Administrator's Rules for COBIK Servers

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1 RULES

1.1 Administrators' rules

Administrators are responsible for enforcing rules that apply to usage of servers and workstations. Beside that, they will take care of administrative tasks such as installation of software, configuration of machines, cleanup, installing and starting services, etc.

Be conservative in installing software and services and allowing access on common machines. Safety is the first priority and the second one is tidiness.

1.1.1 User accounts

Operating system is Windows server 2008. This enables simultaneous logon for two administrators and any number of users with terminal licenses.

On each computer there will be two permanent accounts with administrator rights, named *administrator* and *administratortemp*. They are predominantly used for administration. Password of the main administrator account will only be known to administrators in charge. For now, these are Igor and Katarina.

Eventually, the second administrator password can be provided to guests in order to install software or do other tasks. Every installation or change in system settings must be logged in this document, separately for each server. Preferably, the password should be changed after the second the person awarded administrator password finishes the job.

The second administrator account can also be used to increase the number of people that can be simultaneously connected via Remote Desktop. The main administrator account should not be used for this but only for actual administration. It should be kept clear for interventions.

Terminal licenses will be divided to Igor, Tadej and Katarina. On condor, the remaining terminal licenses will be named *guest1*, *guest2*, etc., and its password will be given to other people from the Laboratory who will need to do extensive computations on the machine. If there is a need to enable more users to simultaneously connect to the computer via Remote Desktop, additional terminal licenses must be bought.

1.1.2 Machines

1.1.2.1 dragonfly – common services, auxiliary computations (only when the second server is fully occupied)

Address: 192.168.1.34

Hardware:

- basic platform: HP Z400
- 12 GB RAM
- CPU Intel Xeon W3680 (6 cores, 3.33 GHz, cache 6x256 kB L2, 12 MB L3, multiplier 25x)
- Disks: 2*300 GB, 15.000 rpm + 2 TB, 7.200 rpm

Warnings:

One fast (10.000 rpm) disk is allocated exclusively for common services. Only the second disk can be used for computations.

All computations must be run with lower priority (reduced to at least "Below normal") on this machine. Only common services and servers can be launched with above normal priority. Normal priority is reserved for administrative tasks (installing new software, configuring machine, etc.).

This server is used for common services, in particular for hosting the SVN server. It will also host other services like Bugzilla, web server (eventually, but ideally this would be installed on some weaker machine), etc. Don't install ftp on it because it is not safe.

Linux will not be installed on this machine.

Safety is extremely important on this machine (break ins can paralyze work of the whole group, therefore be very conservative with permissions).

1.1.2.2 condor – used for intensive computations

Address: 192.168.1.37

Hardware:

- basic platform: HP DL 380 G7
- 24 GB RAM
- CPU 2* Intel Xeon X5690 (2*6 cores, 3.47 GHz, cache/CPU 6x256 kB L2, 12 MB L3, multiplier 26x)
- Disks: 2*146 GB, 15.000 rpm + 2*300 GB, 10.000 rpm + 2 TB, 7.200 rpm

Configuration:

System is on 300 GB 10.000 rpm disc. This disc is mirrored, therefore you can see only 1 300 GM disc on the system.

This workstation is used predominantly for running extensive computations[1]. It is very important that work of people using the machine for computations is not disturbed or broken in any way. Take into account that jobs that can take several days or even weeks are run on the machine. Any administrative tasks that would require restart of the machine should be announced far enough in advance that affected users can respond to the announcement. If possible, such tasks should be avoided if this would obstruct somebody's work. It should be agreed with users when such tasks are undertaken.

1.2 Users rules

Users must follow administrators' instructions.
Servers are intended predominantly for running CPU intensive calculations.

Only larger and slower disks should be used for storing data. Disk capacity is very limited, therefore each user should move data to his/her local system as soon as not needed any more on the server.

Computationally intensive applications can use fast disks for storing data. Users should try to arrange processes such that use of fast disks would be as equally distributed as possible. This can improve performance in the cases where a lot of disk intensive processes run in parallel.

When running CPU intensive calculations, always lower the priority of the corresponding processes by one level, unless your computation is very urgent. This will keep the computers responsive and provide comfortable use for everybody.

On dragonfly, the fastest disk is exclusively reserved for SVN and other common services, so don't use this disk! Computational jobs should be run on dragonfly only by COBIK employees, and even this only when the fast workstation is fully loaded. Note that processors and available disks are slightly slower than those on the fast workstation, therefore it is better to run jobs on another machine anyway.

1.2.1 Running jobs on condor:

All computations should be run with normal priority. Only in urgent situations and with permission of workstation administrators could the priority be raised. Jobs that don't conform to this rule may be killed without prior notice.

In principle, you should not use the system disk for running computational jobs. Use the smaller 146 GB disks that are also faster. System disk may be used in exceptional situations when running many parallel threads that all perform I/O on the disk and I/O operations would be a narrow

[1] In the future, it may also be used for compiling and testing software. We consider installing a virtual machine for this purpose, in order to guarantee that other work on the machine is not obstructed.

throat. When using additional independent disk by some threads would alleviate the problem, the system disk can be used, but try to use the slower 2TB disk first.

Disk space should be used with extreme care. It is not meant that users store results of their work on this machine. Files related to any particular tasks can be left on the disc only until the task is completed. After a group of files is not needed any more for an ongoing task for which the workstation is used, these files should be copies to the individual storage of the user that performs the task. This rule should be strictly taken into account especially for the fast disks. The slower 2GB disk can be used for intermediate storage for results that will still be used in relation with the jobs run on the workstation.

Copying files to/from condor:

In order to transfer files from your local computer to the workstation, you can use the shared folder G:\users\shared, which is accessed through the remote address \\192.168.1.37\shared\ . All files that you copy to this directory must be put to a directory named with your user name. Any files found outside that directory can be deleted by administrators. The *shared* directory should hold files only temporarily. When copying form one computer to another is done, you should move files to other directories or delete them.

1.2.2 Using dragonfly

- This server can be used for computations when other computers are already fully loaded.
- In principle, only COBIK employees can use this server.
- System disk and disk containing server data (SVN database and others) may not be used for computations.
- Do not load more than 5 cores with CPU intensive jobs. Load more than 4 cores only exceptionally; up to 4 is O.K.
- Take care that you don't fully load RAM (at least 2 GB should remain free).
- It is recommended to set priority of jobs to the lowest level.

By respecting the above rules, we will ensure that vital services such as SVN are always responsive. Although this server is predominantly used for common services, it is a powerful machine (a single core is just 1.1 times slower than condor's).

1.2.3 Passwords

Users are obliged to use strong passwords that are not easily broken. When changing your password, check the link "How to create a strong password" in the GUI box that opens. The password policy is also set in such a way that passwords are enforced to meet the following complexity requirements:

Not contain the user's account name or parts of the user's full name that exceed two consecutive characters

Be at least six characters in length

Contain characters from three of the following four categories:
English uppercase characters (A through Z)
English lowercase characters (a through z)
Base 10 digits (0 through 9)
Non-alphabetic characters (for example, !, $, #, %)

2 ADMINISTRATOR'S NOTES: DRAGONFLY

Please list events in chronological order, oldest at the bottom.

2.1.1 Events (dragonfly)

2.1.1.1 June 2 20011: basic installation (Igor G.)

Firefox installed.
VirtuaWin installed.
Microsoft Visual Studio Express installed.
C#
C++
.NET 3.5.1 installed.
VisualSVN Server installed.
TotalCmd installed.
EditPlus installed.
OpenOffice installed.
TortoiseSVN installed.

2.1.1.2 June 17 20011 (Igor G.)

Preparation & testing of SVN backup scripts.

2.1.1.3 June 19 20011 (Igor G.)

Backup scripts, scheduled backups.

2.1.1.4 June 20 20011 (Igor G.)

Supplemented backup procedures, sopies are stored on Condor, too.
Supplemented backup schedules.

2.1.1.5 March 15 2012 (Igor G.)

Visual Fortran installed.

3 ADMINISTRATOR'S NOTES: CONDOR

Please list events in chronological order, oldest at the bottom.

3.1.1 Notes – to remember

Visual C# Express registration code: PQT8W-68YB2-MPY6C-9JV9X-42WJV
Visual C++ Express registration code: 6VPJ7-H3CXH-HBTPT-X4T74-3YVY7
Visual VB Express registration code: 2KQT8-HV27P-GTTV9-2WBVV-M7X96
SQL Server Express registration code:

3.1.2 Events (condor)

3.1.2.1 May 18 2011: basic installation (Igor G.)

The **user directories** created on disks.
Readme files (*0readme.txt*) put on disks (root directories).
User accounts set up: katarina, tadejk, igor, guest1, guest2.

Firefox installed.
Microsoft Visual Studio Express installed.
C#
C++
VB
SQL server 2008
.NET 3.5.1 installed.
Part of IIS had to be enabled.
Remark: before installation, check on internet about how to install .NET 3.5 on Windows Server 2008 (you just need to enable appropriate services)!
Flash installed.

3.1.2.2 May 19 2011: basic installation (Igor G.)

TotalCmd installed.
EdipPlus installed.

3.1.2.3 May 20 2011: installations (Igor G.)

TortoiseSvn installed.
Open office installed.
VirtuaWin installed.

3.1.2.4 June 20 2011 (Igor G.)

Installation of Visual SVN Server for testing purposes (backups, mirroring, etc.).

References:

[1] Igor Grešovnik: Programmers' guidelines for Development of Software within COBIK & Laboratory for Multiphase Processes. Treatise, COBIK, 2012.

[2] Igor Grešovnik: *Programmers' guidelines for Development of Software within COBIK & Laboratory for Multiphase Processes*. Treatise, COBIK, 2012.

[3] Igor Grešovnik: Coordination of software development in COBIK and Laboratory for Multiphase Processes. Treatiese, COBIK, 2011.