NNSA's Advanced Simulation and Computing Program

Leading High-Performance Computing

ASC™

10^{15} (petaFLOPS)

10^{12}

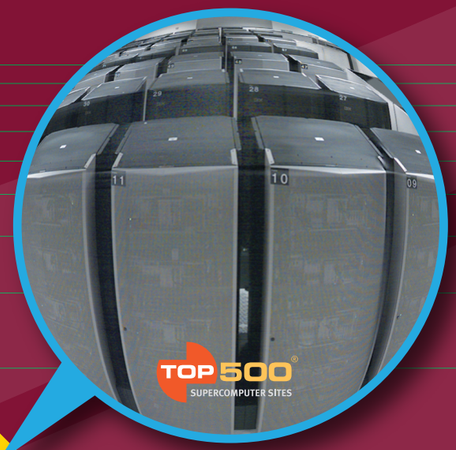
1996 2000 2004 2008 2012

Sandia National Laboratories

ASCI Red
- First sustained teraFLOPS machine
- 1 teraFLOPS
- #1 TOP500 6/97–11/00
- Intel

Lawrence Livermore National Laboratory

ASCI White
- First routinely shared tri-lab resource
- 12 teraFLOPS
- #1 TOP500 11/00–6/02
- IBM



Lawrence Livermore National Laboratory

ASCI Blue Pacific
- 3 teraFLOPS
- IBM

Los Alamos NATIONAL LABORATORY

ASCI Blue Mountain
- 3 teraFLOPS
- SGI

Lawrence Livermore National Laboratory

BlueGene/L
- First low-power “green” supercomputer
- 360 teraFLOPS
- #1 TOP500 11/04–6/08
- IBM

Los Alamos NATIONAL LABORATORY

Roadrunner
- First to break the petaFLOPS barrier
- Power-e cient hybrid computer (#3 on Green500)
- 1 petaFLOPS
- #1 TOP500 6/08–6/09
- IBM

Lawrence Livermore National Laboratory

ASC Purple
- 100 teraFLOPS
- IBM

Sandia National Laboratories

ASC Red Storm
- 40 teraFLOPS
- Cray

Los Alamos NATIONAL LABORATORY

ASCI Q
- 20 teraFLOPS
- Compaq

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Cielo
- 1 (est.) petaFLOPS

Lawrence Livermore National Laboratory

Sequoia
- 20 (est.) petaFLOPS

Lawrence Livermore National Laboratory Los Alamos NATIONAL LABORATORY Sandia National Laboratories

TLCC (Tri-Lab Linux Capacity Cluster)
- 438 teraFLOPS aggregate
- Appro

- ASC #1 Top500 winners
- ASC supercomputers
- ASC future supercomputers

NNSA
National Nuclear Security Administration