ArchiverAppliance at the Fritz-Haber-Institut

EPICS collaboration meeting, Oct., 2015
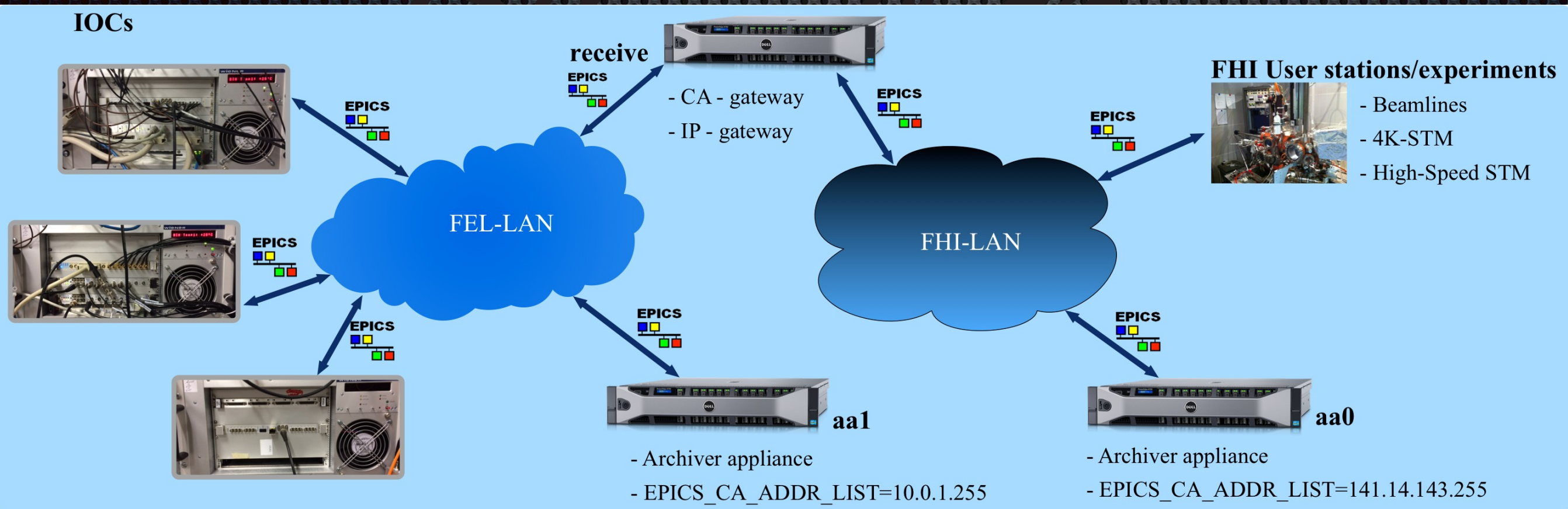Heinz Junkes, Fritz-Haber-Institut, Berlin

The FHI FEL

- Mid-infrared oscillator FEL

- Accelerator consists of a thermionic gridded gun, a subharmonic buncher, and two S-band standing-wave copper structures

- Electron energy adjustable from 15 to 50 MeV

- More than 200 pC bunch charge

- Moderate "shot" rates (1Hz, 5Hz, 10Hz, max 20Hz)

- Planar hybrid-magnet undulator within a 5.4 m long IR cavity

- Wavelength range from 4 to 48 um

- 17547 PVs on 29 IOCs

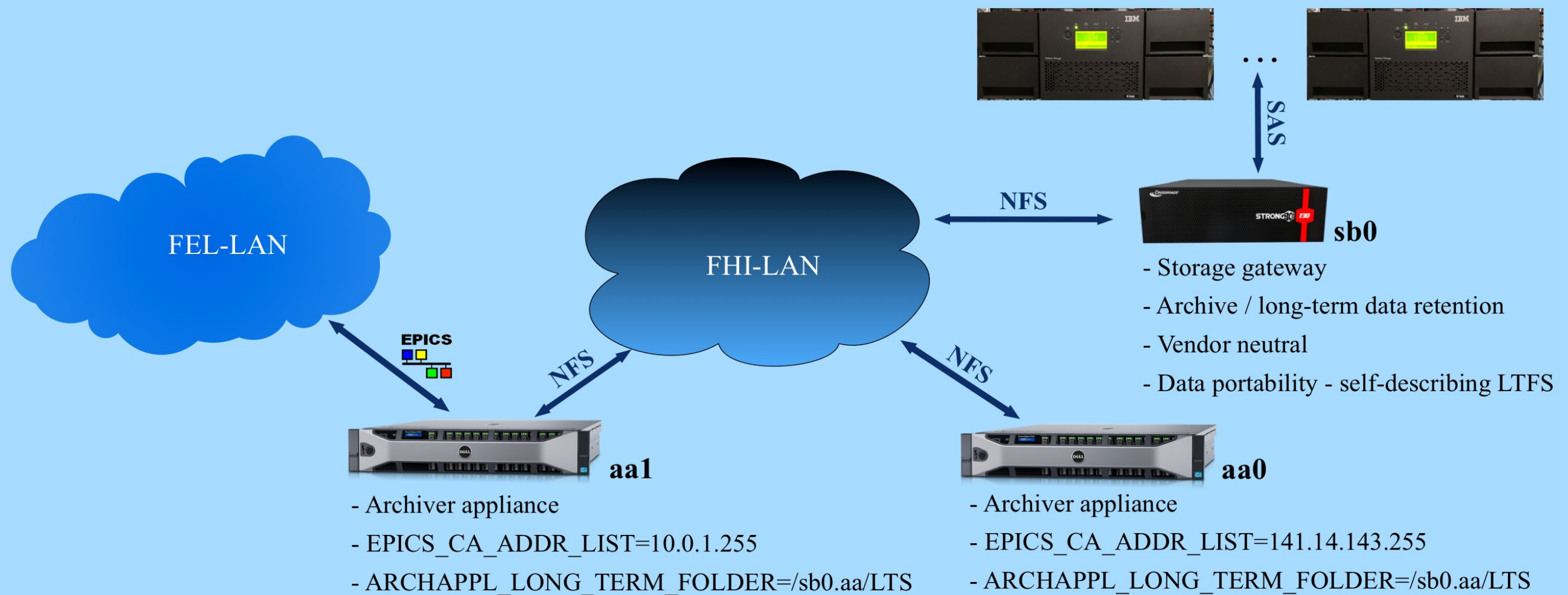http://fel.fhi-berlin.mpg.de/uploads/2015_SPIE_95121L.pdf

ArchiverAppliance

- Developed by Murali Shankar at SLAC

- From the Web-site:

  - Ability to cluster appliances

  - Multiple stages

  - Focus on data retrieval performance
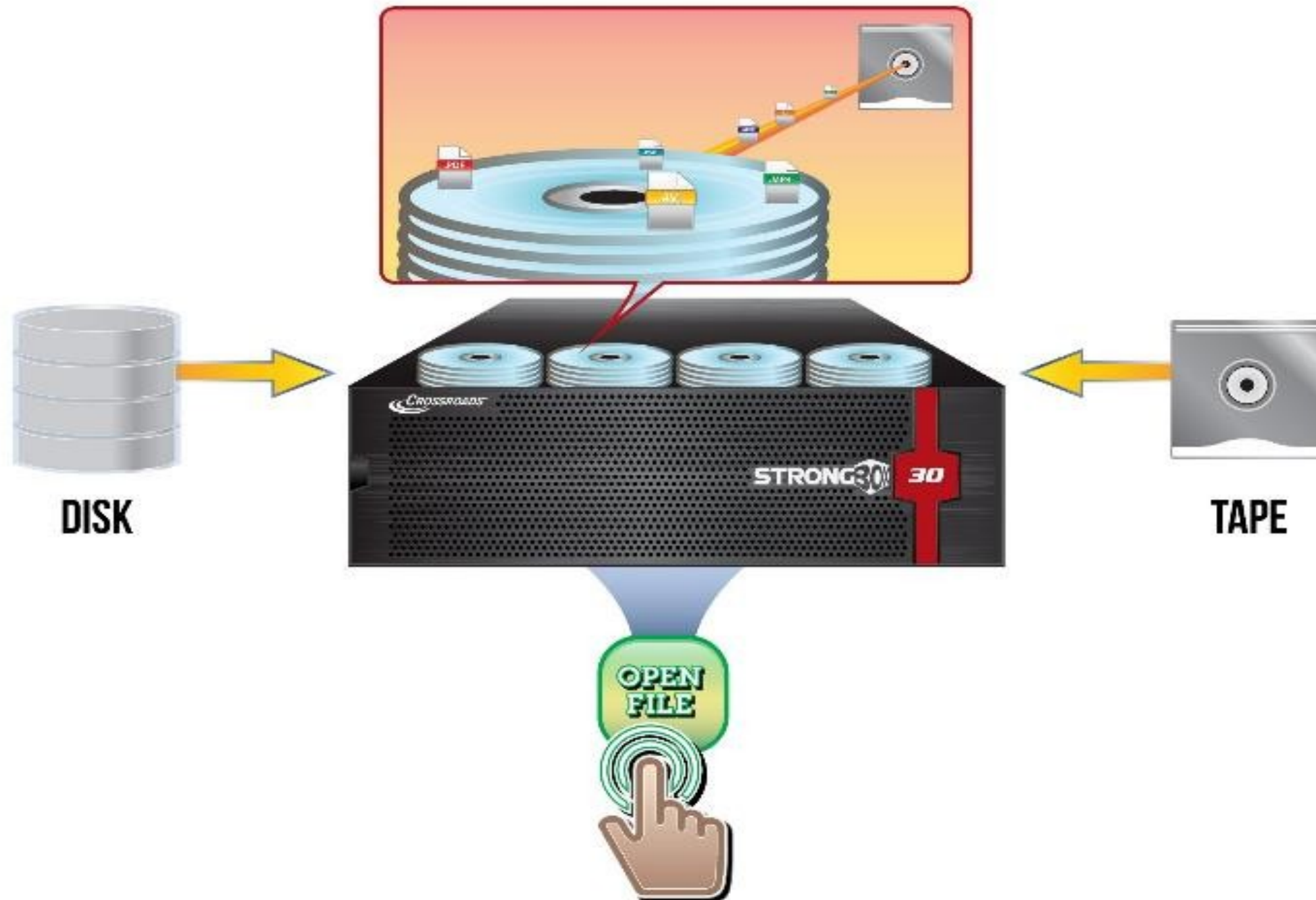
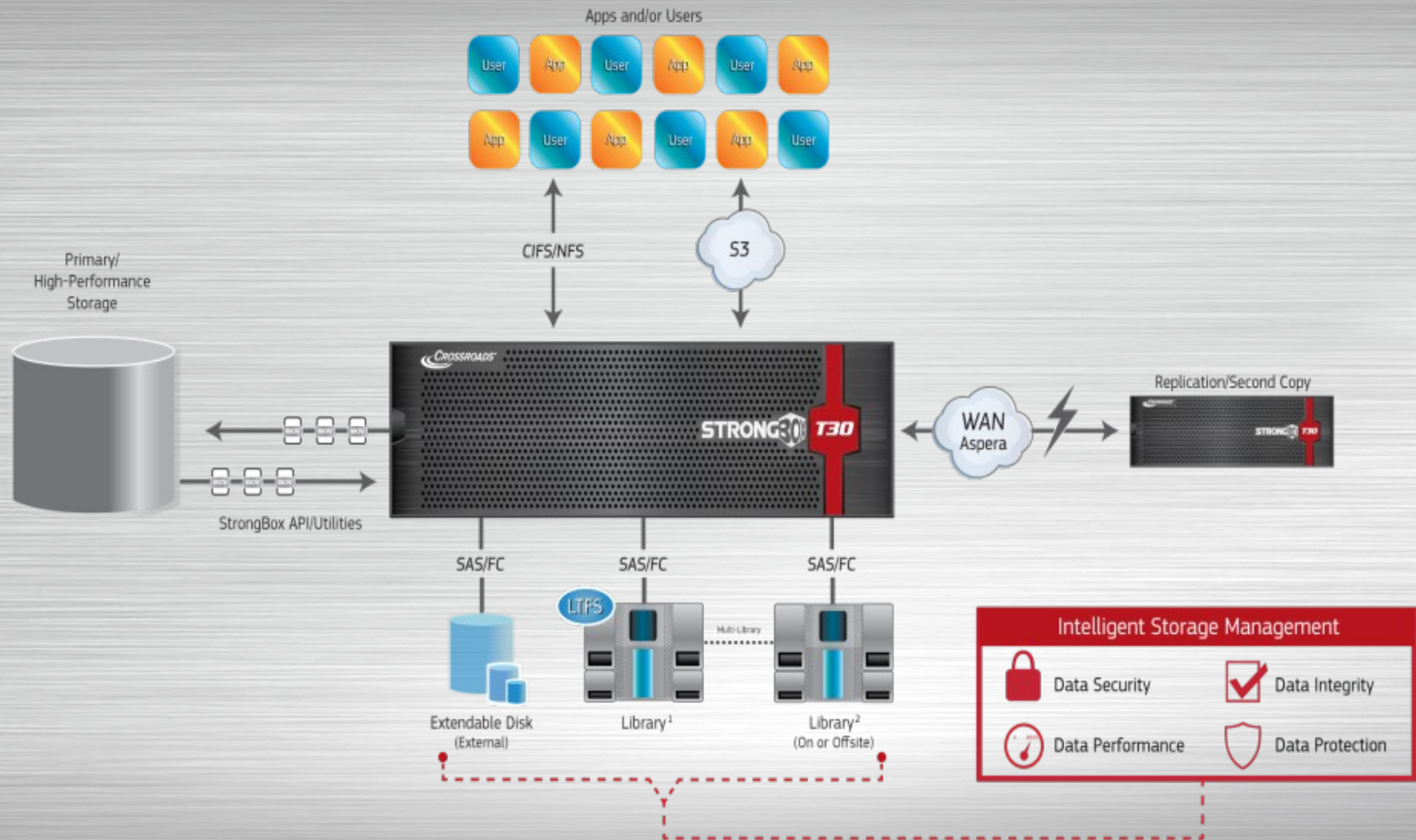- Successor of ChannelArchiver?

Setup at FHI

StrongBox

SAS

NFS

FEL-LAN

FHI-LAN

EPICS

NFS

NFS

sb0

- Storage gateway
- Archive / long-term data retention
- Vendor neutral
- Data portability - self-describing LTFS

aa1

- Archiver appliance
- EPICS_CA_ADDR_LIST=10.0.1.255
- ARCHAPPL_LONG_TERM_FOLDER=/sb0.aa/LTS

aa0

- Archiver appliance
- EPICS_CA_ADDR_LIST=141.14.143.255
- ARCHAPPL_LONG_TERM_FOLDER=/sb0.aa/LTS

StrongBox (Vendor slide)

StrongBox (Vendor slide)

Open questions
(Strongbox)

- Performance

- Hard to test due to cache on disks

- We fund already one bug (Baumblüte)

- We have to dig into the API

Open questions (ArchiverAppliance)

- How to access ArchiverAppliance in CSS?
  ArchiverReader? URL?
  Michaels python-proxy?

- How to display waveforms with internal
  Viewer?

- How to organize Access-rights to the mgmt
  interface? Ht-access? Tomcat-users?

Off topic

time recorder

- RaspberryPi with EPICS

Off topic
FEL future upgrade