

# High Availability with SLES 11 and System z

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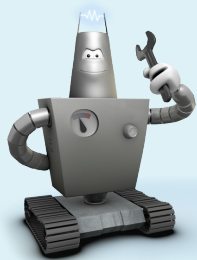
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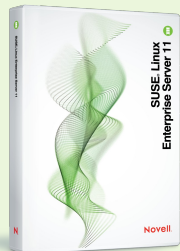
# SUSE Building Blocks for Linux OS Lifecycle



**SUSE Studio**  
Building workloads  
for physical and  
cloud environments



**SUSE Manager**  
Provisioning  
Management  
Monitoring

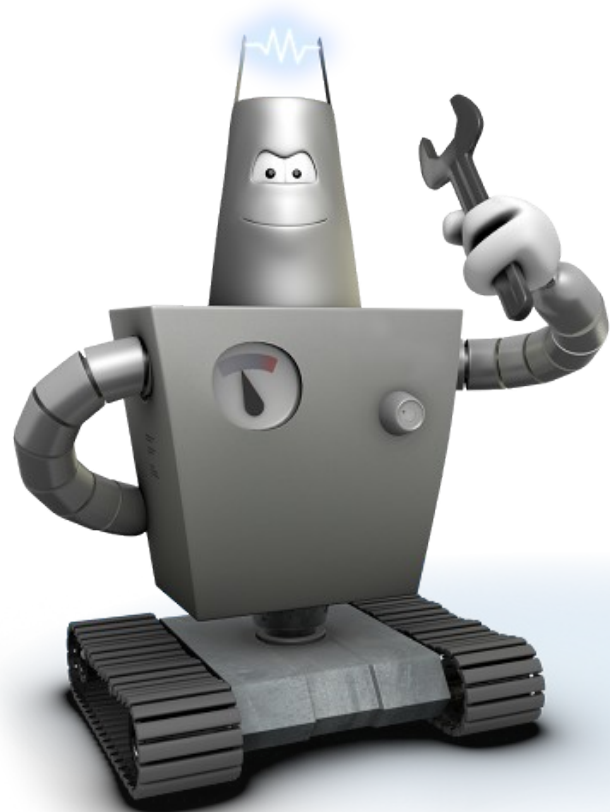


**SUSE Linux Enterprise**  
The foundation for your data center workloads  
and virtualization, from x86 to the mainframe

# SUSE Studio™

- Award winning image software customization tool and appliance builder
- Simplifies application deployment
- Build software appliances
  - Physical, virtual or cloud
  - In minutes, not days
- One click deployment to Amazon EC2
- One click deployment to Microsoft Azure

<http://susestudio.com>



# SUSE® Manager



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**SUSE Manager**





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- Manage both SUSE Linux Enterprise and Red Hat Enterprise Linux servers with a single centralized solution
- Automated and cost-effective software management, system provisioning/configuration and monitoring capabilities
- Manage Linux server deployments across physical, virtual and cloud environments

# SUSE® Manager

## Business Benefits

Benefit	Proof Points
 <b>Slash cost of ownership</b>	<ul style="list-style-type: none"><li>• Automates system management tasks</li><li>• Eases data center expansion</li><li>• Enables more effective use of resources</li><li>• Early identification of server performance issues</li><li>• More affordable than proprietary third-party solutions</li></ul>
 <b>Reduce complexity of managing Linux systems</b>	<ul style="list-style-type: none"><li>• Tightly integrated with Linux ensuring consistent management across systems</li><li>• Single solution to manage Linux workloads across a range of:<ul style="list-style-type: none"><li>- Hardware architectures</li><li>- Hypervisors</li><li>- Cloud environments</li></ul></li><li>• Manages SUSE Linux Enterprise Server product extensions and appliances</li><li>• Familiar Linux logic and terminology limits need for training</li></ul>
 <b>Simplify compliance</b>	<ul style="list-style-type: none"><li>• Audits software patch status</li><li>• Ensures IT staff has proper authority to manage each server</li><li>• Tracks configuration changes</li><li>• Automates hardware, software and subscription inventory</li></ul>
 <b>Improve service quality</b>	<ul style="list-style-type: none"><li>• Faster completion of management and provisioning tasks with fewer errors</li><li>• Reduces service disruptions to the business</li></ul>

# Open Source Connection

## What is the Spacewalk Project?

- Upstream version of SUSE Manager and Red Hat Network (RHN) Satellite Server
- Red Hat open sourced RHN Satellite (GPL v2) in June 2008

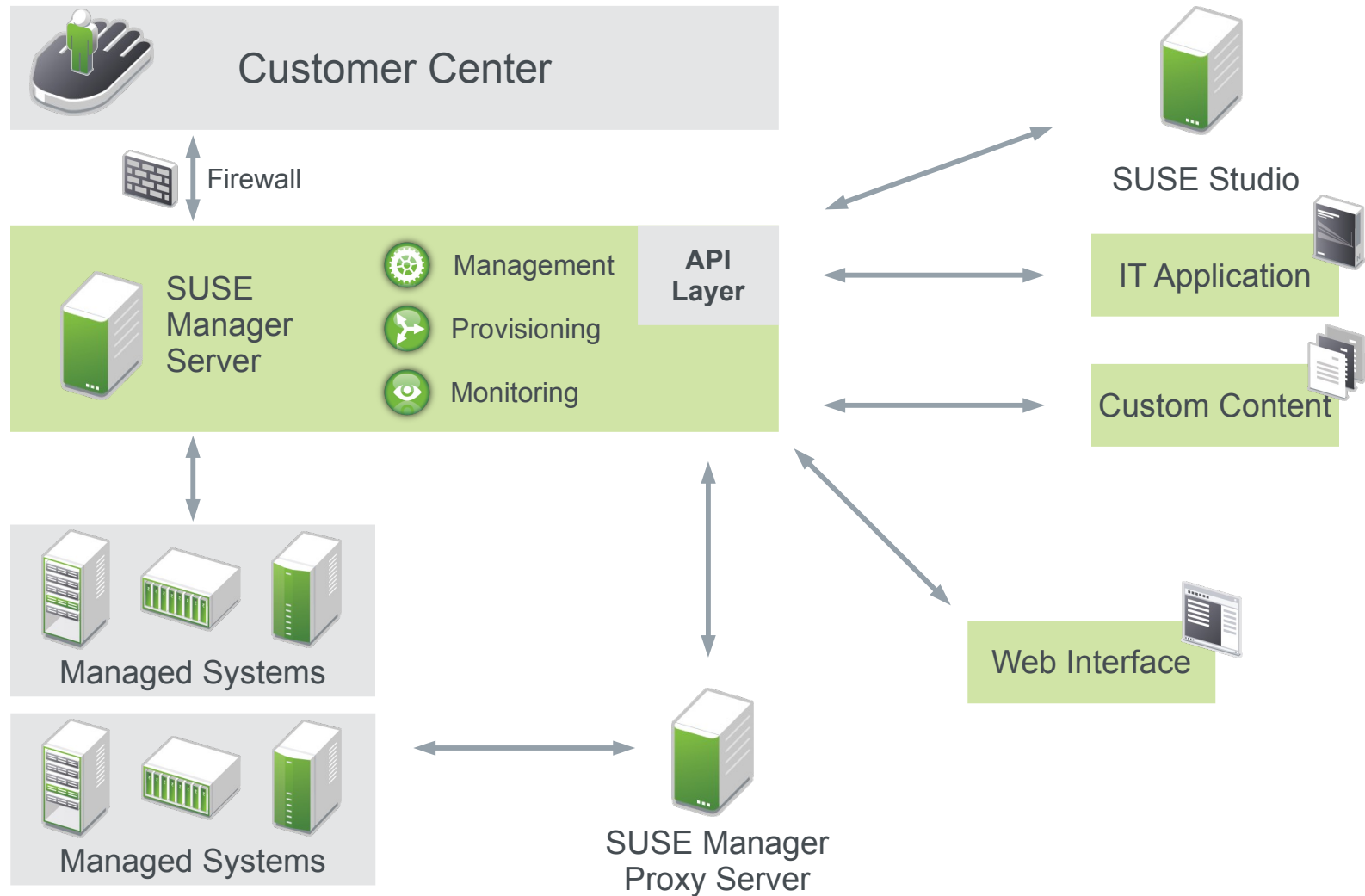


## What is the role of SUSE in the Spacewalk Project?

- SUSE Manager is based on Spacewalk, but SUSE has adapted it for SUSE Linux Enterprise
- SUSE is an active contributor to Spacewalk
- SUSE embraces the open source development model and Spacewalk is just one of the many open source projects we support

# SUSE® Manager

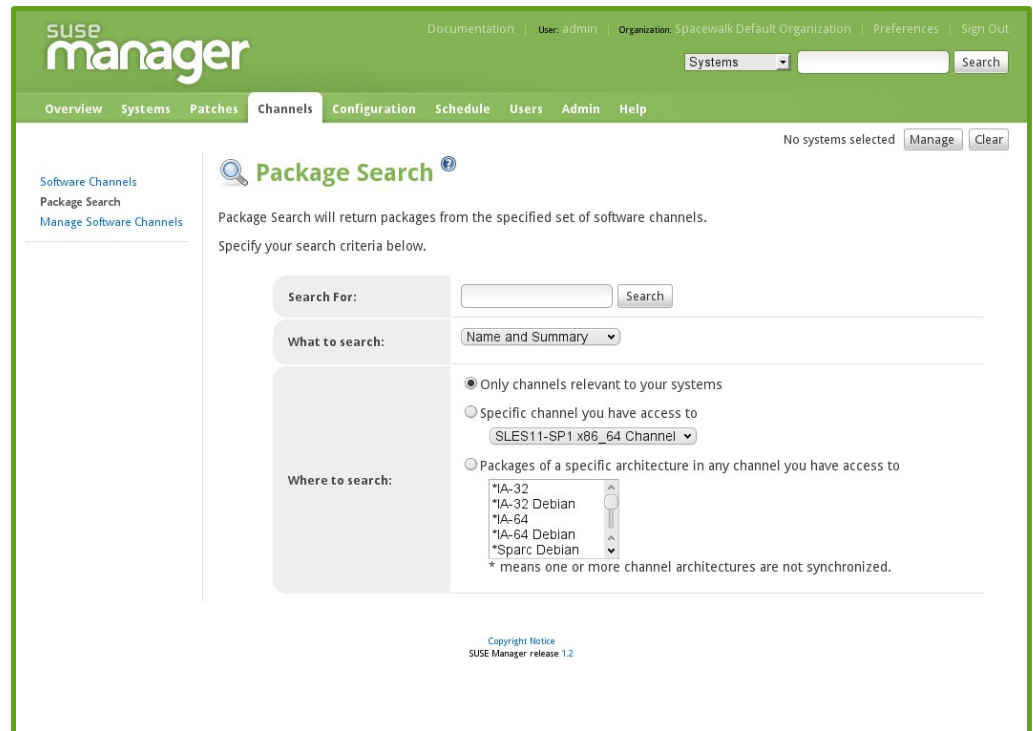
## How Does it Work?



# Management Module

# SUSE Manager Management Module

- Customer center integration
- Uses native update stacks
- System grouping
- Custom repositories
- SUSE Manager API
- Consistent Scheduler
- Role-based access control
- Extensive Search
- Central Audit Log
- Virtual guest, appliance and System z management



The screenshot displays the SUSE Manager web interface, specifically the 'Package Search' page. The top navigation bar is green with the 'SUSE manager' logo on the left and links for 'Documentation', 'User: admin', 'Organization: Spacewalk Default Organization', 'Preferences', and 'Sign Out' on the right. Below this is a secondary navigation bar with tabs for 'Overview', 'Systems', 'Patches', 'Channels' (which is active), 'Configuration', 'Schedule', 'Users', 'Admin', and 'Help'. The main content area has a left sidebar with links for 'Software Channels', 'Package Search' (highlighted), and 'Manage Software Channels'. The main panel is titled 'Package Search' with a magnifying glass icon. It contains a search form with the following elements: a 'Search For:' input field with a 'Search' button; a 'What to search:' dropdown menu set to 'Name and Summary'; and a 'Where to search:' section with three radio button options: 'Only channels relevant to your systems' (selected), 'Specific channel you have access to' (with a dropdown showing 'SLES11-SP1 x86\_64 Channel'), and 'Packages of a specific architecture in any channel you have access to' (with a list box showing architectures like '\*IA-32', '\*IA-32 Debian', '\*IA-64', '\*IA-64 Debian', and '\*Sparc Debian'). A note at the bottom of the list box states '\* means one or more channel architectures are not synchronized.' At the top right of the main panel, it says 'No systems selected' with 'Manage' and 'Clear' buttons. The footer of the interface includes a 'Copyright Notice' and 'SUSE Manager release 1.2'.

# SUSE Manager – Management Module

## Inventory



- Hardware
  - CPU, Memory, BIOS, Network
  - Physical location
- Software
  - Installed packages
  - Profiles, Reference system

# Package Management



- Channels – Grouped package repositories
  - Tree-like structure
    - Parent/child
    - Distribution and architecture specific
  - Allows for custom/private channels
- Profiles – Point-in-time capture of installed software
  - Compare live systems to the profile
  - Compare like systems to each other

# Patch and Update Management



- Gain detailed insight into patches
- View/cancel/reschedule any pending updates
- Notifications and audit trail
- Manual or automatic update, push or pull
- Schedule reboots or remote commands

# The SUSE® Manager *API*

Add scripting where you need it!

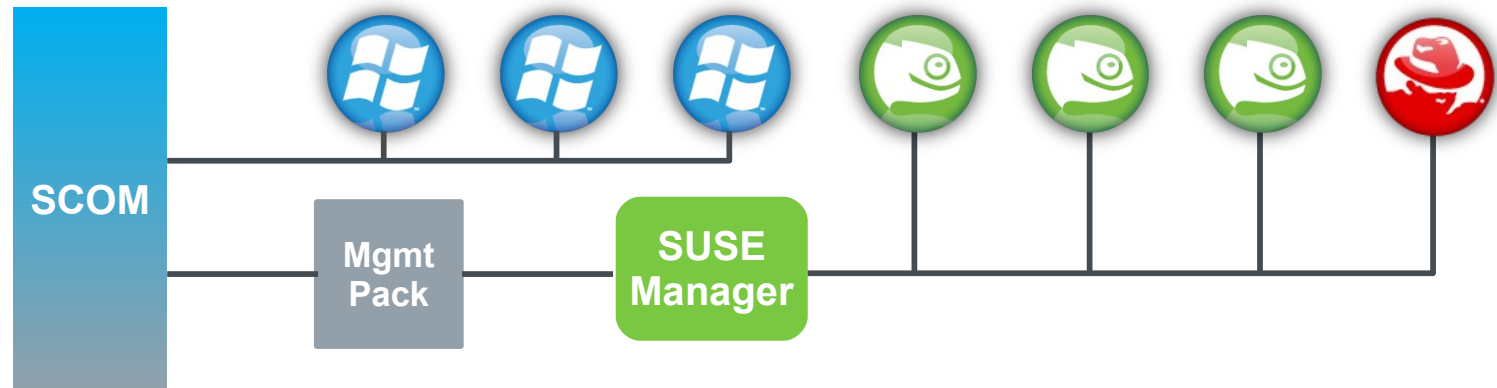


- Automate multi-step tasks
- Create customized compliance reports with the tools of your choice (from Python, Perl, Ruby, Java, ...)
- Integrate SUSE Manager with other tools in your workflow

# SUSE Manager Management Pack

for Microsoft System Center

- Development of a management pack for System Center Operations Manager 2007 R2/2012, providing close integration with SUSE Manager
  - Gives Systems Center users a single console to manage and update Windows and Linux servers in the data center
  - Maintains the same user experience as of a Windows system administrator, using platform native update stack



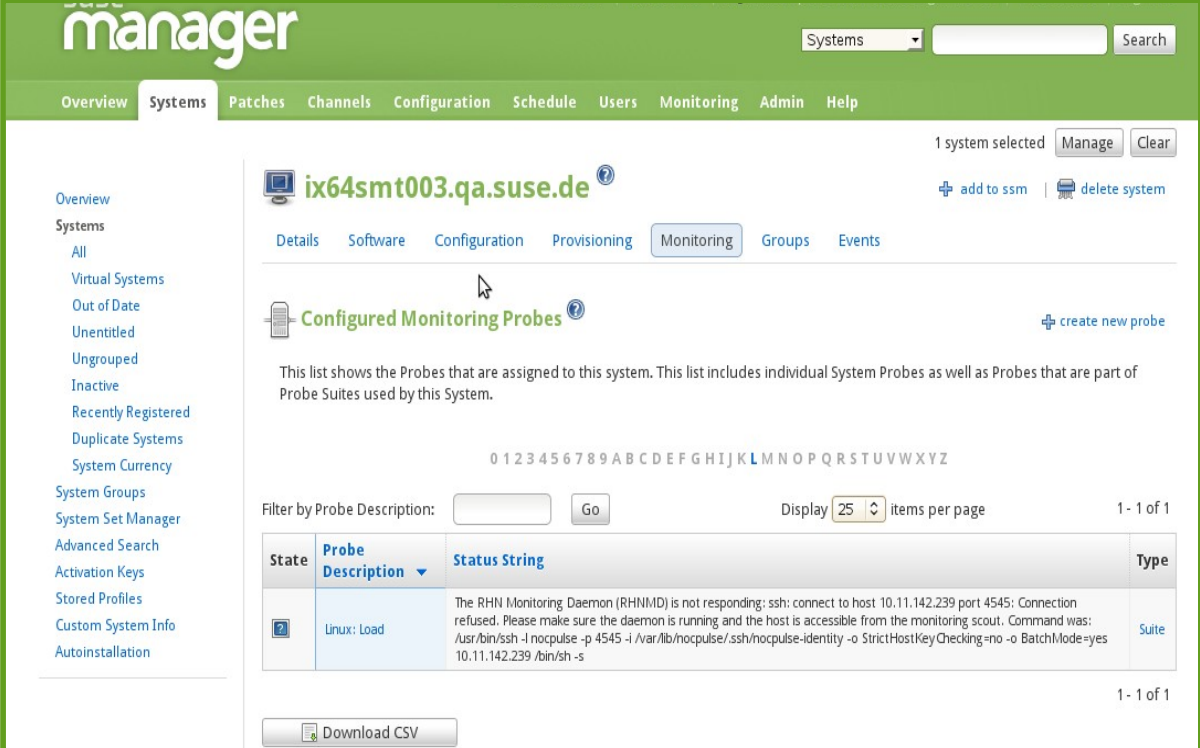
<http://www.suse.com/products/suse-manager/open-beta.html>



# Monitoring Module

# SUSE Manager Monitoring Module

- Probes
- Probe groups
- Boundaries
- Notifications/  
Alerts
- Reporting
- Graphical view



The screenshot displays the SUSE Manager web interface. The top navigation bar includes tabs for Overview, Systems, Patches, Channels, Configuration, Schedule, Users, Monitoring, Admin, and Help. The 'Systems' tab is active, showing a list of systems on the left sidebar. The main content area is titled 'ix64smt003.qa.suse.de' and shows 'Configured Monitoring Probes'. A table lists the probes, with one entry visible: 'Linux: Load'. The status string for this probe indicates that the RHN Monitoring Daemon (RHNMD) is not responding. The interface also includes a search bar, a 'Download CSV' button, and a '1 - 1 of 1' indicator.

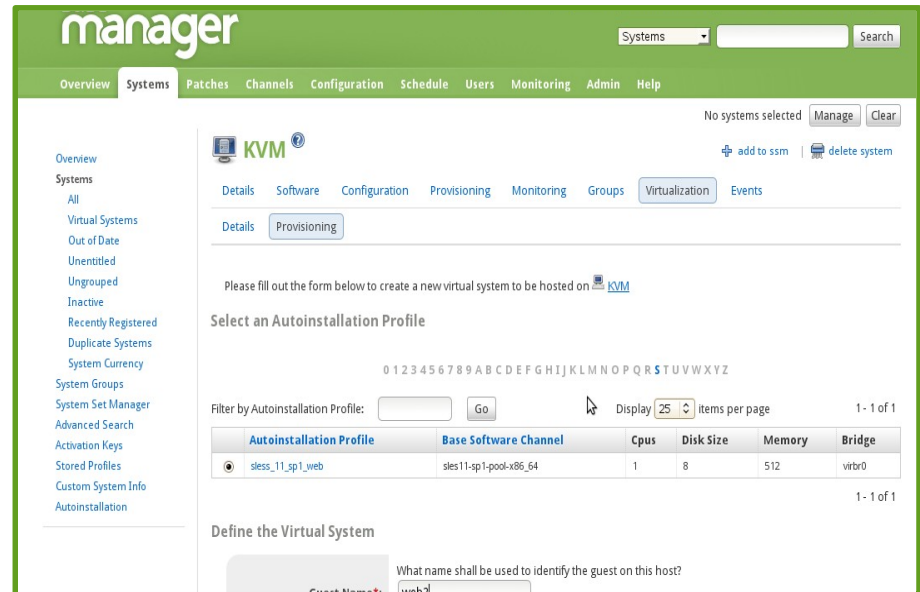
State	Probe Description	Status String	Type
	Linux: Load	The RHN Monitoring Daemon (RHNMD) is not responding: ssh: connect to host 10.11.142.239 port 4545: Connection refused. Please make sure the daemon is running and the host is accessible from the monitoring scout. Command was: /usr/bin/ssh -i /var/lib/ncpulses/ssh/ncpulse-identity -o StrictHostKeyChecking=no -o BatchMode=yes 10.11.142.239 /bin/sh -s	Suite

# Provisioning Module

# SUSE Manager

## Provisioning Module

- Deployment
  - Bare-metal provisioning
  - Virtual-guest provisioning
    - Xen and KVM, soon z/VM
  - Existing state provisioning
  - Server roll-back
- Configuration management
  - Configuration profile management
  - Grouped application of multiple configuration files



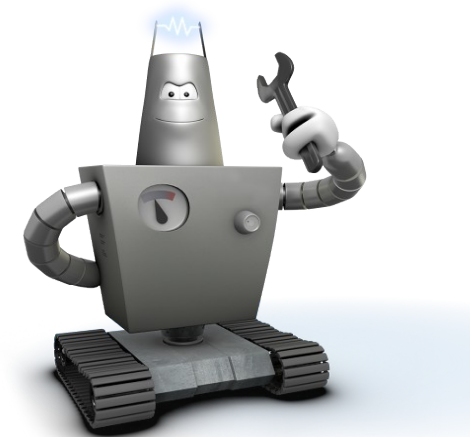
# Configuration Management



- Files and directories
- Organized as channels
- Profiles
- Drift-Control

# SUSE Studio Integration for Image Deployment

- KVM/Xen Images
- Images are built in SUSE Studio (Online or Onsite)
- Per SUSE Manager user, a Studio account can be configured in SUSE Manager. A user can choose from all Studio images built by the account provided
- Image-based installation triggered from SUSE Manager, images are directly downloaded from Studio to the KVM/Xen host and started up
- Auto-registration of images in SUSE Manager
- **Future:**
  - Choose from Gallery (not just per user account)
  - Deploy to physical hosts
  - Deploy to OpenStack, VMware, HyperV





**and now:  
Show time!**



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