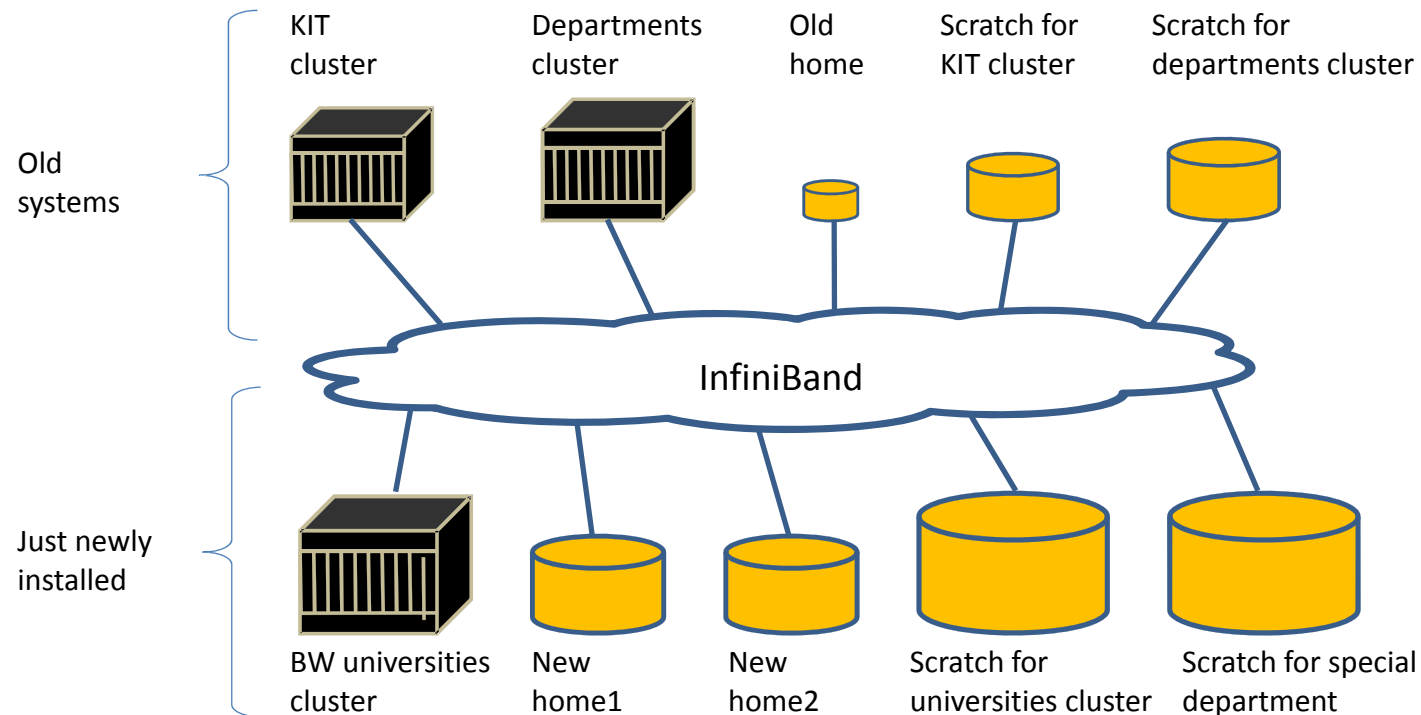# Summary

- ## Karlsruhe Institute of Technology (KIT)
  - ### Merger of University of Karlsruhe and Research Center Karlsruhe
    - More than 9000 employees and 20000 students
- ## What is special about Lustre at KIT ?
  - ### 4 Lustre systems from 3 different vendors
    - Currently with 9 file systems in production
    - Over time we had 6 different OST storage hardware subsystems
  - ### One common InfiniBand fabric for many clusters and file systems
    - Currently with total of 1300 clients and 3 PB usable capacity
  - ### Lustre as home directories for clusters since 2005
- ## Further information
  - ### http://www.scc.kit.edu/produkte/lustre.php
  - ### roland.laifer@kit.edu

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Current Lustre systems at KIT

System name	pfs1	bwfs	hc3work	pfs2
Users	KIT, 2 clusters	universities, grid users	KIT, 1 cluster	universities, 3 clusters
Lustre server version	Q-Leap Lustre 2.1.3	HP SFS G3.2-3	DDN Lustre 2.1.2	DDN Lustre 2.1.5
# of clients	783	146	783	1315
# of servers	18	16	6	21
# of file systems	1	3	1	4
# of OSTs	48	8, 16, 48	28	2*20, 2*40
Capacity (TB)	301	32, 128, 256	203	2*427, 2*853
Throughput (GB/s)	6.0	1.5, 1.5, 3.5	4.5	2*8, 2*16
Storage hardware	transtec provigo	HP MSA2000	DDN S2A9900	DDN SFA12K
# of enclosures	50	78	5	20
# of disks	800	936	290	1200

Multiple clusters share InfiniBand fabric

KIT cluster | Departments cluster | Old home | Scratch for KIT cluster | Scratch for departments cluster

Old systems

InfiniBand

Just newly installed

BW universities cluster | New home1 | New home2 | Scratch for universities cluster | Scratch for special department

- Good solution to connect Lustre to midrange HPC systems
  - Select appropriate InfiniBand routing mechanism and cabling
  - Direct access to data of other systems without LNET routers
  - Common home directory on Lustre

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