pre-GDB 06 Nov 2007 CCRC08 Planning (1/5)

Prepared first draft of 'extra' resources required for February run of CCRC'08 not including 2nd pass reconstruction at Tier-1 except for LHCb. Assuming 14 days running.

•Raised many assumptions for decision, some global, some per experiment

ALL:

• what LHC machine efficiency to build in. I have taken 100% in table in slide 4.

•Are the parallel monte-carlo resource requirements already included in the 2008 plans

•What are the storage resource requirements at Tier1for 2nd pass reconstruction and copies to other Tier1. I have assumed full 2008 cpu is required.

•What ramp-up profile over the two weeks ?

ALICE:

•Predicting 60MB/sec out of CERN Raw+Aod while nominal is 1 MB events + 0.1 MB ESD at 100 Hz. Machine efficiency factor or what assumptions ?

•Will be mixture of detector (to be kept) and MC (to be deleted) – how much of each ?

•Complete copy of Raw to tape at Tier1 while ESD to disk only at Tier1. ALICE model implies all Tier1 disk is T1D1 where the disk residency is managed by ALICE ?

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ATLAS:

- I have assumed full nominal rates so Tier0 raw export at 320 MB/s, ESD export at 508 MB/s (2 complete copies exported plus a complete copy to BNL) and AOD export at 200 MB/s (complete AOD to all 10 sites). Raw to tape, ESD and AOD to disk.

- Any data to be kept ?

CMS:

- Have assumed 600 MB/s for FEVT data Tier0 to Tier1, all to go to T1D0. What should be the T1D1 component.

- Also a mixture of cosmics (to be kept) and MC (to be deleted). Which fractions ?

LHCb:

- Gave full storage matrix for Raw, rDST and M-DST+DST. For the last says 8+6x8 TB (8 TB T1D1+40TB T0D1) . Why 40TB with 6 external Tier1 ?

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	Period	Version 5.11.2007: 1Q2008 WLCG Service Coordination Planning for LCG Tier 1 Capacity: Planned pledges, Available and Required by Experiments for February CCRC'08																								
2	1Q2008	Tier 1 Capacity: Available vs. Required (Scheduled)									CCRC08 Feb Capacity Required by LHC Experiments and Site Sep. Disk Allocations															
3	WLCG	CPU KSi2K			Disk TB			Tape TB			ALICE				ATLAS				CMS				LHCb			
4	Site	2007/8 pledge	Installed	Required	2007/8 pledge	Installed	Required	2007/8 pledge	Installed	Required	CPU	Disk	Alloc.	Tape	CPU	Disk	Alloc.	Tape	CPU	Disk	Alloc.	Tape	CPU	Disk	Alloc.	Tape
5	ASGC	1770	1770	2467	900	1350	54	800	800	125					1123	54	67	24	1344	0	218	101				
6	CC-IN2P3	1286	2568	5074	729	1394	94	745	1469	145	1414	1	275	9	2356	87	601	50	1056	0	346	80	248	6	173	6
7	FZK/GridKa	1860	1864	7045	880	878	78	1010	1007	155	3939	2	200	26	1812	73	280	39	1152	0	330	87	142	3	68	3
8	INFN/CNAF	1300	1300	3994	500	500	78	650	650	110	1111	1	22	7	1812	73	74	39	912	0	110	60	159	4	51	4
9	NDGF	688	688	2633	385	240	47	273	112	29	1818	1		12	815	46		17								
10	PIC	501	1000	1432	218	560	58	243	600	59					815	46	78	17	528	0	132	40	89	12	36	2
11	RAL	1300	820	3714	640	330	84	1080	390	119	152	0	21	1	2174	82	114	46	768	0	120	58	620	2	64	14
12	SARA-NIKHEF	1677	774	3334	1059	253	100	719	52	64	556	1	3	4	2265	85	41	48					513	14	39	12
13	TRIUMF	160	905	779	110	500	45	80	385	17					779	45	23	17								
14	US-ATLAS BNL	2560	4900	4167	1100	2000	266	603	1000	89					4167	266	520	89								
15	US-CMS FNAL	1792	2250	3840	700	720	0	300	500	290									3840	0	700	290				
16	US-ALICE		180	1111		45	1		35	7	1111	1		7												
17																										
18	TOTALS	14894	19019	39590	7221	8770	905	6503	7000	1209	10101	7	521	66	18118	857	1798	386	9600	0	1956	716	1771	41	431	41
19	CERN Tier-0	4480			330			1620			1800	6		73	3705	266		653	5300	0		726	360	16		61
20	CERN CAF	3090			960			790			500	100		0	800	200		60	1900	400		400	0	30		0
21	CERN Tier-1										0	0		0												
22	CERN Total	7570	11000	14365	1290	2500	1018	2410	5000	1973	2300	106	286	73	4505	466	390	713	7200	400	331	1126	360	46	179	61

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Period	Version 06.11.2007: 2Q2008 WLCG Service Coordination Planning for LCG Tier 1 Capacity: Planned pledges, Available and Required by Experiments for May CCRC'08																							
2Q2008	Tier 1 Capacity: Available vs. Required (Scheduled)									Scheduled Capacity Required by LHC Experiments and *Site Sep. Disk Allocations*														
WLCG Site	CPU KSi2K			Disk TB			Tape TB			ALICE				ATLAS				CMS				LHCb			
	2008/9 pledge	Installed	Required	2008/9 pledge	Installed	Required	2008/9 pledge	Installed	Required	CPU	Disk	*Alloc.*	Tape	CPU	Disk	*Alloc.*	Tape	CPU	Disk	*Alloc.*	Tape	CPU	Disk	*Alloc.*	Tape
ASGC	3400	1770	2467	1500	1350	108	1300	800	250					1123	108	*67*	48	1344	0	*218*	202				
CC-IN2P3	4490	2568	5074	2391	1394	188	2556	1469	290	1414	2	*275*	18	2356	174	*601*	100	1056	0	*346*	160	248	12	*173*	12
FZK/GridKa	5672	4522	7045	2933	2293	156	3629	2829	310	3939	4	*200*	52	1812	146	*280*	78	1152	0	*330*	174	142	6	*68*	6
INFN/CNAF	3000	1300	3994	1300	500	156	1500	650	220	1111	2	*22*	14	1812	146	*74*	78	912	0	*110*	120	159	8	*51*	8
NDGF	2172	688	2633	1079	240	94	930	112	58	1818	2		24	815	92		34								
PIC	1509	1509	1432	967	560	116	953	600	118					815	92	*78*	34	528	0	*132*	80	89	24	*36*	4
RAL	5220	820	3714	2790	330	169	2070	390	238	152	1	*21*	2	2174	164	*114*	92	768	0	*120*	116	620	4	*64*	28
SARA-NIKHEF	4382	774	3334	2510	253	200	1813	52	128	556	2	*3*	8	2265	170	*41*	96					513	28	*39*	24
TRIUMF	905	905	779	500	500	90	385	385	34					779	90	*23*	34								
US-ATLAS BNL	4844	4900	4167	3136	2000	532	1715	1800	178					4167	532	*520*	178								
US-CMS FNAL	4300	2250	3840	2000	720	0	4700	500	580									3840	0	*700*	580				
US-ALICE		180	1111			45	2		35	14	1111	2		14											
TOTALS	39894	22186	39590	21106	10185	1811	21551	9622	2418	10101	15	*521*	132	18118	1714	*1798*	772	9600	0	*1956*	1432	1771	82	*431*	82
CERN Tier-0	11170		11165	2423		976	10780		3026	1800	12		146	3705	532		1306	5300	400		1452	360	32		122
CERN CAF	4680			3126			1270			500				2081				2100							
CERN Total	15850	15850	15846	5549	5549	976	12050	12050	3026	2300	12	*286*	146	5786	532	*390*	1306	7400	400	*331*	1452	360	32	*179*	122

pre-GDB 06 Nov 2007 CCRC08 Planning (5/5)

Without including Tier1 ESD production (usually T1D1 at the production site and T0D1 at the copied Tier1 sites) extra requirements from 2 weeks full nominal 2008 p-p running at 100% LHC efficiency in February require:

• About 2-3 times the currently installed cpu at Tier0 and most Tier1 (BNL OK)

• From 5 to 15% of the currently installed disk capacity but higher at NL-T1 (reported as 253 TB disk installed ?), and at CERN if the full CAF requirements are needed.

• From 10-20% of the currently installed tape capacity but 100% at NL-T1 (reported as 52 TB tape installed ?).

Without including Tier1 ESD production (usually T1D1 at the production site and T0D1 at the copied Tier1 sites) extra requirements from 4 weeks full nominal 2008 p-p running at 100% LHC efficiency in May require:

• Full 2Q2008 cpu capacity to be installed – current hard planning is for 55% to be available.

• Will take 9% of pledged disk capacity – current hard planning is for 50%.

• Will take 11% of pledged tape capacity – current hard planning is for 45%.