ALCF Update

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ALCF Resources at a Glance

THETA

MIRA

Cetus

Cooley
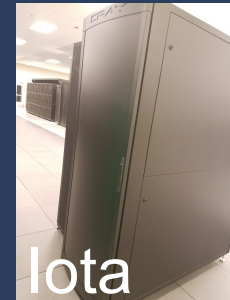
IB fabric

Cray Sonexion
10 PB, 200 GB/s

IBM ESS
GPFS
8 PB, 400 GB/s

DDN GPFS
fs0 20 PB, 200 GB/s
fs1 7 PB, 90 GB/s
home 1PB

3 Spectra
Logic T950
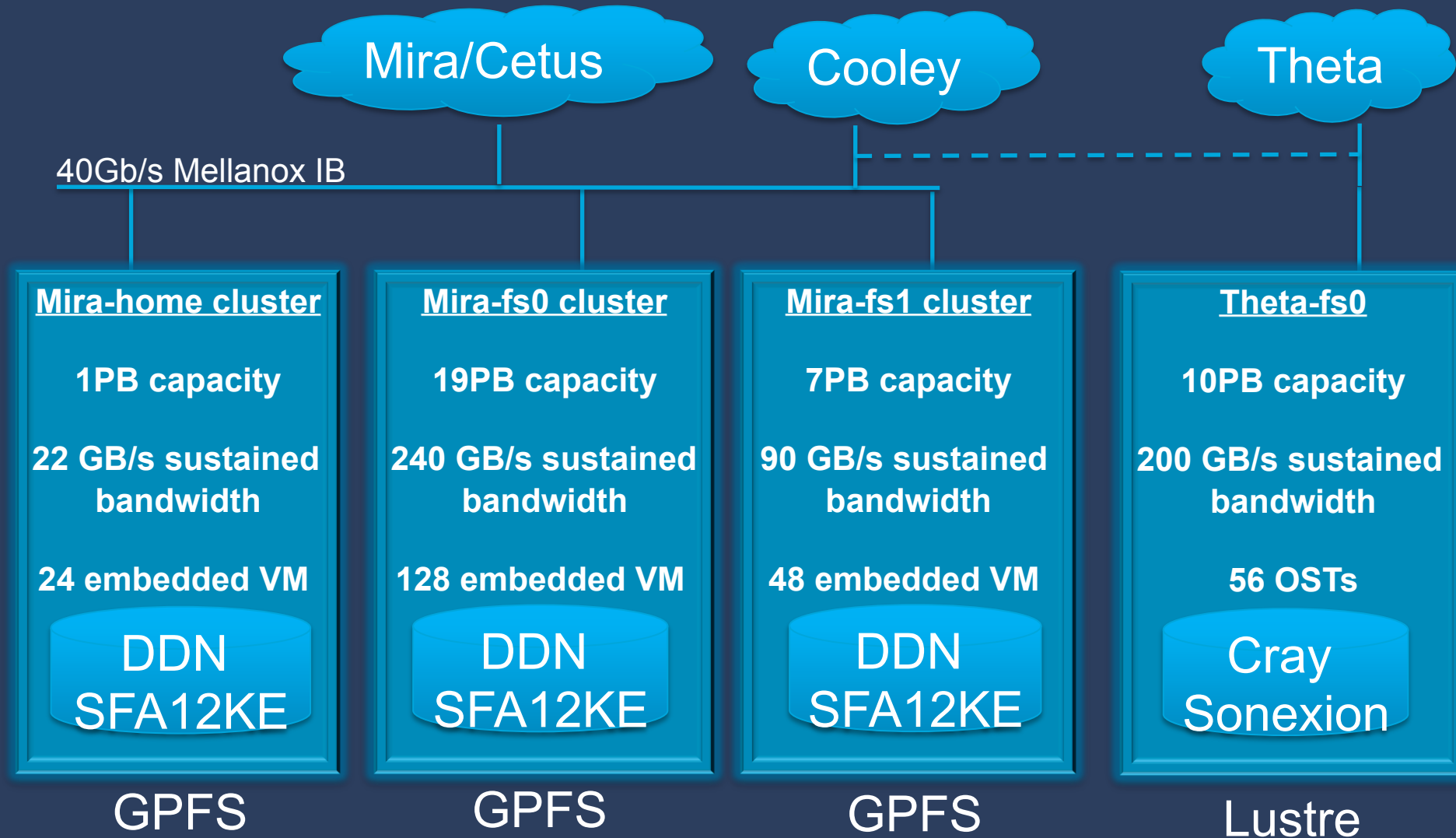30,000
tapes

Iota

T&D
IB fabric

Vesta

12 Data Transfer nodes

External 100 Gbs Network
(ESnet, Internet2, …)

Joint Laboratory for System Evaluation

Argonne
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ALCF File System Storage

Mira/Cetus   Cooley   Theta

40Gb/s Mellanox IB

Mira-home cluster

1PB capacity

22 GB/s sustained bandwidth

24 embedded VM

DDN SFA12KE

GPFS

Mira-fs0 cluster

19PB capacity

240 GB/s sustained bandwidth

128 embedded VM

DDN SFA12KE

GPFS

Mira-fs1 cluster

7PB capacity

90 GB/s sustained bandwidth

48 embedded VM

DDN SFA12KE

GPFS

Theta-fs0

10PB capacity

200 GB/s sustained bandwidth

56 OSTs

Cray Sonexion

Lustre

Argonne Leadership Computing Facility

Argonne NATIONAL LABORATORY

ALCF 2021 EXASCALE SUPERCOMPUTER – A21

Intel/Cray Aurora supercomputer planned for 2018 shifted to 2021

Scaled up from **180 PF to over 1000 PF**

2021

Support for three "pillars"

Simulation

Data

Learning

Pre-planning review ◆

◆ Design review

◆ Rebaseline review

NRE contract award ◆

◆ Build contract modification

ALCF-3 Facility and Site Prep, Commissioning

ALCF-3 ESP: Application Readiness

NRE: HW and SW engineering and productization

Build/Delivery

Acceptance ▲

CY 2017   CY 2018   CY 2019   CY 2020   CY 2021   CY 2022

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