C7, pilot2 and singularity deployment

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CentOS7

- Only 11 sites still to migrate
  - All switched to test or brokeroff.
    - There are no more queues running pilot1 online

ru-PNPI	RU	In Progress		In Progress	GGUS 141725
ZA-CHPC	IT	In Progress			GGUS 141726
INFN-LECCE	IT	In Progress		In Progress	GGUS 142318
JINR-LCG2	RU	In Progress	30 Sep 2019	Yes	GGUS 142321
RRC-KI	RU	In Progress	By July 1	In Progress	GGUS 142322
RU-Protvino-IHEP	RU	In Progress	30 Nov 2019	Yes	GGUS 142323
UKI-SOUTHGRID-SUSX	UK	In Progress			GGUS 142329
UNI-FREIBURG	DE	In Progress		In Progress	GGUS 142331
UNI-SIEGEN-HEP	DE	In Progress	mid/end of july	In Progress	GGUS 142332

Largest resource
Urgent!!!!

Singularity Not installed

- Queues not running singularity yet: 39
  - online+test+brokeroff
    - HPC
    - Still on SL6
    - Some shared facility waiting for upgrade of custom software
    - Test queues
- Expected to reduce further by end of the year

```
ANALY_BOINC
ANALY_ECDF_SL7
ANALY_HK-LCG2_ARC
ARC-TEST
BOINC_BACKFILL
BOINC-TEST
CA-IAAS-T3-K8S
CA-VICTORIA-K8S-T2
CERN-PROD_ES
CERN-PROD_UCORE_1
HK-LCG2_ARC_UCORE
IHEP_UCORE
INFN-LECCE
ITEP_MCORE
JINR_UCORE-TEST
LRZ-LMU_C2PAP_ES_MCORE
LRZ-LMU_MUC_MCORE
MPPMU-DRACO_MCORE
OU_OSCER_ATLAS_OPP
pic_MareNostrum4
PNPI_PROD
PNPI-TEST
PNPI_XCACHE-TEST
praguelcg2_Salomon_MCORE
RRC-KI-HPC2
RRC-KI_PROD
TOKYO_HPC
UIO_CLOUD
UIO_MCORE_LOPRI
UKI-LT2-RHUL_UCORE
UKI-SCOTGRID-ECDF-RDF_UCORE
UKI-SCOTGRID-ECDF_SL7_UCORE
UKI-SOUTHGRID-SUSX_UCORE
UNI-FREIBURG
UNI-SIEGEN-HEP
UTA_PAUL_TEST
ZA-CHPC_UCORE
```

Singularity with some config problems

- 16 sites fail the HC tests for standalone containers.
  - Firewall restrictions
  - Image origin restriction
  - Only the runtime installed
  - Some time outs
- Standalone containers HC tests
- JIRA Ticket: ADCINFR-142

```
ANALY_AUSTRALIA
ANALY_CPPM_CL7_ARC
ANALY_GRIF-IRFU
ANALY_GRIF-LAL_HTCondor
ANALY_INFN-COSENZA-RECAS
ANALY_LANCS_SL7
ANALY_LPC_CL7
ANALY_LUNARC
ANALY_MPPMU
ANALY_PSNC
ANALY_SWT2_CPB
ANALY_TRIUMF
ANALY_TRIUMF_DYNAFED
ANALY_wuppertalprod
```

Singularity in CVMFS

- singularity deployment from CVMFS doesn't require sites to install the rpm
  - Only Requires sites to enable user NS because the executable in /cvmfs will not use setuid for this to work.
- Agreed also at the WLCG container meeting.
  - Experiments agreed not to have a common executable to avoid to break each other workflows.
- Would free ATLAS to run the workloads it needs without interfering with local users or other experiments setup and restrictions.
  - Reminder: user namespaces = unprivileged

Singularity in CVMFS

- Current version problem
  - Still needs libseccomp and squashfs-tools but testing version works without

```
echo "user.max_user_namespaces = 15000" > /etc/sysctl.d/90-max_user_namespaces.conf
sysctl -p /etc/sysctl.d/90-max_user_namespaces.conf
```

- Testing version only needs user namespaces
- If sites enable user namespaces it's a no brainer using singularity from CVMFS eventually
  - Hope is to require only CVMFS on the WNs
    - Everything else in CVMFS itself or in containers