

Fast, Accurate and Repeatable Deployments of WebSphere Products on Linux for System z using the *WebSphere CloudBurst Appliance*





Reduced cost and time-to-value; consistent accuracy and agility







Why WebSphere CloudBurst Appliance?

- The average lead time to get a new application environment up and running is 4-6 weeks (or even longer)
 - Approvals, procurement, shipment, HW installation, license procurement, OS installation, application installation, configuration
- Management of the various nonproduction environments of the combined server application environment is inconsistent and difficult
 - 30%+ of bugs are introduced by inconsistent configurations
 - These bugs are often of the most difficult variety to detect and these bugs often emerge when moving between environments: dev/test, QA, production.
- Because it's so expensive to set up environments, there is an incentive to hold onto them even when no longer needed "just in case."
 - Therefore, any new environments require new hardware instead of recycling returned hardware.
 - Causes license bloat and license tracking errors.



Cross platform support for zSeries, pSeries and x86 series platforms that run WebSphere middleware products...

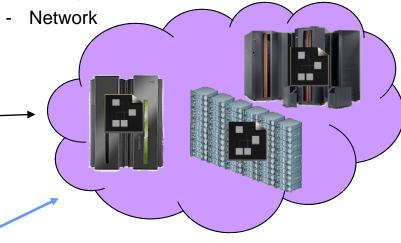


WebSphere Middleware Clouds

- 1. WebSphere CloudBurst Appliance
- Cloud management functionality
- WebSphere Hypervisor Edition middleware images
- WebSphere middleware patterns
- Agent, application scripting, etc.



- Mix and Match Hypervisors: VMware, PowerVM, zVM
- Storage

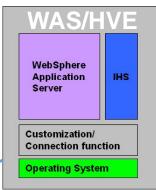




Web 2.0 UI, CLI, and REST APIs



User requests WebSphere Product Hypervisor Edition to be dispensed



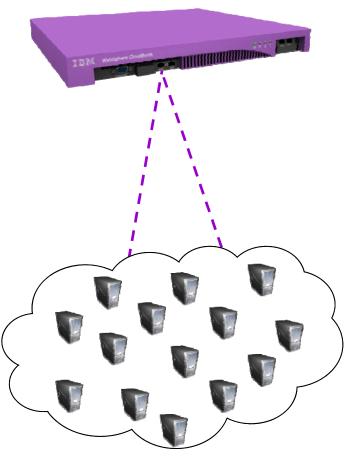
User can access WebSphere Product virtual image

- 3. Creates enterprise specific, custom WebSphere Virtual Systems
- Customize and extend images and patterns for your applications
- Dispense and run in the cloud
- Life-cycle management and optimization

WebSphere CloudBurst Appliance



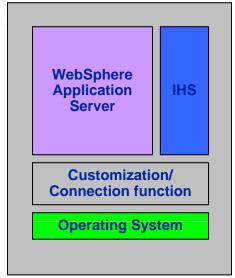
- A secure, self-service cloud management hardware appliance (DataPower DNA)
- Unmatched WebSphere middleware product management (apply maintenance, federate cells, etc. - not black box)
- Enables consistent & repeatable deployment of application environments based on patterns
- Dispenses hardened, best practices, WebSphere Product patterns into a "bring your own cloud" of virtualized hardware running a supported hypervisors e.g. VMware ESX, z/VM or PowerVM.
- Stores and dispenses user customized patterns and images (roadmap item for non-IBM products)
- Manages licenses to automatically limit usage
- Integrates with existing infrastructure through programmable REST APIs with close to integration to Build Forge and RAFW as well as Tivoli Provisioning Manager

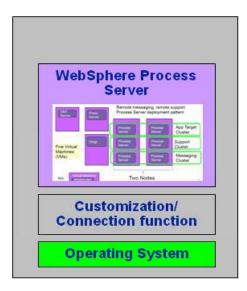


IBM WebSphere Hypervisor Edition Products



- IBM has announced hypervisor editions of:
 - WebSphere Application Server
 - WebSphere Process Server
 - WebSphere Message Broker
 - DB2
 - WebSphere Portal
- Each of these products run on multiple underlying hypervisors including: VMware ESX, PowerVM and z/VM)
- Open Virtualization Format standard base packaging
- No installation required (just run)
- Single virtual image capable of supporting single servers or clusters
- Maintenance, support, and fixes through IBM for entire image
- Custom Hypervisor versions of other products can be created by partners or customers

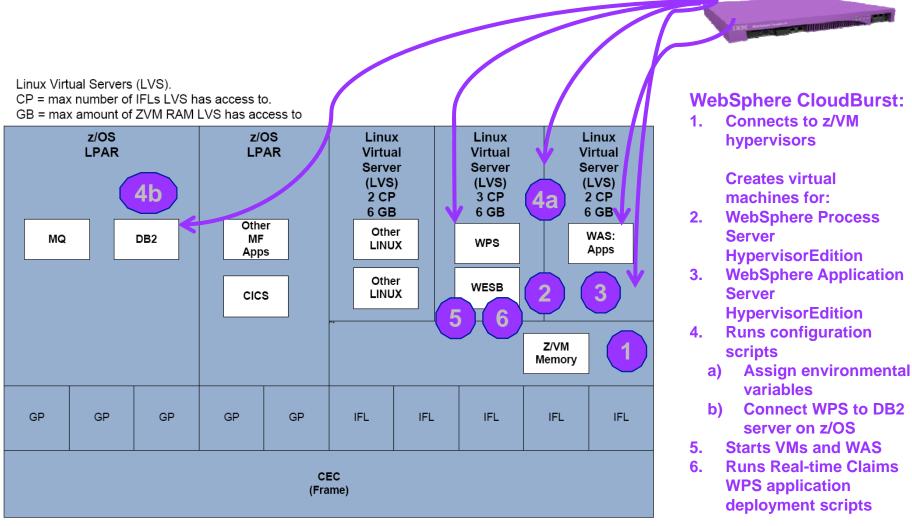




Healthcare Provider Scenario High Level Configuration....



Scenario summary mapped onto System z block diagram...

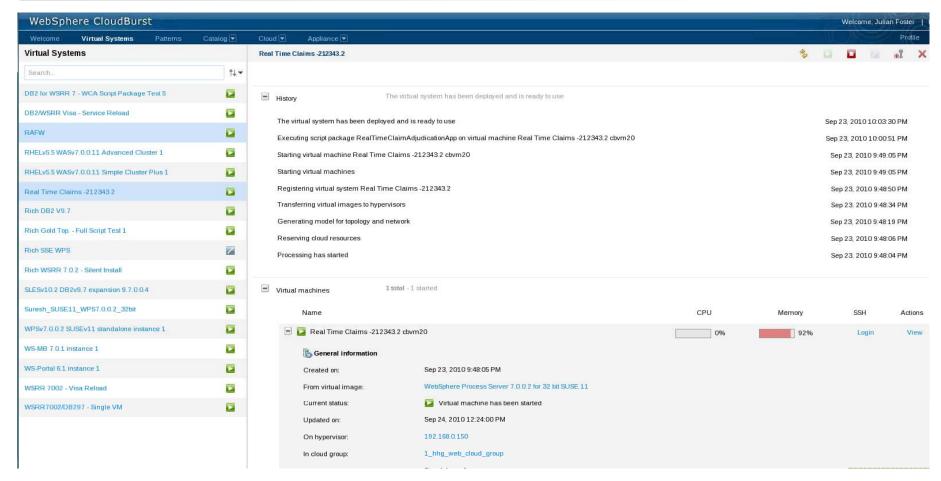


GP = General Processors supporting zOS LPARS

IFL = Independent Facility for Linux; crippled GPs micro-coded to support Linux/Linux on z/VM only

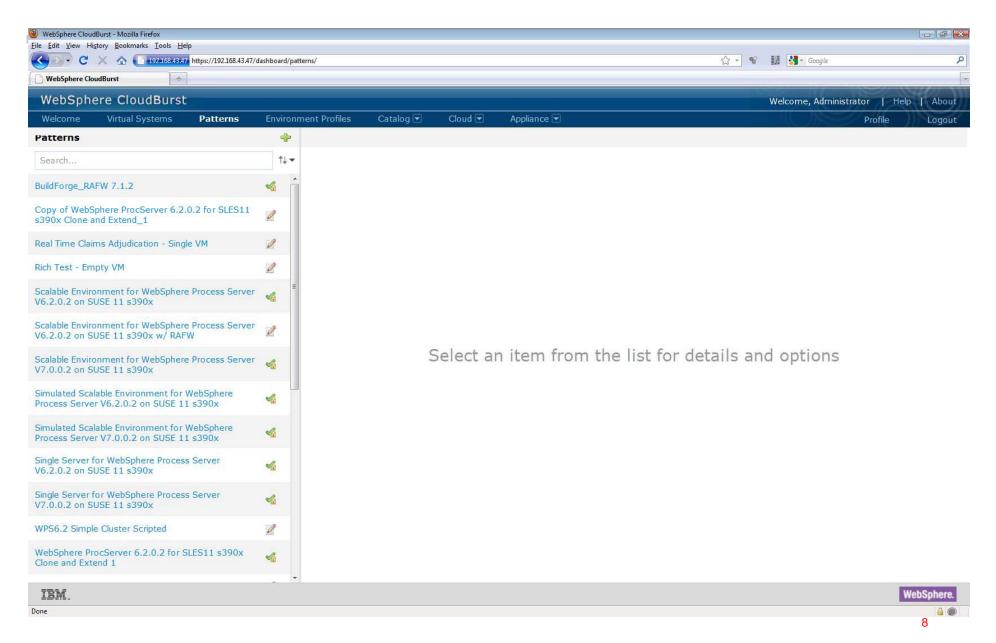
Less than 30 minutes from bare hypervisor to application log-on...

Provisioning zLinux WebSphere Process Server with the Real Time Claims Application



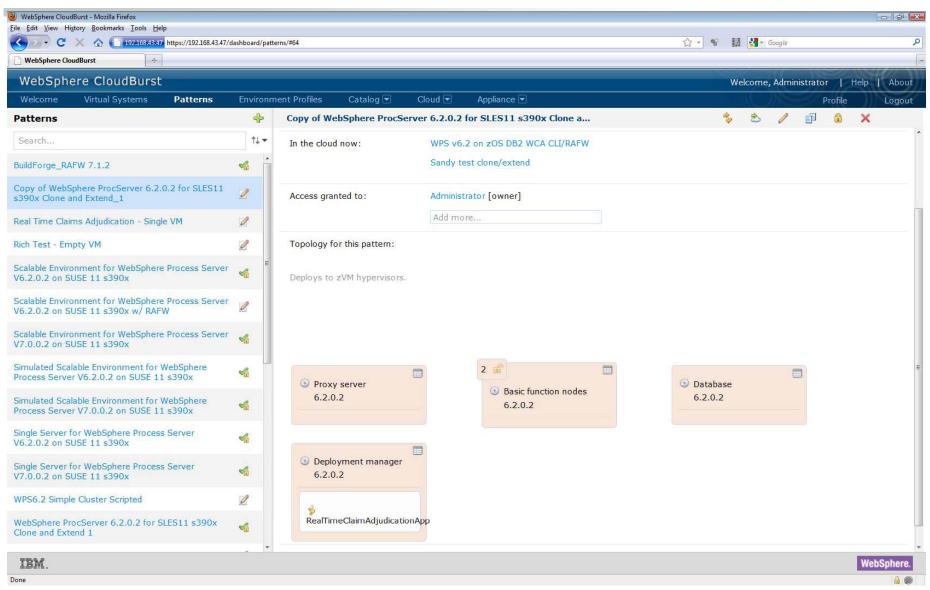
Less than 90 minutes from bare hypervisor to application log-on... Select WebSphere Process Server Gold Topology





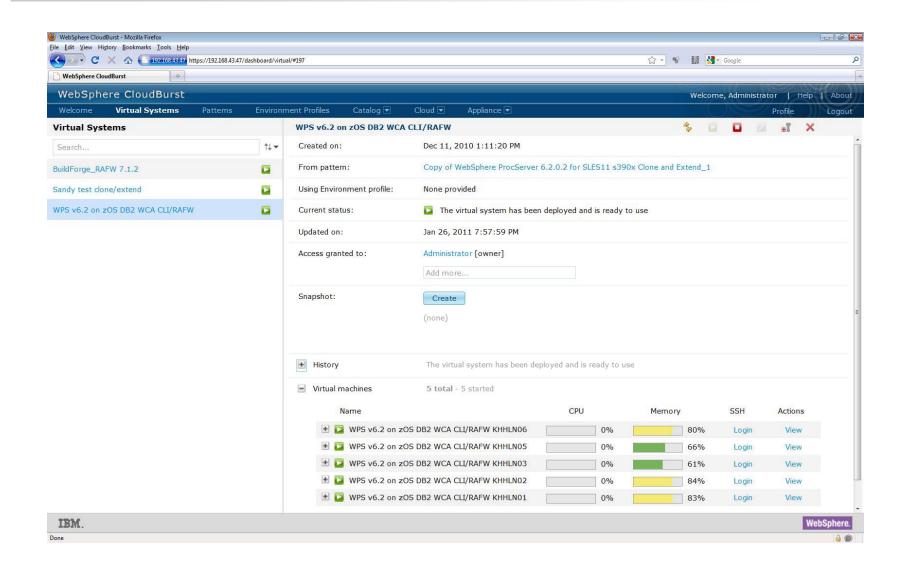
Less than 90 minutes from bare hypervisor to application log-on... Add Application Deployment to the Pattern





Less than 90 minutes from bare hypervisor to application log-on... Select WebSphere Process Server Gold Topology Deployed

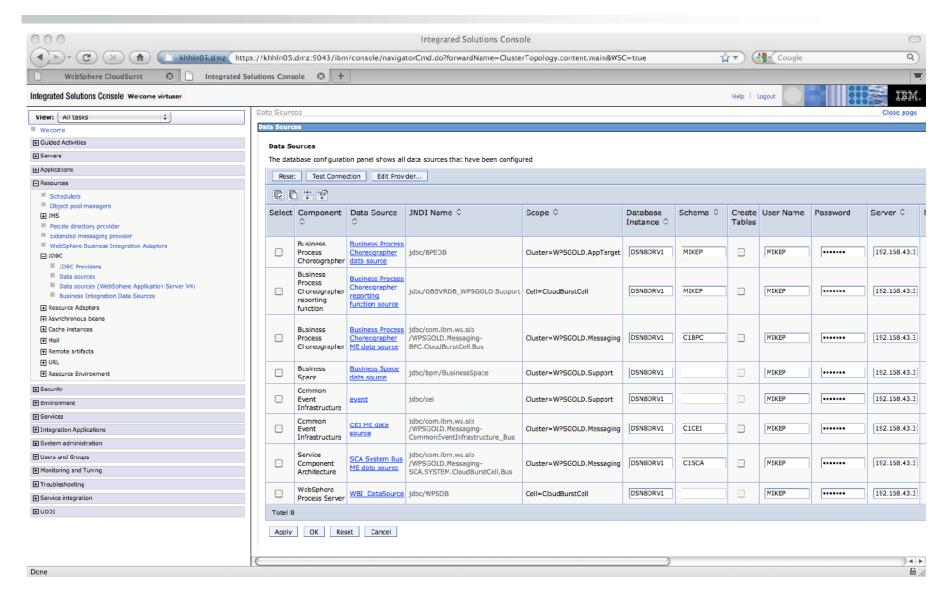




Less than 90 minutes from bare hypervisor to application log-on...

Configure DB/2 on zOS

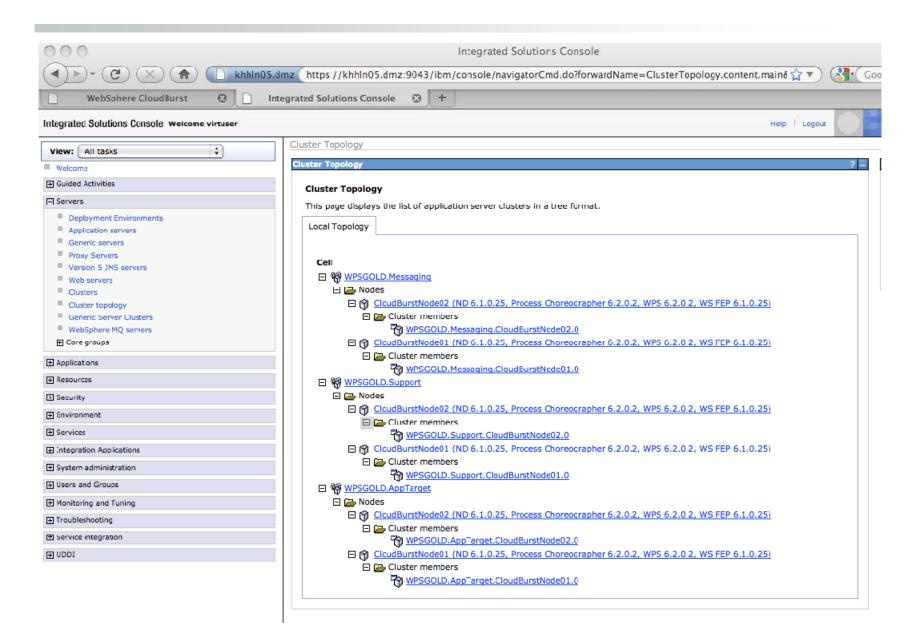




Less than 90 minutes from bare hypervisor to application log-on...

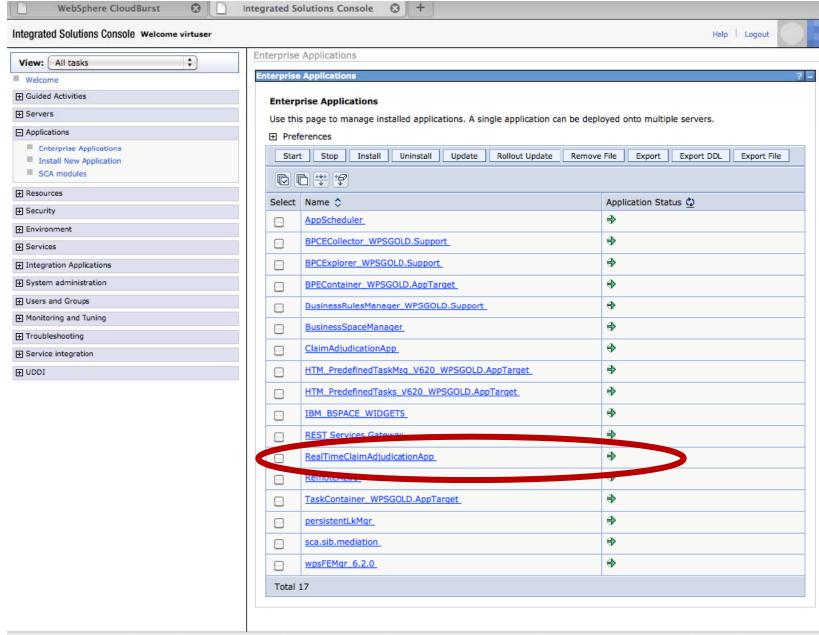
Console View WPS Gold Topology





Less than 90 minutes from bare hypervisor to application log-on... Install the Real Time Claims Application





Pilot Scenario

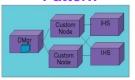


From WebSphere Patterns to Virtual Systems Application Logon...

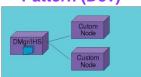
WebSphere Cluster Pattern (large)



WebSphere Cluster Pattern



WebSphere Cluster Pattern (Dev)



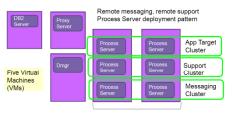
WebSphere Single Server Pattern



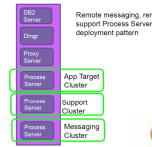
Human: Starts deployment on WebSphere CloudBurst



WebSphere Process Server Gold Topology Pattern



WebSphere Process Server Development Topology



Single Virtual

Machine (VM)

Remote messaging, remote



WebSphere CloudBurst:

- 1. Connects to z/VM hypervisors
- 2. Creates virtual machines
- 4. Runs configuration scripts
 - > Assign environmental variables
 - Connect WPS to DB2 server on z/OS
- 5. Runs Real-time Claims WPS application deployment scripts
- 6. Starts VMs and WPS

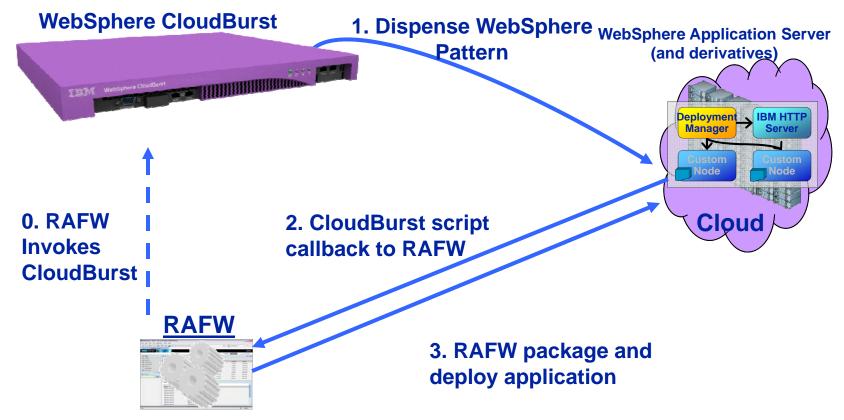


Human:

- 7. Log onto WPS Business Process Choreographer
- 8. Manually submit Claims
- 9. Real Time Claims Application
 - Processes one valid claim
 - Processes one invalid claim
- 10. View results on WebSphere Business Process Choreographer

Rational Automation Framework for WebSphere and WebSphere CloudBurst



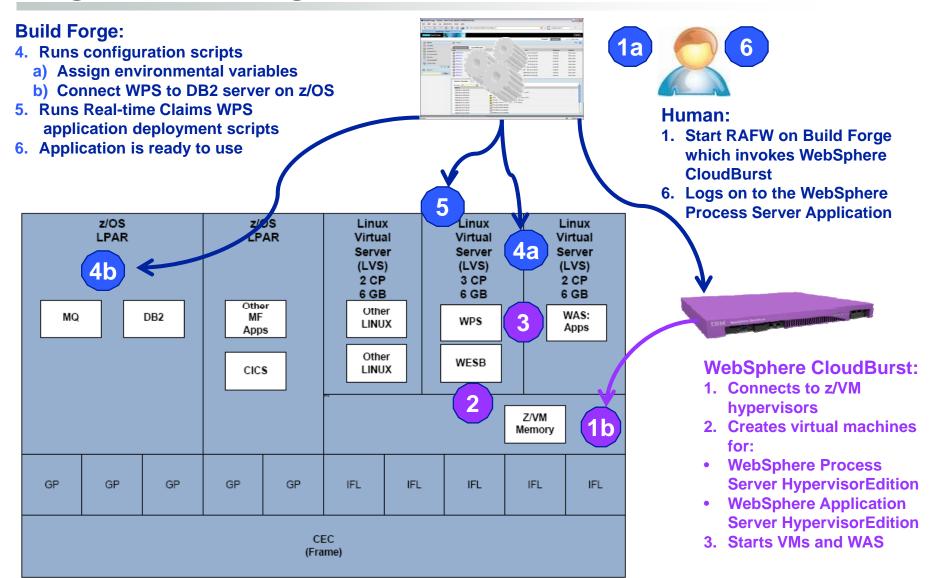


Note: This scenario can be extended to include additional Rational components including Rational Asset Manager, Rational AppScan, and Rational Software Architect as well as Build Forge for scheduling, tracking and auditing of changes

90 minutes from Cloudburst Appliance Patterns to Real Time Claims Application on WPS Gold Topology...



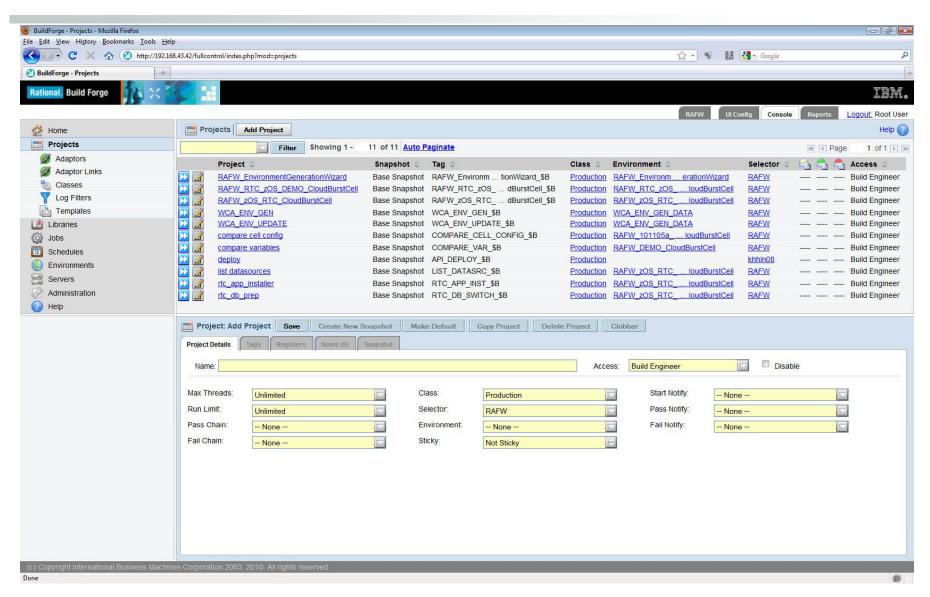
High Level Configuration....



For separation of concerns and "one click" deployment...

RAFW Build Forge Project to deploy from WCA





Common, consistent, controlled and optimized provisioning for zLinux Immediate Value in Virtualized WebSphere Environments



WebSphere CloudBurst Appliance

- > Secure cloud management appliance
- Codify the zSeries middleware and application infrastructure for reduced deployment risk
- Dispenses WebSphere virtual image software in minutes
- Simplified maintenance and management with practical immediate decommissioning and subsequent recommissioning while managing software licenses in the cloud

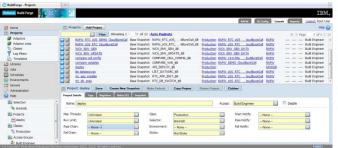
IBM Hypervisor Edition Products

- New editions of IBM products optimized for virtualized environments
- Pre-configured, ready to run on a hypervisor
- Virtual image software supported and maintained by IBM
- Can be extended with custom Hypervisors for customer critical non IBM products

Rational Build Forge with RAFW

- Automates software production
- Eliminates manual, error prone tasks
- Reduces maintenance of proprietary homegrown scripts
- Utilizes existing tools, scripts and hardware
- Provides repeatable and consistent processes for improved efficiency
- Captures self-documenting data/audit trail

Enables team members with self-service capabilities





"Fit for Purpose Virtualization" Provisioning on zSeries...

Realized with Build Forge, RAFW and Cloudburst Appliance



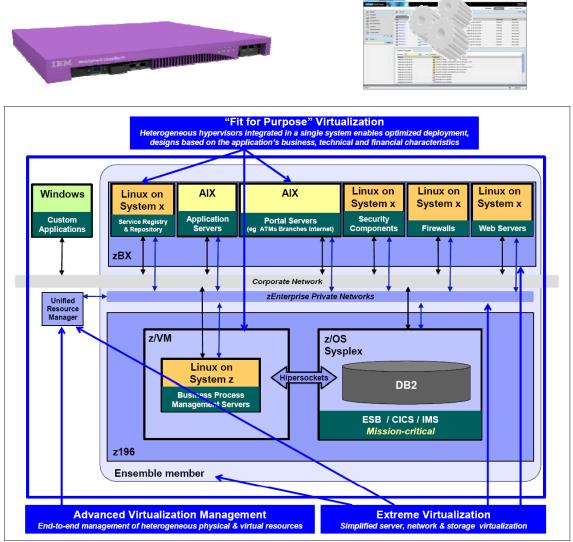


Figure 9 IBM zEnterprise virtualization: real business value for today's heterogeneous applications



Common, consistent, controlled and optimized provisioning across hypervisor platforms







