IceWarp Unified Communications

Installation and Control in Linux

Version 10.4

Printed on 20 March, 2012
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CHAPTER 1

IceWarp Server Installation and Control in Linux

This document describes how to install IceWarp Server and control its services in Linux.

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Differences between Windows and Linux Versions

Linux version and Windows one are the same feature-to-feature, including:

- LDAP and ActiveDirectory integration
- Avast or Kaspersk Anti-Virus with AutoUpdates
- Commtouch Anti-Spam LIVE engine (ctasd)
- Mail Log Analyzer (see F1 help on how to setup cron job for importerd)
- SQLite3 database engine installed and used by default
- PHP5 with XCache, php_tidy and common libraries
- native support for MySQL 5.0 (recommended for PDO) and 5.1 (both require libmysqlclient)
- command line tool with direct access to API and server constants
- the same unified IceWarpServer API library (RPC, PHP, apiobjectcall)
- the documentation applies with some abstraction if using WebAdmin

There are however differences given by the platform architecture:

- Administration GUI is non-native but runs under Wine
- installation script instead of installer wizard
- UnixODBC and DB driver installation required for Oracle 11, Postgre SQL 8, Firebird 2.1
- FastCGI only, no support for multi-threaded web server mode
Migration from Windows to Linux

1. Save Windows configuration into MCB file (Backup configuration).
2. In Linux, restore configuration in WebAdmin.
3. The correct paths are converted and set automatically by IceWarp Server, so you do not have to set them.
4. Mount Windows drive and manually copy the email folders into Linux destination directory (by default /opt/icewarp/mail).
Before Installation

1. Check available space on your disc, min. 500 MB is required.

2. Please check if your system has installed required packages.
   The IceWarp Server – Dynamic Library Dependencies (on page 35) chapter lists these packages, you can install only packages that are required by selected features.

3. Stop and remove from the init process every program which can use any network port required for the server. For example sendmail listens on the port 25 and the SMTP service would not be able to start.

4. You can create a new user for the server, for example "icewarp". This user has lower privileges than root. When created and set for installation, the server – after initialization – drops root privileges and runs under this user.
   
   NOTE: Even in this case, it is necessary to launch the server as root. It is not possible to launch the server from any account with lower privileges.
Installation Package

The installation package is in .tar.gz format. The latest package can be always found on IceWarp website http://www.icewarp.com, in the Downloads section.

Example: IceWarpServer-10.4.0_RHEL5.tar.gz

1. Extract the package:
   
   [linux]$ tar -xzf IceWarpServer-10.4.0_RHEL5.tar.gz

2. Chdir to the created directory:

   [linux]$ cd IceWarpServer-10.4.0_RHEL5

3. Start the installation:

   [linux]$ ./install.sh

4. Follow the onscreen instructions.
Running

The IceWarp Server uses database for storing informations for accounts, antispam and groupware.

Default databases are:

- Accounts: uses file system
- Antispam and groupware: SQLite

You can change database type in wizard (launch `wizard.sh`) or using the Remote Administration tool for Windows or using WebAdmin.

Also UnixODBC is supported, but you must compile the latest version from [http://www.unixodbc.com/](http://www.unixodbc.com/).

The server was tested with UnixODBC and Oracle.

Default listening port for webserver is 32000, but # 80 is also used.

Default http addresses are:

- WebAdmin: http://localhost:32000/admin
- RPC: http://localhost:32000/RPC/

If you have problem running the server, please check log files in the `.logs` directory, errors regarding unsuccessful port binding or loading of required libraries will be logged here.
To install IceWarp Server on Red Hat Enterprise Linux (RHEL) 5, follow these steps:

1. Check available disk space in volumes using `df -h`.

```
[root@centos53svr3 ~]# df -h
Filesystem Size Used Avail Use% Mounted on
/dev/mapper/VolGroup00-LogVol06 14G 21G 11G 16% /
/dev/sda1 99M 12M 82M 13% /boot
tmpfs 252M 0 252M 0% /dev/shm
/dev/hdc 3.7G 3.7G 0 100% /media/CentOS_5.3_Final
[root@centos53svr3 ~]#
```

2. Verify that the following packages are installed using `rpm -qa`.

```
[root@centos53svr3 ~]# rpm -qa libc*
libcap-1.10-26
libcroco-0.6.1-2.1
[root@centos53svr3 ~]#
```
3. Check for services startup's using `chkconfig --list | grep on`.

```bash
[root@centos53svr2 ~]# chkconfig --list | grep on
acpid 0:off 1:off 2:on 3:on 4:on 5:on 6:off
anacron 0:off 1:off 2:on 3:on 4:on 5:on 6:off
apmd 0:off 1:off 2:on 3:on 4:on 5:on 6:off
atd 0:off 1:off 2:off 3:on 4:on 5:on 6:off
auditd 0:off 1:off 2:on 3:on 4:on 5:on 6:off
autos 0:off 1:off 2:off 3:on 4:on 5:on 6:off
.".
.network 0:off 1:off 2:on 3:on 4:on 5:on 6:off
.nfslock 0:off 1:off 2:off 3:on 4:on 5:on 6:off
.pcsd 0:off 1:off 2:on 3:on 4:on 5:on 6:off
.portmap 0:off 1:off 2:off 3:on 4:on 5:on 6:off
.readahead_early 0:off 1:off 2:on 3:on 4:on 5:on 6:off
.readahead_later 0:off 1:off 2:off 3:off 4:off 5:on 6:off
.restorecond 0:off 1:off 2:off 3:on 4:on 5:on 6:off
.rpcgssd 0:off 1:off 2:off 3:on 4:on 5:on 6:off
.rpcidmapd 0:off 1:off 2:off 3:on 4:on 5:on 6:off
.sendmail 0:off 1:off 2:off 3:on 4:on 5:on 6:off
.setroubleshoot 0:off 1:off 2:off 3:off 4:on 5:on 6:off
.smartd 0:off 1:off 2:on 3:on 4:on 5:on 6:off
.sshd 0:off 1:off 2:on 3:on 4:on 5:on 6:off
.syslog 0:off 1:off 2:on 3:on 4:on 5:on 6:off
.wdadmin 0:off 1:off 2:off 3:off 4:off 5:off 6:off
.xfs 0:off 1:off 2:off 3:on 4:on 5:off 6:off
.xinetd 0:off 1:off 2:off 3:off 4:off 5:off 6:off
.yum-updatesd 0:off 1:off 2:off 3:on 4:off 5:off 6:off
[root@centos53svr3 ~]#
```

4. Turn off `Auto-Start` for clashing services, ie. Sendmail using `chkconfig --level 0123456 sendmail off`.

```bash
[root@centos53svr3 ~]# chkconfig --list sendmail
sendmail 0:off 1:off 2:on 3:on 4:on 5:on 6:off
[root@centos53svr3 ~]# chkconfig --level 0123456 sendmail off
[root@centos53svr3 ~]# chkconfig --list sendmail
sendmail 0:off 1:off 2:off 3:off 4:off 5:off 6:off
[root@centos53svr3 ~]#
```
5. Stop clashing services, ie. Sendmail using `/etc/rc.d/init.d/sendmail stop`.

```
[root@centos53svr3 ~]# chkconfig --list sendmail
sendmail  0:off 1:off 2:on 3:on 4:on 5:on 6:off
[root@centos53svr3 ~]# chkconfig --level 0123456 sendmail off
[root@centos53svr3 ~]# chkconfig --list sendmail
sendmail  0:off 1:off 2:off 3:off 4:off 5:off 6:off
[root@centos53svr3 ~]# /etc/rc.d/init.d/sendmail stop
Shutting down sm-client: [OK]
Shutting down sendmail: [OK]
```

6. Optionally, create a user for IceWarp Server installation (both username and password are case sensitive).

```
[root@centos53svr3 ~]# adduser -m -c IceWarp IceWarp
[root@centos53svr3 ~]# passwd IceWarp
Changing password for user IceWarp.
New UNIX password: 
Retype new UNIX password: 
passwd: all authentication tokens updated successfully.
```
If not already installed, install mySQL.

```
[root@centos53svr3 ~]# adduser -m -c IceWarp IceWarp
[root@centos53svr3 ~]# passwd IceWarp
Changing password for user IceWarp.
New UNIX password:
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
[root@centos53svr3 ~]# yum list mysql-server
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
* base: centosq2-msync-dvd.centos.org
* updates: centosq2-msync-dvd.centos.org
* addons: centosk.centos.org
* extras: centos3.centos.org
Available Packages
mysql-server.i386 5.0.45-7.el5
[root@centos53svr3 ~]# yum install mysql-server
```
Installation Step-by-Step on Red Hat Enterprise Linux 5

root@centos53svr1:~

Transaction Summary

Install   2 Package(s)
Update    0 Package(s)
Remove    0 Package(s)

Total download size: 9.8 M
Is this ok [y/N]: y

Downloading Packages:
(1/2): perl-DBD-MySQL-3.0007-2.el5.i386.rpm          | 148 kB  00:02
(2/2): mysql-server-5.0.45-7.el5.i386.rpm            | 9.7 MB   01:04

Total 142 kB/s | 9.8 MB  01:10

warning: rpmjs_HdrFromFdno: Header V3 DSA signature: NOKEY, key ID e8562897
Importing GPG key 0x8562897 "CentOS-5 Key (CentOS 5 Official Signing Key) <centos-5-key@centos.org>" from /etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-5
Is this ok [y/N]: y

Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing : perl-DBD-MySQL
  Installing : mysql-server

Installed: mysql-server.i386 0:5.0.45-7.el5
Dependency Installed: perl-DBD-MySQL.i386 0:3.0007-2.el5
Complete!
[root@centos53svr3 ~]#
8. Set MySQL to **Auto-Start** using `chkconfig mysqld on` and then start the service immediately using `service mysqld start`.

```
[root@centos53svr1 ~]# chkconfig mysqld on
[root@centos53svr1 ~]# service mysqld start
```

Initializing MySQL database: Installing MySQL system tables...
OK
Filling help tables...
OK

To start mysqld at boot time you have to copy `support-files/mysqld.server` to the right place for your system.

PLEASE REMEMBER TO SET A PASSWORD FOR THE MySQL root USER!
To do so, start the server, then issue the following commands:

```
/usr/bin/mysqladmin -u root password 'new-password'
/usr/bin/mysqladmin -u root -h centos53svr1.vmware password 'new-password'
```

See the manual for more instructions.

You can start the MySQL daemon with:
```
cd /usr ; /usr/bin/mysqld_safe &
```

You can test the MySQL daemon with `mysql-test-run.pl`
```
cd mysql-test ; perl mysql-test-run.pl
```

Please report any problems with the `/usr/bin/mysqlbug` script!

The latest information about MySQL is available on the web at
http://www.mysql.com
Support MySQL by buying support/licenses at http://shop.mysql.com

```
[ OK ]
Starting MySQL: [ OK ]
```

```
[root@centos53svr1 ~]#
```

```
root@centos53svr1:~

[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root password 'mysql'
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_accounts Enter password:
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_antispam Enter password:
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_groupware Enter password:
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_webmail Enter password:
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_log analyzer Enter password:
[root@centos53svr1 ~]#
```

10. Create databases for IceWarp Server in MySQL.

```
root@centos53svr1:~

[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root password 'mysql'
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_accounts
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_antispam
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_groupware
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_webmail
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_log analyzer
[root@centos53svr1 ~]#
```

It is recommended to add the character set option to the create command.

E.g.:
```
/usr/bin/mysql -- root --p create database icewarp_accounts DEFAULT CHARACTER SET utf8 COLLATE utf8_general_ci
```
```
/usr/bin/mysql -- root --p create database icewarp_antispam DEFAULT CHARACTER SET utf8 COLLATE utf8_general_ci
```

etc.

NOTE: You can specify the collation set for different languages. E.g. for Swedish: ... utf8_swe dish_ci

Follow this link to verify your collation set for proper MySQL sorting:

http://www.collation-charts.org/mysql60/ http://www.collation-charts.org/mysql60/
11. Verify tables created in MySQL.

```
[root@centos53svr1 ~]# mysql -u root -p
Enter password:
Welcome to the MySQL monitor. Commands end with ; or \g. Your MySQL connection id is 8
Server version: 5.0.45 Source distribution

Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

mysql> show databases;
+-----------------------------+
<table>
<thead>
<tr>
<th>Database</th>
</tr>
</thead>
<tbody>
<tr>
<td>information_schema</td>
</tr>
<tr>
<td>icewarp_accounts</td>
</tr>
<tr>
<td>icewarp_antispam</td>
</tr>
<tr>
<td>icewarp_groupware</td>
</tr>
<tr>
<td>icewarp_loganalyzer</td>
</tr>
<tr>
<td>icewarp_webmail</td>
</tr>
<tr>
<td>mysql</td>
</tr>
<tr>
<td>test</td>
</tr>
</tbody>
</table>
+-----------------------------+
8 rows in set (0.00 sec)
mysql>
```


**NOTE: When the installer asks for "Installation prefix", you can enter the installation directory of the already installed server. In this case, upgrade will be started.**

```
[root@centos53svr1 Desktop]# cd /root
[root@centos53svr1 ~]# cd Desktop
[root@centos53svr1 Desktop]# tar -xzf IceWarpServer-10.0.0_RHEL5.3.tar.gz
[root@centos53svr1 Desktop]# cd IceWarpServer-10.0.0_RHEL5.3
[root@centos53svr1 IceWarpServer-10.0.0_RHEL5.3]# ./install.sh
```
Installation Step-by-Step on Red Hat Enterprise Linux 5

** Run services as user [root]:
** Please check entered informations before continuing:
** Installation prefix: /opt/icewarp (directory will be created)
** IceWarp Server will run as user: root
** IceWarp Server will run as group: root
** Press ENTER to continue, CTRL+C to quit
** Creating /opt/icewarp directory ...
** Extracting data ...
** Checking if IceWarp Server is added as system service ...
** Note: System service can be reinstalled
** by removing already installed service.
** Do you want to add IceWarp Server as a system service? [Y/n]: y
** Adding IceWarp Server as system service
** Do you want to start IceWarp Server on system startup? [Y/n]: y
** Making service starting on system startup ...
** Changing permissions ...

** Enter the name of your server. This is the hostname you will use to access your server
** from the Internet. You should setup the DNS as explain the documentation.
** Hostname [icewarpdemo.com]: icewarpdemo.com

** Enter the name of primary domain [icewarpdemo.com]: icewarp.com

** Enter the username and password for the administrator account.
** Choose a strong password to avoid account hijacking.
** Username [admin]: IceWarpAdmin
** Password: 

Hostname: Fill in the DNS resolvable hostname, the default is taken from system. Warning – if the system hostname is not set correctly, AntiSpam Live does not work.

Domain: Primary domain name.

Administrator account: Username and password. Consider password policy – it is in effect. In case of any error, a user can retry or cancel the "wizard". Then they can configure the server manually using wizard.sh or other method.
Installation is completed now:

<table>
<thead>
<tr>
<th>File</th>
<th>Edit</th>
<th>View</th>
<th>Terminal</th>
<th>Tabs</th>
<th>Help</th>
</tr>
</thead>
</table>

** IceWarp Server will run as group: root
** Press ENTER to continue, CTRL+C to quit
** Creating /opt/icewarp directory ...
** Extracting data ...
** Checking if IceWarp Server is added as system service ...
** Note: System service can be reinstalled
** by removing already installed service.
**
** Do you want to add IceWarp Server as a system service? [Y/n]: y
** Adding IceWarp Server as system service
** Do you want to start IceWarp Server on system startup? [Y/n]: y
** Making service starting on system startup ...
** Changing permissions ...
**
** Enter the name of your server. This is the hostname you will use to access your server from the Internet. You should setup the DNS as explain the documentation.
** Hostname [icewarpmemo.com]: icewarpmemo.com
**
** Enter the name of primary domain [icewarpmemo.com]: icewarp.com
**
** Enter the username and password for the administrator account.
** Choose a strong password to avoid account hijacking.
** Username [admin]: IceWarpAdmin
** Password:
**
** IceWarp Server was successfully installed.
**
** Installer log is available in /root/icewarp-install.log
** Installer error log is available in /root/icewarp-install-error.log

[root@localhost ~]#

13. Run the IceWarp Wizard immediately after installation or at a later stage by executing ./.wizard.sh from the /install_volume/icewarp ie. /opt/icewarp.
Installation Step-by-Step on Red Hat Enterprise Linux 5


```
**
**   Root menu
**   ---------
**
**   You have the following options:
**
**   [1] Accounts and Domains management
**   [2] License operations
**   [3] Storage setup
**
**   [0] Return
**   [Q] Exit
**
**   Enter your choice:
```

```
**
**   Root menu
**   ---------
**
**   You have the following options:
**
**   [1] Accounts and Domains management
**   [2] License operations
**   [3] Storage setup
**
**   [0] Return
**   [Q] Exit
**
**   Enter your choice:
```
Installation and Control in Linux

** Storage setup
** --------------

** You have the following options:
**
** [1] Set Accounts storage
** [2] Set Antispam storage
** [3] Set GroupWare storage
**
** [0] Return
** [Q] Exit
**
** Enter your choice: 1

**
** [2] Setup to use MySQL database
** [3] Setup to use SQLite database
**
** [0] Return
** [0] Exit
**
** Enter your choice: 2

**
** This action requires to have running MySQL server with
** created database with required privileges.
** Continue? [Y/n]: y
**
** Setup Accounts storage to MySQL? [Y/n]: y
**
** Please enter MySQL connection parameters:
** Database server host (or path to socket) [/var/lib/mysql/mysql.sock]:
**   Login name: root
** Login password: **
** Once again to confirm: **
**   Database name: icewarp_accounts
** Setting database connection...
**
** Create tables for Accounts? [Y/n]: y
** Creating tables...
** Switching Accounts storage mode...
** Storage switched to MySQL.
**
** Convert data from file system to database? [Y/n]: y
15. IceWarp Server installation done!

Logs are available at `/root/icewarp-install.log` & `/root/icewarp-install-error.log`. Next, verify that primary IceWarp Server services are operating properly.

```
[telnet localhost 25]
[telnet localhost 110]
[telnet localhost 143]
```

*OK IceWarp 10.0.8 (2009-08-03) RHEL5.3 IMAP4rev1 Tue, 11 Aug 2009 09:57:41 +1000*
16. Check services startup using `chkconfig --list | grep on`.

```bash
root@centos53svr1:~
```

<table>
<thead>
<tr>
<th>File</th>
<th>Edit</th>
<th>View</th>
<th>Terminal</th>
<th>Tabs</th>
<th>Help</th>
</tr>
</thead>
<tbody>
<tr>
<td>autofs</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:on</td>
<td>4:on</td>
</tr>
<tr>
<td>avahi-daemon</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:on</td>
<td>4:on</td>
</tr>
<tr>
<td>avahi-dnsconfd</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>bluetooth</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:on</td>
<td>4:off</td>
</tr>
<tr>
<td>common</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>cupsspeed</td>
<td>0:off</td>
<td>1:off</td>
<td>2:on</td>
<td>3:on</td>
<td>4:off</td>
</tr>
<tr>
<td>crond</td>
<td>0:off</td>
<td>1:off</td>
<td>2:on</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>cups</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:on</td>
<td>4:off</td>
</tr>
<tr>
<td>firstboot</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>gpm</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>haldaemon</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>hidd</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>icewarp</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:on</td>
<td>4:on</td>
</tr>
<tr>
<td>ip6tables</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:on</td>
<td>4:off</td>
</tr>
<tr>
<td>iptables</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:on</td>
<td>4:off</td>
</tr>
<tr>
<td>irqbalance</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:on</td>
<td>4:off</td>
</tr>
<tr>
<td>isdn</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>kudzu</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>lvm2-monitor</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:on</td>
<td>4:off</td>
</tr>
<tr>
<td>mcstrans</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>mdmonitor</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>messagebus</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>microcode ctl</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>mysql</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>netconsole</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>netfs</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>network</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>nfslock</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
<tr>
<td>pcs</td>
<td>0:off</td>
<td>1:off</td>
<td>2:off</td>
<td>3:off</td>
<td>4:off</td>
</tr>
</tbody>
</table>
17. Check MySQL tables.

```
[root@centos53svr1 ~]# mysql -u root -p
Enter password:
Welcome to the MySQL monitor. Commands end with ; or \
Your MySQL connection id is 42
Server version: 5.0.45 Source distribution

Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

mysql> use icewarp_accounts;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> show tables;
+---------------------------+
| Tables_in_icewarp_accounts |
+---------------------------+
| Aliases                   |
| Domains                   |
| Users                     |
+---------------------------+
3 rows in set (0.00 sec)
mysql>
```
Your MySQL connection id is 42
Server version: 5.0.45 Source distribution

Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

mysql> use icewarp_accounts;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> show tables;
+--------------------+
| Tables_in_icewarp_accounts |
+--------------------+
| Aliases     |
| Domains     |
| Users       |
+--------------------+
3 rows in set (0.00 sec)

mysql> select * from Aliases;
+---------------------+
| A_Alias | A_Domain | AUserID |
+---------------------+
| admin    | icewarp.au | 1 |
+---------------------+
1 row in set (0.00 sec)

mysql>
Using MySQL Database for IceWarp WebClient

1. Change setting in IceWarp Server to use *icewarp_webmail* database in MySQL.
2. After logging into IceWarp WebClient, IceWarp Server will create the necessary tables ...

```
[root@centos53svr1 ~]# mysql -u root -p
Enter password:
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 84
Server version: 5.0.45 Source distribution

Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

mysql> use icewarp_webmail;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> show tables;
+-----------------------+
| Tables_in_icewarp_webmail |
+-----------------------+
| folder                |
| item                  |
| wm_metadata           |
+-----------------------+
3 rows in set (0.00 sec)
mysql>
```

Installing Avast Anti-Virus Library

1. The `libavastengine.so` file is included in the IceWarp Server installation and is located in `<path/to/icewarp>/avast/`.

```
[root@centos53svr1 ~]# cd /opt/icewarp/avast
[root@centos53svr1 avast]# ls
avastựařvload data libavastengine-4.so.7 libavastengine-4.so.7.0.2 libavastengine.so
[root@centos53svr1 avast]# 
```

Link to `libavastengine.so` in the `/usr/lib` directory is not needed anymore.
2. You should be able to run the Anti-Virus engine update to download the latest definitions.

New License Registration

2. Select **[5] Export reference key to file**, save the file to `<filename>.xml` and send it to your IceWarp Partner for processing of your new license key.

```
**
** License operations
** -----------------------
** You have the following options:
**
** [1] Display license information
** [2] Display license
** [3] Export license to file
** [4] Display reference key
** [5] Export reference key to file
** [6] Fetch license online
**
** [0] Return
** [Q] Exit
**
** Enter your choice: 5
**
**
** Enter file name to save exported reference key: license.xml
** Reference key saved to file license.xml
**
```

3. Once your NEW license has been processed, it will be e-mailed to you. Copy & paste the license block into `<pathtoicewarp>/config/license.key`.

```
[root@centos53svr3 ~]# cd /opt/icewarp/config
[root@centos53svr3 config]# nano license.key
```
4. You may then review and verify your license using the `wizard.sh [1] Display License Information`.

```
File Edit View Terminal Tabs Help

* * *
* * *
You have the following options:
* [1] Display license information
* [2] Display license
* [3] Export license to file
* [4] Display reference key
* [5] Export reference key to
* [6] Fetch license online
* [0] Return
* [Q] Exit

Enter your choice: 1
```
<table>
<thead>
<tr>
<th>Product</th>
<th>Type</th>
<th>Creation date</th>
<th>License expires</th>
<th>Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mail Server</td>
<td>Registered</td>
<td>2007-12-04</td>
<td>Never</td>
<td>1095</td>
</tr>
<tr>
<td>WebMail</td>
<td>Registered</td>
<td>2007-12-04</td>
<td>Never</td>
<td>1095</td>
</tr>
<tr>
<td>FTP</td>
<td>Registered</td>
<td>2007-12-04</td>
<td>Never</td>
<td>1095</td>
</tr>
<tr>
<td>Anti-Spam</td>
<td>Registered</td>
<td>2007-12-04</td>
<td>Never</td>
<td>1095</td>
</tr>
<tr>
<td>Anti-Virus</td>
<td>Registered</td>
<td>2007-12-04</td>
<td>Never</td>
<td>1095</td>
</tr>
<tr>
<td>Instant Messaging</td>
<td>Registered</td>
<td>2007-12-04</td>
<td>Never</td>
<td>1095</td>
</tr>
<tr>
<td>Groupware</td>
<td>Registered</td>
<td>2007-12-04</td>
<td>Never</td>
<td>1095</td>
</tr>
<tr>
<td>SyncML</td>
<td>Registered</td>
<td>2007-12-04</td>
<td>Never</td>
<td>1095</td>
</tr>
<tr>
<td>SIP</td>
<td>Registered</td>
<td>2007-12-04</td>
<td>Never</td>
<td>1095</td>
</tr>
<tr>
<td>Outlook-Connector</td>
<td>Evaluation</td>
<td>2009-08-11</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>CalDAV</td>
<td>Registered</td>
<td>2007-12-04</td>
<td>Never</td>
<td>1095</td>
</tr>
<tr>
<td>Anti-Spam Live</td>
<td>Evaluation</td>
<td>2009-08-11</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Log Analyzer</td>
<td>Registered</td>
<td>2007-12-04</td>
<td>Never</td>
<td>1095</td>
</tr>
</tbody>
</table>
Controlling IceWarp Server in Linux

Starting server and/or services

[linux]$ ./icewarpd.sh --start

— starts "icewarpd" and automatically starts all services, except PHP, which is started when first HTTP request arrives.

[linux]$ ./icewarpd.sh --start control|gw|im|pop3|smtp|all

— starts the selected service or all services. If "icewarpd" is not already running, this command does not start it. Only the selected service is started.

If the control is started, it starts PHP on the first HTTP request.

Stopping server and/or services

[linux]$ ./icewarpd.sh --stop

— stops all running services, stops "icewarpd" and also PHP. This is the command for complete server shutdown.

[linux]$ ./icewarpd.sh --stop control|gw|im|pop3|smtp|all

— stops selected service or all services. This command causes PHP stop together with control and does not stop "icewarpd".

Service icewarpd functionality

When the "icewarpd daemon" is running, it:

- checks every 10 seconds whether all started services are running. If not, service is re-started.

Commands table

<table>
<thead>
<tr>
<th>Action \ Platform</th>
<th>RHEL 5</th>
<th>Other distributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start all services and icewarpd</td>
<td>[pc]$ service icewarp start</td>
<td>[pc]$ ./icewarpd.sh --start</td>
</tr>
<tr>
<td>Stop all services and icewarpd</td>
<td>[pc]$ service icewarp stop</td>
<td>[pc]$ ./icewarpd.sh --stop</td>
</tr>
<tr>
<td>Restart all services and icewarpd</td>
<td>[pc]$ service icewarp restart</td>
<td>-</td>
</tr>
<tr>
<td>Start specific service</td>
<td>[pc]$ ./icewarpd.sh --start x</td>
<td>[pc]$ ./icewarpd.sh --start x</td>
</tr>
<tr>
<td>Stop specific service</td>
<td>[pc]$ ./icewarpd.sh --stop x</td>
<td>[pc]$ ./icewarpd.sh --stop x</td>
</tr>
<tr>
<td>Check specific service</td>
<td>[pc]$ ./icewarpd.sh --check x</td>
<td>[pc]$ ./icewarpd.sh --check x</td>
</tr>
</tbody>
</table>

Possible services are: control, gw, im, pop3, smtp, all.
IceWarp Server Administration

Windows Administration Console
- download and install the latest Remote Administration Console from IceWarp website http://www.icewarp.com (Download > Tools), to connect to IceWarp Server remotely

Frontend administrative authorities of the Web (Web Admin).
- http://<Your_Server>:32000/admin/

Command Line wizard.sh
- used for quick setup and easy tasks, scriptable for more complex tasks
- can create the initial account, generate unique SSL certificate, set up database connection, install license and manage IceWarp Server services
- `cd /opt/IceWarp`
- `./wizard.sh`

Command Line tool.sh (direct API access)
- `cd /opt/IceWarp`
- `./tool.sh`

NOTE: The Remote Administration Console and Web Admin depend on working Control service. Here are two examples where you may lose access to the Control service and how tool.sh can be used to resolve the problem.

Example 1
In case user accounts are stored in database and you modify the DB connection specifying an incorrect hostname, you lose access to WebAdmin and remote console, because users fail to authenticate with the accounts database.

Check `/opt/IceWarp/api/delphi/APIConst.pas` and find the constant that defines the connection string:

```
C_System_Storage_Accounts_ODBCConnString = $61 // ODBC Connection String
```

To view the current connection string, use the command:

```
./tool.sh display system C_System_Storage_Accounts_ODBCConnString
```

```
C_System_Storage_Accounts_ODBCConnString:icewarp_accounts;root;password@;localhost,3,2
```

If DB is not on localhost, but on mysql.icewarpdemo.com, you can change the connection string via command line such as:

```
./tool.sh modify system C_System_Storage_Accounts_ODBCConnStringicewarp_accounts;root;password@;mysql.mydomain.com;3;2
```

(The above line is typed entirely on one line.)
Example 2

You forget password of an administrator account, so you cannot access Remote Administration Console or Web Administration. You need to create a new administrator account, replacing newpassword with the password of choice:

```
./tool.sh create account admin2@icewarpdemo.com u_password newpassword u_admin 1
```
Installation of Aspell Dictionaries

IceWarp Server uses Aspell (version 0.60.6) as a spell checker. It requires dictionaries for version 0.6 (or higher).

You can download these dictionaries (free) from http://aspell.net/.

To install a dictionary, use the ./scripts/install_aspell_dictionary.sh script. Use the dictionary file name as a command line parameter.

Example of the command for the Czech dictionary installation:

[linux]$ ./scripts/install_aspell_dictionary.sh /home/user/aspell6-cs-20040614-1.tar.bz2

After dictionary installation, this new dictionary will not be available in WebClient. To configure it, you have to add a record about this dictionary to the WebClient configuration file:

./config/_webmail/spellchecker.xml

The record format is as follows:

<aspell_dictionary_id>Name_in_WebMail</aspell_dictionary_id>

Example:

New IceWarp Server installation has in the ./config/_webmail/spellchecker.xml file one record for implicit English dictionary that is included in the installation:

<en>English</en>

After installation of the Czech dictionary, it is necessary to add the following record:

<cs>Czech</cs>

Use similar records for other languages.

NOTE: The ./config/_webmail/spellchecker.xml file is created after the first login to WebClient and after displaying of the dialog for spell checker setting. This dialog is accessible via the Settings menu item within the email composer window.
## IceWarp Server – Dynamic Library Dependencies

NOTE: You have to install 32-bit libraries on 64-bit system. You should check, whether appropriate packages with the `.i686` extensions are installed. In some cases, only 64-bit versions are installed by default.

NOTE: In the case more than one package is mentioned (within one cell), you may choose which one you want to use.

<table>
<thead>
<tr>
<th>Dynamic library</th>
<th>Mail Server service and provided functionality</th>
<th>Package which provides dynamic library</th>
</tr>
</thead>
<tbody>
<tr>
<td>libc.so.6</td>
<td>System interface</td>
<td>glibc</td>
</tr>
<tr>
<td></td>
<td></td>
<td>libc6</td>
</tr>
<tr>
<td>libpthread.so.0</td>
<td>System interface</td>
<td>glibc</td>
</tr>
<tr>
<td></td>
<td></td>
<td>libc6</td>
</tr>
<tr>
<td>libgds.so</td>
<td>FireBird database</td>
<td></td>
</tr>
<tr>
<td>libgds.so.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>libfbclient.so</td>
<td>FireBird database</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>libmysqlclient.so</td>
<td>MySQL database</td>
<td>mysql</td>
</tr>
<tr>
<td>libmysqlclient.so.14</td>
<td></td>
<td>mysql-client</td>
</tr>
<tr>
<td>libmysqlclient.so.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>libsqlite3.so</td>
<td>SQLite database</td>
<td>IceWarp Server</td>
</tr>
<tr>
<td>libsqlite3.so.0</td>
<td></td>
<td>IceWarp Server</td>
</tr>
<tr>
<td>libz.so.1</td>
<td>Control: HTTP gzip</td>
<td>zlib</td>
</tr>
<tr>
<td></td>
<td>Control: Backup</td>
<td>zlib1g</td>
</tr>
<tr>
<td>libgd2.so.2</td>
<td>Control: captcha</td>
<td>gd</td>
</tr>
<tr>
<td></td>
<td>SMTP: captcha</td>
<td>libgd2-noxpm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>libgd2-xpm</td>
</tr>
<tr>
<td>libgd.so</td>
<td>Control: captcha</td>
<td>gd</td>
</tr>
<tr>
<td></td>
<td>SMTP: captcha</td>
<td>libgd2-noxpm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>libgd2-xpm</td>
</tr>
<tr>
<td>Library</td>
<td>Description</td>
<td>Dependencies</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>--------------</td>
</tr>
<tr>
<td>libiconv2.so</td>
<td>All services: native conversion between any charset (MIME class, Versit class etc.)</td>
<td>glibc</td>
</tr>
<tr>
<td>libiconv.so</td>
<td>All services: native conversion between any charset (MIME class, Versit class etc.)</td>
<td>glibc</td>
</tr>
<tr>
<td>libldap.so</td>
<td>Groupware, Control, API: LDAP integration, sync</td>
<td>openldap</td>
</tr>
<tr>
<td>libldap.so</td>
<td>Groupware, Control, API: LDAP integration, sync</td>
<td>openldap-devel</td>
</tr>
<tr>
<td>libcap.so</td>
<td>Bind ports under 1024 when started as root but running as non privileged user</td>
<td>libcap</td>
</tr>
<tr>
<td>libcap.so</td>
<td>Bind ports under 1024 when started as root but running as non privileged user</td>
<td>libcap-devel</td>
</tr>
<tr>
<td>libpcre.so</td>
<td>All services: any regex pattern match and replace in different parts of the server (mod_rewrite, rules etc.)</td>
<td>pcre</td>
</tr>
<tr>
<td>libpcre.so.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>libpcre.so.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>libpcre.so.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>libpcre.so.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>libssl.so</td>
<td>All services: SSL, TLS features for all services including SSL Tunnel, certificate verification and others.</td>
<td>openssl</td>
</tr>
<tr>
<td>libssl.so.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>libssl.so.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>libssl.so.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>libcrypto.so</td>
<td>All services: SSL, TLS features for all services including SSL Tunnel, certificate verification and others.</td>
<td>openssl</td>
</tr>
<tr>
<td>libcrypto.so.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>libcrypto.so.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>libcrypto.so.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>libymsgauth.so</td>
<td>IM &quot;Yahoo IM Gateway&quot; used for login hash creation</td>
<td>IceWarp Server</td>
</tr>
<tr>
<td>libphp4.so</td>
<td>PHP and icewarphp extension: php integration</td>
<td>IceWarp Server</td>
</tr>
<tr>
<td>libphp5.so</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td>Description</td>
<td>Icon</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>libavastengine.so</td>
<td>Pop3 Smtp: Antivirus check Avast</td>
<td></td>
</tr>
<tr>
<td>symcsapi.so</td>
<td>Pop3 Smtp: Antivirus check Symantec</td>
<td></td>
</tr>
<tr>
<td>libdb.so</td>
<td>All services: DB access to accounts (if running in db mode) and spam engine.</td>
<td></td>
</tr>
<tr>
<td>libgnutls-extra.so.13</td>
<td>IM &quot;MSN and Yahoo Gateway SSL connection (Pecan)&quot;</td>
<td></td>
</tr>
<tr>
<td>libgnutls-extra.so.13.0.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>libgnutls-openssl.so.13</td>
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<td></td>
</tr>
<tr>
<td>libgnutls-openssl.so.13.0.6</td>
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<td>libgnutls.so.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>libgnutls.so.13.0.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>libpam.so.0</td>
<td>PHP dependency</td>
<td></td>
</tr>
<tr>
<td>libxml.so.2</td>
<td>IM &quot;jabber&quot; and &quot;bonjour&quot; gateways, PHP</td>
<td></td>
</tr>
<tr>
<td>installation/setup</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Adjusting PHP

There are differences between Linux and Windows versions in adjusting PHP. The `webserver.dat` file includes some PHP directives which are not propagated into the PHP start script in Linux.

PHP is started from the `phpd.sh` script which is configured as the default handler for PHP in IceWarp Server. Bundled PHP FastCGI manager is used. The `phpd.sh` script expects four parameters. Control passes these variables to `phpd.sh`. They are taken from these `webserver.dat` variables:

- `webappmaxthreads = fcgi_threadpool`, this gives the number of PHP threads, that should run. When `fcgi_threadpool` is not specified, global thread pool size is used.
- `bindip = fcgi_bindip`, the IP on which PHPs listen for requests, typically localhost.
- `maxround = fcgi_maxrounds`, the number of requests, after which PHP process is respawned. This prevents memory exhaustion caused by possible leaks.
- `restart500 = fcgi_restart500`, the number of 500 responses, after which PHP process is respawned.

It performs safety checks:

- if `WEBAPPMAXTHREADS` is not set, then `PHP_FCGI_CHILDREN` is set to 15,
- if `WEBAPPMAXTHREADS` is not a number, then `PHP_FCGI_CHILDREN` is set to 15.

How IceWarp Server determines `WEBAPPMAXTHREADS`:

- If `webserver.dat` includes the `FastCGIThreadPool` variable with value greater than or equal to zero, then it is passed to configured FastCGI (default is `phpd.sh`) as `WEBAPPMAXTHREADS`.
- If the above condition is not met, then API variable of `C_WebService_AppMaxThreads` is passed to configured FastCGI (default is `phpd.sh`) as `WEBAPPMAXTHREADS`.

PHP logs in IceWarp/log directory:

- `phpstartup.log` – the output of PHP start command. If PHP does not start at all, often because of missing dependency, the reason can be found here.
- `php-fpm.log` – the log of fastCGI pool manager, default error level is warning. You can find reports about PHP processes respawning here.
- `phpslow.log` – if PHP thread is running for more than 2 minutes, current thread backtrace is dumped here. This is good entry point for examining, why PHP things (e.g. WebClient) are slow.
How to Uninstall

If you want to uninstall IceWarp Server, use the `uninstall.sh` file, that is placed in the `/opt/icewarp/scripts` folder.

After that you have to delete the `etc/icewarp.conf` file. Otherwise a new installation would be considered as an upgrade only.