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LA-UR-15-27870
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Title:	HPC - Facilities Penta
Author(s):	Trujillo, Angelina Michelle
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Issued:	2015-10-08

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HPC Facilities

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Providing the Hardware Operations, Buildings, Power, and Cooling Infrastructure

Technology Drivers

Continuing need for more and higher fidelity physics and innovation in computing technology drives the need for constant change in computing platforms which drives the need for more and more capability physical infrastructure capabilities.

Current Fleet (2015)

Central Computing Facility (CCF

- Built in 1961
- 22,00 square feet
- 1.5 MW

Laboratory Data Communications Complex (LDCC)

- Built in 1989
- Computing floor space 20,000 square feet
- Data center electrical capacity 8 MW
- Data center air cooling capacity 9 MW
- Data center water cooling capacity 2 MW

Nicholas C. Metropolis Center for Modeling and Simulation

- Strategic Computing Complex (SCC)
  - Built in 2002
  - Computing floor space 44,000 square feet
  - Data center electrical capacity 19.2MW
  - Air cooling capacity 21 MW
  - Water cooling capacity 15 MW

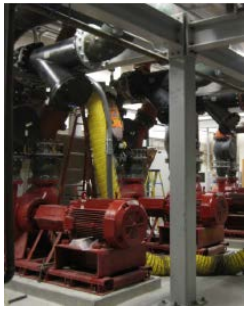
DESCRIPTION

Strategy, Planning, Acquiring- *very large scale computing require very large physical infrastructures, pipes, pumps, power, etc. Planning and acquiring $25M+ infrastructure projects and bringing in more power to the county takes a lot of long lead time / planning.*

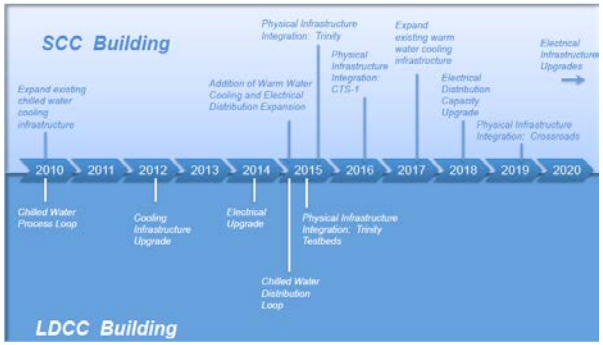
Integration- *New physical infrastructure must be integrated into our buildings, with the LANL site power and water systems, with existing infrastructure, and with the machines. Very large physical infrastructure projects are necessary.*

Management and Utilization – *Ongoing operations, monitoring, maintenance, and trouble shooting of the physical infrastructure is required.*

Pumps
Pipes
Power
Towers

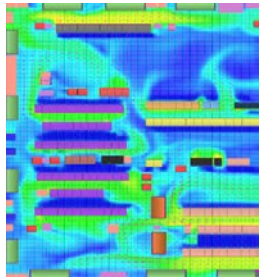


Planning



Water Treatment/Recycling

Heat modeling and management



Point of Contact: *(Cindy Martin, HPC-2, c_martin@lanl.gov)*