

# moVirt

Mobile Application for Monitoring oVirt Datacenter

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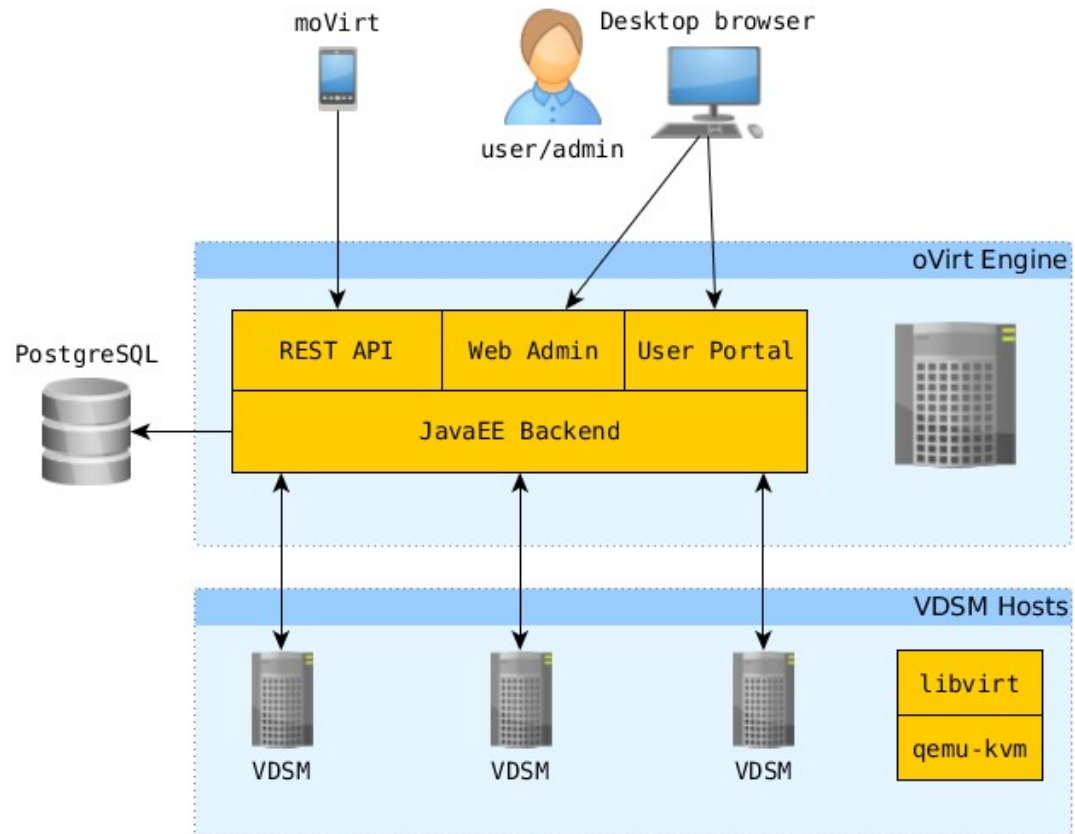
- Introducing oVirt
- Mobile client – why, what?
- What does it do?
- How does it work? (deeper look)
  - Android, Technologies, Live Demos, Diagrams
- Future

# Introducing oVirt



- Open Source datacenter virtualization on KVM
- Manages
  - VMs, Storages, Virtual Networks
- Provides
  - 2 Web Interfaces, REST API

# Introducing oVirt



## Mobile client – why?

- Mobile devices are everywhere
- Instant access to information
- Do not want to wait

# moVirt – What?



- Agentless
- Lightweight
- Android Client
- Simple/Clean sources – simple to extend or modify
- “Accidentally” for monitoring
- Compatible with oVirt 3.4 and Android 4.x

# Other Options?

- Current web interfaces
- oVirt notifier
- Third party (Nagios...)

# Web Clients





oVirt OPEN VIRTUALIZATION MANAGER

Vms CA-Demo-Test-VM

[Data Centers](#)
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Name	Host	IP Address	Cluster	Data Center	Memory	CPU	Network	Display	Status	Uptime	Logged-in User
bc-demo	rhel-h5.rdu.salab.rec		RDU-SALAB-Produr	RDU-SALAB-DataC	0%	0%	0%	Spice	Up	62 days	
ChicaoTest-VM			RDU-SALAB-Produr	RDU-SALAB-DataC	0%	0%	0%		Down		
commvault-win1	rhel-h2.rdu.salab.rec	10.11.164.236	RDU-SALAB-Produr	RDU-SALAB-DataC	0%	25%	0%	Spice	Up	89 days	
commvault-win2			RDU-SALAB-Produr	RDU-SALAB-DataC	0%	0%	0%		Down		
demo	rhel-h6.rdu.salab.rec	10.11.164.173	RDU-SALAB-Produr	RDU-SALAB-DataC	39%	0%	0%	Spice	Up	70 days	
demo2.lscala	rhel-h5.rdu.salab.rec		RDU-SALAB-Produr	RDU-SALAB-DataC	0%	0%	0%	Spice	Up	37 days	
demo3.lscala			RDU-SALAB-Produr	RDU-SALAB-DataC	0%	0%	0%		Down		
demo4.lscala			RDU-SALAB-Produr	RDU-SALAB-DataC	0%	0%	0%		Down		
demo5.lscala			RDU-SALAB-Produr	RDU-SALAB-DataC	0%	0%	0%		Down		
demo-bhinson			RDU-SALAB-Produr	RDU-SALAB-DataC	0%	0%	0%		Down		
DEMO-idm3			RDU-SALAB-Produr	RDU-SALAB-DataC	0%	0%	0%		Down		
demo.lscala.host1	rhel-h4.rdu.salab.rec		RDU-SALAB-Produr	RDU-SALAB-DataC	0%	0%	0%	Spice	Up	32 days	
DEMO-luci	rhel-h1.rdu.salab.rec	10.11.165.10	RDU-SALAB-Produr	RDU-SALAB-DataC	41%	1%	0%	Spice	Up	19 days	
DEMO-MRG-Grid-H			RDU-SALAB-Produr	RDU-SALAB-DataC	0%	0%	0%		Down		

[General](#)
[Network Interfaces](#)
[Disks](#)
[Snapshots](#)
[Applications](#)
[Permissions](#)
[Events](#)

**Name:** commvault-win1  
**Description:**  
**Template:** Blank  
**Operating System:** Windows 2008 R2  
**Default Display Type:** Spice  
**Priority:** Low

**Defined Memory:** 6144 MB  
**Physical Memory Guaranteed:** 4096 MB  
**Number of CPU Cores:** 4 (4 Socket(s), 1 Core(s) per Socket)  
**Highly Available:** No  
**USB Policy:** Disabled

**Origin:** RHEV  
**Run On:** Any Host in Cluster  
**Custom Properties:** Not-Configured  
**Cluster Compatibility Version:** 3.1  
**Directory Domain:**

**Bookmarks**  
**Tags**

Last Message: 2013-Jul-17, 13:24 User mrao logged in.

# Basic User Portal



oVirt | OPEN VIRTUALIZATION MANAGER

Basic | Extended

mrao | Guide | About

3-disks

Machine is Down

bekitzur

Machine is Down

chansim222

Machine is Down

derez

Machine is Down

disksnapshots

Machine is Down

ecohen-desk2

Machine is Down

3-disks  
with a snapshot

**Operating System :**

**Defined Memory :**

**Number of Cores :** 1 (1 Socket(s), 1 Cores)

**Drives :**

Disk 1: Less than 1GB out of 1GB  
Disk 2: Less than 1GB out of 1GB  
Disk 3: Less than 1GB out of 1GB

**Console :** [Edit](#)

# Power User Portal



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

Basic

Extended

Virtual Machines

Templates

Resources

[New Server](#) [New Desktop](#) [Edit](#) [Remove](#) [Run Once](#) [Change CD](#) [Make Template](#)



test



CONSOLE

General

Network Interfaces

Virtual Disks

Snapshots

Permissions

Events

Applications

Monitor

Name:	test	Defined Memory:	512 MB	Origin:	oVirt
Description:		Physical Memory Guaranteed:	512 MB	Run On:	Any Host
Template:	Blank	Number of CPU Cores:	1 (1 Socket(s),	Custom Properties:	None
Operating System:	Red Hat Enterprise Linux	Highly Available:	No	Cluster Compatibility Version:	3.0
Default Display Type:	Spice	USB Policy:	Disabled		
Priority:	Low				

- Server side agent
- Monitors events
- Generates e-mails or SNMP traps
- Does not do actions

# Third Party Monitoring Tools (Nagios...)

- Need for the oVirt notifier + the monitoring tool
- Still just monitoring

- Does not look too native
- Limited capabilities and performance (comparing to native)

## Hybrid (PhoneGap)

- HTML5 + mobile specific APIs
- Tries to look like a native app
- Runs in embedded browser
- Still not native UX
- Performance (browser engine, translation of API calls)

**moVirt**

**oVirt**



## What does it do?

- Allows to set “triggers” (memory, CPU, state)
- Monitors VMs (all in cluster or just some)
- If trigger matches, fires notification (vibrate, beep)
- Shows details and events
- Allows start/stop/reboot

- Activities
  - Basic unit of UI
  - Represents one screen
  - Handles interaction with user
  - One activity active at once
- In moVirt: MainActivity, VmDetailActivity, SettingsActivity, EditTriggersActivity

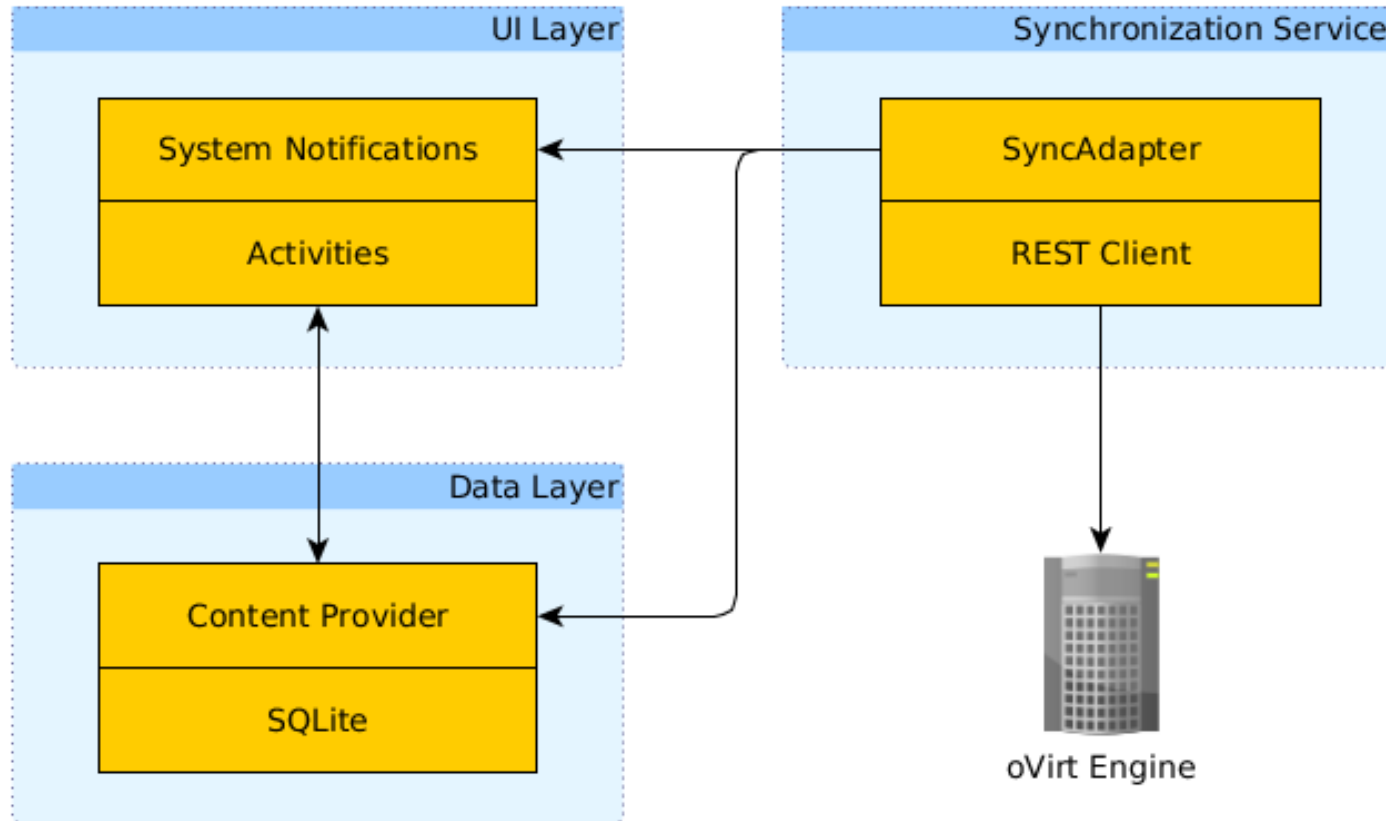
- No UI – runs on background
- Long running or periodically scheduled tasks
  - Started – explicitly started and stopped
  - Bound – for client server communication
- In moVirt: AuthenticatorService (bound), SyncService (bound)

# Content Providers

- Standardizes access to content
- Identified by content authority (in moVirt `org.ovirt.mobile.movirt.provider`)
- Provides content for more entities
  - In moVirt: vms, clusters, events, triggers
- Using Cursor Loader with Loader-Manager integrates nicely with UI
- In moVirt: `org.ovirt.mobile.movirt.provider.Provider`

- A way to communicate between loosely coupled components
- Intent-filters

# moVirt: putting it together

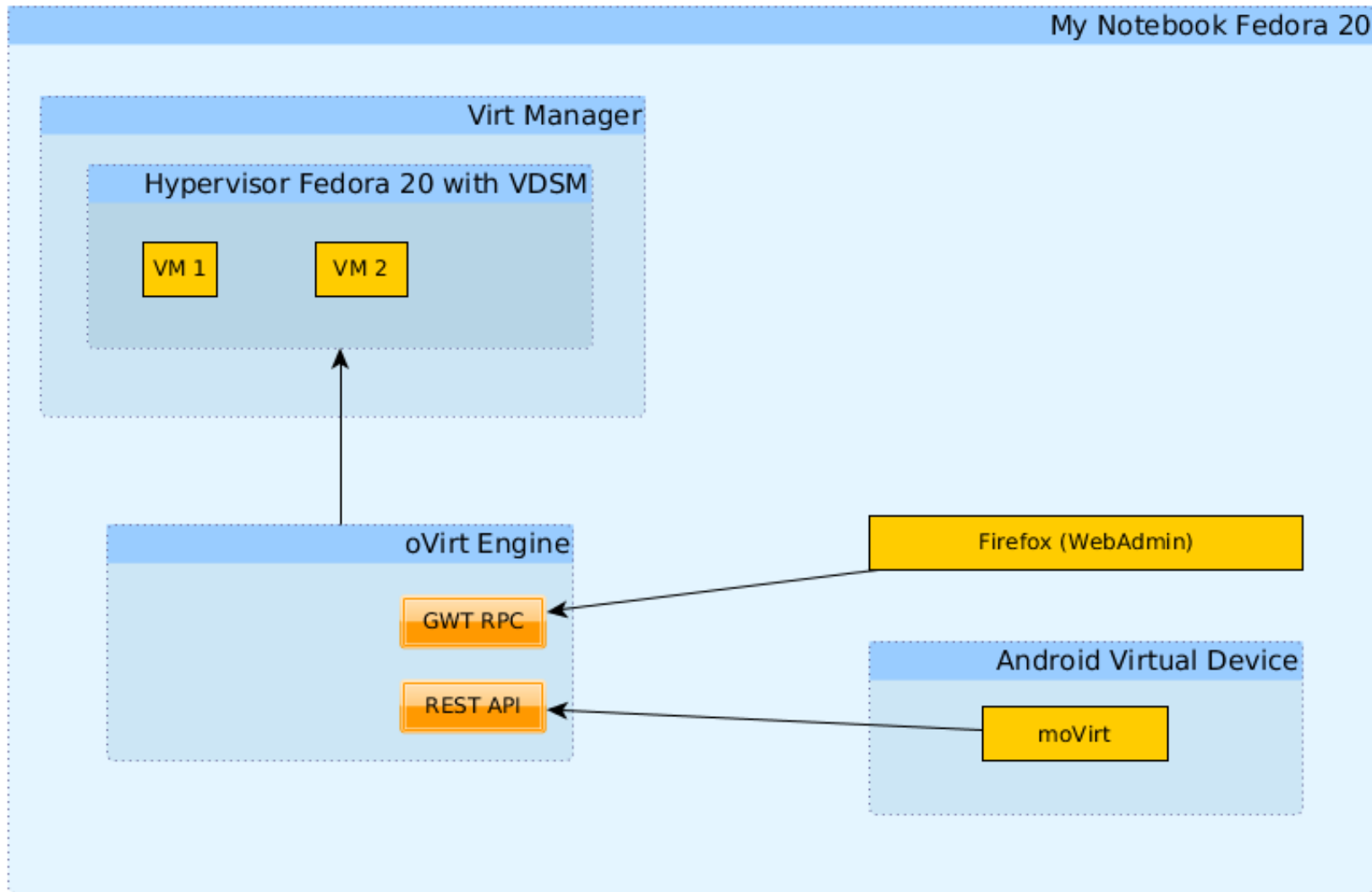


# Live Demo 1



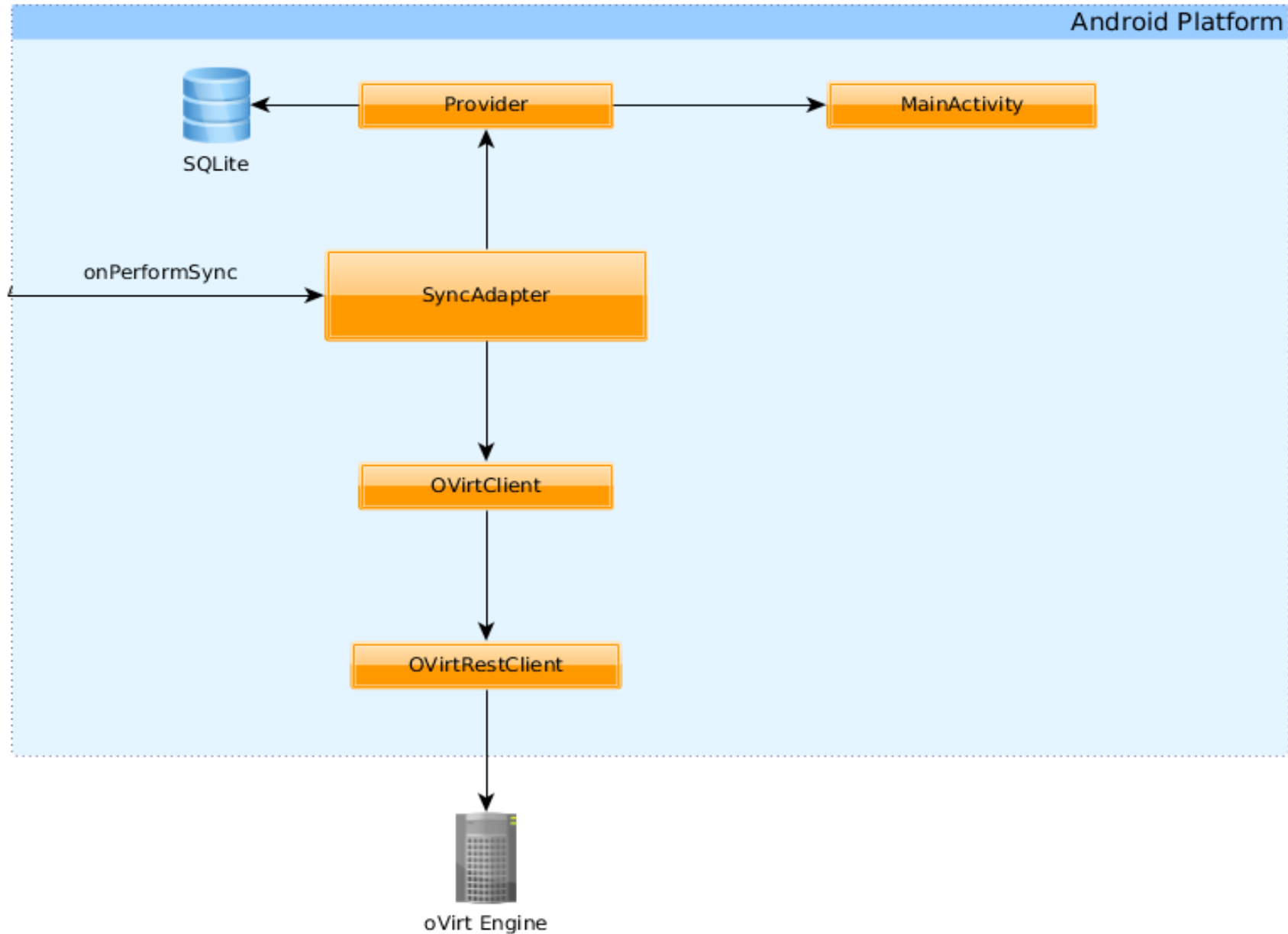
- Looking around the setup
- Seeing the VMs list

# Demo Setup



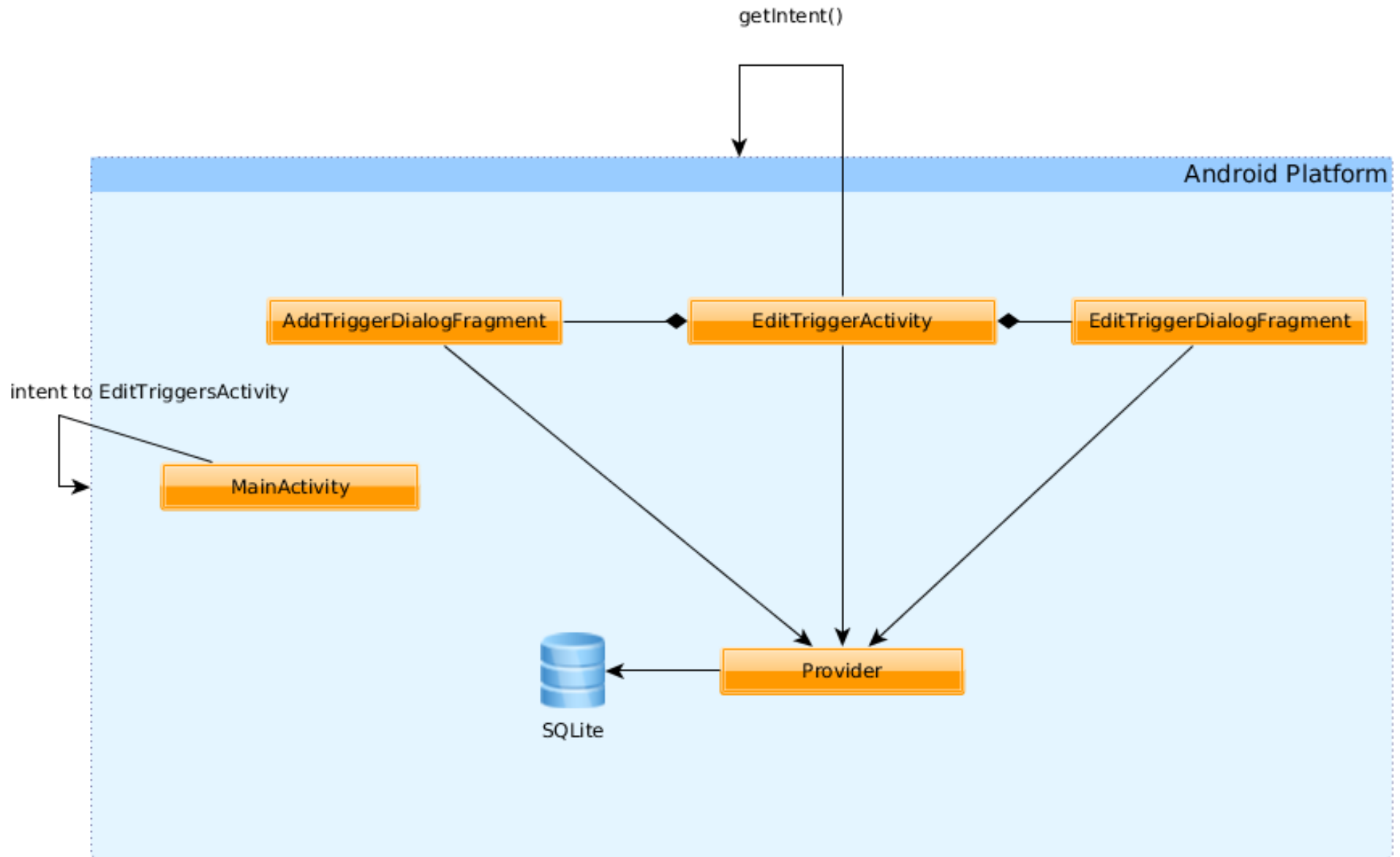


# What Happened?



- Creating / Editing Triggers

# What Happened

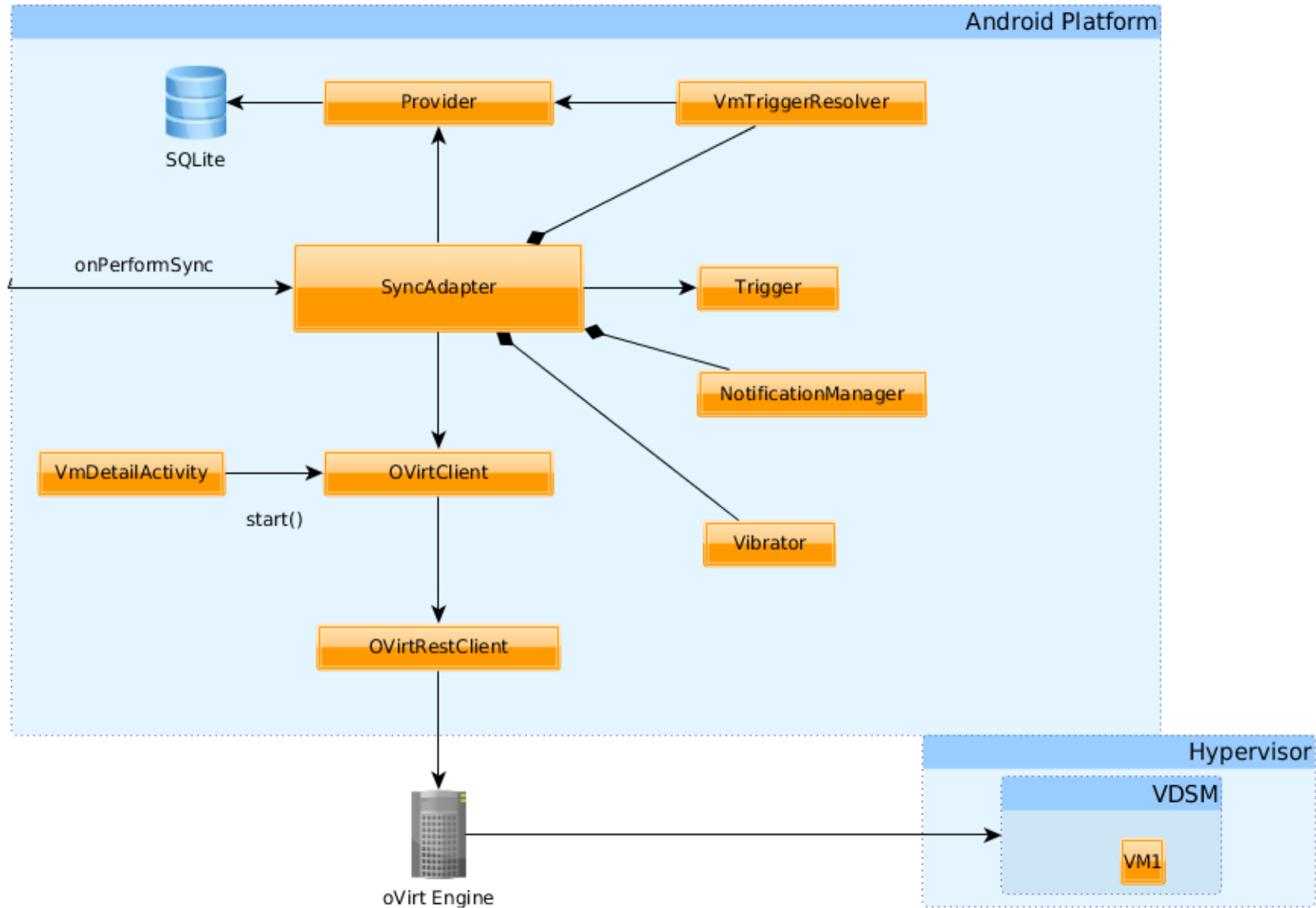


## Live Demo 3



- Killing a VM
- Showing the event
- Running the VM again

# What Happened?



## Future - Obvious

- Match events in triggers
- Integrate SPICE (aSPICE) and VNC consoles
- Integrate an SSH client
- Enrich to hosts

- Performance testing and tuning
  - Push (Google Cloud Messaging for Android, Aerogear) vs Poll
  - Server Side Agent
  - Or integrate with something existing
- Turn into:
  - Visually nice DC overview
  - Widget to quick / nice DC overview
  - Use to simple VM management (instance types + images to manages?)

# THANK YOU !

<https://github.com/matobet/movirt>

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