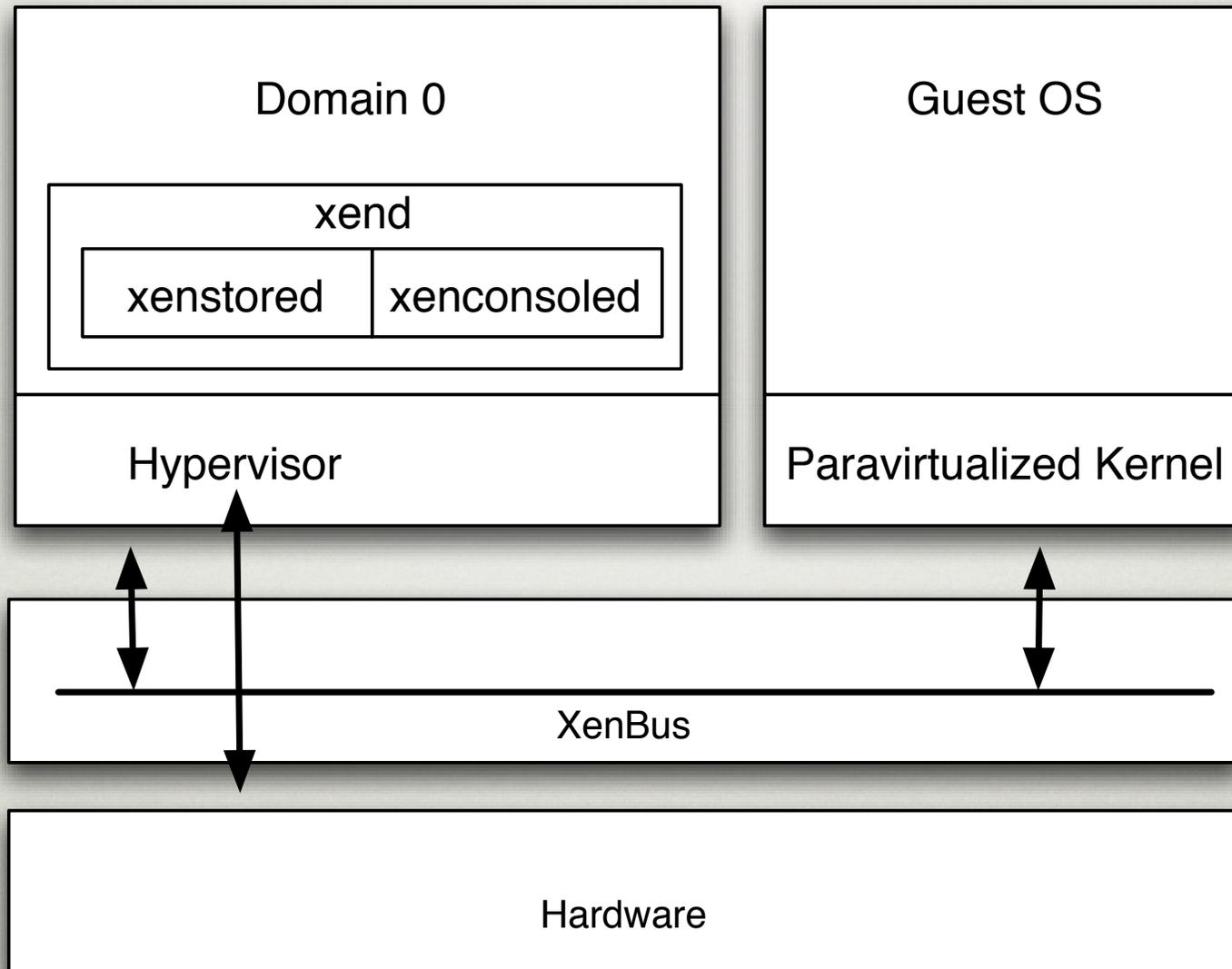


JISHA

XEN DEPLOYMENT TOOL

ADAM HUDA

XEN ARCHITECTURE



XEN HYPERVISOR INSTALLATION

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3. Build Xen hypervisor kernel from scratch or download prebuilt
4. Modify `/etc/grub.conf` to boot using the hypervisor kernel

/ETC/GRUB.CONF

```
default=0
timeout=5
splashimage=(hd0,0)/boot/grub/splash.xpm.gz
hiddenmenu
title Fedora Core (2.6.15-1.1955_FC5smp)
    root (hd0,0)
    kernel /boot/vmlinuz-2.6.15-1.1955_FC5smp ro root=LABEL=/1
    initrd /boot/initrd-2.6.15-1.1955_FC5smp.img
title Fedora Core (2.6.15-1.1955_FC5hypervisor)
    root (hd0,0)
    kernel /boot/Xen.gz-2.6.15-1.1955_FC5
    module /boot/vmlinuz-2.6.15-1.1955_FC5hypervisor ro root=LABEL=/1
    module /boot/initrd-2.6.15-1.1955_FC5hypervisor.img
```

GUEST IMAGE CREATION

FEDORA CORE 4

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6. Mount proc filesystem /mnt/guest/proc

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FEDORA CORE 4

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2. Format the image
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FEDORA CORE 4

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2. Format the image
3. Mount the image
4. Build bare bones / dev tree
5. Create /mnt/guest/etc/fstab
6. Mount proc filesystem /mnt/guest/proc
7. Install base operating system
8. Unmount image

BOOTING THE GUEST IMAGE

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- Create configuration file to go along with an image, i.e. centos.cfg

```
name = "CentOS"  
kernel = "/boot/vmlinuz-2.6-XenU"  
memory = "256"  
disk = [ 'file:/mnt/images/centos,xvda,w' ]  
vif = [ 'mac=00:16:3e:33:63:0a' ]
```

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```

- Use xm tool to start the guest domain

```
# xm create centos
```

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 - ➔ DNS Server, Web Server, DB Server, etc.

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- Images can be pre-made for a variety of configurations
 - ➔ DB Server, Web Server, DNS Server, etc.
- The user only needs to supply a suitable kernel

INTRODUCING JISHA

AUTOMATIC DEPLOYMENT OF GUEST IMAGES

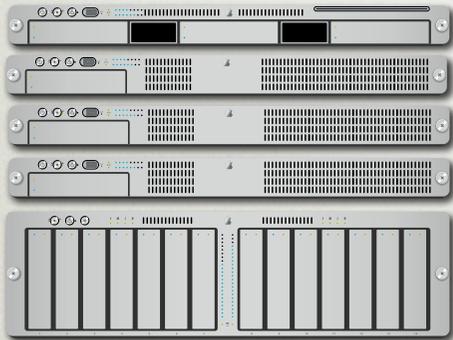
OVERVIEW

- Images are advertised over RSS 2.0 feeds
- Developed in Ruby
- Uses libvirt API to interact with Xend

PREVIOUS WORK

- Motivated by initial specification work done on Xen-get
- Xen-get is not in active development
- Xen-get is python based

JISHA IN ACTION



Host Running
Xen & Jisha

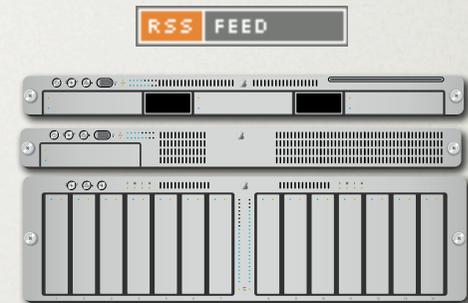


Image Server

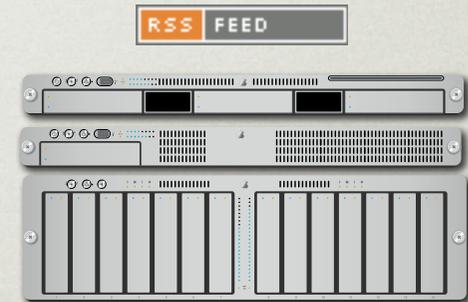
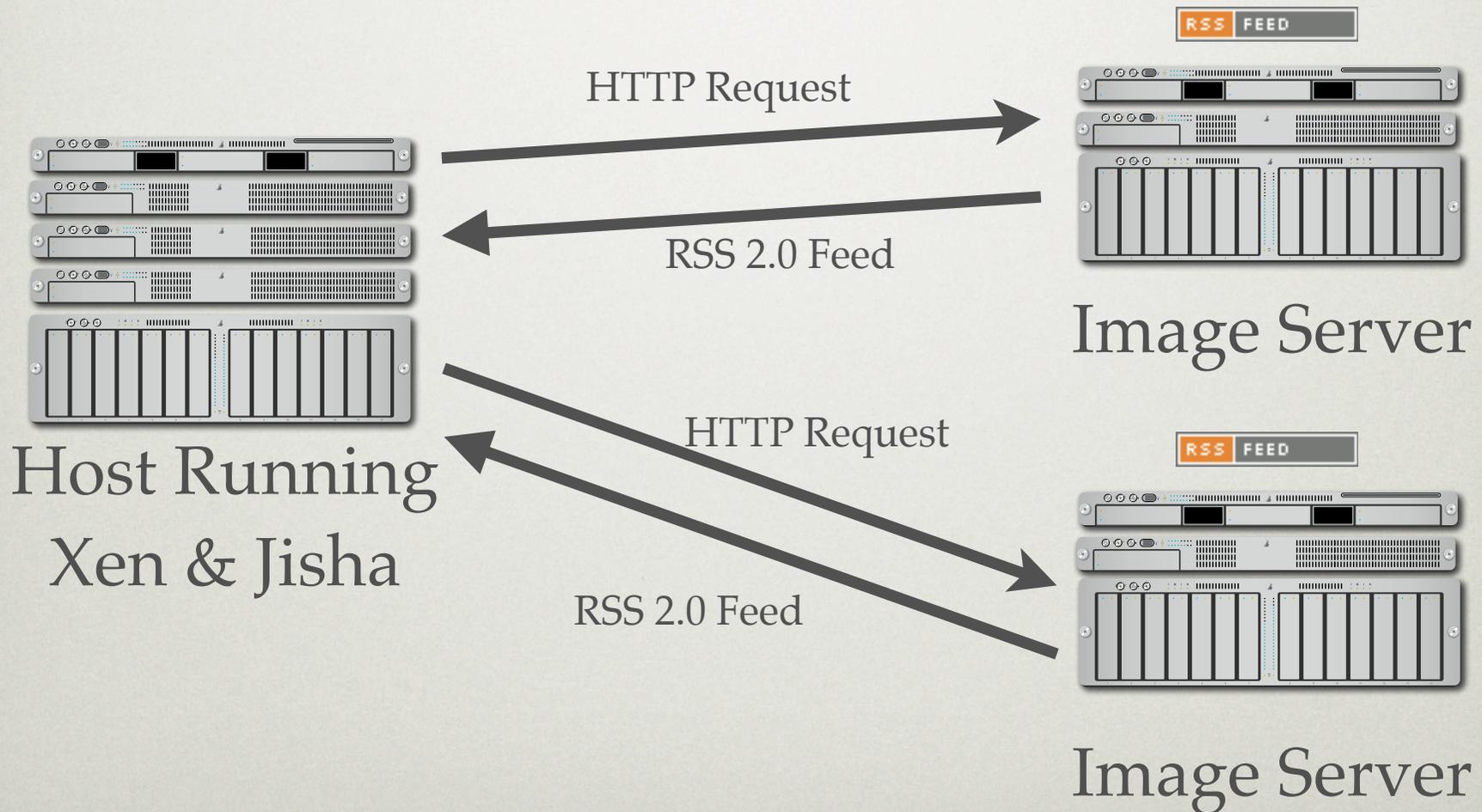


Image Server

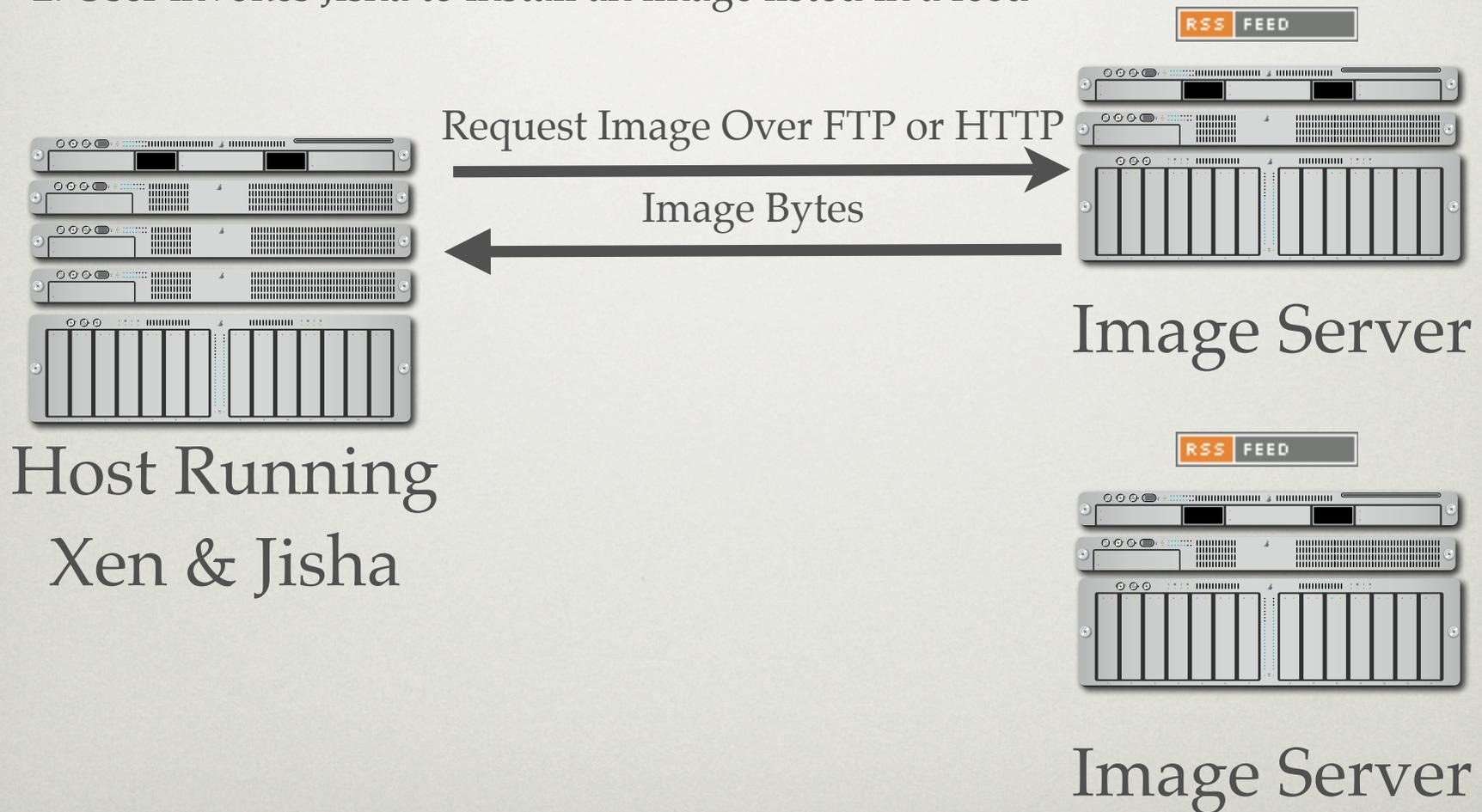
JISHA IN ACTION

1. User invokes Jisha to build image description cache from feeds listed in feeds.cfg

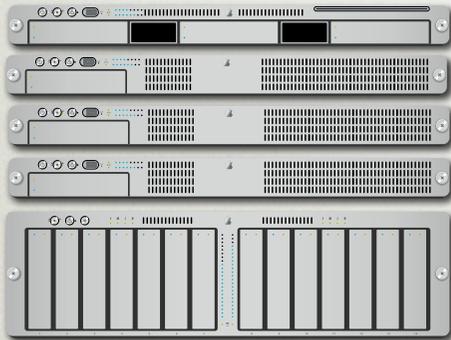


JISHA IN ACTION

2. User invokes Jisha to install an image listed in a feed



JISHA IN ACTION



Host Running
Xen & Jisha

3. Jisha starts guest domain with a call to libvirt
*virDomainCreateLinux(virConnectPtr conn,
const char * xmlDesc,
unsigned int flags)*

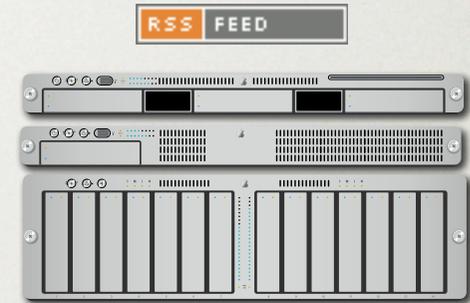


Image Server

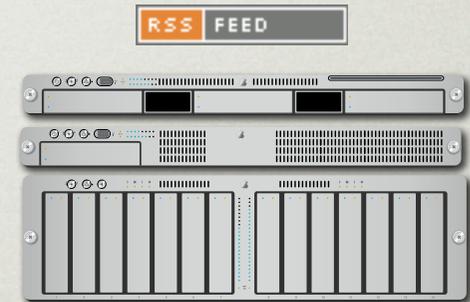


Image Server

RSS 2.0 IMAGE FEEDS

```
<rss version="2.0" xmlns:jisha="http://localhost/jisha/rss">
...
<item>
<title>CentOS-4.2</title>
<link>http://jailtime.org/lib/exe/fetch.php?
cache=cache&media=download%3Acentos%3Acentos.
4-2.20060210.img.tgz</link>
<jisha:date>02-11-2006</jisha:date>
<jisha:image_size>86081280</jisha:image_size>
<jisha:distro>CentOS</jisha:distro>
<jisha:md5>82e9392b43a33a311a8569238bd48b30</jisha:md5>
<description>
This image is compliments of www.jailtime.org. Packages included:
aaa_base, aaa_elflibs, acct...
</description>
</item>
...
```

EXAMPLE USAGE

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- Update image description cache from feeds listed in feeds.cfg

```
# ./jisha update
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# ./jisha install <image_name>
```

EXAMPLE USAGE

- Update image description cache from feeds listed in feeds.cfg

```
# ./jisha update
```

- Search for a particular image

```
# ./jisha search <search_string>
```

- Install an image

```
# ./jisha install <image_name>
```

- Remove an image

```
# ./jisha remove <image_name>
```

Q&A

IA32 PROTECTION MODES

