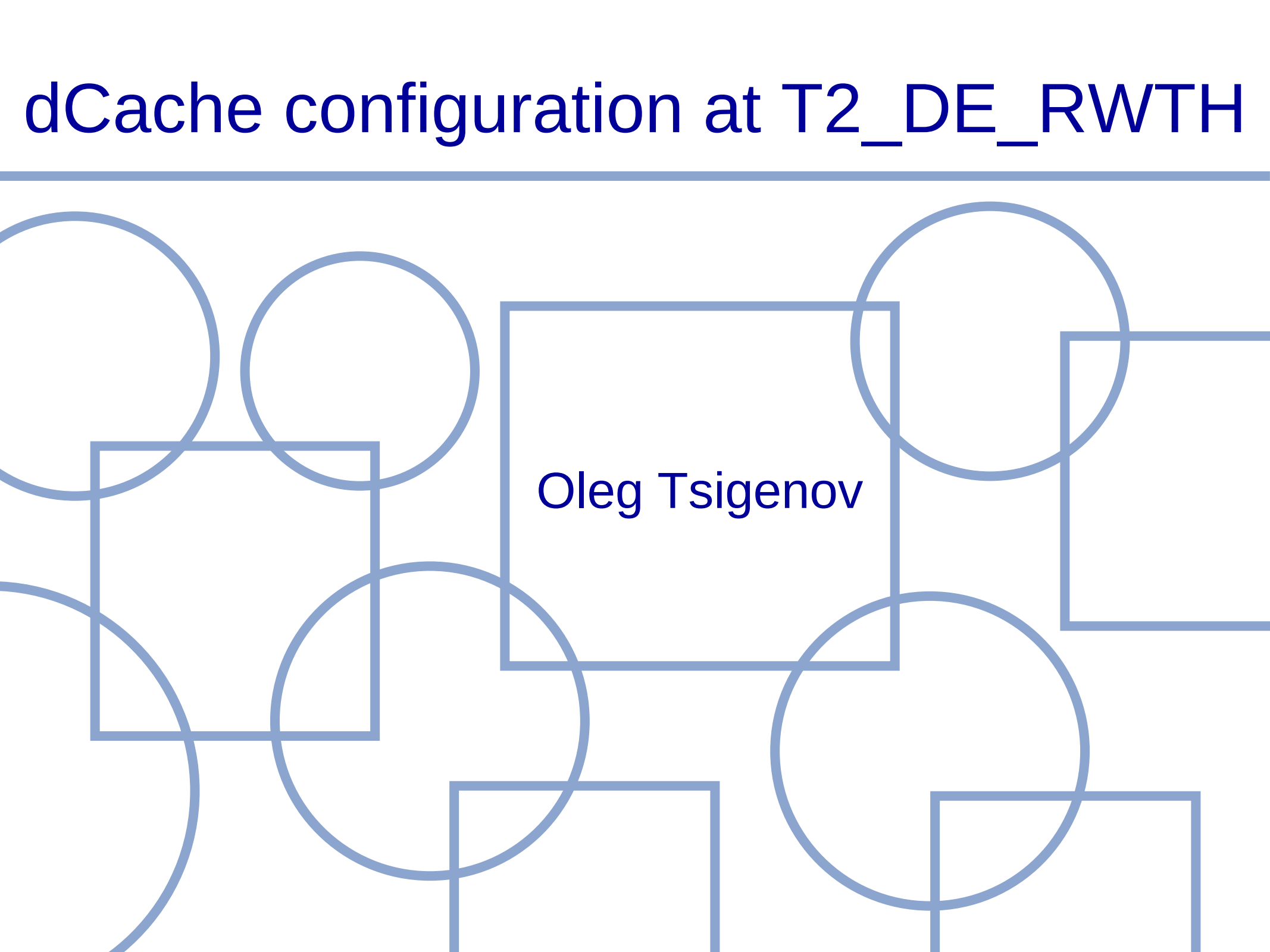


dCache configuration at T2_DE_RWTH



Oleg Tsigenov



Current data storage setup

- 500 TB storage space (CMS part).

Usual dCache pool 7 TB (67 pools)

(12 * 750GB SATA-1 in RAID6)

Upgraded dCache pool 18 TB (5 pools)

(12 * 2000GB SATA-2 in RAID6)

72(67+5)- dCache pools running on 19 HP DL380 servers

Since April 2011 - 6 critical incidents with big amount of data loss due to hardware (origin still unclear) failure



Storage Upgrade

- Additional 800 TB storage space based on 2TB SAS disks and 32 HP Clovertown . 27 TB dCache pool size, installation in progress

500 TB
(old)



SL6 servers

800 TB
(new)

~2-2.5
faster

Aim: **more safety of user data**
On dCache level two replica
for each file on
../cms/store/user/*

dCache data replication mechanisms

- Dream:

- `../store/user/*` one replica on the new pools, the other on the old

- Reality:

Notes	
Replica manager	+ well designed for homogenous setup - does not support replication between pool groups
File hopping	replication on arrival - no guarantee about second replica of the file
HSM(tape)	set-up “old” pools like a tape loopback - network load not balanced
Permanent migration	possibly additional load on the headnode

dCache data replication mechanisms

- Dream:

- `../store/user/*` one replica on the new pools, the other on the old

- Reality:

Notes

Replica manager

+ well designed for homogenous setup
- does not support replication between pool groups

replication on arrival

Preferred choice:

care about second replica of the file

pools like a tape loopback

HSM

- network load not balanced

Permanent migration

possibly additional load on the headnode