

PRObE: SYSTEMS TESTBED AT THE SCALE OF THOUSANDS

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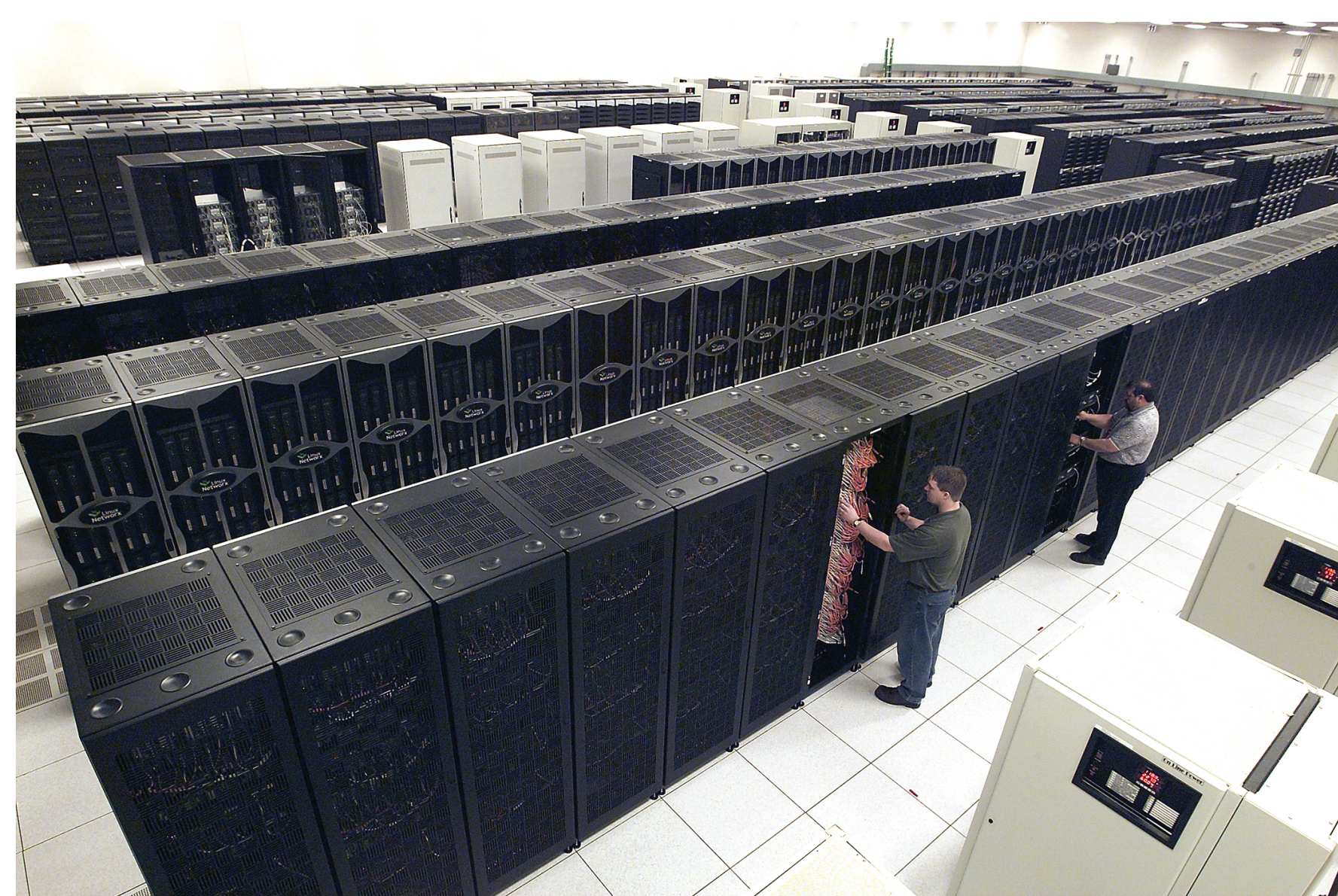
PRObE

Parallel Reconfigurable Observational Environment

- Funded by NSF 2010 – 2015
- Low level systems research center with large scale
- Days to weeks of dedicated usage of a large computer resource for projects from across the country
 - Physical and remote access
- Complete control of hardware and software
- Enables fault injection and failure statistics collection
- End-of-life destructive testing allowed
- NSF's "who can apply" rules
- Target communities:
 - High End Computing (SC)
 - Storage Systems (FAST)
 - Data-Intensive Computing (OSDI)

STATUS

- Achieving ~8 Gbps LANL to NMC and NMC to CMU
- Utah's 16 node development cluster is up and in use for Emulab development
- NMC has > 1000 nodes from LANL (dual socket, single core AMD Opteron, 4 GB/core, full fat-tree Myrinet)
- NMC is building out 3000 sq ft, 1.5 MW data center for these clusters, finishing any day now
- Plans for High-Core Count Cluster at CMU soon
 - Target > 1400 cores in nodes of 64 cores each, GPU, dual 10GE and QDR Infiniband
- Steering committee now working out usage and allocation policies
- Next community event: at SC11, Seattle, Nov 17, 10:30am-noon, Workforce Development Panel

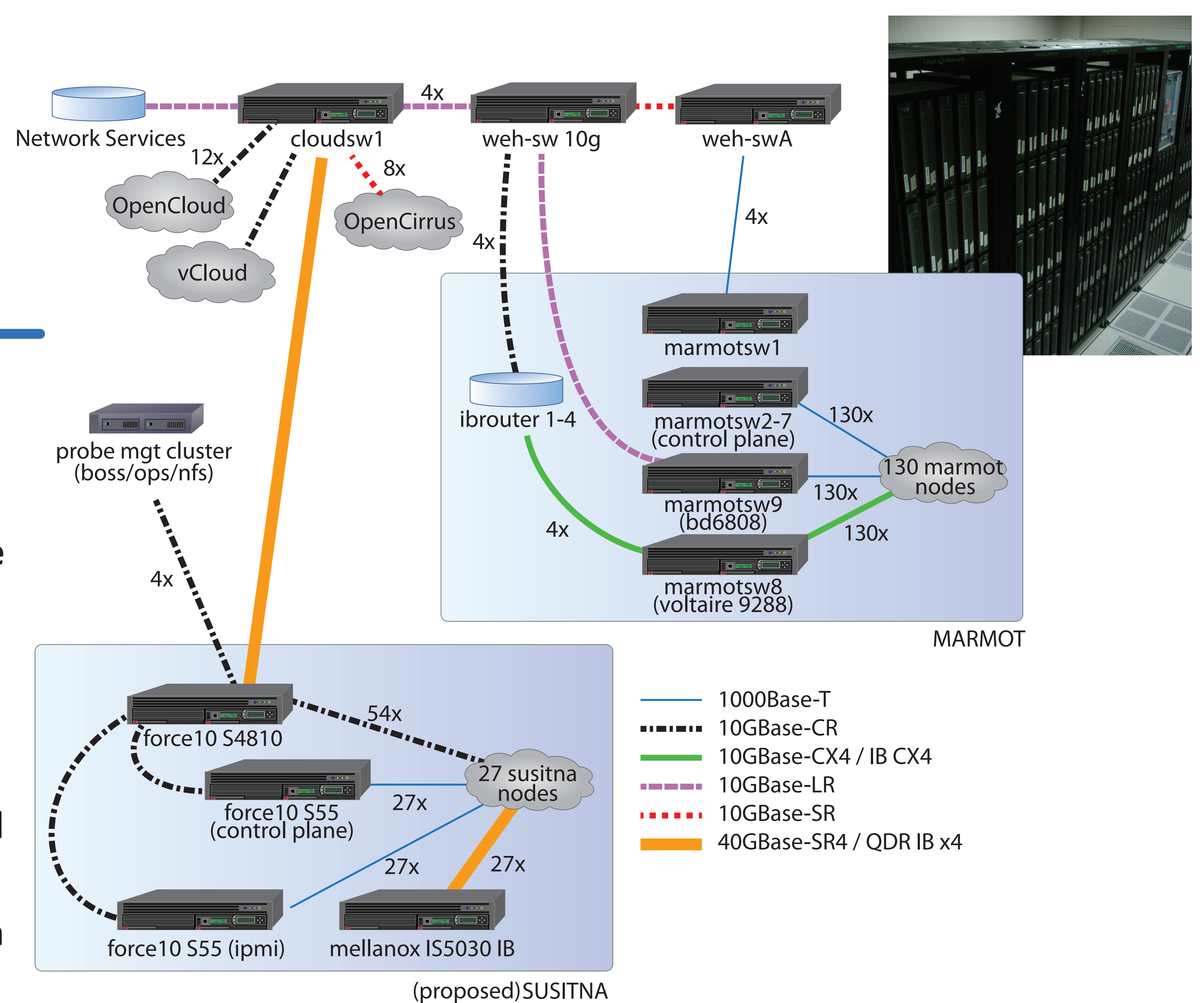


LANL Lightning

STEERING & SELECTION COMMITTEE

- Charter: 4 universities, 1 industry, 1 government
- April–June 2011: online nominations & voting
- 707 votes from 165 people at 81 institutions
 - Steven Gribble (UW)
 - Karsten Schwan (GaTech)
 - Robbert van Renesse (Cornell)
 - Margo Seltzer (Harvard)
 - Rob Ross (Argonne)
 - John Wilkes (Google)

CMU PRObE



EQUIPMENT ROLLOUT TIMELINE

