Site Report
BEIJING-LCG2

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2010/11/21

Outline

- Site overview
- ATLAS Tier2(data transfer & jobs)
- CMS Tier2 (data transfer & jobs)

Site Resources-Infrastructure

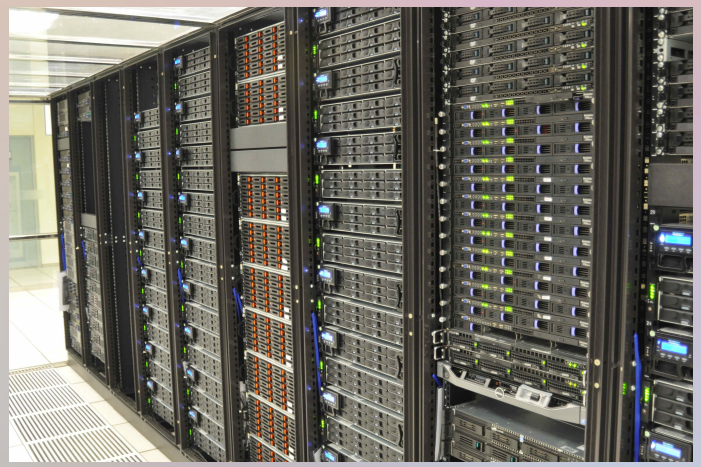
- BEIJING-LCG2 : ATLAS Tier2/Tier3 CMS Tier2/Tier3
- Support other VOs: BES, Biomed, esr...
- Hardware
  - 896 CPU cores (9KHS06, pledged is 8KHS06)
  - 640TB storage space(pledged is 600TB)
  - Resources shared equally by CMS and ATLAS
  - 142 nodes managed by QUATOR

Site Resources-Server Room

Server Room

Computer Nodes

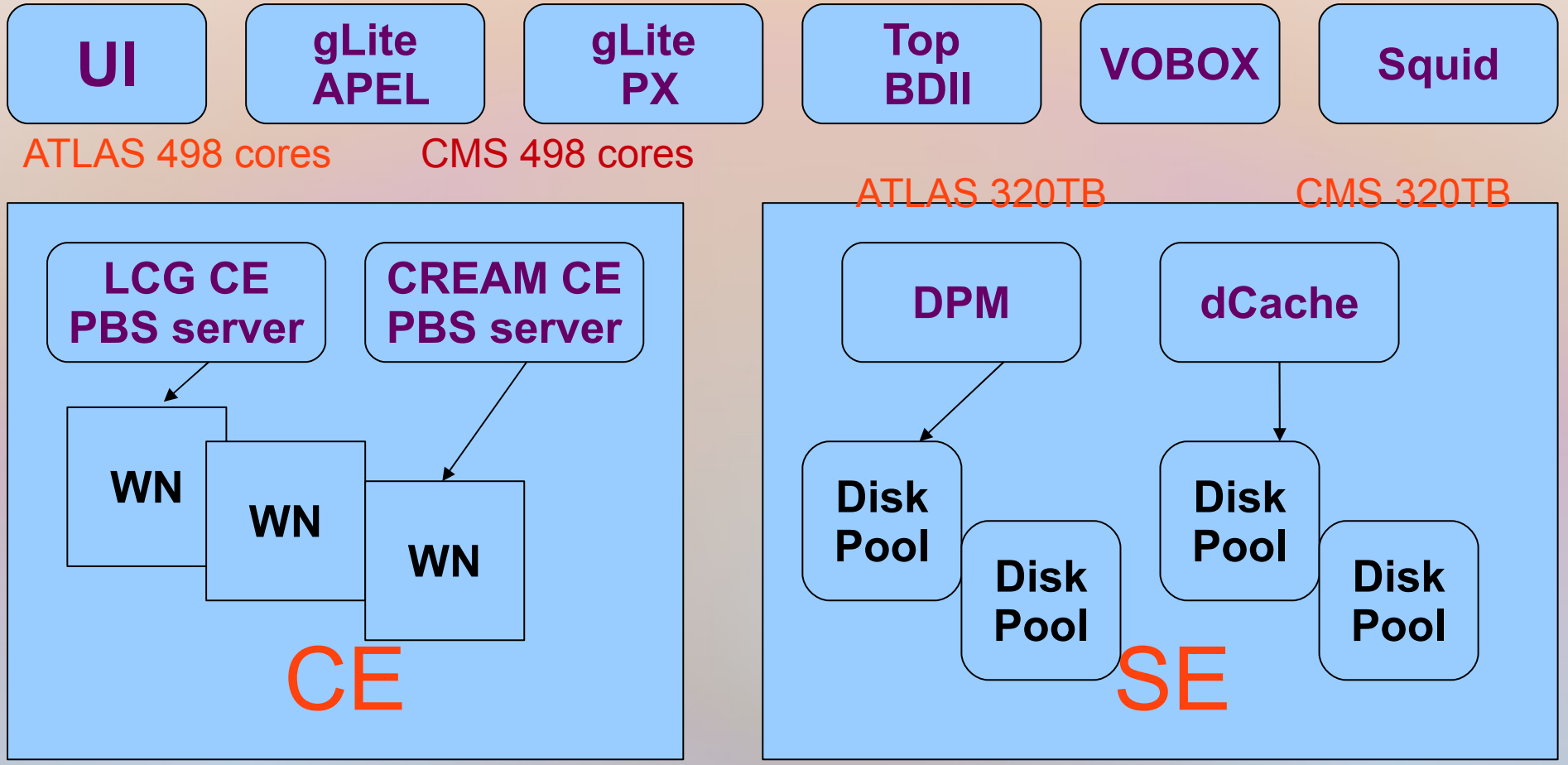
Shift Room



Storage Nodes

Site Resources-Grid Services

- Grid Services



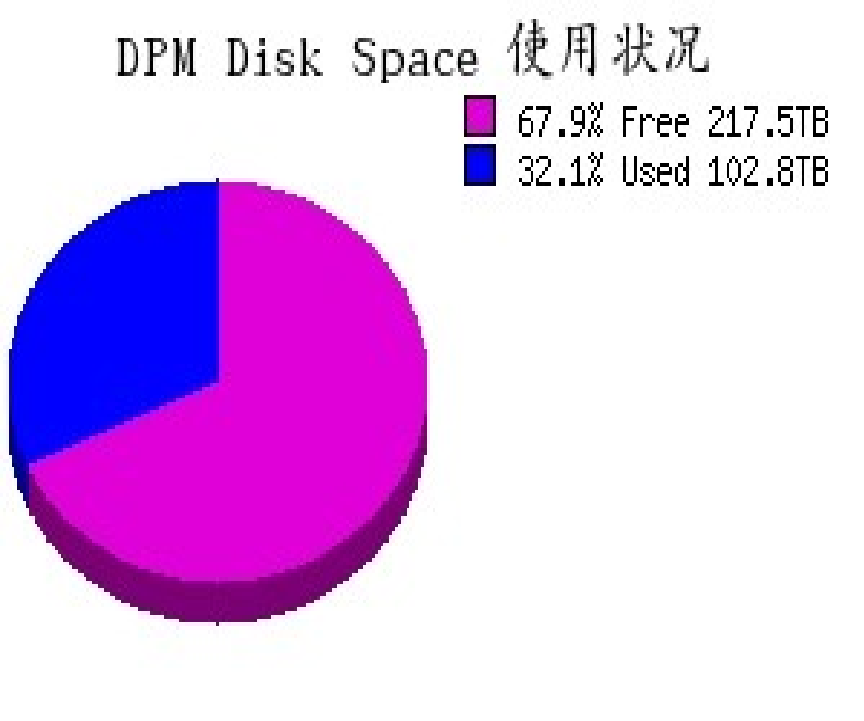
CE & SE

- SE
  - DPM
    - 2 head nodes(1 with main services, 1 for database)
    - 8 pool nodes (GridFTP door+RFIO door)
    - 320 TB(ATLAS)
  - dCache
    - 3 head nodes(SRM, PNFS , other services)
    - 8 pool nodes(GridFTP+dCap)
    - 320TB(CMS)
- CE
  - LCG CE (ATLAS+CMS)
  - CREAM CE(ATLAS+CMS)
  - 1 PBS server
  - 112 work nodes (896 cores)

Hardware for servers

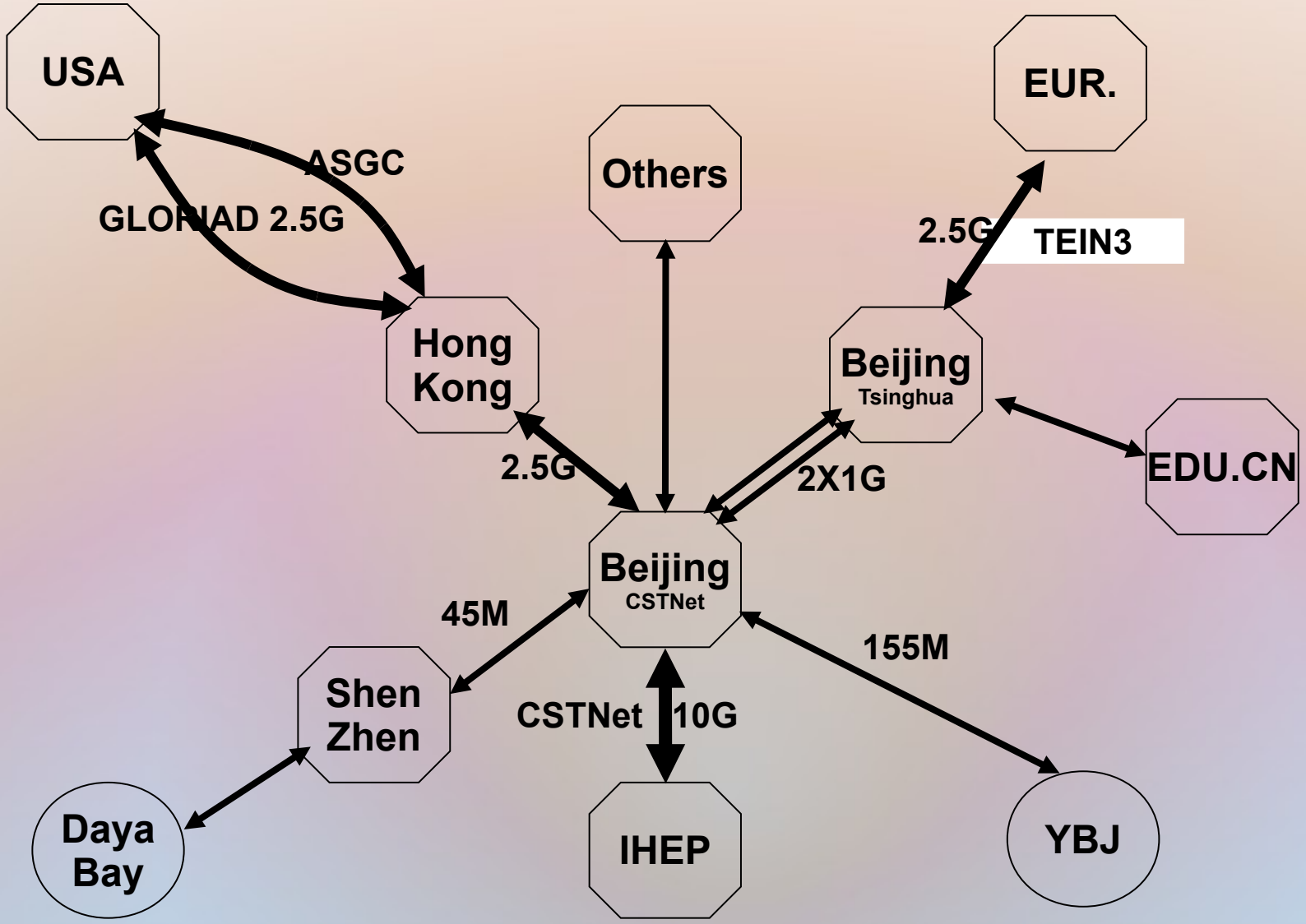
- Core Server(SRM-dcache, CE, TOP-BDII, RB, LFC, Myproxy, MON, VOBOX)
  - **IBM-X3650** (SRM-dcache, TOP-BDII, LFC, Myproxy, gLite-Apel, VOBOX,UI) (totally 9)
    - CPU intel 5130 X 2
    - 2X2GB RAM
    - 2X73G SAS 10k Disk Raid1
    - 1Gb network.
- **HP DL380 G5** (LCG-CE-Torque, CreamCE,WMSLB, DPM-SE, DPM-Disk,DPM-database,dCahe-Pool) (totally 21)
  - CPU intel 5420 X 2
  - 4X4GB RAM
  - 2X146G SAS 10k Disk Raid1
  - 1Gb external network. 10Gb local network
- **Worknodes(112 WNs)(The cpus(cores) is 896 now)**
  - **Dell M600 Blasd server**
    - CPU intel 5430X2
    - 4X4GB RAM
    - 1GB network

SE Usage


DPM Disk Space 使用状况
67.9% Free 217.5TB
32.1% Used 102.8TB


dCache Disk Space 使用状况
10.7% Free 32.1TB
89.3% Used 267.9TB

Site Resources-Network



Local Integrated Grid Services Monitoring

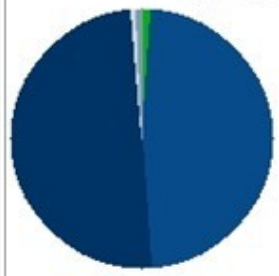
站点状态	SAM	GSTAT
	OK	OK
计算资源	CPUs	JOBs
	1152	896
存储资源	Total	Used
	620.3TB	214.4TB

网格服务	OK	Warning	Unknown	Critical
	62	0	0	0

网格主机	Up	Down	Unreach	Pending
	147	0	0	0

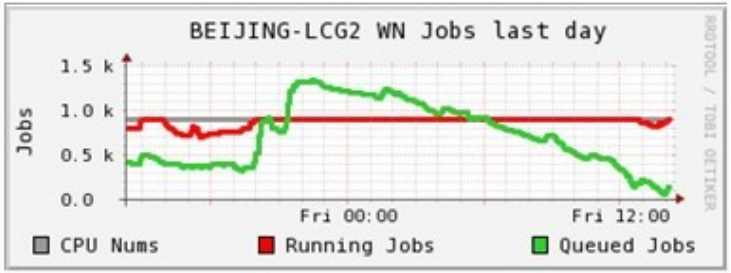
CE运行状态	[OK]
SRM运行状态	[OK]
BDII运行状态	[OK]
WMS运行状态	[OK]

网格作业队列使用状况



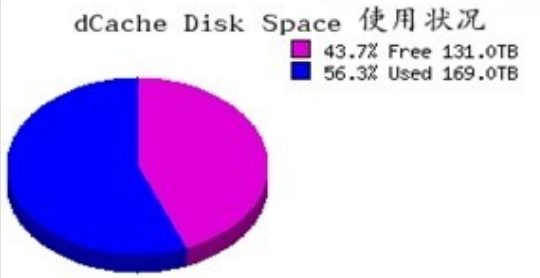
Total: CPU 904 Jobs 896 Que 226

Percent	Que Name	Running	Queue
0.9%	free	8	0
47.9%	cms	433	53
49.6%	atlas	448	173
0.8%	biomed	7	0
0.9%	esr	8	0

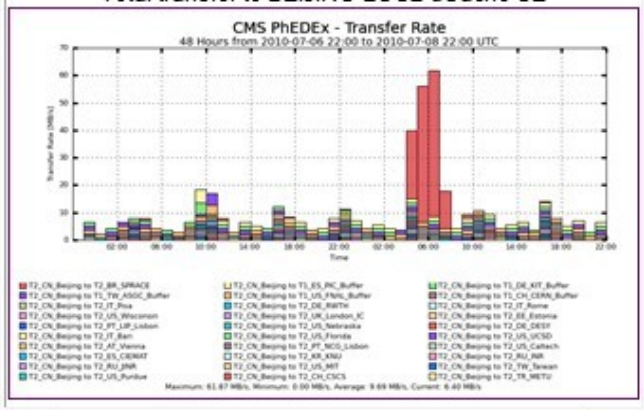


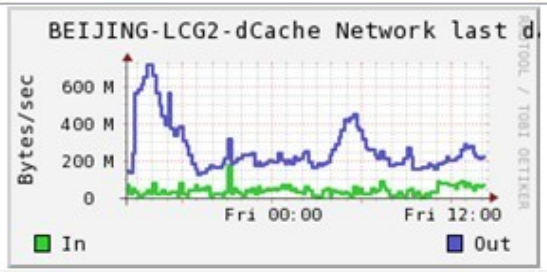
BEIJING-LCG2 站点作业统计信息

dCache SAM状态	[OK]
dCache传输状态	[UNKNOWN]
Cell Service状态	[OK]



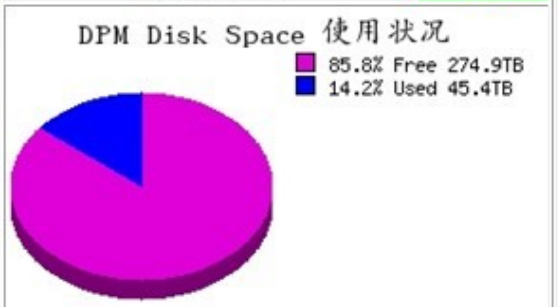
Total transfer to BEIJING-LCG2 dCache SE

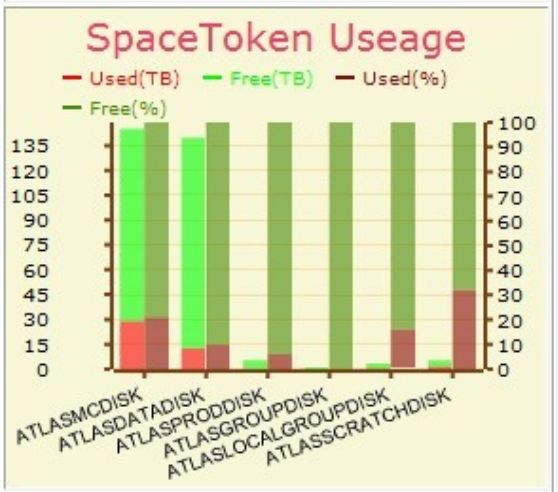


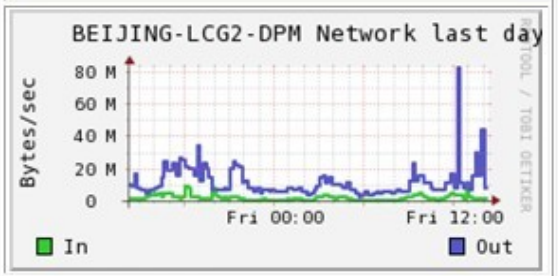


dCache SE 详细信息

DPM SAM状态	[OK]

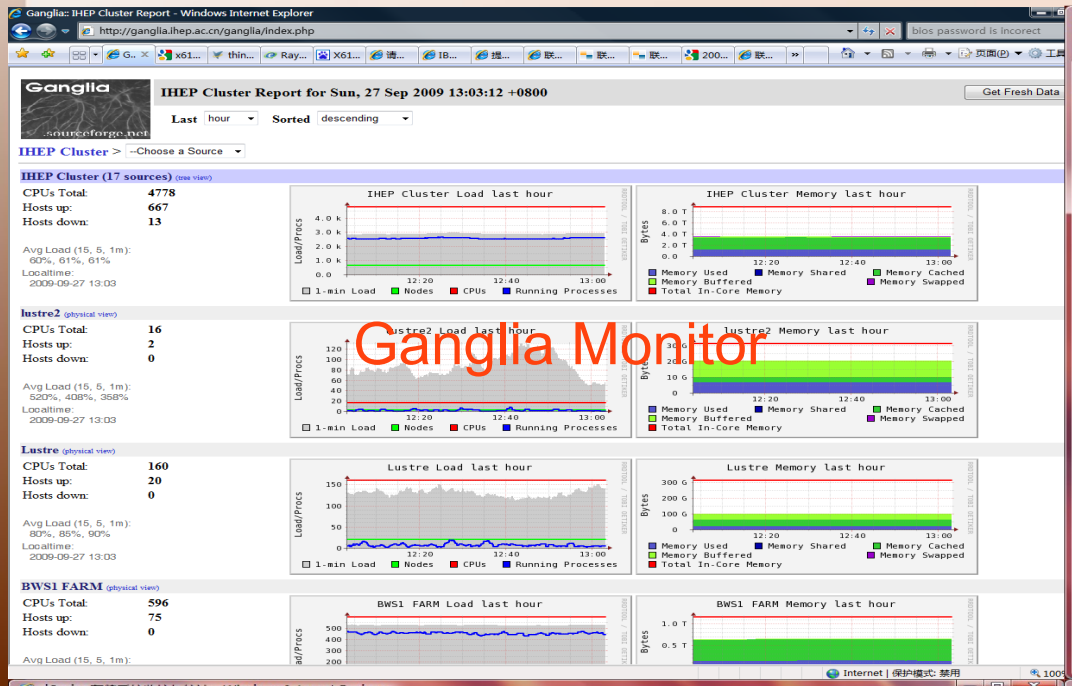


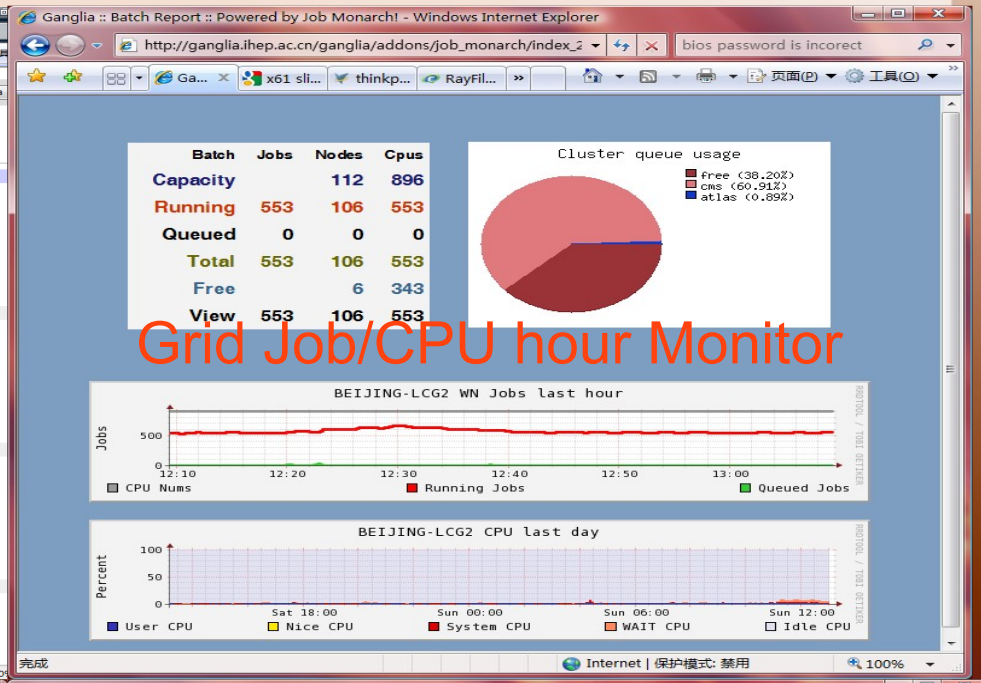


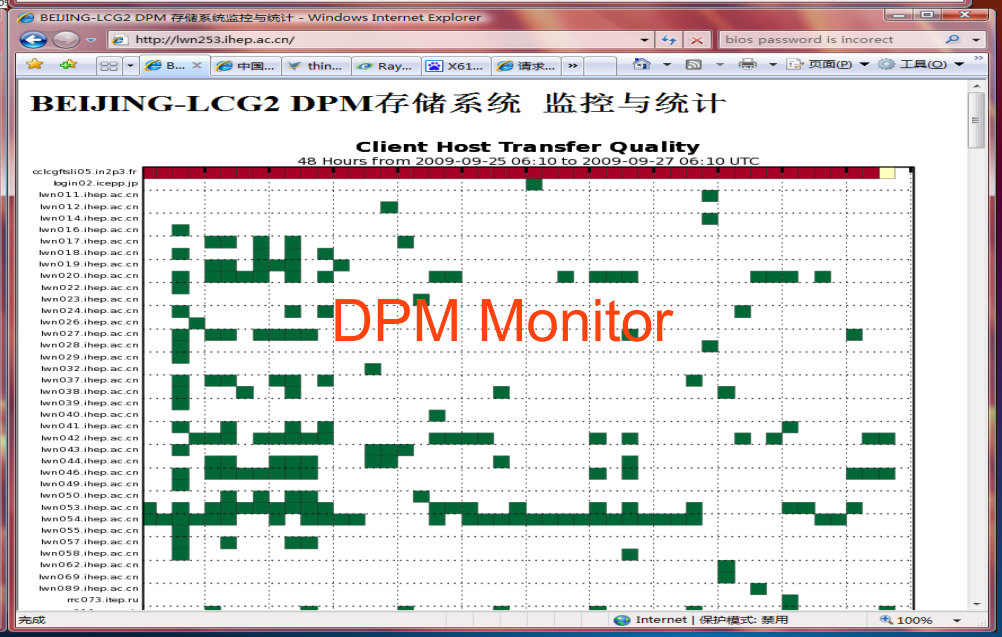


DPM SE 详细信息

More Monitoring

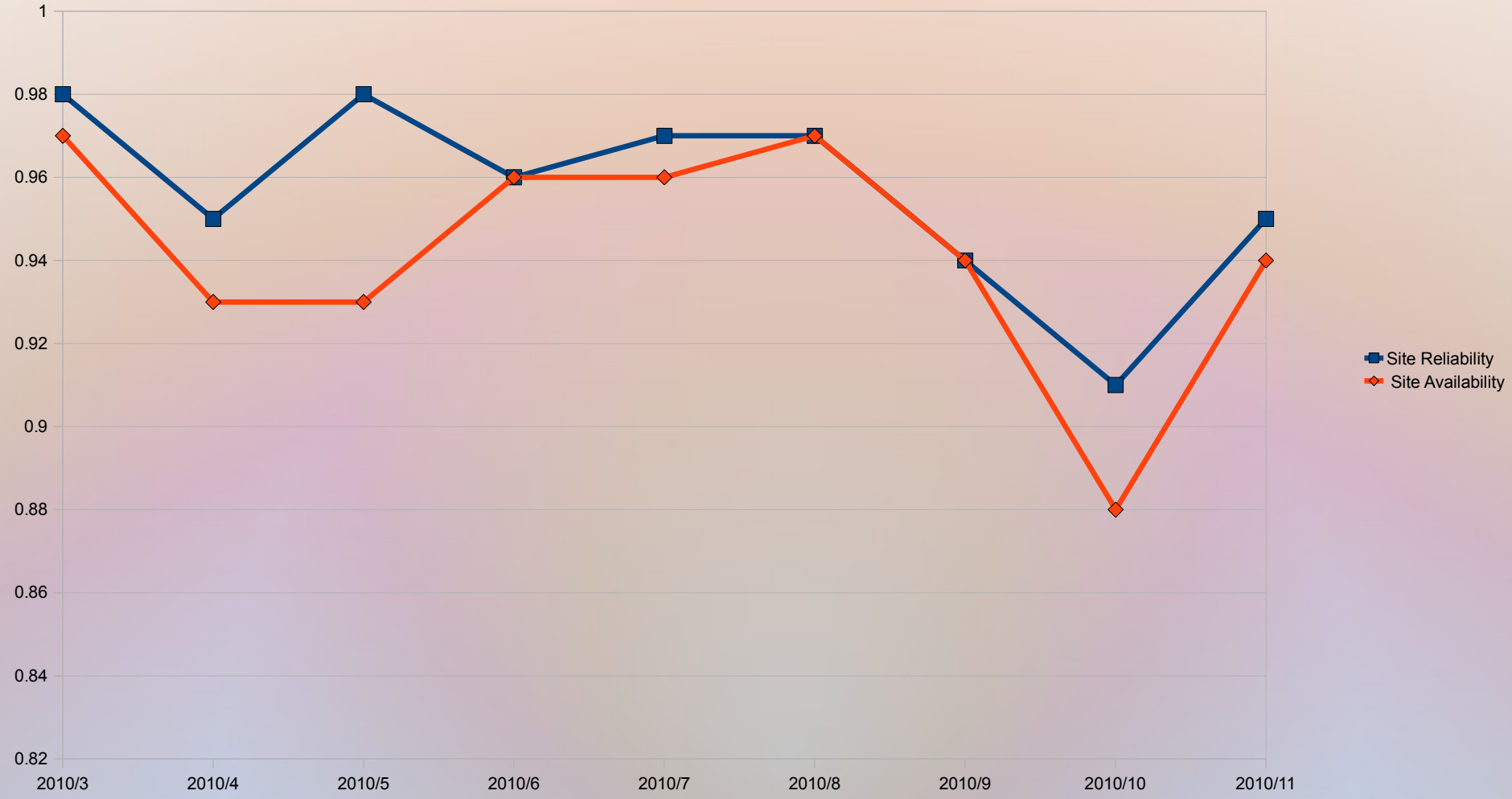






Site Reliability and Availability

provided by gridmap



ATLAS Tier2 : Data Transfer

Download 76TB data(2010/06-2010/11)

Statistics from DDM:
http://dashb-atlas-data-test.cern.ch/dashboard/request.py/site

Disk	Efficiency	Average Rate	Successful Files	Failed Files
MCDISK	97%	3MB/s	34554	958
DATADISK	30%	3MB/s	19203	45129
PRODDISK	86%	361KB/s	32449	5389
SRATCHDISK	98%	144KB/s	2558	44

ATLAS Tier2: Finished production jobs

(2010/6-2010/11) ranked by Efficiency

From PanDA production:
http://dashb-atlas-prodsys-test.cern.ch/dashboard/request.py/overview

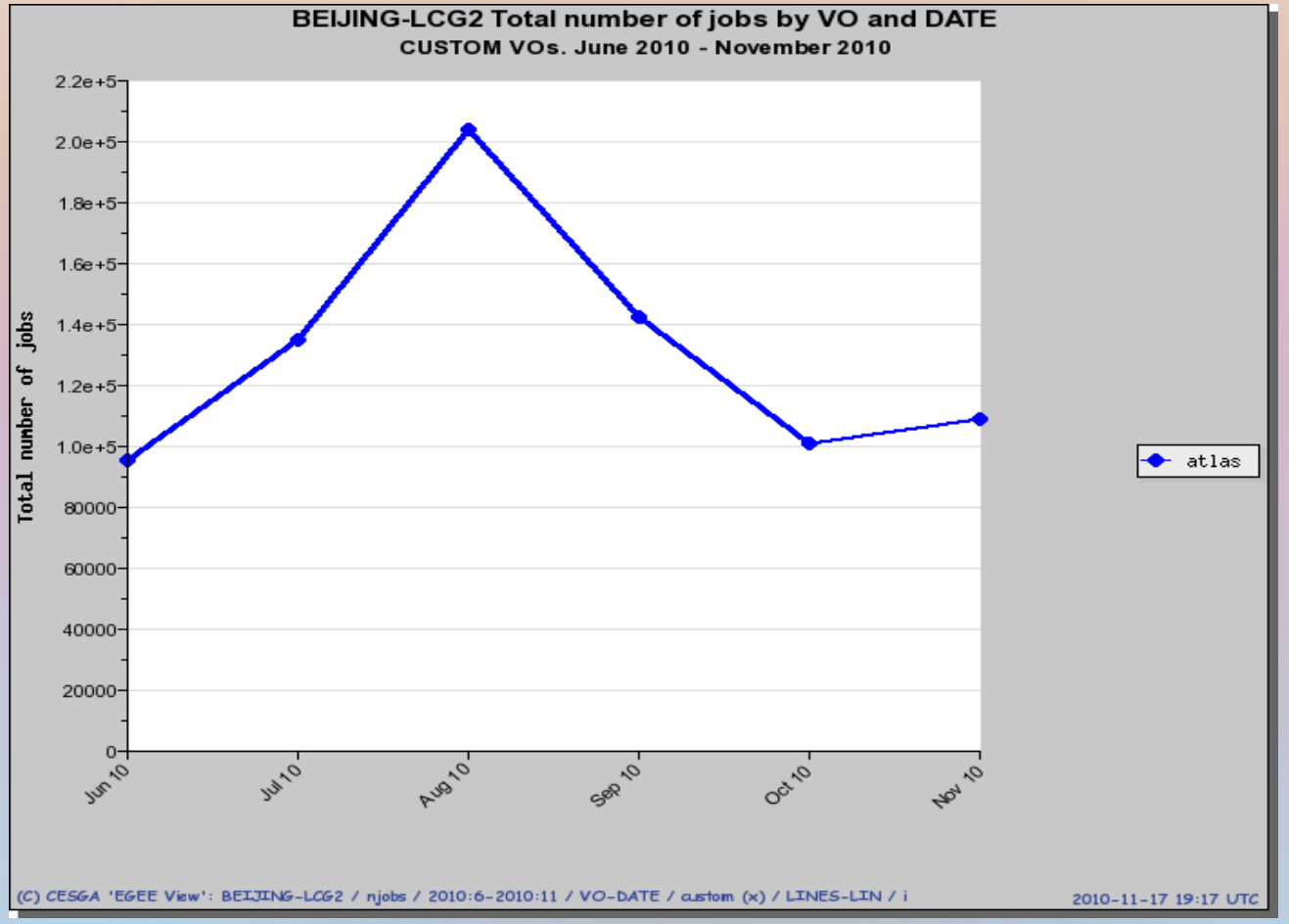
Site	Successful	Failed	Efficiency
TOKYO-LCG2	247699	6626	97.4%
BEIJING-LCG2	156500	5586	96.6%
IN2P3-LAPP	131018	4640	96.6%
IN2P3-LPC	101935	5488	94.9%
IN2P3-LPSC	63411	4017	94%
IN2P3-CPPM	146487	11174	92.9%
RO-07	79249	11287	87.5%
GRIF	264740	38468	87.3%

ATLAS Tier2: Finished Jobs

786,781 jobs finished (2010/06/10-2010/11/10)

Statistics from EGEE accounting :

http://www3.egee.cesga.es/gridsite/accounting/CESGA/egee_view.php

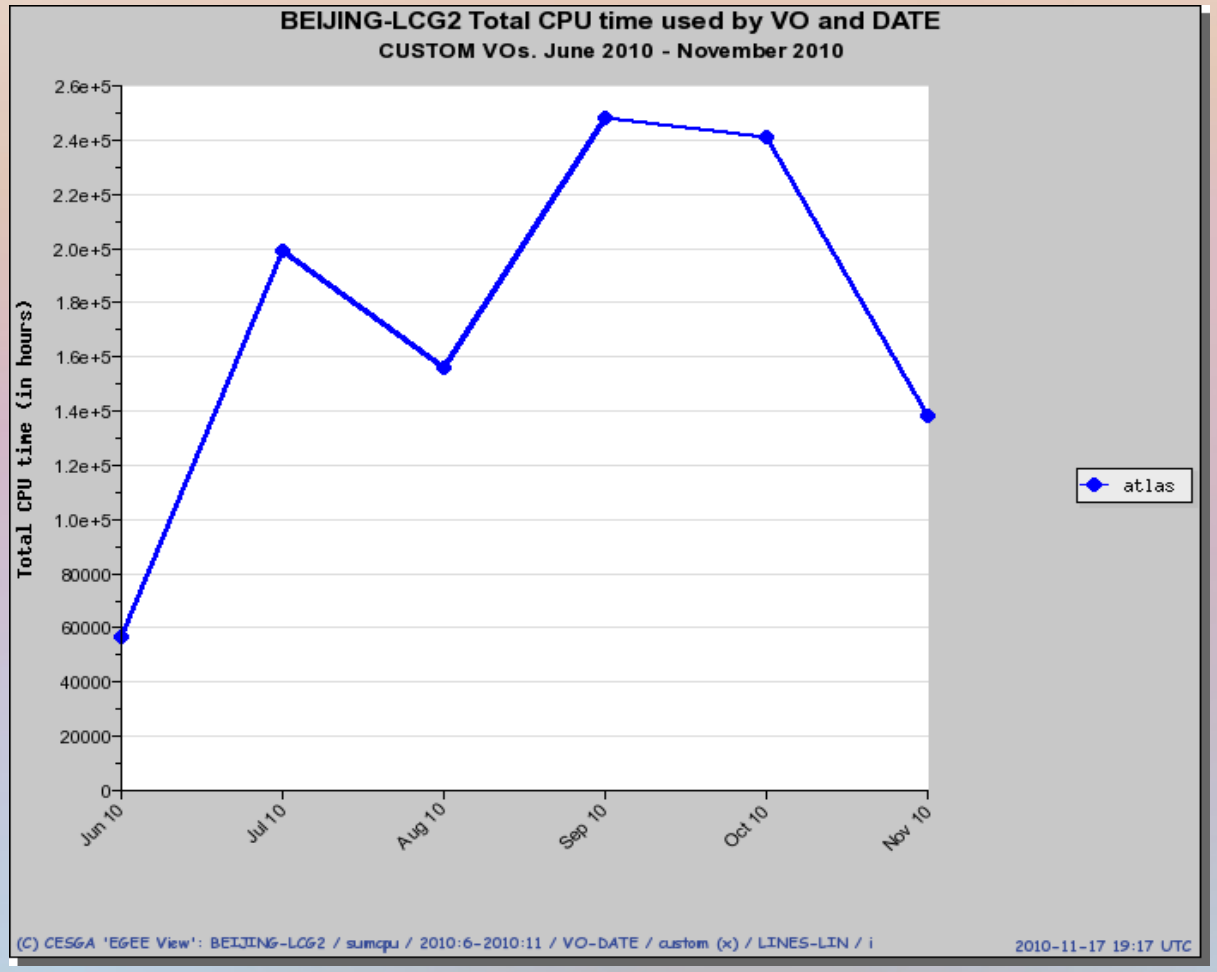


ATLAS Tier2: CPU Hours used

1,039,048 CPU hours used(2010/06/10-2010/11/10)

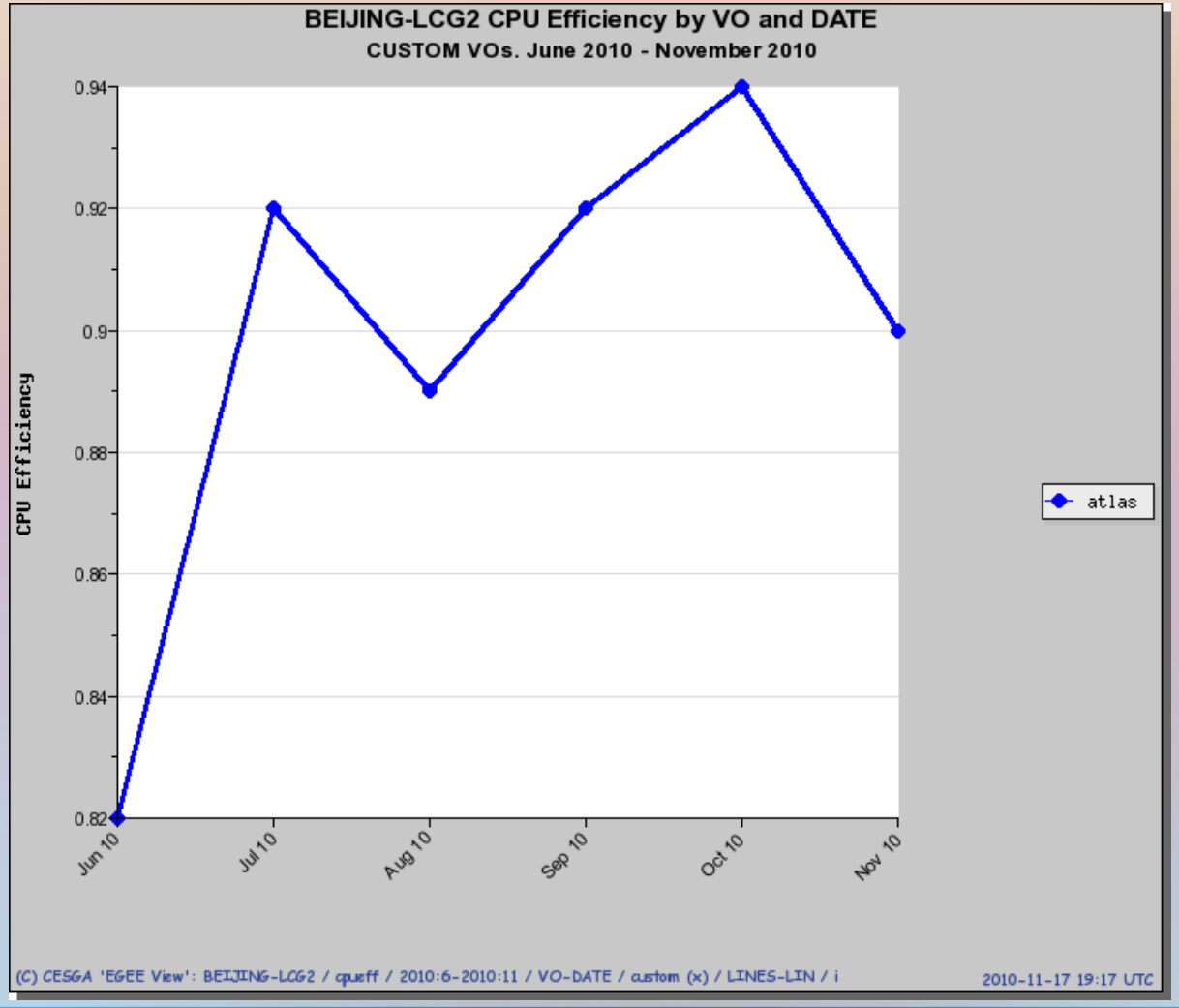
Available CPU hours for ATLAS is 357120 hours/month

CPU hours utilization is 48.4%(ATLAS), 33.3%(CMS)

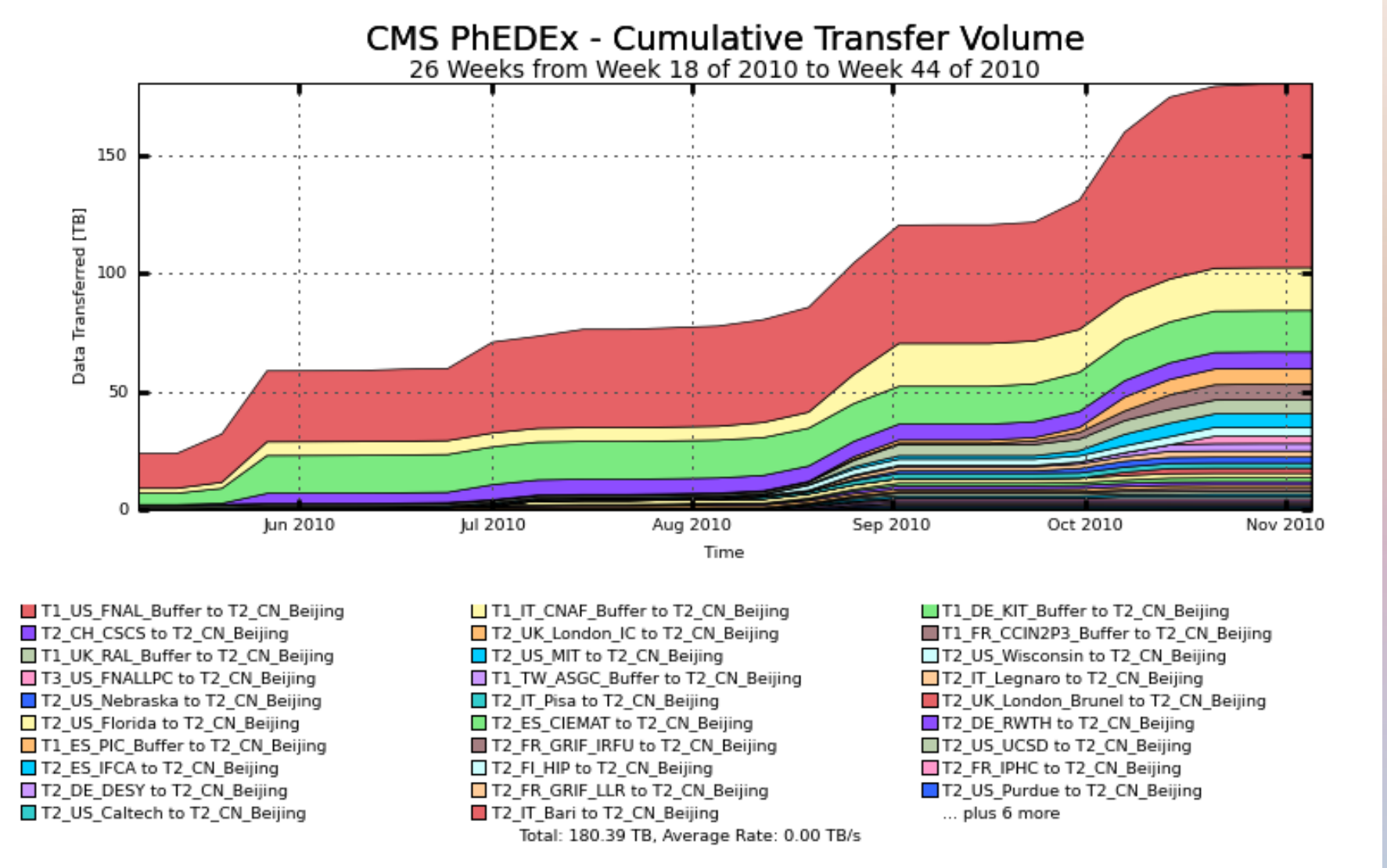


ATLAS Tier2: CPU Efficiency

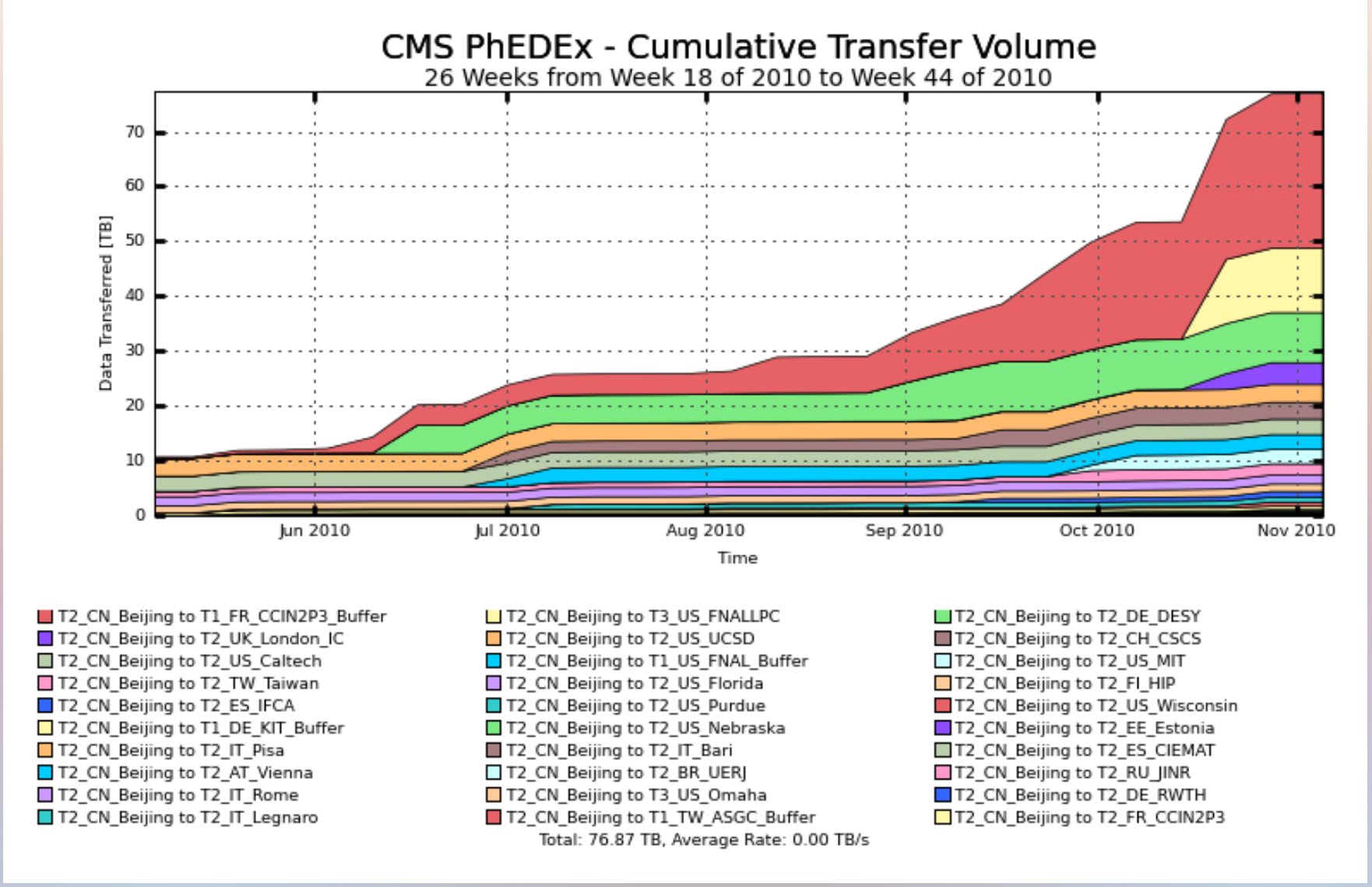
Average CPU efficiency is 91.2%(2010/06/10-2010/11/10)



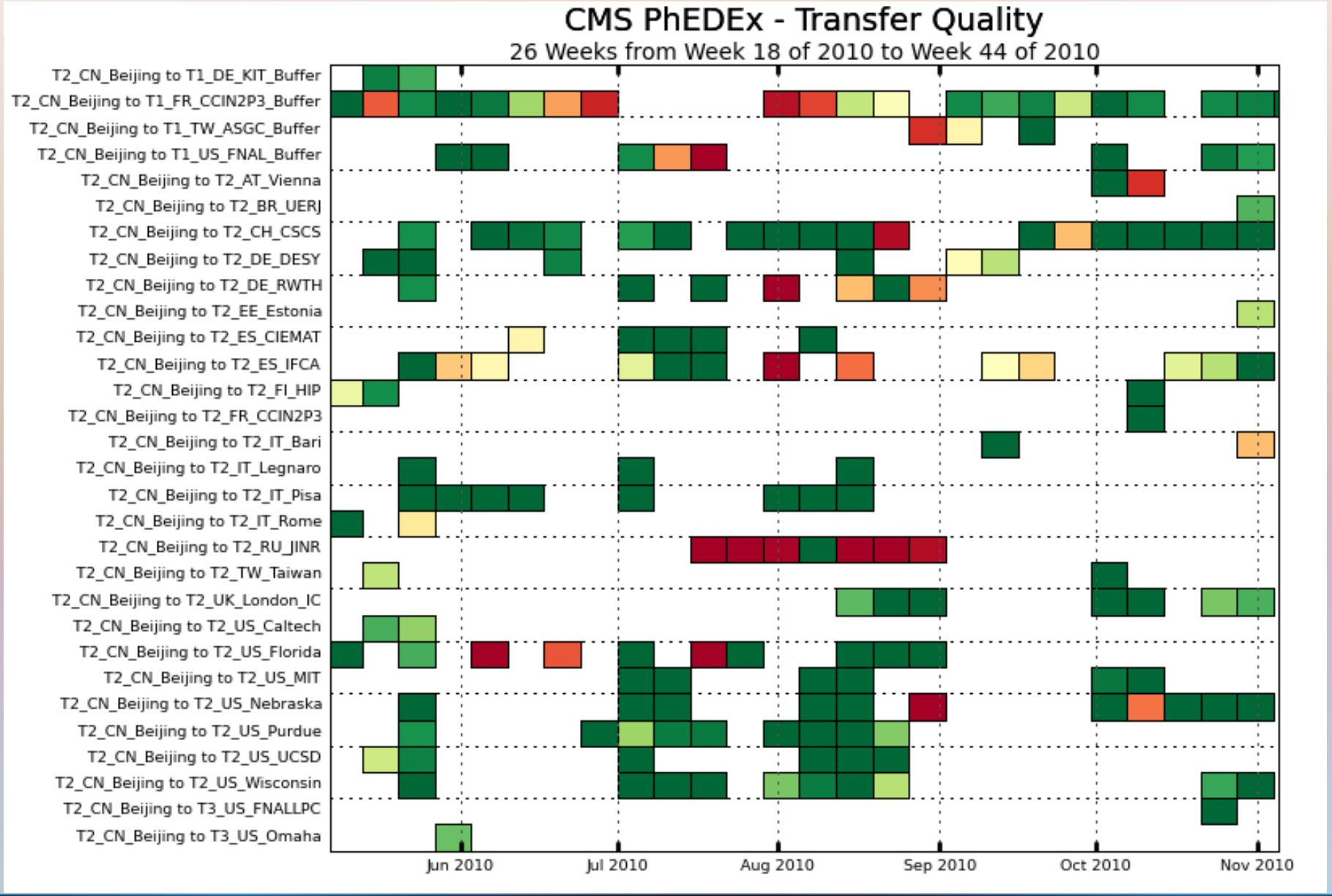
CMS Tier2: Download 180TB



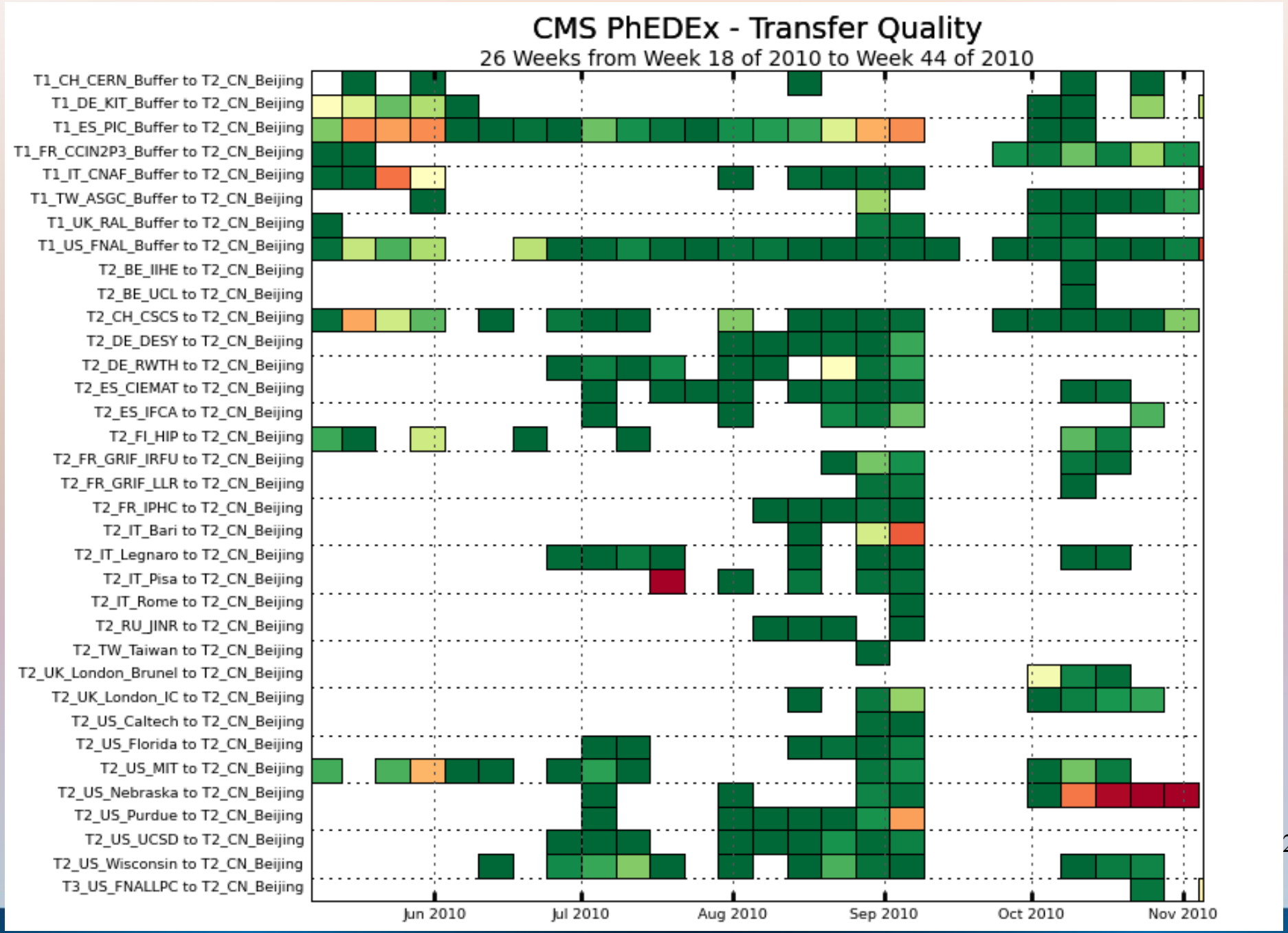
CMS Tier2 : Upload 77TB



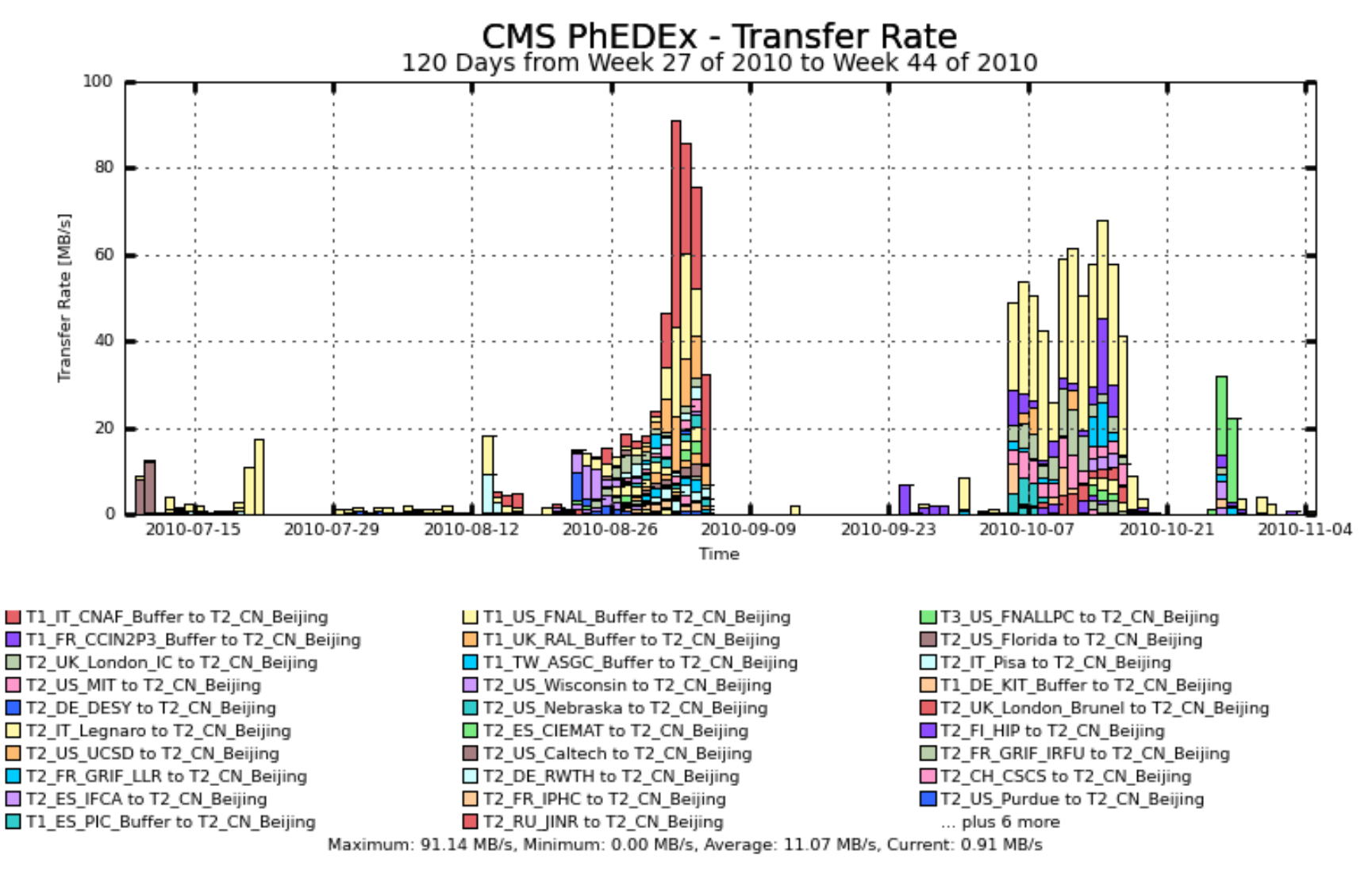
CMS Tier2 : Download Quality



CMS Tier2 : Upload Quality

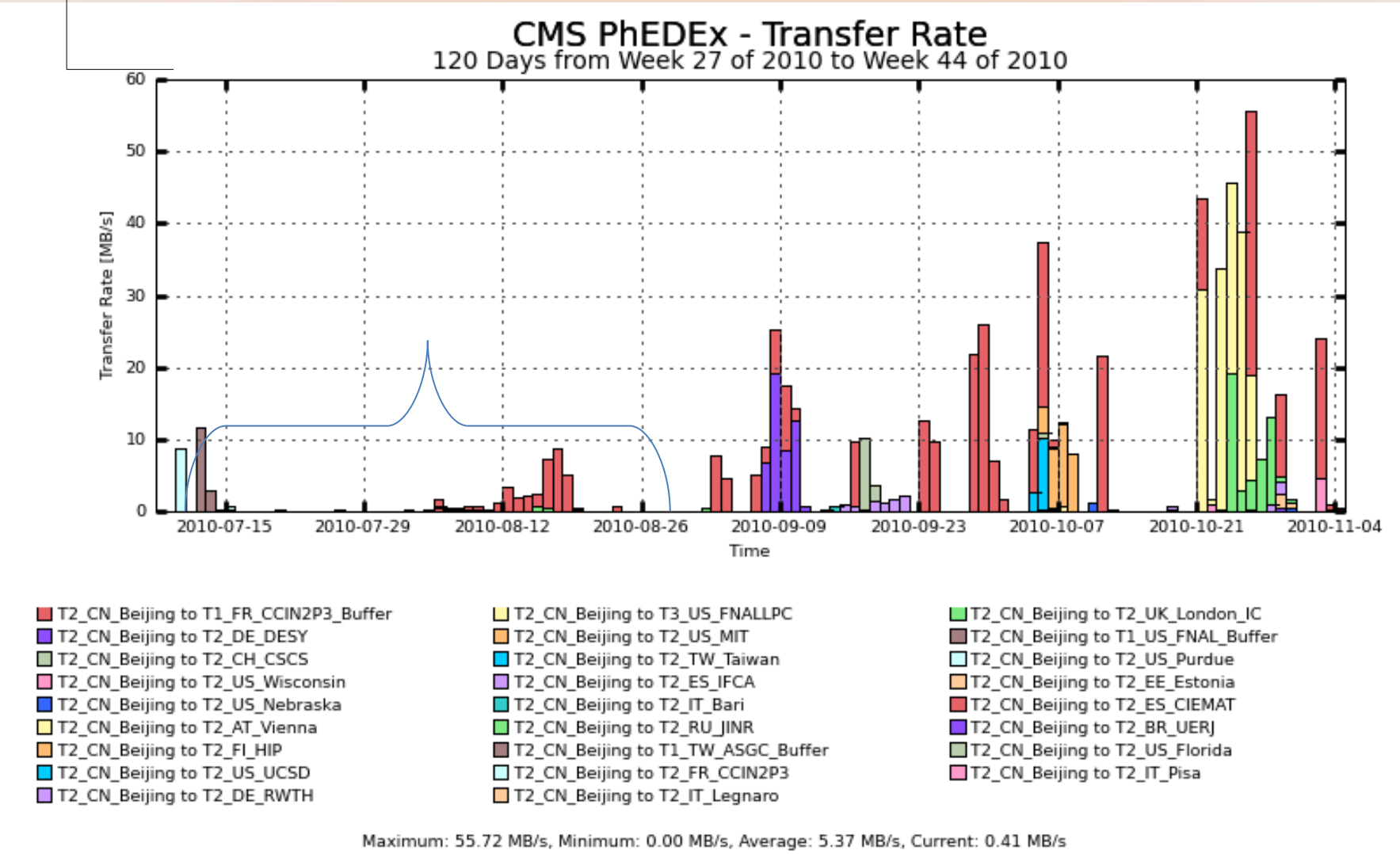


CMS Tier2：max download rate 91MB/s

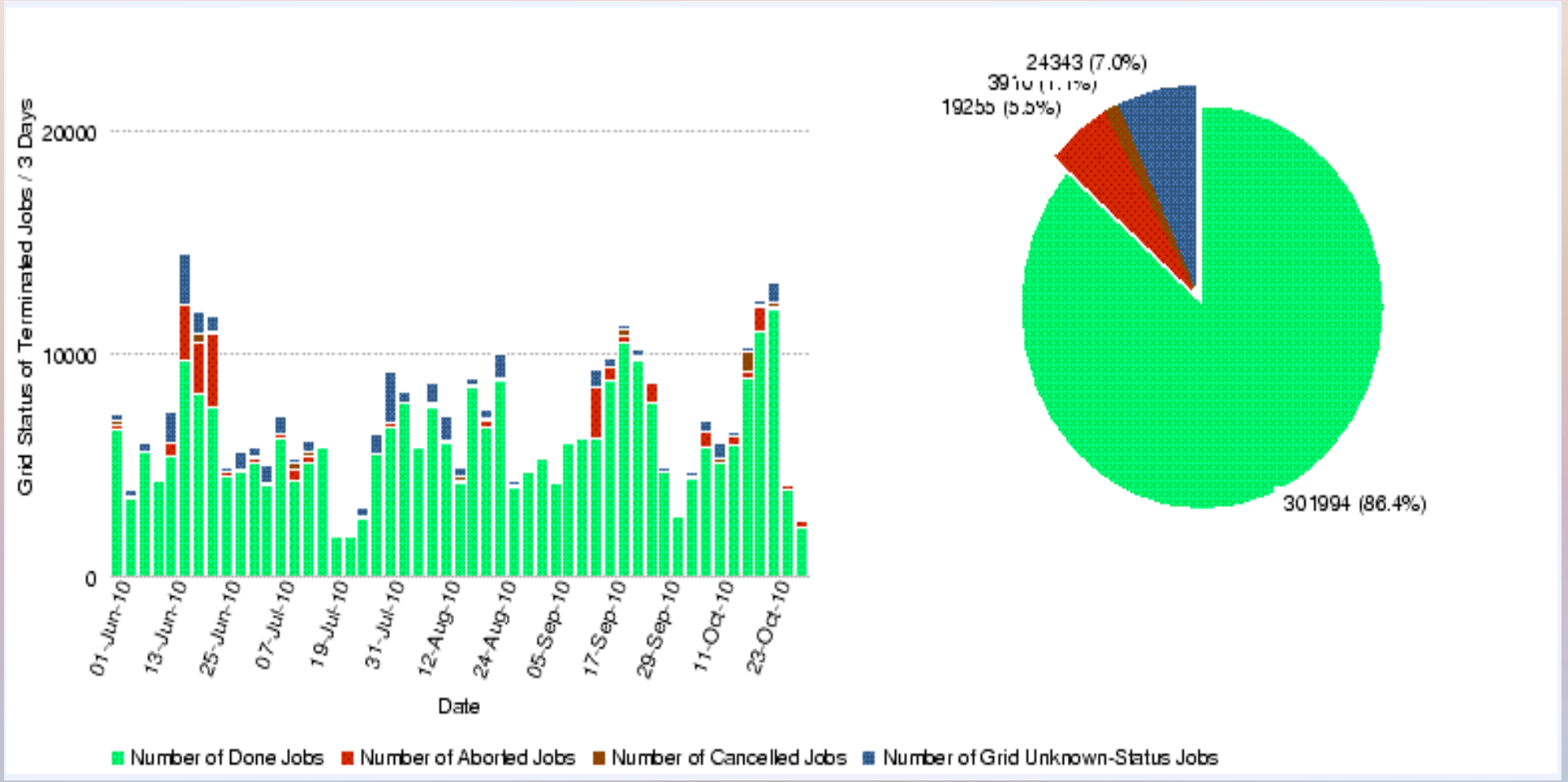


Max upload rate 55MB/s

network problem from Beijing to IN2P3 from July to September



CMS Tier2: Finish 301,994 jobs



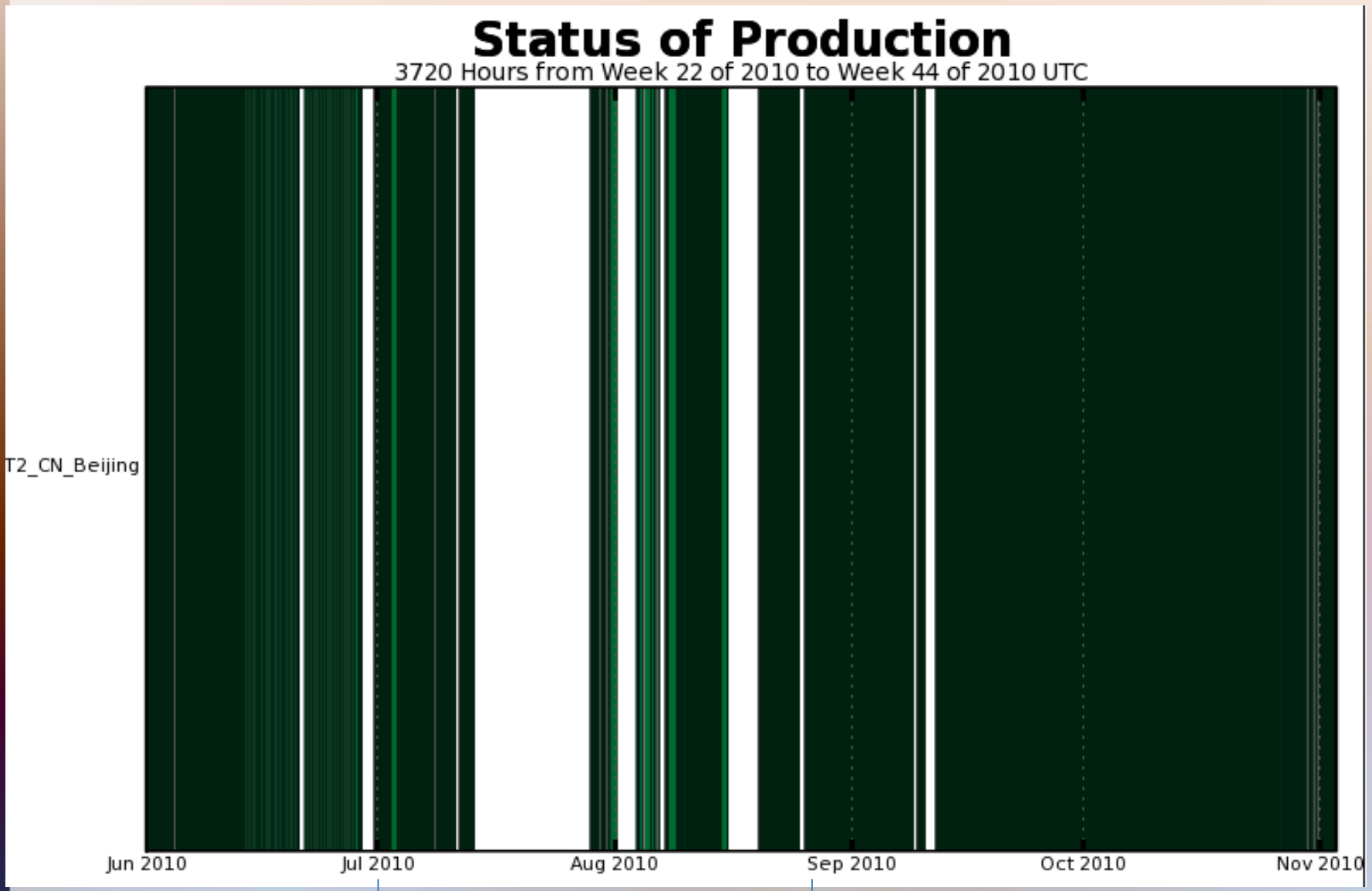
Site Future Plans

Software distribution by CVMFS(CernVM)

- athena
- cmssw

Virtualization of computer nodes via CernVM technology

Production status is good



network problem from Beijing to IN2P3 from July to September

The End!

Thanks