CCF Dcache Overview

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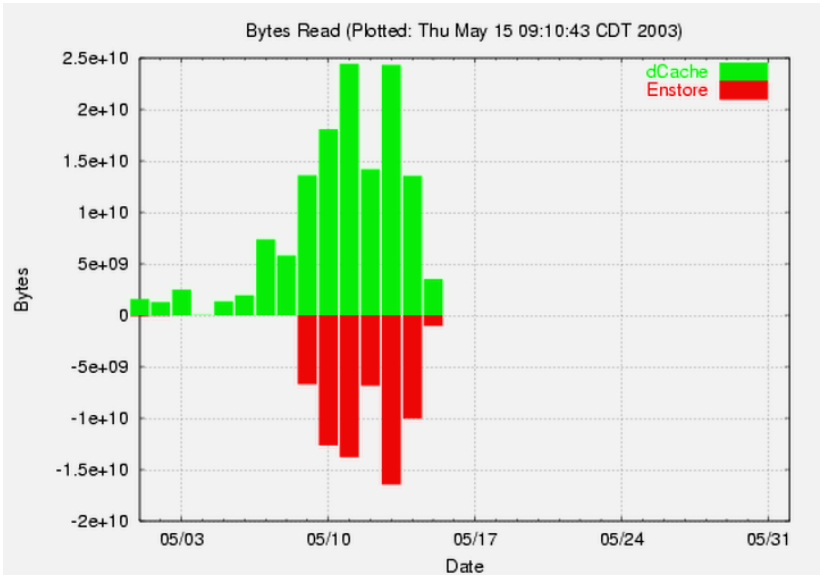
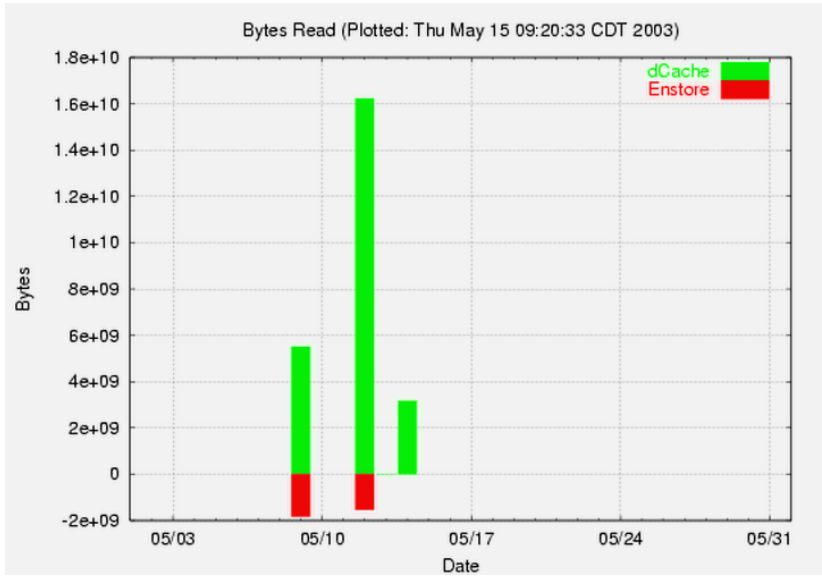
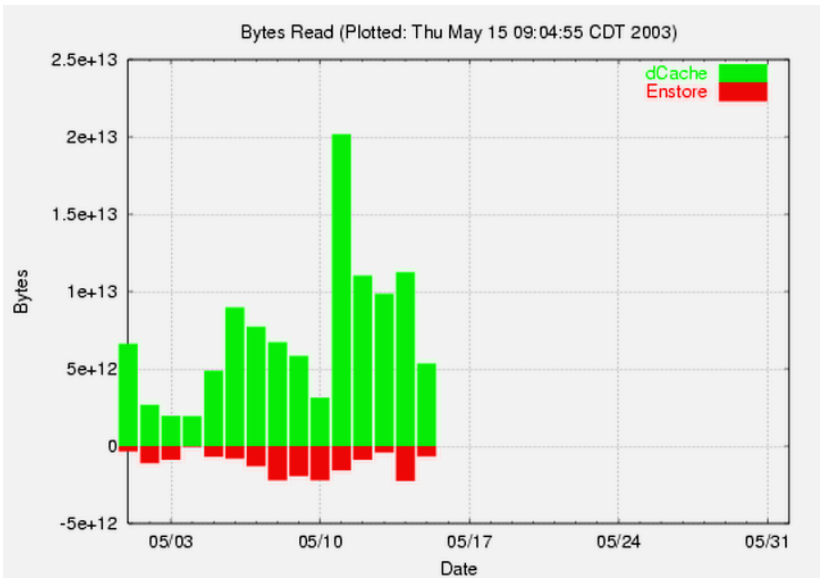
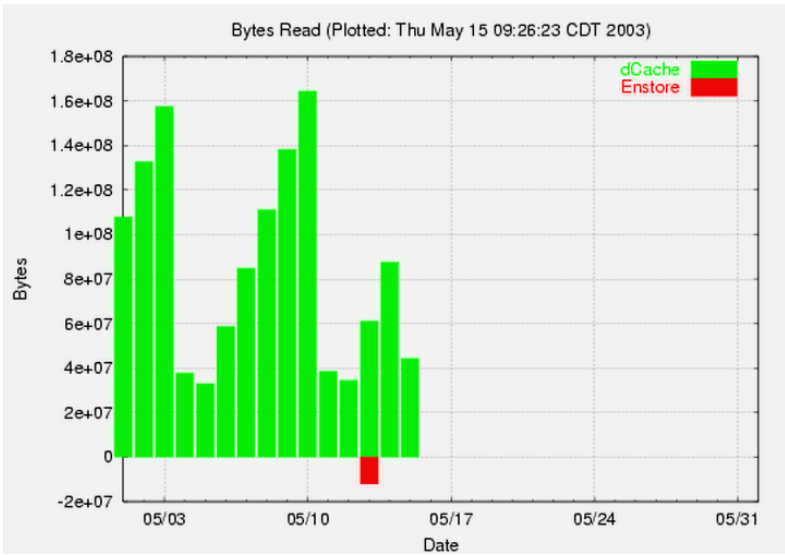
All FNAL usage

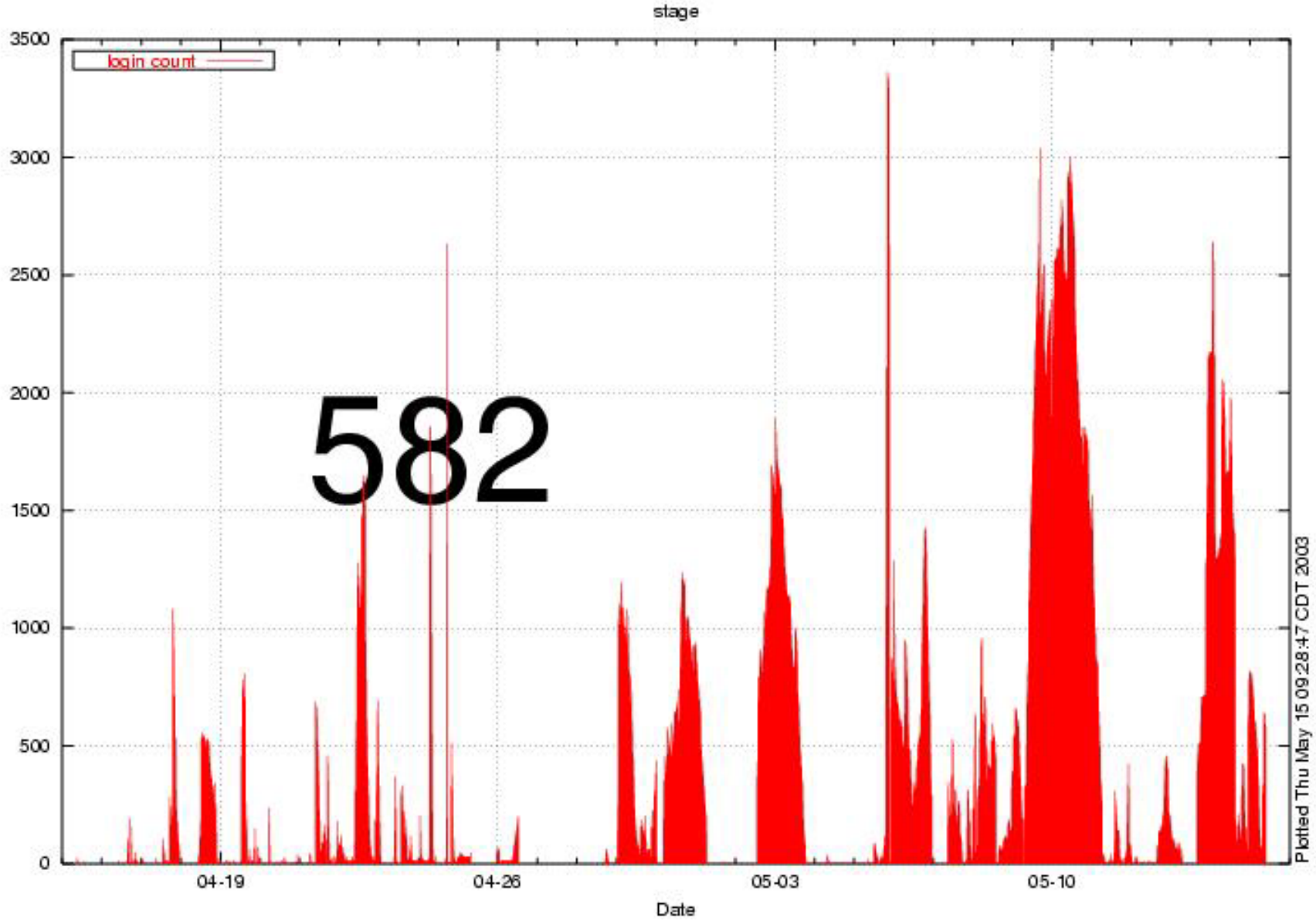
- CDF
  - most demanding requirements.
  - most demanding usage to date.
- STKEN
  - Light demand, but production.
  - Also development – LQCD, Auger, CDMS
- CMS, sam

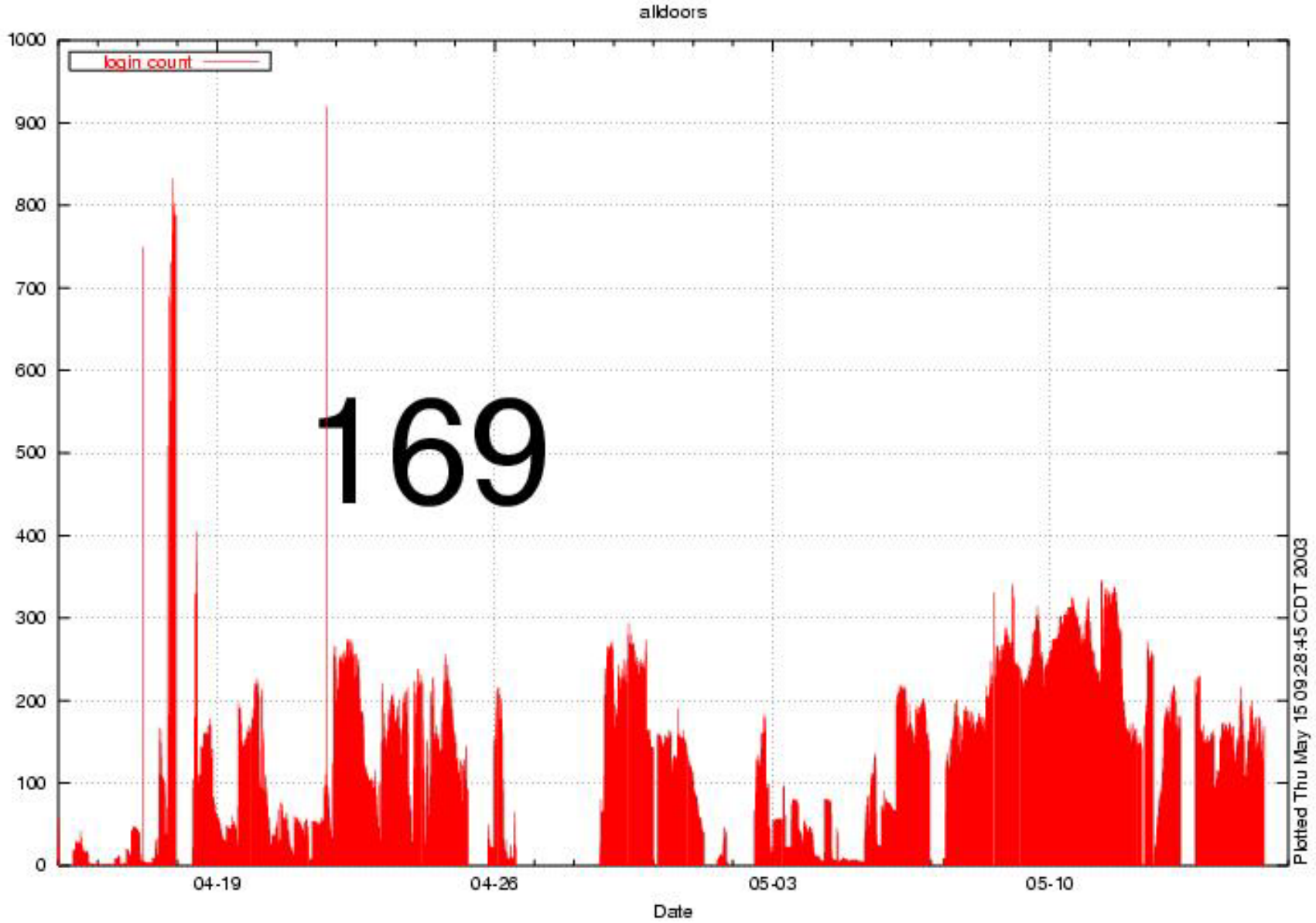

Bytes Read (Plotted: Thu May 15 09:10:43 CDT 2003)
dCache
Enstore
Bytes
2.5e+10
2e+10
1.5e+10
1e+10
5e+09
0
-5e+09
-1e+10
-1.5e+10
-2e+10
05/03
05/10
05/17
05/24
05/31
Date

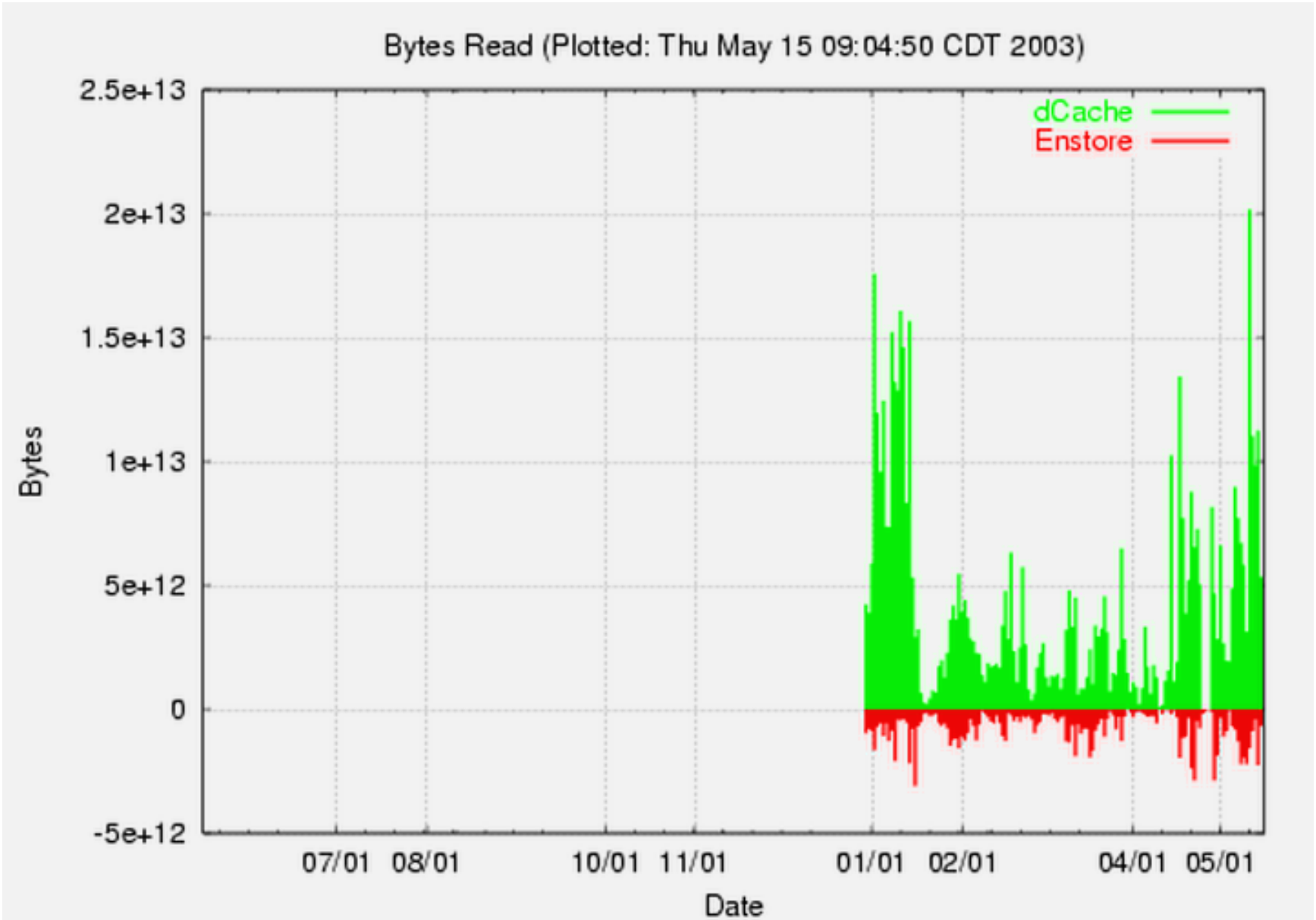

Bytes Read (Plotted: Thu May 15 09:20:33 CDT 2003)
dCache
Enstore
Bytes
1.8e+10
1.6e+10
1.4e+10
1.2e+10
1e+10
8e+09
6e+09
4e+09
2e+09
0
-2e+09
05/03
05/10
05/17
05/24
05/31
Date

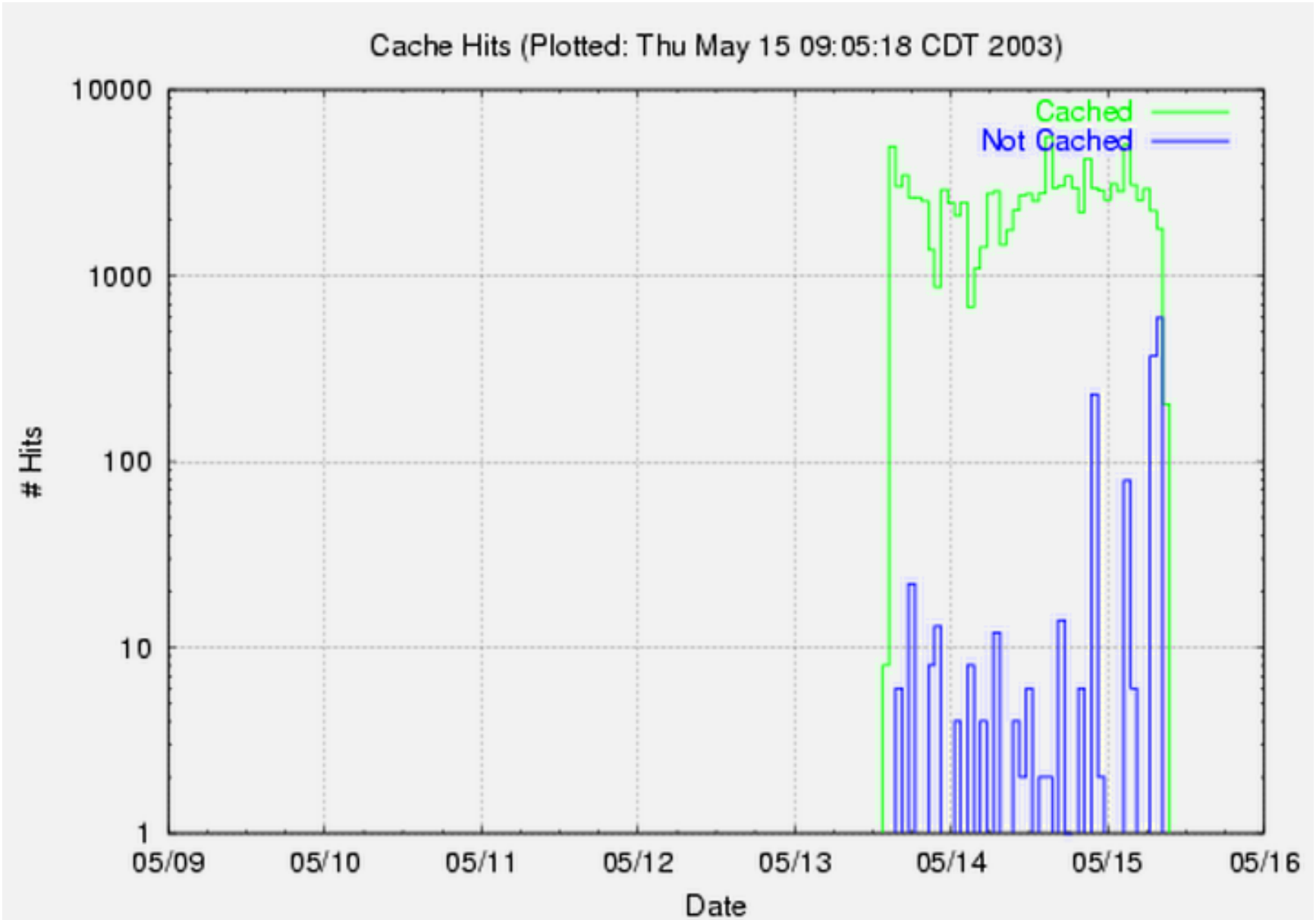

Bytes Read (Plotted: Thu May 15 09:04:55 CDT 2003)
dCache
Enstore
Bytes
2.5e+13
2e+13
1.5e+13
1e+13
5e+12
0
-5e+12
05/03
05/10
05/17
05/24
05/31
Date


Bytes Read (Plotted: Thu May 15 09:26:23 CDT 2003)
dCache
Enstore
Bytes
1.8e+08
1.6e+08
1.4e+08
1.2e+08
1e+08
8e+07
6e+07
4e+07
2e+07
0
-2e+07
05/03
05/10
05/17
05/24
05/31
Date


stage
login count
3500
3000
2500
2000
1500
1000
500
0
582
04-19
04-26
05-03
05-10
Date
Plotted Thu May 15 09:28:47 CDT 2003


alldoors
login count
1000
900
800
700
600
500
400
300
200
100
0
169
04-19
04-26
05-03
05-10
Date
Plotted Thu May 15 09:28:45 CDT 2003


Bytes Read (Plotted: Thu May 15 09:04:50 CDT 2003)
dCache
Enstore
2.5e+13
2e+13
1.5e+13
1e+13
5e+12
0
-5e+12
Bytes
07/01
08/01
10/01
11/01
01/01
02/01
04/01
05/01
Date


Cache Hits (Plotted: Thu May 15 09:05:18 CDT 2003)
10000
1000
100
10
1
Hits
Cached
Not Cached
05/09
05/10
05/11
05/12
05/13
05/14
05/15
05/16
Date

Selected dCache feature

Feature	CMS	CDF	D0	Other
Lcl Record	Yes	Yes	No	Minos – root posisble
Lcl stage	Yes	Yes	Yes	Yes
Rmt stage	Yes	Yes	Yes	Minos, Auger, cdms, LQCD
Rmt Record	IF LCG	cowboys?	No	No
SRM	Copy, mgt	Scaling, Pins?	Pins?	srmCopy, LQCDgrid
Tapeless DP	n/a	Yes	Yes	Minos?
Scaling	20TB plan	100 TB 600MB/s	5 TB	few TB

Deployments

- CDF leads in performance requirements.
- DESY deployment leads in skillful use of features
- Other FNAL deploymentd give grid interfaces, are not demanding in performance or mangement.
- CMS has deployed at UCSD and CERN (no tape)

FNAL Work Program (some)

- Tapeless data path (and all it implies)
  - Includes Kerberized transfers
  - Data integrity -- CRC
- Scaling CDF read caches
  - java I/O looms
  - Cost model and stochastic distribution to pools
- Grid:
  - SRM – and 3rd party transfers, C++ srm client
  - Grid FTP V1.1 protocols
- Monitoring and alarms, deployment
  - Alarming needs for alarms
  - Monitoring is merely sustained work now.
  - Hand off for sustainable operations