling every 1.5 years
- Data Doubling every 18 months¹
- Server processing capacity doubling every 3 years²
- 10G Ethernet ports tripling over the next 5 years



Source: IDC, 2008

¹WW TB Capacity Shipped on Enterprise Disk Storage Systems

²Server processing consumption doubles every 3 years

What admin & management efficiencies can be made?



- **The average lead time to get a new application environment up and running is 4-6 weeks**
 - Approvals, procurement, shipment, HW installation, license procurement, OS installation, application installation, configuration
- **30% of bugs are introduced by inconsistent configurations**
 - These bugs are often of the most difficult variety to detect
 - They often emerge when moving between dev/test, QA, production
- **Because it's so expensive to set up an environment, there is an incentive to hold onto them even when no longer needed "just in case."**
 - Future environments = new hardware, instead of recycling returned hardware, and this takes time and money





Introducing...

- IBM WebSphere CloudBurst Appliance
and
- IBM WebSphere Application Server Hypervisor Edition



Reduced cost and time-to-value; improved control and agility



IBM WebSphere CloudBurst Appliance



Image Management, Pattern Assembly and Deployment of SOA images in an Enterprise Private Cloud



- **Cost-effective** – reduce hardware, software, and administration costs
- **Automate management** of WebSphere products in a private cloud
- **Fast deployment and repeatability** with pre-defined WebSphere patterns
- **Usage tracking** for chargeback and management reporting
- **Secure appliance** based on widely adopted WebSphere DataPower foundation
- **Manages** entire lifecycle of WebSphere Images and Patterns with associated licenses
- **Integrates** with Rational development tools, Tivoli management software

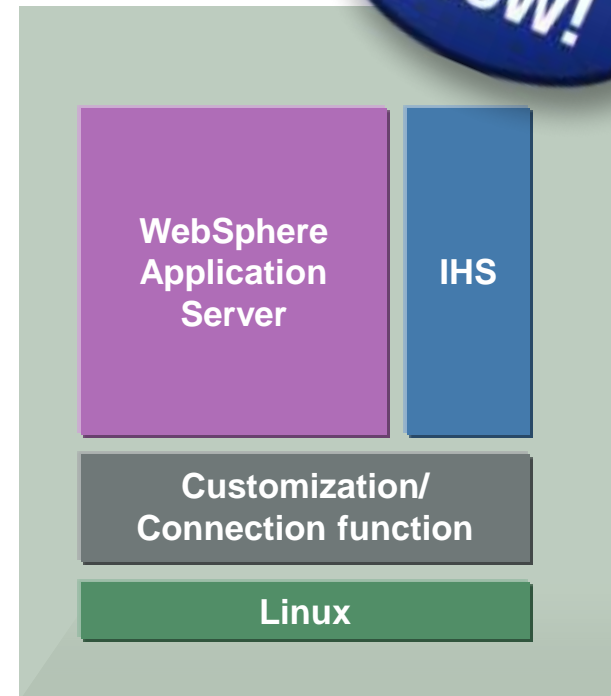


WebSphere Application Server Hypervisor Edition

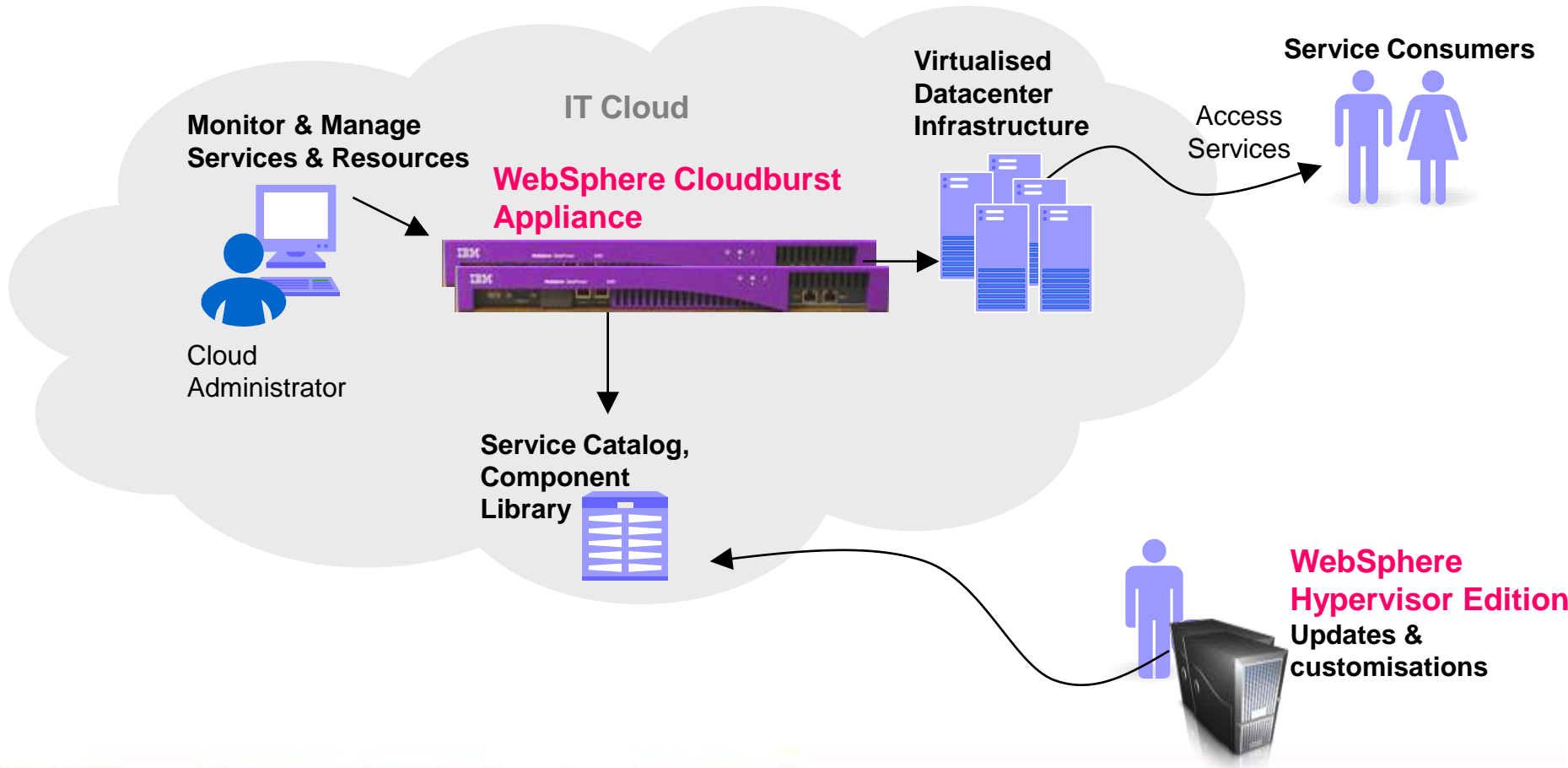


Designed to run in server virtualization environments

- New edition of WAS optimized for usage in virtualized environments
- WAS shipped ready to run on a hypervisor
 - No installation required (just run it and choose a profile type)
- Facilitates more agile usage of WAS (rapid setup/teardown)
- Delivered as a virtual image capable of supporting single servers or clusters
 - Can run in the context of “patterns,” which codify 10 years of WAS best practices, are reusable, and are very well tested.
- New images created for each WAS fixpack that becomes available
- WAS Feature packs distributed inside images
- WASv6.1, WASv7.0 Versions available



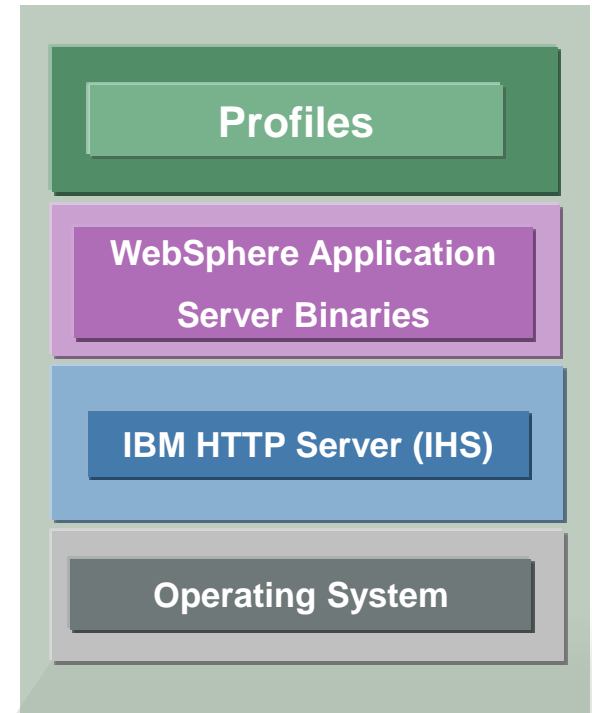
WebSphere In The Private Cloud



WebSphere Application Server Hypervisor Edition Adds:

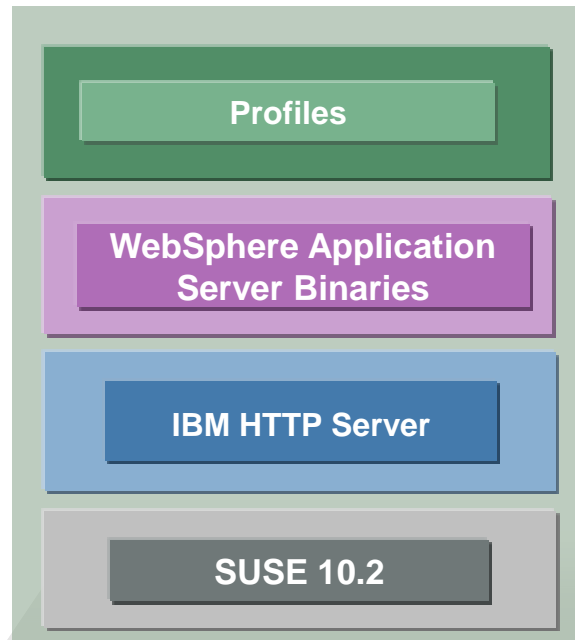


- Virtual server image with WebSphere Application Server Network Deployment
- Dramatically reduces time to install/config multiple images and keep them updated:
 - Pre-installed virtual image, ready to go!
 - operating system
 - WebSphere Application Server
 - Pre-configured WAS components
 - Follows WebSphere best practices.
 - Multiple virtual machines from one virtual image



Activation Steps

- Set User ID & Password
- Select profile types (Web Server, Deployment Manager, Node)
- Set server names
- RUN!

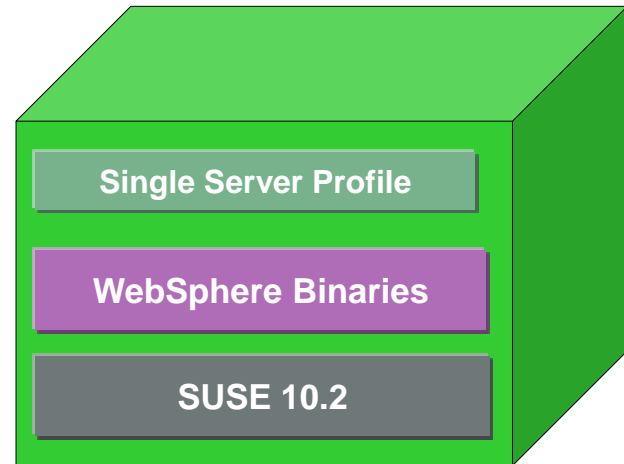
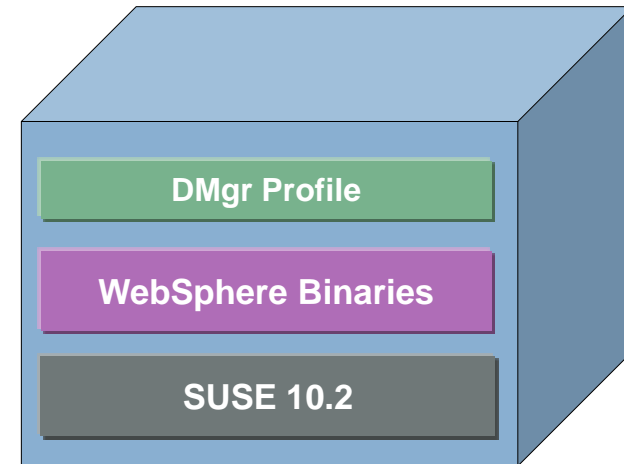


WebSphere Application Server Hypervisor Edition

Activation for DMgr

Example

Activation for Single Server



Virtual images ready for use





WebSphere CloudBurst Appliance Adds:

- AUTOMATED, rapid, self-service WebSphere deployment into the cloud
- Deploy, Manage, Create, Modify & Extend PATTERNS of WebSphere virtual machines
- BEST-PRACTICE topology patterns PRE-DEFINED
- SIMPLE point & click, drag & drop, customise via browser
- Automate & OPTIMISE deployment placement into the cloud: CPU, memory, disk
- Appliance format simplifies usability, boosts performance, ensures security





WebSphere CloudBurst Appliance Adds ... (cont.)

- Secure control over WebSphere virtual machine configuration and management
- Cloud resource utilisation monitoring and reporting
- Data on use of virtual systems and cloud resources for charge-back
- Integration with IBM License Metric Tool for sub-capacity license tracking
- Backup/restore (of images, scripts, patterns, user security permissions,...)



WebSphere CloudBurst Virtual Images



WebSphere CloudBurst Welcome, Administrator | Help | About

Welcome Virtual Systems Patterns **Catalog** Cloud Appliance Profile Logout

Virtual Images

Search... ↑↓

- WebSphere Application Server 7.0.0.3**
- WebSphere Application Server 6.1.0.23
- WebSphere Application Server 6.1.0.23 (Feature Packs)

WebSphere Application Server 7.0.0.3

Description: IBM WebSphere Application Server Hypervisor Edition 7.0.0.3

Hypervisor type: ESX

Version: 7.0.0.3

Image reference number: cf030916.36

Current status: Read-only

Contains parts: AdminAgent
Custom Node
DMGR
IHS Only Node
[\[show more\]](#)

Included in patterns: [WebSphere single server](#)
[WebSphere cluster](#)
[WebSphere cluster \(development\)](#)
[WebSphere cluster \(large topology\)](#)

In the cloud now: (none)

Access granted to: Administrator [owner]
Everyone [read] [remove]

IBM. WebSphere.



WebSphere CloudBurst Pre-defined Patterns



WebSphere CloudBurst

Welcome, Administrator | Help | About

Welcome Virtual Systems **Patterns** Catalog Cloud Appliance Profile Logout

Patterns

Search...

- Payroll cluster (test)
- WebSphere cluster**
- WebSphere cluster (SMB runtime)
- WebSphere cluster (development)
- WebSphere cluster (large topology)
- WebSphere single server

Payroll cluster (test)

Description: Cluster with payroll app installed (test)

Created on: Apr 21, 2009 12:07:46 PM

Current status: Read-only

Updated on: Apr 21, 2009 12:09:05 PM

In the cloud now: (none)

Access granted to: Administrator [owner]

Topology for this pattern: Everyone Tester

Virtual image: Hypervisor Edition 7.0.0.3 [Deploy...](#)

Deployment manager → Custom nodes

Add IBM HTTP Server node

2

IBM. WebSphere.



Create Patterns Using Drag and Drop!



WebSphere CloudBurst

Welcome, Administrator | Help | About

Welcome Virtual Systems **Patterns** Catalog Cloud Appliance Profile Logout

Pattern Editor

Search...

Virtual Image Parts

- Administrative agents
- Custom nodes
- Deployment manager
- IBM HTTP servers
- Job manager
- Standalone server

My Cloned Lab Pattern

Virtual image: WebSphere Application Server Hypervisor
Last updated on Thu Apr 16 19:22:23 CDT 2009

Advanced Options...

Deployment manager

My Lab Application

2

Custom nodes

Number of nodes



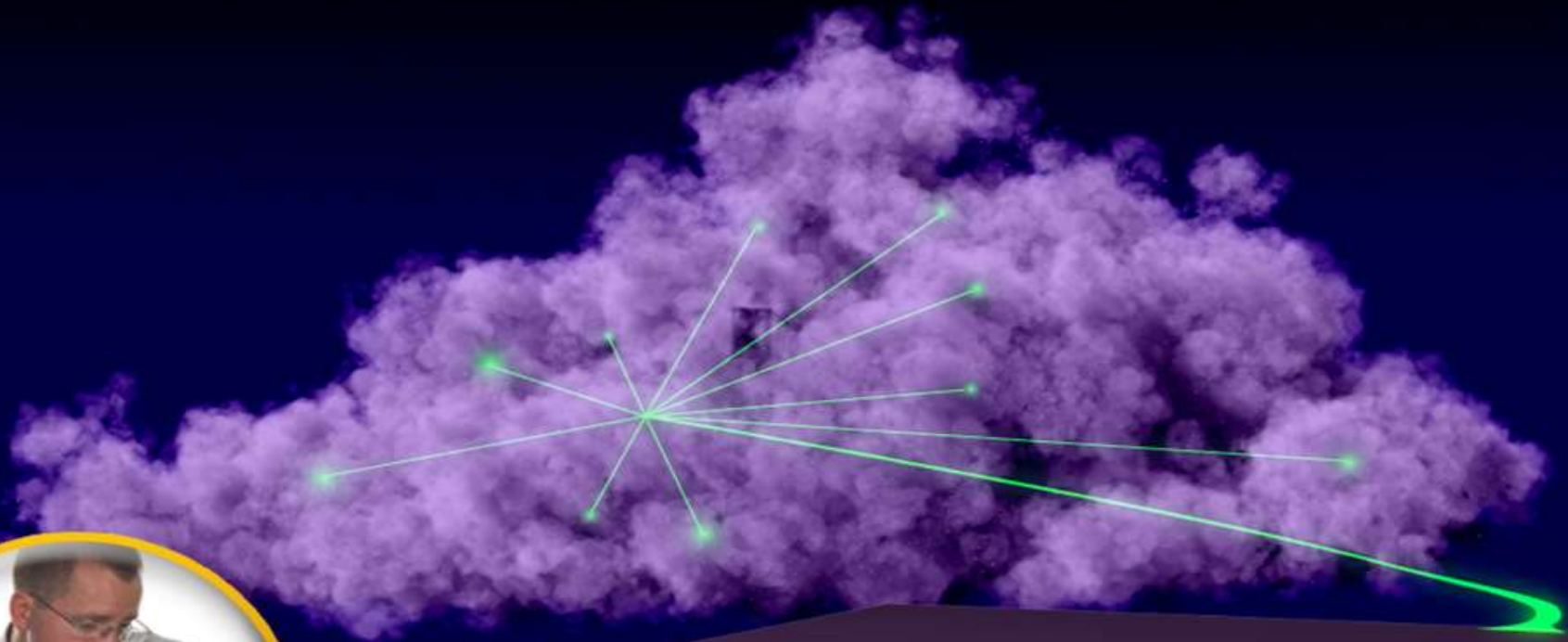


Script Packages

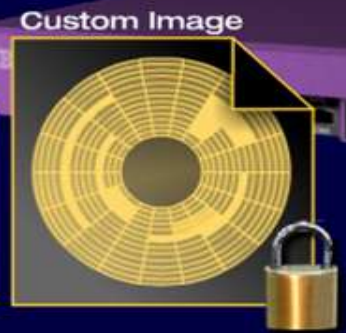
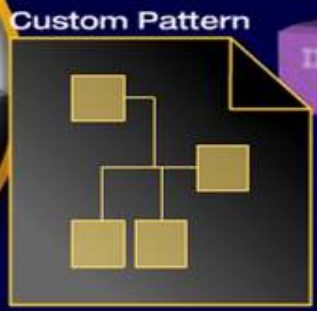
- With the script package, you can do the following:
 - Upload your script package
 - Create environment variables
 - Specify an executable
 - Supply arguments to the executable
 - Grant and/or remove permissions

WebSphere Application Server Samples	
Script package files:	<input type="text" value="Browse..."/> <input type="button" value="Upload"/> The script package is in samples.zip. <input type="button" value="Download"/>
Environment:	(none) Add variable <input type="text" value="name"/> = <input type="text" value="value"/> <input type="button" value="Add"/>
Working directory:	/tmp
Logging directory:	\${WAS_INSTALL_ROOT}/logs \${WAS_PROFILE_ROOT}/logs
Executable:	sh /tmp/installSamples.sh
Arguments:	None provided
Included in patterns:	(none)





LEAD TESTER



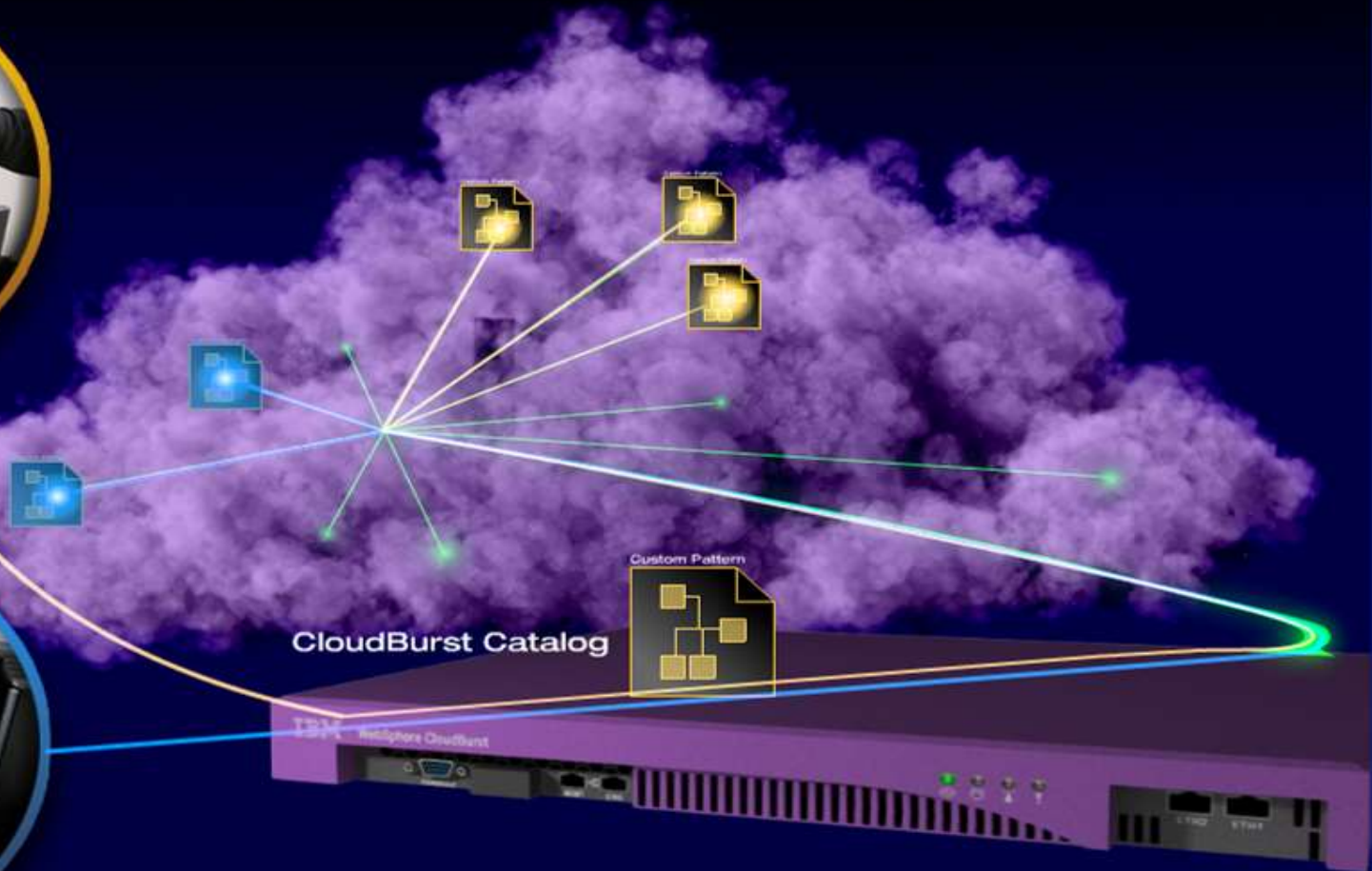
- Support Shared Cloud Environments
- Track Usage and Licenses



Operations
Users



Test User



IBM Lab Increases Productivity and Agility

Using WebSphere CloudBurst, Application Server Hypervisor Edition



Industry Pains

- OS security compliance issues due to virtualization
- Low rates of hardware utilization
- Agile development requires high quality and broader testing

Smarter Business Outcomes

- No OS security compliance violations in 4 months
- Increased server utilization up to 90%
- Reduced standardized topology deployment from over 2 hours down to 18 minutes
- Leveraged existing hardware and software assets



Why Smart SOA Intelligent Management?

“The ability to provide compliant patterns and images in our public lab while leveraging the speed and rapid deployment of virtualization is significant for our efforts to consolidate hardware, reduce costs while at the same time providing on demand access to development and test environments necessary for Agile development”.

–Frank Varone, WebSphere Test and Quality Manager, IBM





Thank You

For more information, please visit:
ibm.com/cloud

