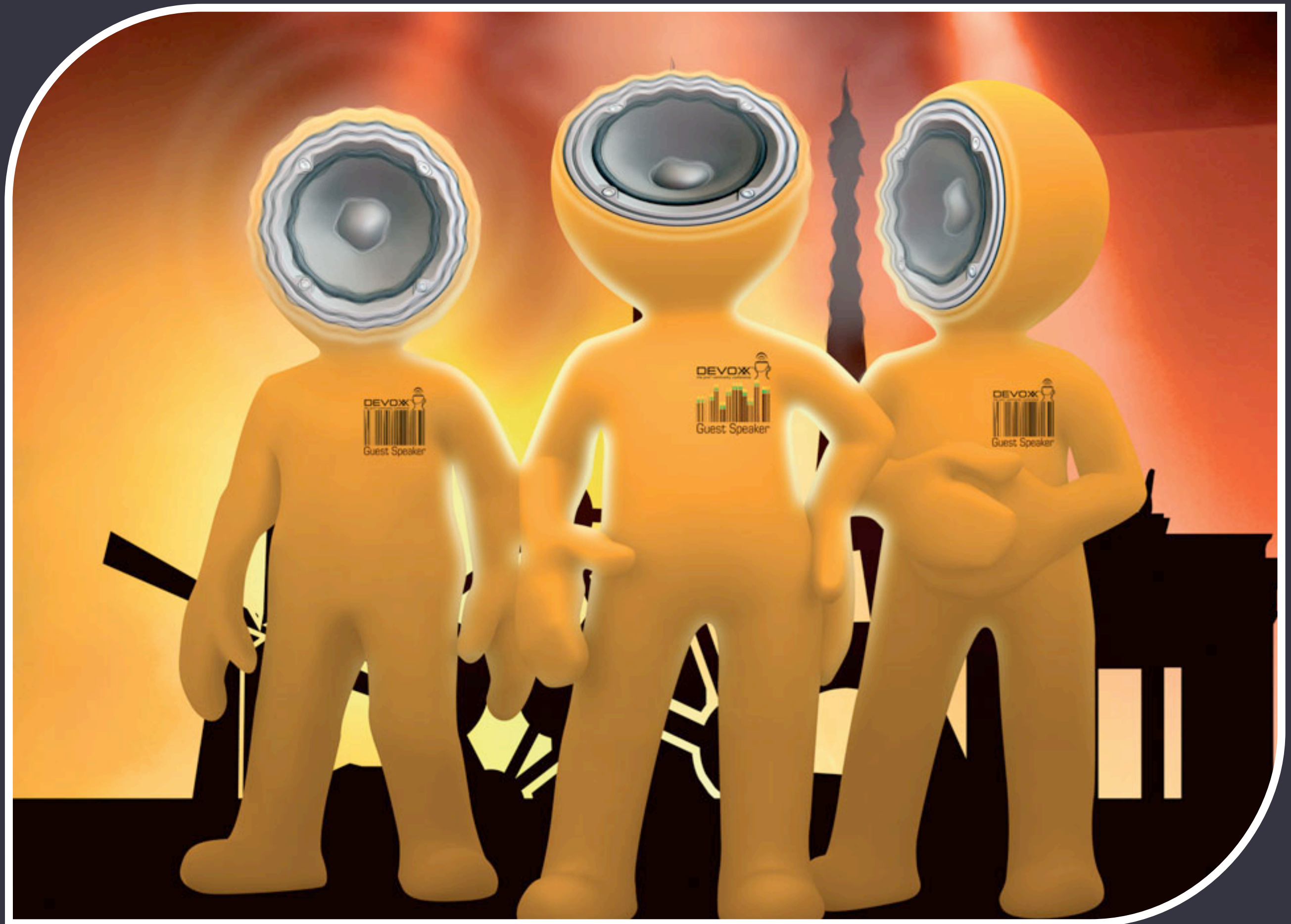




Systems management with project RHQ



Heiko W. Rupp
Senior Developer JBoss ON
Red Hat



Overall Presentation Goal

Give an impression about RHQ and Jopr and how those can help solving your daily administration tasks.

Speaker

- Heiko W. Rupp is senior developer with JBoss Operations Network, Jopr and RHQ
- He wrote the first German book on JBoss AS and one of the first German books on EJB3
- He is and has been involved in other Open Source and commercial software projects
- Heiko also gave trainings and was consulting at customers

Agenda

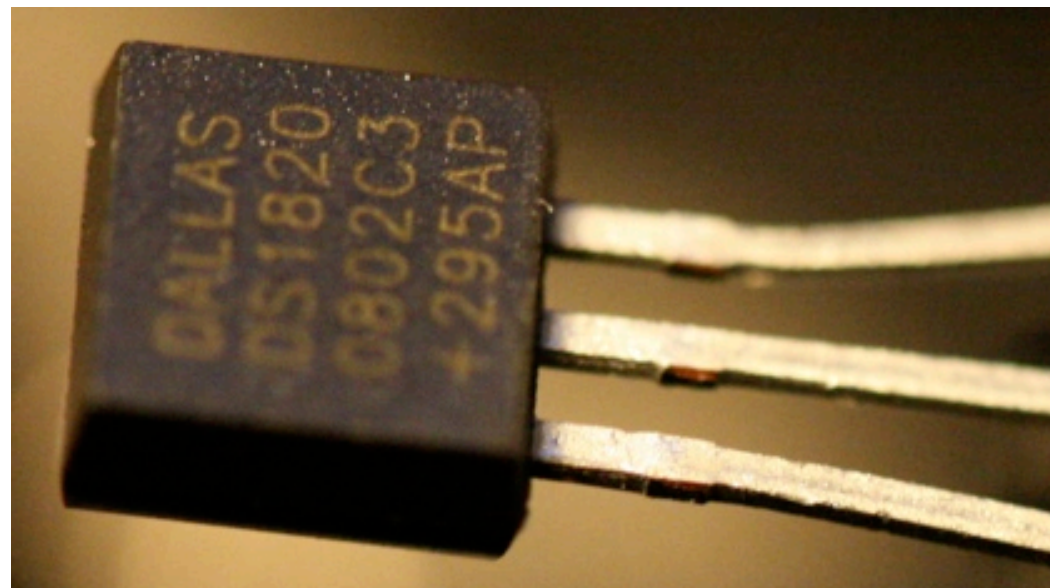
- Introduction
- History
- Architecture
- Subsystems
- Demo
- Development of Plug-ins



Project RHQ and Jopr are Open Source Management Tools

RHQ is the foundation framework and upstream for Jopr

RHQ is generic and also supports

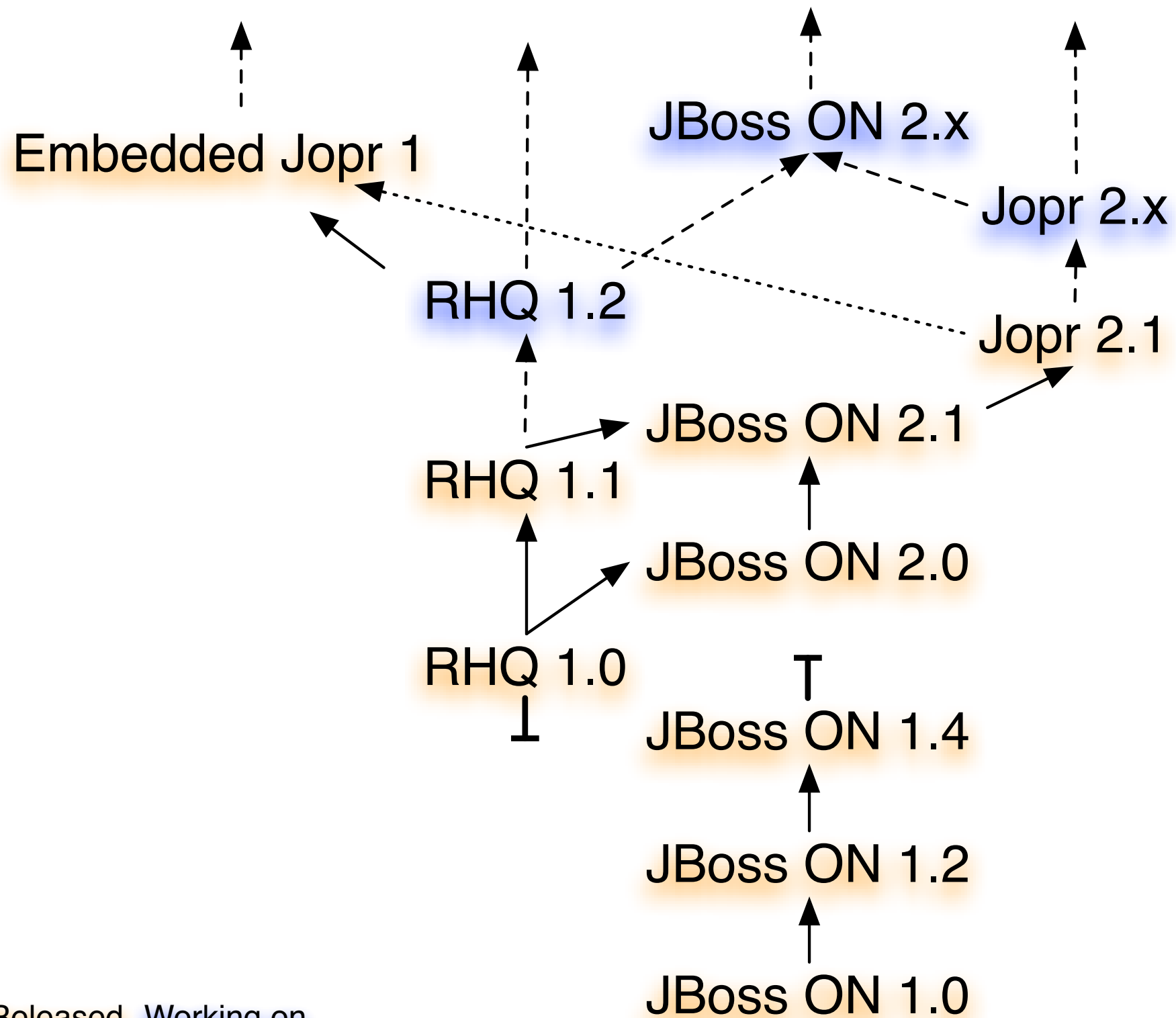


via plugin

Introduction

- RHQ - Common Project by Red Hat and Hyperic
- RHQ upstream for JBoss Operations Network 2 (JBossON)
- RHQ is Open Source since February 2008
- Start page: <http://www.rhq-project.org/>
- Jopr: Project on top of RHQ to support JBoss software

History

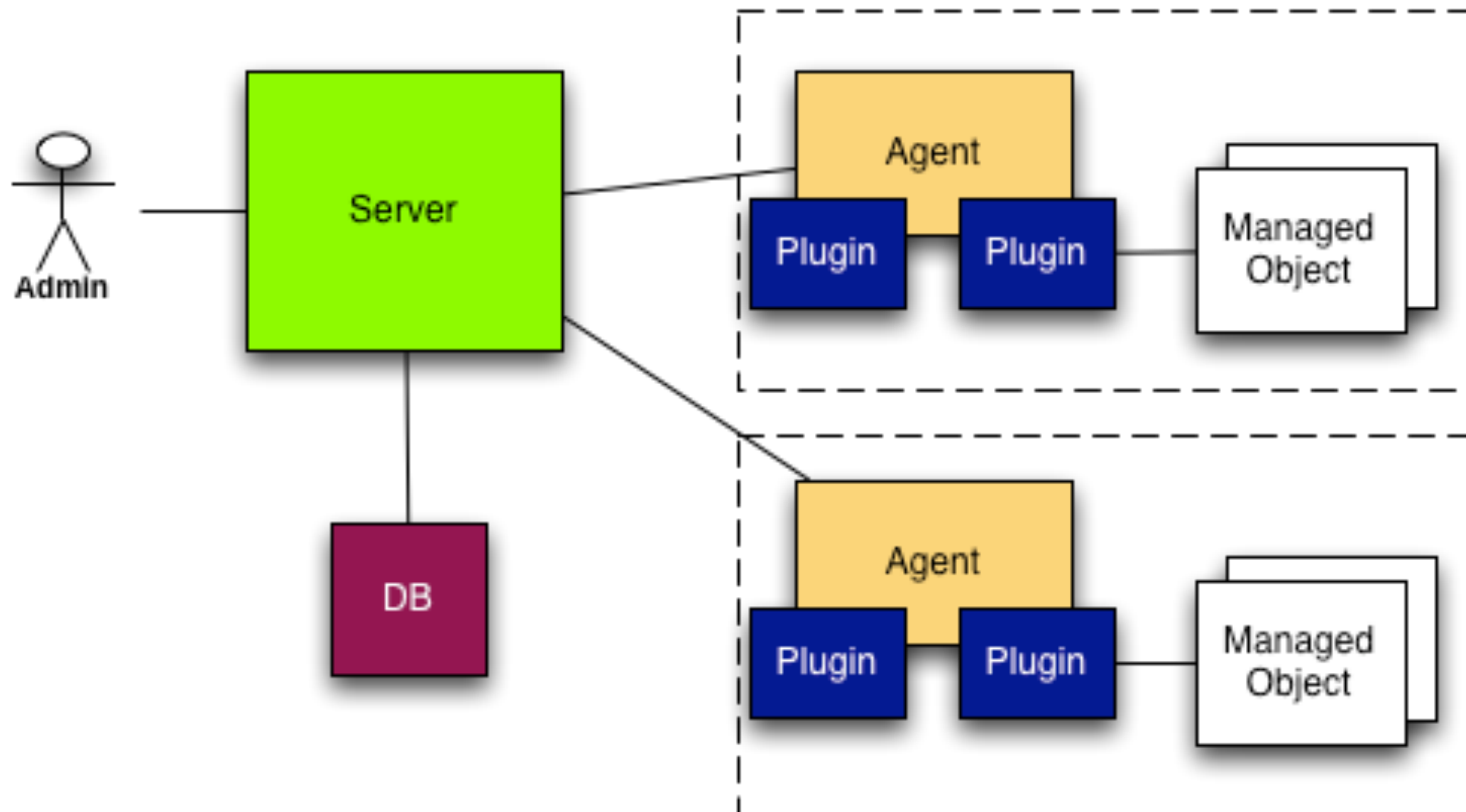


RHQ 1.x

- To a large extent written from scratch and uses
 - JBoss AS 4.2.1
 - JBoss Remoting
 - EJB 3
 - JPA / Hibernate
 - JSF / Richfaces
- SIGAR Library by Hyperic (also in the Open Source)
- Parts of the GUI are still from JBoss ON 1.x
- Parts are written from scratch in JSF

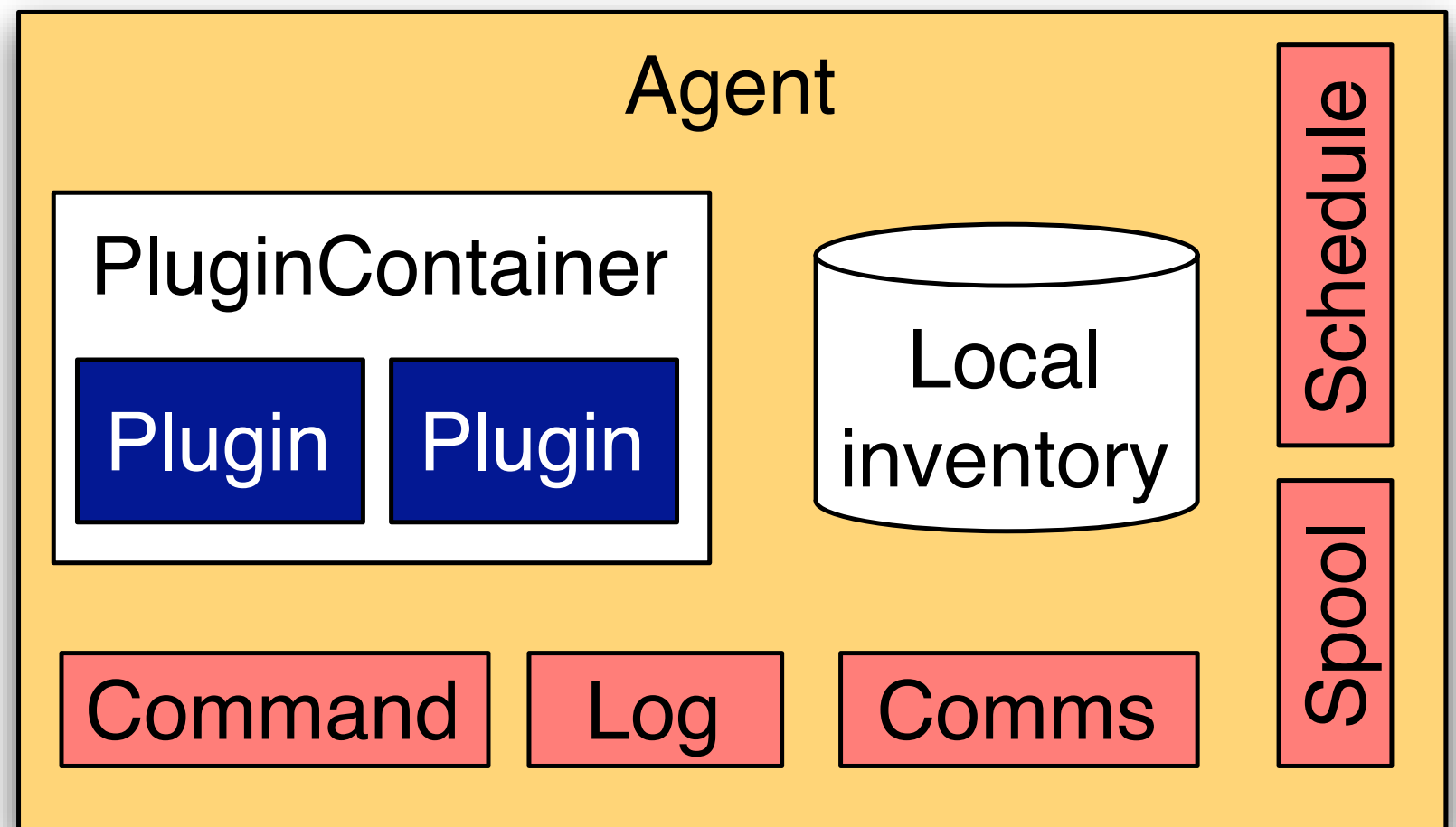
Architecture overview

- Central Server or cluster thereof
- Agent per Machine („platform“)



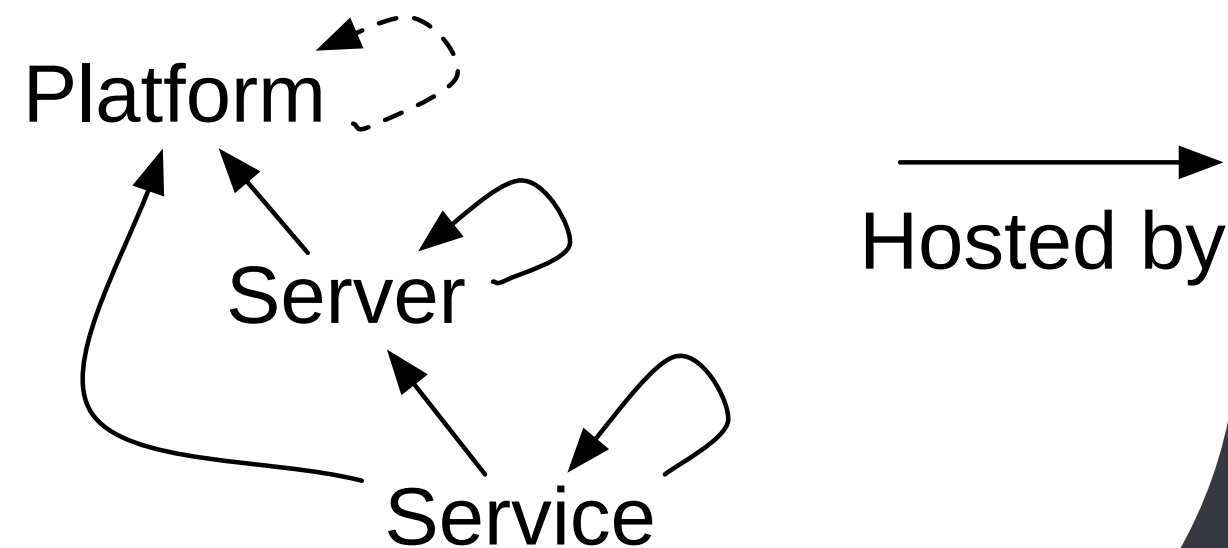
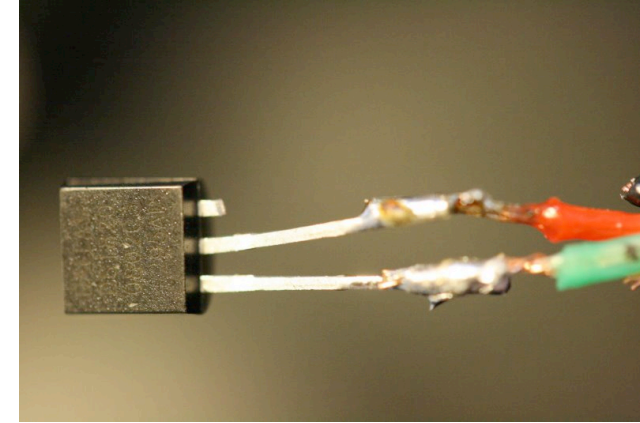
Agent Architecture

- Hosts central services
 - Local Inventory
 - Logging
 - Spooling
 - Scheduling
- Hosts plugins



Resources

- Resources
 - Everything that can be managed / monitored
- Resource Type
 - E.g. Linux, Max OS X, JBoss AS, Hibernate Stats, DB-Table
- Resource Category
 - Place in the resource hierarchy
 - Parent - Child - Relation
 - Platform = machine



Subsystemes

- Monitoring
 - Measurement of values and states
 - Graphs of metrics on the server GUI
- Inventory: The central component that knows all components
- Configuration: Configuration of Resources
- Alerts: Alerting of operators and Automatic actions
- Operations: Execute operations on resources
- Packages: Software upload on to Resources

Available Plugins

- RHQ
 - JMX
 - Postgres / MySQL
 - Apache
 - IIS
 - Linux-stuff
 - SNMP-Traps
 - ...
- Jopr
 - JBossAS 3/4 , 5
 - Tomcat
 - JBossCache
 - RHQ-Server
 - Hibernate
 - Mobicents

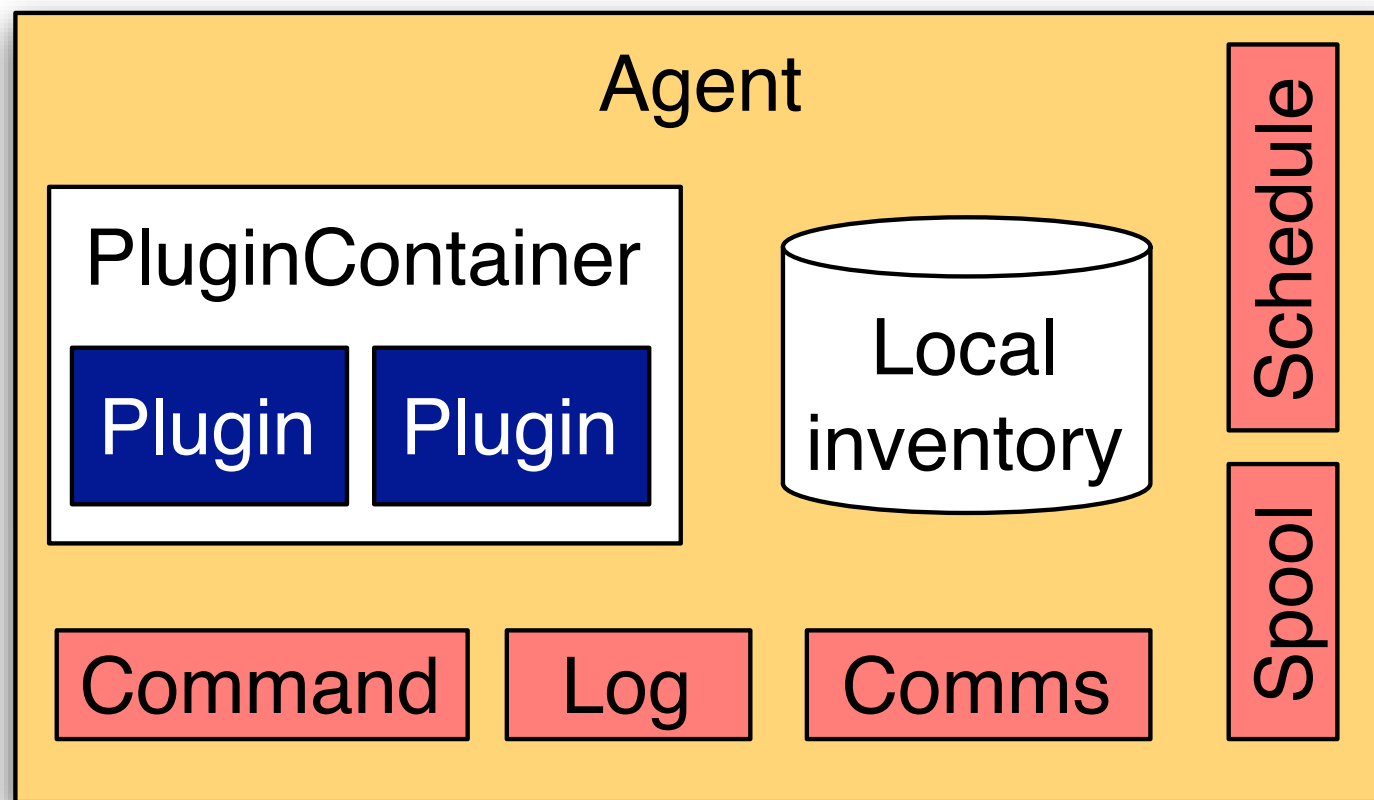
DEMO

Lets have a look at the
console of the RHQ server



Development of Plug-ins

- Plug-ins will be installed in the plug-in container



- Hot-Deploy via server
- Agent pulls the plugins down and restarts the Plug-in-Container

3 Components of a Plug-in

- Discovery Component

- Responsible to discover and add new resources
- Resource key must be and stay unique !

- Plugin Component

- Implements Facets
- Analog to the subsystems

```
<server name="HttpCheck"  
        description="..."  
discovery="HttpDisco..."  
class="HttpComponent">
```

- Plugin-Descriptor defines the features of the plug-in as metadata
- Wires the Java classes

Concluding statement

RHQ is a powerful Open Source foundation for systems management.

It can be easily extended via plugins.

Go and write a plugin for your favorite tool.

Join the RHQ / Jopr projects

Q&A



Thanks for your attention!

<http://www.rhq-project.org/>

<http://www.jboss.org/jopr/>

http://www.redhat.com/systems_management/resource/

<http://pilhuhn.blogspot.com/>

<http://twitter.com/pilhuhn>