

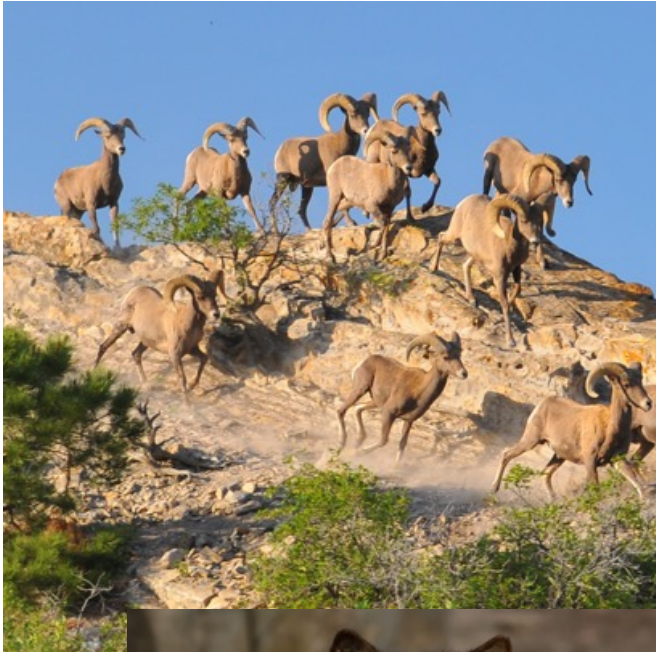


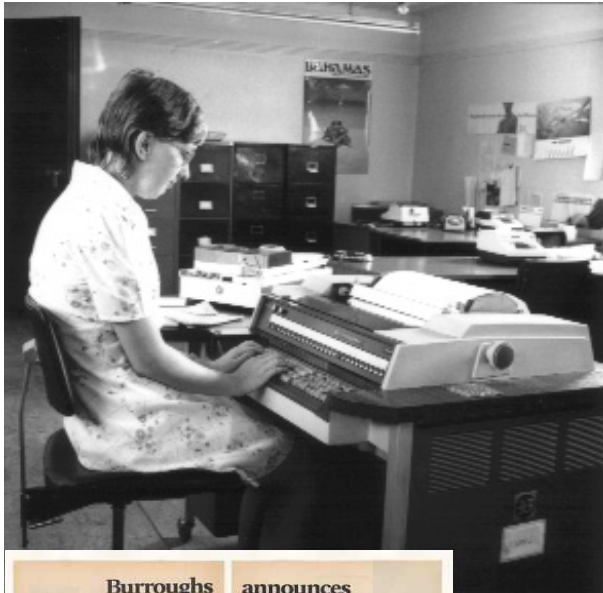
Life on the Bleeding Edge

Susan Coghlan, ALCF Future Systems Project Director

ATPESC 2018
July 29, 2018

Phoenix Zoo





CENTER FOR NON-LINEAR STUDIES



CENTER FOR NON-LINEAR STUDIES



BAD



GOOD

- 128 Pentium II 333Mhz CPUs arranged as 64 SMP nodes
- Myrinet high-speed interconnect
- 1/2 Terabyte RAID disk farm
- 32 Gigabytes RAM
- 320 Gigabyte local scratch disk



Little Blue Penguin Cluster

BLEEDING EDGE, LITERALLY

- 128 Pentium II 333Mhz CPUs arranged as 64 SMP nodes
- Myrinet high-speed interconnect
- 1/2 Terabyte RAID disk farm
- 32 Gigabytes RAM
- 320 Gigabyte local scratch disk



**Little Blue Penguin
Cluster**

LANL NIRVANA AND BLUE MOUNTAIN - SGI ORIGIN 2000





SCARY PROBLEMS

Intermittent wrong answers
File systems with corrupted data



ATP

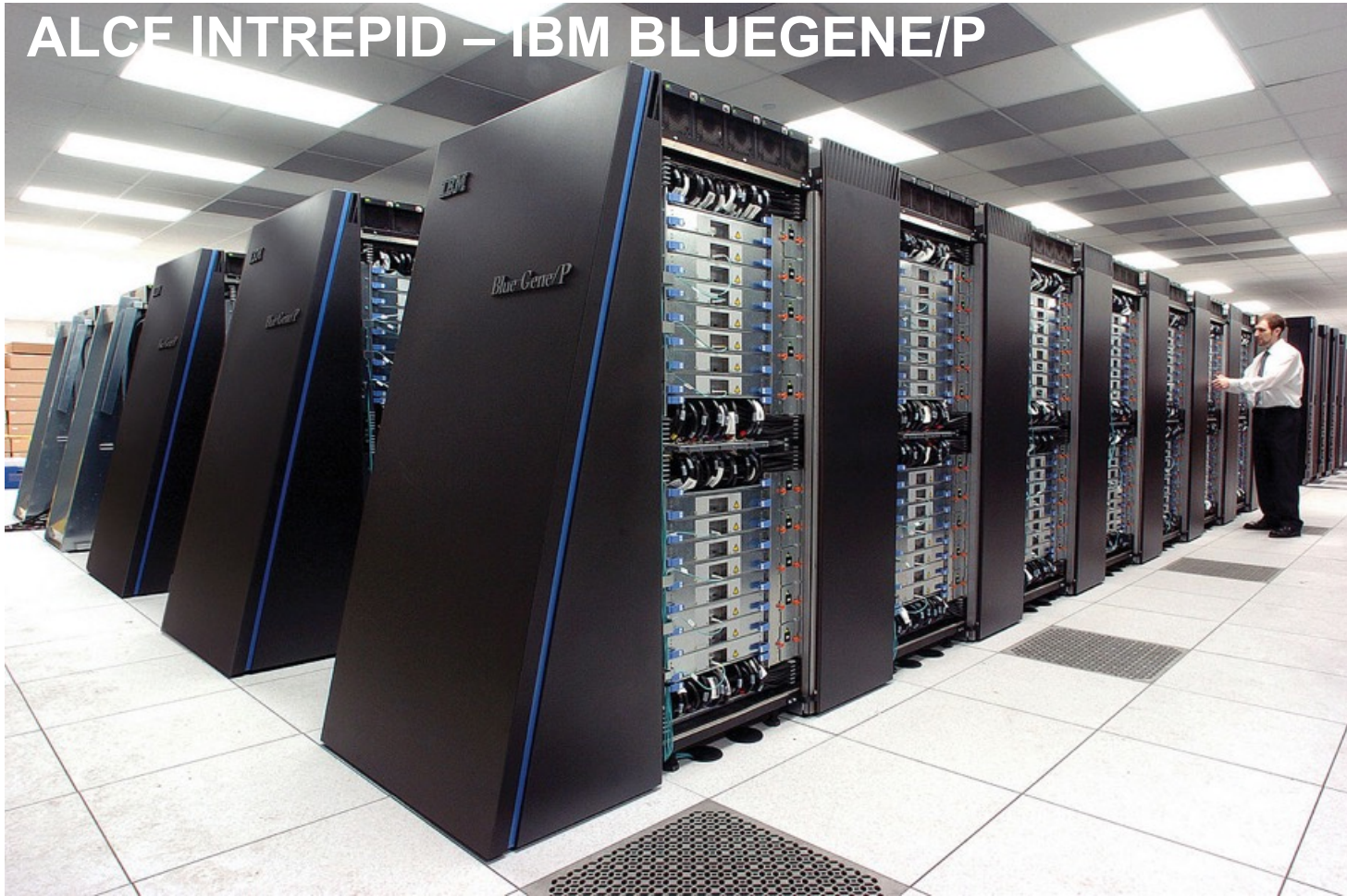
ARGONNE BGL – IBM BLUEGENE/L



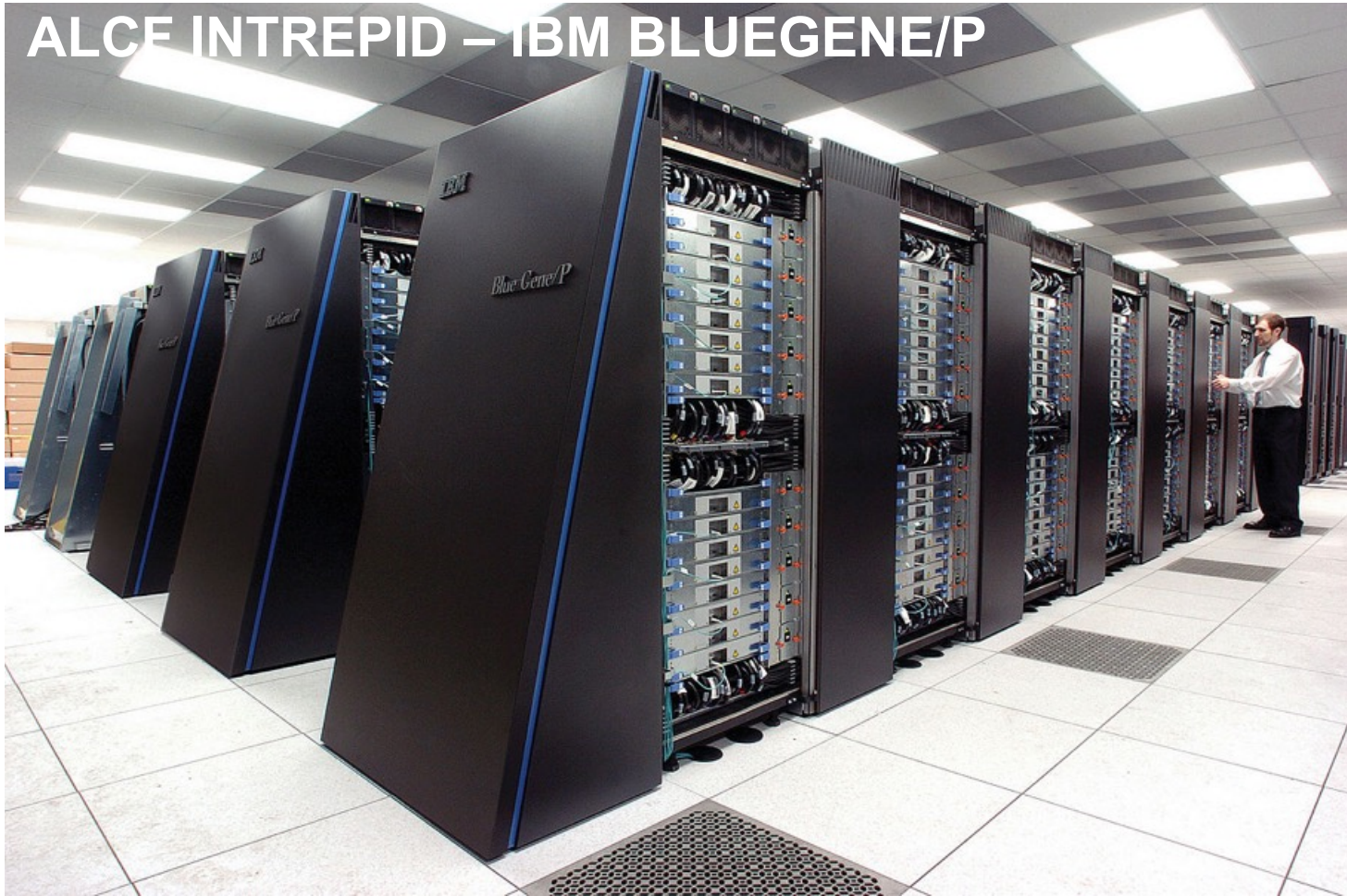
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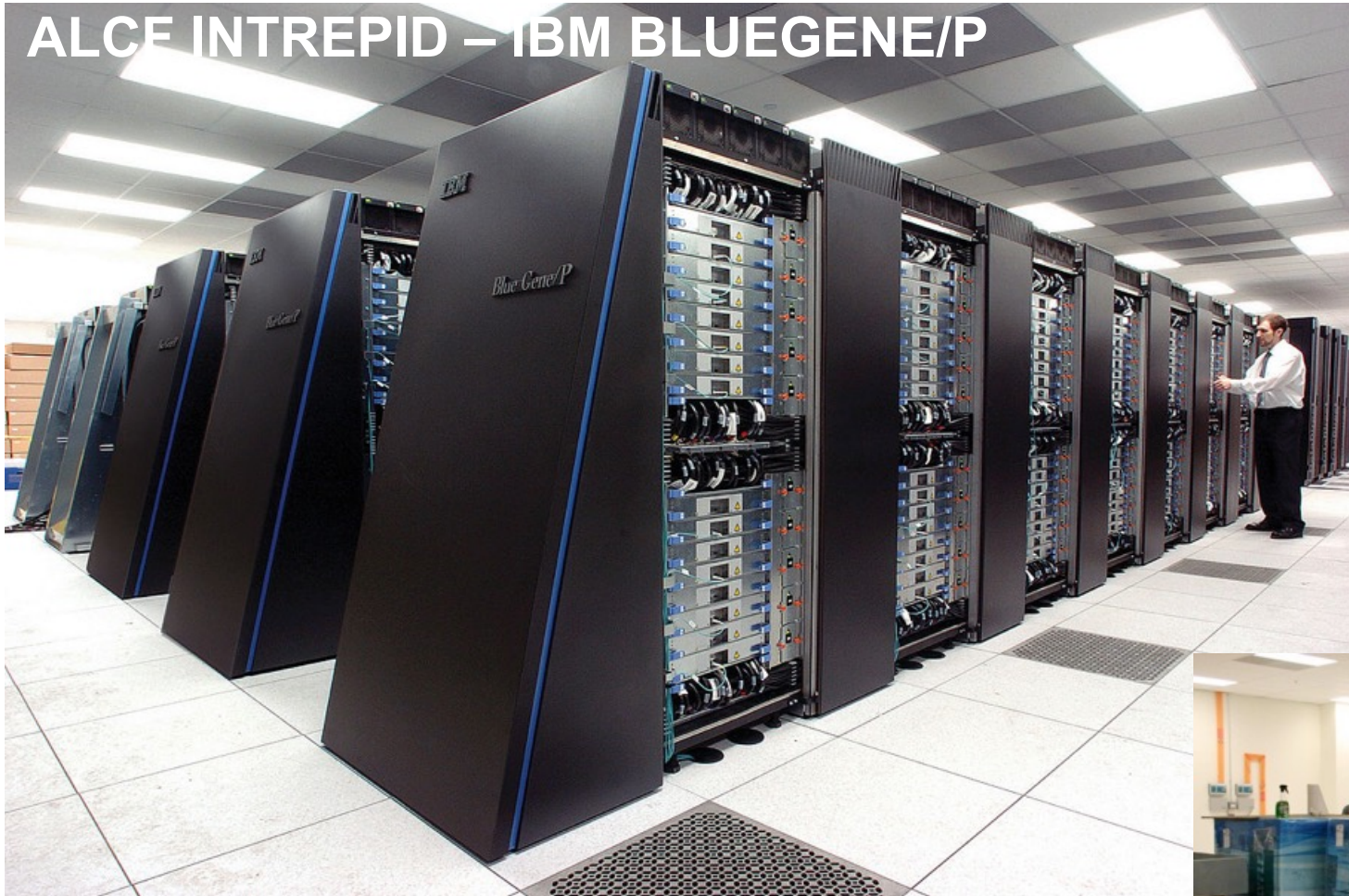
ALCF INTREPID – IBM BLUEGENE/P



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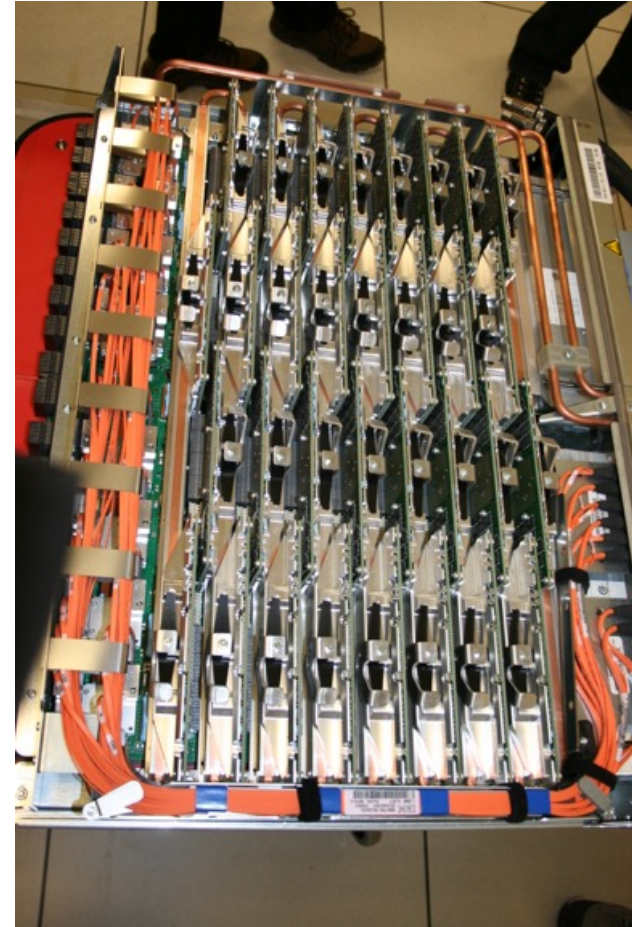
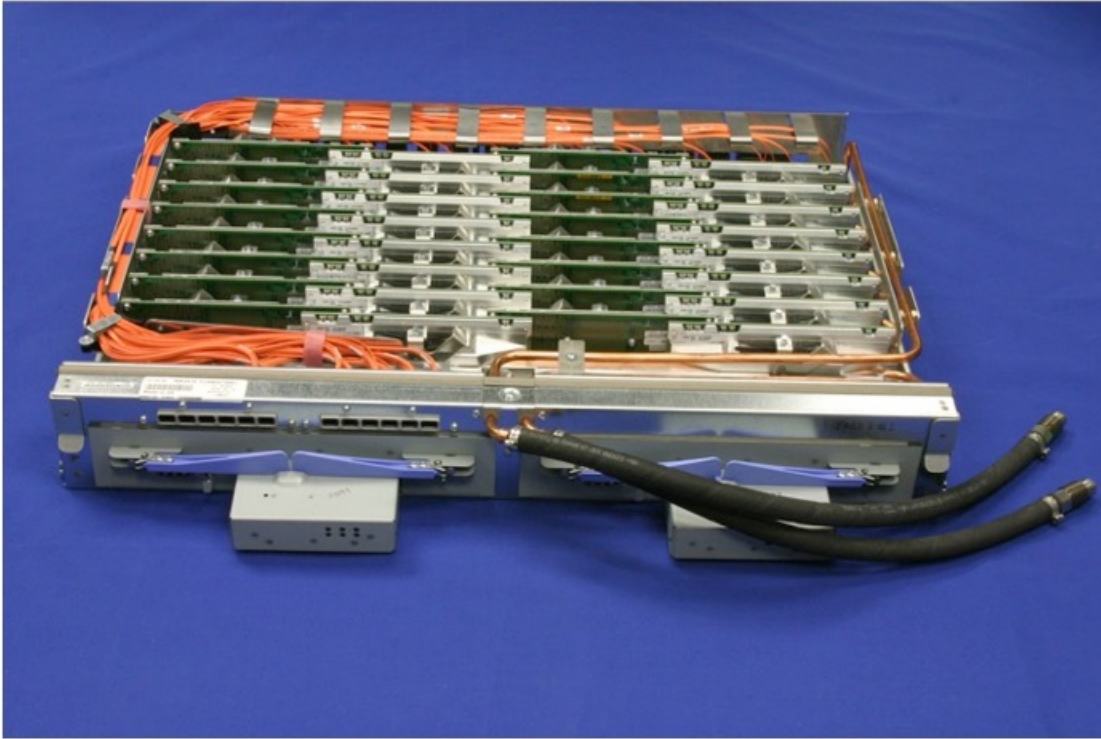


ATPESC 2018



ALCF MIRA – IBM BLUEGENE/Q











ATI

ARGONNE AURORA – FUTURE EXASCALE SYSTEM

- Over 1000 PF peak
- Delivery in 2021
- Supports Data, Learning, and Simulation
- New architecture
 - Some guidelines are available on the Early Science Program site:

<https://www.alcf.anl.gov/alcf-aurora-2021-early-science-program-data-and-learning-call-proposals>







Thank You