

VC Sharing

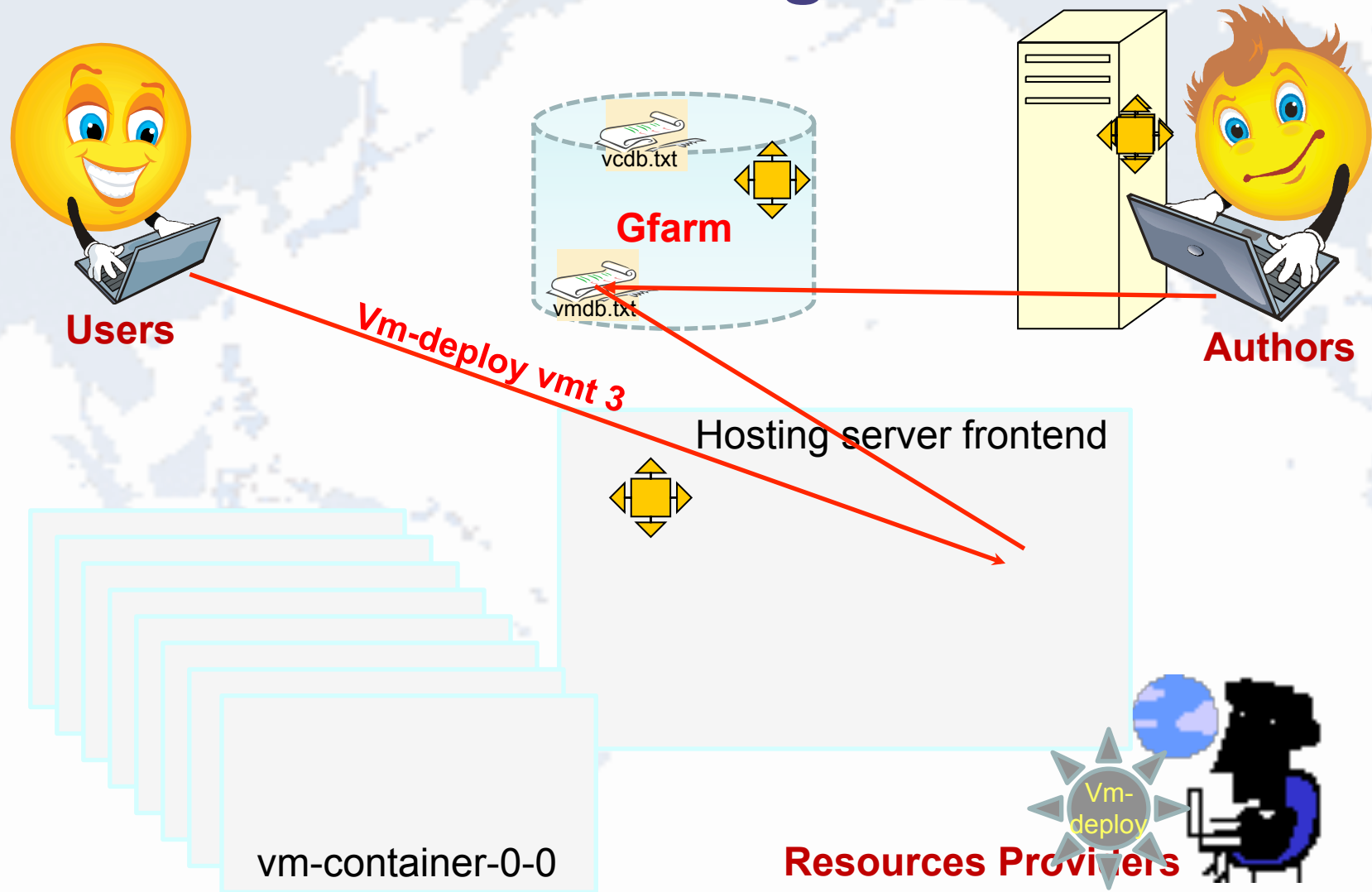
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For
VC Sharing pilot team
UCSD, AIST, NCHC



Cindy Zheng, Pragma Cloud, 3/20/2013



The VM Sharing Process

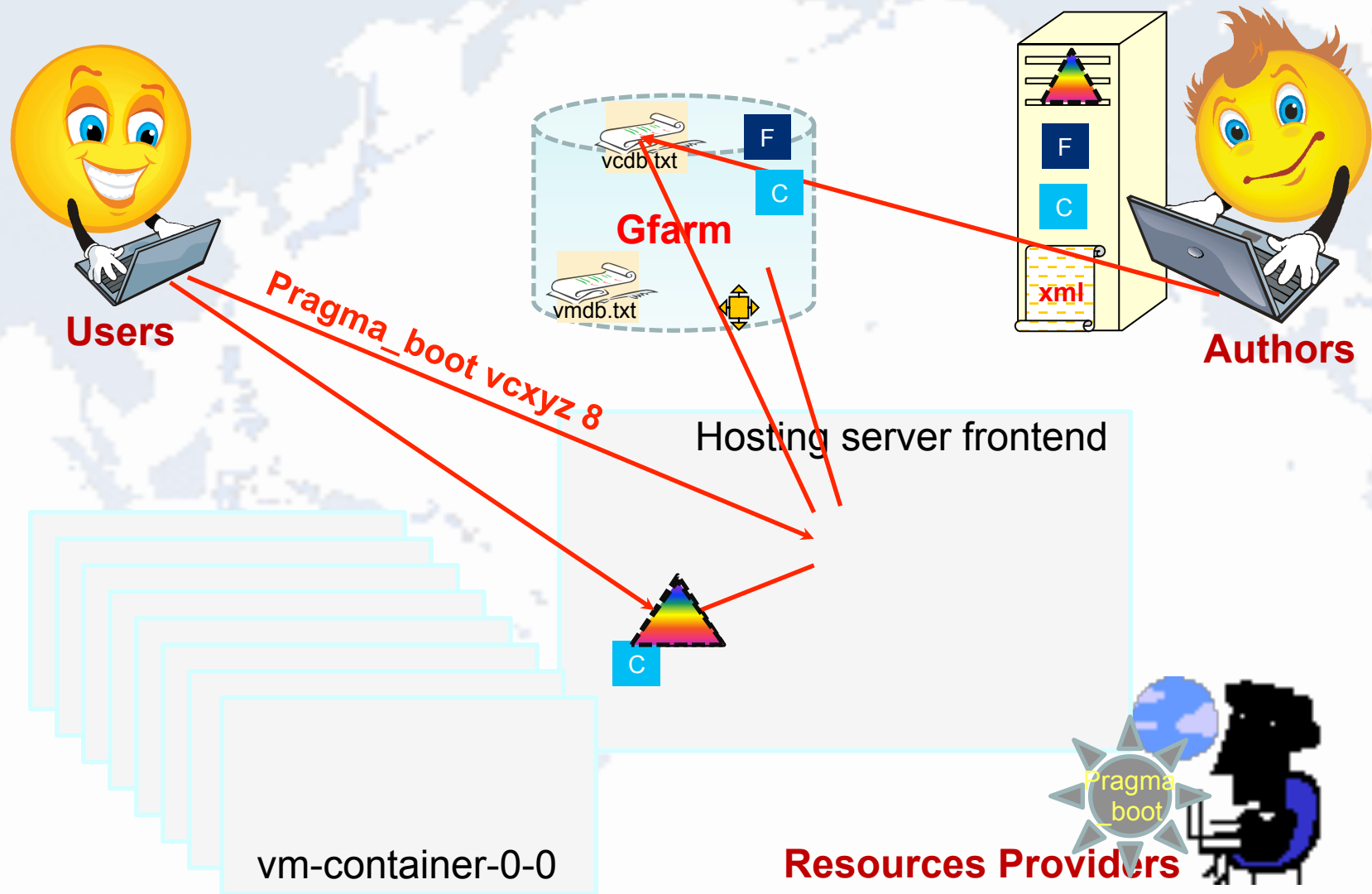


From VM to VC

- Based on VM sharing scheme, plus...
- Need more info about the cluster
 - Cluster topology, Network interfacesm, Boot sequence, ...
 - Add xml file as input
 - Defined xml format <http://goc.pragma-grid.net/wiki/index.php/Vc-in.xml>
- Need info about newly deployed cluster to reconfigure network sensitive system and application software
 - Add vc-out.xml as output
 - Defined vc-out.xml format, path (/root)
<http://goc.pragma-grid.net/wiki/index.php/Vc-out.xml>
 - VC author provides /root/VCreconfig script, if needed
- Need common interface for automation at heterogeneous sites
 - Standard Gfarm depository directory structure
 - Standard VC database entry and file (vcdb.txt)
- Need common user interface for automated scripts among heterogeneous sites
 - `% pragma_boot vc-name [number of compute nodes] [local depository path]`



The Process



Auto-deploy VC On Rocks/KVM

```
zhengc@fiji:~  
Connection to rocks-200.sdsc.edu closed.  
[zhengc@fiji ~]$
```



Same On OpenNebula/KVM

- AIST implementation
 - Yoshio will show demo at Resources Working Group break-out



VM Image Transfer Time

image	size(GB)	source	means	time
frontend	10.3	gfarm	gfexport gunzip	0:06:31
				0:06:27
				0:06:31
				0:06:17
frontend	10.3	local	gunzip	0:04:23
				0:04:20
				0:04:00
				0:05:09
compute	1.7	gfarm	gfexport gunzip	0:03:54
				0:03:56
				0:03:35
				0:03:33
compute	1.7	local	gunzip	0:05:22
				0:05:04
				0:04:13
				0:04:43
compute	20	local	scp	0:07:48
				0:08:03
				0:07:20
				0:07:45

- Non-controlled environment
- Gfarm on LAN
- Gfarm vs local
 - Big size
 - Small size
- On a busy hosting system
 - Less consistent
 - 2x or 3x



Sharing and Improving

- Next step: more sites implement for different virtual environment
- Share information, standards, software
 - Standard interface definition (Start, can change)
<http://goc.pragma-grid.net/wiki/index.php/Vc-interface>
 - Meetings and discussions
http://goc.pragma-grid.net/wiki/index.php/SC12_meeting
 - VC sharing roles
http://goc.pragma-grid.net/wiki/index.php/VC_sharing_roles_and_tasks
 - Manual experiments
http://goc.pragma-grid.net/wiki/index.php/UCSD_manually_deploy_AIST/NCHC_VCs
http://goc.pragma-grid.net/wiki/index.php/Rocks_VC_experiment_1
 - Automated VC deployment scripts
 - For Rocks
http://goc.pragma-grid.net/wiki/index.php/Auto-deploy_VC_on_Rocks
Other Rocks sites can install. May require minor changes due to version difference
 - For OpenNebula/KVM
 - AIST



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