

## LCG Tier 0 and 1 Resources

CERN Tier0	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	4480	11170	23260	35310	37410	40910	Required	1800	3705	5300	360	11165
							Offered	1800	3710	5300	360	11170
							% of Req.	100%	100%	100%	100%	100%
Disk (Tbytes)	330	2423	5135	5542	5942	6142	Required	1600	152	400	270	2422
							Offered	1600	153	400	270	2423
							% of Req.	100%	101%	100%	100%	100%
Tape (Tbytes)	1620	10780	21160	36090	51120	66760	Required	3300	2449	4400	630	10779
							Offered	3300	2450	4400	630	10780
							% of Req.	100%	100%	100%	100%	100%
Nominal WAN (Mbits/sec)	100000	120000	140000	160000	160000	160000						

CERN Analysis Facility	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	3090	4680	9710	18090	25120	31930	Required	500	2081	2100	0	4681
							Offered	500	2080	2100	0	4680
							% of Req.	100%	100%	100%	100%	100%
Disk (Tbytes)	960	3126	5131	7865	11136	14022	Required	100	1146	1800	80	3126
							Offered	100	1146	1800	80	3126
							% of Req.	100%	100%	100%	100%	100%
Tape (Tbytes)	790	1270	3920	6960	10480	14850	Required	0	370	900	0	1270
							Offered	0	370	900	0	1270
							% of Req.	100%	100%	100%	100%	100%

Canada Tier1	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	160	905	1420	2480	3535	4595	Offered		905			905
							% of Total		5%			5%
Disk (Tbytes)	110	500	985	1975	2810	3645	Offered		500			500
							% of Total		5%			5%
Tape (Tbytes)	80	385	750	1435	2245	3180	Offered		385			385
							% of Total		5%			5%
Nominal WAN (Mbits/sec)		10000	10000	10000	10000	10000						

FZK-GridKa (Note 1)	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	1860	5672	10354	15710	20789	26282	Offered	2500	1812	1050	310	5672
							% of Total	25%	10%	11%	18%	14%
Disk (Tbytes)	880	2933	5122	9257	12549	16340	Offered	1000	1072	690	171	2933
							% of Total	25%	10%	10%	17%	13%
Tape (Tbytes)	1010	3629	7190	11867	16818	21942	Offered	1400	806	1280	143	3629
							% of Total	24%	10%	13%	17%	15%
Nominal WAN (Mbits/sec)	10000	20000	30000	30000	30000	30000						

IN2P3 Lyon	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	1286	4240	7998	13441	18105	23024	Offered	830	2066	864	480	4240
							% of Total	8%	11%	9%	27%	11%
Disk (Tbytes)	729	2375	4600	8224	11397	14710	Offered	316	1133	648	278	2375
							% of Total	8%	11%	9%	27%	10%
Tape (Tbytes)	745	2470	5175	9180	13914	18901	Offered	481	877	882	230	2470
							% of Total	8%	11%	9%	27%	10%
Nominal WAN (Mbits/sec)	10000	10000	10000	10000	10000	10000						

INFN CNAF	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	1300	3000	5500	8500	12500	16000	Offered	660	960	1050	330	3000
							% of Total	7%	5%	11%	19%	8%
Disk (Tbytes)	500	1300	2500	4100	6800	9500	Offered	290	420	450	140	1300
							% of Total	7%	4%	6%	14%	6%
Tape (Tbytes)	650	1500	2600	4200	7100	11000	Offered	330	480	530	160	1500
							% of Total	6%	6%	5%	19%	6%
Nominal WAN (Mbits/sec)	10000	20000	30000	40000	40000	40000						

Netherlands LHC/Tier1	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	1677	4382	7544	12305	11085	11085	Offered	317	3048		1017	4382
							% of Total	3%	17%		57%	15%
Disk (Tbytes)	1059	2510	3753	6149	7796	7796	Offered	173	1778		559	2510
							% of Total	4%	17%		55%	16%
Tape (Tbytes)	719	1813	3548	5736	7353	7353	Offered	173	1163		477	1813
							% of Total	3%	14%		55%	12%
Nominal WAN (Mbits/sec)	10000	10000	10000	10000	10000	10000						

NDGF Tier1	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	688	2172	3228	4280	4280	4280	Offered	1102	1070			2172
							% of Total	11%	6%			8%
Disk (Tbytes)	385	1079	1824	2180	2180	2180	Offered	523	556			1079
							% of Total	13%	5%			7%
Tape (Tbytes)	273	930	1898	2261	2261	2261	Offered	517	413			930
							% of Total	9%	5%			7%
Nominal WAN (Mbits/sec)	5000	10000	20000	20000	20000	20000						

ASGC Taipei	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	1770	3400	5000	7000	7000	7000	Offered		1700	1700		3400
							% of Total		9%	18%		12%
Disk (Tbytes)	900	1500	3000	3500	3500	3500	Offered		750	750		1500
							% of Total		7%	10%		8%
Tape (Tbytes)	800	1300	3000	3500	3500	3500	Offered		650	650		1300
							% of Total		8%	7%		7%
Nominal WAN (Mbits/sec)	10000	10000	10000	10000	10000	10000						

UK Tier1	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	1300	3139	5620	9047	12995	16900	Offered	132	1925	850	232	3139
							% of Total	1%	11%	9%	13%	8%
Disk (Tbytes)	640	1921	3314	5877	8144	11200	Offered	93	1056	650	122	1921
							% of Total	2%	10%	9%	12%	8%
Tape (Tbytes)	1080	1903	3947	6571	9577	13500	Offered	82	818	900	103	1903
							% of Total	1%	10%	9%	12%	8%
Nominal WAN (Mbits/sec)	10000	10000	10000	10000	40000	40000						

US-ATLAS Tier1	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	2560	4844	7337	12765	18193	18193	Offered		4844			4844
							% of Total		27%			27%
Disk (Tbytes)	1100	3136	5822	11637	16509	16509	Offered		3136			3136
							% of Total		29%			29%
Tape (Tbytes)	603	1715	3277	6286	9820	9820	Offered		1715			1715
							% of Total		21%			21%
Nominal WAN (Mbits/sec)	9952	19904	29856	39808	39808	39808						

US-CMS Tier1	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	1792	4300	5100	11100	11100	11100	Offered			4300		4300
							% of Total			45%		45%
Disk (Tbytes)	700	2000	2600	4100	4100	4100	Offered			2000		2000
							% of Total			28%		28%
Tape (Tbytes)	300	4700	7100	11000	11000	11000	Offered			4700		4700
							% of Total			48%		48%
Nominal WAN (Mbits/sec)												

Spain PIC	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	501	1509	2591	5109	6941	8731	Offered		865	477	167	1509
							% of Total		5%	5%	9%	5%
Disk (Tbytes)	218	967	1702	3009	4090	5176	Offered		512	358	97	967
							% of Total		5%	5%	9%	5%
Tape (Tbytes)	243	953	1844	3402	5249	7253	Offered		385	487	81	953
							% of Total		5%	5%	9%	5%
Nominal WAN (Mbits/sec)	2500	10000	10000	10000	10000	10000						

Summary Ext. Tier1s	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	14894	37563	61692	101737	126523	147190	Offered	5541	19195	10291	2536	37563
							Required	10100	18120	9600	1770	39590
							Balance	-45%	6%	7%	43%	-5%
Disk (Tbytes)	7221	20221	35222	60008	79875	94656	Offered	2395	10913	5546	1367	20221
							Required	4000	10730	7200	1025	22955
							Balance	-40%	2%	-23%	33%	-12%
Tape (Tbytes)	6503	21298	40329	65438	88837	109710	Offered	2983	7692	9429	1194	21298
							Required	5800	8070	9800	860	24530
							Balance	-49%	-5%	-4%	39%	-13%

Summary with Requ. Balance	2007	2008	2009	2010	2011	2012		SUM 2008	SUM 2009	SUM 2010	SUM 2011	SUM 2012
CPU (kSI2K)	14894	37563	61692	101737	126523	147190	Offered	37563	61692	101737	126523	147190
							Required	39590	69600	114720	152230	191810
							Balance	-5%	-11%	-11%	-17%	-23%
Disk (Tbytes)	7221	20221	35222	60008	79875	94656	Offered	20221	35222	60008	79875	94656
							Required	22955	40179	71000	96791	123892
							Balance	-12%	-12%	-15%	-17%	-24%
Tape (Tbytes)	6503	21298	40329	65438	88837	109710	Offered	21298	40329	65438	88837	109710
							Required	24530	46260	78664	114610	152396
							Balance	-13%	-13%	-17%	-22%	-28%

Note 1: The FZK Pledges indicated for 2008 will be fully available in October 2008. For April 2008 the following will be available : CPU 4522 kSI2K, Disk 2293 Tbytes, Tape 2449 Tbytes

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.

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

Ext. Tier1 Requ. 2008	ALICE	ATLAS	CMS	LHCb	SUM
CPU (kSI2K)	10100	18120	9600	1770	39590
Disk (Tbytes)	4000	10730	7200	1025	22955
Tape (Tbytes)	5800	8070	9800	860	24530
Number of T1s	6	10	7	6	n/a

## LCG Tier 2 Resources

Austria, Austrian Tier-2 Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	420	540	660	760	760	760	Offered		40	500		540
							% of Total		0%	4%		2%
Disk (Tbytes)	90	110	120	120	120	120	Offered		10	100		110
							% of Total		0%	2%		1%
Nominal WAN (Mbits/sec)	1000	1000	1000	1000	1000	1000						

Australia, University of Melbourne	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	40	150	450	860	860	860	Offered		150			150
							% of Total		1%			1%
Disk (Tbytes)	20	70	220	370	370	370	Offered		70			70
							% of Total		1%			1%
Nominal WAN (Mbits/sec)												

Belgium, Belgian Tier-2 Fed. FNRS	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	400	700	1000	1500	1500	1500	Offered			700		700
							% of Total			5%		5%
Disk (Tbytes)	100	180	300	450	450	450	Offered			180		180
							% of Total			4%		4%
Nominal WAN (Mbits/sec)	1000	1500	2000	2000	2000	2000						

Belgium, Belgian Tier-2 Fed. FWO	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	200	350	500	750	750	750	Offered			350		350
							% of Total			3%		3%
Disk (Tbytes)	50	90	150	220	220	220	Offered			90		90
							% of Total			2%		2%
Nominal WAN (Mbits/sec)	1000	1500	2000	2000	2000	2000						

Canada, Canada-East Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		200	485	930	1250	1565	Offered		200			200
							% of Total		1%			1%
Disk (Tbytes)		13	270	455	640	825	Offered		13			13
							% of Total		0%			0%
Nominal WAN (Mbits/sec)												

Canada, Canada-West Federation (Note 1)	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		300	485	930	1250	1565	Offered		300			300
							% of Total		2%			2%
Disk (Tbytes)		146	270	455	640	825	Offered		146			146
							% of Total		2%			2%
Nominal WAN (Mbits/sec)												

China, IHEP, Beijing	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	400	400	1400	2000	2000	2000	Offered		200	200		400
							% of Total		1%	1%		1%
Disk (Tbytes)	50	100	400	600	600	600	Offered		50	50		100
							% of Total		1%	1%		1%
Nominal WAN (Mbits/sec)												

Czech Rep., FZU, Prague	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	80	164	376	637	996	1517	Offered	96	68			164
							% of Total	1%	0%			1%
Disk (Tbytes)	10	35	72	201	367	584	Offered	17	18			35
							% of Total	1%	0%			0%
Nominal WAN (Mbits/sec)	1000	10000	10000	10000	10000	10000						

Estonia, NICPB, Tallinn	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		150	250	250	250	250	Offered			150		150
							% of Total			1%		1%
Disk (Tbytes)		35	60	60	60	60	Offered			35		35
							% of Total			1%		1%
Nominal WAN (Mbits/sec)		1000	1000	1000	1000	1000						

Finland, NDGF/HIP Tier-2	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	187	564	666	666	666	666	Offered			564		564
							% of Total			4%		4%
Disk (Tbytes)	18	97	205	205	205	205	Offered			97		97
							% of Total			2%		2%
Nominal WAN (Mbits/sec)												

France, CC-IN2P3, Lyon	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	320	1500	4090	6786	10157	12483	Offered	230	350	237	683	1500
							% of Total	2%	2%	2%	15%	3%
Disk (Tbytes)	46	180	544	687	1122	1486	Offered	22	12	121	25	180
							% of Total	1%	0%	2%	278%	1%
Nominal WAN (Mbits/sec)	10000	10000	10000	10000	10000	10000						

France, GRIF, Paris	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	583	1642	2793	5301	7014	8723	Offered	205	800	455	182	1642
							% of Total	2%	5%	3%	4%	3%
Disk (Tbytes)	194	568	924	1385	1872	2383	Offered	40	355	173	0	568
							% of Total	2%	5%	3%	0%	4%
Nominal WAN (Mbits/sec)	1000	1000	1000	1000	1000	1000						

France, LAPP, Annecy	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	350	600	1000	1300	1700	2100	Offered		440		160	600
							% of Total		3%		4%	3%
Disk (Tbytes)	20	70	140	230	330	430	Offered		69		1	70
							% of Total		1%		11%	1%
Nominal WAN (Mbits/sec)	1000	1000	1000	1000	1000	1000						

France, LPC, Clermont	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	450	800	1340	1696	2052	2408	Offered	240	400		160	800
							% of Total	2%	2%		4%	2%
Disk (Tbytes)	50	110	210	311	435	559	Offered	25	84		1	110
							% of Total	1%	1%		11%	1%
Nominal WAN (Mbits/sec)	1000	1000	1000	1000	1000	1000						

France, Subatech, Nantes	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	224	312	373	373	373	373	Offered	312				312
							% of Total	2%				2%
Disk (Tbytes)	16	43	97	97	97	97	Offered	43				43
							% of Total	3%				3%
Nominal WAN (Mbits/sec)	1000	1000	1000	1000	1000	1000						

Germany, DESY, ATLAS	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	78	583	899	1718	2304	2304	Offered		583			583
							% of Total		3%			3%
Disk (Tbytes)	42	258	437	737	1036	1036	Offered		258			258
							% of Total		3%			3%
Nominal WAN (Mbits/sec)	1000	10000	10000	10000	10000	10000						

Germany, CMS Federation DESY	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	300	600	1000	1800	2300	2300	Offered			600		600
							% of Total			4%		4%
Disk (Tbytes)	50	170	340	530	850	850	Offered			170		170
							% of Total			3%		3%
Nominal WAN (Mbits/sec)	1000	10000	10000	10000	10000	10000						

Germany, CMS Federation Aachen	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	200	450	700	700	700	700	Offered			450		450
							% of Total			3%		3%
Disk (Tbytes)	50	100	150	150	150	150	Offered			100		100
							% of Total			2%		2%
Nominal WAN (Mbits/sec)	2000	2000	2000	2000	2000	2000						

Germany, GSI, Darmstadt	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	260	660	860	1100	1320	1700	Offered	660				660
							% of Total	5%				5%
Disk (Tbytes)	80	200	260	340	450	590	Offered	200				200
							% of Total	12%				12%
Nominal WAN (Mbits/sec)	100	1000	1000	1000	1000	1000						

Germany, ATLAS Fed. Munich MPI/RZG	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	60	332	529	884	884	884	Offered	332				332
							% of Total	2%				2%
Disk (Tbytes)	27	146	265	430	430	430	Offered	146				146
							% of Total	2%				2%
Nominal WAN (Mbits/sec)	660	1000	1000	1000	1000	1000						

Germany, ATLAS Fed. Munich LMU/LRZ	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	40	290	450	860	1150	1450	Offered	290				290
							% of Total	2%				2%
Disk (Tbytes)	20	130	220	370	520	670	Offered	130				130
							% of Total	2%				2%
Nominal WAN (Mbits/sec)	1000	1000	1000	1000	1000	1000						

Germany, ATLAS Fed. FR/W Wuppertal	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	39	292	450	859	1152	1152	Offered	292				292
							% of Total	2%				2%
Disk (Tbytes)	21	129	219	369	518	518	Offered	129				129
							% of Total	2%				2%
Nominal WAN (Mbits/sec)	622	1000	1000	1000	1000	1000						

Germany, ATLAS Fed. FR/W Freiburg	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	39	292	450	859	1152	1152	Offered	292				292
							% of Total	2%				2%
Disk (Tbytes)	21	129	219	369	518	518	Offered	129				129
							% of Total	2%				2%
Nominal WAN (Mbits/sec)	622	1000	1000	1000	1000	1000						

Hungary, HGCC Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	200	270	300	360	450	500	Offered	90		180		270
							% of Total	1%		1%		1%
Disk (Tbytes)	40	70	100	120	150	200	Offered	23		47		70
							% of Total	1%		1%		1%
Nominal WAN (Mbits/sec)	1000	1000	1000	1000	1000	1000						

India, VECC/SINP, Kolkata	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	282	450	600	600	600	600	Offered	450				450
							% of Total	4%				4%
Disk (Tbytes)	120	180	240	240	240	240	Offered	180				180
							% of Total	11%				11%
Nominal WAN (Mbits/sec)	100	155	180	180	180	180						

India, TIFR, Mumbai	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	130	450	600	800	1000	1000	Offered			450		450
							% of Total			3%		3%
Disk (Tbytes)	50	300	450	600	750	750	Offered			300		300
							% of Total			6%		6%
Nominal WAN (Mbits/sec)	34	1000	1000	1000	1000	1000						

Israel, HEP-IL Tier-2 Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	61	280	360	700	950	1300	Offered		280			280
							% of Total		2%			2%
Disk (Tbytes)	32	120	200	340	480	660	Offered		120			120
							% of Total		2%			2%
Nominal WAN (Mbits/sec)												

Italy, INFN ALICE Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	550	750	1450	2700	3750	3750	Offered	750				750
							% of Total	6%				6%
Disk (Tbytes)	100	250	550	800	1200	1200	Offered	250				250
							% of Total	15%				15%
Nominal WAN (Mbits/sec)	1000	1000	1000	1000	1000	1000						

Italy, INFN ATLAS Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	400	750	1450	2700	3750	3750	Offered		750			750
							% of Total		4%			4%
Disk (Tbytes)	165	350	700	1150	1600	1600	Offered		350			350
							% of Total		5%			5%
Nominal WAN (Mbits/sec)	1000	1000	1000	1000	1000	1000						

Italy, INFN CMS Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	400	850	1700	3600	5300	5300	Offered			850		850
							% of Total			6%		6%
Disk (Tbytes)	165	350	600	950	1400	1400	Offered			350		350
							% of Total			7%		7%
Nominal WAN (Mbits/sec)	1000	1000	1000	1000	1000	1000						

Italy, INFN LHCb Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	150	350	550	900	1200	1200	Offered				350	350
							% of Total				8%	8%
Disk (Tbytes)	0	0	0	0	0	0	Offered				0	0
							% of Total				0%	0%
Nominal WAN (Mbits/sec)	1000	1000	1000	1000	1000	1000						

Japan, ICEPP, Tokyo	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	1000	1000	1000	3000	3000	3000	Offered		1000			1000
							% of Total		6%		6%	
Disk (Tbytes)	200	400	400	600	600	600	Offered		400			400
							% of Total		5%		5%	
Nominal WAN (Mbits/sec)	2000	2000	2000	2000	2000	2000						

Republic of Korea, KISTI, Daejeon	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	50	100	150	150	150	150	Offered	100				100
							% of Total	1%			1%	
Disk (Tbytes)	30	30	50	50	50	50	Offered	30				30
							% of Total	2%			2%	
Nominal WAN (Mbits/sec)	10000	10000	10000	10000	10000	10000						

Norway, UNINETT SIGMA Tier2	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		110	325	447	447	447	Offered		110			110
							% of Total		1%		1%	
Disk (Tbytes)		60	91	131	131	131	Offered		60			60
							% of Total		1%		1%	
Nominal WAN (Mbits/sec)		10000	20000	20000	20000	20000						

Pakistan, Pakistan Tier-2 Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	410	795	820	870	1088	1360	Offered			795		795
							% of Total			6%	6%	
Disk (Tbytes)	80	200	200	200	250	313	Offered			200		200
							% of Total			4%	4%	
Nominal WAN (Mbits/sec)	10	42	42	42	53	66						

Poland, Polish Tier-2 Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	650	1250	1780	2635	3265	3940	Offered	265	407	341	237	1250
							% of Total	2%	2%	3%	5%	3%
Disk (Tbytes)	60	202	340	599	808	1019	Offered	15	113	74	0	202
							% of Total	1%	1%	1%	0%	1%
Nominal WAN (Mbits/sec)	1000	1000	2000	2000	2000	2000						

Portugal, LIP Tier-2 Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	500	750	750	750	750	750	Offered		525	225		750
							% of Total		3%	2%		2%
Disk (Tbytes)	84	160	160	160	160	160	Offered		110	50		160
							% of Total		1%	1%		1%
Nominal WAN (Mbits/sec)	1000	1000	1000	1000	1000	1000						

Romania, Romanian Tier-2 Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	735	1300	1930	2400	2870	3010	Offered	660	400		240	1300
							% of Total	5%	2%		5%	4%
Disk (Tbytes)	122	263	450	750	840	900	Offered	140	120		3	263
							% of Total	8%	2%		33%	3%
Nominal WAN (Mbits/sec)	1000	10000	10000	10000	10000	10000						

Russian Federation, RDIG (Note 2)	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	3000	3000	3800	6500	12000	17000	Offered	1050	600	600	750	3000
							% of Total	8%	3%	4%	16%	6%
Disk (Tbytes)	600	600	1700	3000	4000	5700	Offered	210	180	150	60	600
							% of Total	12%	2%	3%	667%	4%
Nominal WAN (Mbits/sec)	2500	2500	2500	5000	10000	10000						
Tape (Tbytes)				1500	2000	3000	Offered					0

Slovenia, SIGNET, Jozef Stefan Inst.	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	200	300	450	600	600	600	Offered		300			300
							% of Total		2%			2%
Disk (Tbytes)	50	150	200	300	300	300	Offered		150			150
							% of Total		2%			2%
Nominal WAN (Mbits/sec)	10000	10000	10000	10000	10000	10000						

Spain, ATLAS Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	117	875	1349	2577	3456	4336	Offered		875			875
							% of Total		5%			5%
Disk (Tbytes)	63	387	656	1107	1555	2003	Offered		387			387
							% of Total		5%			5%
Nominal WAN (Mbits/sec)												

Spain, CMS Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	380	760	1280	2260	5285	6735	Offered			760		760
							% of Total			6%		6%
Disk (Tbytes)	65	210	420	665	550	720	Offered			210		210
							% of Total			4%		4%
Nominal WAN (Mbits/sec)												

Spain, LHCb Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	118	296	740	740	740	740	Offered				296	296
							% of Total				7%	7%
Disk (Tbytes)	0	1	1	1	1	1	Offered				1	1
							% of Total				10%	10%
Nominal WAN (Mbits/sec)												

Sweden, SNIC Tier2	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	244	981	1549	1549	1549	1549	Offered	376	605			981
							% of Total	3%	3%			3%
Disk (Tbytes)	82	364	602	602	602	602	Offered	96	268			364
							% of Total	6%	3%			4%
Nominal WAN (Mbits/sec)	5000	10000	20000	20000	20000	20000						

Switzerland, CHIPP, Manno	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	200	680	1440	2640	2640	2640	Offered		198	245	237	680
							% of Total		1%	2%	5%	2%
Disk (Tbytes)	61	225	490	910	910	910	Offered		90	90	45	225
							% of Total		1%	2%	500%	2%
Nominal WAN (Mbits/sec)	5000	10000	10000	10000	10000	10000						

Taipei, Taiwan Analysis Facility Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	300	400	580	800	1120	1520	Offered		200	200		400
							% of Total		1%	1%		1%
Disk (Tbytes)	30	150	250	350	480	600	Offered		75	75		150
							% of Total		1%	1%		1%
Nominal WAN (Mbits/sec)	10000	10000	10000	10000	10000	10000						

Turkey, Turkish Tier-2 Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	250	850	1350	2450	2450	2450	Offered		425	425		850
							% of Total		2%	3%		3%
Disk (Tbytes)	40	310	550	900	900	900	Offered		155	155		310
							% of Total		2%	3%		2%
Nominal WAN (Mbits/sec)	500	1000	1000	1000	1000	1000						

UK, London	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		1017	1698	2752	3431	4500	Offered		173	658	186	1017
							% of Total		1%	5%	4%	2%
Disk (Tbytes)		227	429	781	1112	1401	Offered		77	149	1	227
							% of Total		1%	3%	11%	2%
Nominal WAN (Mbits/sec)												

UK, NorthGrid	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		725	1173	2112	2784	3200	Offered		668		57	725
							% of Total		4%		1%	2%
Disk (Tbytes)		296	502	847	1189	1501	Offered		296		0	296
							% of Total		4%		0%	2%
Nominal WAN (Mbits/sec)												

UK, ScotGrid	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		925	1855	2527	3007	3700	Offered		478		447	925
							% of Total		3%		10%	2%
Disk (Tbytes)		213	360	607	852	1002	Offered		212		1	213
							% of Total		3%		11%	1%
Nominal WAN (Mbits/sec)												

UK, SouthGrid	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)		959	1648	2450	2986	4000	Offered	156	267	298	238	959
							% of Total	1%	2%	2%	5%	2%
Disk (Tbytes)		231	393	668	925	1401	Offered	44	118	68	1	231
							% of Total	3%	2%	1%	11%	2%
Nominal WAN (Mbits/sec)												

Ukraine, Ukrainian Tier-2 Federation	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	600	1166	1400	1400	1400	1400	Offered	932		234		1166
							% of Total	7%		2%		5%
Disk (Tbytes)	65	60	75	75	75	75	Offered	30		30		60
							% of Total	2%		1%		1%
Nominal WAN (Mbits/sec)												

USA, Northeast ATLAS T2	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	394	665	1049	1592	1966	1966	Offered		665			665
							% of Total		4%			4%
Disk (Tbytes)	103	244	445	727	1024	1024	Offered		244			244
							% of Total		3%			3%
Nominal WAN (Mbits/sec)												

USA, Southwest ATLAS T2	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	998	1386	1734	1966	2514	2514	Offered		1386			1386
							% of Total		8%			8%
Disk (Tbytes)	143	256	328	650	1103	1103	Offered		256			256
							% of Total		3%			3%
Nominal WAN (Mbits/sec)												

USA, Midwest ATLAS T2	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	826	1112	978	1262	1785	1785	Offered		1112			1112
							% of Total		6%			6%
Disk (Tbytes)	213	282	358	362	512	512	Offered		282			282
							% of Total		4%			4%
Nominal WAN (Mbits/sec)												

USA, Great Lakes ATLAS T2	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	581	965	1406	1670	2032	2032	Offered		965			965
							% of Total		6%			6%
Disk (Tbytes)	155	322	542	709	914	914	Offered		322			322
							% of Total		4%			4%
Nominal WAN (Mbits/sec)												

USA, SLAC ATLAS T2	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	550	820	1202	1191	1685	1685	Offered		820			820
							% of Total		5%			5%
Disk (Tbytes)	228	462	794	1034	1462	1462	Offered		462			462
							% of Total		6%			6%
Nominal WAN (Mbits/sec)												

USA, Caltech CMS T2	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	470	1000	1100	1940	1940	1940	Offered			1000		1000
							% of Total			7%		7%
Disk (Tbytes)	80	200	360	570	570	570	Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)	5000	10000	10000	10000	10000	10000						

USA, Florida CMS T2	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	470	1000	1100	1940	1940	1940	Offered			1000		1000
							% of Total			7%		7%
Disk (Tbytes)	80	200	360	570	570	570	Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)	5000	10000	10000	10000	10000	10000						

USA, MIT CMS T2	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	470	1000	1100	1940	1940	1940	Offered			1000		1000
							% of Total			7%		7%
Disk (Tbytes)	80	200	360	570	570	570	Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)	5000	10000	10000	10000	10000	10000						

USA, Nebraska CMS T2	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	470	1000	1100	1940	1940	1940	Offered			1000		1000
							% of Total			7%		7%
Disk (Tbytes)	80	200	360	570	570	570	Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)	5000	10000	10000	10000	10000	10000						

USA, Purdue CMS T2	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	470	1000	1100	1940	1940	1940	Offered			1000		1000
							% of Total			7%		7%
Disk (Tbytes)	80	200	360	570	570	570	Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)	5000	10000	10000	10000	10000	10000						

USA, UC San Diego CMS T2	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	470	1000	1100	1940	1940	1940	Offered			1000		1000
							% of Total			7%		7%
Disk (Tbytes)	80	200	360	570	570	570	Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)	5000	10000	10000	10000	10000	10000						

USA, U. Wisconsin CMS T2	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	470	1000	1100	1940	1940	1940	Offered			1000		1000
							% of Total			7%		7%
Disk (Tbytes)	80	200	360	570	570	570	Offered			200		200
							% of Total			4%		4%
Nominal WAN (Mbits/sec)	5000	10000	10000	10000	10000	10000						

Summary Tier2s with Split in 2008	2007	2008	2009	2010	2011	2012	Split 2008	ALICE	ATLAS	CMS	LHCb	SUM 2008
CPU (kSI2K)	22236	46208	69352	108749	138120	157151	Offered	6572	17946	17467	4223	46208
							Required	12500	17510	13400	4550	47960
							Balance	-47%	2%	30%	-7%	-4%
Disk (Tbytes)	4681	12434	22238	34116	43115	49320	Offered	1365	6466	4464	139	12434
							Required	1700	7770	5100	9	14579
							Balance	-20%	-17%	-12%	1443%	-15%
Tape (Tbytes)	0	0	0	1500	2000	3000						

Summary Tier2s with Requ. Balance	2007	2008	2009	2010	2011	2012		SUM 2008	SUM 2009	SUM 2010	SUM 2011	SUM 2012
CPU (kSI2K)	22236	46208	69352	108749	138120	157151	Offered	46208	69352	108749	138120	157151
							Required	47960	80750	164540	218720	275010
							Balance	-4%	-14%	-34%	-37%	-43%
Disk (Tbytes)	4681	12434	22238	34116	43115	49320	Offered	12434	22238	34116	43115	49320
							Required	14579	23023	34243	47903	61963
							Balance	-15%	-3%	0%	-10%	-20%
Tape (Tbytes)	0	0	0	1500	2000	3000						

Requirements 2008	ALICE	ATLAS	CMS	LHCb	SUM
CPU (kSI2K)	12500	17510	13400	4550	47960
Disk (Tbytes)	1700	7770	5100	9	14579
Number of T2s(3)	19 (20)	35 (37)	31 (34)	14 (15)	59 (61)

Note 1: The Storage in 2008 for Canada-West must include tape, which is connected through a Hierarchical Storage system. Disk:Tape ratio approximately 1:2

Note 2: The Russian capacities are available in January of the indicated year.

Note 3: 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.