

DE LA RECHERCHE À L'INDUSTRIE

cea



# CEA'S DATA CENTRIC STRATEGY



## Random Access

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GCdV

[www.cea.fr](http://www.cea.fr)

# Tera 100 : the fastest data mover in 2010

Tera 100

 {/tmp}



Viz cluster



200GB/s

100 GB/s

**HPSS**  
High Performance Storage System

300GB/s

lustre™



/scratch

2PB

10GB/s

lustre™



/store

8PB

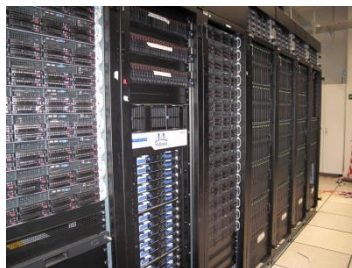


30 PB  
(LTO5)

# Tera 1000 : Push Data to the Limit



Tera 1000  
KNL

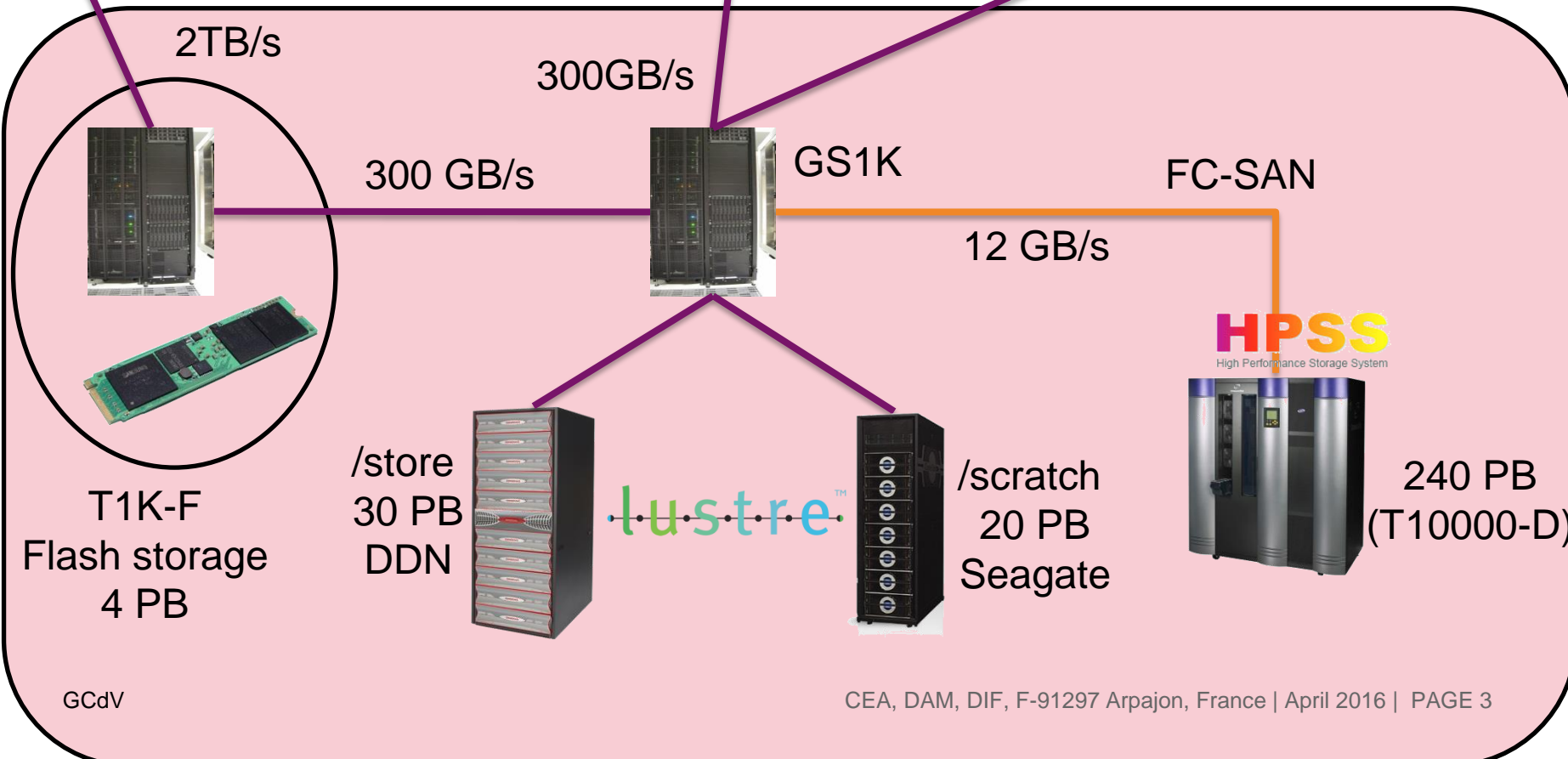


Tera 1000  
Haswell



Viz cluster  
...  
100GB/s

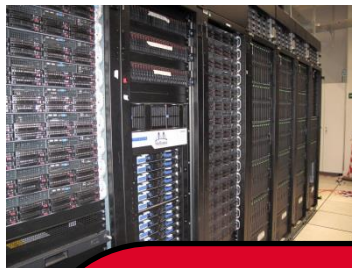
— IB EDR



# Tera 1000 : Push Data to the Limit



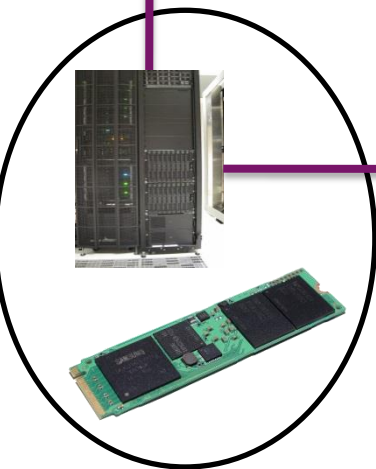
Tera 1000  
KNL



Tera 1000  
Haswell



Viz cluster  
...



Diskless  
supercomputer

T1K-F  
Flash storage



/store

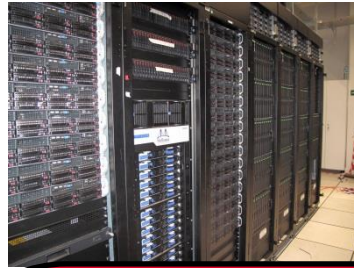


/scratch

# Tera 1000 : Push Data to the Limit



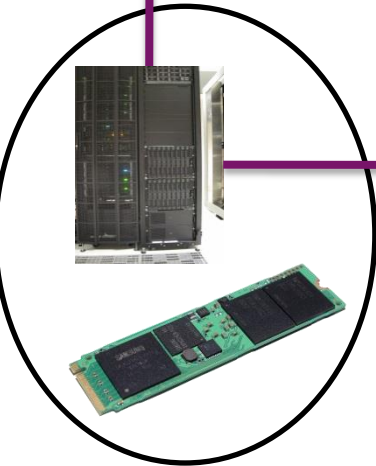
Tera 1000  
KNL



Tera 1000  
Haswell



Viz cluster  
...



T1K-F  
Flash storage

**IO Proxies**  
inside the machine

Decouple storage from compute  
Flow control  
Hog control  
An allocated resource



/store



/scratch

# Tera 1000 : Push Data to the Limit



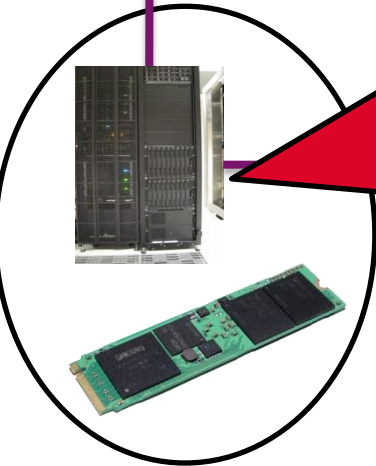
Tera 1000  
KNL



Tera 1000  
Haswell



Viz cluster  
...



T1K-F  
Flash storage

**Flash Storage**

Acts as an I/O accelerator

Fast checkpoint restart

Fast node crash recovery

C-SAN

**HPSS**  
High Performance Storage System



/store

/scratch

