Update on SoC on ARM

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Recommendation #1 from 15th December 2020

• Request for CentOS on ARM for SoC devices by ATLAS and CMS online teams
  - Recommendation 1: support the use case with CentOS on ARM and evaluate expanding it to ARM WLCG use cases (build/test/CIs)

• Agreement with the online community
  • Upstream altarch communities have moved to CentOS 8 and 64 bit only
  • Thus Central support for CentOS 8 only
    • mirror repositories for 7 but no CERN packages needed
Current status to support SoC use case

- IT Services being tested against ARM CentOS 8 build
  - Linuxsoft repositories for packages at https://linuxsoft.cern.ch/cern/centos/8/
    - With staged snapshots
  - Installation images (PXE physical, cloud)
  - Docker images at https://gitlab.cern.ch/linuxsupport/cs8-base
  - CERN packages available at https://linuxsoft.cern.ch/cern/centos/8/CERN/aarch64/Packages/

- Toolchain being ported
  - Puppet and many other agile tools available

- Koji to build RPMs
Plans for SoC and WLCG use cases in Q3/Q4

- **Benchmarking already tested**
  - HEPiX Benchmarking WG frameworks running using containers

- **Purchase servers for production services**
  - 5 Ampere Altra Mt. Snow servers (80 cores CPU, 256GB RAM) expected in summer

- **Aim to offer production services with**
  - Interactive facility for test/debug based on lxplus profiles
    - Including AFS and some CERN specific packages (CVMFS already available for EL7)
  - Benchmarking and hardware test box (e.g. h/w sensors, burn in)
  - Gitlab central runners for CI/CD
  - OpenStack VMs for dedicated build processes and unique kernels under investigation
References

- R&D advisory meeting 15th December 2020
  - https://indico.cern.ch/event/919839/

- SoC workshop 7th-11th June 2021
  - https://indico.cern.ch/event/996093/

- SoC needs summary
  - https://cernbox.cern.ch/index.php/s/DcpMK7eFui2kjVT

- ARM Linux status at CERN
  - https://codimd.web.cern.ch/p/MErXnFB0V#/ 

- ARM benchmarking
  - https://cernbox.cern.ch/index.php/s/JNADwhDRcV0E7bH
Questions?