



UNIVERSITY OF
OXFORD

Oxford Site EL9 Upgrade Summary

VIP DAVDA AND MIKE LEECH | 18 JULY 2024

Tier2 – EL7 (CentOS 7)

- 131 Worker Nodes (8542 Logical Cores)
 - Newer hardware did not support CentOS 7 – EL9 KVM and CentOS 7 worker node VMs
- Storage-less
 - Xrootd xcache virtual placement used for ATLAS (EL8 – Rocky 8)
- 20Gb Network uplink / 100Gb Backbone
- Cobbler used for bare metal installation - BIOS
- Puppet used for configuration management
- TCP wrappers to control ssh access

Tier2 – EL7 (CentOS 7)

- ARC-CE
- HTCondor version 9.x with password authentication
- Argus was used as authorization service

- VO-Box (Alice)
- BDII
- VOMS service
- Squid
- Perfsonar

Worries!

- Can we migrate everything to EL9 in 12-months
- Only have 0.5FTE
- Cluster OK, but what about Argus, Bdi, VOMS etc.

Hurdles

- **Cobbler**
 - poor support for UEFI build
 - upgrade wiped configuration
- **No UMD5 repo**
- **ARGUS deprecated**
- **Ganglia server no longer supported**

Tier2 – EL9 (AlmaLinux 9)

- For EL9 Build:
 - pxeboot/tftp is used for bare metal build.
 - UEFI
- Ansible is used for configuration management
 - only using built-in modules
- Host-based firewall – firewalld
 - no ssh allowed, only from certain hosts.
 - only the required ports opened to the outside world.

Tier2 – EL9 (AlmaLinux 9)

- ARC-CE version 6.19
 - Map grid users to local accounts
- HTCondor version 23.x
 - Using built-in roles
 - use role:get_htcondor_central_manager
 - use role:get_htcondor_submit
 - IDTokens
- BDII
 - CentOS7 rpms: glite-info-site, glite-info-static, glite-info-provider-ldap, glite-info-provider-service and bdii-config-site

Tier2 – EL9 (AlmaLinux 9)

- VOMS Service
- Squid – Frontier scripted config
- Perfsonar
- VO-Box (Alice)
- Ganglia server as a CentOS7 container
- 83 Worker nodes (7006 logical cores)
 - retired 48 “guzzlers” worker nodes - 1536 logical cores
- Xrootd xcache virtual placement is used for ATLAS (EL8 – Rocky8)
- Storage-less site

Things to do!

- Dell OpenManage Server Administrator (OMSA) will no longer be supported for new hardware
- Migrating ARC-CE v7.0
- Banning naughty users in ARC-CE
- Alternative monitoring tool
- Rebuild Xrootd Xcache server as EL9

Questions?



UNIVERSITY OF
OXFORD