ALICE-USA
Grid-Deployment Plans

Or
(We Sometimes Feel Like and "AliEn" in our own Home…)

Larry Pinsky—Computing Coordinator
ALICE-USA

March 16,2005
LHC GDB Meeting
(Lyon)

L. Pinsky--ALICE-USA

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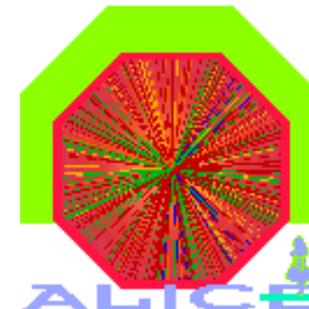
ALICE-USA Institutions

- 1 Creighton University
- 2 Kent State University
- 3 **Lawrence Berkeley National Laboratory**
- 4 Michigan State University
- 5 Oak Ridge National Laboratory
- 6 The Ohio State University
- 7 **The Ohio Supercomputing Center**
- 8 Purdue University
- 9 University of California, Berkeley
- 10 University of California, Davis
- 11 University of California, Los Angeles
- 12 **University of Houston**
- 13 University of Tennessee
- 14 University of Texas at Austin
- 15 Vanderbilt University
- 16 Wayne State University

Already Official Members of ALICE

Major Computing Sites
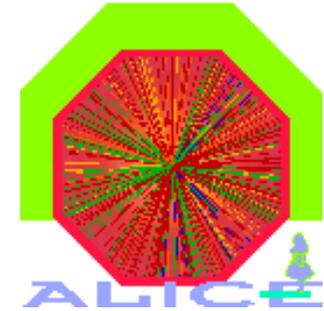
ALICE Computing Needs

From <http://pcaliweb02.cern.ch/NewAlicePortal/en/Collaboration/Documents/TDR/Computing.html> as posted 25 Feb. 2005

Table 2.6	T0	Sum T1s	Sum T2s	Total
CPU (MSI2K) [Peak]	7.5	13.8	13.7	35
Transient Storage (PB)	0.44	7.6	2.5	10.54
Permanent storage (PB/year)	2.3	7.5	0	9.8
Bandwidth in (Gbps)	8	2	0.075	
Bandwidth out (Gbps)	6	1.5	0.27	

ALICE-USA Target
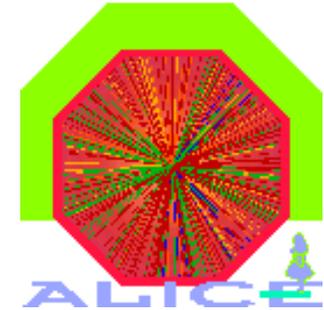
One Full External T1 with
Full Share of Supporting T2
Capabilities—Net in the US
[Based on 6 External T1s]

	year	2008	2009	2010
	% total	20	40	100
ALICE-USA sum (MSI2K)	CPU	0.69	1.38	3.44
ALICE-USA sum (PB)	Disk	0.25	0.51	1.26
ALICE-USA sum (PB/yr)	Perm. St.	0.19	0.38	0.94
ALICE-USA sum (Gbps)	Network	0.769	1.538	3.845
Each Major US site	CPU	0.23	0.46	1.15
(1/3 ALICE-USA sum)	Disk	0.08	0.17	0.42
	Perm. St.	0.06	0.13	0.31
	Network	0.256	0.513	1.282

Note OSC is a Member of
ALICE and has made this
Commitment *Now*…

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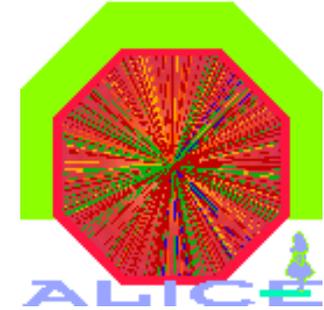
ALICE-USA Cost Estimates

- Assume the following costs:
  - A 2005 SI2k = $1 (e.g. $2.5k per dual Linux Box)
  - 2005 Transient Storage = $2.5k/TB
  - Permanent Storage = Transient/2

- Assume a Moore's Law Factor of 1.5/year

- Assume that ALICE-USA will ramp up like:
  - Beginning of 2008 = 20%
  - Beginning of 2009 = 40%
  - Beginning of 2010 = 100%
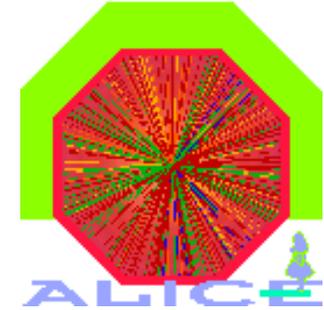
ALICE-USA Commitments

- OSC is commited now to getting NSF funding to Acquire this Level of Support.

- LBL (NERSC) & UH are DOE funded and Commited to supplying these resources contingent upon DOE's approval of the ALICE-USA EMCAL project.

- All three institutions CONTINUE TO SUPPORT THE DATA CHALLENGES…
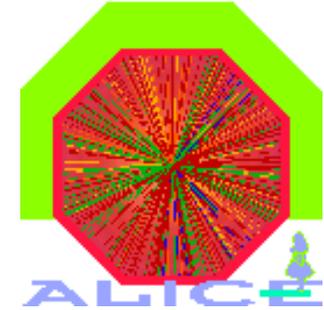
ALICE-USA Data Challenge Support

- Since 2002, ALICE USA has provided significant support for the Data Challenges.

- Most recently (2004) ALICE-USA supplied ~14% (106 MSI2k-Hours) of the total (755 MSI2k-Hours) CPU and external storage capacity.

- For 2005-2007 ALICE-USA intends to supply a similar fraction from existing commitments.
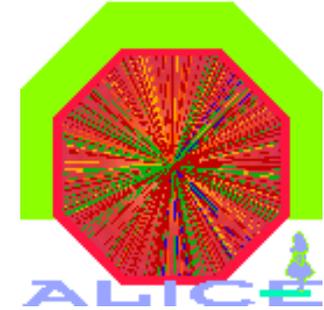
ALICE-USA Grid Middleware

- We will support ALICE's Needs with whatever Middleware is consistent with them…

- …As Well As what is consistent with our local needs in the US…

- Our institutions are participating in OSG in the US, and some are members of PPDG.