

Summary of Regional Centre Capacities 06/04/2006

Tier-1 Planning for 2008		ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU - MSI2K	Offered	6.7	22.9	11.6	4.4	45.6
	TDR Requirements	12.3	24.0	15.2	4.4	55.9
	Balance	-46%	-5%	-24%	-0%	-18%
Disk - PBytes	Offered	2.7	12.5	5.5	2.2	22.9
	TDR Requirements	7.4	14.4	7.0	2.4	31.2
	Balance	-63%	-13%	-21%	-10%	-26%
Tape - PBytes	Offered	3.1	9.1	9.6	1.9	23.7
	TDR Requirements	6.9	9.0	16.7	2.1	34.7
	Balance	-55%	1%	-42%	-9%	-32%

Includes current planning for all Tier-1 centres

Tier-2 Planning for 2008		ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU - MSI2K	Offered	6.0	19.5	18.2	3.7	47.4
	TDR Requirements	14.4	19.9	19.3	7.7	61.3
	Balance	-58%	-2%	-6%	-51%	-23%
Disk - PBytes	Offered	1.4	5.9	4.6	0.7	12.6
	TDR Requirements	3.5	8.7	4.9	n/a	17.1
	Balance	-59%	-32%	-5%	n/a	-26%

Tier-2 federations - included(expected) 16 (17) 24 (30) 26 (29) 11 (12) 41 (49)

Tier-0 Planning for 2008		ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU - MSI2K	Offered	3.3	4.0	4.6	0.6	12.5
	TDR Requirements	3.3	4.0	4.6	0.6	12.5
	Balance	0%	0%	0%	0%	0%
Disk - PBytes	Offered	0.2	0.4	0.4	0.3	1.3
	TDR Requirements	0.2	0.4	0.4	0.3	1.3
	Balance	0%	0%	0%	0%	0%
Tape - PBytes	Offered	2.5	5.7	4.9	0.5	13.6
	TDR Requirements	2.5	5.7	4.9	0.5	13.6
	Balance	0%	0%	0%	0%	0%

CAF Planning for 2008		ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU - MSI2K	Offered	3.9	2.1	3.8	0.3	10.0
	TDR Requirements	5.0	2.7	4.8	0.3	12.8
	Balance	-22%	-22%	-22%	-21%	-22%
Disk - PBytes	Offered	1.2	1.5	1.2	0.4	4.2
	TDR Requirements	1.5	1.9	1.5	0.5	5.3
	Balance	-20%	-20%	-20%	-20%	-20%
Tape - PBytes	Offered	0.9	0.4	1.5	0.7	3.4
	TDR Requirements	1.2	0.5	1.9	0.9	4.4
	Balance	-23%	-23%	-23%	-23%	-23%

DRAFT LCG Tier 0 and 1 Resources DRAFT

CERN Tier0	2004	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)			2400	4800	12500	15900	26200	Required	3300	4030	4600	570	12500
								Offered	3300	4030	4600	570	12500
								% of Req.	100%	100%	100%	100%	100%
Disk (Tbytes)			230	450	1260	1330	1770	Required	240	350	400	270	1260
								Offered	240	350	400	270	1260
								% of Req.	100%	100%	100%	100%	100%
Tape (Tbytes)			1500	3400	13600	23600	33900	Required	2480	5680	4900	500	13560
								Offered	2500	5700	4900	500	13600
								% of Req.	101%	100%	100%	100%	100%
Nominal WAN (Mbits/sec)	30000	60000	80000	100000	120000	140000	160000						

CERN Analysis Facility	2004	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)			1000	4320	10000	14600	15000	Required	5000	2650	4800	330	12780
								Offered	3900	2080	3760	260	10000
								% of Req.	78%	78%	78%	79%	78%
Disk (Tbytes)			540	1550	4200	5200	5300	Required	1450	1850	1500	450	5250
								Offered	1160	1480	1200	360	4200
								% of Req.	80%	80%	80%	80%	80%
Tape (Tbytes)				1480	3400	5700	5900	Required	1160	520	1900	860	4440
								Offered	890	400	1460	660	3410
								% of Req.	77%	77%	77%	77%	77%

Canada Tier1	2004	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)			50	380	1270	2285		Offered		1270			1270
								% of Total		5%			5%
Disk (Tbytes)			11	265	740	1110		Offered		740			740
								% of Total		5%			5%
Tape (Tbytes)			25	145	485	890		Offered		485			485
								% of Total		5%			5%
Nominal WAN (Mbits/sec)					10000	10000	10000						

FZK-GridKa	2004	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	330	530	1027	2007	7145	11545	17388	Offered	2900	2400	1200	645	7145
								% of Total	24%	10%	8%	15%	13%
Disk (Tbytes)	59	83	284	908	3254	5152	8075	Offered	1000	1440	650	164	3254
								% of Total	14%	10%	9%	7%	10%
Tape (Tbytes)	100	150	393	1053	3472	7514	11763	Offered	1500	900	900	172	3472
								% of Total	22%	10%	5%	8%	10%
Nominal WAN (Mbits/sec)	2000	10000	10000	10000	20000	20000	20000						

IN2P3 Lyon	2004	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	247	402	1171	2666	6769	10464	17325	Offered	1058	3021	1490	1200	6769
								% of Total	9%	13%	10%	27%	12%
Disk (Tbytes)	42	86	516	1591	3790	5376	8435	Offered	589	1763	780	658	3790
								% of Total	8%	12%	11%	27%	12%
Tape (Tbytes)	136	177	535	1453	3464	6384	9902	Offered	576	1153	1180	555	3464
								% of Total	8%	13%	7%	26%	10%
Nominal WAN (Mbits/sec)	2500	5000	10000	10000	10000	10000	10000						

INFN CNAF	2004	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		1300	1800	2400	5500	8000	11500	Offered	1210	1760	1925	605	5500
								% of Total	10%	7%	13%	14%	10%
Disk (Tbytes)		200	850	1200	2500	4000	5800	Offered	550	800	875	275	2500
								% of Total	7%	6%	13%	11%	8%
Tape (Tbytes)		460	850	1000	2100	4100	6000	Offered	462	672	735	231	2100
								% of Total	7%	7%	4%	11%	6%
Nominal WAN (Mbits/sec)		2000	5000	10000	20000	30000	40000						

Netherlands LHC/Tier1	2004	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	180	300	306	1677	4382	7544	12305	Offered	317	3048		1017	4382
								% of Total	3%	13%		23%	11%
Disk (Tbytes)	9	150	168	1059	2510	3753	6149	Offered	173	1778		559	2510
								% of Total	2%	12%		23%	10%
Tape (Tbytes)	10	70	143	719	1813	3548	5736	Offered	173	1163		477	1813
								% of Total	3%	13%		23%	10%
Nominal WAN (Mbits/sec)	10000	10000	10000	10000	10000	10000	10000						

NDGF Tier1	2004	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		363	520	1345	2612	3470	4280	Offered	1150	1462			2612
								% of Total	9%	6%			5%
Disk (Tbytes)		80	165	444	888	1510	2180	Offered	390	498			888
								% of Total	5%	3%			3%
Tape (Tbytes)		130	240	435	872	1502	2261	Offered	384	488			872
								% of Total	6%	5%			3%
Nominal WAN (Mbits/sec)		1000	2000	5000	10000	20000	20000						

ASGC Taipei	2004	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	166	500	950	1770	3400	3600		Offered		1870	1530		3400
								% of Total		8%	10%		9%
Disk (Tbytes)	24	120	400	900	1500	2373		Offered		825	675		1500
								% of Total		6%	10%		7%
Tape (Tbytes)	20	140	500	800	1300	2000		Offered		715	585		1300
								% of Total		8%	4%		5%
Nominal WAN (Mbits/sec)	2400	2400	4800	10000	10000	10000							

UK Tier1	2004	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		651	980	1492	2712	4206	5857	Offered	48	1571	449	644	2712
								% of Total	0%	7%	3%	15%	5%
Disk (Tbytes)		174	450	841	1484	2087	3020	Offered	26	888	227	343	1484
								% of Total	0%	6%	3%	14%	5%
Tape (Tbytes)		250	664	1080	2074	3934	5710	Offered	26	1032	670	346	2074
								% of Total	0%	11%	4%	16%	6%
Nominal WAN (Mbits/sec)	2500	2500	2500	10000	10000	10000	10000						

US-ATLAS Tier1	2004	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	200	500	1125	2558	5300	9520	16266	Offered		5300			5300
								% of Total		22%		22%	
Disk (Tbytes)	84	225	525	1108	3093	4619	8374	Offered		3093			3093
								% of Total		21%		21%	
Tape (Tbytes)	57	168	300	603	2023	3707	6175	Offered		2023			2023
								% of Total		22%		22%	
Nominal WAN (Mbits/sec)	622	2488	2488	9952	19904	29856	39808						

US-CMS Tier1	2004	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	82	167	728	1792	4256			Offered			4256		4256
								% of Total			28%		28%
Disk (Tbytes)	46	65	100	700	1986			Offered			1986		1986
								% of Total			28%		28%
Tape (Tbytes)			250	300	4700			Offered			4700		4700
								% of Total			28%		28%
Nominal WAN (Mbits/sec)													

Spain PIC	2004	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)			250	749	2246	3369	5054	Offered		1200	760	286	2246
								% of Total		5%	5%	7%	5%
Disk (Tbytes)			136	409	1226	1839	2759	Offered		720	350	156	1226
								% of Total		5%	5%	7%	5%
Tape (Tbytes)			158	474	1422	2132	3198	Offered		450	835	137	1422
								% of Total		5%	5%	7%	5%
Nominal WAN (Mbits/sec)			1000	2500	10000	10000	10000						

Summary Tier1s	2004	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	1205	4713	8907	18836	45592	64003	89975	Offered	6683	22902	11610	4397	45592
								TDR Req.	12300	24000	15200	4400	55900
								Balance	-46%	-5%	-24%	0%	-18%
Disk (Tbytes)	264	1183	3605	9425	22971	31819	44792	Offered	2728	12545	5543	2155	22971
								TDR Req.	7400	14400	7000	2400	31200
								Balance	-63%	-13%	-21%	-10%	-26%
Tape (Tbytes)	323	1545	4058	8062	23725	35711	50745	Offered	3121	9081	9605	1918	23725
								TDR Req.	6900	9000	16700	2100	34700
								Balance	-55%	1%	-42%	-9%	-32%

During the 4 months after the end of heavy-ion runs ALICE requires the totality of its CERN resources in the T0. The rest of the time its CERN resources are shared between T0 (for pp reconstruction) and CAF.

The left part of the tables for each T1 shows the planned ramp-up of capacities. A yellow background indicates extrapolations, not yet covered by approved budgets.

The percentages in the right part of the T1 tables give for each T1 the percentage of the requirements of each experiment provided by this T1 and the percentage of the sum of requirements of the experiments served by this T1 and provided by this T1.

Requirements for all experiments are for 2008 and compared with 2008 pledges.

The left part of the summary table is just the sum of all the pledged capacities where summing up is meaningful.

Years 2009 and 2010 are obviously too small, as several centres have not provided the corresponding input.

The right side provides the split onto the experiments for the reference year.

TDR Requirements 2008	ALICE	ATLAS	CMS	LHCb	SUM
CPU (kSI2K)	12300	24000	15200	4400	55900
Disk (Tbytes)	7400	14400	7000	2400	31200
Tape (Tbytes)	6900	9000	16700	2100	34700
Number of T1s	6	10	7	6	n/a

CERN Tier0	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	2400	4800	12500	15900	26200	
Disk (Tbytes)	230	450	1300	1300	1800	
Tape (Tbytes)	1500	3400	13600	23600	33900	
Nominal WAN (Mbits/sec)	80000	100000	120000	140000	160000	

CERN Analysis Facility	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	1000	4320	10000	14600	15000	
Disk (Tbytes)	540	1600	4200	5200	5300	
Tape (Tbytes)		1480	3400	5700	5900	

TRIUMF, Canada	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	50	380	1270	2280		
Disk (Tbytes)	11	260	740	1100		
Tape (Tbytes)	25	140	480	890		
Nominal WAN (Mbits/sec)			10000	10000	10000	

FZK-GridKA, Germany	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	1030	2010	7140	11500	17400	
Disk (Tbytes)	280	910	3300	5200	8100	
Tape (Tbytes)	393	1050	3470	7510	11800	
Nominal WAN (Mbits/sec)	10000	10000	20000	20000	20000	

CC-IN2P3, France	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	1170	2670	6770	10500	17300	
Disk (Tbytes)	520	1600	3800	5400	8400	
Tape (Tbytes)	535	1450	3460	6380	9900	
Nominal WAN (Mbits/sec)	10000	10000	10000	10000	10000	

CNAF, Italy	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	1800	2400	5500	8000	11500	
Disk (Tbytes)	850	1200	2500	4000	5800	
Tape (Tbytes)	850	1000	2100	4100	6000	
Nominal WAN (Mbits/sec)	5000	10000	20000	30000	40000	

Netherlands LHC/Tier1	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	306	1680	4380	7540	12300	
Disk (Tbytes)	170	1100	2500	3800	6100	
Tape (Tbytes)	143	719	1810	3550	5740	
Nominal WAN (Mbits/sec)	10000	10000	10000	10000	10000	

Nordic Data Grid Facility	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	520	1340	2610	3470	4280	
Disk (Tbytes)	160	440	890	1500	2200	
Tape (Tbytes)	240	435	872	1500	2260	
Nominal WAN (Mbits/sec)	2000	5000	10000	20000	20000	

ASGC, Taipei	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	950	1770	3400	3600		
Disk (Tbytes)	400	900	1500	2400		
Tape (Tbytes)	500	800	1300	2000		
Nominal WAN (Mbits/sec)	4800	10000	10000	10000		

RAL, UK	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	980	1490	2710	4210	5860	
Disk (Tbytes)	450	840	1500	2100	3000	
Tape (Tbytes)	664	1080	2070	3930	5710	
Nominal WAN (Mbits/sec)	2500	10000	10000	10000	10000	

BNL, US	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	1120	2560	5300	9520	16300	
Disk (Tbytes)	520	1100	3100	4600	8400	
Tape (Tbytes)	300	603	2020	3710	6180	
Nominal WAN (Mbits/sec)	2490	9950	19900	29900	39800	

FNAL, US	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	728	1790	4260			
Disk (Tbytes)	100	700	2000			
Tape (Tbytes)	250	300	4700			
Nominal WAN (Mbits/sec)						

PIC, Spain	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	250	749	2250	3370	5050	
Disk (Tbytes)	140	410	1200	1800	2800	
Tape (Tbytes)	158	474	1420	2130	3200	
Nominal WAN (Mbits/sec)	1000	2500	10000	10000	10000	

Australia, University of Melbourne	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	60	150	300	500	700	
Disk (Tbytes)	10	200	300	400	500	
Nominal WAN (Mbits/sec)						

China, IHEP, Beijing	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	100	500	1000	1400	2000	
Disk (Tbytes)	20	50	200	400	600	
Nominal WAN (Mbits/sec)						

Czech Rep., FZU AS, Prague	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	220	300	1000	2000		
Disk (Tbytes)	100	130	480	1000		
Nominal WAN (Mbits/sec)						

Finland, NDGF/HIP Tier-2	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	47	400	900	1400	2300	
Disk (Tbytes)	8	100	200	400	700	
Nominal WAN (Mbits/sec)						

France, CC-IN2P3, AF	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	44	1380	3600	5620	9860	
Disk (Tbytes)	7	210	460	730	1100	
Nominal WAN (Mbits/sec)	10000	10000	10000	10000	10000	
Tape (Tbytes)		170	450	660	1000	

France, GRIF, Paris	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	283	672	1920	3440	3440	
Disk (Tbytes)	72	170	560	1100	1100	
Nominal WAN (Mbits/sec)	1000	1000	1000	1000	1000	

France, LPC, Clermont	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	200	300	300	300	300	
Disk (Tbytes)	25	25	25	25	25	
Nominal WAN (Mbits/sec)	1000	1000	1000	1000	1000	

France, Subatech, Nantes	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	20	50	200	200	200	
Disk (Tbytes)	4	8	20	20	20	
Nominal WAN (Mbits/sec)	1000	1000	1000	1000	1000	

Germany, DESY, Hamburg	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	400	700	700	900	900	
Disk (Tbytes)	100	340	340	570	570	
Nominal WAN (Mbits/sec)	1000	10000	10000	10000	10000	

Germany, CMS Federation	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	400	700	900	1200	1200	Only DESY part of Federation!
Disk (Tbytes)	100	200	200	300	300	
Nominal WAN (Mbits/sec)	1000	10000	10000	10000	10000	

Germany, GSI, Darmstadt	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	100	260	660	860	1100	
Disk (Tbytes)	30	80	200	260	340	
Nominal WAN (Mbits/sec)	100	100	1000	1000	1000	

Germany, ATLAS Federation, Munich	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	60	60	330	530	880	Only MPI and RZG part of Federation!
Disk (Tbytes)	20	27	150	260	430	
Nominal WAN (Mbits/sec)	660	660	1000	1000	1000	

India, VECC/SINP, Kolkata	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	150	300	450	600	600	
Disk (Tbytes)	20	40	60	80	80	
Nominal WAN (Mbits/sec)	20	80	100	160	160	

India, TIFR, Mumbai	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	150	300	450	600	800	
Disk (Tbytes)	100	200	300	450	600	
Nominal WAN (Mbits/sec)	34	160	620			

Italy, INFN Tier-2 Federation	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	1000	2500	5000	8000	11000	
Disk (Tbytes)	200	600	1500	2500	3500	
Nominal WAN (Mbits/sec)						

Japan, ICEPP, Tokyo	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	200	1000	1000	1000	1000	
Disk (Tbytes)	40	200	200	200	200	
Nominal WAN (Mbits/sec)	1000	2000	2000	2000	2000	

Pakistan, Pakistan Tier-2 Federation	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	160	410	800	820	870	
Disk (Tbytes)	50	80	200	200	200	
Nominal WAN (Mbits/sec)	5	10	42	42	42	

Poland, Polish Tier-2 Federation	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	600	650	750			
Disk (Tbytes)	32	32	36			
Nominal WAN (Mbits/sec)	1000	1000	2000	2000	2000	

Portugal, LIP Tier-2 Federation	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	250	500	750			
Disk (Tbytes)	43	84	130			
Nominal WAN (Mbits/sec)	100	100	100			

Romania, Romanian Tier-2 Federation	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	300	600	900	1200	1500	
Disk (Tbytes)	20	40	80	120	160	
Nominal WAN (Mbits/sec)	1000	1000	10000	10000	10000	

Russian Federation, RDIG	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	2230	4060	5890	7870	10900	The Russian Capacities are available at the end of the year.
Disk (Tbytes)	780	1500	2400	4100	6200	
Nominal WAN (Mbits/sec)	1000	2500	2500	5000	10000	
Tape (Tbytes)	400	780	1500	2200	3500	

Spain, ATLAS Federation	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	130	240	720	1100	1600	
Disk (Tbytes)	21	91	310	400	610	
Nominal WAN (Mbits/sec)						

Spain, CMS Federation	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	100	410	1000	1800	3300	
Disk (Tbytes)	28	110	280	470	890	
Nominal WAN (Mbits/sec)						

Spain, LHCb Federation	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	33	100	300	500	750	
Disk (Tbytes)	0	0	1	1	2	
Nominal WAN (Mbits/sec)						

Switzerland, CSCS, Manno	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	45	200	680	1400	2600	
Disk (Tbytes)	9	61	220	490	910	
Nominal WAN (Mbits/sec)	1000	5000	10000	10000	10000	

Taipei, Taiwan Analysis Facility Federation	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	200	300	400			
Disk (Tbytes)	15	30	75			
Nominal WAN (Mbits/sec)	2400	10000	10000			

UK, Sum of all Federations	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	3800	3800	4800	5400	6000	
Disk (Tbytes)	530	540	600	660	720	
Nominal WAN (Mbits/sec)						

Ukraine, Ukrainian Tier-2 Federation	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	320	600	800			
Disk (Tbytes)	25	65	100			
Nominal WAN (Mbits/sec)						

USA, Boston/Harvard ATLAS T2	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	350	730	1100	1600		
Disk (Tbytes)	170	370	480	630		
Nominal WAN (Mbits/sec)						

USA, Southwest ATLAS T2	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	900	1500	1700	2100		
Disk (Tbytes)	200	380	540	700		
Nominal WAN (Mbits/sec)						

USA, Midwest ATLAS T2	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	510	900	1100	1300		
Disk (Tbytes)	130	260	460	790		
Nominal WAN (Mbits/sec)						

USA, Caltech CMS T2	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	220	470	1000			
Disk (Tbytes)	36	80	200			
Nominal WAN (Mbits/sec)	5000	5000	10000			

USA, Florida CMS T2	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	220	470	1000			
Disk (Tbytes)	36	80	200			
Nominal WAN (Mbits/sec)	5000	5000	10000			

USA, MIT CMS T2	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	220	470	1000			
Disk (Tbytes)	36	80	200			
Nominal WAN (Mbits/sec)	5000	5000	10000			

USA, Nebraska CMS T2	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	220	470	1000			
Disk (Tbytes)	36	80	200			
Nominal WAN (Mbits/sec)	5000	5000	10000			

USA, Purdue CMS T2	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	220	470	1000			
Disk (Tbytes)	36	80	200			
Nominal WAN (Mbits/sec)	5000	5000	10000			

USA, UC San Diego CMS T2	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	220	470	1000			
Disk (Tbytes)	36	80	200			
Nominal WAN (Mbits/sec)	5000	5000	10000			

USA, U. Wisconsin CMS T2	Pledged	Planned to be pledged				Comment
	2006	2007	2008	2009	2010	
CPU (kSI2K)	220	470	1000			
Disk (Tbytes)	36	80	200			
Nominal WAN (Mbits/sec)	5000	5000	10000			

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Australia, University of Melbourne	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		60	150	300	500	700	Offered		300			300
							% of Total		2%			2%
Disk (Tbytes)		10	200	300	400	500	Offered		300			300
							% of Total		3%			3%
Nominal WAN (Mbits/sec)												

China, IHEP, Beijing	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	40	100	500	1000	1400	2000	Offered		500	500		1000
							% of Total		3%	3%		3%
Disk (Tbytes)	6	20	50	200	400	600	Offered		200	200		400
							% of Total		2%	4%		3%
Nominal WAN (Mbits/sec)												

Czech Rep., FZU AS, Prague	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	150	220	300	1000	2000		Offered	200	800			1000
							% of Total	1%	4%			3%
Disk (Tbytes)	40	100	130	480	1000		Offered	75	405			480
							% of Total	2%	5%			4%
Nominal WAN (Mbits/sec)		1000	1000	1000								

Finland, NDGF/HIP Tier-2	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		47	400	900	1400	2300	Offered			900		900
							% of Total			5%		5%
Disk (Tbytes)		8	100	200	400	700	Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)												

France, CC-IN2P3, Lyon	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	8	44	1377	3598	5617	9862	Offered	265	2595	738		3598
							% of Total	2%	13%	4%		7%
Disk (Tbytes)	1	7	207	455	728	1077	Offered	46	217	192		455
							% of Total	1%	2%	4%		3%
Nominal WAN (Mbits/sec)		10000	10000	10000	10000	10000						
Tape (Tbytes)	0	0	166	453	659	1009	Offered	0	453	0		453

France, GRIF, Paris	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		283	672	1920	3440	3440	Offered	192	1056	480	192	1920
							% of Total	1%	5%	2%	3%	3%
Disk (Tbytes)		72	168	560	1096	1096	Offered	56	308	140	56	560
							% of Total	2%	4%	3%	243%	3%
Nominal WAN (Mbits/sec)		1000	1000	1000	1000	1000						

France, LPC, Clermont	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		200	300	300	300	300	Offered	90	150		60	300
							% of Total	1%	1%		1%	1%
Disk (Tbytes)		25	25	25	25	25	Offered	8	12		5	25
							% of Total	0%	0%		22%	0%
Nominal WAN (Mbits/sec)		1000	1000	1000	1000	1000						

France, Subatech, Nantes	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		20	50	200	200	200	Offered	200				200
							% of Total	1%				1%
Disk (Tbytes)		4	8	20	20	20	Offered	20				20
							% of Total	1%				1%
Nominal WAN (Mbits/sec)		1000	1000	1000	1000	1000						

Germany, DESY, Hamburg	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		400	700	700	900	900	Offered		700			700
							% of Total		4%			4%
Disk (Tbytes)		100	340	340	570	570	Offered		340			340
							% of Total		4%			4%
Nominal WAN (Mbits/sec)		1000	10000	10000	10000	10000						

Germany, CMS Federation(1)	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		400	700	900	1200	1200	Offered			900		900
							% of Total			5%		5%
Disk (Tbytes)		100	200	200	300	300	Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)		1000	10000	10000	10000	10000						

Germany, GSI, Darmstadt	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		100	260	660	860	1100	Offered	660				660
							% of Total	5%				5%
Disk (Tbytes)		30	80	200	260	340	Offered	200				200
							% of Total	6%				6%
Nominal WAN (Mbits/sec)		100	100	1000	1000	1000						

Germany, ATLAS Federation, Munich(2)	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		60	60	332	529	884	Offered		332			332
							% of Total		2%			2%
Disk (Tbytes)		20	27	146	265	430	Offered		146			146
							% of Total		2%			2%
Nominal WAN (Mbits/sec)		660	660	1000	1000	1000						

India, VECC/SINP, Kolkata	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	75	150	300	450	600	600	Offered	450				450
							% of Total	3%				3%
Disk (Tbytes)	10	20	40	60	80	80	Offered	60				60
							% of Total	2%				2%
Nominal WAN (Mbits/sec)	4	20	80	100	155	155						

India, TIFR, Mumbai	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	40	150	300	450	600	800	Offered			450		450
							% of Total			2%		2%
Disk (Tbytes)	20	100	200	300	450	600	Offered			300		300
							% of Total			6%		6%
Nominal WAN (Mbits/sec)	26	34	155	622								

Italy, INFN Tier-2 Federation	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		1000	2500	5000	8000	11000	Offered	1100	1600	1750	550	5000
							% of Total	8%	8%	9%	7%	8%
Disk (Tbytes)		200	600	1500	2500	3500	Offered	370	540	589	1	1500
							% of Total	11%	6%	12%	4%	9%
Nominal WAN (Mbits/sec)												

Japan, ICEPP, Tokyo	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		200	1000	1000	1000	1000	Offered		1000			1000
							% of Total		5%			5%
Disk (Tbytes)		40	200	200	200	200	Offered		200			200
							% of Total		2%			2%
Nominal WAN (Mbits/sec)		1000	2000	2000	2000	2000						

Pakistan, Pakistan Tier-2 Federation	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	48	164	410	795	820	870	Offered			795		795
							% of Total			4%		4%
Disk (Tbytes)	10	50	80	200	200	200	Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)	1	5	10	42	42	42						

Poland, Polish Tier-2 Federation	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	342	597	650	753			Offered	250	142	250	111	753
							% of Total	2%	1%	1%	1%	1%
Disk (Tbytes)	17	32	32	36			Offered	8	14	8	6	36
							% of Total	0%	0%	0%	26%	0%
Nominal WAN (Mbits/sec)		1000	1000	2000	2000	2000						

Portugal, LIP Tier-2 Federation	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		250	500	750			Offered		525	225		750
							% of Total		3%	1%		2%
Disk (Tbytes)		43	84	126			Offered		84	42		126
							% of Total		1%	1%		1%
Nominal WAN (Mbits/sec)		100	100	100								

Romania, Romanian Tier-2 Federation	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		300	600	900	1200	1500	Offered	600	300			900
							% of Total	4%	2%			3%
Disk (Tbytes)		20	40	80	120	160	Offered	53	27			80
							% of Total	2%	0%			1%
Nominal WAN (Mbits/sec)		1000	1000	10000	10000	10000						

Russian Federation, RDIG(3)	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	400	2233	4060	5894	7873	10873	Offered	1319	1450	1625	1500	5894
							% of Total	9%	7%	8%	20%	10%
Disk (Tbytes)	20	779	1471	2356	4064	6244	Offered	456	830	630	440	2356
							% of Total	13%	9%	13%	1913%	14%
Nominal WAN (Mbits/sec)	622	1000	2500	2500	5000	10000						
Tape (Tbytes)	50	397	783	1455	2246	3476	Offered	345	230	500	380	1455

Spain, ATLAS Federation	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		130	237	719	1065	1597	Offered		719			719
							% of Total		4%			4%
Disk (Tbytes)		21	91	308	405	607	Offered		308			308
							% of Total		4%			4%
Nominal WAN (Mbits/sec)												

Spain, CMS Federation	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		104	414	1036	1761	3346	Offered			1036		1036
							% of Total			5%		5%
Disk (Tbytes)		28	110	276	469	891	Offered			276		276
							% of Total			6%		6%
Nominal WAN (Mbits/sec)												

Spain, LHCb Federation	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		33	100	300	500	750	Offered				300	300
							% of Total				4%	4%
Disk (Tbytes)		0.1	0.3	0.9	1.4	2.0	Offered				1	1
							% of Total				4%	4%
Nominal WAN (Mbits/sec)												

Switzerland, CSCS, Manno	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		45	200	680	1440	2640	Offered		198	245	237	680
							% of Total		1%	1%	3%	1%
Disk (Tbytes)		9	61	225	490	910	Offered		90	88	47	225
							% of Total		1%	2%	204%	2%
Nominal WAN (Mbits/sec)		1000	5000	10000	10000	10000						

Taipei, Taiwan Analysis Facility Federation	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	120	200	300	400			Offered		200	200		400
							% of Total		1%	1%		1%
Disk (Tbytes)	5	15	30	75			Offered		40	35		75
							% of Total		0%	1%		1%
Nominal WAN (Mbits/sec)	2400	2400	10000	10000								

UK, Sum of all Federations	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	2980	3798	3835	4825	5408	6009	Offered	154	3024	851	796	4825
							% of Total	1%	15%	4%	10%	8%
Disk (Tbytes)	469	532	537	602	661	721	Offered	18	378	106	100	602
							% of Total	1%	4%	2%	435%	4%
Nominal WAN (Mbits/sec)												

Ukraine, Ukrainian Tier-2 Federation	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		320	600	800			Offered	560		240		800
							% of Total	4%		1%		2%
Disk (Tbytes)		25	65	100			Offered	70		30		100
							% of Total	2%		1%		1%
Nominal WAN (Mbits/sec)												

USA, Boston/Harvard ATLAS T2	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	210	350	730	1090	1600		Offered		1090			1090
							% of Total		5%			5%
Disk (Tbytes)	40	170	370	480	630		Offered		480			480
							% of Total		5%			5%
Nominal WAN (Mbits/sec)												

USA, Southwest ATLAS T2	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	500	900	1500	1700	2100		Offered		1700			1700
							% of Total		9%			9%
Disk (Tbytes)	60	200	380	540	700		Offered		540			540
							% of Total		6%			6%
Nominal WAN (Mbits/sec)												

USA, Midwest ATLAS T2	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	360	510	900	1100	1300		Offered			1100		1100
							% of Total			6%		6%
Disk (Tbytes)	50	130	260	465	790		Offered			465		465
							% of Total			5%		5%
Nominal WAN (Mbits/sec)												

USA, Caltech CMS T2	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		215	470	1000			Offered			1000		1000
							% of Total			5%		5%
Disk (Tbytes)		36	80	200			Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)		5000	5000	10000								

USA, Florida CMS T2	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		215	470	1000			Offered			1000		1000
							% of Total			5%		5%
Disk (Tbytes)		36	80	200			Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)		5000	5000	10000								

USA, MIT CMS T2	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		215	470	1000			Offered			1000		1000
							% of Total			5%		5%
Disk (Tbytes)		36	80	200			Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)		5000	5000	10000								

USA, Nebraska CMS T2	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		215	470	1000			Offered			1000		1000
							% of Total			5%		5%
Disk (Tbytes)		36	80	200			Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)		5000	5000	10000								

USA, Purdue CMS T2	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		215	470	1000			Offered			1000		1000
							% of Total			5%		5%
Disk (Tbytes)		36	80	200			Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)		5000	5000	10000								

USA, UC San Diego CMS T2	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		215	470	1000			Offered			1000		1000
							% of Total			5%		5%
Disk (Tbytes)		36	80	200			Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)		5000	5000	10000								

USA, U. Wisconsin CMS T2	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		215	470	1000			Offered			1000		1000
							% of Total			5%		5%
Disk (Tbytes)		36	80	200			Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)		5000	5000	10000								

Summary Tier2s	2005	2006	2007	2008	2009	2010	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	5273	14873	27895	47452	53613	63871	Offered	6040	19481	18185	3746	47452
							TDR Req.	14400	19940	19300	7650	61290
							Balance	-58%	-2%	-6%	-51%	-23%
Disk (Tbytes)	748	3162	6747	12456	17224	19773	Offered	1440	5924	4636	656	12656
							TDR Req.	3479	8748	4900	23	17150
							Balance	-59%	-32%	-5%	2752%	-26%
Tape (Tbytes)	0	0	166	453	659	1009	Offered	345	683	500	380	1908

TDR Requirements 2008	ALICE	ATLAS	CMS	LHCb	SUM
CPU (kSI2K)	14400	19940	19300	7650	61290
Disk (Tbytes)	3479	8748	4900	23	17150
Number of T2s(4)	16 (17)	24 (30)	26 (29)	11 (12)	41 (49)

Note 1: The German CMS federation shows at the moment only the DESY part.

Note 2: The German ATLAS Federation, Munich, shows at the moment only the MPI and RZG part.

Note 3: The Russian capacities are available at the end of the year.

Note 4: The number of T2s is given as n (m). The first number is the count of T2s or T2 Federations already registered in the table, the second the overall count of T2s planning to support the experiment.