User Computer Manual E62

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Abstract

Computer Manual for the E62 computer grid. This manual is intented to give a short overview and introduction how to use our system. If you notice some mistakes or want to add something to this manual, please feel free to contact us.
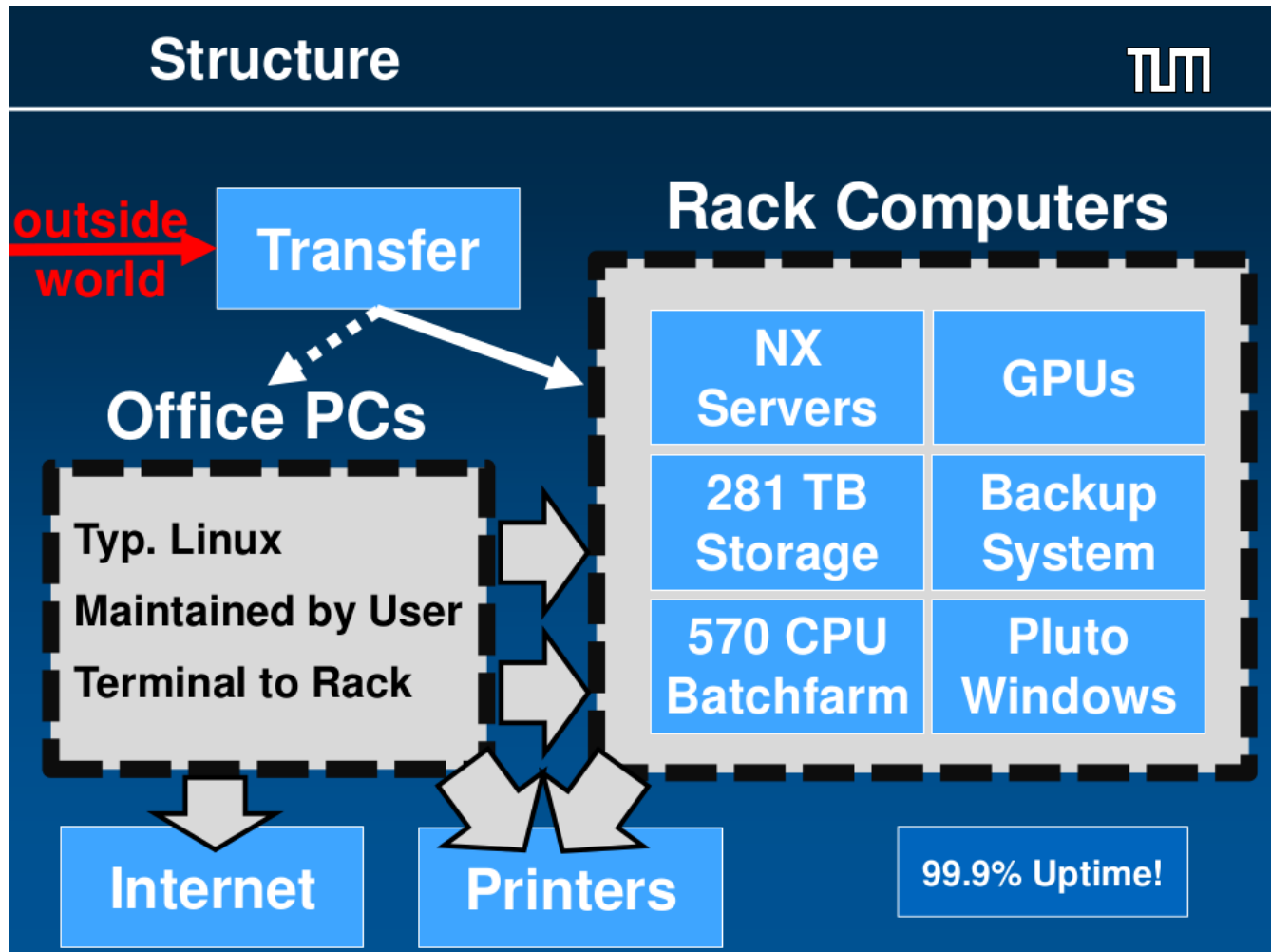
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Contents

1. Infrastructure

Schemtatical Computer Grid:

- User:
  Typical office PCs with a Linux distribution. Maintained by **User**. Access System via ssh or x2go

- Transfer:
  This machine is dedicated to connect from the outside and have a short tactical overview of the system. **No working and no calculating on this machine!!!!**

- NX1-3:
  These maschines are dedicated for daily work. All software are maintained by the administrators. No memory od time comsumption calculations, use slimfast or the batchfarm instead. (memory/cpu consumption can be checked with htop or top)

- Slimfast:
  This machine is dedicated for caluclation and sourcecode development. There are nearly no restrictions on this machine. So don't be upset it if is down for a short time

- Batch Farm:
  There are currently around 570 CPUs and 20 GPUs in the system. These machines can not be directly accessed and only be used with the batch farm script. There is a fair-share programm which calculates the amount of CPUs per user, so everybody can calcualte something there. For details of the submition procedure see Section 2.

- Pluto:
  There is a windows machine with the standard microsoft products aside with solidworks,...
  The maschine can be accesed via: rdesktop -g 1920x980 -r disk:homelocal=/home/ADS pluto.ktas.ph.tum.de
  Please do NOT save files locally on pluto!

- Printer:
  Currently there are 4 Printers available (3 Black/White, 1 Colour):
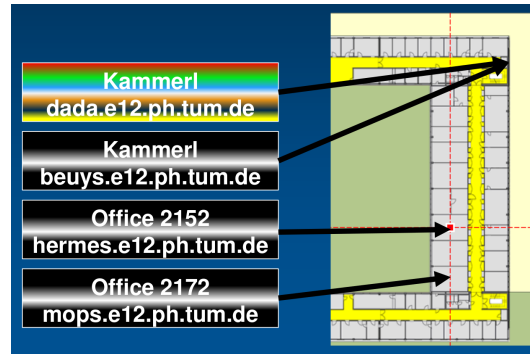
- Dispace: we provide so far /scratch0 - /scratch9 for data. Please check the website for free space.

2. Batch Farm

All scripts and the introduction presentation can be found on transfer.ktas.ph.tum.de and /home/www/papers/computing. There is a standart qeue (2.5h/job) and a long qeue (12h/job)

2.1 Check List Jobs
- test code locally

- analyse 1 file and check output file

- take a look at the memory comsumption (memory leaks)

- adapt memory consumtion in submit script

- send jobs to farm

- merge plots/ntuple afterwards

- try to stay under 50k

- use /var/tmp as output directory and copy it after job has been finished (**Not /tmp or directly /scratch**)

2.2 Jobs not finished
Before calling an admin check:

- something written in the logfile?

- output/input, logfile directories existing?

- does your script/code running locally?

- check if fileserver is present or under heavy usage?

2.3 Monitoring

- sview: SLURM overview. Job, partition and node information in an graphical overview

- sshare –all: "Fair share" ranking. (How fast do I get the slot for the next job?)

- scancel –u [ADS]: if you notice something went wrong, with this command you can cancel your jobs

- squeue Gives information about the status of the running (R) jobs and pending jobs (PD). With -u [ADS] see only your jobs.

- sinfo Gives information about the nodes, queues and user of the farm.

- Monitoring also available on transfer.ktas.ph.tum.de

2.4 Typical Mistakes

- Compile your code before sending to batch farm

- Different Output name for every single job

2.5 Tipps

- make a cout ¡¡ "Job finished" ¡¡ endl; at the end of your programm. With 'grep -rL "Job finished"./' in the log folder you can search for every log file where this string is not included an the programm crashed.

3. Services

3.1 Cluster
NX1-3, Slimfast, Batchfarm:

- CentOs7

- Software:
  If you need some additional software please contact the administrators or install it in your home. **Never install global software in your home dir.**

- Tape Archive:
  Larger and important data can be stored and backuped on tape, please contact the administrators if you want a backup of larger data.

- Home:
  The homes are backuped one per day and highly secured and accessable from the whole cluster system. The limitation per user is 3Gb. If you want to check how much you have left type **quota -s**.
  If you lost something or screwed up, the data can be retrieved from every day to 6 months ago.

- Scratch 0-9:
  The scratch discs are for everyone without any limitation. The overall capacity is approximately 260 TB. These data are **not** backuped in any way.

- Private Website:
  Everybody can put a private website on our webserver by copy it into /home/[ADS]/public_html

- Windows Machine (see 1, Pluto)

- Batch Farm (see 2)

3.2 Office

- Fixed IPs:
  In order to access your office PC or similar from the outside we provide fixed IPs. If you need one, please contact the adminidstrators.

- Git/SVN:
  We provide Git/SVN for the version managment.
  Git: transfer.ktas.ph.tum.de/django/gitbrowser
  SVN: svn.ktas.ph.tum.de

- OwnCloud:
  We provide a OwnCloud. If you want to use this goto transfer.ktas.ph.tum.de/owncloud/. Before the first use you need to register. Contact the adminidstrators to do this.

- TFTP/PXe:
  We also provide a network boot with the most common linux distribution. Just select in the boot process the network boot.

- Hardware/Spares:
  If your PC is not working any more or other Hardware realted problems occure, please go to room 2152 for help.

3.3 Other

- Monitoring:
  Provided on http://transfer.ktas.ph.tum.de/ is a monitor which shows all important information of the cluster system, like free diskspace, status of the computers and the batchfarm and many more.

- Proxy (Eduroam):
  transfer.ktas.ph.tum.de:8080

- Browser Shell:
  On the transfer website we also provide a Browser Shell. With this you can work like a normal shell/

- Databases:
  If you need databases there is the possibilty for a Oracle database.

3.4 Seminar Room

- Room for conferences

- beamer and camera installed

- Skype, Vidyo already installed NOTE: this is a special skype version. With the standard one you might get blocked from the LRZ.

- Data can be transfered via usb or smb://nas.ads.mwn.de/tuph/e62