



UI Plugins

Extending oVirt Web Admin

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About the speaker



- oVirt UI maintainer
 - Web Admin
 - User Portal
- Deals with front-end application architecture
- Leads UI Plugins feature development

Topics covered in this session



- Feature overview
- Plugin design concepts
- What's currently possible
- Feature status & roadmap

Hackathon incoming



- Get your hands dirty tomorrow
- Make sure to have working oVirt environment
- oVirt Engine + oVirt Node = oVirt Live Image



Feature overview



- Extend oVirt Web Admin user interface
- Plugins can be packaged and distributed for use with oVirt Engine
- Included in oVirt 3.2 release
- Updates and announcements on engine-devel

Web Admin user interface



oVirt Open Virtualization Manager

Logged in user: admin@internal | [Configure](#) | [Guide](#) | [About](#) | [Sign Out](#)

Search: Host:

Data Centers Clusters **Hosts** Networks Storage Disks Virtual Machines Pools Templates Volumes Users Events

New Edit Remove Activate Maintenance Configure Local Storage Power Management Assign Tags 1-2

| Name | Hostname/IP | Cluster | Data Center | Status | Running VMs | Memory | CPU | Network | SPM |
|----------|--------------|-----------|-------------|-------------|-------------|--------|-----|---------|--------|
| dev01aaa | 10.34.63.161 | MyCluster | MyDC | Up | 0 | 16% | 0% | 0% | Normal |
| test | 10.34.60.88 | Default | Default | Maintenance | 0 | 0% | 0% | 0% | Normal |

Tree

- System
 - Default
 - MyDC
 - Storage
 - Networks
 - Templates
 - Clusters
 - MyCluster
 - Hosts
 - dev01aaa
 - VMs

Bookmarks

Tags

Last Message: 2013-Jan-09, 17:01 User admin@internal logged in. Alerts (5) Events Tasks (0)

Web Admin user interface



The screenshot displays the oVirt Web Admin interface. At the top, the header shows "oVirt Open Virtualization Manager" and "Logged in user: admin@internal | Configure | Guide | About | Sign Out". Below the header is a search bar labeled "Search: Host:". A red box highlights the navigation menu, which includes tabs for "Data Centers", "Clusters", "Hosts", "Networks", "Storage", "Disks", "Virtual Machines", "Pools", "Templates", "Volumes", and "Users". The "Hosts" tab is currently selected. Below the navigation menu is a toolbar with actions: "New", "Edit", "Remove", "Activate", "Maintenance", "Configure Local Storage", "Power Management", and "Assign Tags". The main content area features a table with the following columns: Name, Hostname/IP, Cluster, Data Center, Status, Running VMs, Memory, CPU, Network, and SPM. The table contains two rows of data:

| Name | Hostname/IP | Cluster | Data Center | Status | Running VMs | Memory | CPU | Network | SPM |
|----------|--------------|-----------|-------------|-------------|-------------|--------|-----|---------|--------|
| dev01aaa | 10.34.63.161 | MyCluster | MyDC | Up | 0 | 16% | 0% | 0% | Normal |
| test | 10.34.60.88 | Default | Default | Maintenance | 0 | 0% | 0% | 0% | Normal |

On the left side, there is a "Tree" view showing a hierarchical structure of the system, including "System", "MyDC", "Storage", "Networks", "Templates", "Clusters", "MyCluster", "Hosts", "dev01aaa", and "VMs". At the bottom, a status bar shows "Last Message: 2013-Jan-09, 17:01 User admin@internal logged in." and notification icons for "Alerts (5)", "Events", and "Tasks (0)".

Web Admin user interface



The screenshot displays the oVirt Web Admin interface. At the top, the user is logged in as 'admin@internal'. The main navigation bar includes tabs for Data Centers, Clusters, Hosts, Networks, Storage, Disks, Virtual Machines, Pools, Templates, Volumes, and Users. The 'Hosts' tab is selected, showing a table of hosts. The host 'test' is highlighted, and its configuration page is open, showing various system details. A red box highlights the 'General' tab in the configuration page.

| Name | Hostname/IP | Cluster | Data Center | Status | Running VMs | Memory | CPU | Network | SPM |
|----------|--------------|-----------|-------------|-------------|-------------|--------|-----|---------|--------|
| dev01aaa | 10.34.63.161 | MyCluster | MyDC | Up | 0 | 16% | 0% | 0% | Normal |
| test | 10.34.60.88 | Default | Default | Maintenance | 0 | 0% | 0% | 0% | Normal |

| General | Virtual Machines | Network Interfaces | Host Hooks | Permissions | Hardware Information |
|---|-----------------------------------|---|------------|-------------|----------------------|
| OS Version: RHEL - 6Server - 6.1.0.2.e | Active VMs: 0 | Physical Memory: 7861 MB total, 1258 MB use | | | |
| Kernel Version: 2.6.32 - 131.6.1.el6.x86_6 | CPU Name: Intel Nehalem Family | Swap Size: 1023 MB total, 0 MB used, 1 | | | |
| KVM Version: 0.12.1.2 - 2.184.el6 | CPU Type: Intel(R) Xeon(R) CPU | Shared Memory: 0% | | | |
| LIBVIRT Version: 0.9.4 - 7.2.el6 | CPU Sockets: 1 | Max free Memory for scheduling new VMs: 7605 MB | | | |
| VDSM Version: vdsd-4.9-104.el6 | CPU Cores per Socket: 8 | Memory Page Sharing: Inactive | | | |
| SPICE Version: 0.8.2 - 3.el6 | CPU Threads per Core: Unsupported | Automatic Large Pages: Always | | | |
| iSCSI Initiator Name: iqn.1994-05.com.redhat:b: | | | | | |

Action Items
Power Management is not configured for this Host. [Enable Power Management](#)

Web Admin user interface



oVirt Open Virtualization Manager

Logged in user: admin@internal | Configure | Guide | About | Sign Out

Search: Host: [x] [star] [magnifying glass]

Data Centers Clusters **Hosts** Networks Storage Disks Virtual Machines Pools Templates Volumes Users Events

Tree

Expand All Collapse All [refresh]

- System
 - Default
 - MyDC
 - Storage
 - Networks
 - Templates
 - Clusters
 - MyCluster
 - Hosts
 - dev01aaa
 - VMs

Bookmarks

Tags

New Edit Remove Activate Maintenance Configure Local Storage Power Management Assign Tags

| Name | Hostname/IP | Cluster | Data Center | Status | Running VMs | Memory | CPU | Network | SPM |
|----------|--------------|-----------|-------------|-------------|-------------|--------|-----|---------|--------|
| dev01aaa | 10.34.63.161 | MyCluster | MyDC | Up | 0 | 16% | 0% | 0% | Normal |
| test | 10.34.60.88 | Default | Default | Maintenance | 0 | 0% | 0% | 0% | Normal |

Last Message: [check] 2013-Jan-09, 17:01 User admin@internal logged in. [Alerts (5)] [Events] [Tasks (0)]

Web Admin user interface



oVirt Open Virtualization Manager

Logged in user: admin@internal | Configure | Guide | About | Sign Out

Search: Host: [x] [star] [magnifying glass]

Data Centers Clusters **Hosts** Networks Storage Disks Virtual Machines Pools Templates Volumes Users Events

New Edit Remove Activate **Maintenance** Configure Local Storage Power Management Assign Tags

| Name | Hostname/IP | Cluster | Data Center | Status | Running VMs | Memory | CPU | Network | SPM |
|----------|--------------|-----------|-------------|-------------|-------------|--------|-----|---------|--------|
| dev01aaa | 10.34.63.161 | MyCluster | | Up | 0 | 16% | 0% | 0% | Normal |
| test | 10.34.60.88 | Default | | Maintenance | 0 | 0% | 0% | 0% | Normal |

General Virtual Machines Network Interfaces Host Hooks Permissions Hardware Information Events

OS Version: RHEL - 6Server - 6.1.0.2.e Active VMs: 0 Physical Memory: 7861 MB total, 1258 MB use
Kernel Version: 2.6.32 - 131.6.1.el6.x86_64 CPU Name: Intel Nehalem Family Swap Size: 1023 MB total, 0 MB used, 1
KVM Version: 0.12.1.2 - 2.184.el6 CPU Type: Intel(R) Xeon(R) CPU Shared Memory: 0%
LIBVIRT Version: 0.9.4 - 7.2.el6 CPU Sockets: 1 Max free Memory for scheduling new VMs: 7605 MB
VDSM Version: vdsd-4.9-104.el6 CPU Cores per Socket: 8 Memory Page Sharing: Inactive
SPICE Version: 0.8.2 - 3.el6 CPU Threads per Core: Unsupported Automatic Large Pages: Always
iSCSI Initiator Name: iqn.1994-05.com.redhat:b:

Action Items
Power Management is not configured for this Host. [Enable Power Management](#)

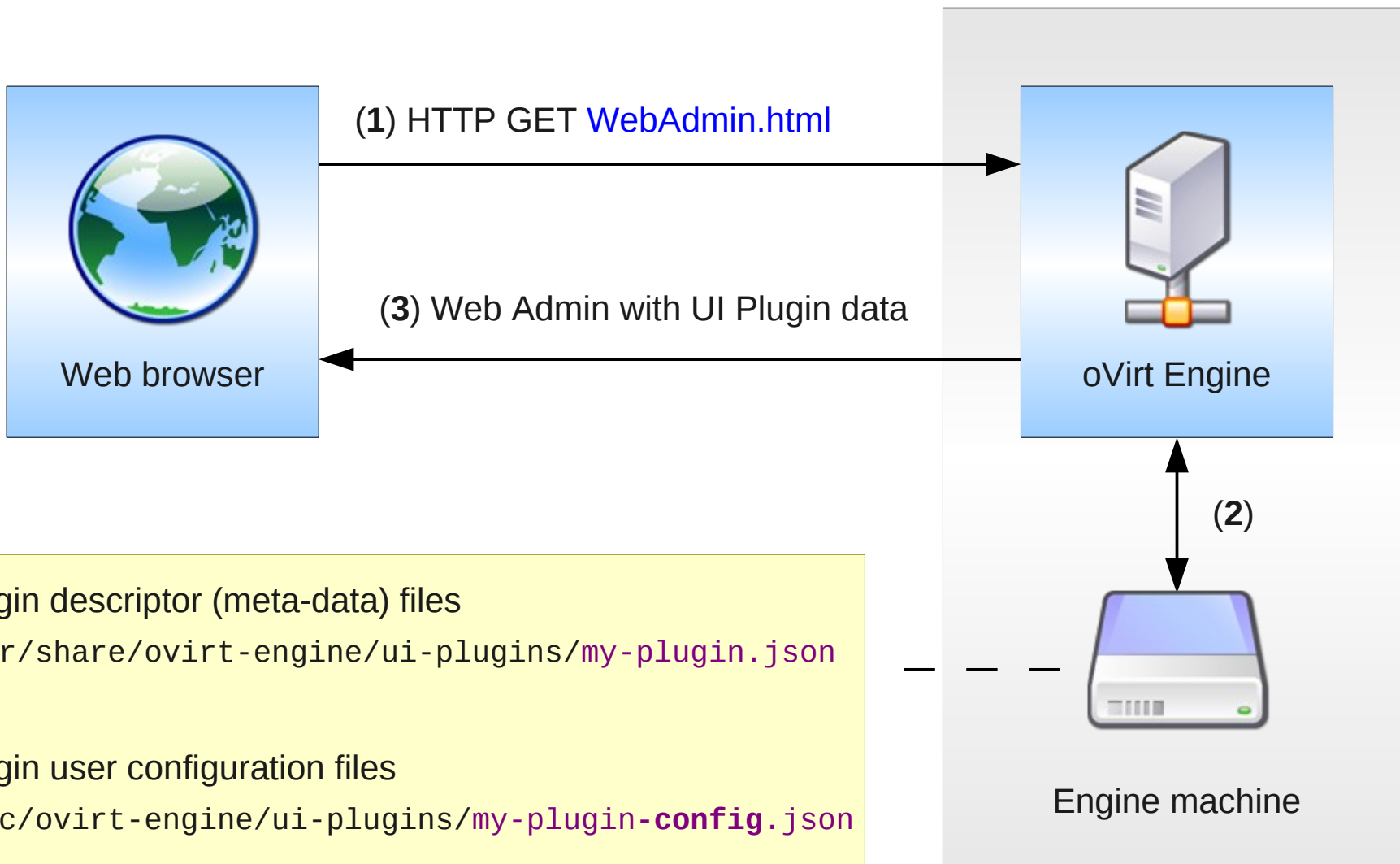
Last Message: 2013-Jan-09, 17:11 User admin@internal logged in. Alerts (5) Events Tasks (0)

Plugin design concepts

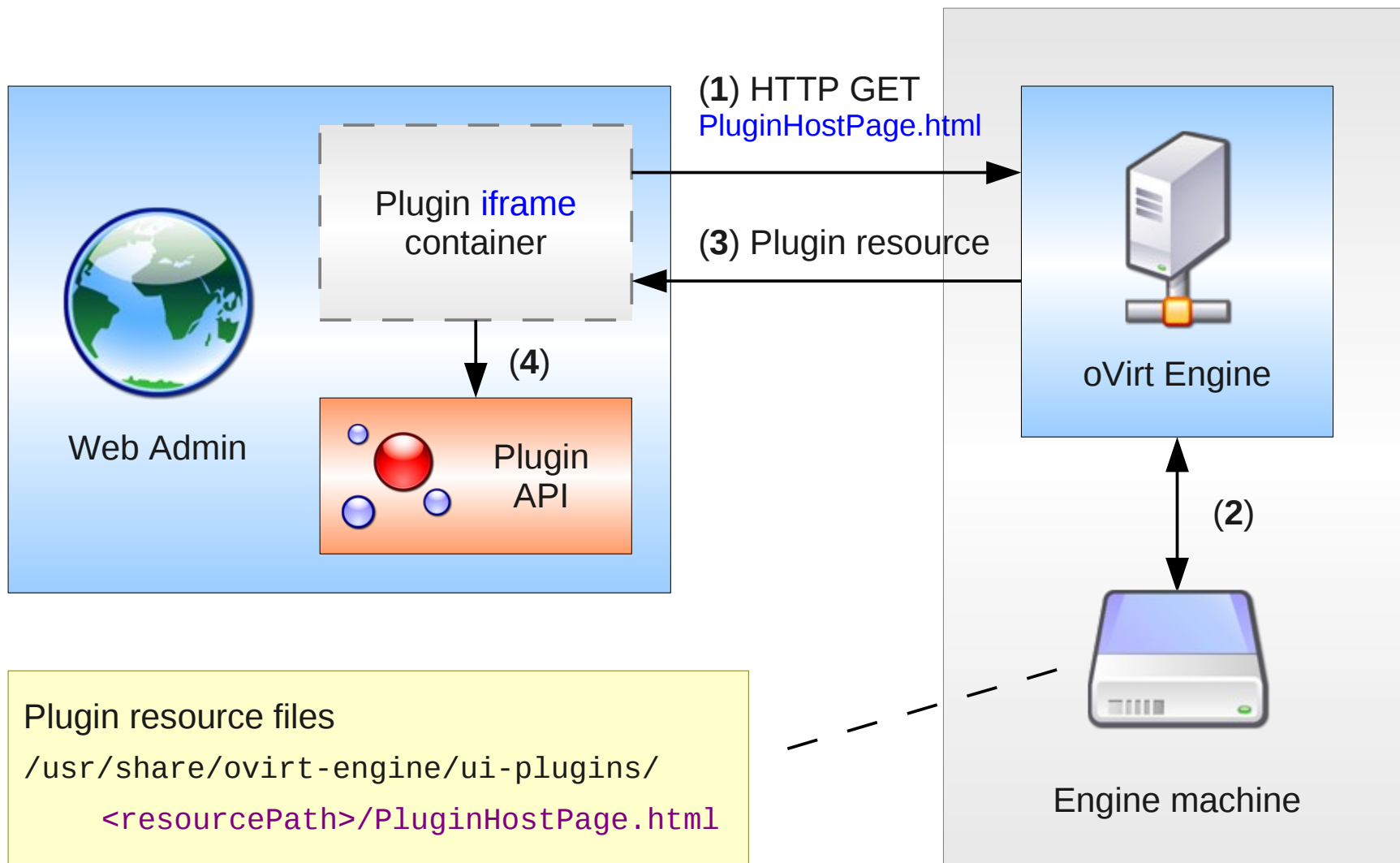


- Plugins integrate with Web Admin on client using JavaScript language
- Simple and flexible plugin infrastructure
 - Web Admin exposes plugin API
 - Plugins consume the API
 - Web Admin calls plugins at key events during Web Admin runtime

Discovering plugins



Loading plugins



Writing plugins



```
<!DOCTYPE html>
<html>
<head>
  <!-- Fetch additional resources if necessary -->
  <script type="text/javascript" src="jquery-min.js"></script>

  <!-- Actual plugin code -->
  <script>

  </script>

</head>
<body> <!-- HTML body is intentionally empty --> </body>
</html>
```

Writing plugins



```
<!DOCTYPE html>
<html>
<head>
  <!-- Fetch additional resources if necessary -->
  <script type="text/javascript" src="jquery-min.js"></script>
```

```
<!-- Actual plugin code -->
<script>
  // Access plugin API from iframe context
  var api = parent.pluginApi('myPlugin');

  // Register plugin event handler functions
  api.register({
    UiInit: function() {
      api.addMainTab('Foo Tab', 'foo-tab', 'http://foo.com/');
    }
  });

  // Tell plugin infrastructure that we are ready
  api.ready();
</script>
```

```
</head>
<body> <!-- HTML body is intentionally empty --> </body>
</html>
```

What's currently possible (API)



- Add custom {main|sub} tab
- Control custom {main|sub} tab properties
- Add custom main tab action button
- Show custom dialog

What's currently possible (events)



- User login and logout
- oVirt Engine REST API session acquired
- Main tab {entity} selection change

What's currently possible



The screenshot displays the oVirt Open Virtualization Manager interface. The top navigation bar includes tabs for Data Centers, Clusters, Hosts, Networks, Storage, Disks, Virtual Machines, Pools, Templates, Volumes, Users, and Custom Main Tab. The Hosts tab is active, showing a table of hosts with columns for Name, Hostname/IP, Cluster, Data Center, Status, Running VMs, Memory, CPU, Network, and SPM. A context menu is open over the 'test' host, listing actions such as New, Edit, Remove, Activate, Maintenance, Confirm 'Host has been Rebooted', Configure Local Storage, Assign Tags, and Custom Action Button. The Custom Action Button is highlighted in red. Below the table, the host configuration page is visible, with tabs for General, Virtual Machines, Network Information, Hardware Information, and Custom Sub Tab. The Custom Sub Tab is also highlighted in red. The General tab shows system information including OS Version (RHEL - 6Server - 6.1.0.2.e), Kernel Version (2.6.32 - 131.6.1.el6.x86_6), KVM Version (0.12.1.2 - 2.184.el6), LIBVIRT Version (0.9.4 - 7.2.el6), VDSM Version (vdsm-4.9-104.el6), and SPICE Version (0.8.2 - 3.el6). The Hardware Information tab shows details like Active VMs (0), CPU Name (Intel Nehalem Family), CPU Type (Intel(R) Xeon(R) CPU), CPU Sockets (1), CPU Cores per Socket (8), and CPU Threads per Core (Unsupported). The Custom Sub Tab is currently empty. The bottom status bar shows the last message: '2013-Jan-09, 17:19 User admin@internal logged in.' and notification icons for Alerts (5), Events, and Tasks (0).

Feature status & roadmap



- Included in oVirt 3.2 release
- Complete infrastructure-wise
- More plugin features to come
 - Custom dialogs in Web Admin UI style
 - Form and table based custom {main|sub} tabs
 - Pass proper REST API like entities to plugins
 - Review and manage plugins in Web Admin UI

Useful links



- <http://www.ovirt.org/wiki/Features/UIPlugins>
- <git://gerrit.ovirt.org/samples-uiplugins>
- <http://lists.ovirt.org/mailman/listinfo/engine-devel>



Thank you!

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