

CentOS7 Discussion

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Straw Poll

- Who has abandoned SL6 for production systems?
- Who has put in some C7 systems?
- ~~Who hasn't done anything at all about C7?~~

Background

- CentOS is now part of RedHat but “independent” of RHEL
- CentOS 7.0 came out in August 2015
- Minor versions come every 6 months on average; we're due one soon.
 - **7.0-1406 (RHEL base 7.0)**
 - **7.1-1503 (RHEL base 7.1)**
 - **7.2-1511 (RHEL base 7.2)**
 - **7.3-1611 (RHEL base 7.3)**
 - **7.4-1708 (RHEL base 7.4)**
- Version numbers include monthstamp of source code release is based on.
- Wikipedia says “Using the monthstamp allows installation images to be reissued oncoming container and cloud releases, while maintaining a connection to the related base release version.”

What's different about it?

- It uses XFS as the default file system.
- It uses a different firewall interface called firewalld instead of the old iptables.
- It uses a replacement for init/rc.d, called systemd, which you need to get used to and is not the same (knashing of teeth.)
- Uses a kernel in the 3.10.x range.
- Grub2 bootloader, for what it is worth.
- <http://simplylinuxfaq.blogspot.co.uk/p/major-difference-between-rhel-7-and-6.html>

What have we done about C7?

- Rolled it out for general use on physics dept. PCs.
- Gradual migration of dept. servers over time.
- On grid, C7 Condor worker nodes in production with SL6 ARC CE. Setup for C7 Arc/Condor CE, working but not yet in production.
 - (this was meant to go live this week, but Spectre/Meltdown stopped it.)
- Created the appropriate suite of Puppet Hieradata modules for doing all the above. Made those for grid systems available, with a document, on GitHub (yes, I know I've reinvented the wheel and violated the first law of "component oriented design" live with it.)

Resources

- git clone

https://github.com/sjones-hep-ph-liv-ac-uk/arc_condor_c7.git

- There is a document inside that tells all, called C7arcCondor.odt
- RHUL may try it out and give feedback.
- Git repo contains the Puppet and Hiera build for our ARC/Condor C7 builds for CE and workernode, which includes ARGUS integration, user accounts, ARC configurations, HTCondor configuration, fair shares, accounting, multicore setup with draining, etc. etc.
- No trace of Yaim except for the format of the users.conf file, since most sites have one of those already. Boast: Our new user creation modules run in 1 minute, versus 90 minutes under Yaim.

Liverpool experiences

- It works well enough for production for sure.
- Users generally happy with PC and servers, as far as I can tell (I'm the "Grid Admin", though...)
- On the Grid, ATLAS on its own produces enough job traffic for C7 ARC/Condor setup with 500 slots; it is full all the time. John Bland has setup our DPM raid systems under 7.4.1708 with ZFS and it must be working well because he hasn't mentioned it, and neither has anyone else (the acid check for good systems administration.) Head node is still SL6, interoperation is seamless.
- We use the firewall puppet modules with Hiera parameters to configure firewall – much more convenient than iptables ever was.
- C7 does present a culture shock due to systemd, but you can get used to it.

Some discussion points?

- What are other sites doing (grid or general rollout)?
- What other resources are out there?
- Should I merge Liverpool work with existing Puppet/Hiera module libraries?
- What sort of “deadlines” might we expect for migration to C7?
- Issues with other middleware (CREAM, VAC, Torque, whatever)
- Networking/Firewall matters.
- Spectre/Meltdown issues.
- Actual performance vs benchmark?
- Are large experiments ready? Small ones?
- What about VMs (e.g. VAC) or Containers?
- What about storage, DPMs or whatever?
- Repo locations?
- Any other elephants in the room; show stoppers?