ATLAS FR Cloud meeting
Network transfer summary
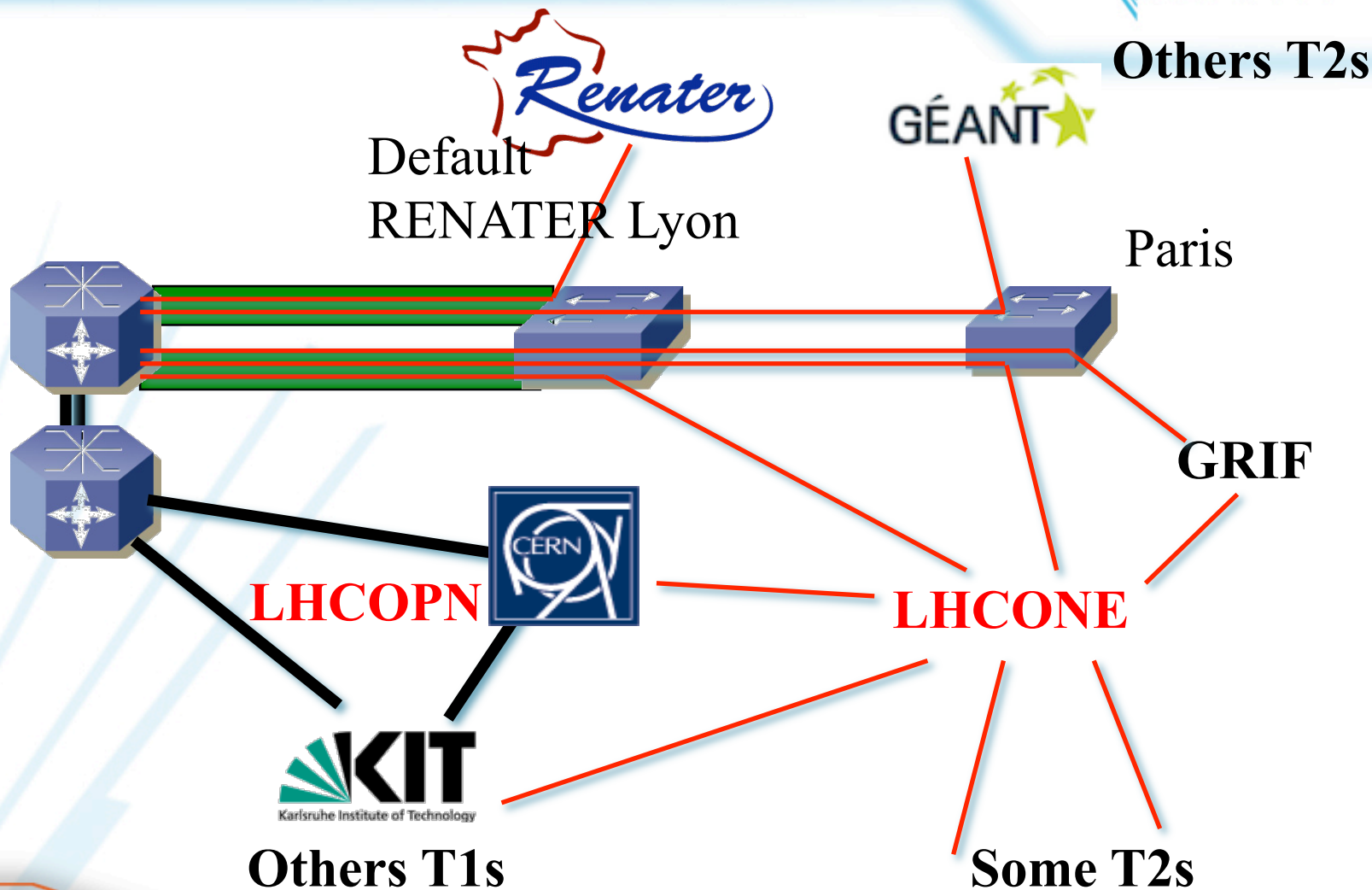
ATLAS + IHEP + ICEPP + CCIN2P3
June 2012

- Extraction of some transparents of the meeting concerning network transfers with CCIN2P3
- Thanks to
  - ATLAS Lancon
  - IHEP Xiaofei
  - ICEPP Nakamura
  - RO Stoicea + Ciubancan
  - CCIN2P3

  and all their teams …
- Paper references:

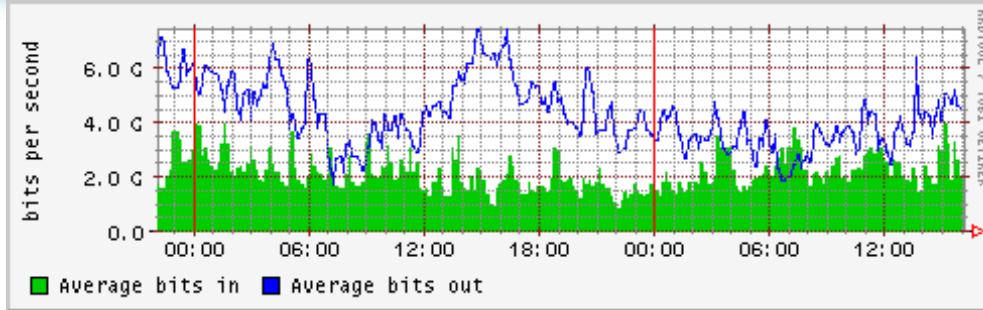 https://indico.cern.ch/conferenceDisplay.py?confId=181944

CCIN2P3 external connectivity

4x10Gb/s

Others T2s

Default
RENATER Lyon

Paris

GRIF
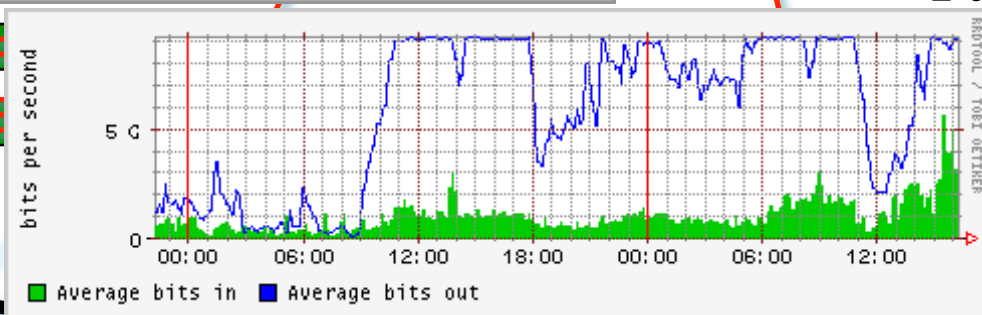
LHCOPN

LHCONE
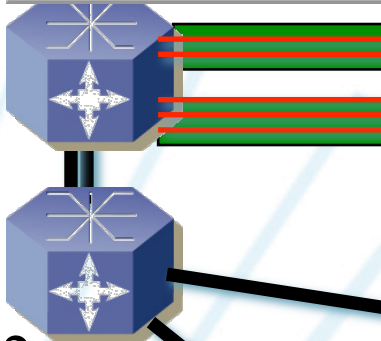
Others T1s

Some T2s

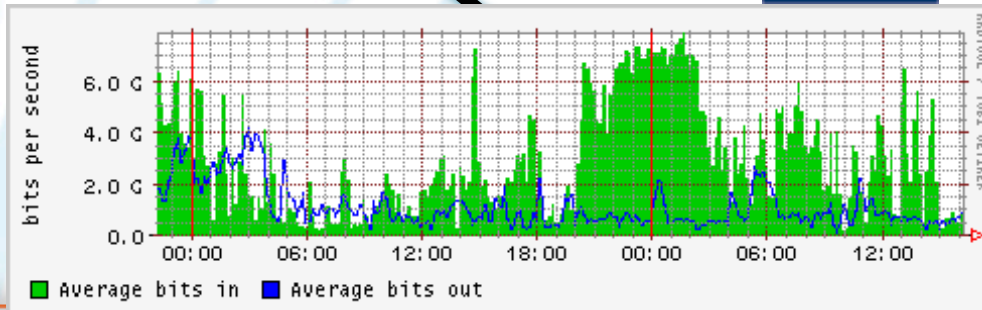# CCIN2P3 external connectivity
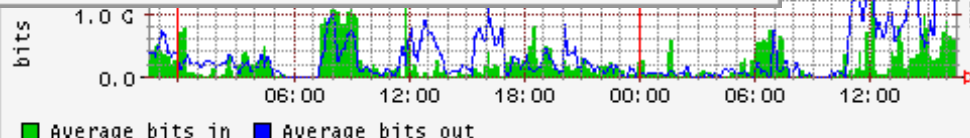
4x10Gb/s

Others T2s

GÉANT

Paris

GRIF

7 June 2012

LHCOPN

CERN

LHCONE

Some T2s

Transfer performances

CCIN2P3 to distant sites

CCIN2P3 to	LAN	LAL Paris	GEANT London	IHEP China	ICEPP Japan
LINUX 2x 1 Gb/s Old algo	830 Mb/s	620 Mb/s	160 Mb/s	15 Mb/s	2 Mb/s
LINUX 2x 1 Gb/s New algo	860 Mb/s	600 Mb/s	400 Mb/s	220 Mb/s	12 Mb/s
SOLARIS 2x 1 Gb/s	940 Mb/s	940 Mb/s	400 Mb/s	200 Mb/s	400 Mb/s

May 22 new bonding algorithm on Linux servers

iperf tests 1 stream -w16M

May 23 effect
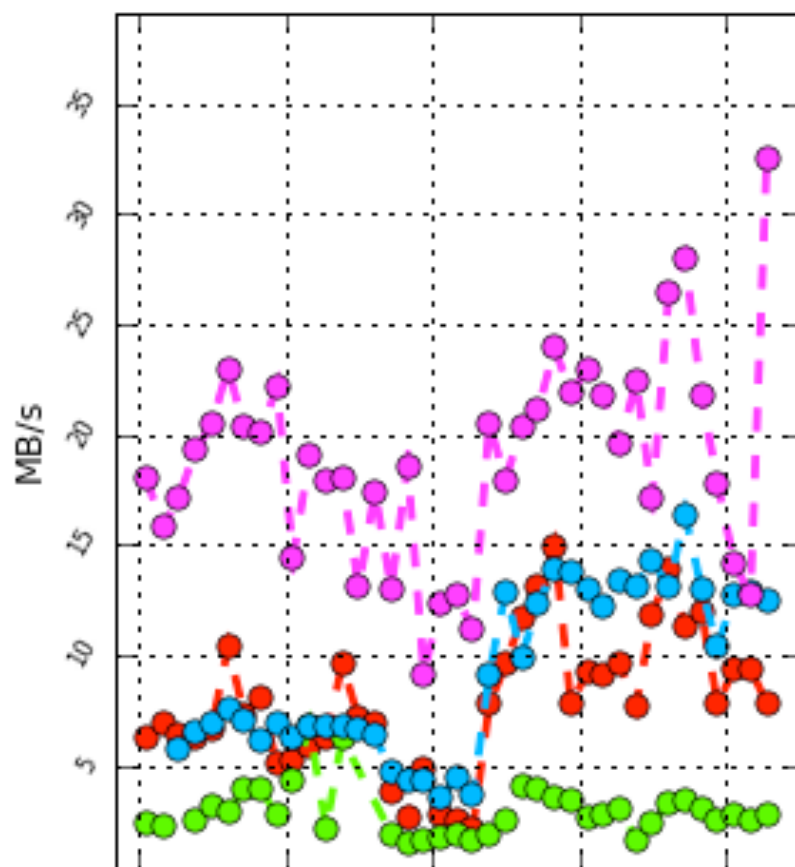
ATLAS FR Cloud

- Iperf average

- Big differences when the machine is free unlike it is in production, even if the network card is few used,

  the throughput can then vary for exemple

  for IHEP site from 10 to 200 Mb/s !

Tokyo to T1s
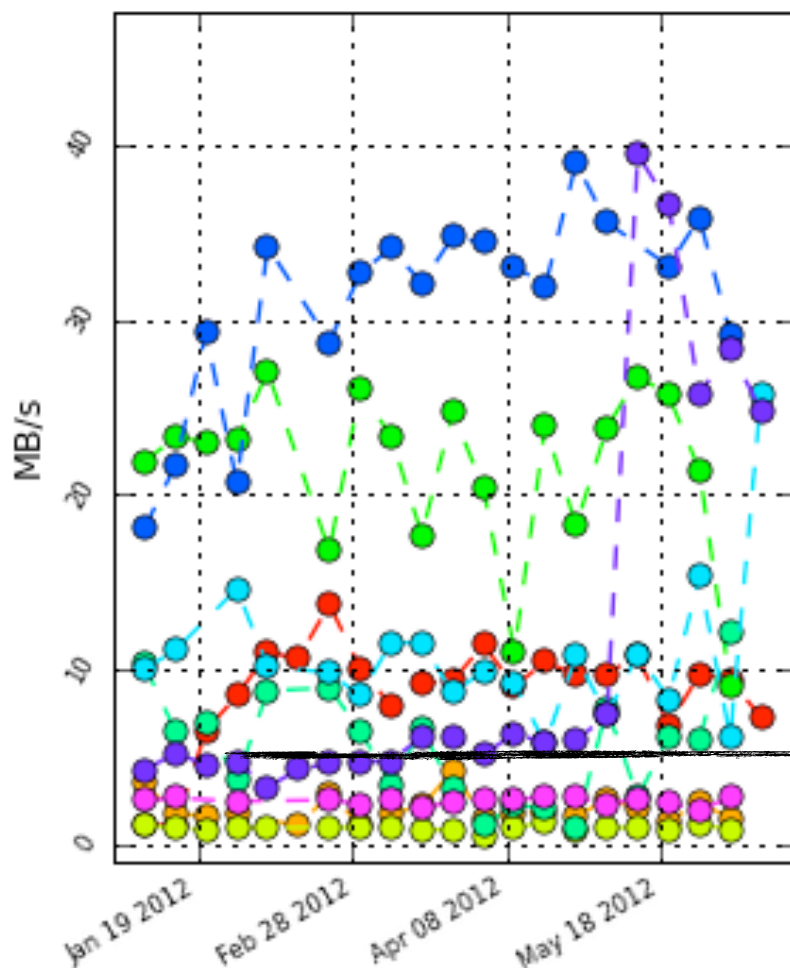
T1s to Tokyo
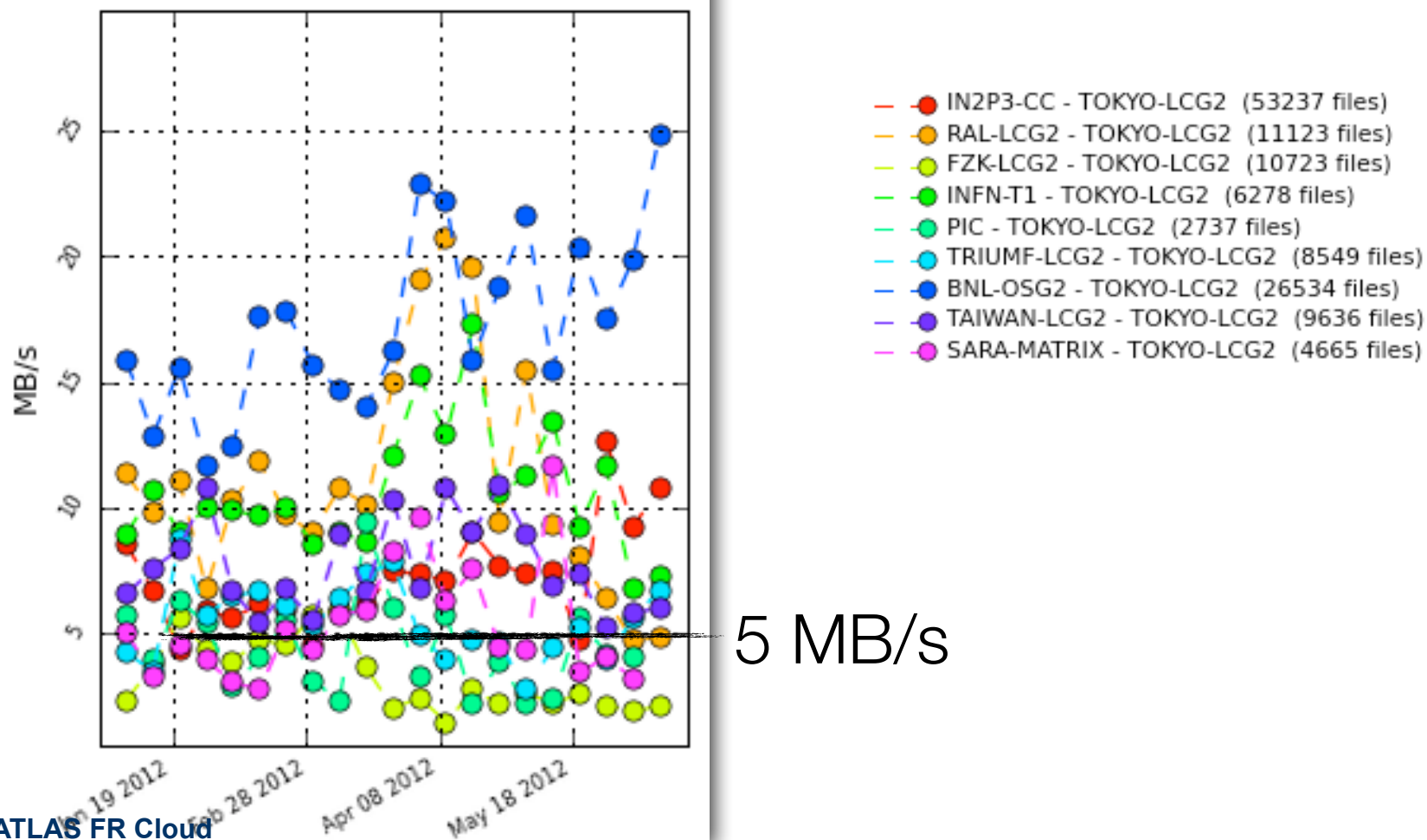

5 MB/s

ATLAS FR Cloud

FTS monitor (from TOKYO to Tier1s)

Good

FTS transfer rates

MB/s

5MB/sec

Jan 11 2012   Feb 01 2012   Feb 22 2012   Mar 14 2012
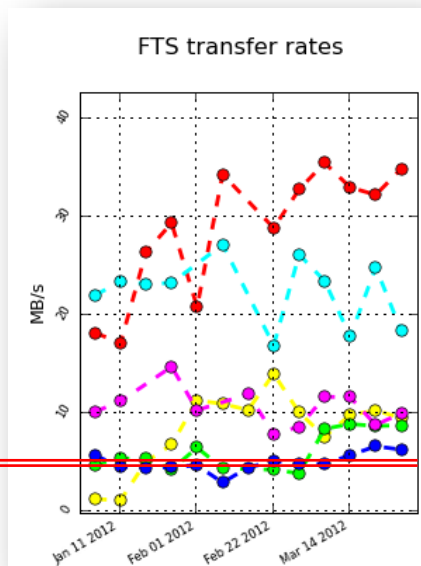
— ● TOKYO-LCG2 - BNL-OSG2 (66 files)
— ● TOKYO-LCG2 - IN2P3-CC (12625 files)
— ● TOKYO-LCG2 - NDGF-T1 (62 files)
— ● TOKYO-LCG2 - INFN-T1 (55 files)
— ● TOKYO-LCG2 - TAIWAN-LCG2 (2746 files)
— ● TOKYO-LCG2 - TRIUMF-LCG2 (55 files)

Jan. 1 – Mar. 31, 2011

No good

FTS transfer rates

MB/s

5MB/sec

Jan 11 2012   Feb 01 2012   Feb 22 2012   Mar 14 2012
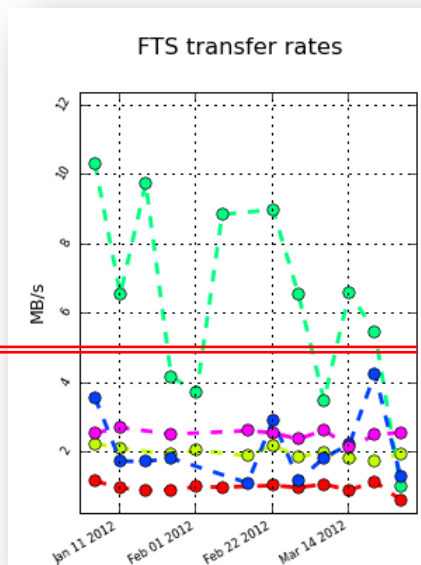
— ● TOKYO-LCG2 - FZK-LCG2 (60 files)
— ● TOKYO-LCG2 - NIKHEF-ELPROD (55 files)
— ● TOKYO-LCG2 - PIC (60 files)
— ● TOKYO-LCG2 - RAL-LCG2 (55 files)
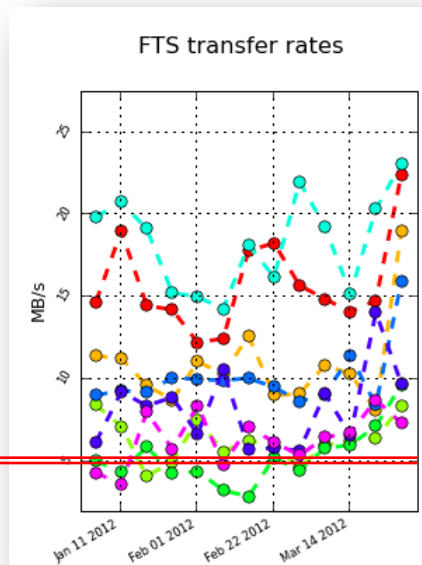— ● TOKYO-LCG2 - SARA-MATRIX (50 files)

FTS monitor (from Tier1s to TOKYO)

Good

FTS transfer rates

5MB/sec

- ● BNL-OSG2 - TOKYO-LCG2 (15913 files)
- ● RAL-LCG2 - TOKYO-LCG2 (5835 files)
- ● IN2P3-CC - TOKYO-LCG2 (18911 files)
- ● SARA-MATRIX - TOKYO-LCG2 (2441 files)
- ● NDGF-T1 - TOKYO-LCG2 (2651 files)
- ● INFN-T1 - TOKYO-LCG2 (3472 files)
- ● TAIWAN-LCG2 - TOKYO-LCG2 (4479 files)
- ● TRIUMF-LCG2 - TOKYO-LCG2 (2255 files)

Jan. 1 – Mar. 31, 2011

No good

FTS transfer rates
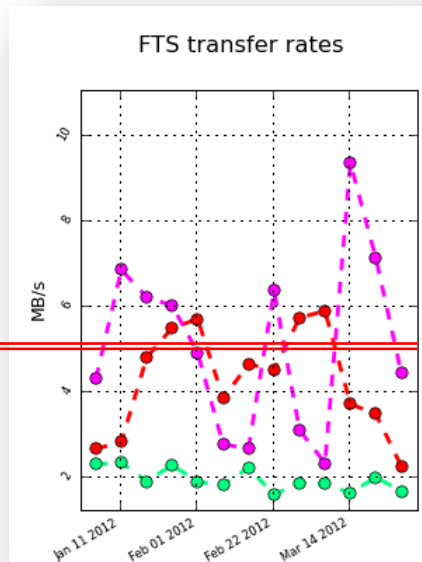
5MB/sec

- ● FZK-LCG2 - TOKYO-LCG2 (6240 files)
- ● NIKHEF-ELPROD - TOKYO-LCG2 (1091 files)
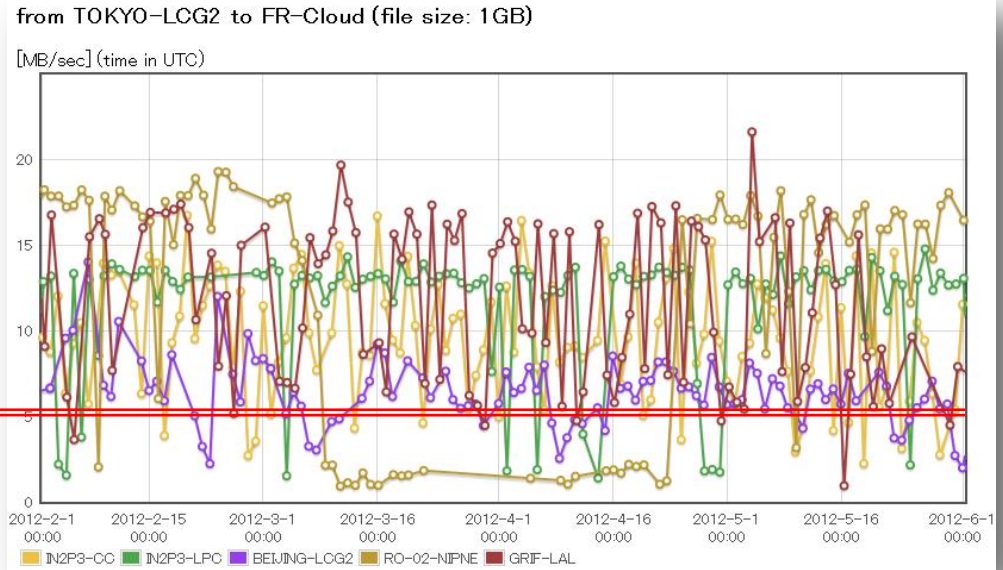- ● PIC - TOKYO-LCG2 (1166 files)

Connectivity among the FR cloud (from TOKYO)

Good connectivity

IN2P3-CC

IN2P3-LPC

BEIGING

RO-02-NIPNE

GRIF-LAL

Below 5MB/sec

IN2P3-CPPM

IN2P3-LAPP

RO-07-NIPNE

GRIF-LPNHE

GRIF-IRFU
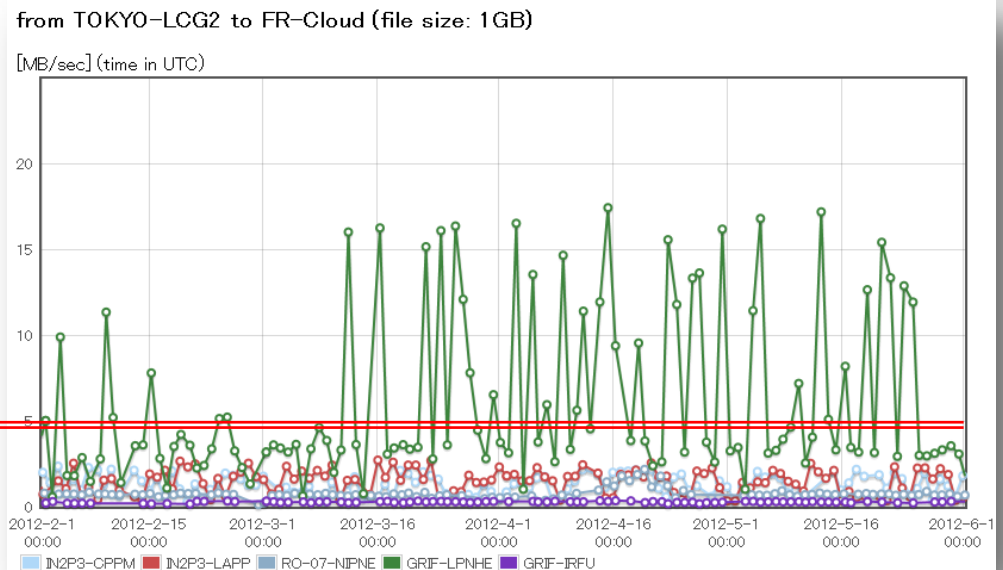
Connectivity among the FR cloud (to TOKYO)

Good connectivity

IN2P3-CC

IN2P3-LPC

BEIGING

RO-07-NIPNE

GRIF-LPNHE

5MB/sec

from FR-Cloud to TOKYO-LCG2 (file size: 1GB)

[MB/sec] (time in UTC)

IN2P3-CC IN2P3-LPC BEIJING-LCG2 RO-07-NIPNE GRIF-LPNHE
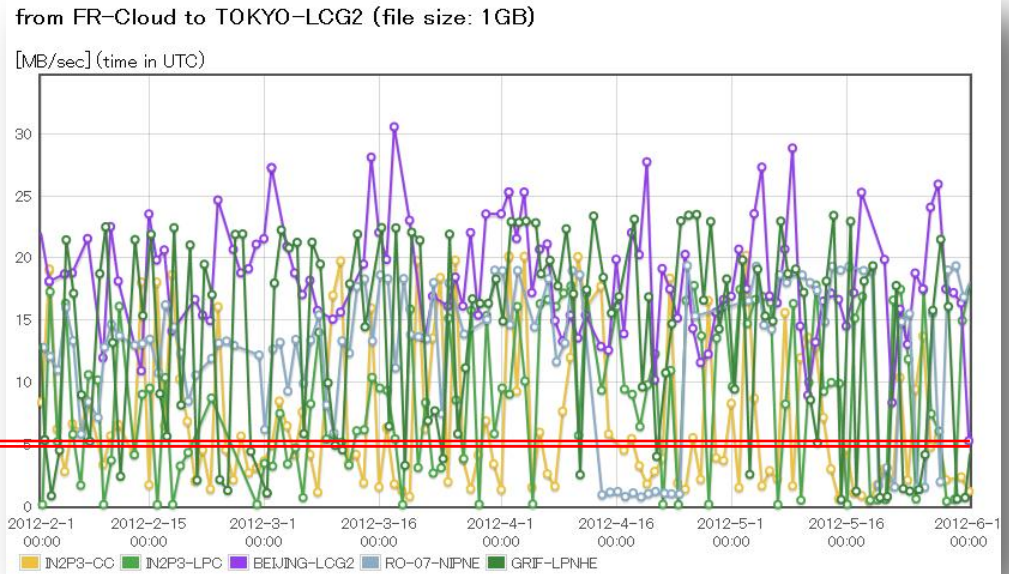
Below 5MB/sec

IN2P3-CPPM

IN2P3-LAPP

RO-02-NIPNE

GRIF-LAL

GRIF-IRFU

5MB/sec

from FR-Cloud to TOKYO-LCG2 (file size: 1GB)

[MB/sec] (time in UTC)

IN2P3-CPPM IN2P3-LAPP RO-02-NIPNE GRIF-LAL GRIF-IRFU

Beijing to T1s

5 MB/s

ATLAS FR Cloud
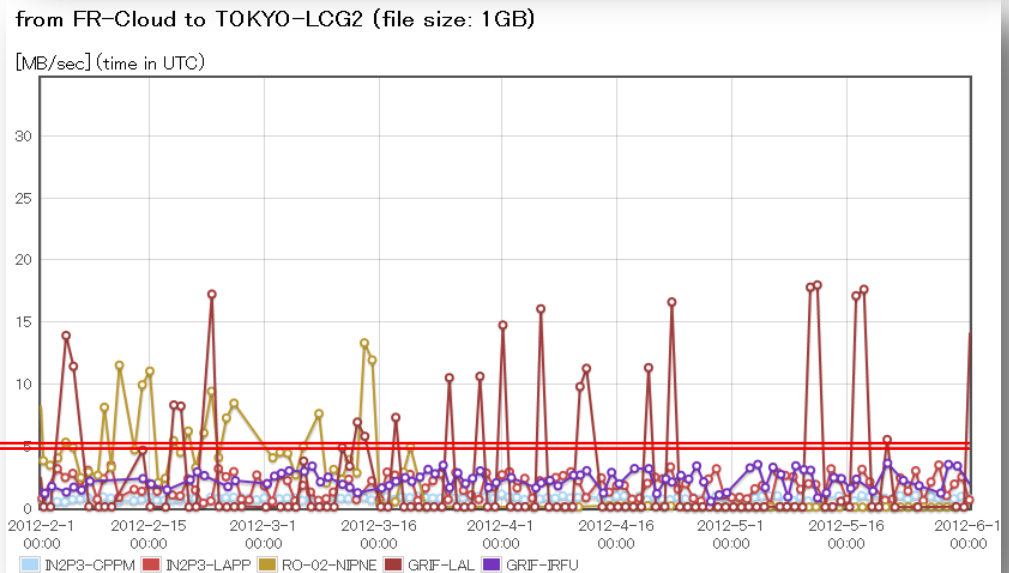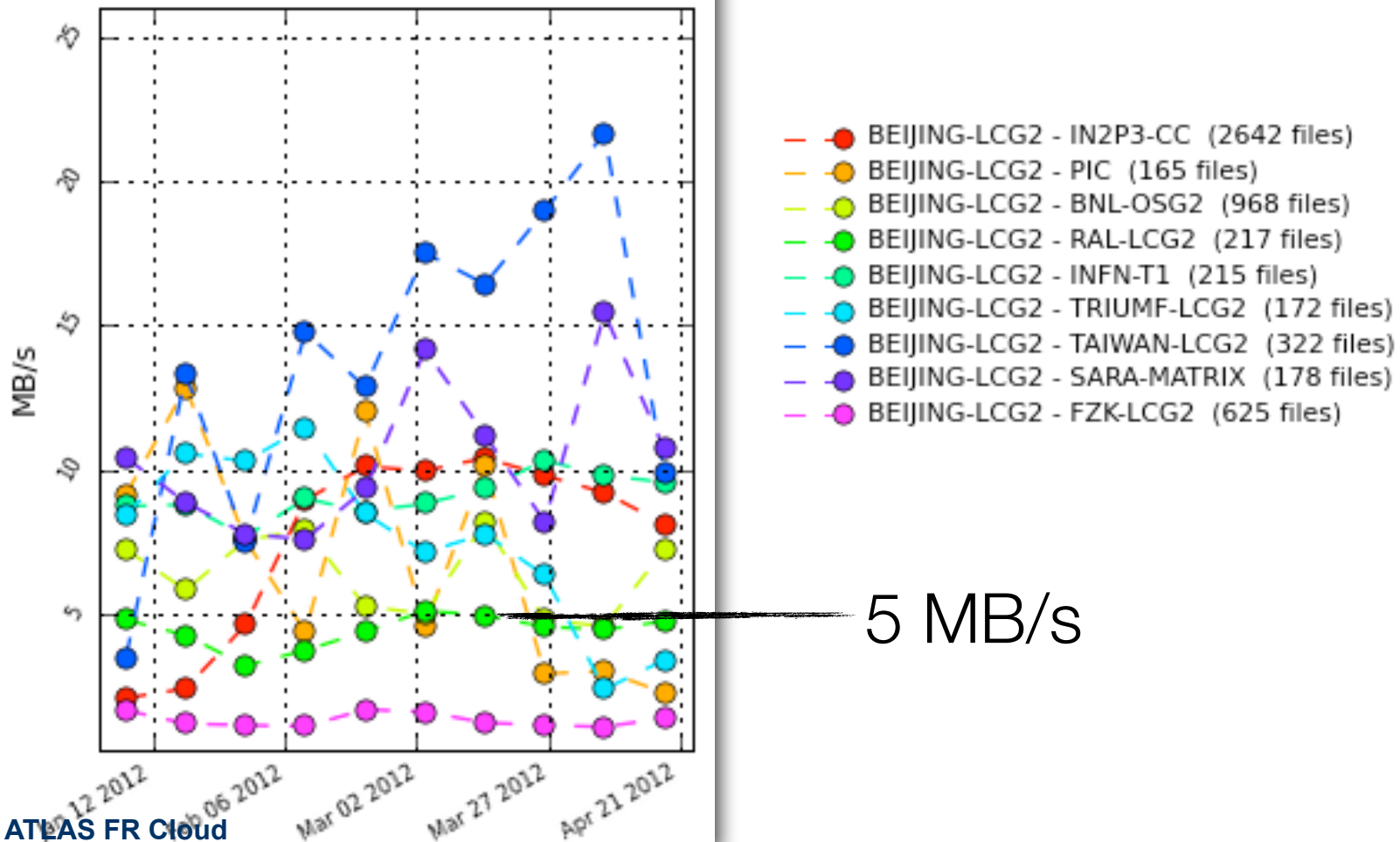
T1s to Beijing

FTS transfer rates
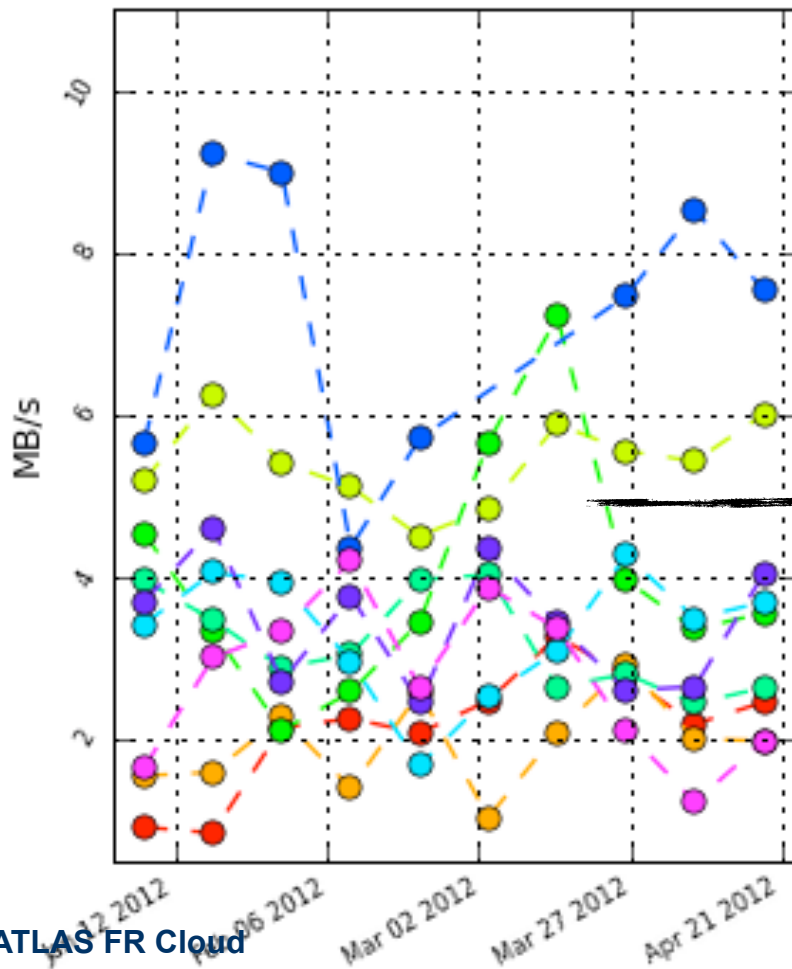
IN2P3-CC - BEIJING-LCG2 (20899 files)
PIC - BEIJING-LCG2 (1612 files)
BNL-OSG2 - BEIJING-LCG2 (6152 files)
RAL-LCG2 - BEIJING-LCG2 (4580 files)
INFN-T1 - BEIJING-LCG2 (2619 files)
TRIUMF-LCG2 - BEIJING-LCG2 (4510 files)
TAIWAN-LCG2 - BEIJING-LCG2 (3193 files)
SARA-MATRIX - BEIJING-LCG2 (2656 files)
FZK-LCG2 - BEIJING-LCG2 (2790 files)

5 MB/s

each site is different

RO-02 to T1s

FTS transfer rates
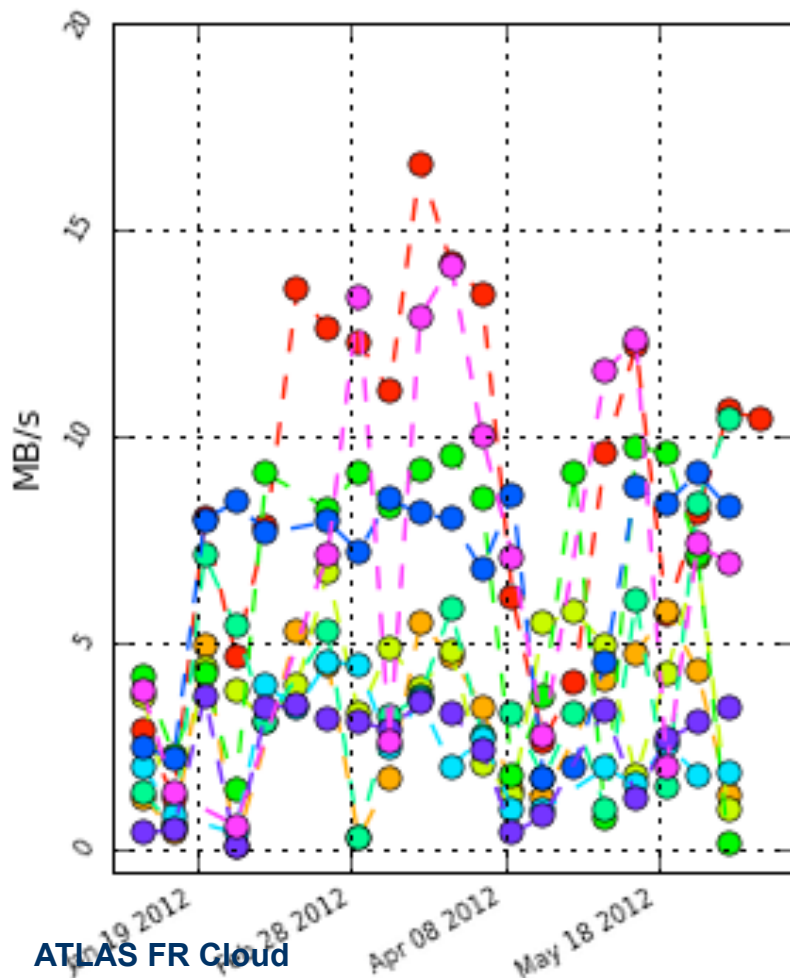
Legend:
- RO-07-NIPNE - IN2P3-CC (43338 files)
- RO-07-NIPNE - RAL-LCG2 (100 files)
- RO-07-NIPNE - FZK-LCG2 (210 files)
- RO-07-NIPNE - INFN-T1 (110 files)
- RO-07-NIPNE - PIC (105 files)
- RO-07-NIPNE - TRIUMF-LCG2 (100 files)
- RO-07-NIPNE - BNL-OSG2 (110 files)
- RO-07-NIPNE - TAIWAN-LCG2 (252 files)
- RO-07-NIPNE - SARA-MATRIX (95 files)

medium size files

ATLAS FR Cloud

T1s to RO-02

FTS transfer rates

RAL-LCG2 - RO-07-NIPNE (1364 files)
FZK-LCG2 - RO-07-NIPNE (1023 files)
INFN-T1 - RO-07-NIPNE (320 files)
PIC - RO-07-NIPNE (434 files)
TRIUMF-LCG2 - RO-07-NIPNE (293 files)
BNL-OSG2 - RO-07-NIPNE (988 files)
TAIWAN-LCG2 - RO-07-NIPNE (5 files)
SARA-MATRIX - RO-07-NIPNE (499 files)

medium size files

ATLAS FR Cloud
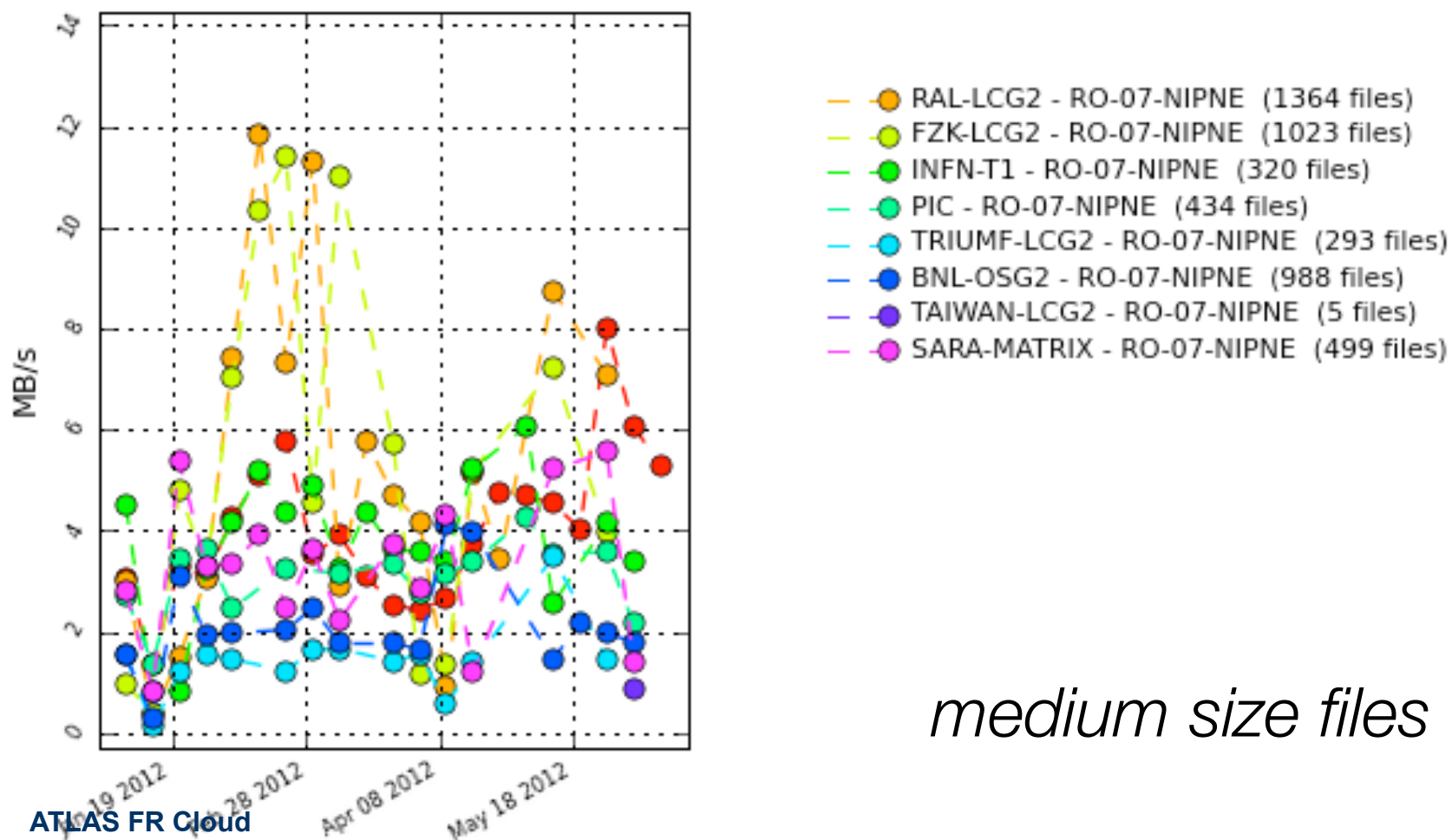
CCIN2P3 to FR-cloud T2s

FTS transfer rates

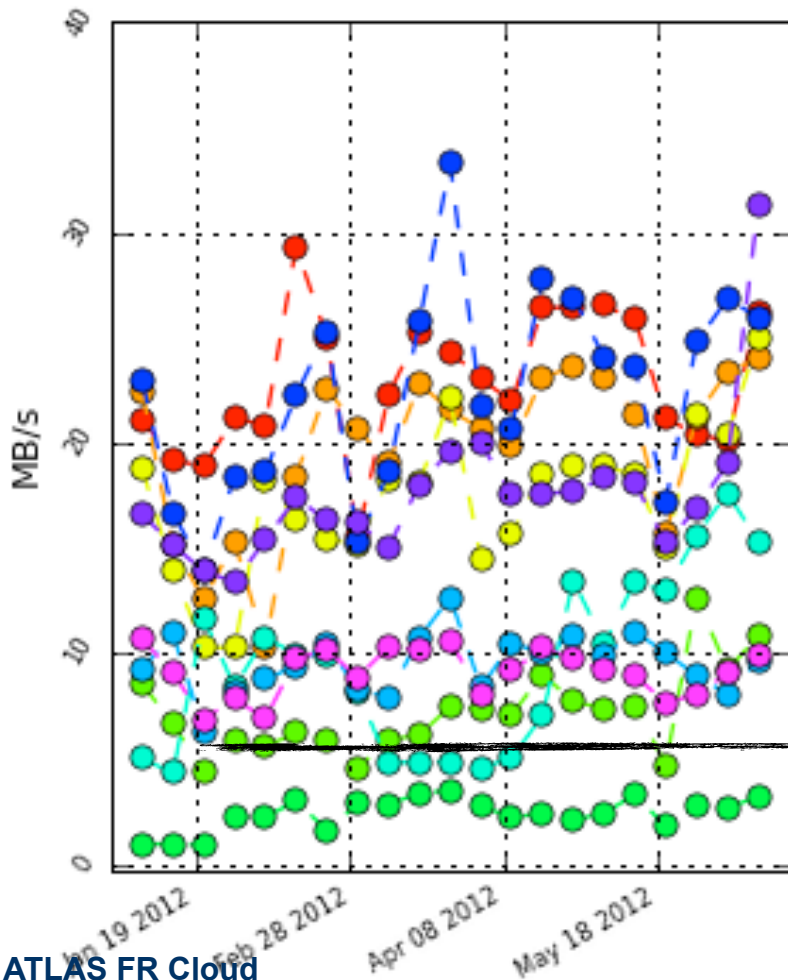IN2P3-CC - GRIF-IRFU (175713 files)
IN2P3-CC - GRIF-LAL (38934 files)
IN2P3-CC - GRIF-LPNHE (45210 files)
IN2P3-CC - TOKYO-LCG2 (53237 files)
IN2P3-CC - BEIJING-LCG2 (33933 files)
IN2P3-CC - RO-02-NIPNE (19737 files)
IN2P3-CC - IN2P3-LAPP (36288 files)
IN2P3-CC - IN2P3-LPC (33911 files)
IN2P3-CC - IN2P3-CPPM (84984 files)
IN2P3-CC - IN2P3-LPSC (44030 files)

5 MB/s

ATLAS FR Cloud

FR-cloud T2s to CCIN2P3

FTS transfer rates

GRIF-IRFU - IN2P3-CC (27761 files)
GRIF-LAL - IN2P3-CC (14510 files)
GRIF-LPNHE - IN2P3-CC (15075 files)
TOKYO-LCG2 - IN2P3-CC (22368 files)
BEIJING-LCG2 - IN2P3-CC (3665 files)
RO-02-NIPNE - IN2P3-CC (3201 files)
IN2P3-LAPP - IN2P3-CC (9638 files)
IN2P3-LPC - IN2P3-CC (10205 files)
IN2P3-CPPM - IN2P3-CC (10888 files)
IN2P3-LPSC - IN2P3-CC (8353 files)

5 MB/s