

Revised computing resource requirements

Following the announcement of the revised startup schedule of the LHC accelerator a meeting took place of the Chief Scientific Officer, the LHC Project Leader, the LCG Project Leader and the leaders of AB and IT Departments to make a new assessment of the probable number of seconds of physics beam during 2007 and 2008. Using these revised running time estimates three of the experiments, ALICE, ATLAS and LHCb, have revised their estimated requirements for computing resources. The running time assumptions and the revised estimates are available from a web page:

<http://lcg.web.cern.ch/LCG/mb/draft%5Frevised%5Fresources/>

The figures are summarized in the table on the following page, and compared with the previous estimated computing resource requirements documented in the computing TDRs. Note that these are *preliminary estimates, which have not been endorsed by the collaborations*.

CMS has also agreed informally with the management of the CERN physics services estimated resources for 2007 and 2008, which has enabled the CERN physics service management to begin preparatory discussions with the four experiments on planning for 2007.

It is important that CERN and the regional centres know very soon the resources that will be required to be available from 1 July 2007, in time allow the experiments to commission fully their computing systems before the first beams for physics. Some of the centres, including CERN, have lengthy acquisition processes which must be under way by the end of October.

I therefore propose that the Overview Board, taking into consideration the above information, makes the following recommendations:

1. That the experiments, including CMS, complete the process of revising their estimated requirements for 2007-2010 by the end of September.
2. That the agencies responsible for funding the Tier-1 centres, using these estimates and in discussion with the centres, prepare resource pledges that can be committed at the October meeting of the C-RRB

Les Robertson
LCG Project Leader
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Revised Estimated Computing Resource Requirements

			2007		2008		2009		2010		
				Δ		Δ		Δ		Δ	
cpu (MSI2K)	CERN	Total	3.78	-28%	13.40	-16%	16.75	-17%	21.09	-28%	
		ALICE	0.90	-73%	7.25	-13%	8.94	-17%	8.94	-36%	
		ATLAS	2.74	96%	5.79	-14%	6.56	-20%	10.27	-23%	
		LHCb	0.14	-74%	0.36	-60%	1.25	0%	1.88	0%	
	Ext.Tier-1s	Total	7.31	-38%	28.70	-31%	51.48	-21%	76.28	-25%	
		ALICE	3.03	-41%	10.23	-21%	18.43	10%	22.93	10%	
		ATLAS	3.57	-12%	16.70	-30%	27.50	-36%	45.00	-38%	
	Tier-2s	Total	8.77	-37%	33.08	-21%	54.32	-7%	84.62	0%	
		ALICE	4.17	-28%	9.63	-33%	15.97	-15%	15.97	-34%	
		ATLAS	2.78	-24%	18.90	-5%	30.70	-3%	61.00	15%	
	Totals	Total	19.86	-36%	75.18	-24%	122.55	-15%	181.99	-16%	
		ALICE	8.10	-43%	27.11	-24%	43.34	-6%	47.84	-19%	
		ATLAS	9.09	0%	41.39	-18%	64.76	-22%	116.27	-16%	
		LHCb	2.67	-66%	6.68	-48%	14.45	0%	17.88	0%	
	disk (PB)	CERN	Total	0.79	-52%	2.56	-46%	4.94	-22%	6.25	-25%
			ALICE	0.36	-49%	1.06	-39%	1.83	-19%	1.83	-36%
ATLAS			0.29	-37%	1.15	-49%	1.92	-33%	3.05	-25%	
LHCb			0.14	-72%	0.35	-52%	1.20	0%	1.36	0%	
Ext.Tier-1s		Total	3.70	-49%	13.82	-43%	26.64	-25%	45.90	-19%	
		ALICE	2.01	-33%	5.22	-30%	7.94	-21%	7.94	-36%	
		ATLAS	1.28	-54%	7.57	-47%	15.80	-29%	34.60	-15%	
Tier-2s		Total	1.85	-39%	8.57	-30%	15.00	-29%	31.60	-8%	
		ALICE	0.98	-30%	2.46	-30%	3.78	-28%	3.78	-56%	
		ATLAS	0.87	-46%	6.10	-30%	11.20	-30%	27.80	8%	
Totals		Total	6.34	-47%	24.94	-40%	46.58	-26%	83.75	-16%	
		ALICE	3.35	-34%	8.74	-31%	13.55	-23%	13.55	-43%	
		ATLAS	2.44	-50%	14.82	-42%	28.92	-30%	65.45	-7%	
		LHCb	0.55	-72%	1.39	-56%	4.12	0%	4.75	0%	
tape (PB)		CERN	Total	1.04	-69%	5.23	-59%	13.87	-42%	25.37	-34%
			ALICE	0.39	-73%	2.23	-56%	5.87	-40%	9.51	-40%
	ATLAS		0.40	-63%	2.37	-62%	5.15	-54%	11.29	-37%	
	LHCb		0.25	-69%	0.63	-54%	2.86	0%	4.57	0%	
	Ext.Tier-1s	Total	2.94	-47%	13.89	-33%	30.27	-26%	52.20	-24%	
		ALICE	1.97	-29%	7.03	-28%	13.98	-25%	20.93	-31%	
		ATLAS	0.63	-59%	6.00	-33%	12.00	-33%	24.20	-22%	
	Tier-2s	Total	0.34	-72%	0.86	-59%	4.29	0%	7.07	0%	
		ALICE	1.97	-29%	7.03	-28%	13.98	-25%	20.93	-31%	
		ATLAS	0.63	-59%	6.00	-33%	12.00	-33%	24.20	-22%	
	Totals	Total	3.98	-55%	19.12	-43%	44.14	-32%	77.56	-28%	
		ALICE	2.36	-44%	9.26	-38%	19.85	-31%	30.44	-34%	
		ATLAS	1.03	-60%	8.37	-45%	17.15	-41%	35.49	-28%	
		LHCb	0.60	-71%	1.49	-57%	7.14	0%	11.63	0%	