



Installation and Administration Guide

Version 1.8

For use with OCS Inventory NG 1.0 Final or higher

Powerful, OpenSource inventory and package deployment tool
for Windows and Unix like computers
<http://ocsinventory.sourceforge.net>

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History and changes

| Version | Date | Author | Comments |
|---------|------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.0 | 2005-06-22 | Didier LIROULET | Creation |
| 1.1 | 2005-08-18 | Didier LIROULET | Updates for management server installation on Linux considering the version of mod_perl and for management server installation on Windows, ipdiscover feature. |
| 1.2 | 2005-09-05 | Didier LIROULET | Updates for IP Discover utility, and agent including monitor serial number detection, force not using proxy or force using HTTP port other than 80. Added chapter for common errors. |
| 1.3 | 2005-12-03 | Didier LIROULET | Updates for NG 1.0 RC 1. Deployment of Windows Agent 4010 requires use of OcsLogon. Linux agent v8 requires PERL module Net::IP and update of ipdiscover module. Subnets are now managed in database (not in file subnet.csv). Upgrade of Windows Server requires reinstall. |
| 1.4 | 2006-02-16 | Didier LIROULET | Updates for NG 1.0 RC2. Add of software dictionary. LSB compliance in Linux agent. Upgrade fix in OCS NG Server for Windows installation. |
| 1.5 | 2006-06-19 | Didier LIROULET | Updates for 1.0 RC3. Add of package deployment, new setup for Linux server and agents |
| 1.6 | 2006-07-10 | Didier LIROULET | Updates for OCS Inventory NG Server 1.0 RC3 For Windows |
| 1.7 | 2006-07-26 | Didier LIROULET | Fixed errors in version 1.6. Added chapter for certificate use with software deployment. |
| 1.8 | 2007-01-04 | Didier LIROULET | Updates for OCS Inventory NG 1.0 Final |

1 Introduction.

Open Computer and Software Inventory Next Generation is an application designed to help a network or system administrator keep track of the computer configuration and software installed on the network. **It also allows deploying packages on Windows and Linux computers.**

Dialog between client computers and management server is based on actual standards, HTTP/HTTPS protocol and XML data formatting.

Management server runs on Apache/MySQL/PHP/PERL server, under Linux or Windows NT based computers.

Inventoried client computers can run Microsoft Windows 95/98/Me/NT4/2000/XP/2003/Vista or Linux operating systems. There are also contributed agents for Sun Solaris, *BSD, IBM AIX 5.X and Mac OS X.

OCS Inventory is GPL software, i.e. free to use & copy (see <http://www.opensource.org/licenses/gpl-license.php>). OCS Inventory is also Open Source! This means if you want to modify the sources you can! However, if you want to update the source code to distribute it, you must provide your updates under GPL license terms.

OCS Inventory supports the following languages:

- ✓ Brazilian Portuguese
- ✓ English
- ✓ French
- ✓ German
- ✓ Hungarian
- ✓ Italian
- ✓ Polish
- ✓ Portuguese
- ✓ Spanish
- ✓ Russian
- ✓ Turkish

Used with asset management software such as [GLPI](http://www.glpi-project.org) (<http://www.glpi-project.org>), you will have a powerful inventory and information resource management software with automatic updates of computer configuration, license management, help desk, knowledge base and more.

2 Important notes

OCS Inventory NG 1.0 only add some little new features since 1.0 RC3 (2006/08/02), and many bugs have been fixed (See “changelog” or “readme” of each packages).

But also, take care about the following points.

OCS Inventory NG Server for Linux version 4100.

- ✓ New page in Administration Console to upload OCS Inventory NG agent deployment through launcher OcsLogon, either for standalone or service Windows agent.
- ✓ Administration Console now shows network adapter manufacturer.
- ✓ Administration Console now allows to control IPDISCOVER bandwith usage.
- ✓ New web service available on URL “/ocsinterface” allowing to query OCS Inventory NG database through SOAP.
- ✓ Some minor bugs fixed.

OCS Inventory NG Server for Windows version 4100.

- ✓ New installer able to upgrade previous installation, or to install OCS Inventory NG Server on an existing XAMPP Server.
- ✓ New page in Administration Console to upload OCS Inventory NG agent deployment through launcher OcsLogon, either for standalone or service Windows agent.
- ✓ Administration Console now shows network adapter manufacturer.
- ✓ Administration Console now allows to control IPDISCOVER bandwith usage.
- ✓ New web service available on URL “/ocsinterface” allowing to query OCS Inventory NG database through SOAP.
- ✓ Some minor bugs fixed

OCS Inventory NG Agent for Windows, internal version 4030.

- ✓ Windows Vista compatible (works on Vista RC1)
- ✓ New tool OCS Inventory NG Packager, to deploy Windows Agent as a service through login script or GPO, even if logged in user does not have administrator privileges.
- ✓ New launcher OcsLogon able to setup Windows Agent as a service, using Packager.
- ✓ Windows service now writes configuration file every minute by default. This can be configured at agent setup.
- ✓ Agent now tracks package deployment. You do not have to wait for next inventory.
- ✓ You can now configure latency between each ARP request in IPDISCOVER feature through Administration Console.
- ✓ Some minor new features, such as retrieving Windows computer domain and user login domain (if using multiple domain with approbation relationships).
- ✓ Agent now kills BiosInfo tool if it does not answer after 30 seconds.
- ✓ Some minor bugs fixed.

OCS Inventory NG Agent for Linux, internal version 15.

- ✓ Linux Agent is now able to deploy packages.
- ✓ You can now configure latency between each ARP request in IPDISCOVER feature through Administration Console.
- ✓ Some minor bugs fixed.

We would like to thanks Miss Isabelle Bouet. who has created all the fabulous icons used in Administration console. Merci beaucoup Isabelle ;-)

We also would like to thanks all translators who contributed to translate Administration Console in their native language:

- ✓ Rogerio Barberi (Brasil)
- ✓ Rafael Dewes (Brasil)
- ✓ Franco Malerba (Italia)
- ✓ Drasch Werner (Germany)
- ✓ Kiss Miklýf (Hungary)
- ✓ Marcin Urban (Poland)
- ✓ Vitaly Toktarev (Russia)
- ✓ Pablo Chamorro (Spain)
- ✓ Bünyamin Güç (Turkey)
- ✓ ?? (Portugal)

and guys who contributed by creating agents for other operating systems:

- ✓ Jason Roons for OCS Mac Agent
- ✓ Bruno Fleisch for Sun Solaris/BSD agent
- ✓ Joan Carles for IBM AIX agent
- ✓ Jmdiehl for HP-UX agent

3 Setting up management server.

Management server contains 4 mains components:

1. **Database server**, which store inventory information
2. **Communication server**, which will handle HTTP communications between database server and agents.
3. **Administration console**, which will allow administrators to query the database server through their favorite browser.
4. **Deployment server**, which store all package deployment configuration (require HTTPS!)

These 4 components can be hosted on a single computer or on different computers to allow load balancing. For more than 10000 inventoried computers, it is better to use at least 2 different servers, one for the database server + Communication server and the other for a database replica + Administration server + Deployment server.

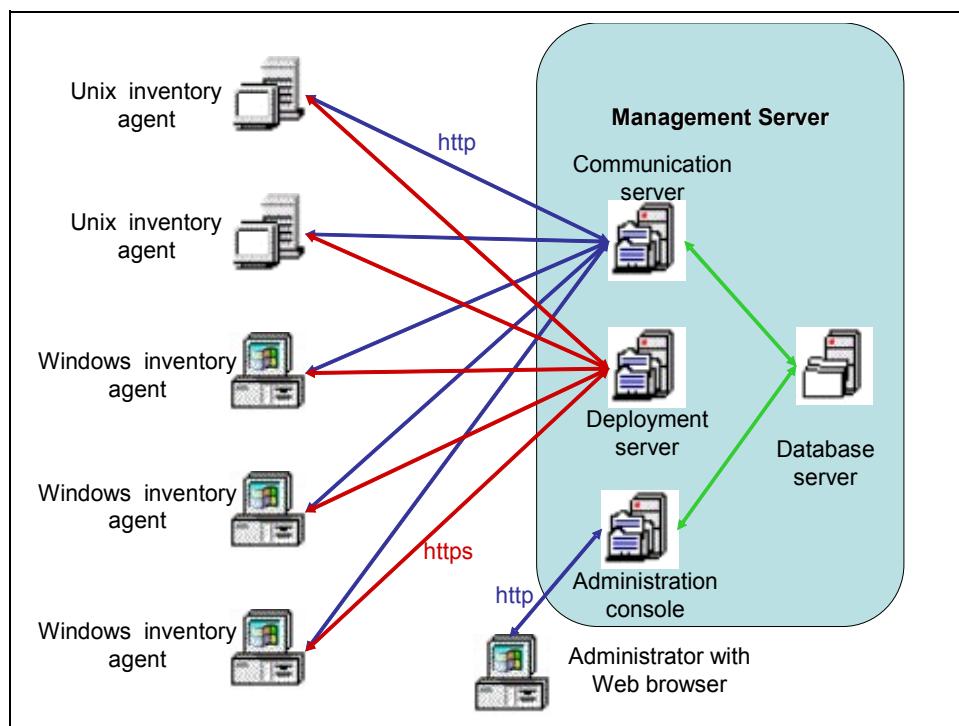


Figure 1 : OCS Inventory NG communication architecture.

NB: If you want to use multiple computers to host OCS inventory NG management server, we recommend that you setup it on Linux computers. OCS Inventory NG server for Windows comes as an integrated package including all required components (apache, perl, php, mod_perl, mysql...).

Database server currently can only be MySQL 4.1 or higher with InnoDB engine active.

Communication server needs Apache Web Server 1.3.X/2.X and is written in PERL as an Apache module. Why? Because PERL scripts are compiled when Apache starts, and not at each request. This is better for performance issue. Communication server may require some additional PERL module, according to your distribution.

Deployment server needs any Web Server with SSL enabled.

Administration console is written in PHP 4.1 (or higher) and runs under Apache Web Server 1.3.X/2.X. Administration console requires ZIP and GD support enabled in PHP in order to use package deployment.

3.1 Under Linux Operating System.

We assume that you have:

- ✓ MySQL database server running somewhere and listening on default port 3306 with TCP/IP communication enabled.
- ✓ Apache Web server installed and running for Communication server and Administration server.
- ✓ PHP and Perl installed and usable by Apache Web server for the Administration console.
- ✓ Perl and mod_perl installed and usable by Apache Web server for the Communication server.

3.1.1 Requirements.

- ✓ Apache version 1.3.33 or higher / Apache version 2.0.46 or higher.
 - ❖ Mod_perl version 1.29 or higher.
 - ❖ Mod_php version 4.3.2 or higher.
- ✓ PHP 4.3.2 or higher, with ZIP and GD support enabled.
- ✓ PERL 5.6 or higher.
 - ❖ Perl module XML::Simple version 2.12 or higher.
 - ❖ Perl module Compress::Zlib version 1.33 or higher.
 - ❖ Perl module DBI version 1.40 or higher.
 - ❖ Perl module DBD::Mysql version 2.9004 or higher.
 - ❖ Perl module Apache::DBI version 0.93 or higher.
 - ❖ Perl module Net::IP version 1.21 or higher.
 - ❖ Perl module SOAP::Lite version 0.66 or higher (not mandatory)
- ✓ MySQL version 4.1.0 or higher with InnoDB engine active.
- ✓ Make utility like GNU make.

NB: OCS Inventory NG Server Setup will check for all these components and will stop if one is missing.

3.1.2 Installing Communication server required PERL modules.

The Web communication server requires Apache web server and Perl 5 scripting language and some additional modules for Perl 5 (see § 3.1.1 Requirements.). It act as an Apache module which handle HTTP requests of OCS Inventory agents to a virtual directory “/ocsinventory”.

You must have root privileges to setup required perl modules.

It's better for system integrity to use precompiled packages for your distribution if they are available.

On Fedora/Redhat like Linux, you can use “yum” tool to setup required modules like following:

- ✓ yum install perl-XML-Simple
- ✓ yum install perl-Compress-Zlib
- ✓ yum install perl-DBI
- ✓ yum install perl-DBD-MySQL
- ✓ yum install perl-Apache-DBI
- ✓ yum install perl-Net-IP
- ✓ yum install perl-SOAP-Lite

On Debian like Linux, you can use “apt-get” tool to setup required modules:

- ✓ apt-get install libxml-simple-perl
- ✓ apt-get install libcompress-zlib-perl
- ✓ apt-get install libdbi-perl
- ✓ apt-get install libdbd-mysql-perl
- ✓ apt-get install libapache-dbi-perl
- ✓ apt-get install libnet-ip-perl
- ✓ apt-get install libsoap-lite-perl

If prepcompiled package is not available for your distribution, you can download package source from <http://search.cpan.org> and build it on your system (make and C compiler may be available) like following:

- ✓ tar -xvzf package_name.tar.gz
- ✓ cd package_name
- ✓ perl Makefile.PL
- ✓ make
- ✓ make test
- ✓ make install

*NB: if you're not using system perl interpreter, but one another like XAMPP/LAMPP perl interpreter, you must call this perl interpreter, not the system one, by specifying full path to your perl interpreter. For example:
</opt/lampp/bin/perl Makefile.PL>*

3.1.3 Installing Administration console required PHP modules

The Web Administration console requires Apache web server and PHP 4 scripting language and some additional modules for PHP (see § 3.1.1 Requirements.).

You must have root privileges to setup Administration console.

You need to setup ZIP support for PHP.

On Fedora/Redhat like Linux, you can use “yum” tool to setup it:

- ✓ yum install php-pecl-zip

On Debian like Linux, you can use “apt-get” tool to setup it:

- ✓ apt-get install php-zip

Otherwise, the best way to do this is to use PHP PECL ZIP package. You must have PHP development libraries (php-devel package under RedHat or Fedora Core, under Linux Debian or Ubuntu) in order to have “phpize” command.

Then, if you have pear installed, just type

- ✓ pear install zip

If you don't have pear installed, or no connection to Internet, download package “zip-1.3.1.tgz” from <http://pecl.php.net/package/zip>.

Install it (php devel package is required):

- ✓ tar -xvzf zip-1.3.1.tgz
- ✓ cd zip-1.3.1
- ✓ phpize
- ✓ ./configure
- ✓ make
- ✓ make install

You also need to setup GD support for PHP.

On Fedora/Redhat like Linux, you can use “yum” tool to setup it:

- ✓ yum install php-gd

On Debian like Linux, you can use “apt-get” tool to setup it:

- ✓ apt-get install php-gd

3.1.4 Installing management server.

You must have root privileges to setup management server.

NB: Ensure MySQL InnoDB engine is activated on your database server. Open my.cnf and ensure there is no ligne “skip-innodb” or this line is commented (begins with '#').

Download “OCSNG_LINUX_SERVER_1.0.tar.gz” from OCS Inventory Web Site.

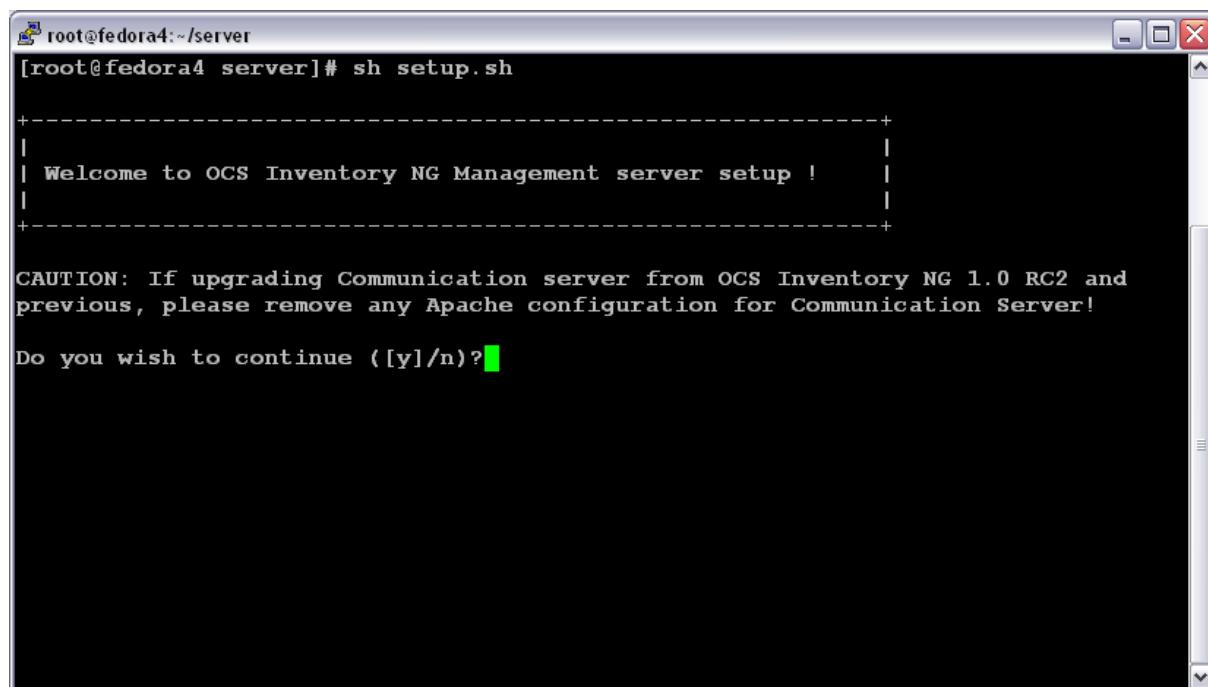
Unpack it.

- ✓ tar -xvzf OCSNG_LINUX_SERVER_1.0.tar.gz
- ✓ cd OCSNG_LINUX_SERVER_1.0

Run “setup.sh” installer. During the installer, default choice is presented between []. For example, [y]/n means that “y” (yes) is the default choice, and “n” (no) is the other choice.

- ✓ sh setup.sh

NB: installer writes a log file “ocs_server_setup.log” in the same directory. If you encounter any error, please refer to this log for detailed error message.

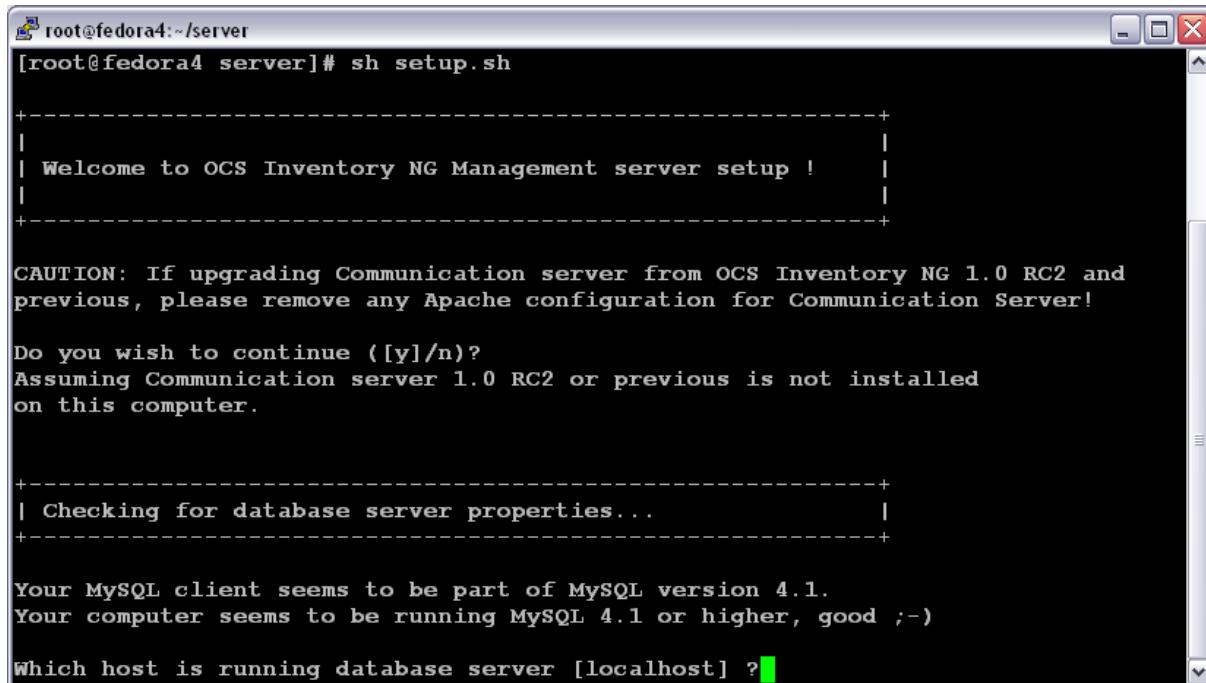


The screenshot shows a terminal window titled "root@fedora4:~/server". The user has run the command "sh setup.sh". The terminal displays the following text:

```
[root@fedora4 server]# sh setup.sh
+-----+
| Welcome to OCS Inventory NG Management server setup !
|
+-----+
CAUTION: If upgrading Communication server from OCS Inventory NG 1.0 RC2 and previous, please remove any Apache configuration for Communication Server!
Do you wish to continue ([y]/n)?
```

CAUTION: If you're upgrading from OCS Inventory NG 1.0 RC2 and previous, you must first remove any Apache configuration file for Communication server.

Type “y” or “enter” to validate and, then enter MySQL server host address, in most case localhost.



```
[root@fedora4:~/server]
[root@fedora4 server]# sh setup.sh

+-----+
| Welcome to OCS Inventory NG Management server setup !
|
+-----+

CAUTION: If upgrading Communication server from OCS Inventory NG 1.0 RC2 and
previous, please remove any Apache configuration for Communication Server!

Do you wish to continue ([y]/n)?
Assuming Communication server 1.0 RC2 or previous is not installed
on this computer.

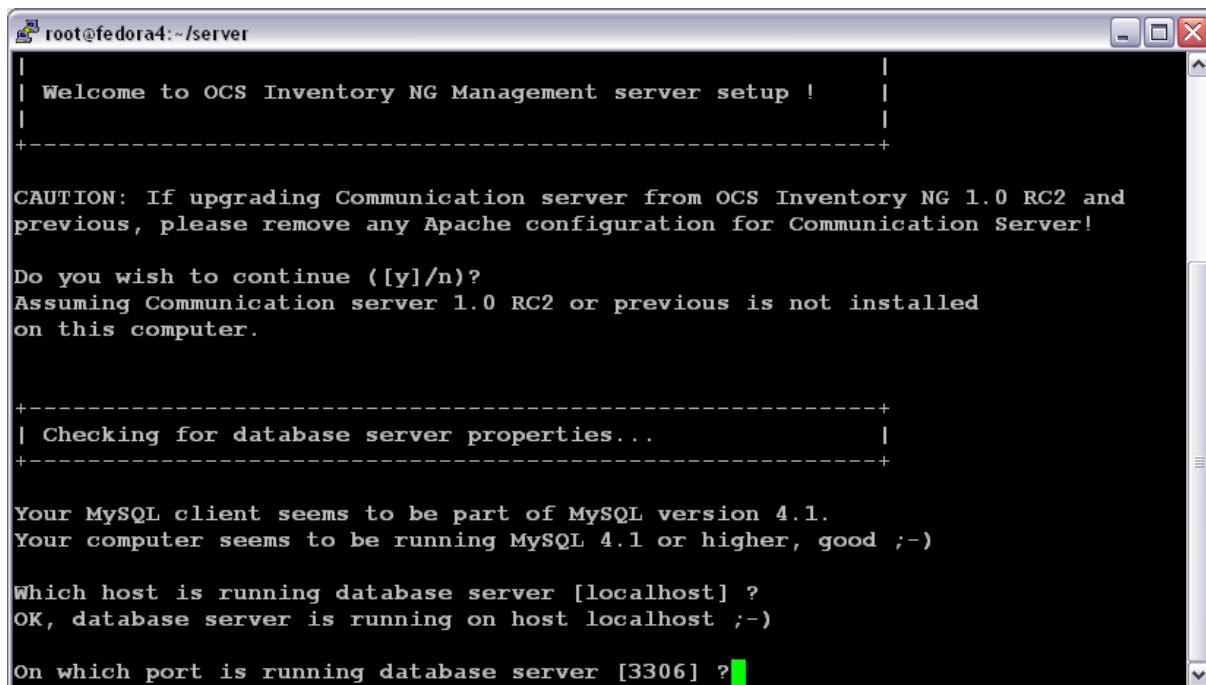
+-----+
| Checking for database server properties... |
+-----+

Your MySQL client seems to be part of MySQL version 4.1.
Your computer seems to be running MySQL 4.1 or higher, good ;-)

Which host is running database server [localhost] ?
```

Then, setup check for MySQL client binary files version 4.1 or higher. If not present, you will be prompted to continue or stop setup.

If all is OK, enter MySQL server port, generally 3306.



```
[root@fedora4:~/server]
[root@fedora4 server]# sh setup.sh

+-----+
| Welcome to OCS Inventory NG Management server setup !
|
+-----+

CAUTION: If upgrading Communication server from OCS Inventory NG 1.0 RC2 and
previous, please remove any Apache configuration for Communication Server!

Do you wish to continue ([y]/n)?
Assuming Communication server 1.0 RC2 or previous is not installed
on this computer.

+-----+
| Checking for database server properties... |
+-----+

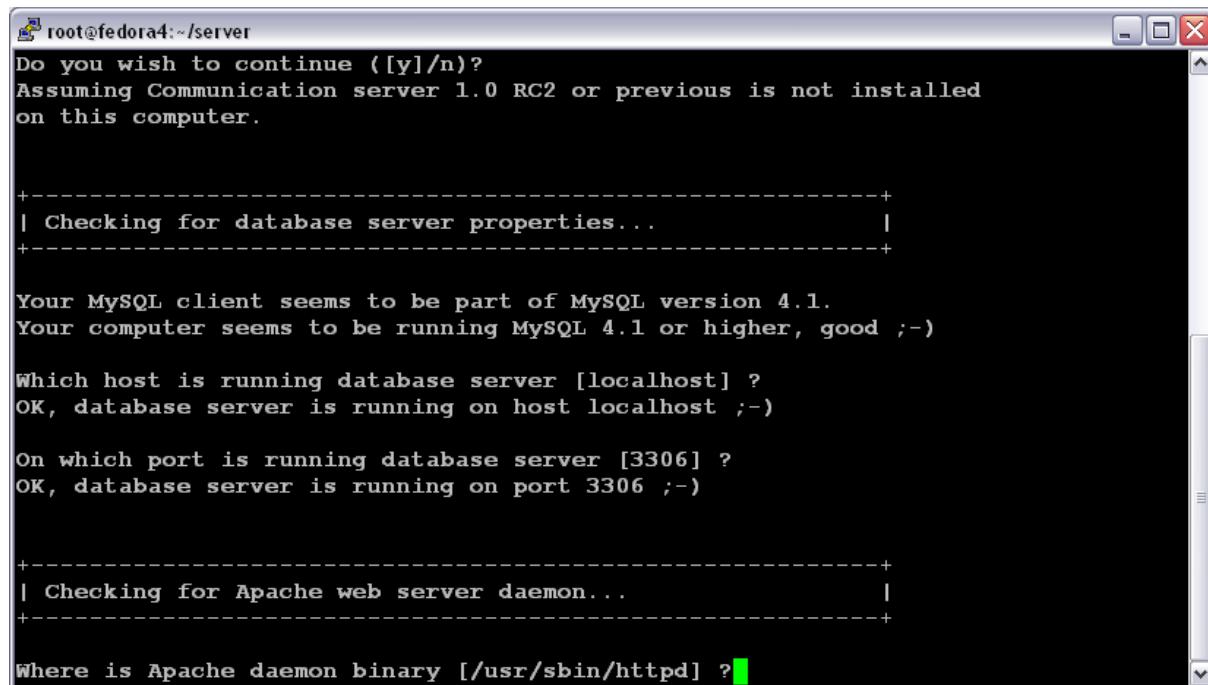
Your MySQL client seems to be part of MySQL version 4.1.
Your computer seems to be running MySQL 4.1 or higher, good ;-)

Which host is running database server [localhost] ?
OK, database server is running on host localhost ;-)

On which port is running database server [3306] ?
```

Enter or validate path to Apache daemon binary, generally “/usr/sbin/httpd”. It will be used to find Apache configuration files.

NB: if you're not using system Apache daemon, but another one like XAMPP/LAMPP Apache server, you must enter full path to your Apache daemon, not the system one.



```
root@fedora4:~/server
Do you wish to continue ([y]/n)?
Assuming Communication server 1.0 RC2 or previous is not installed
on this computer.

+-----+
| Checking for database server properties... |
+-----+

Your MySQL client seems to be part of MySQL version 4.1.
Your computer seems to be running MySQL 4.1 or higher, good ;-)

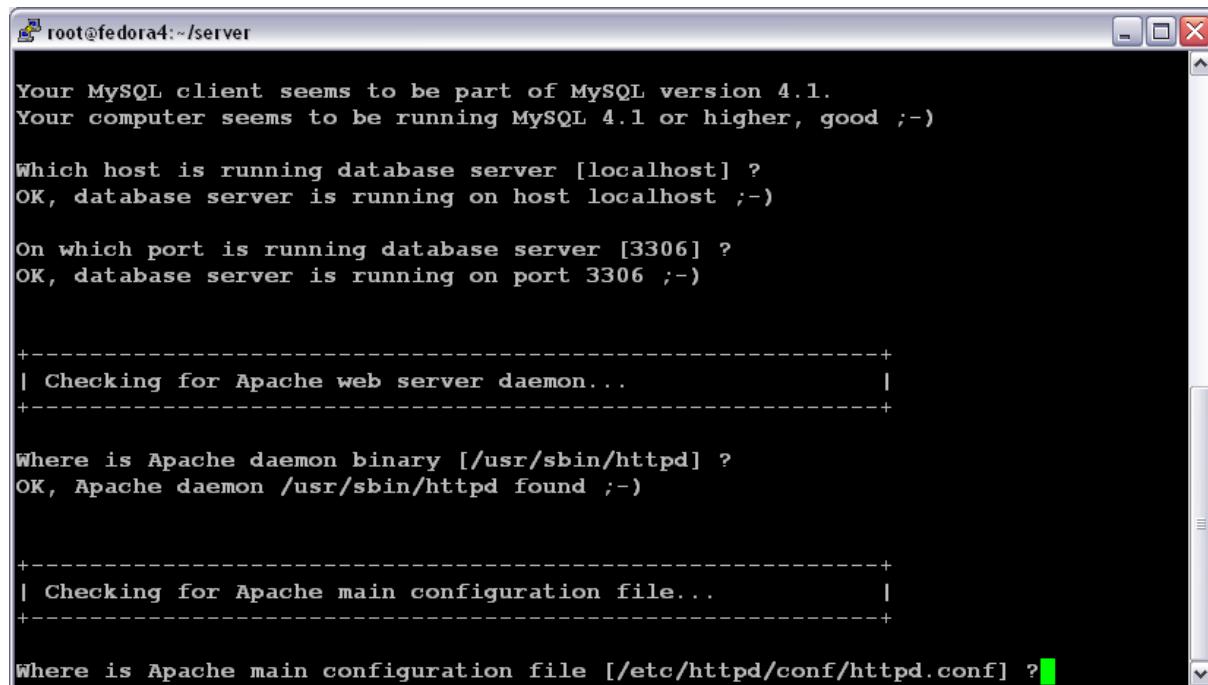
Which host is running database server [localhost] ?
OK, database server is running on host localhost ;-)

On which port is running database server [3306] ?
OK, database server is running on port 3306 ;-)

+-----+
| Checking for Apache web server daemon... |
+-----+

Where is Apache daemon binary [/usr/sbin/httpd] ?
```

Enter or validate Apache main configuration file path, generally “/etc/apache/conf/apache.conf” or “/etc/httpd/conf/httpd.conf”.



```
root@fedora4:~/server
Your MySQL client seems to be part of MySQL version 4.1.
Your computer seems to be running MySQL 4.1 or higher, good ;-)

Which host is running database server [localhost] ?
OK, database server is running on host localhost ;-)

On which port is running database server [3306] ?
OK, database server is running on port 3306 ;-)

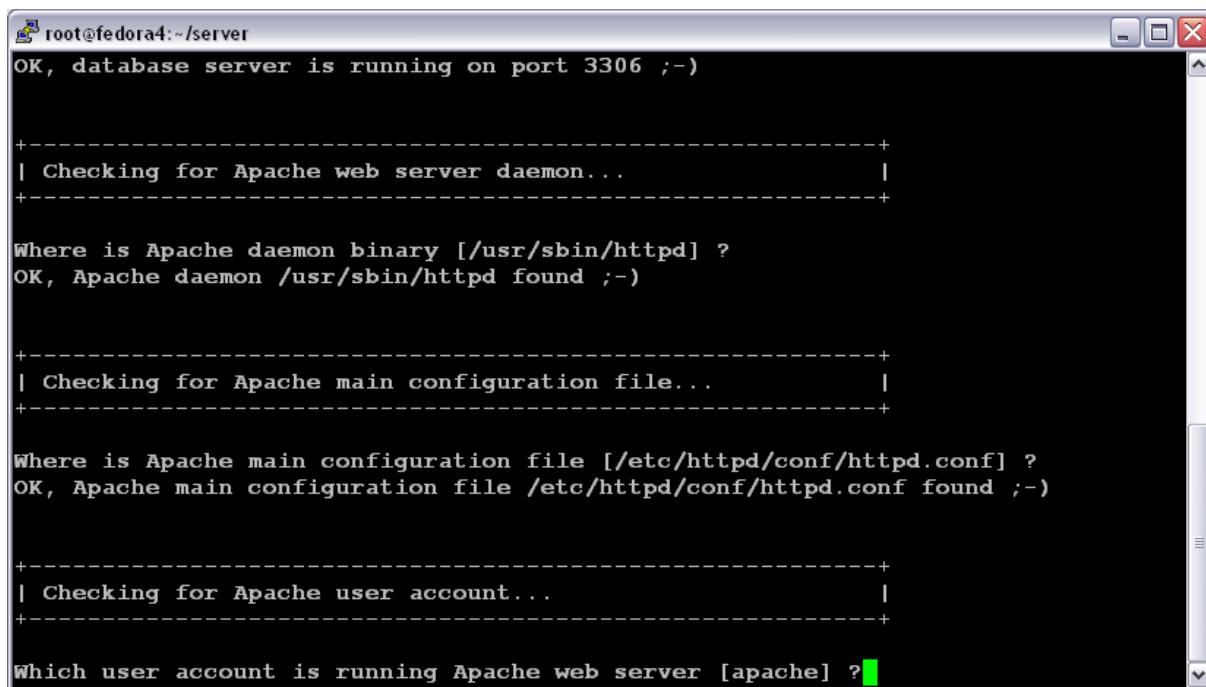
+-----+
| Checking for Apache web server daemon... |
+-----+

Where is Apache daemon binary [/usr/sbin/httpd] ?
OK, Apache daemon /usr/sbin/httpd found ;-)

+-----+
| Checking for Apache main configuration file... |
+-----+

Where is Apache main configuration file [/etc/httpd/conf/httpd.conf] ?
```

Enter or validate Apache daemon running user account, generally “apache” or “www”.



```
root@fedora4:~/server
OK, database server is running on port 3306 ;-)

+-----+
| Checking for Apache web server daemon... |
+-----+

Where is Apache daemon binary [/usr/sbin/httpd] ?
OK, Apache daemon /usr/sbin/httpd found ;-)

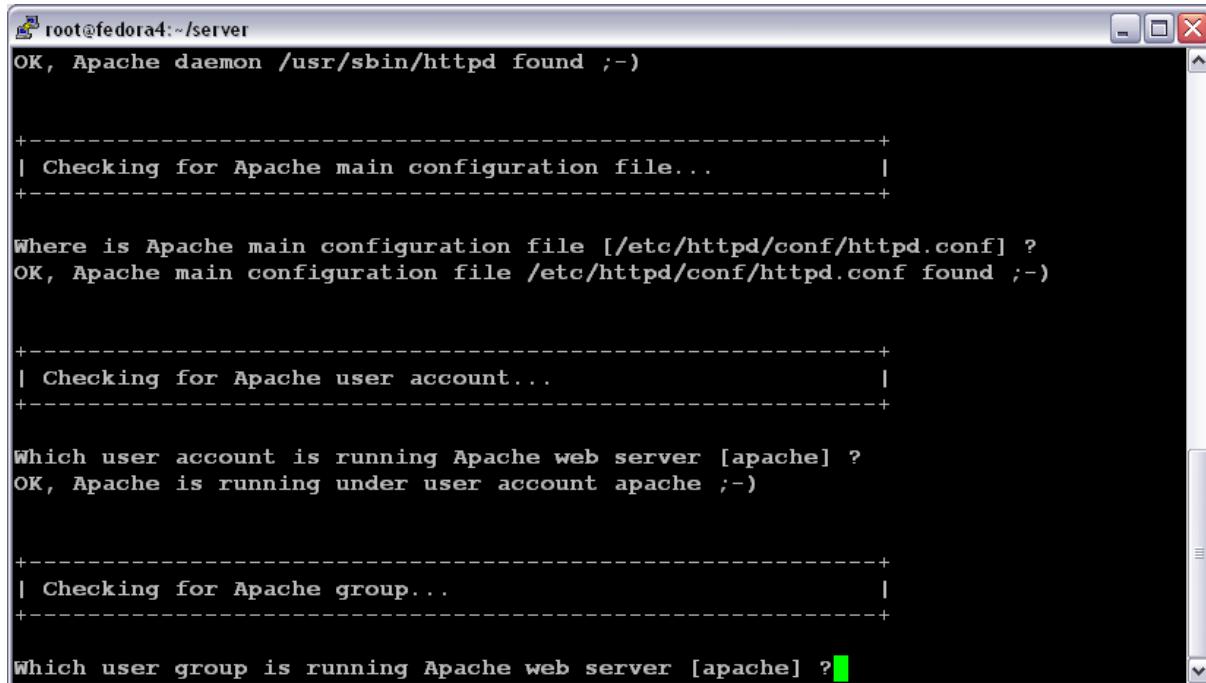
+-----+
| Checking for Apache main configuration file... |
+-----+

Where is Apache main configuration file [/etc/httpd/conf/httpd.conf] ?
OK, Apache main configuration file /etc/httpd/conf/httpd.conf found ;-)

+-----+
| Checking for Apache user account... |
+-----+

Which user account is running Apache web server [apache] ?
```

Enter or validate Apache daemon user group, generally “apache” or “www”.



```
root@fedora4:~/server
OK, Apache daemon /usr/sbin/httpd found ;-)

+-----+
| Checking for Apache main configuration file... |
+-----+

Where is Apache main configuration file [/etc/httpd/conf/httpd.conf] ?
OK, Apache main configuration file /etc/httpd/conf/httpd.conf found ;-)

+-----+
| Checking for Apache user account... |
+-----+

Which user account is running Apache web server [apache] ?
OK, Apache is running under user account apache ;-)

+-----+
| Checking for Apache group... |
+-----+

Which user group is running Apache web server [apache] ?
```

Next, setup checks for PERL interpreter binaries. Enter or validate path to PERL interpreter.

NB: if you're not using system perl interpreter, but another one like XAMPP/LAMPP perl interpreter, you must specify full path to this perl interpreter, not the default system one. (/opt/lampp/bin/perl generally used in XAMPP/LAMPP).

```
root@labo-av-lin-02:~/server
+-----+
| Checking for Apache user account... |
+-----+

Which user account is running Apache web server [apache] ?
OK, Apache is running under user account apache ;-)

+-----+
| Checking for Apache group... |
+-----+

Which user group is running Apache web server [apache] ?
OK, Apache is running under users group apache ;-)

+-----+
| Checking for PERL Interpreter... |
+-----+

Found PERL Intrepreter at </usr/bin/perl> ;-)
Where is PERL Intrepreter binary [/usr/bin/perl] ?
```

Common information for setting up Communication server or Administration console is now collected. Setup prompts you if you wish to setup Communication server on this computer. Enter “y” or validate to setup Communication server, “n” to skip Communication server installation.

```
root@labo-av-lin-02:~/server
+-----+
| Which user account is running Apache web server [apache] ?
| OK, Apache is running under user account apache ;-)

+-----+
| Checking for Apache group... |
+-----+

| Which user group is running Apache web server [apache] ?
| OK, Apache is running under users group apache ;-)

+-----+
| Checking for PERL Interpreter... |
+-----+

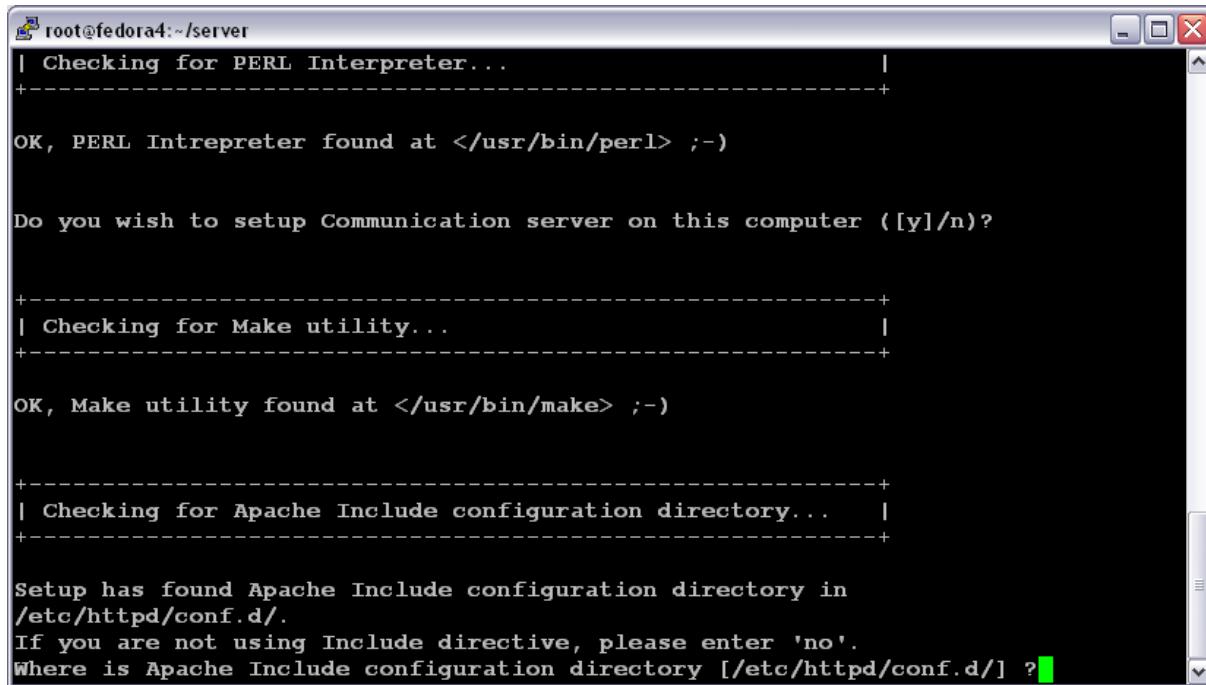
| Found PERL Intrepreter at </usr/bin/perl> ;-)
| Where is PERL Intrepreter binary [/usr/bin/perl] ?
| OK, using PERL Intrepreter /usr/bin/perl ;-)

| Do you wish to setup Communication server on this computer ([y]/n)?
```

Setup will then try to find make utility. If it fails, setup will stop.

Enter or validate path to Apache include configuration directory. This is the directory where are stored Apache configuration for specific modules. Generally, this directory is

“/etc/httpd/conf.d” or “/etc/apache/conf.d”. If you are not using configuration directory, but having all configurations into Apache main configuration file, enter “no”.



The screenshot shows a terminal window titled "root@fedora4:~/server". It displays the following text:

```
| Checking for PERL Interpreter... |
+-----+
OK, PERL Interpreter found at </usr/bin/perl> ;-)

Do you wish to setup Communication server on this computer ([y]/n)? 

+-----+
| Checking for Make utility... |
+-----+
OK, Make utility found at </usr/bin/make> ;-)

+-----+
| Checking for Apache Include configuration directory... |
+-----+
Setup has found Apache Include configuration directory in
/etc/httpd/conf.d/.
If you are not using Include directive, please enter 'no'.
Where is Apache Include configuration directory [/etc/httpd/conf.d/] ?
```

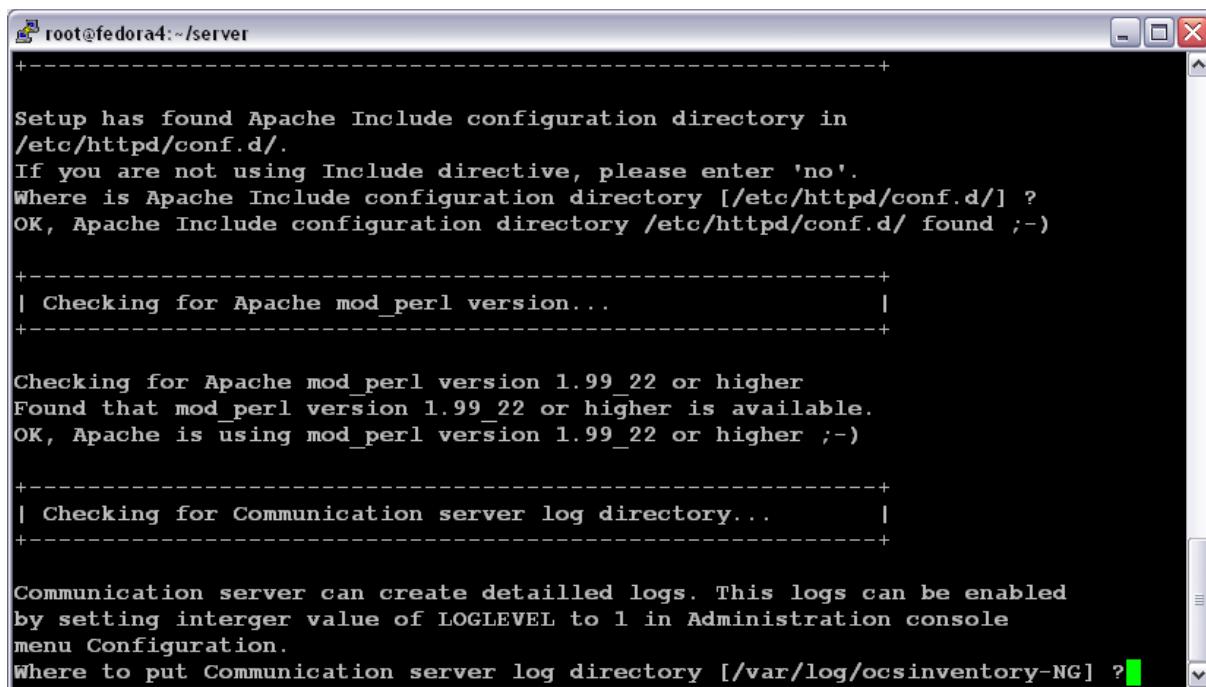
Setup will next try to determine your Apache mod_perl version. If is not able to determine mod_perl version, it will ask you to enter it.

NB: You can check which version of mod_perl you're using by querying the software database of your server.

Under RPM enabled Linux distribution (RedHat/Fedora, Mandriva...), run “rpm -q mod_perl”.

Under DPKG enabled Linux distribution (Debian, Ubuntu...), run “dpkg -l libapache-mod-perl*”.*

Next, it will prompt you to enter log directory where Communication server will store debugging/tuning logs. Validate or enter directory path. If not existing, this directory will be created.



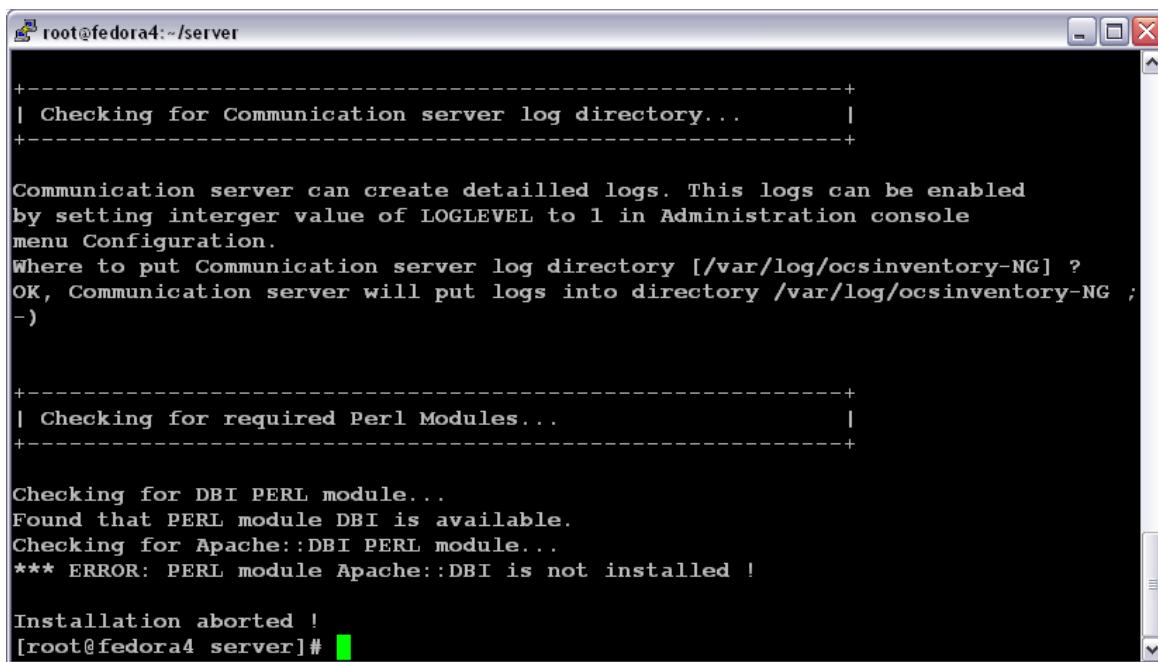
The screenshot shows a terminal window titled "root@fedora4:~/server". The window contains a series of configuration steps:

- Setup has found Apache Include configuration directory in /etc/httpd/conf.d/.
If you are not using Include directive, please enter 'no'.
Where is Apache Include configuration directory [/etc/httpd/conf.d/] ?
OK, Apache Include configuration directory /etc/httpd/conf.d/ found ;-)
- | Checking for Apache mod_perl version... |
- Checking for Apache mod_perl version 1.99_22 or higher.
Found that mod_perl version 1.99_22 or higher is available.
OK, Apache is using mod_perl version 1.99_22 or higher ;-)
- | Checking for Communication server log directory... |
- Communication server can create detailed logs. This logs can be enabled by setting integer value of LOGLEVEL to 1 in Administration console menu Configuration.
Where to put Communication server log directory [/var/log/ocsinventory-NG] ?

Next, setup will check for required PERL modules (cf § 3.1.1 Requirements.):

- ✓ XML::Simple version 2.12 or higher
- ✓ Compress::Zlib version 1.33 or higher
- ✓ DBI version 1.40 or higher
- ✓ DBD::mysql version 2.9004 or higher
- ✓ Apache::DBI version 0.93 or higher
- ✓ Net::IP version 1.21 or higher
- ✓ SOAP::Lite version 0.66 or higher

If any of these modules are missing, setup will stop.



```
root@fedora4:~/server
+-----+
| Checking for Communication server log directory... |
+-----+
Communication server can create detailed logs. This logs can be enabled
by setting integer value of LOGLEVEL to 1 in Administration console
menu Configuration.
Where to put Communication server log directory [/var/log/ocsinventory-NG] ?
OK, Communication server will put logs into directory /var/log/ocsinventory-NG ;
-)

+-----+
| Checking for required Perl Modules... |
+-----+
Checking for DBI PERL module...
Found that PERL module DBI is available.
Checking for Apache::DBI PERL module...
*** ERROR: PERL module Apache::DBI is not installed !

Installation aborted !
[root@fedora4 server]#
```

If all is OK, setup will install Communication server:

- ✓ Configure Communication server PERL module.
- ✓ Build Communication server PERL module.
- ✓ Install Communication server PERL module into PERL standard library directories.
- ✓ Create Communication server log directory (/var/log/ocsinventory-NG by default).
- ✓ Configure daily log rotation for Communication server (file /etc/logrotate.d/ocsinventory-NG by default)
- ✓ Create Apache configuration file (ocsinventory.conf). If you're using Apache configuration directory, this file will be copied under this directory. Otherwise, you will be prompted to add content of this file to the end of Apache main configuration file. **Do not add content to apache main configuration file if it is not a fresh install! You must manually copy content of "ocsinventory.conf.local" file created by setup into apache main configuration file, replacing existing configuration.**

```
#####
#
#
# OCS Inventory NG Communication Server Perl Module Setup
#
# Copyleft 2006 Pascal DANEK
# Web: http://ocsinventory.sourceforge.net
#
# This code is open source and may be copied and modified as long as the source
# code is always made freely available.
# Please refer to the General Public Licence http://www.gnu.org/ or Licence.txt
#####
#
# Which version of mod_perl we are using
```

```
# For mod_perl <= 1.999_21, replace VERSION_MP by 1
# For mod_perl > 1.999_21, replace VERSION_MP by 2
PerlSetEnv OCS_MODPERL_VERSION 1

# Where to write detailed logs
PerlSetEnv OCS_LOGPATH "/var/log/ocsinventory-NG"

# Database options
# Replace DATABASE_SERVER by hostname or ip of MySQL server, generally localhost
PerlSetEnv OCS_DB_HOST localhost
# Replace DATABASE_PORT by port where running MySQL server, generally 3306
PerlSetEnv OCS_DB_PORT 3306
# Name of database
PerlSetEnv OCS_DB_NAME ocsweb
PerlSetEnv OCS_DB_LOCAL ocsweb
# User allowed to connect to database
PerlSetEnv OCS_DB_USER ocs
# Password for user
PerlSetVar OCS_DB_PWD ocs

# The options below are overloaded if you are using ocs GUI
# Be careful: you must restart apache to have any effects
PerlSetEnv OCS_OPT_FREQUENCY 0
PerlSetEnv OCS_OPT_PROLOG_FREQ 24
PerlSetEnv OCS_OPT_DEPLOY 1
PerlSetEnv OCS_OPT_TRACE_DELETED 0
PerlSetEnv OCS_OPT_AUTO_DUPLICATE_LVL 7
PerlSetEnv OCS_OPT_LOGLEVEL 0
PerlSetEnv OCS_OPT_INVENTORY_DIFF 1
PerlSetEnv OCS_OPT_INVENTORY_TRANSACTION 1
PerlSetEnv OCS_OPT_PROXY_REVALIDATE_DELAY 3600

# Optional modules
PerlSetEnv OCS_OPT_IPDISCOVER 2
PerlSetEnv OCS_OPT_IPDISCOVER_MAX_ALIVE 7
PerlSetEnv OCS_OPT_IPDISCOVER_LATENCY 100
PerlSetEnv OCS_OPT_REGISTRY 0
PerlSetEnv OCS_OPT_UPDATE 0
PerlSetEnv OCS_OPT_DOWNLOAD 0
PerlSetEnv OCS_OPT_DOWNLOAD_FRAG_LATENCY 10
PerlSetEnv OCS_OPT_DOWNLOAD_CYCLE_LATENCY 0
PerlSetEnv OCS_OPT_DOWNLOAD_PERIOD_LATENCY 0
PerlSetEnv OCS_OPT_DOWNLOAD_TIMEOUT 30
PerlSetEnv OCS_OPT_WEB_SERVICE_ENABLED 0

##### DO NOT MODIFY BELOW ! #####
# External modules
PerlModule Apache::DBI
PerlModule Compress::Zlib
PerlModule XML::Simple
```

```
# Ocs
PerlModule Apache::Ocsinventory
PerlModule Apache::Ocsinventory::Server::Constants
PerlModule Apache::Ocsinventory::Server::System
PerlModule Apache::Ocsinventory::Server::Communication
PerlModule Apache::Ocsinventory::Server::Inventory
PerlModule Apache::Ocsinventory::Server::Duplicate

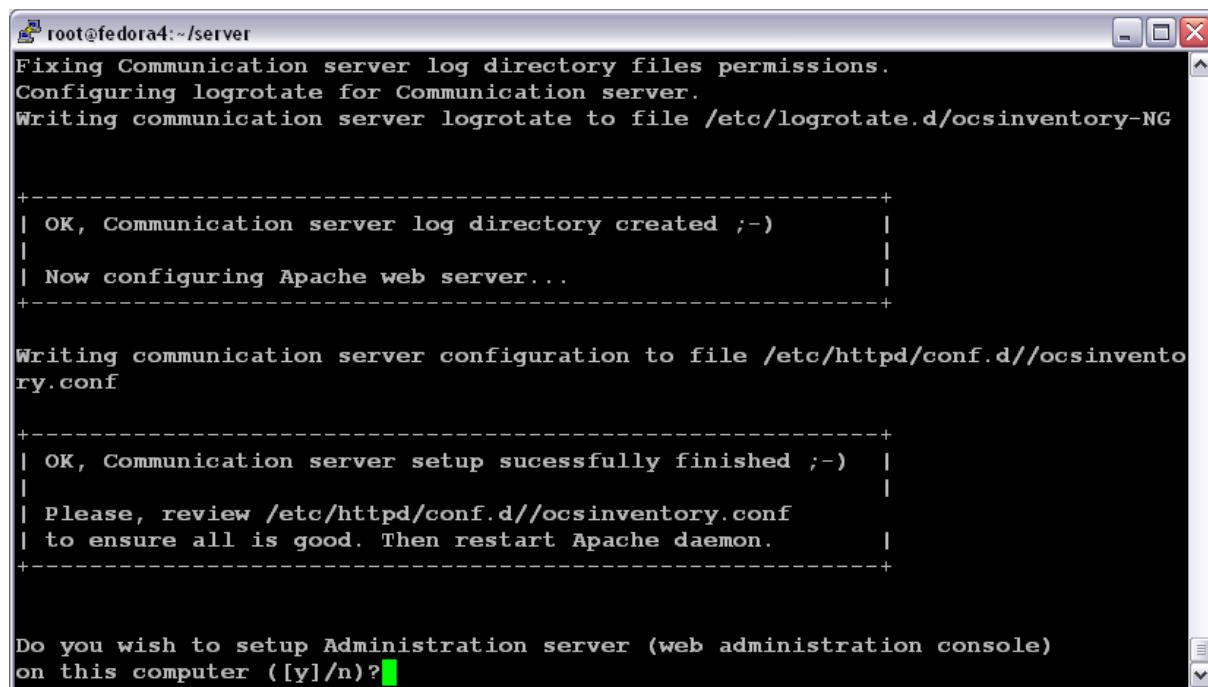
# Options
PerlModule Apache::Ocsinventory::Server::Option::Registry
PerlModule Apache::Ocsinventory::Server::Option::Update
PerlModule Apache::Ocsinventory::Server::Option::Ipdiscover
PerlModule Apache::Ocsinventory::Server::Option::Download
# This module guides you through the module creation
# PerlModule Apache::Ocsinventory::Server::Option::Example
# This module adds some rules to filter some request sent to ocs server in the prolog and inventory
# stages
# PerlModule Apache::Ocsinventory::Server::Option::Filter

# Virtual directory for handling OCS Inventory NG agents communications
# Be carefull, do not create such directory into your web server root document !
#PerlTaintCheck On
<Location /ocsinventory>
    order deny,allow
    allow from all
    Satisfy Any
    SetHandler perl-script
    PerlHandler Apache::Ocsinventory
</Location>

PerlModule Apache::Ocsinventory::SOAP;
<location /ocsinterface>
    SetHandler perl-script
    perlHandler "Apache::Ocsinventory::SOAP"
    order deny,allow
    allow from all
    Satisfy any
</location>
```

Figure 2: Apache configuration sample file

Communication server installation is now finished. You will be prompted to setup Administration console. Enter “y” or validate to setup Administration console, enter “n” to skip Administration console installation.



```
root@fedora4:~/server
Fixing Communication server log directory files permissions.
Configuring logrotate for Communication server.
Writing communication server logrotate to file /etc/logrotate.d/ocsinventory-NC

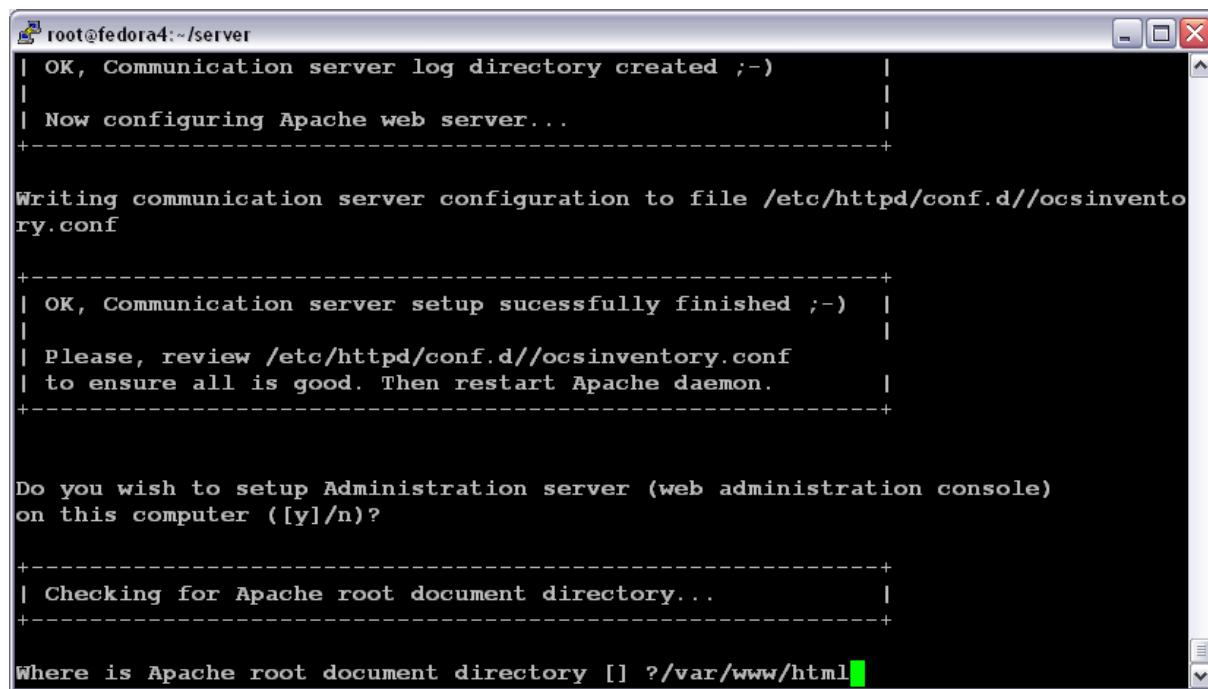
+-----+
| OK, Communication server log directory created ;-)
|
| Now configuring Apache web server...
+-----+

Writing communication server configuration to file /etc/httpd/conf.d//ocsinventory.conf

+-----+
| OK, Communication server setup sucessfully finished ;-)
|
| Please, review /etc/httpd/conf.d//ocsinventory.conf
| to ensure all is good. Then restart Apache daemon.
+-----+

Do you wish to setup Administration server (web administration console)
on this computer ([y]/n)?
```

Setup will ask you to enter Apache root document directory, usually “/var/www/html” or “/var/www-data”.



```
root@fedora4:~/server
| OK, Communication server log directory created ;-)
|
| Now configuring Apache web server...
+-----+

Writing communication server configuration to file /etc/httpd/conf.d//ocsinventory.conf

+-----+
| OK, Communication server setup sucessfully finished ;-)
|
| Please, review /etc/httpd/conf.d//ocsinventory.conf
| to ensure all is good. Then restart Apache daemon.
+-----+

Do you wish to setup Administration server (web administration console)
on this computer ([y]/n)?

+-----+
| Checking for Apache root document directory...
+-----+

Where is Apache root document directory [] ?/var/www/html
```

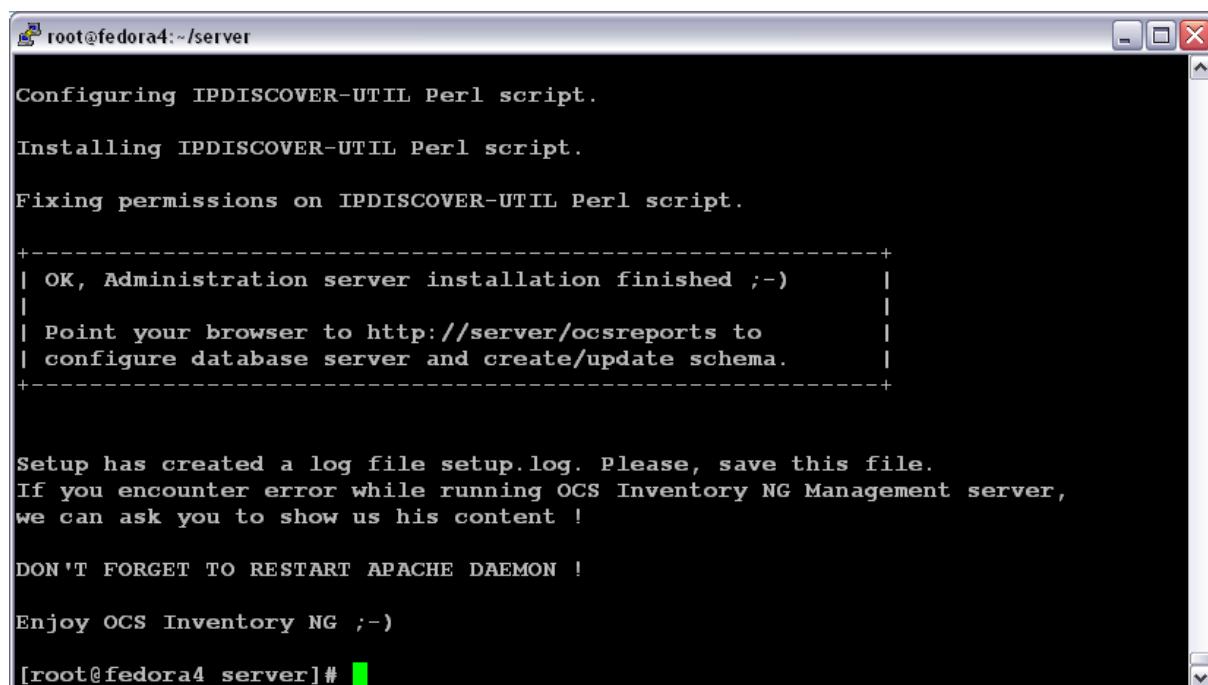
Next, setup will check for required PERL modules (cf § 3.1.1 Requirements.):

- ✓ XML::Simple version 2.12 or higher
- ✓ DBI version 1.40 or higher
- ✓ DBD::Mysql version 2.9004 or higher
- ✓ Net::IP version 1.21 or higher

If any of these modules are missing, setup will stop.

If all is OK, setup will install Administration console into “ocsreports” subdirectory:

- ✓ Create /ocsreports directory structure.
- ✓ Create /download directory structure.
- ✓ Copy files into /ocsreports directory.
- ✓ Fix directories and files permissions to allow Apache daemon reading and writing to required directories (write access is required in /ocsreports, /ocsreports/ipd and /download, cf § 11.4 Files and directories permissions under Linux.).
- ✓ Configure PERL script ipdiscover-util.pl to access database and install it.



The screenshot shows a terminal window titled "root@fedora4:~/server". The window displays the following text output from the setup process:

```
Configuring IPDISCOVER-UTIL Perl script.
Installing IPDISCOVER-UTIL Perl script.
Fixing permissions on IPDISCOVER-UTIL Perl script.

+-----+
| OK, Administration server installation finished ;-)
|
| Point your browser to http://server/ocsreports to
| configure database server and create/update schema.
+-----+

Setup has created a log file setup.log. Please, save this file.
If you encounter error while running OCS Inventory NG Management server,
we can ask you to show us his content !

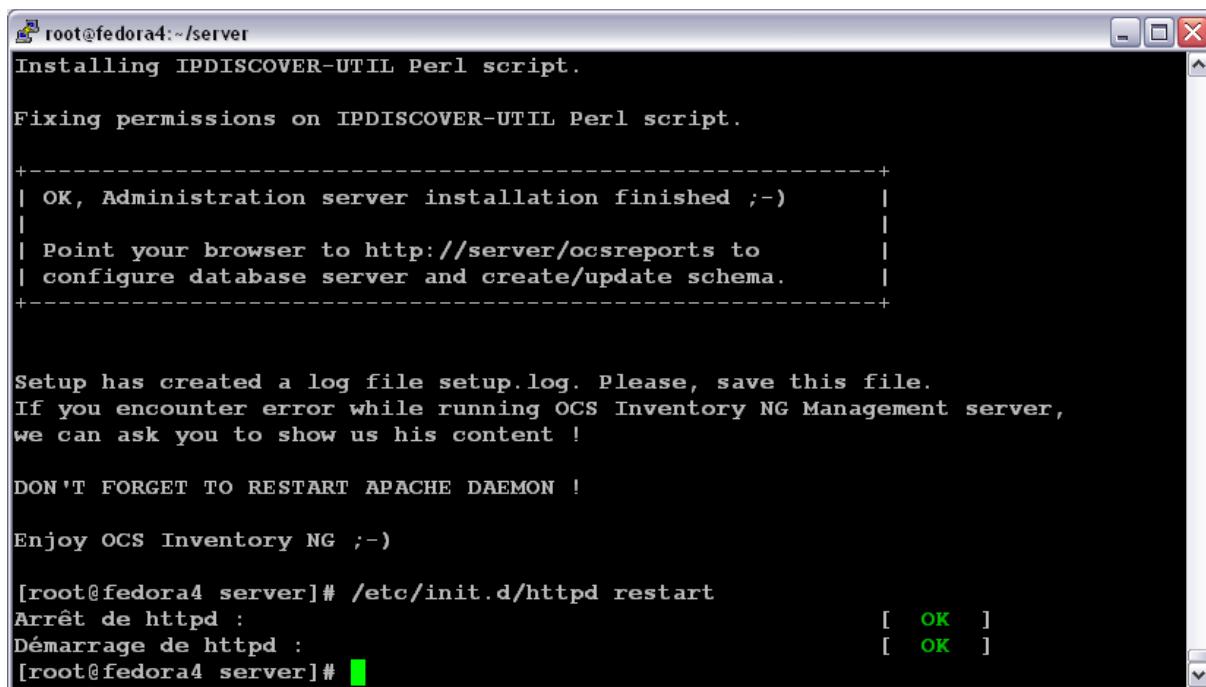
DON'T FORGET TO RESTART APACHE DAEMON !

Enjoy OCS Inventory NG ;-)

[root@fedora4 server]#
```

Now, you can restart Apache web server for changes to take effect.

- ✓ /etc/init.d/httpd restart or /etc/init.d/apache restart



The screenshot shows a terminal window titled 'root@fedora4:~/server'. It displays the following text:

```
root@fedora4:~/server
Installing IPDISCOVER-UTIL Perl script.

Fixing permissions on IPDISCOVER-UTIL Perl script.

+-----+
| OK, Administration server installation finished ;-)
|
| Point your browser to http://server/ocsreports to
| configure database server and create/update schema.
+-----+

Setup has created a log file setup.log. Please, save this file.
If you encounter error while running OCS Inventory NG Management server,
we can ask you to show us his content !

DON'T FORGET TO RESTART APACHE DAEMON !

Enjoy OCS Inventory NG ;-)

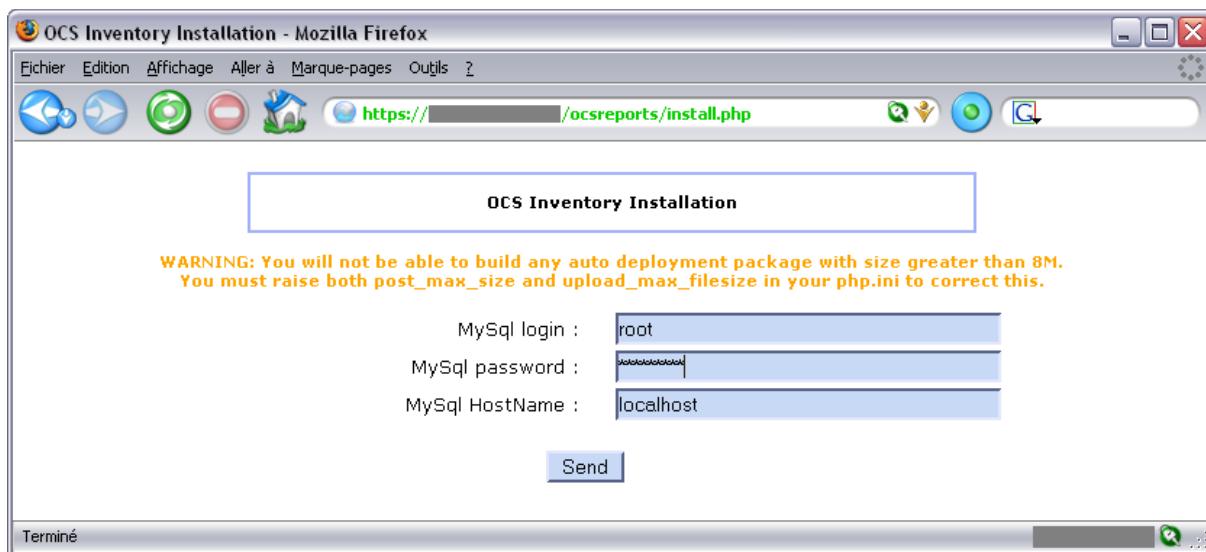
[root@fedora4 server]# /etc/init.d/httpd restart
Arrêt de httpd : [ OK ]
Démarrage de httpd : [ OK ]
[root@fedora4 server]#
```

3.1.5 Configuring management server.

Open your favorite web browser and point it on URL "http://administration_console/ocsreports" to connect the Administration server.

As database is not yet created, this will begin OCS Inventory setup process. Otherwise, you can rerun configuration process by browsing http://administration_console/ocsreports/install.php URL (this must be used when upgrading OCS Inventory management server).

NB: You will see warning regarding max size of package you will be able to deploy. Please, see § 11.2.4 Uploads size for package deployment.) to configure your server to match your need.



Fill in information to connect to MySQL database server with a user who has the ability to create database, tables, indexes, etc (usually root):

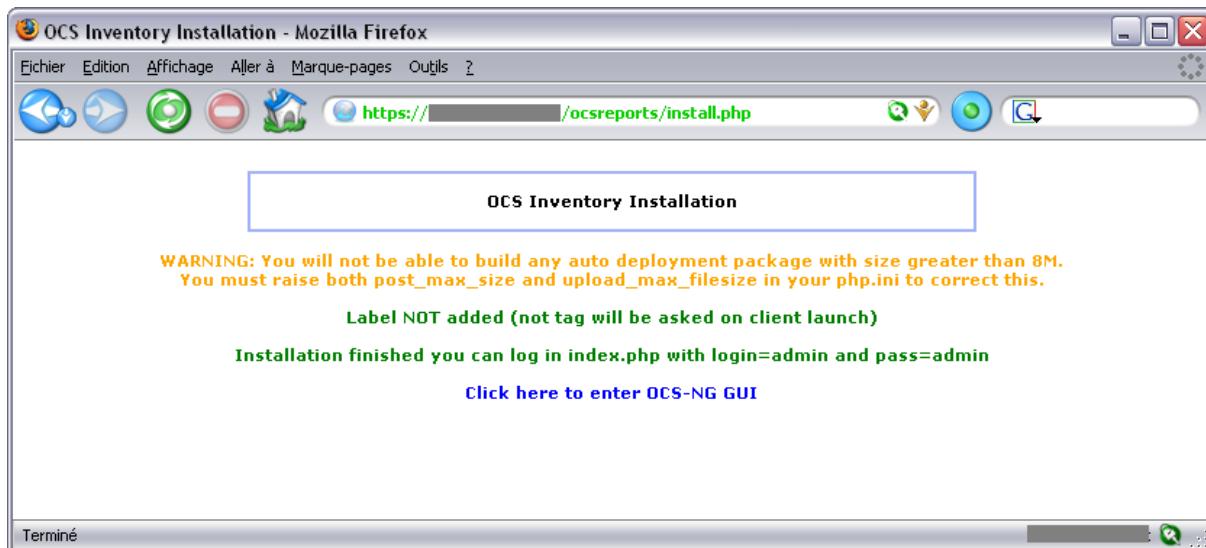
- ✓ MySQL user name
- ✓ MySQL user password
- ✓ MySQL hostname

NB: Setup will create “ocsweb” database, and a MySQL user “ocs” with password “ocs”. It will also grant to user “ocs” privileges “Select | Insert | Update | Delete | Create | Drop | References | Index | Alter | Create temp | Lock” on database “ocsweb”. This user will be used by Administration server and Communication server to connect to the database. If you do not wish to use default MySQL user “ocs” with “ocs” password, you must update in the file “dbconfig.inc.php” PHP constants “COMPTE_BASE”, which is MySQL user login, and/or “PSWD_BASE”, which MySQL user password. Don’t forget to also update Communication server configuration, especially in apache configuration file.

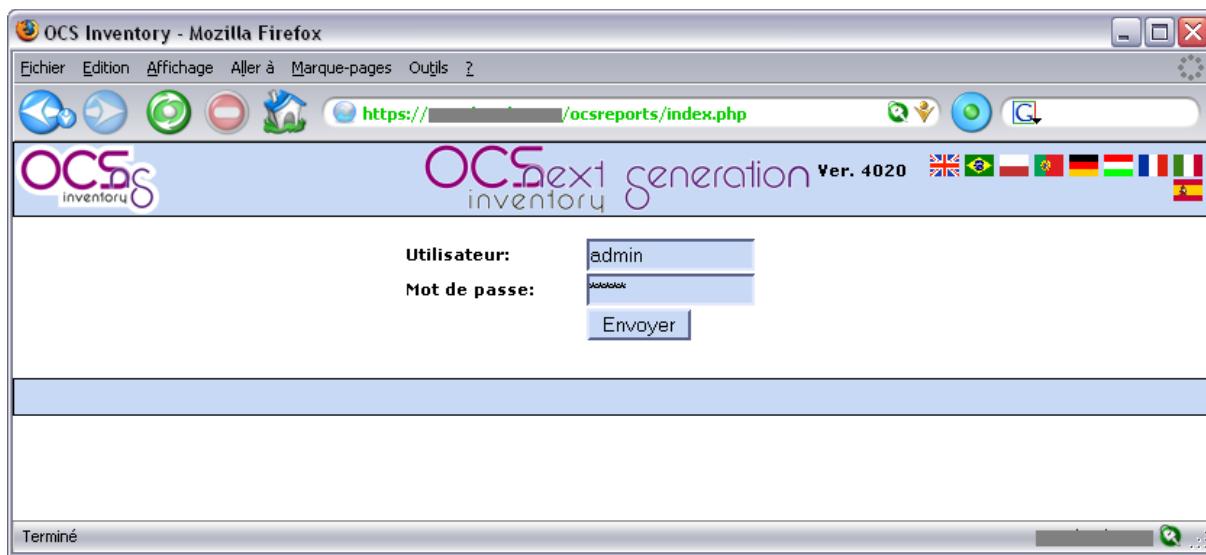
Finally, you may fill in a text describing the TAG, a string displayed at first launch of the agent to ask user to enter the TAG Value. It's a generic data which allows you to sort the new computers (geographical site, first floor, john room....). If you don't want this functionality, just let it blank.



Configuration of Management server is now finished.



Just point your browser to the URL "http://administration_server/ocsreports" and login in with "admin" as user and "admin" as password.



3.1.6 Upgrading management server.

When new versions of web communication server or web administration console are released, you must upgrade your installation.

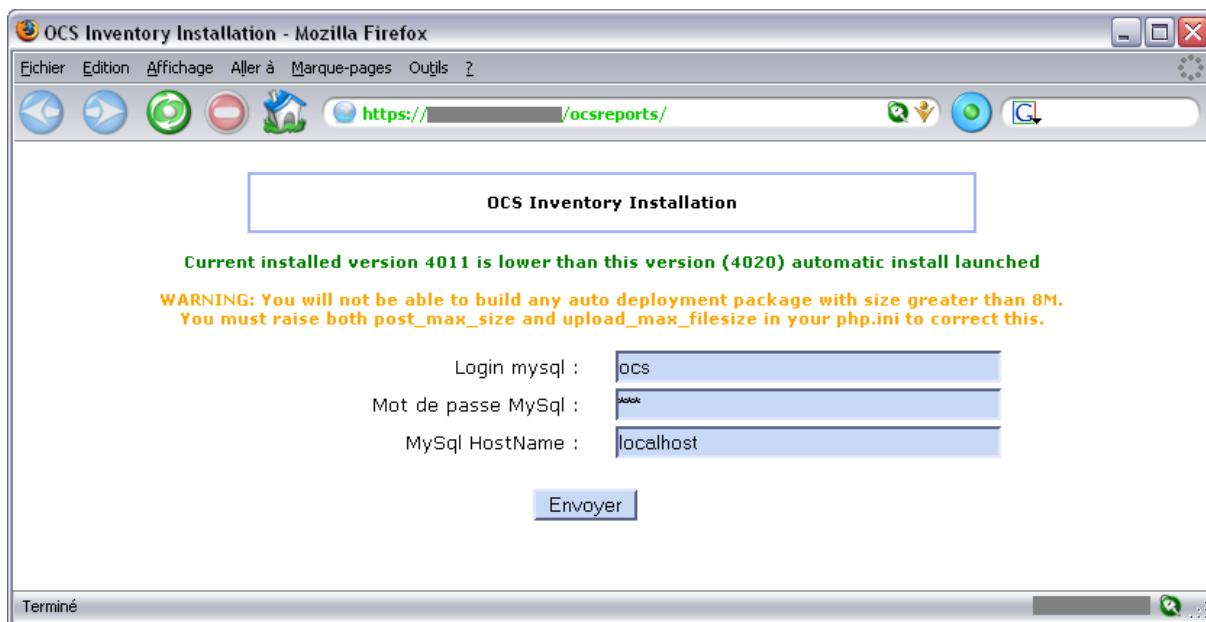
NB: Ensure MySQL InnoDB engine is activated on your database server. Open my.cnf and ensure there is no ligne “skip-innodb” or this line is commented (begins with '#').

Backup your database before upgrading! If you encounter any error while upgrading, restore your database, and upgrade MySQL server to version 4.1.20 or higher. Then, rerun upgrade procedure.

To upgrade web communication server and administration console, you must follow instructions as described in § 3.1.4 Installing management server. You don't need to update Perl modules if not required in the release notes.

Then, just point your favorite browser to URL “http://administration_server/ocsreports” and it will run the upgrade process to ensure that your database schema and default data are up to date. Upgrade process looks like configuration of management server as described in § 3.1.5 Configuring management server.

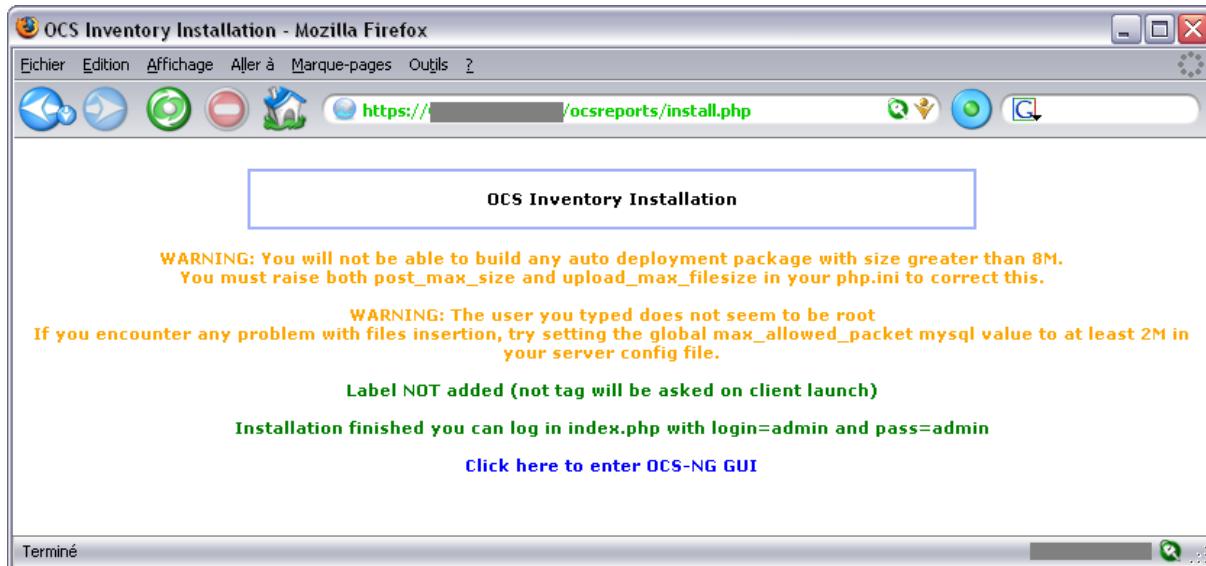
NB: You will see warning regarding max size of package you will be able to deploy. Please, see § 11.2.4 Uploads size for package deployment.) to configure your server to match your need.



Fill in MySQL administrator name (usually root) and password, and MySQL database server address and click “Send” button.



Finally, you may fill in a text describing the TAG if you wish to use it.



3.2 Under Windows Operating System.

We have chosen to package OCS inventory NG server for Windows as an integrated package containing all required components. As is, the 3 main components of Management server (database server, web communication server and web administration server) are installed on the same computer.

OCS Inventory NG server 1.0 for Windows is based on ApacheFriends XAMPP version 1.5.5 (<http://www.apachefriends.org/index-en.html>) which setup the following components on a single computer:

- ✓ Apache 2.2.3
- ✓ MySQL 5.0.27
- ✓ PHP 5.2.0 + PHP 4.4.4 + PEAR
- ✓ PHP-Switch win32 1.0
- ✓ XAMPP Control Version 2.3 from www.nat32.com
- ✓ XAMPP Security 1.0
- ✓ SQLite 2.8.15
- ✓ OpenSSL 0.9.8d
- ✓ phpMyAdmin 2.9.1.1
- ✓ ADOdb 4.93
- ✓ Mercury Mail Transport System for Win32 and NetWare Systems v4.01b
- ✓ FileZilla FTP Server 0.9.20
- ✓ Webalizer 2.01-10
- ✓ Zend Optimizer 3.0.2
- ✓ eAccelerator 0.9.5 RC1 for PHP 5.1.6 (comment out in php.ini)

- ✓ Perl 5.8.8
- ✓ mod_perl 2.0.2

NB: Even if all these components are installed, you will be able to choose the components you want to automatically start.

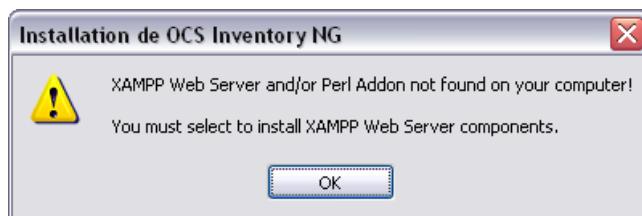
3.2.1 Installing management server.

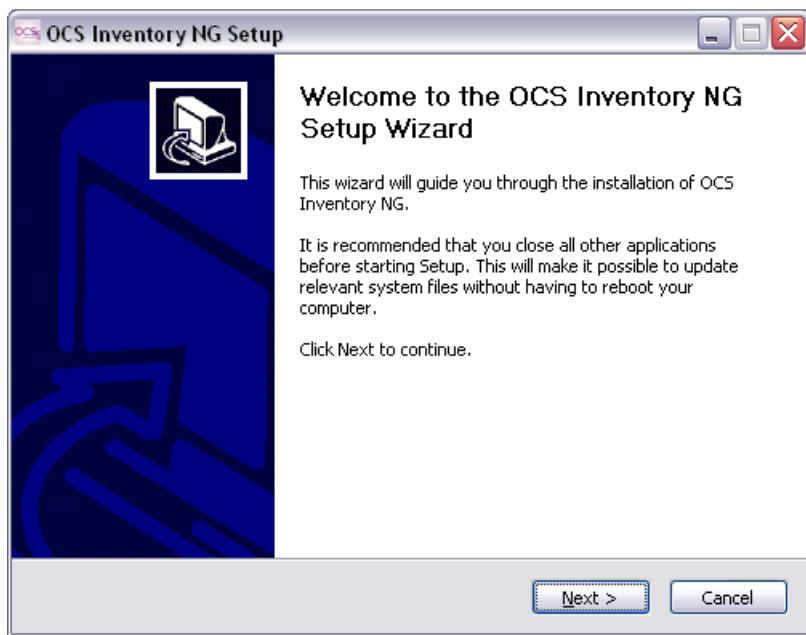
You must have Administrator privileges to setup OCS Inventory NG server under Windows NT4, Windows 2000, Windows XP or Windows Server 2003.

Download “OCSNG_WIN32_SERVER_1.0.zip” from OCS Inventory Web Site”, unpack it and launch “OcsWin32ServerSetup.exe”.

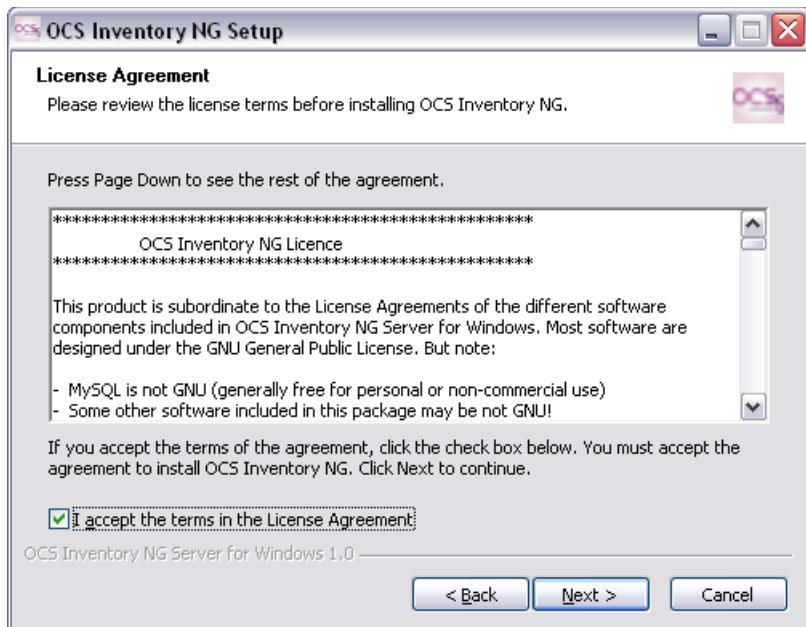


If XAMPP components (server and perl addon) are not already installed, Setup will prompt you that you have to setup them. Otherwise, Setup will automatically install OCS Inventory Server into XAMPP directories.



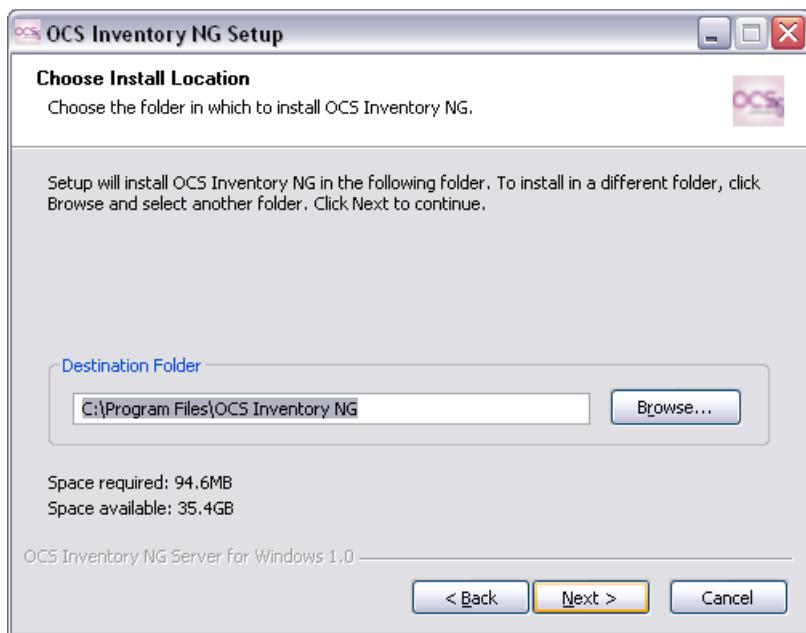


Click “Next” button and accept License agreement.

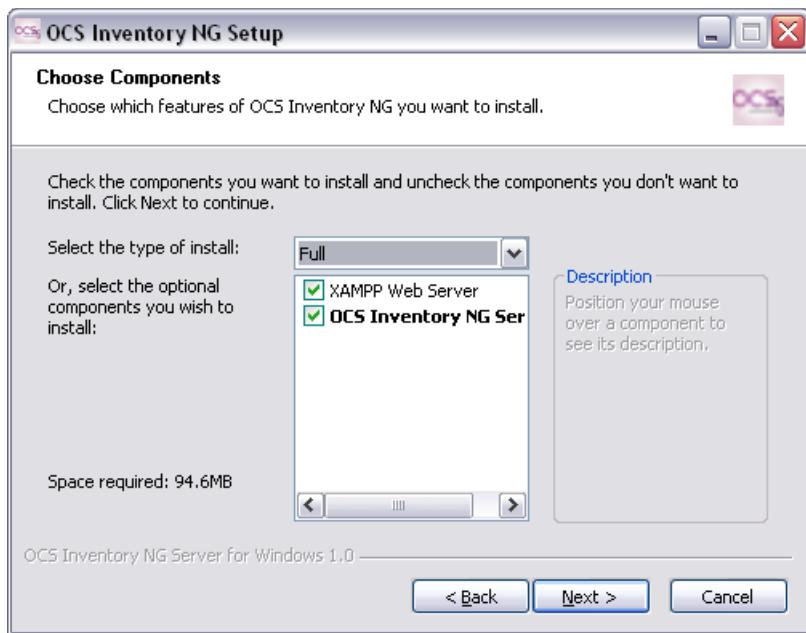


Choose installation directory, by default “C:\Program Files\OCS Inventory NG”. You need 400 MB of free hard disk space if XAMPP components are not installed, otherwise, only 10MB are required.

NB: When upgrading, you must ensure that Setup detects the folder including XAMPP directory. See § 3.2.4 Upgrading management server.

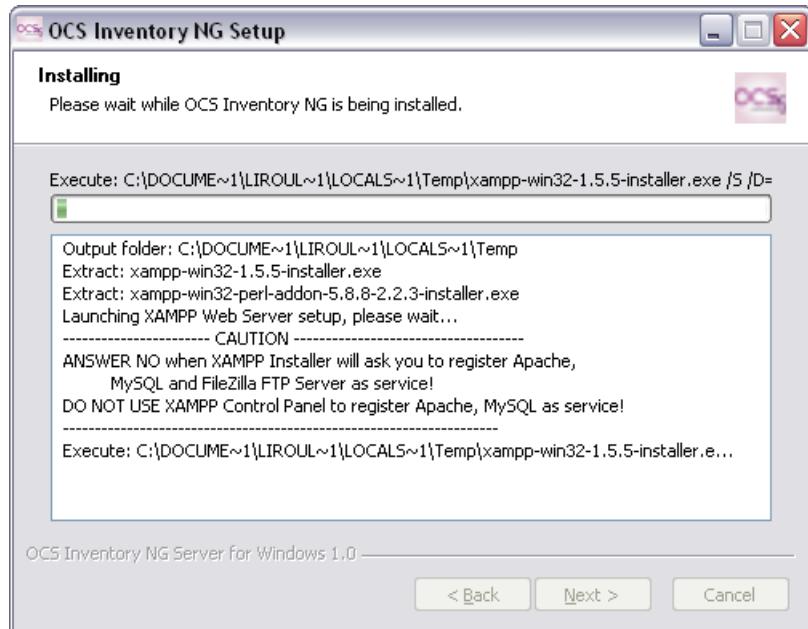
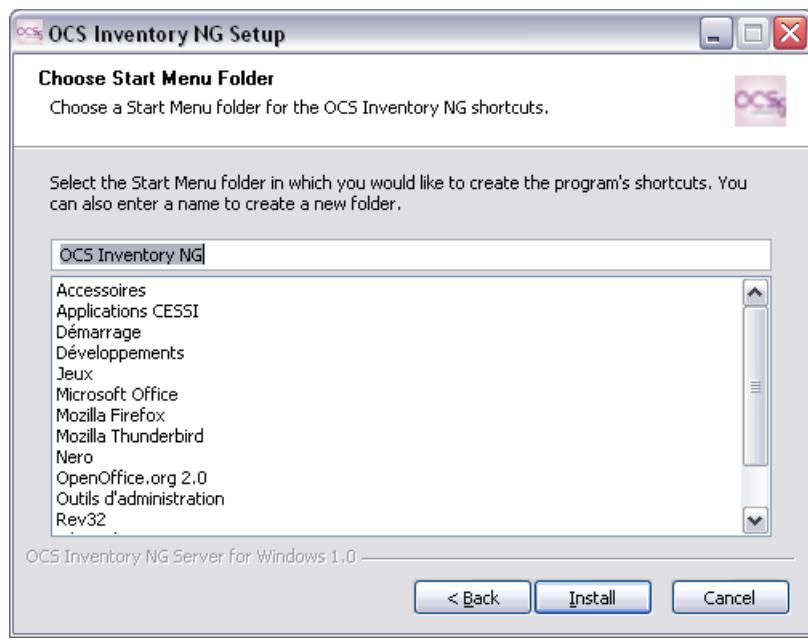


Then, you have to validate components to install. Only “OCS Inventory NG Server” is required, if XAMPP components are already installed.



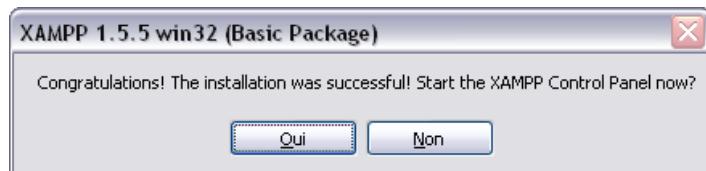
NB: OCS Inventory NG Server Setup now use standard XAMPP setup. So, it may be able to upgrade existing XAMPP installation. However, by default, Setup will not upgrade XAMPP components. See § 3.2.4 Upgrading management server.

Next, you have to choose the program group name in start menu, where OCS Inventory NG icons will be created and then click “Install” button to start installation.



If XAMPP setup selected, Setup will first launch XAMPP 1.5.5 setup in silent mode. This will create a folder “xampp” under destination folder, and a program group “Apache Friends” in start menu.

You will be prompted to start XAMPP Control Panel. Please, answer “No”.

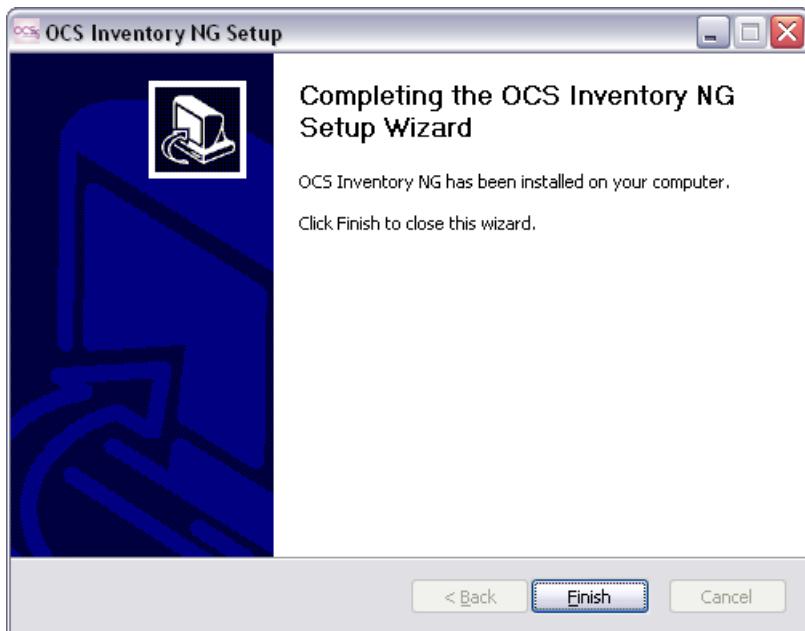


Then, it will launch XAMPP perl addon setup in silent mode.

Last, Setup will install OCS Inventory NG Server files, configure XAMPP Apache and MySQL servers for OCS Inventory NG Server, and automatically start MySQL and Apache servers.

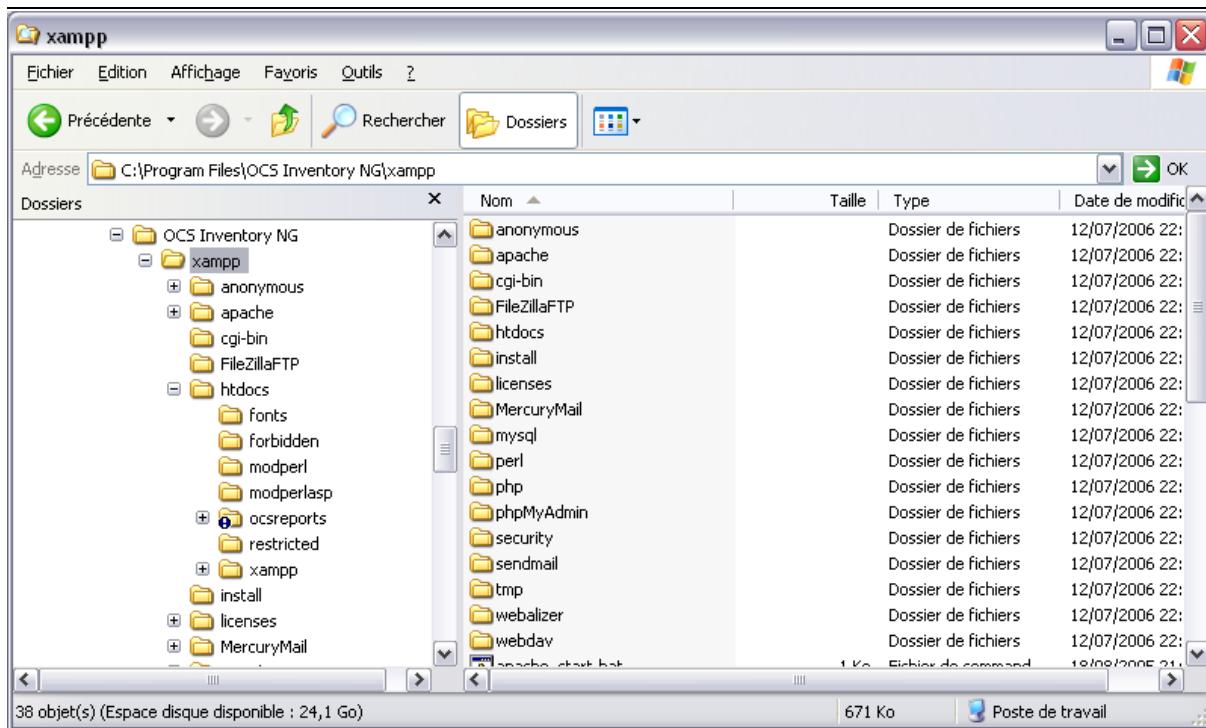
At the end of the process, Setup will launch your default browser to start OCS Inventory NG Server configuration (see § 3.2.2 Configuring management server.).

Setup is now finished and you can click “Close” button.



NB: OCS Inventory NG setup for Windows has installed XMAPP components under “xampp” subfolder of selected installation directory. Apache web server document root directory is located in the “htdocs” sub directory of XAMPP. This is here that “ocsreports” administration console files are installed.

Communication server files are now located into PERL standard libraries.



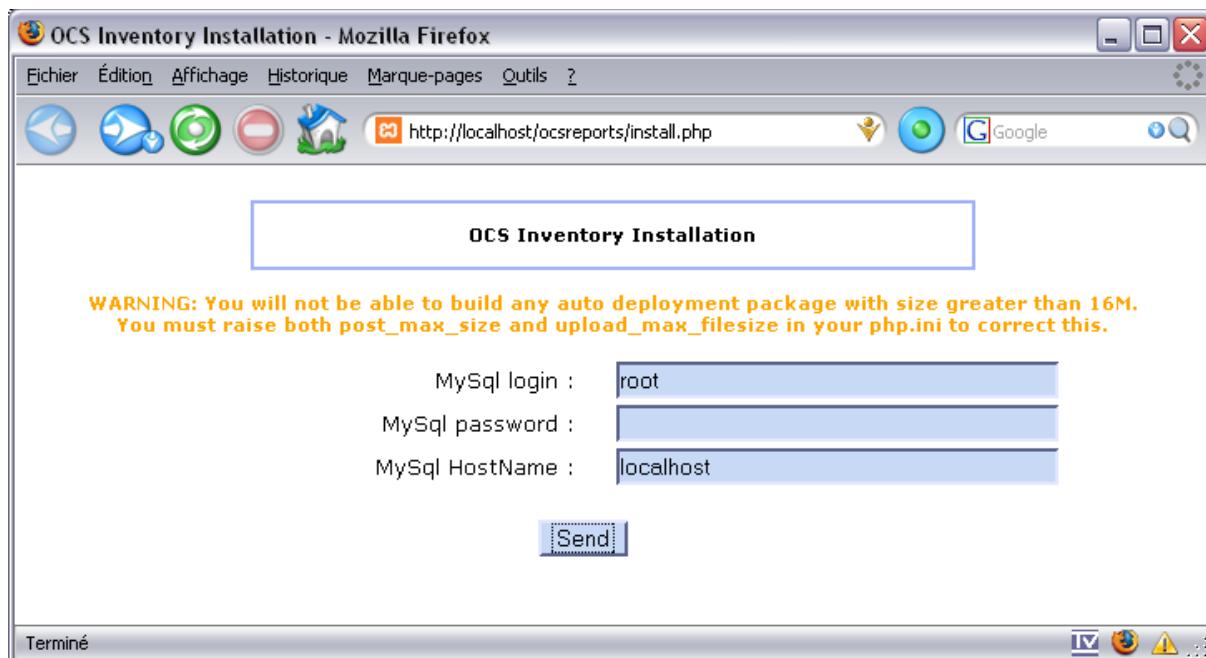
Apache logs (“access.log”, “error.log”, “phperror.log”) and communication server logs (“ocsinventory-NG.log”) are located in the sub-directory “Apache\Logs”.

3.2.2 Configuring management server.

Open your favorite web browser on the server and point it on URL [“http://localhost/ocsreports”](http://localhost/ocsreports) to connect the Administration server.

You will be prompted for information to connect to MySQL database server with a user who has the ability to create database, tables, indexes, etc:

- ✓ MySQL user name, “root” by default
- ✓ MySQL user password (empty password by default)
- ✓ MySQL hostname, “localhost”

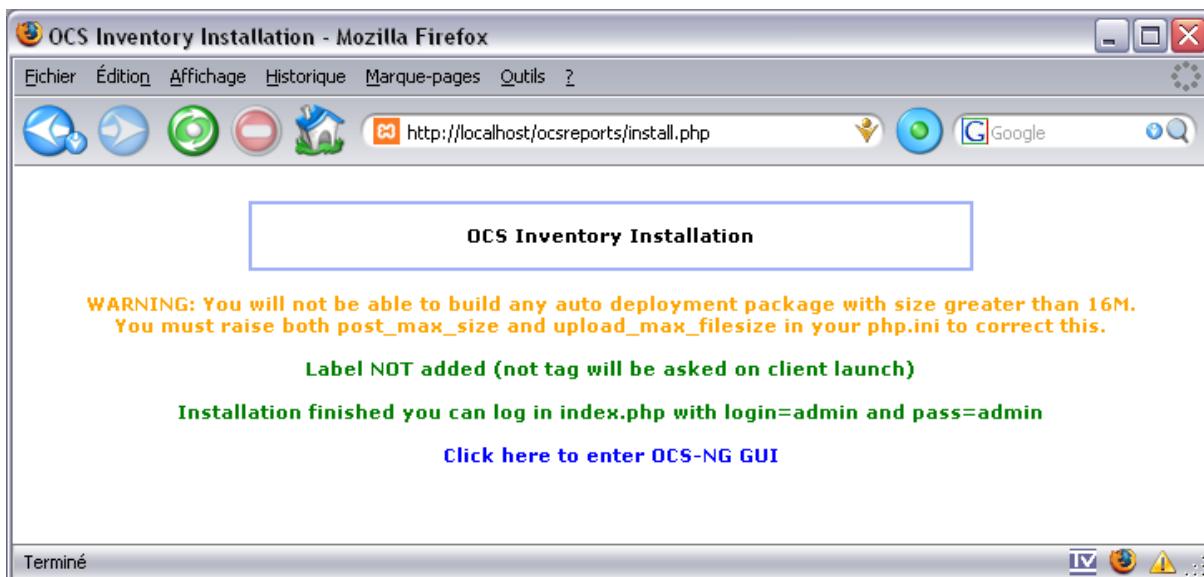


NB: Setup will create “ocsweb” database, and a MySQL user “ocs” with password “ocs”. It will also grant to user “ocs” privileges “Select | Insert | Update | Delete | Create | Drop | References | Index | Alter | Create temp | Lock” on database “ocsweb”. This user will be used by Administration server and Communication server to connect to the database. If you do not wish to use default MySQL user “ocs” with “ocs” password, you must update in the file “dbconfig.inc.php” PHP constants “COMPTE_BASE”, which is MySQL user login, and/or “PSWD_BASE”, which MySQL user password. Don’t forget to also update Communication server configuration, especially in apache configuration file.

Finally, you may fill in a text describing the TAG, a string displayed at first launch of the agent to ask user to enter the TAG Value. It's a generic data which allows you to sort the new computers (geographical site, first floor, john room....). If you don't want this functionality, just let it blank.



Configuration of Management server is now finished.



Default Administrator login is “admin” as user and “admin” as password.



3.2.3 Updating security of XAMPP components.

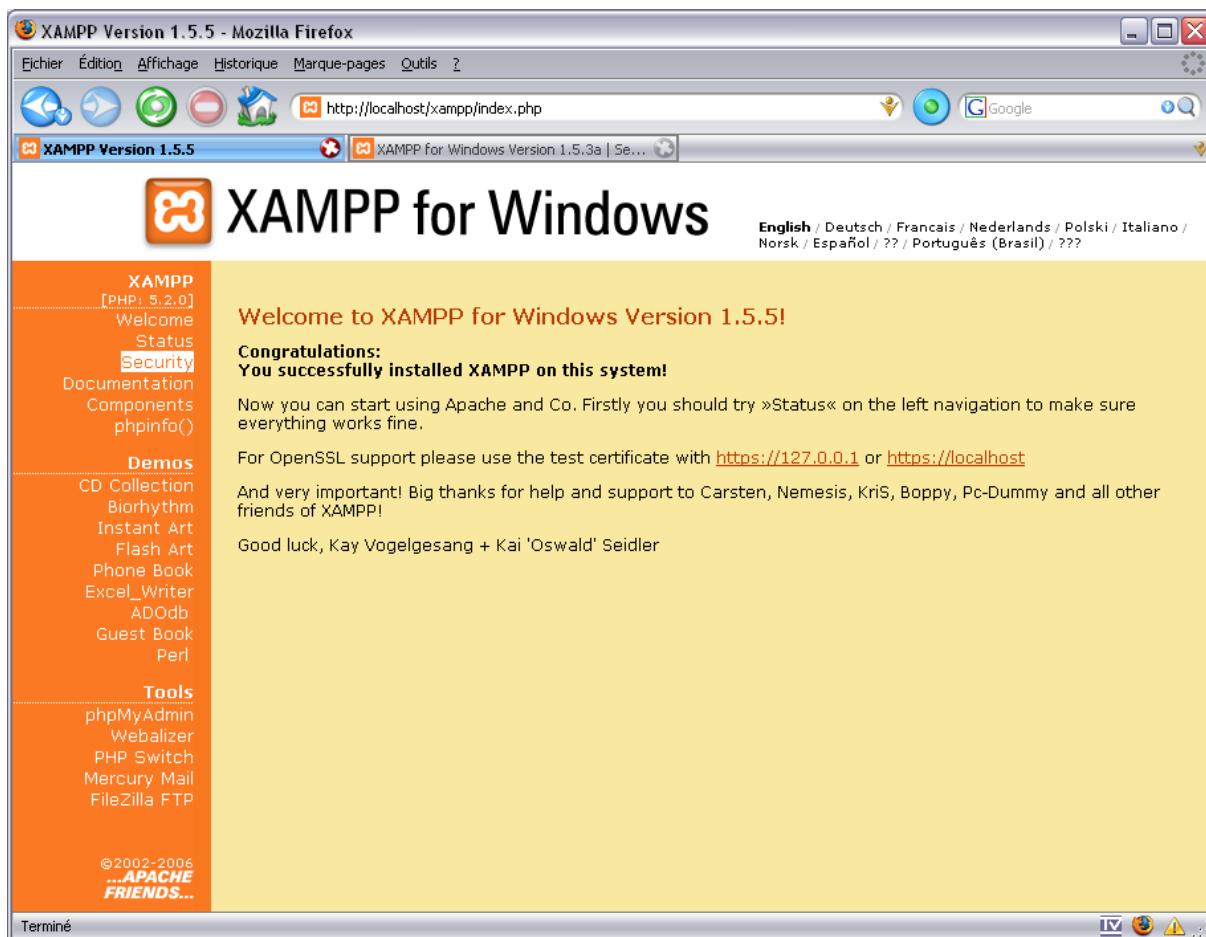
By default, XAMPP is setup without security. MySQL root account do not have password, XAMPP web configuration interface is accessible by everybody without authentication...

You must update this.

Open your favorite web browser on the server and point it on URL "<http://localhost/xampp/splash.php>" to connect the XAMPP configuration GUI.



Click on the language you want to access the XAMPP main configuration menu.



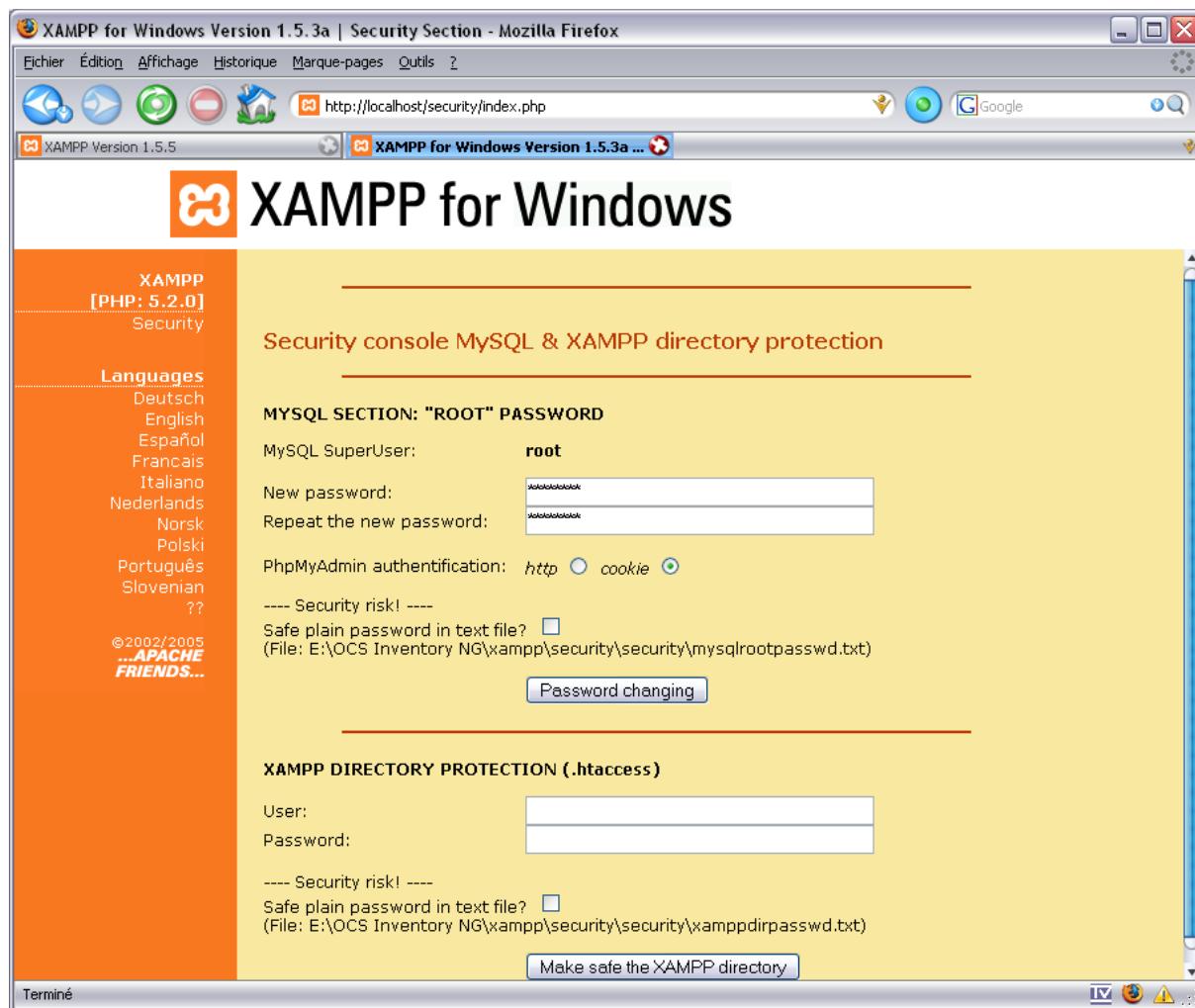
Then, click “Security” on the left menu. As you will see, all is marked as unsecure or unknown for non started components.

The screenshot shows a Mozilla Firefox browser window displaying the XAMPP for Windows Security Check 1.0 page. The URL in the address bar is <http://localhost/security/index.php>. The page title is "XAMPP for Windows". On the left, there's a sidebar with "XAMPP [PHP: 5.2.0] Security" and a "Languages" section listing various languages. Below that is a copyright notice for Apache Friends. The main content area is titled "XAMPP SECURITY [Security Check 1.0]" and contains a table with security status information. The table has two columns: "Subject" and "Status". The subjects listed are:

| Subject | Status |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| These XAMPP pages are accessible by network for everyone Every XAMPP demo page you are right now looking at is accessible for everyone over network. Everyone who knows your IP address can see these pages. | UNSECURE |
| The MySQL admin user root has NO password Every local user on Windows box can access your MySQL database with administrator rights. You should set a password. | UNSECURE |
| PhpMyAdmin is free accessible by network PhpMyAdmin is accessible by network without password. The configuration 'httpd' or 'cookie' in the "config.inc.php" can help. | UNSECURE |
| A FTP server is not running or is blocked by a firewall! A FTP server is not running or is blocked by a firewall! | UNKNOWN |
| PHP is NOT running in "safe mode" If you want to offer PHP executions for outside persons, please think about a "safe mode" configuration. But for standalone developer we recommend NOT the "safe mode" configuration because some important functions will not working then. More Info | UNSECURE |
| The test user "newuser" for the POP3 server (Mercury Mail?) does not exists anymore or have a new password | SECURE |

Below the table, there's a note: "The green marked points are secure; the red marked points are definitively unsecure and the yellow marked points couldn't be checked (for example because the software to check isn't running)." It also says: "To fix the problems for mysql, phpmyadmin and thexampp directory simply use => [<= \[allowed only for localhost\]](http://localhost/security/xamppsecurity.php)".

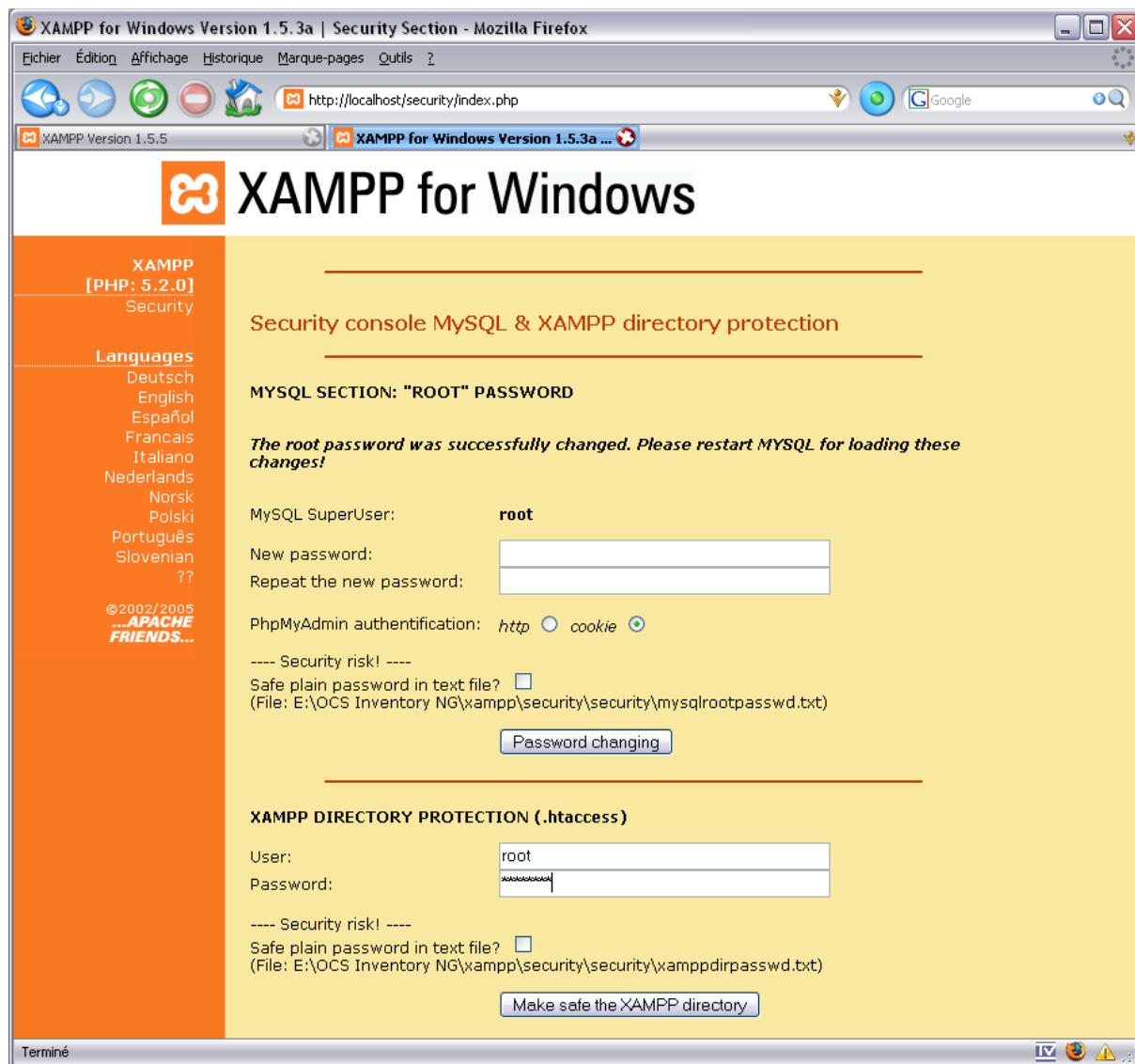
You can change this by clicking the link "<http://localhost/xampp/xamppsecurity.php>".



First of all, you must fill in MySQL root password and select phpMyAdmin authentication method.

NB: You can change this at any time by visiting the security web page of XAMPP server.

Validate your changes by clicking “Password changing” button.



You can then protect the access to XAMPP configuration menu by filling in user and password for XAMPP DIRECTORY PROTECTION. As is, this user and password will be asked to connect to XAMPP configuration menu through a web browser.

Validate your changes by clicking “Make safe the XAMPP directory” button.

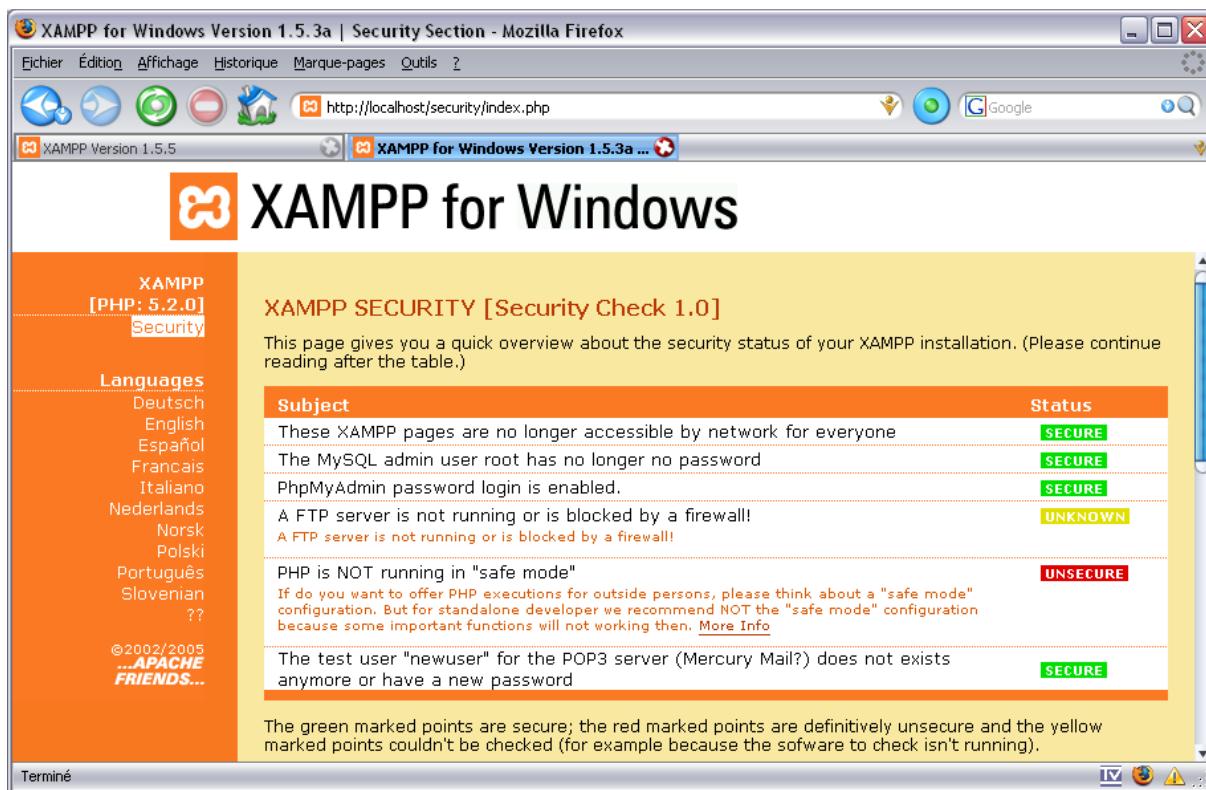


Do not enable PHP safe mode, as you may encounter errors on Administration console.

Finally, you must restart Apache and MySQL services for changes to take effect.

Open XAMPP Control Panel from system tray or from “OCS Inventory NG” start menu folder, click “Stop” button for Apache, then “Start” button and do the same for MySQL.

You can now reselect “Security” on left side menu to see that all started services are now secured.



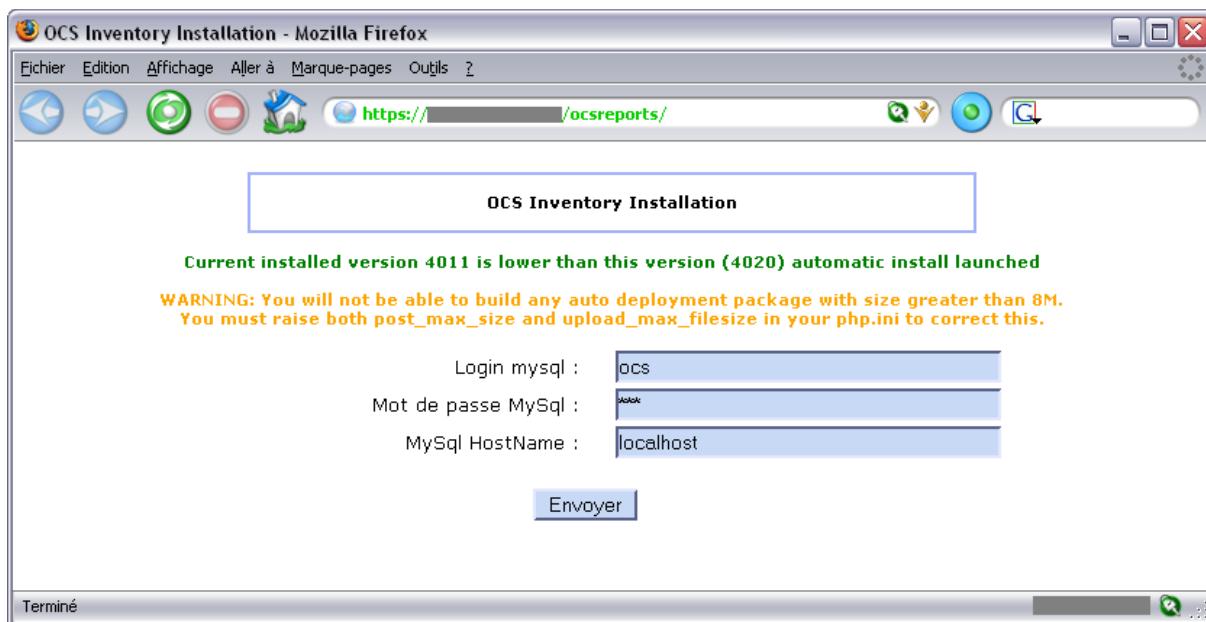
3.2.4 Upgrading management server.

To upgrade web communication server and administration console, you must follow instructions as described in § 3.2.1 Installing management server. Just ensure that setup detects old installation folder correctly.

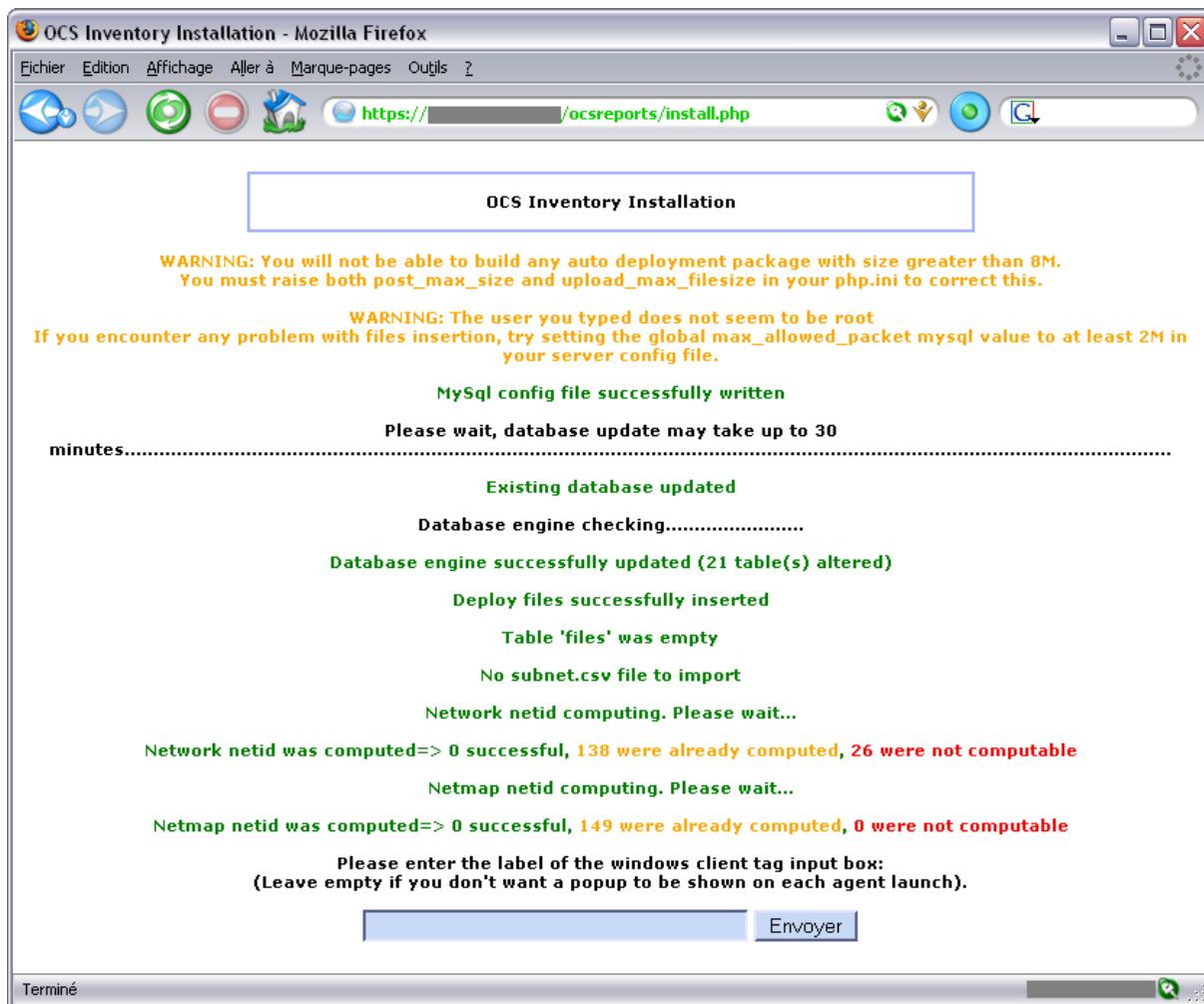
You don't need to update XAMPP components and Setup, by default, will not select XAMPP components install. If you do so, **backup your databases and web sites if you want to also upgrade XAMPP components !** See § 10 Backup/restore of OCS Inventory NG database.

At the end of the process, Setup will launch your default browser to run the upgrade process to ensure that your database schema and default data are up to date. Upgrade process looks like configuration of management server as described in § 3.1.5 Configuring management server.

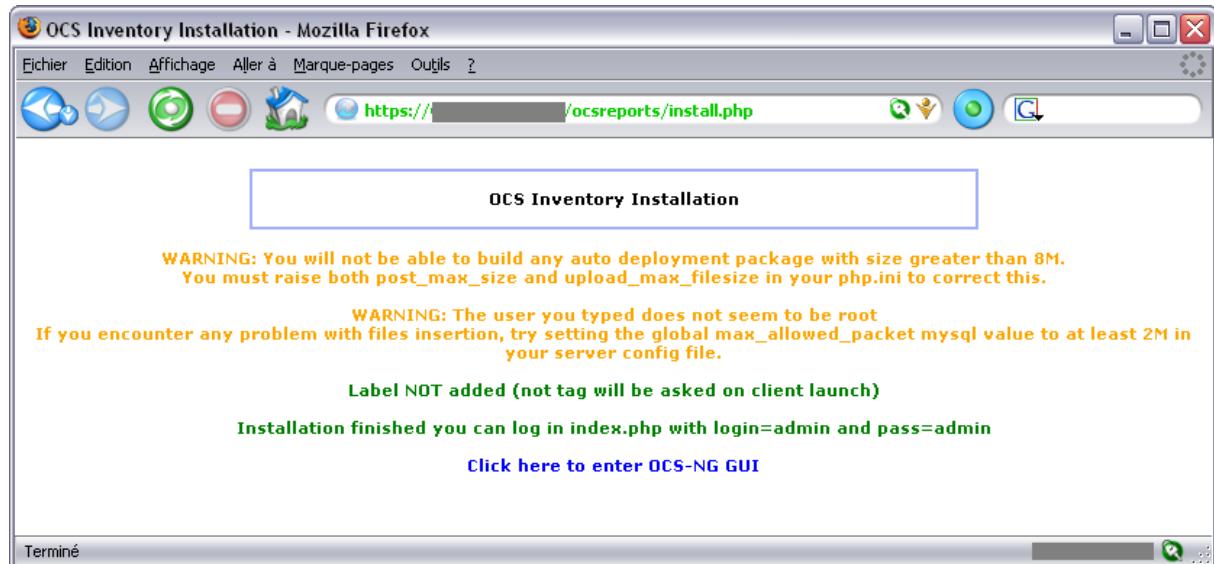
NB: You will see warning regarding max size of package you will be able to deploy. Please, see § 11.2.4 Uploads size for package deployment.) to configure your server to match your need.



Fill in MySQL administrator name (usually root) and password, and MySQL database server address and click “Send” button.



Finally, you may fill in a text describing the TAG if you wish to use it.



4 Setting up agent on client computers.

There are 2 methods for inventorying a client computer using OCS Inventory NG agent:

- ✓ If the client computer cannot connect to the Communication server, inventory is done locally and is stored in a XML compressed file with “.ocs” extension. User can then send this file through email, USB disk or any other way to the administrator, which will import it in the database through the Administration server.
- ✓ If the client computer can reach using HTTP protocol the Communication server through the network, agent ask the Communication server for inventory parameters and send inventory results directly to the Communication server.

4.1 Under Windows Operating Systems.

OCS Inventory NG Agent for Windows is able to work as a Windows service, automatically started at computer startup. **However, we also provide a stand alone agent not running as a service**, which can be launched through login script, an Active Directory GPO, a scheduled task or a shortcut in Start menu.

NB: We recommend using the service version of Agent, especially if you plan to use package deployment feature.

Download and unzip OCSNG_WIN32_AGENT_1.0.zip. This package contains 3 files:

- ✓ **OcsAgentSetup.exe**, agent installer with Windows service included. We recommend using this package.
- ✓ **OcsAgent.exe**, to install standalone agent on a non network connected computer to allow running the inventory manually with /LOCAL command line switch (or if you do not want to use service).
- ✓ **OcsLogon.exe**, launcher of OCS Inventory NG agent to use when deploying agent through a login script or Active Directory GPO in the domain. If agent is already installed, it just runs the agent. Otherwise, it downloads agent’s binaries from Communication server, setup it and launch it.

4.1.1 Which version of Windows Agent does i have to use ?

First of all, we have to explain how Agent and Service work.

4.1.1.1 How does Windows Agent works ?

When OCS Inventory NG Agent “OCSInventory.exe” is launched, it contacts Communication server using HTTP protocol to ask what is has to do. Server can answer “nothing” (not time for an inventory and no package to deploy), and so agent stops.

When agent is launched, it will generate and send an inventory only.

Otherwise, server may answer that Agent has to:

- ✓ **Send an inventory:** Agent retrieve all computer properties and send them using HTTP protocol to server. Server answer this only if last inventory date in the database is older than general option “FREQUENCY”, specified in days (see § 6.2 Managing OCS Inventory NG general options.)
- ✓ **Discover the network:** Agent retrieve all computer properties, scan his sub network for active devices listening on the network, and send these informations using HTTP protocol to server. Server answer this only if computer is elected to run IPDISCOVERY (see § 7 Using IP discovery feature.)
- ✓ **Deploy a package:** Agent contact deployment server using HTTPS protocol to get information file, download package fragments from repository, rebuild package and launch it.

NB: OCS Inventory NG Agent does not listen on the network. It always initiate communication to server. So you do not have to open port on personal firewall. But you must allow OCS Inventory NG agent file “OCSInventory.exe” to contact Communication Server or Deployment Server using HTTP or HTTPS.

Each time an inventory is done, Agent write a configuration file “OCSInventory.dat” in his agent folder where it will put configuration options downloaded from the Communication server.

When launched for the first time, OCS Inventory NG agent will prompt user for the TAG value (if this feature is enabled). Help text displayed in the dialog-box is the one you’ve entered in § 3.1.5 Configuring management server. User may enter this value, or leave it blank (you will be able to update this value through the Administration server).



Then (or otherwise if TAG feature is not enabled), it will do the inventory and send in HTTP inventory results to Communication server.

4.1.1.2 How does Windows service work?

NB: You must have Administrator privileges to setup OCS Inventory NG Agent as a service, or you may use OCS Inventory NG Packager to create an installer able to run even if you do not have Administrator privileges. Refer to § 6.3 Uploading Agent for deployment through launcher “OcsLogon.exe”, or OCS Inventory NG Packager documentation.

OCS Inventory NG Agent “OCSInventory.exe” is launched by service “OcsService.exe” every PROLOG_FREQ hours. It keeps trace of the countdown in seconds in file “service.ini” (value TTO_WAIT), so it is the time of EFFECTIVE run.

The number of hours to wait is randomized at install time and every time PROLOG_FREQ changed.

It enables not to have all agents incoming in the same time. The randomization is between 0 and PROLOG_FREQ.

You can adjust these parameters considering your server load.

When service launch agent, it calls it using the command line switches specified in value “Miscellaneous” of file “service.ini”.

```
[OCS_SERVICE]
NoProxy=1
Server=my-ocs-server.domain.tld
Pnum=80
Miscellaneous=/DEBUG /NP /server: my-ocs-server.domain.tld /pnum:80
PROLOG_FREQ=10
OLD_PROLOG_FREQ=10
TTO_WAIT=1505
```

Figure 3: Sample file "service.ini"

As you can see, Service is only a launcher which will run Agent regularly, even if nobody logs in the computer.

4.1.1.3 Do I have to use service or standalone agent ?

You want to have computers inventoried, even if nobody log in ? Use Service version.

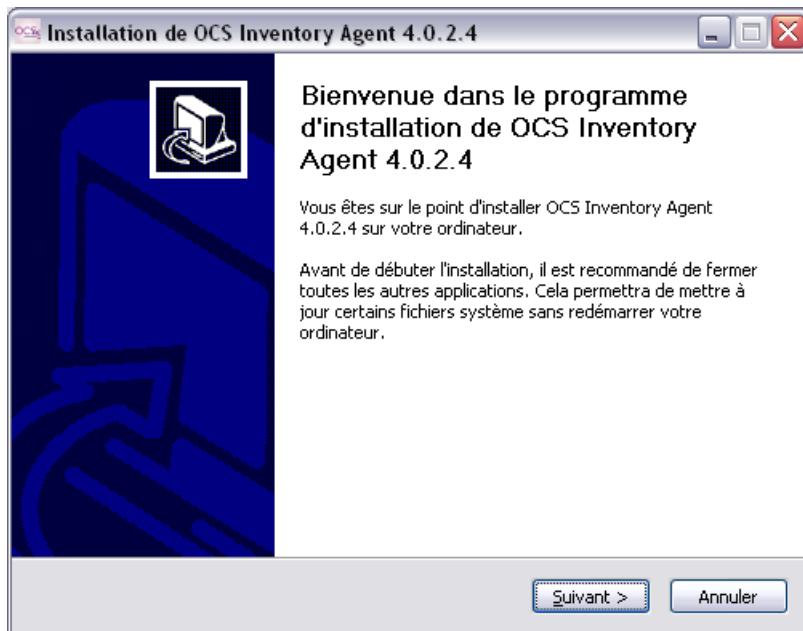
You want to use package deployment feature ? Use service version. As is, package will be downloaded in background, and logged in user can continue to work.

You do not want to setup service, or have something appears in the registry ? Use standalone version. However, deployment of package may take a long time when user log in.

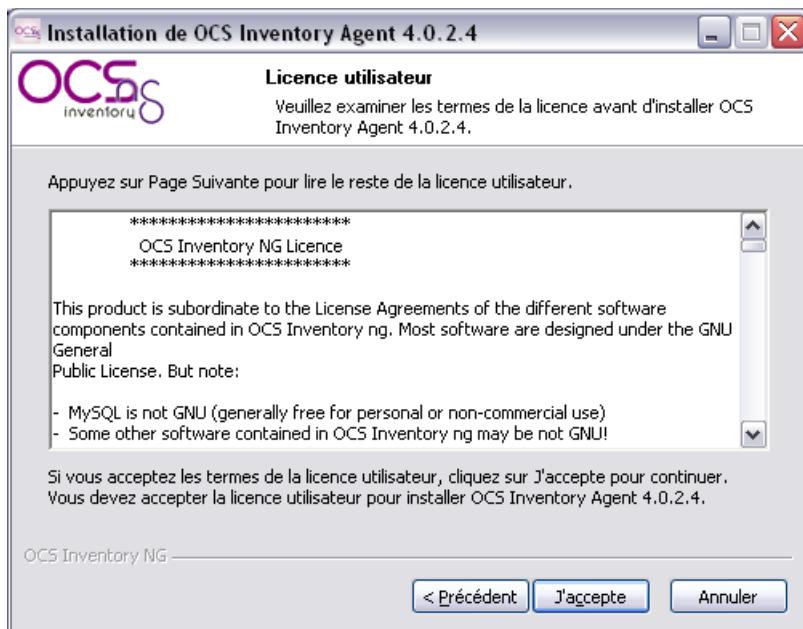
In other words, we recommend using service version.

4.1.2 Manually installing Service version of Agent.

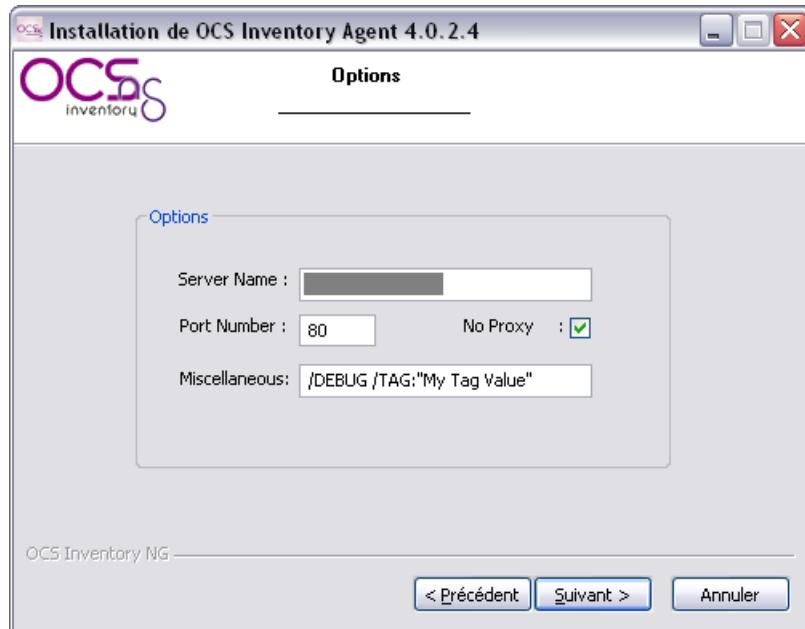
Run “OcsAgentSetup.exe” on client computer and click “Next” button



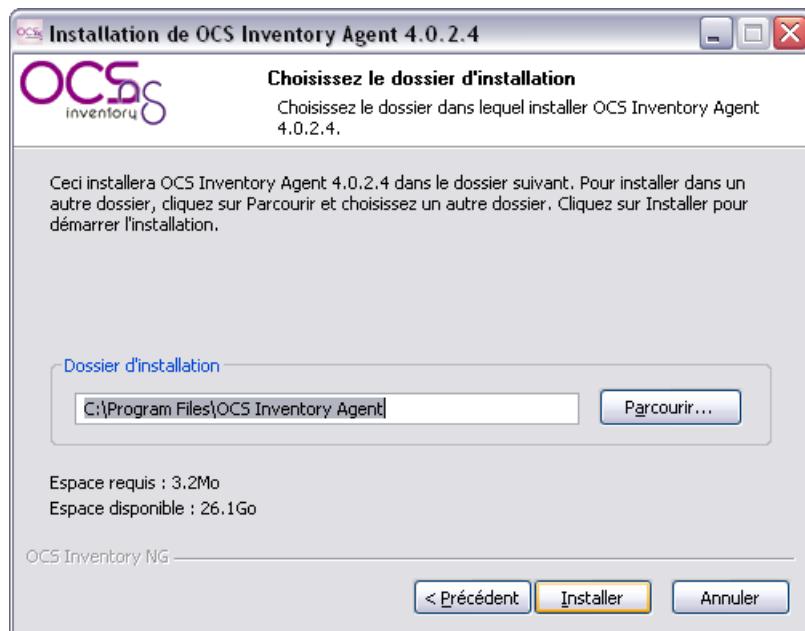
Validate license agreement by clicking “I agree” button.



Fill in OCS Inventory NG Communication server address and port. If you do not wish to use Microsoft Internet Explorer proxy settings (because your proxy requires authentication for example), enable “No Proxy” checkbox. Miscellaneous field allow you to pass to agent other command line arguments (cf § 4.1.5 Agent’s command line switches). Then click “Next” button.



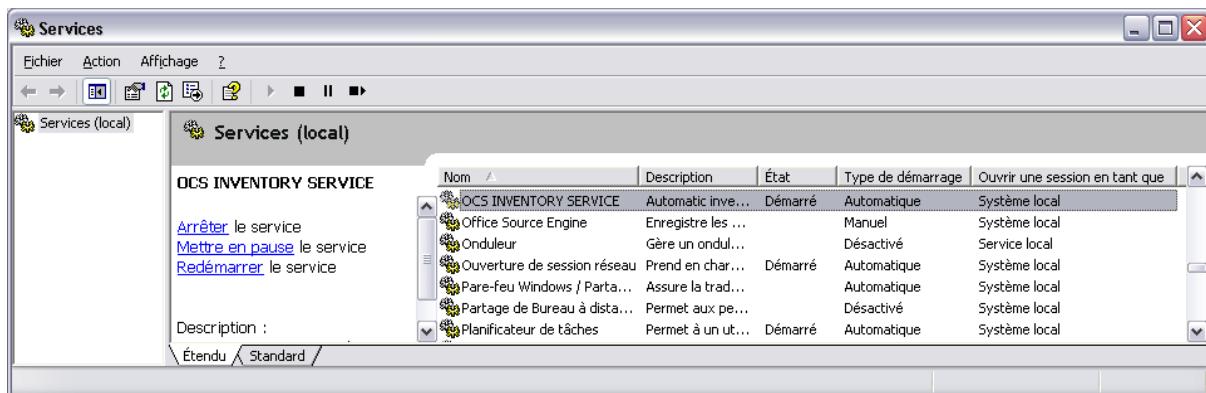
Choose destination folder, “C:\Program Files\OCS Inventory Agent” by default, and click “Install” button.



Click “Close” button to register OCS inventory NG agent service into System.



Agent is now installed as a service automatically started at system boot under account LocalSystem.



This is the interactive installation setup. However, this process requires that you launch it under all your computers. Hopefully, this installation can be scripted.

NB: Service Agent setup support in command line all Agent switches defined in § 4.1.5 Agent's command line switches.

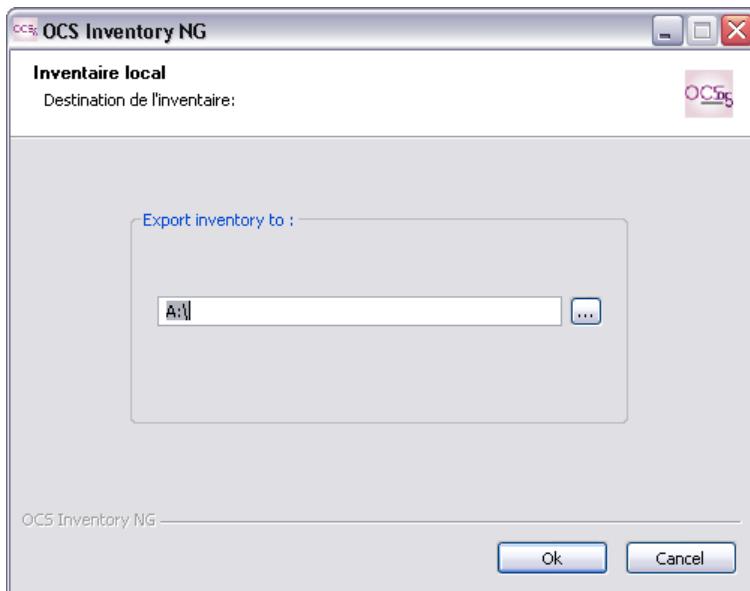
4.1.3 Manually installing standalone Agent (without service).

This way may be usefull on a non network connected computer.

Setup can be run by a normal user, or better by a system administrator.

You just have to run file “OcsAgent.exe /local” to launch OCS Inventory NG agent’s setup. Setup will try to install OCS Inventory NG agent’s files in the folder “C:\ocs-ng” or, if the locally connected user do not have permission to create folder in the root directory, in the folder “ocs-ng” in the user’s temporary directory. Then, it will launch OCS Inventory NG agent.

Agent will then prompt user for folder where to store inventory results.



When launched for the first time, OCS Inventory NG agent will prompt the user for the TAG value User may enter this value, or leave it blank (you will be able to update this value through the Administration server).



When inventory is finished, agent will display to user a message showing where the file name inventory results have been stored.



User then just has to send this file to administrator. Administrator will be able to import inventory results into the database through the Administration server.

If you want to run another inventory, you just have to rerun “Ocsinventory.exe /local” from OCS Inventory NG agent’s installation folder.

NB: Standalone Agent setup support in command line all Agent switches defined in § 4.1.5 Agent’s command line switches.

4.1.4 Deploying Agent using launcher OcsLogon.exe through Login Script or Active Directory GPO.

Launcher “OcsLogon.exe” is a little tool able to run inside a login script or an Active Directory GPO. His goal his to launch OCS Inventory NG Agent on computer, and if Agent is not installed, to setup Agent on computer.

Launcher “OcsLogon.exe” will try to connect by default to the Communication Server using a DNS name “ocsinventory-ng”, like if you open your favorite web browser and enter the URL <http://ocsinventory-ng/ocsinventory>.

To use a different URL if you cannot add this DNS name, just rename “OcsLogon.exe” with the DNS name or IP address of the Communication Server (for example “ocsinventory.domain.tld.exe” if you’ve created for your server a DNS record “ocsinventory.domain.tld” or “192.168.1.2.exe” if your server has 192.168.1.2 as IP address). Launcher then will try to connect to the DNS name or IP address you’ve named it (<http://ocsinventory.domain.tld/ocsinventory> or <http://192.168.1.2/ocsinventory>).

NB: Always use last version of OcsLogon.exe. You can get it from last package OCSNG_WIN32_AGENT_XX.zip.

Launcher will first check if OCS Inventory NG agent is installed, and if not, will contact Communication Server in HTTP to download latest agent binaries and setup locally on the computer:

- ✓ **Standalone Agent in the folder “C:\ocs-ng”** by default or, if the locally connected user do not have permission to create folder in the root directory, in the folder “ocs-

ng” in the user’s temporary directory. If Standalone agent is already installed, launcher will just run the agent.

- ✓ Service Agent in folder “C:\Program Files\OCS inventory Agent” by default.

NB: To deploy Standalone Agent with launcher, you need to have uploaded Standalone Agent file “ocsagent.exe” with Administration Console.

To deploy Service Agent with launcher, you need to have uploaded Service Agent file “ocspackage.exe” with Administration Console.

Refer to § 6.3 Uploading Agent for deployment through launcher “OcsLogon.exe”.

To choose between Standalone or Service agent, there is just a command line switch “/INSTALL” to specify if you want to use Service or not. If you add “/INSTALL” command line switch, launcher will use Service Agent. Otherwise, it will use Standalone Agent.

If you want to update Agent, You have to specify in launcher command line version of the new release using the switch /DEPLOY:XXXX, where XXXX is the version of agent, 4030 for version 1.0 final.

4.1.4.1 Deploying Agent through Active Directory GPO.

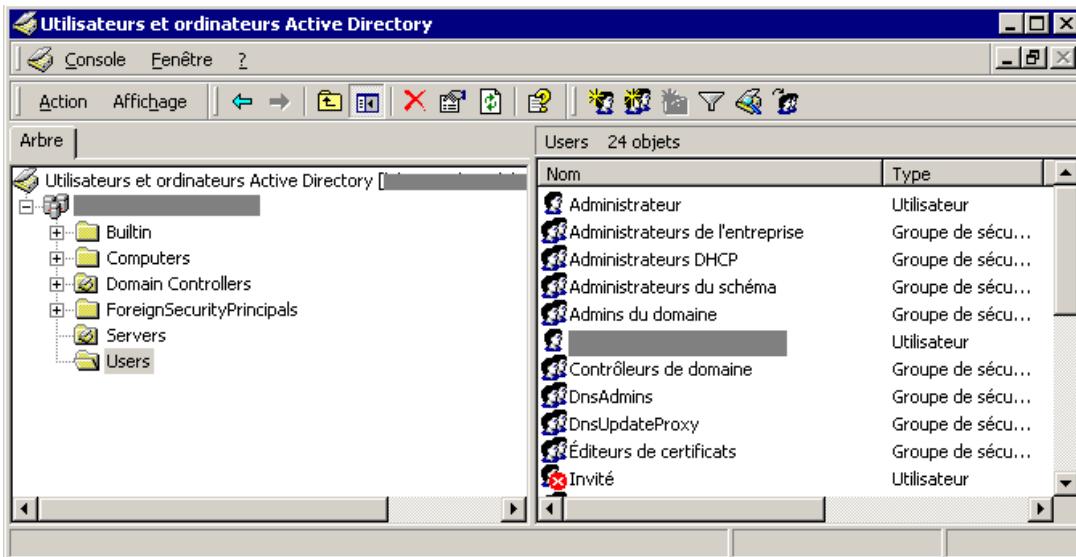
NB: We recommend using service version of Agent if you plan to use package deployment feature.

To deploy Standalone Agent with launcher, you need to have uploaded Standalone Agent file “ocsagent.exe” with Administration Console.

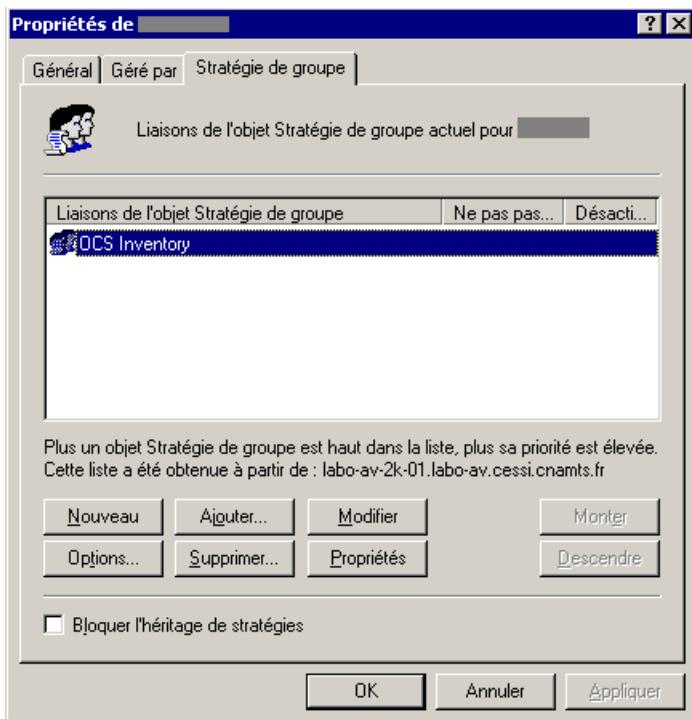
To deploy Service Agent with launcher, you need to have uploaded Service Agent file “ocspackage.exe” with Administration Console.

Refer to § 6.3 Uploading Agent for deployment through launcher “OcsLogon.exe”.

Open “Active Directory users and computers” tool.



Right click on your Active Directory domain or Organisational Unit and select “Properties”.

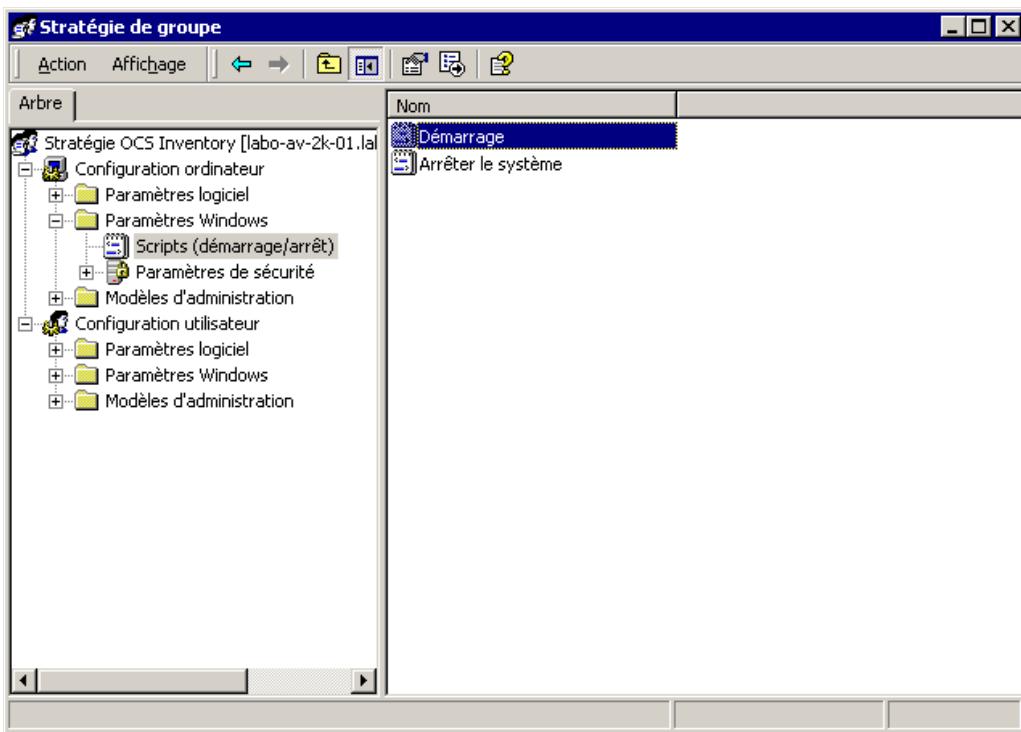


In “Group Policy” tab, create a new policy, or edit existing one.

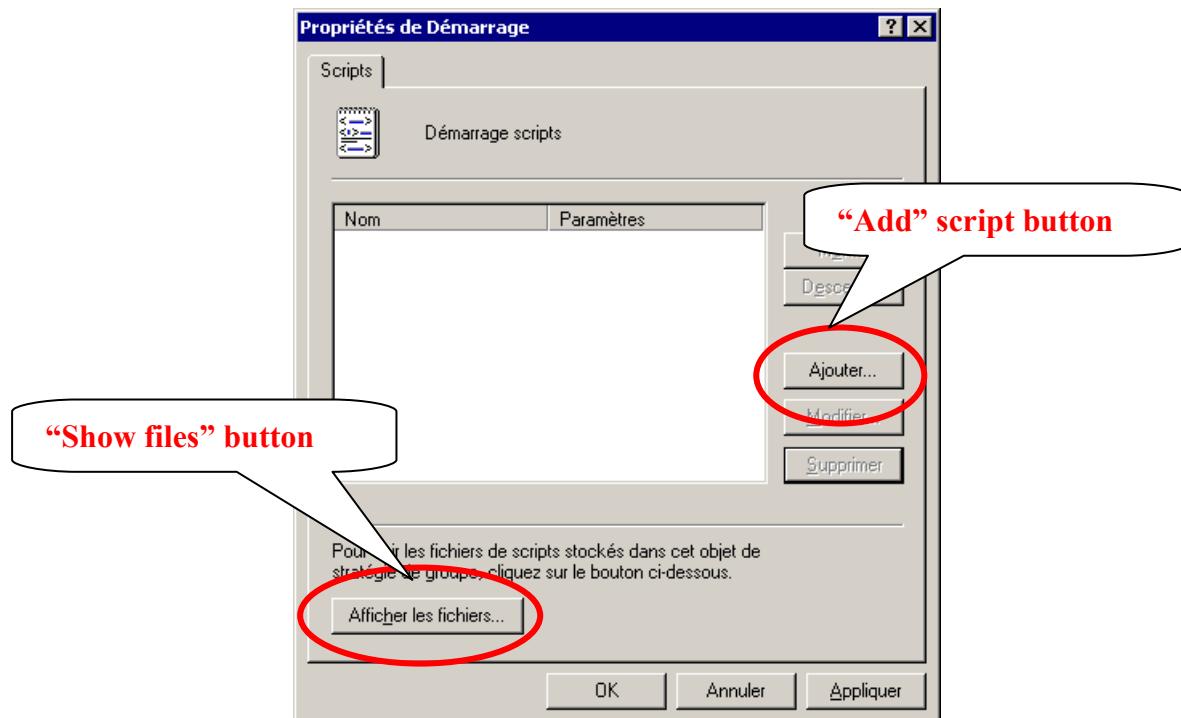
You either use Computer policy, or User policy. Computer policy will run at computer startup or User policy will run at user login.

NB: In our example, we will use Computer policy and Startup script. Communication Server address is 192.168.1.2, because we choose to setup Service Agent version. If you choose to use Standalone Agent, it's better to use User policy and startup script, to allow agent running each time a user log in.

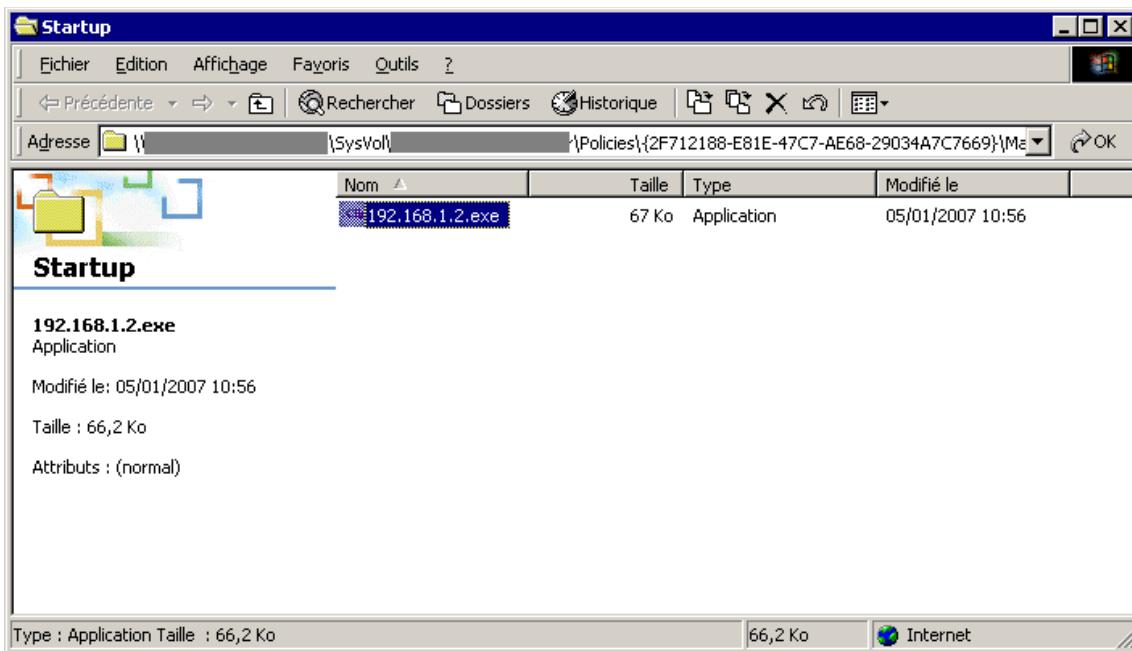
Expand “Computer configuration” tree in left pane and navigate like below to “Windows settings” and “Scripts”. Then double click on “Startup” on right pane.



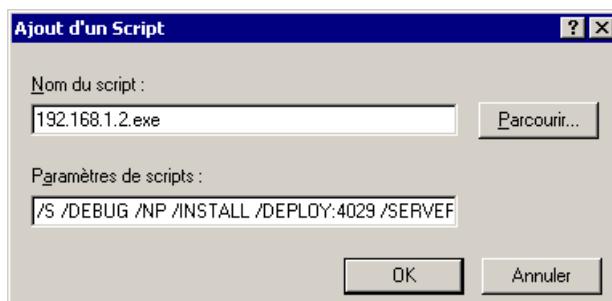
Click on “Show files” button to display script and executable files usable by computer startup scripts.



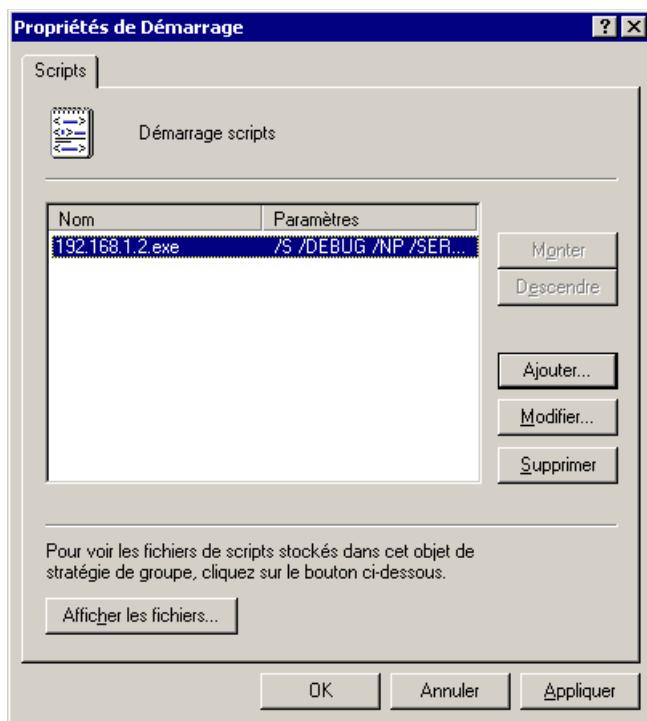
Copy launcher “Ocslogon.exe” or the renamed one (in our example “192.168.1.2.exe”) into this folder to allow computer startup scripts using it.



Next close “Startup” folder and click “Add” script button, click “Browse” button to select launcher “OcsLogon.exe” or the renamed one (in our example “192.168.1.2.exe”), and fill in launcher parameters (in our example “/S” for silent installation, “/DEBUG” to enable creating log files, “/NP” to disable use of Internet Explorer proxy settings, “/INSTALL” to deploy Service Agent, “/DEPLOY:4029” to force deployment of version 4029, “/SERVER:192.168.1.2” to use Communication Server at address 192.168.1.2).



Validate all window to activate Computer Startup script GPO.



When computer will start (or when user will log in if using User policy), launcher will setup and/or launch OCS Inventory NG agent.

NB: Launcher OcsLogon.exe may encounter problems accessing the Communication Server if you have configured a proxy with authentication in Microsoft Internet Explorer settings. You can force Launcher to not use proxy with “/NP” command line switch. You can also specify a different IP port to use for Communication server with “/PNUM:XX” command line switch, where XX is the IP port number to use. See § 4.1.5 Agent’s command line switches.

4.1.4.2 Deploying Agent through login script.

NB: We recommend using service version of Agent if you plan to use package deployment feature.

To deploy Standalone Agent with launcher, you need to have uploaded Standalone Agent file “ocsagent.exe” with Administration Console.

To deploy Service Agent with launcher, you need to have uploaded Service Agent file “ocspackage.exe” with Administration Console.

Refer to § 6.3 Uploading Agent for deployment through launcher “OcsLogon.exe”.

Copy files “OcsLogon.exe” (or the renamed one) to a shared folder somewhere in your network. This folder must readable by all your users. Then add a call to “OcsLogon.exe” (or to the renamed one) in the login script of your users.

Here is a sample login script.

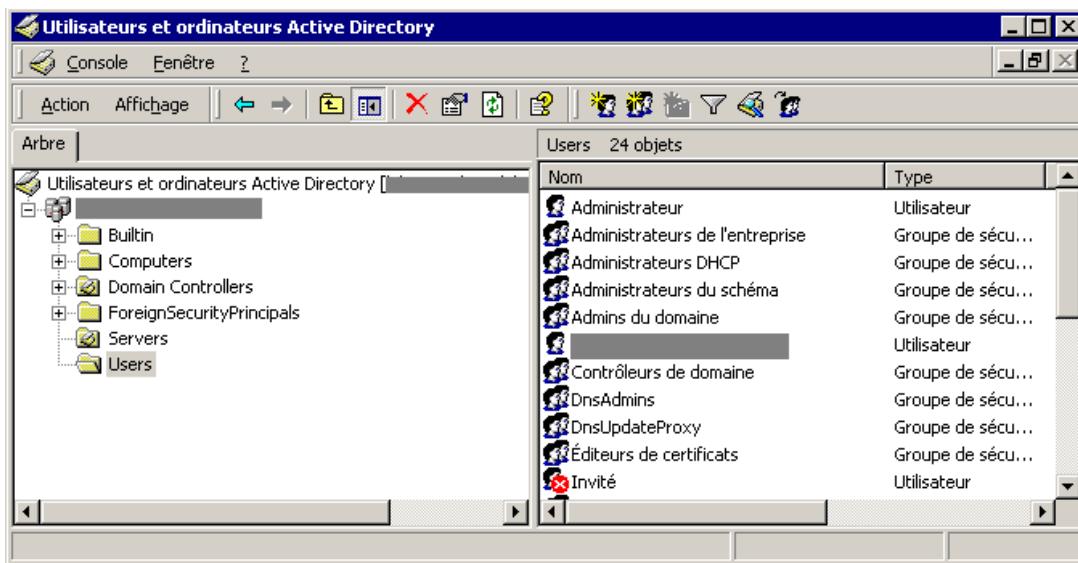
```
@echo off
echo Running system inventory, please wait...
REM Call to OCS Inventory NG agent for deployment
REM Using shared folder MY_SHARE on server MY_SERVER
REM Connect to Communication server at address 192.168.1.2
REM Enable debug log with /DEBUG to create OcsLogon.log and computer_name.log
REM Force setup agent version 4030 if agent not up to date
REM Deploy service version of agent using /INSTALL
“\\MY_SERVER\MY_SHARE\192.168.1.2.exe” /DEBUG /NP /INSTALL /DEPLOY:4030
echo Done. Thanks a lot.
```

Figure 4: Sample login script for Windows domain

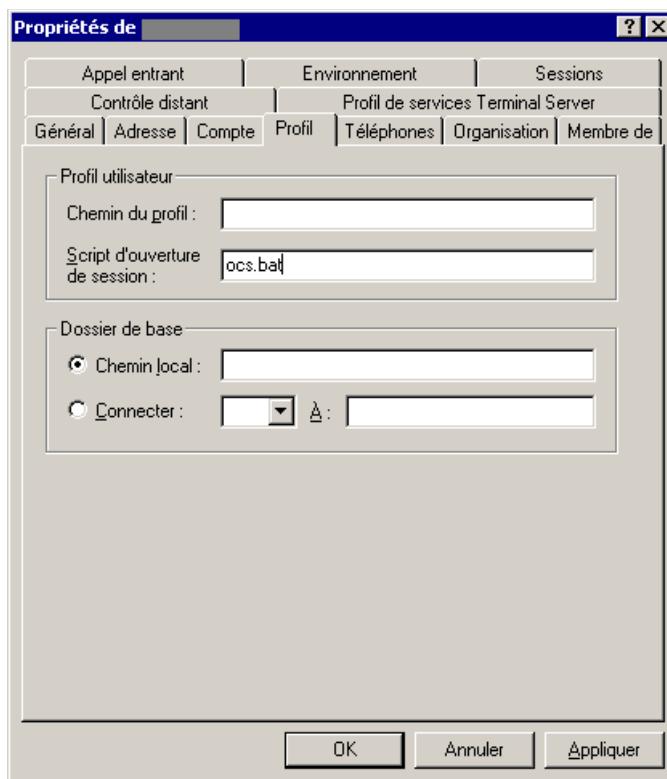
NB: To be compliant with Windows 9X, you must enclose path to renamed launcher between quotes in the script, otherwise Windows 9X will not use long filename, but sort name like “192~1.exe” and launcher will not be able to find correct IP address or DNS name.

Put this script named “ocs.bat” for example on your Domain Controller in the folder “%WINDIR%\SYSVOL\Domain\Scripts”, where “%WINDIR%” is generally “C:\WINNT” or “C:\Windows”.

Next, you have to link login script with every users registered in your Active Directory domain. You can do this using “Active Directory users and computers” tool.



For each user, open his properties and in “Profile” tab, add login script name in “Session login script” field.



When user log in, launcher will setup and/or launch OCS Inventory NG.

NB: Launcher OcsLogon.exe may encounter problems accessing the Communication Server if you have configured a proxy with authentication in Microsoft Internet Explorer settings. You can force Launcher to not use proxy with “/NP” command line switch. You can also specify a different IP port to use for Communication server with “/PNUM:XX” command line switch, where XX is the IP port number to use. See § 4.1.5 Agent’s command line switches.

4.1.5 Agent’s command line switches

OCS Inventory NG Agent version 4.0.1.0 or higher includes some command line switches to allow detecting errors.

Once agent is installed, you can run it manually to diagnose problems. Use “C:\ocsng\OCSInventory.exe [options]” (with Standalone Agent) or “C:\Program Files\OCS Inventory Agent\OCSInventory.exe [options]” (with Service Agent) command line where [options] may be in the following command line switches.

| Agent’s command line switch | Meaning |
|-----------------------------|-------------------------------------------------------------|
| /server:[server name] | Tells agent to connect to server “[server name]” |
| /np | Disable use of proxy defined in Internet Explorer settings. |
| /pnum:X | Specify an IP port X for web communication server. By |

| | |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | default, HTTP port 80 is used. You can force use of port 8080 for example with the argument /pnum:8080. |
| /local | run agent in local inventory mode. So agent does not try to connect to Communication server. A file “{hostname}.ocs”, containing inventory results in compressed XML, will be created in agent’s directory. |
| /file | Same as /local, but with interaction with Communication server. |
| /xml | Agent will create a non compressed XML file “{hostname}.xml”, containing inventory results, in his directory. If not used in conjunction with /LOCAL, agent tries to connect to Communication server. |
| /notag | Client does not ask user for TAG value. |
| /tag:"my tag value" | Specify TAG value in command line. |
| /hkcu | Force agent to search for installed software also under HKEY_CURRENT_USER registry hive. |
| /debug | Create a log file “{hostname}.log” in agent’s directory. |
| /force | Force agent to always send inventory results, independently of the FREQUENCY parameter. |
| /uid | Force agent to generate a new deviceid. |
| /dmi | If computer serial number cannot be retrieved with WMI, force agent to use DMI tables while running “BiosInfo.exe” tool. Otherwise agent tries first BIOS functions and then DMI tables. |
| /biosfunc | If computer serial number cannot be retrieved with WMI, force agent to use BIOS functions while running “BiosInfo.exe” tool. Otherwise agent tries first BIOS functions and then DMI tables. |
| /conf:[filename] | Tells agent to use “[filename]” as configuration file. Otherwise it will use default “Ocsinventory.dat” file. |
| /test | Agent only tests HTTP connection to communication server and write a file “ok.ok” if all is good. May be only used with /DEBUG, /NP et /PNUM switches (disable all other switches). |
| /ipdisc:[network number] | Force agent to run IPDISCOVERY feature on network numbered “[network number]” if server ask an inventory. May be used in conjunction with /force to ensure it will run. Cannot be used with /local. |
| /fastip | agent only scan 5 IPs if it is elected as IPDISCOVER host (only usable for debug or test, may not be used in production). |

When using launcher “OcsLogon.exe” to deploy agent or run the agent, you can use the following command line switches.

NB: You can also add all switches supported by OCS Inventory NG Agent.

| Launcher command line switch | Meaning |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| /D=[PATH] | Tells launcher to setup agent into “[PATH]” installation folder. MUST BE THE LAST COMMAND LINE ARGUMENT. |
| /DEPLOY:XXXX | Force deployment of a specific agent version XXXX. Use “/DEPLOY:4030” (lastest version) to upgrade agent to version 4.0.3.0. |
| /INSTALL | Tells launcher to setup Service Agent, instead of Standalone Agent. |
| /URL:[download_url] | Tells launcher to download Standalone Agent “ocsagent.exe” or Service Agent “ocspackage.exe” from “[download_url]” (without final filename). Usefull for deploying Agent in mulitple Active Directory domain, but using a single Communication Server. |
| /NP | Disable use of proxy defined in Internet Explorer settings. |
| /PNUM:X | Specify an IP port X for web communication server. By default, HTTP port 80 is used. You can force use of port 8080 for example with the argument /pnum:8080. |
| /LOCAL | run agent in local inventory mode. So agent does not try to connect to Communication server. A file “{hostname}.ocs”, containing inventory results in compressed XML, will be created in agent’s directory. |
| /NOTAG | Client does not ask user for TAG value. |
| /TAG:”my tag value” | Specify TAG value in command line. |
| /DEBUG | Create a log file “{hostname}.log” in agent’s directory. |

4.2 Under Linux Operating Systems.

OCS Inventory NG agent for Linux can only be setup locally. You cannot deploy the agent through the network as it’s possible for Windows agent. However, you can choose during setup to activate auto-update of the agent if you’ve choosen HTTP inventory method.

NB: You must have root privileges to setup Administration server.

4.2.1 Requirements.

OCS Inventory NG Agent for Linux requires:

- ✓ dmidecode version 2.2 or higher
- ✓ PERL 5.6 or higher
 - Perl module XML::Simple version 2.12 or higher
 - Perl module Compress::Zlib version 1.33 or higher
 - Perl module Net::IP version 1.21 or higher
 - Perl module LWP::UserAgent version 5.800 or higher
 - Perl module Digest::MD5 version 2.33 or higher
 - Perl Module Net::SSLeay version 1.25 or higher
- ✓ Make utility
- ✓ C/C++ compiler like GNU GCC

NB: It's better for system integrity to use precompiled packages for your distribution if they are available.

On Fedora/Redhat like Linux, you can use "yum" tool to setup required modules like following:

```
yum install perl-XML-Simple  
yum install perl-Compress-Zlib  
yum install perl-Net-IP  
yum install perl-LWP  
yum install perl-Digest-MD5  
yum install perl-Net-SSLeay
```

On Debian like Linux, you can use "apt-get" tool to setup required modules:

```
apt-get install libxml-simple-perl  
apt-get install libcompress-zlib-perl  
apt-get install libnet-ip-perl  
apt-get install libwww-perl  
apt-get install libdigest-md5-perl  
apt-get install libnet-ssleay-perl
```

New installer script "setup.sh" is able to install these dependencies if they are not available. However, it will never upgrade an installed module. If one module has version lower than required once, you must upgrade yourself.

NB: installer does not setup required components for dependencies. For example, Net::SSLeay requires openssl to be installed. If not installed, setup of Net::SSLeay will fail and OCS Inventory NG agent setup will also fail.

Also, installer script produces a log file "setup.log". If you encounter any error while installing OCS Inventory NG agent, please refer to this file to have detailed error message.

4.2.2 Installing the agent interactively.

Download “OCSNG_LINUX_AGENT_1.0.tar.gz” from OCS Inventory Web Site.

Unpack it.

✓ tar -xvzf OCSNG_LINUX_AGENT_1.0.tar.gz

Run “setup.sh” installer. During the installer, default choice is presented between []. For example, [y]/n means that “y” (yes) is the default choice, and “n” (no) is the other choice.

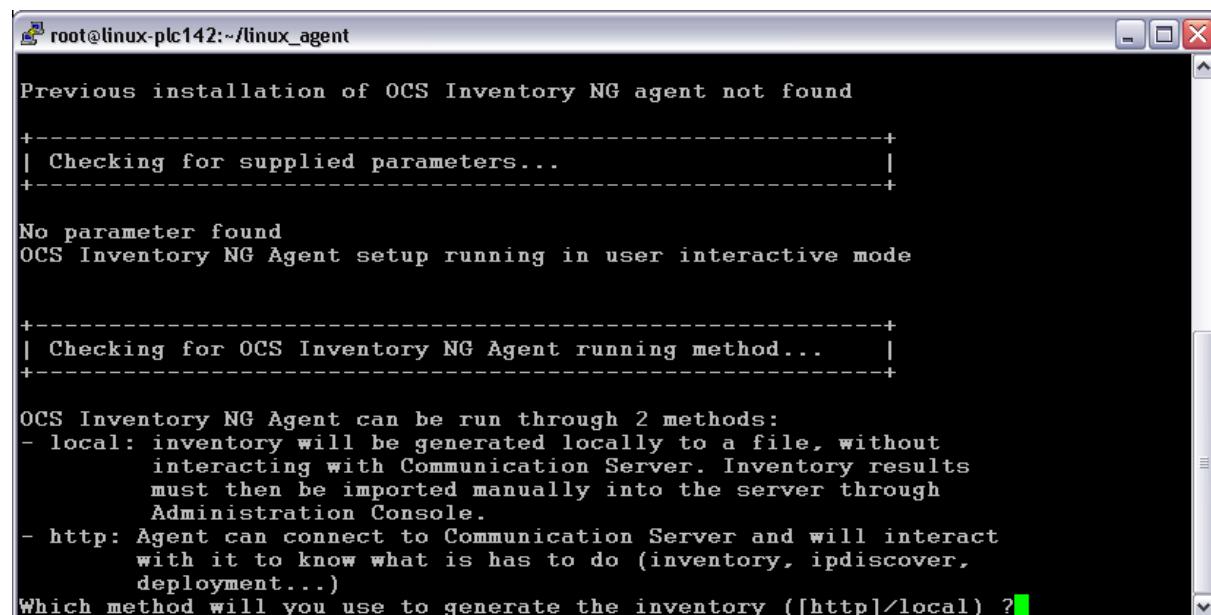
✓ cd OCSNG_LINUX_AGENT_1.0
✓ sh setup.sh

NB: installer writes a log file “ocs_agent_setup.log” in the same directory. If you encounter any error, please refer to this log for detailed error message.

You will then have to choose between 2 methods for generating inventory:

1. http: computer is connected to the network and is able to reach the Communication server with HTTP protocol.
2. local: computer is not connected to the network and inventory will be generated in a file to manually send to OCS Inventory NG operator.

Enter “http” or validate if your computer can reach OCS Inventory NG Communication server, or enter “local” to enable local mode.

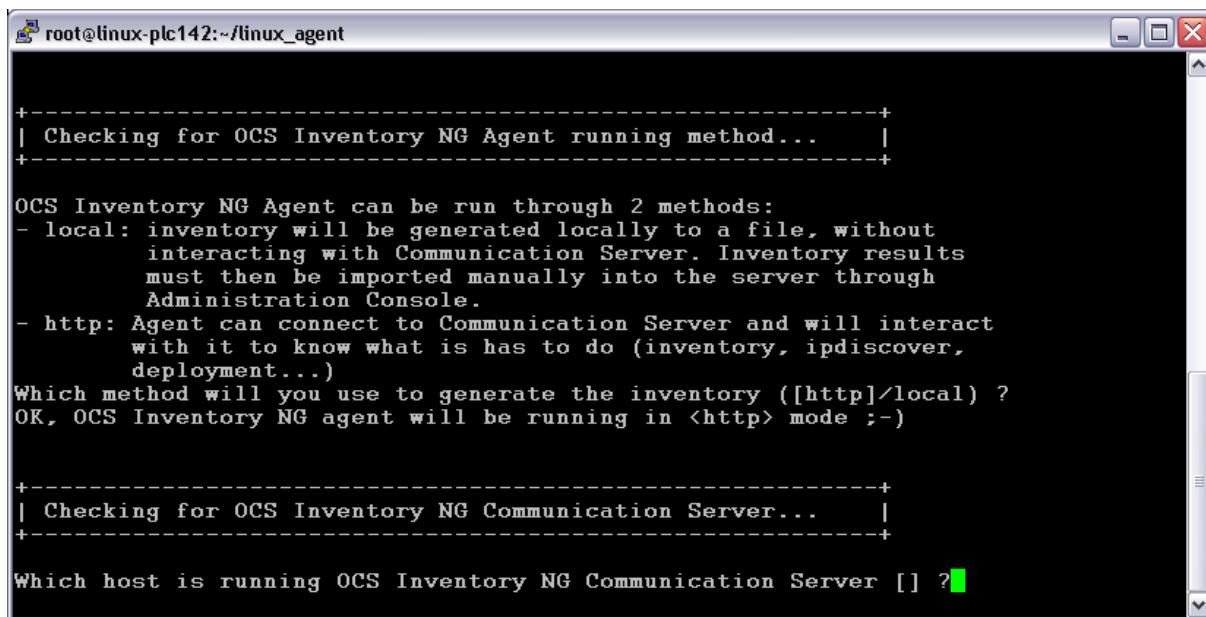


```
root@linux-plc142:~/linux_agent
Previous installation of OCS Inventory NG agent not found
+-----+
| Checking for supplied parameters... |
+-----+
No parameter found
OCS Inventory NG Agent setup running in user interactive mode

+-----+
| Checking for OCS Inventory NG Agent running method... |
+-----+

OCS Inventory NG Agent can be run through 2 methods:
- local: inventory will be generated locally to a file, without
    interacting with Communication Server. Inventory results
    must then be imported manually into the server through
    Administration Console.
- http: Agent can connect to Communication Server and will interact
    with it to know what is has to do (inventory, ipdiscover,
    deployment...)
Which method will you use to generate the inventory ([http]/local) ?
```

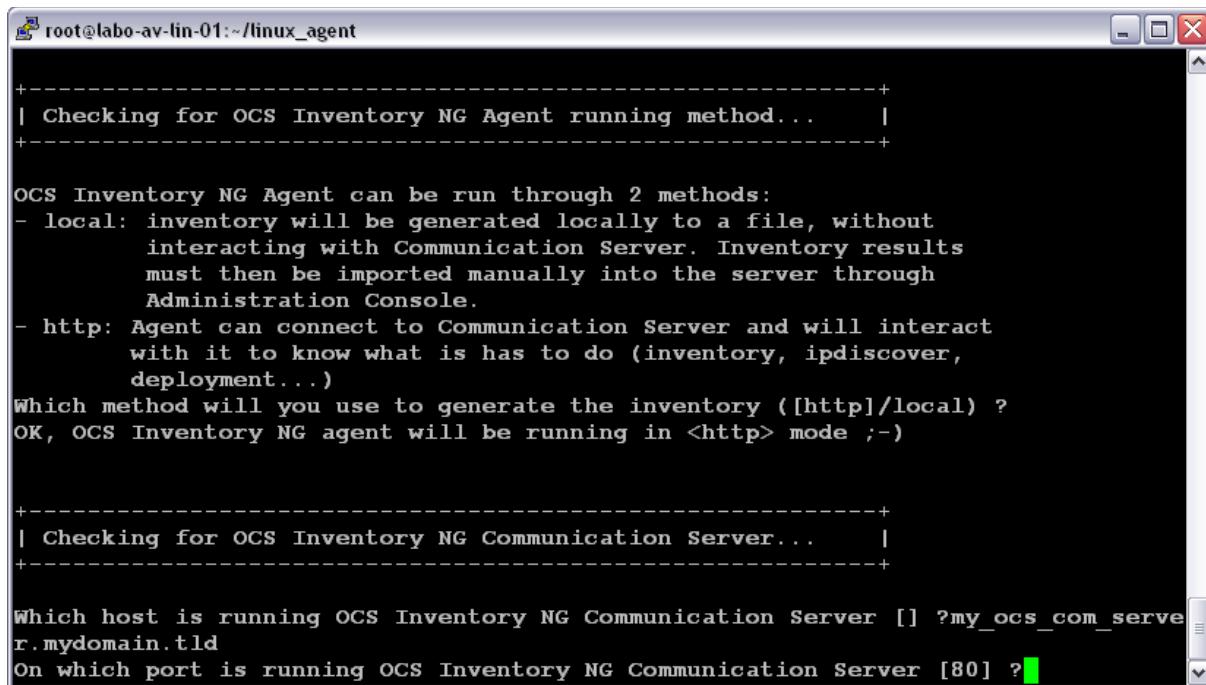
Enter OCS Inventory NG communication server address.



```
root@linux-plc142:~/linux_agent
+--+
| Checking for OCS Inventory NG Agent running method... |
+--+
OCS Inventory NG Agent can be run through 2 methods:
- local: inventory will be generated locally to a file, without
          interacting with Communication Server. Inventory results
          must then be imported manually into the server through
          Administration Console.
- http: Agent can connect to Communication Server and will interact
         with it to know what is has to do (inventory, ipdiscover,
         deployment...)
Which method will you use to generate the inventory ([http]/local) ?
OK, OCS Inventory NG agent will be running in <http> mode ;-)

+--+
| Checking for OCS Inventory NG Communication Server... |
+--+
Which host is running OCS Inventory NG Communication Server [] ?
```

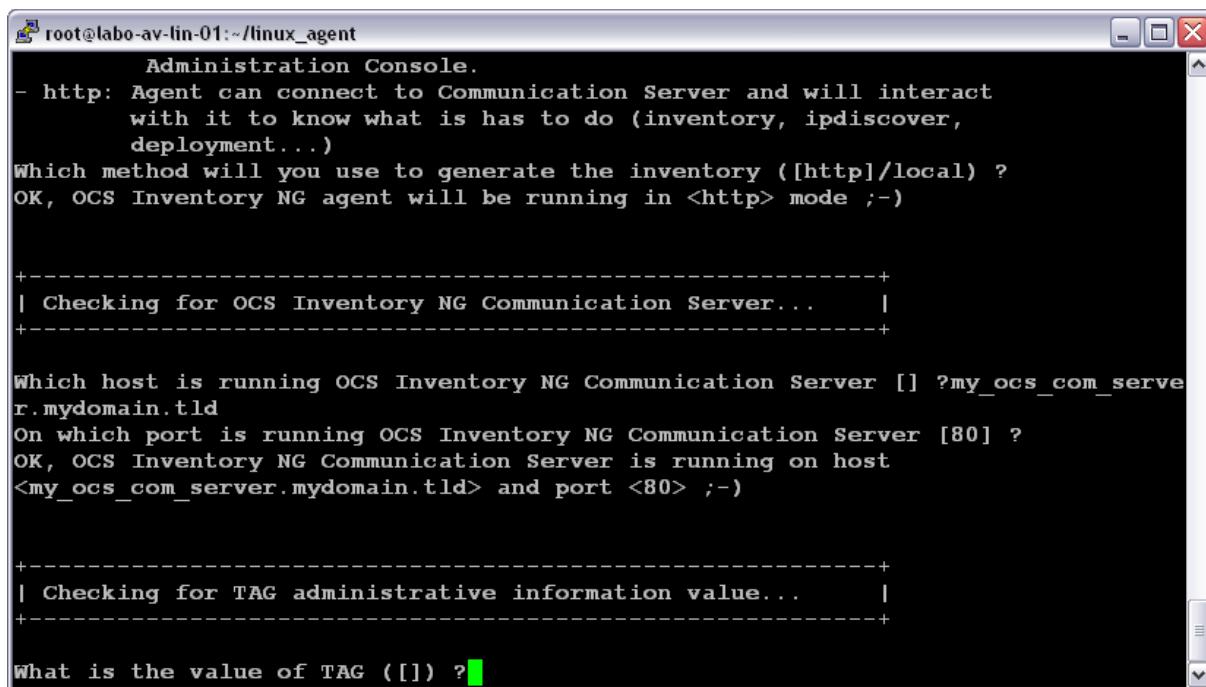
Enter OCS Inventory NG Communication server port, or validate if Communication server runs on standard HTTP port 80.



```
root@labo-av-lin-01:~/linux_agent
+--+
| Checking for OCS Inventory NG Agent running method... |
+--+
OCS Inventory NG Agent can be run through 2 methods:
- local: inventory will be generated locally to a file, without
          interacting with Communication Server. Inventory results
          must then be imported manually into the server through
          Administration Console.
- http: Agent can connect to Communication Server and will interact
         with it to know what is has to do (inventory, ipdiscover,
         deployment...)
Which method will you use to generate the inventory ([http]/local) ?
OK, OCS Inventory NG agent will be running in <http> mode ;-)

+--+
| Checking for OCS Inventory NG Communication Server... |
+--+
Which host is running OCS Inventory NG Communication Server [] ?my_ocs_com_server
r.mydomain.tld
On which port is running OCS Inventory NG Communication Server [80] ?
```

Enter a value for TAG.



The screenshot shows a terminal window titled "Administration Console". The user is configuring the OCS Inventory NG agent. It asks if the agent will run in HTTP mode, which it does. It then checks for the communication server, finding one at "r.mydomain.tld" on port 80. Finally, it asks for the value of a TAG administrative information key, with the input field currently empty.

```
root@labo-av-lin-01:~/linux_agent
Administration Console.
- http: Agent can connect to Communication Server and will interact
      with it to know what is has to do (inventory, ipdiscover,
      deployment...)
Which method will you use to generate the inventory ([http]/local) ?
OK, OCS Inventory NG agent will be running in <http> mode ;-)

+-----+
| Checking for OCS Inventory NG Communication Server... | +-----+
+-----+
Which host is running OCS Inventory NG Communication Server [] ?my_ocs_com_server.mydomain.tld
On which port is running OCS Inventory NG Communication Server [80] ?
OK, OCS Inventory NG Communication Server is running on host
<my_ocs_com_server.mydomain.tld> and port <80> ;-)

+-----+
| Checking for TAG administrative information value... | +-----+
+-----+
What is the value of TAG ([])?
```

Setup will check for PERL interpreter binary, C/C++ compiler and make utility. If one of these components is not found, setup will stop.

Setup will check for:

- ✓ dmidecode binary.
- ✓ Compress::Zlib PERL module
- ✓ XML::Simple PERL module
- ✓ Net::IP PERL module
- ✓ LWP::UserAgent PERL module
- ✓ Digest::MD5 PERL module
- ✓ Net::SSLeay PERL module

If not found, it will ask you if you wish to install it. Enter “y” or validate to enable install of required component. If you enter “n”, setup will stop here.

```
root@linux-plc142:~/linux_agent
OK, PERL Interpreter found at </usr/bin/perl> ;-)

+--+
| Checking for C/C++ Compiler...
+--+

OK, C/C++ Compiler found at </usr/bin/cc> ;-)

+--+
| Checking for Make utility...
+--+

OK, Make utility found at </usr/bin/make> ;-)

+--+
| Checking for dmidecode binaries...
+--+

dmidecode binaries not found !
Setup is able to install dmidecode version 2.8.
Do you wish setup to install dmidecode ([y]/n) ?
```

```
root@linux-plc142:~/linux_agent
+--+
| Checking for Make utility...
+--+

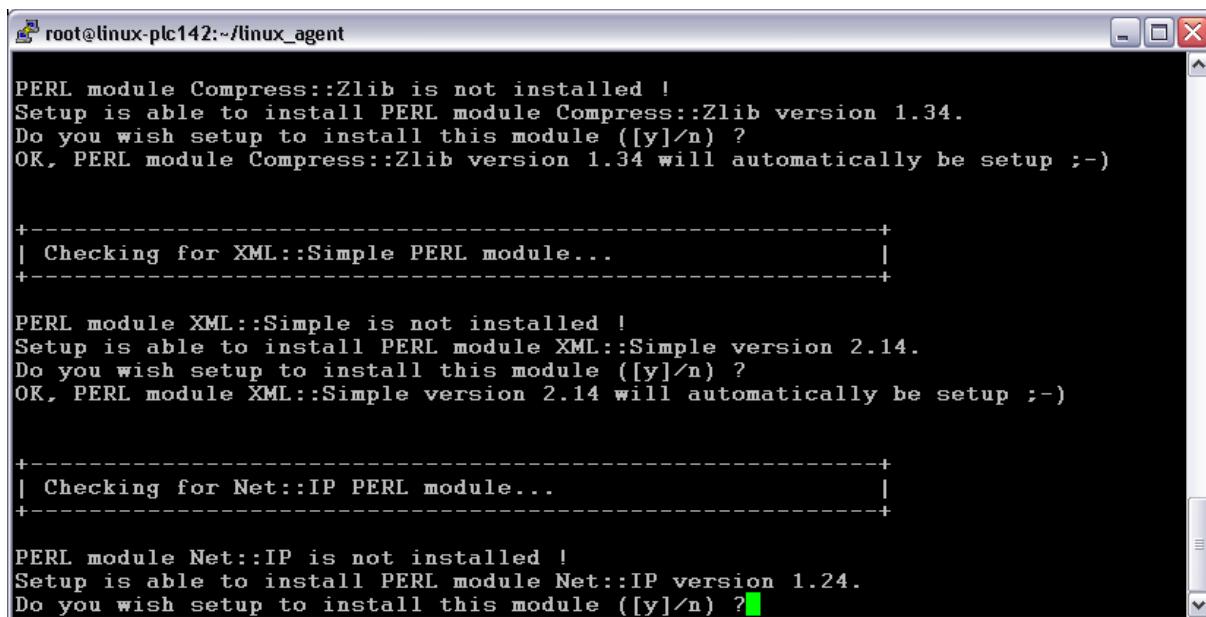
OK, Make utility found at </usr/bin/make> ;-)

+--+
| Checking for dmidecode binaries...
+--+

dmidecode binaries not found !
Setup is able to install dmidecode version 2.8.
Do you wish setup to install dmidecode ([y]/n) ?
OK, dmidecode version 2.8 will be automatically setup ;-)

+--+
| Checking for Compress::Zlib PERL module...
+--+

PERL module Compress::Zlib is not installed !
Setup is able to install PERL module Compress::Zlib version 1.34.
Do you wish setup to install this module ([y]/n) ?
```



```
root@linux-plc142:~/linux_agent
PERL module Compress::Zlib is not installed !
Setup is able to install PERL module Compress::Zlib version 1.34.
Do you wish setup to install this module ([y]/n) ?
OK, PERL module Compress::Zlib version 1.34 will automatically be setup ;-)

+-----+
| Checking for XML::Simple PERL module... |
+-----+

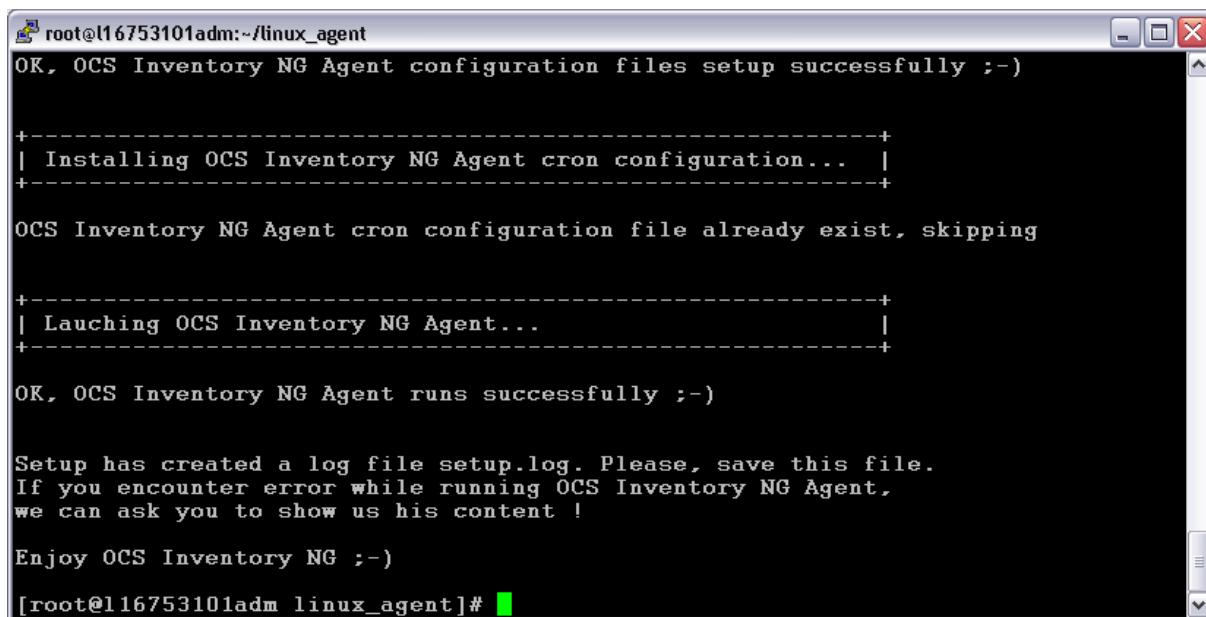
PERL module XML::Simple is not installed !
Setup is able to install PERL module XML::Simple version 2.14.
Do you wish setup to install this module ([y]/n) ?
OK, PERL module XML::Simple version 2.14 will automatically be setup ;-)

+-----+
| Checking for Net::IP PERL module... |
+-----+

PERL module Net::IP is not installed !
Setup is able to install PERL module Net::IP version 1.24.
Do you wish setup to install this module ([y]/n) ?
```

If all is OK, or you've chosen to install dependencies, setup will then do the following:

- ✓ Unpack, configure, build and install dmidecode if needed.
- ✓ Unpack, configure, build and install Compress::Zlib if needed.
- ✓ Unpack, configure, build and install XML::Simple if needed.
- ✓ Unpack, configure, build and install Net::IP if needed.
- ✓ Unpack, configure, build and install LWP (libwww-perl) if needed.
- ✓ Unpack, configure, build and install Digest::MD5 if needed.
- ✓ Unpack, configure, build and install Net::SSLeay if needed.
- ✓ Compile ipdiscover binary.
- ✓ Configure OCS Inventory NG agent PERL module.
- ✓ Build OCS Inventory NG agent PERL module.
- ✓ Install OCS Inventory NG agent PERL module into PERL standard library directories.
- ✓ Create a symbolic link “/usr/sbin/ocsinv” to run OCS Inventory NG agent manually.
- ✓ Create OCS Inventory NG agent’s log directory (/var/log/ocsinventory-NG by default).
- ✓ Configure daily log rotation for OCS Inventory NG agent (file /etc/logrotate.d/ocsinventory-client by default)
- ✓ Create OCS Inventory NG agent’s configuration file “ocsinv.conf” into “/etc/ocsinventory-client” directory
- ✓ Create OCS Inventory NG agent’s administrative information file “ocsinv.adm” into directory “/etc/ocsinventory-client” directory to store TAG and administrative data values.
- ✓ Create a cron task to launch OCS Inventory NG agent every day (default file “/etc/cron.d/ocsinventory-client”)
- ✓ Launch OCS Inventory NG agent to ensure all parameters are OK.



```
root@l16753101adm:~/linux_agent
OK, OCS Inventory NG Agent configuration files setup successfully ;-)

+---+
| Installing OCS Inventory NG Agent cron configuration... |
+---+

OCS Inventory NG Agent cron configuration file already exist, skipping

+---+
| Lauching OCS Inventory NG Agent... |
+---+

OK, OCS Inventory NG Agent runs successfully ;-)

Setup has created a log file setup.log. Please, save this file.
If you encounter error while running OCS Inventory NG Agent,
we can ask you to show us his content !

Enjoy OCS Inventory NG ;-)

[root@l16753101adm linux_agent]#
```

Here is a sample configuration file for OCS Inventory NG Linux agent.

```
<CONF>
<DEVICEID>computer.domain.tld-2006-02-27-13-59-47</DEVICEID>
<DMIVERSION>2.2</DMIVERSION>
<IPDISCOVER_VERSION>3</IPDISCOVER_VERSION>
<OCSFSERVER>my_ocs_com_server.domain.tld:80</OCSFSERVER>
</CONF>
```

Figure 5 : Sample agent's configuration file ocsinv.conf for a network connected computer.

4.2.3 Deploying agent through scripted installation without user interaction.

Download “OCSNG_LINUX_AGENT_1.0.tar.gz” from OCS Inventory Web Site.

Unpack it.

✓ tar -xvzf OCSNG_LINUX_AGENT_1.0.tar.gz

Run “setup.sh” installer with the following command line arguments:

✓ cd OCSNG_LINUX_AGENT_1.0
✓ sh setup.sh <SETUP DEPENDENCIES> <SERVER ADDRESS> [<SERVER PORT><TAG VALUE>]

where parameters values are:

- ✓ <SETUP DEPENDENCIES> must be “1” if want to enable automatic setup of missing dependencies, “0” to disable (setup will fail if there is missing dependency).
- ✓ <SERVER ADDRESS> must be the IP address or DNS name of OCS Inventory NG Communication server. If you plan to setup agent in local mode in a non network connected computer, you must set <SERVER ADDRESS> to “local”.
- ✓ <SERVER PORT> may be OCS Inventory NG Communication server port if you’re not using standard HTTP port 80.
- ✓ <TAG VALUE> may be the value of TAG, between quotes.

Command line parameters <SETUP DEPENDENCIES> and <SERVER ADDRESS> are required. The other parameters are optional, but if you wish to set <TAG VALUE>, you must also specify previous optional parameter <SERVER PORT>.

Example:

- ✓ **sh setup.sh 1 ocsng.domain.tld** will setup agent, installing missing dependencies if needed, and connecting to OCS Inventory NG Communication Server “ocsng.domain.tld”
- ✓ **sh setup.sh 0 ocsng.domain.tld 8080** will setup agent, without installing missing dependencies, and connecting to OCS Inventory NG Communication Server “ocsng.domain.tld” on port 8080
- ✓ **sh setup.sh 0 192.168.1.2 80 “my tag value”** will setup agent, without installing missing dependencies, and connecting to OCS Inventory NG Communication Server “192.168.1.2” on port 80, and setting TAG to “my TAG value”.

NB: installer writes a log file “ocs_agent_setup.log” in the same directory. If you encounter any error, please refer to this log for detailed error message.

4.2.4 Agent’s command line switches

If you encounter error, agent’s produce a log file in directory “/var/log/ocsinventory-client”.

However, agent’s also support some command line switches. You can use them while launching the agent manually using “ocsinv” command:

| Agent’s command line switch | Meaning |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -local | Runs the agent in local mode, without any connection to communication server. You will be prompted for a target directory where agent will put inventory results in XML compressed file with “.ocs” extension. |

| Agent's command line switch | Meaning |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -xml | Agent will create a non compressed XML file with “.ocs” extension, containing inventory results. You will be prompted for a target directory where agent will put the file. If not used in conjunction with -local, agent tries to connect to communication server. |
| -nosoft | Do not search for installed software. |
| -tag=”my tag value” | Set agent setting TAG value to “my TAG value”. |
| -force | Force agent to always send inventory results, independently of the FREQUENCY parameter. |
| -info | Show a detailed output of agent runs. |
| -debug | Force agent to produce a more detailed log file, showing XML exchange with communication server. |

5 Querying inventory results.

Point your browser to the URL “http://administration_server/ocsreports” and login into Administration console (default credentials are “admin” as login and “admin” as password).

The screenshot shows the OCS Inventory Next Generation Administration console interface. At the top, there is a menu bar with options like Fichier, Edition, Affichage, Aller à, Marque-pages, Outils, and Help. The title bar reads "OCS Inventory - Mozilla Firefox". The main area displays a table of computer inventory results. The columns are: Tag, Last inventory, Computer, User, Operating system, Ram(MO), and CPU(MHz). There are 91 results shown, with a "Download" link available. Below the table, there is a "Mass processing" section with buttons for Frequency, Deploy, and Delete. Navigation links at the bottom include "1 7 >>".

| Tag | Last inventory | Computer | User | Operating system | Ram(MO) | CPU(MHz) |
|-------|---------------------|----------|----------------|----------------------------------------|---------|----------|
| [Red] | 07/06/2006 22:45:41 | [Red] | root | Linux | 1011 | 2790 |
| [Red] | 06/29/2006 23:49:39 | [Red] | | Microsoft Windows XP Professional | 512 | 2079 |
| [Red] | 01/20/2006 17:28:19 | [Red] | Administrateur | Microsoft Windows XP Professional | 1024 | 2793 |
| [Red] | 01/20/2006 16:54:13 | [Red] | | Microsoft Windows XP Professional | 1024 | 2399 |
| [Red] | 01/20/2006 15:15:26 | [Red] | | Microsoft Windows 2000 Server | 1024 | 2391 |
| [Red] | 01/20/2006 15:09:52 | [Red] | | Microsoft Windows XP Professional | 1024 | 2793 |
| [Red] | 01/20/2006 15:05:06 | [Red] | | Microsoft Windows XP Professional | 512 | 2394 |
| [Red] | 01/20/2006 14:55:57 | [Red] | Administrateur | Microsoft Windows 2000 Server | 1024 | 2394 |
| [Red] | 01/20/2006 12:54:51 | [Red] | Administrateur | Microsoft Windows 2000 Server | 512 | 1393 |
| [Red] | 01/20/2006 11:09:50 | [Red] | Administrateur | Microsoft Windows 2000 Advanced Server | 2048 | 2660 |
| [Red] | 01/20/2006 11:05:37 | [Red] | | Microsoft Windows XP Professional | 512 | 1729 |
| [Red] | 01/20/2006 11:03:43 | [Red] | | Microsoft Windows XP Professional | 1024 | 2399 |
| [Red] | 01/20/2006 09:55:29 | [Red] | | Microsoft Windows XP Professional | 1024 | 2399 |
| [Red] | 01/20/2006 09:54:43 | [Red] | | Microsoft Windows XP Professional | 512 | 798 |
| | 01/20/2006 09:44:31 | [Red] | | Microsoft Windows ME Professional | 1024 | 2399 |

You must use top left menu to run predefined queries.



To view all computers



To view Computer/TAG repartition



To search computers with various criteria

For all these queries, you can customize view by adding or removing columns, or changing the numbers of lines per page to display. All these customizations are saved by user, between connections. This means that when you will come back to OCS Inventory NG Administration console, your settings will be restored as there were in your last visit.

NB: Computers marked with a red bull at beginning of line are computers with specific customization parameters. They may have specific inventory frequency, ipdiscover status or have package deployment affected.

5.1 All computers.

This query will allow you to display all inventoried computers. Computers marked with a red balloon at the beginning of line are those which have specific customization options.

Just click on a computer name to open his properties in a new browser window.



The screenshot shows a Mozilla Firefox browser window displaying the OCS Inventory NG Administration interface. The main content area shows a table of computer properties:

| | | | |
|-----------------|---------------------|------------------|-------------------------------|
| Name: | [REDACTED] | OS Name: | Microsoft Windows 2000 Server |
| Domain: | [REDACTED] | OS Version: | 5.0.2195 |
| Last inventory: | 06/30/2006 15:59:17 | Service pack: | Service Pack 4 |
| IP address: | [REDACTED] | Comments: | [REDACTED] |
| User: | administrateur | Windows user: | [REDACTED] |
| Memory: | 1024 | Windows licence: | 52340-270-3870987-05459 |
| Swap: | 2450 | Cle Windows: | |
| Network name 1: | [REDACTED] | User agent: | OCS-NG_windows_client_v4014 |
| Network name 2: | [REDACTED] | | |

Below the table, there is a section titled "Description: Logistique - Contrôle leur Domaine - Antivirus" followed by a row of 15 small icons representing various system components. At the bottom left is a "Update" button, and at the bottom right are links for "Print this page" and "Show everything".

-93 - Mozilla Firefox

Fichier Edition Affichage Aller à Marque-pages Outils ?

OCS Inventory -93

| | | | |
|-----------------|---------------------|------------------|-------------------------------|
| Name: | [REDACTED] | OS Name: | Microsoft Windows 2000 Server |
| Domain: | [REDACTED] | OS Version: | 5.0.2195 |
| Last inventory: | 06/30/2006 15:59:17 | Service pack: | Service Pack 4 |
| IP address: | [REDACTED] | Comments: | [REDACTED] |
| User: | administrateur | Windows user: | [REDACTED] |
| Memory: | 1024 | Windows licence: | 52340-270-3870987-05459 |
| Swap: | 2450 | Clé Windows: | |
| Network name 1: | [REDACTED] | User agent: | OCS-NG_windows_client_v4014 |
| Network name 2: | [REDACTED] | | |

Description: Logistique - Contrôleleur Domaine - AntiVirus

Icons: Firewall, Network, Disk, CPU, Monitor, Printer, Scanner, File, Database, User, Group, Task, Application, Network Card.

Update

| Information | Value |
|-------------|------------|
| Tag | [REDACTED] |

| | | |
|----------------------------|------------------------------------------|-----------------------|
| IpDiscover behaviour | ELECTED IpDiscover of network [REDACTED] | Update |
| Custom inventory frequency | Default, uses the 'FREQUENCY' parameter. | Update add package |

PROCESSOR(S)

| Type | Processor Speed (Mhz) | Number |
|-------------------------------|-----------------------|--------|
| Intel(R) Xeon(TM) CPU 2.40GHz | 2394 | 2 |

MEMORY

| Caption | Description | Capacity (MB) | Purpose | Type | Speed | Slot number |
|------------------|-----------------------|---------------|---------------|---------|-------|-------------|
| Mémoire physique | DIMM1 (Multi-bit ECC) | 256 | System Memory | Unknown | N/A | 1 |
| Mémoire physique | DIMM2 (Multi-bit ECC) | 256 | System Memory | Unknown | N/A | 2 |
| Mémoire physique | DIMM3 (Multi-bit ECC) | 256 | System Memory | Unknown | N/A | 3 |
| Mémoire physique | DIMM4 (Multi-bit ECC) | 256 | System Memory | Unknown | N/A | 4 |

STORAGE

-93 - Mozilla Firefox

Fichier Edition Affichage Aller à Marque-pages Outils ?

OCS Inventory -93

STORAGE

| Manufacturer | Model | Description | Type | Disk size (MB) |
|-----------------------------------|-----------------------|-----------------------|-----------------------|----------------|
| (Lecteurs de disquettes standard) | Lecteur de disquettes | Lecteur de disquettes | | 0 |
| (Lecteurs de disque standard) | //./PHYSICALDRIVE0 | Lecteur de disque | Fixed hard disk media | 34707 |
| (Lecteurs de disque standard) | //./PHYSICALDRIVE1 | Lecteur de disque | Fixed hard disk media | 210010 |
| (Lecteurs de CD-ROM standard) | LG CD-ROM CRN-8245B | Lecteur de CD-ROM | CD-ROM | 0 |

DISK(S)

| Letter | Type | File System | Total (MB) | Free (MB) |
|--------|-----------------|-------------|------------|-----------|
| A:/ | Removable Drive | N/A | 0 | 0 |
| C:/ | Hard Drive | NTFS | 34652 | 27225 |
| D:/ | Hard Drive | NTFS | 210010 | 57897 |
| E:/ | CD-Rom Drive | N/A | 0 | 0 |

BIOS

| Serial number | Manufacturer | Model | BIOS Manufacturer | BIOS Version | BIOS Date |
|---------------|--------------|---------------------------------|-------------------|---------------------------------------------|-----------|
| KBKLH42 | IBM | eserver xSeries 345 -[867031X]- | IBM | 08/18/04- SMBiosVersion: -[GEE157DUS-1.17]- | N/A |

VIDEO CARD

| Name | Chipset | Memory (MB) | Resolution |
|-------------|-----------------------|-------------|------------|
| RAGE XL PCI | ATI RAGE XL PCI (B41) | 8 | 1024 x 768 |

INPUT DEVICES

| Type | Manufacturer | Caption | Description | Interface |
|----------|--------------|-----------------------------|-----------------------------------------------------------------------------|-----------|
| Keyboard | | Étendu (101 ou 102 touches) | Clavier standard 101/102 touches ou clavier Microsoft Natural Keyboard PS/2 | N/A |
| Pointing | Microsoft | Souris compatible PS/2 | Souris compatible PS/2 | PS/2 |

MONITOR(S)

| Manufacturer | Caption | Manufactured on (week/year) | Type | Serial number |
|-------------------------------|---------|-----------------------------|-----------|---------------|
| Unknown manufacturer code AVO | | | RGB color | |

NETWORK(S)

-93 - Mozilla Firefox

Fichier Edition Affichage Aller à Marque-pages Outils ?

OCS Inventory -93

NETWORK(S)

| Description | Type | Speed | MAC address | Status | IP address | mask | Gateway | Network number | DHCP IP |
|---------------------------------------------------|----------|----------|-------------------|--------|--------------|---------------|---------------|----------------|-----------------|
| Intel(R) PRO/1000 MT Dual Port Network Connection | Ethernet | 1 Gb/s | 00:09:6B:09:42:A5 | Up | 55.37.132.51 | 255.255.255.0 | | 55.37.132.0 | 255.255.255.255 |
| Intel(R) PRO/1000 MT Dual Port Network Connection | Ethernet | 100 Mb/s | 00:09:6B:09:42:A4 | Up | 55.37.110.2 | 255.255.254.0 | 55.37.110.254 | 55.37.110.0 | 255.255.255.255 |

PORT(S)

| Type | Name | Free | Description |
|--------|------------------------------|------------------------------|-----------------------|
| Serial | Port de communication (COM1) | Port de communication (COM1) | Port de communication |

CONTROLLER(S)

| Manufacturer | Name | Type |
|-------------------------------------------------|-----------------------------------------------------|-------------------|
| (Contrôleurs de lecteur de disquettes standard) | Contrôleur de lecteur de disquettes standard | Floppy Controller |
| (Contrôleurs ATA/ATAPI IDE standard) | Contrôleur IDE standard double canal PCI | IDE Controller |
| (Contrôleurs ATA/ATAPI IDE standard) | Canal IDE principal | IDE Controller |
| (Contrôleurs ATA/ATAPI IDE standard) | Canal IDE secondaire | IDE Controller |
| Adaptec | Adaptec SCSI Card 29160LP Low Profile Ultra160 SCSI | SCSI Controller |
| IBM Corporation | IBM ServeRAID 5i Controller | SCSI Controller |
| (Contrôleur hôte USB standard) | Contrôleur hôte USB OpenHCD standard | USB Controller |

SLOT(S)

| Name | Description | Designation |
|--------------------|--------------------|-------------|
| Connecteur système | Connecteur système | PCI Slot 1 |
| Connecteur système | Connecteur système | PCI Slot 2 |
| Connecteur système | Connecteur système | PCI Slot 3 |
| Connecteur système | Connecteur système | PCI Slot 4 |
| Connecteur système | Connecteur système | PCI Slot 5 |

SOFTWARE

| Editor | Name | Version | Click to edit |
|--------|------------------------------------------------------|---------|---------------|
| N/A | AccessMaster OpenMaster Workgroup File Server V2 6.0 | N/A | N/A |
| N/A | ATI Display Driver | N/A | N/A |
| N/A | Command Prompt Here PowerToy | N/A | N/A |

-93 - Mozilla Firefox

Fichier Edition Affichage Aller à Marque-pages Outils ?

OCS Inventory -93

| | | | |
|----------------------------|-----------------------------------------------------------------------------------|-----------------|--------------------------------------------|
| Microsoft Corporation | Correctif pour le Lecteur Windows Media [Voir wrm828026 pour plus d'informations] | N/A | N/A |
| Microsoft Corporation | Internet Explorer Q903235 | N/A | N/A |
| N/A | Explore From Here (Remove only) | N/A | N/A |
| Symantec Corporation | Symantec System Center | 10.1.394.0 | N/A |
| N/A | TreeComp | N/A | N/A |
| N/A | Tweak UI | N/A | N/A |
| Microsoft Corporation | Correctif cumulatif 1 pour Windows 2000 SP4 | 20050602.215753 | N/A |
| N/A | Microsoft VGX Q833989 | N/A | N/A |
| Andrew Delpha | WinNUT | WinNUT 2.0.0a | N/A |
| N/A | AccessMaster AM Workgroup File Server V1 6.0 | N/A | N/A |
| Symantec | Symantec Collector Framework | 02.4.0059 | |
| Legato Systems, Inc. | NetWorker | 7.0 | C:/Program Files/Legato/nsr/ |
| Symantec Corporation | Reporting Agents (Symantec Corporation) | 1.0.197.0 | C:/Program Files/Fichiers communs/ |
| Microsoft Corporation | Microsoft SQL Server Desktop Engine (SAVRPT) | 8.00.2039 | |
| N/A | Environnement d'exécution Java 2, Standard Edition v1.3.1_09 | N/A | N/A |
| Microsoft Corporation | Windows Update Agent Self update | 1.1.1.1 | |
| Symantec | Symantec Ghost Standard Tools | 80.00.984 | C:/Program Files/Symantec/Ghost/ |
| Symantec Corporation | Symantec AntiVirus | 10.1.394.0 | C:/Program Files/SAV/ |
| Adobe Systems Incorporated | Adobe Reader 6.0 - Français | 6.0 | C:/Program Files/Adobe/Acrobat 6.0/Reader/ |
| Symantec Corporation | Symantec System Center | 10.1.394.0 | |
| Microsoft Corporation | Outils d'administration Windows 2000 | 5.0.0.0000 | |
| N/A | Java 2 SDK Standard Edition v1.3.1_09 | N/A | N/A |
| Microsoft | Microsoft .NET Framework 1.1 | 1.1.4322 | |
| Symantec Corporation | AMS | 10.0.0.0 | C:/PROGRA~1/SAV/ |
| Microsoft Corporation | Microsoft SQL Server Desktop Engine | 8.00.2039 | |
| Microsoft Corporation | Microsoft Windows 2000 Server | 5.0.2195 | N/A |

REGISTRY

| Key name | Key value |
|----------------------------------------------------|---------------------------------------------------------------------|
| HKLM\Software\Microsoft\Windows\CurrentVersion\Run | AtiPTA=Atiptaxx.exe |
| HKLM\Software\Microsoft\Windows\CurrentVersion\Run | Tweak UI=RUNDLL32.EXE TWEAKUI.CPL,TweakMeUp |
| HKLM\Software\Microsoft\Windows\CurrentVersion\Run | ccApp="C:/Program Files/Fichiers communs/Symantec Shared/ccApp.exe" |
| HKLM\Software\Microsoft\Windows\CurrentVersion\Run | vptray=C:/PROGRA~1/SAV/Vptray.exe |

Update

| Information | Value |
|-------------|------------|
| Tag | [REDACTED] |

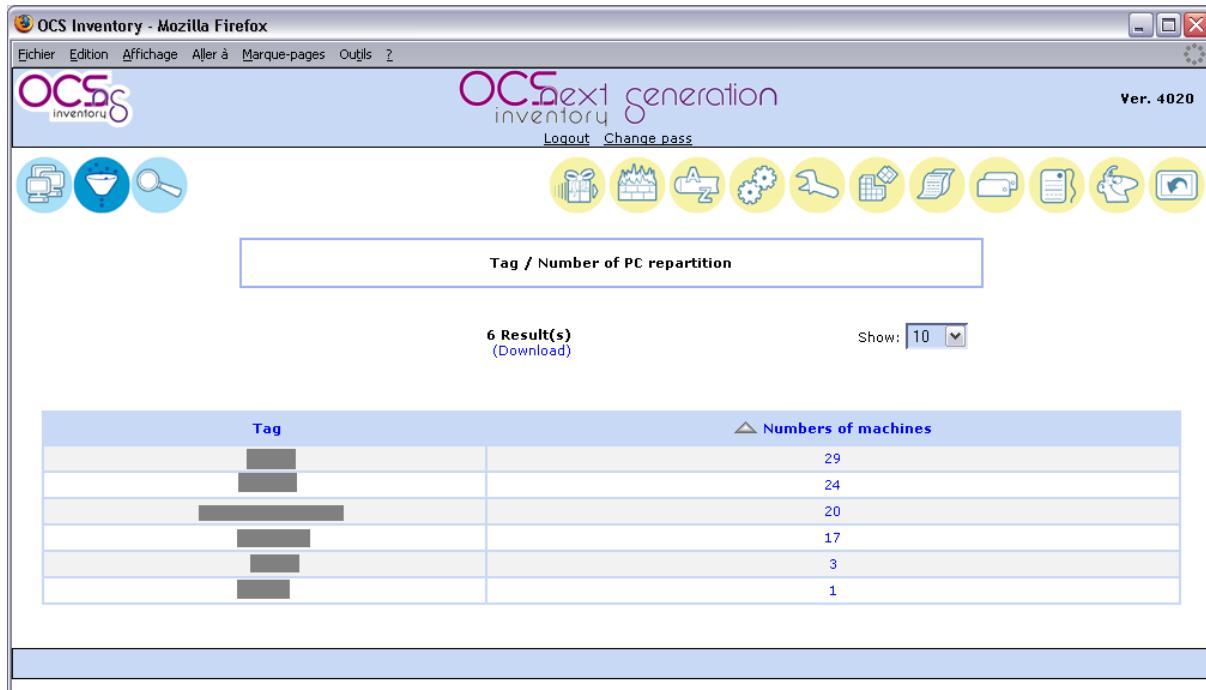
[Print this page](#)

- ✓ Top banner - Display the general information for the current device
- ✓ Links section – Just click on the appropriate link to display the corresponding information.
- ✓ Bottom section – Use “show everything” to display all sections. To print the currently displayed information, use “print this page”.
- ✓ Special section Administrative data – Use this section to display the administrative information of the device. This page fits with your settings in “admininfo” tab. Use the “update” button to change values.
- ✓ Special section Customization – Use this section to customize configuration option for individual computer. You can also select here package to deploy on a particular computer.

5.2 TAG / number of PC repartition.

This query allow you to display all machine grouped by TAG account info. Click on the computers count to retrieve the corresponding devices.

For example, if you've choose to set your TAG information to reflect your geographical sites, this will display the number of computer in each different site.



5.3 Search with various criteria.

This query allows you to search for computers having specific feature.

The screenshot shows the OCS Inventory Next Generation web interface. At the top, there's a navigation bar with links for Fichier, Edition, Affichage, Aller à, Marque-pages, Outils, and ?. Below the navigation is the OCS inventory logo and the text "OCS next generation". There are "Logout" and "Change pass" links. A row of yellow circular icons with blue symbols represents different system components like CPU, RAM, and storage. Below these are two rows of smaller icons. A search bar with the placeholder "Search with various criteria" is centered. Underneath it is a table titled "Choose a parameter:" with a dropdown menu set to "Choose". The table lists several parameters with their current values and dropdown menus for modification:

| | | | | |
|---------------------------------------------|-------------------|--------|-------------|----|
| <input type="checkbox"/> Enabled | BIOS Manufacturer | EQUALS | | |
| <input type="checkbox"/> Enabled | Gateway | EQUALS | | |
| <input type="checkbox"/> Enabled | Manufacturer | EQUALS | | |
| <input type="checkbox"/> Enabled | Memory | EQUALS | -- | MO |
| <input type="checkbox"/> Enabled | Model | EQUALS | | |
| <input checked="" type="checkbox"/> Enabled | Operating system | EQUALS | LINUX (all) | |
| <input type="checkbox"/> Enabled | Serial number | EQUALS | | |

A "Search" button is located at the bottom right of the search area. Below the search area, a note says "Jokers: ? (one character), * (several characters)".

You can add new parameter to the search by dropping down the combo-box and selecting him in the list.

Default search parameters are:

- ✓ BIOS Manufacturer
- ✓ BIOS Version
- ✓ Computer name
- ✓ Customized IpDiscover
- ✓ Deployment Package
- ✓ Description
- ✓ Domain
- ✓ Free Disk Space
- ✓ Inventory Frequency
- ✓ Gateway
- ✓ IP Address
- ✓ IpDiscover Status
- ✓ Last Inventory
- ✓ MAC Address
- ✓ System Manufacturer
- ✓ Memory
- ✓ System Model

- ✓ Monitor Caption
- ✓ Monitor Manufacturer
- ✓ Monitor Serial Number
- ✓ Network Number
- ✓ Operating System
- ✓ Processor Speed
- ✓ Registry Key Value
- ✓ System Serial Number
- ✓ Software
- ✓ Tag value
- ✓ User logged in
- ✓ User agent (show OCS NG agent version)
- ✓ And all the administrative information you've defined.

For each parameter, you can use one of the following comparison operators, depending of the parameter you've selected:

- ✓ EQUAL
- ✓ DIFFERENT
- ✓ SMALLER
- ✓ BIGGER
- ✓ BETWEEN
- ✓ OUT OF

NB: Don't forget to enable the parameter in the search!

OCS Inventory - Mozilla Firefox

Fichier Edition Affichage Aller à Marque-pages Outils ?

OCSnext generation

Ver. 4020

Logout Change pass

Search with various criteria

15 Result(s) (Download) Show: 10 Add column Reset

1 ... 2 >>

| Tag | Last inventory | Computer | User | Operating system | Ram(MO) | CPU(MHz) |
|------------|---------------------|------------|------------|-------------------------------------------------------------------------|---------|----------|
| [redacted] | 06/30/2006 17:25:10 | [redacted] | | Linux | 3010 | 2661 |
| [redacted] | 06/30/2006 15:58:14 | [redacted] | | Linux(Redhat / Red Hat Linux Advanced Server release 2.1AS (Pensacola)) | 498 | 1794 |
| [redacted] | 06/30/2006 08:49:42 | [redacted] | | Linux(Redhat / Red Hat Linux release 7.3 (Valhalla)) | 881 | 2395 |
| [redacted] | 06/30/2006 07:21:34 | [redacted] | root | Linux(Redhat / Red Hat Linux Advanced Server release 2.1AS (Pensacola)) | 3017 | 3060 |
| [redacted] | 06/30/2006 07:15:09 | [redacted] | | Linux(Redhat / Red Hat Enterprise Linux ES release 3 (Taroon Update 3)) | 3010 | 2661 |
| [redacted] | 06/30/2006 05:29:59 | [redacted] | root | Linux(Redhat / Red Hat Enterprise Linux ES release 3 (Taroon Update 4)) | 2007 | 2667 |
| [redacted] | 06/30/2006 03:40:34 | [redacted] | | Linux(Redhat / Red Hat Linux Advanced Server release 2.1AS (Pensacola)) | 248 | 2399 |
| [redacted] | 06/30/2006 01:24:54 | [redacted] | | Linux(Redhat / Red Hat Linux Advanced Server release 2.1AS (Pensacola)) | 500 | 2399 |
| [redacted] | 06/30/2006 00:50:41 | [redacted] | [redacted] | Linux(Redhat / Red Hat Enterprise Linux ES release 3 (Taroon Update 4)) | 4004 | 2661 |
| [redacted] | 06/29/2006 21:56:44 | [redacted] | [redacted] | Linux(Redhat / Red Hat Enterprise Linux ES release 3 (Taroon Update 4)) | 4003 | 2661 |

Mass processing: Frequency Deploy Delete

1 ... 2 >>

NB: You can search for how many software as you want in one search query. This mean that you can search for computers having software1 and software2 and... Unlike software field, all others fields can only be specified one time in a search query.

6 Administration of OCS Inventory NG.

Point your browser to the URL “http://administration_server/ocsreports” and login into Administration console (default credentials are “admin” as login and “admin” as password).

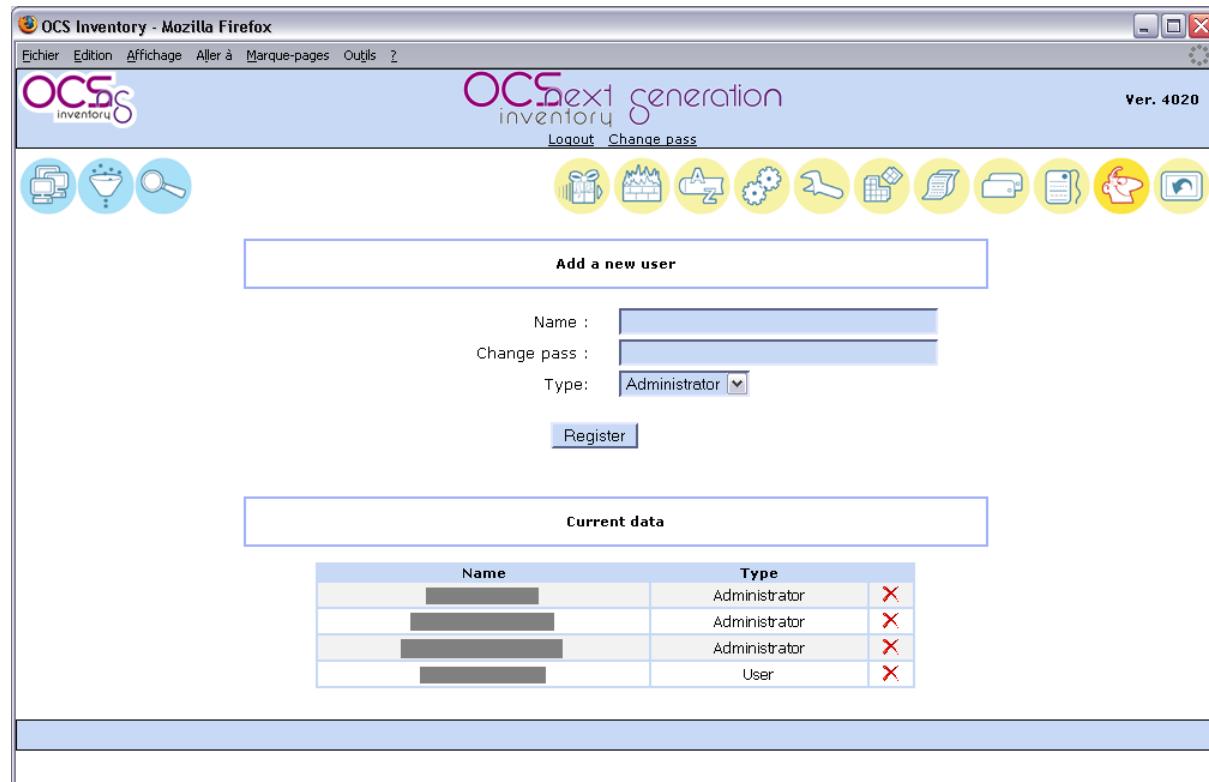
You may at least change the password of the default administrator, or better, add a new one and remove the default one.

NB: All these features are only available to OCS Inventory NG administrators.

6.1 Managing OCS Inventory NG Administration server users.



Click on the toolbar “Users” menu to display all configured OCS Inventory NG Administration server users.



The screenshot shows the OCS Inventory NG Administration interface in Mozilla Firefox. The title bar reads "OCS Inventory - Mozilla Firefox". The main header says "OCS next generation inventory Ver. 4020". The top navigation bar includes "Logout" and "Change pass". Below the header is a toolbar with various icons. A large blue rectangular box contains the "Add a new user" form. It has fields for "Name", "Change pass", and "Type" (set to "Administrator"). A "Register" button is below the form. Another blue box labeled "Current data" contains a table of existing users:

| Name | Type |
|------------|---------------|
| [REDACTED] | Administrator |
| [REDACTED] | Administrator |
| [REDACTED] | Administrator |
| [REDACTED] | User |

You can add new users by entering their name, password (user will be able to change it when logged in), and selecting their type. You can choose between:

- ✓ Administrator: user has the ability to configure all parameters of the product.

- ✓ User: user can only query the database and view results of inventory. It just has the top left Combo-box of menu toolbar to run general queries.

To delete a user, just click on red cross at the end of the corresponding line.

6.2 *Managing OCS Inventory NG general options.*



Click on the toolbar “Config” menu to display all general options.

| Name | Value | Name | Value |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUTO_DUPLICATE_LVL | <input checked="" type="checkbox"/> Serial <input type="checkbox"/> hostname <input checked="" type="checkbox"/> macaddress | DEPLOY | <input checked="" type="radio"/> ON <input type="radio"/> OFF |
| DOWNLOAD | <input checked="" type="radio"/> ON <input type="radio"/> OFF | DOWNLOAD_CYCLE_LATENCY | 60 <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="+"/> <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="-"/> |
| DOWNLOAD_FRAG_LATENCY | 10 <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="+"/> <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="-"/> | DOWNLOAD_PERIOD_LATENCY | 0 <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="+"/> <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="-"/> |
| DOWNLOAD_PERIOD_LENGTH | 10 <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="+"/> <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="-"/> | DOWNLOAD_TIMEOUT | 30 <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="+"/> <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="-"/> |
| FREQUENCY | <input checked="" type="radio"/> ALWAYS <input type="radio"/> NEVER <input type="radio"/> CUSTOM | INVENTORY_DIFF | <input checked="" type="radio"/> ON <input type="radio"/> OFF |
| INVENTORY_TRANSACTION | <input checked="" type="radio"/> ON <input type="radio"/> OFF | IPDISCOVER | <input checked="" type="radio"/> ON <input type="radio"/> OFF <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="2"/> <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="+"/> <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="-"/> |
| IPDISCOVER_LATENCY | 100 <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="+"/> <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="-"/> | IPDISCOVER_MAX_ALIVE | 5 <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="+"/> <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="-"/> |
| LOCAL_PORT | 80 <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="+"/> <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="-"/> | LOCAL_SERVER | http://localhost |
| LOGLEVEL | <input checked="" type="radio"/> ON <input type="radio"/> OFF | PROLOG_FREQ | 10 <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="+"/> <input style="width: 20px; height: 20px; margin-left: 10px;" type="button" value="-"/> |
| REGISTRY | <input checked="" type="radio"/> ON <input type="radio"/> OFF | TRACE_DELETED | <input checked="" type="radio"/> ON <input type="radio"/> OFF |
| UPDATE | <input type="radio"/> ON <input checked="" type="radio"/> OFF | | |

Here is the meaning of each option:

| Configuration option | Meaning |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUTO_DUPLICATE_LVL | Choose what value you want to enable to detect double computers (renamed, reinstalled...). If you check multiple values, server will try to detect double comparing these values. |
| DEPLOY | Activates or not the automatic deployment of new agent release option. |
| DOWNLOAD | Activates or not package deployment feature. Turning off DOWNLOAD stop this functionnality on the server AND on the agents. With DOWNLOAD off, once agents will have contacted OCS server, they will stop current download WITHOUT cleaning packages. |
| DOWNLOAD_CYCLE_LATENCY | Time in seconds to wait between each downalod cycle (cf § 8.1 How does it work?) |
| DOWNLOAD_FRAG_LATENCY | Time in seconds to wait between each fragment download (cf § 8.1 How does it work?) |
| DOWNLOAD_PERIOD_LATENCY | Time in seconds to wait between each download period (cf § 8.1 How does it work?) |
| DOWNLOAD_PERIOD_LENGTH | Number of cycles per period (cf § 8.1 How does it work?) |
| DOWNLOAD_TIMEOUT | Validity in days of a package on an agent. If the time used to download a package is over DOWNLOAD_TIMEOUT days, package will be cleaned and ERR_TIMEOUT will be sent to ocs server. |
| FREQUENCY | Specify the frequency in days of inventories. |
| INVENTORY_DIFF | Enable or not differential inventory to speed up the server. With differential inventory, only changes are stored by the server, not full inventory. |
| INVENTORY_TRANSACTION | Enable or not transaction on server. With transaction, an inventory is stored only if all data have been processed correctly. |
| IPDISCOVER | Specify the number of agent to ask running IP discovery feature for each gateway (sub network). If you leave the default value 2, this mean that the Communication server will ask the 2 most active computers of each sub network to run IP discovery feature. If you set it to 0, IP discovery will be disabled. |
| IPDISCOVER_LATENCY | Time in seconds to wait between scan of each IP address. (cf § 7.2 How does it work?) |
| IPDISCOVER_MAX_ALIVE | Maximum number of days between two inventories for an IP Discovery enabled computer to hold his status of IP discovery computer. An IP discovery enabled computer will lose his status if it has not been seen by the Communication server for more days than the number of days defined in this setting. Another computer in the same sub network will then be designated. |

| Configuration option | Meaning |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOCAL_PORT | IP port of OCS Inventory NG Communication Server. |
| LOCAL_SERVER | IP address or DNS name of OCS Inventory NG Communication Server. |
| LOGLEVEL | Enable or not detailed log for Communication server. If enabled, server will write logs to file “ocsinventory-NG.log” in directory “/var/log/ocsinventory-NG” for Linux and “...\\xampp\\apache\\logs” for Windows. |
| PROLOG_FREQ | Number of hours between two run of the agent (useful for the service). Therefore, the agent will contact (not necessary send an inventory if inventory is not older than FREQUENCY days) ocs server every PROLOG_FREQ hours. |
| REGISTRY | Activates or not the registry query function (for Windows agent only). |
| TRACE_DELETED | Activates or not tracking of deleted/rename computers for integration with GLPI. Enable this feature only if you use integration with GLPI asset management software. |
| UPDATE | Not used, always set to OFF. |

Click “Update” button when you set all changes.

6.3 Uploading Agent for deployment through launcher “OcsLogon.exe”.

This feature works only for network connected computers able to connect to the Communication server.

OCS Inventory NG is able to automatically install agent on computers when launcher “OcsLogon.exe” is used through login script or GPO. Agent’s files are downloaded from the Communication server.

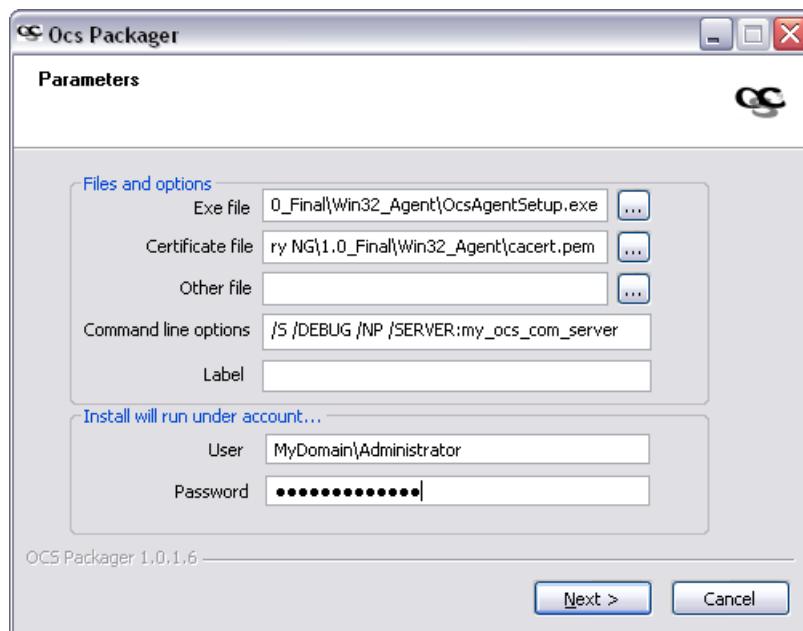
You just have to upload the agent package into the Administration console and to activate the deployment feature by setting “DEPLOY” general option to ON (see § 6.2 Managing OCS Inventory NG general options.).

Uploaded file must be one of the following:

- ✓ “ocsagent.exe” file for Windows agent, to deploy Agent without Windows service. This file is included in package OCSNG_WIN32_AGENT_XX.zip.
- ✓ “ocspackage.exe” file, created using OCS Inventory NG Packager, to deploy Windows service version of Agent, even if user connected does not have Administrator privileges.

To create “ocspackage.exe” file, just run OCS Inventory NG Packager, and fill in following informations:

- ✓ Path to file “OcsAgentSetup.exe”, installer of OCS Inventory NG service Agent, included in package OCSNG_WIN32_AGENT_XX.zip.
- ✓ Path to the Certificate file to use, for checking server certificate when using package deployment feature.
- ✓ Optionally, another file to include in setup.
- ✓ Command line parameters for running “OcsAgentSetup.exe” service installer, at least “/S” to run installer in silent mode, and “/SERVER:my_ocs_com_server_address” to specify “my_ocs_com_server” as address of OCS Inventory NG Communication Server.
- ✓ Username and password of an Administrator account on client computers. “OcsAgentSetup.exe” will be run under this account on client computers, to allow installing service even if user connected does not have Administrator privileges.



NB: Refer to OCS Inventory NG Packager documentation for more informations on how to use Packager.

“OcsAgentSetup.exe” supports the following command line parameters (and all Agent’s parameters defined in § 4.1.5 Agent’s command line switches):

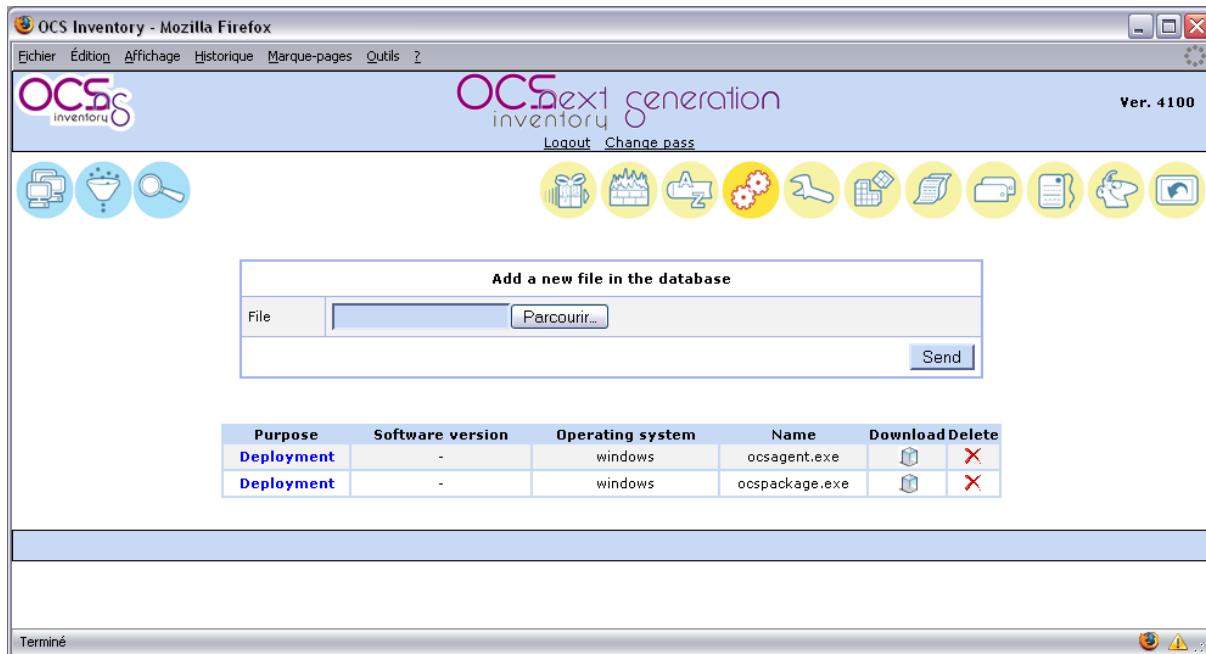
- ✓ **/S** Use quiet, silent installation
- ✓ **/SERVER:IP_ADDRESS** Use Communication Server address “IP_ADDRESS”
- ✓ **/PNUM:XX** Use port XX instead of default HTTP port 80.
- ✓ **/NP** Do not use Microsoft Internet Explorer Proxy settings
- ✓ **/DEBUG** Produce a log file of OCS Inventory NG agent execution. This mode is automatically used under Windows to launch agent as a service through an entry in registry

HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\RunServices.

This will create the file “ocspackage.exe” to upload into Administration console.



Click “Agent” toolbar menu, browse your hard drive to select agent file and click “send” button.



The screenshot shows the OCS Inventory Next Generation administration interface. At the top, there's a toolbar with various icons. Below the toolbar, a message box says "Add a new file in the database". It has a "File" input field and a "Parcourir..." (Browse...) button. To the right of the input field is a "Send" button. Below this, there's a table listing uploaded files:

| Purpose | Software version | Operating system | Name | Download | Delete |
|------------|------------------|------------------|----------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Deployment | - | windows | ocsagent.exe |  |  |
| Deployment | - | windows | ocspackage.exe |  |  |

At the bottom of the interface, there's a status bar with the word "Terminé" (Completed) and some small icons.

NB: If you encounter error while uploading agent, refer to common errors § 11.2.3 PHP Requested content-length.)

6.4 Using Registry Query feature.

OCS Inventory NG agent for Windows is able to query the registry of inventoried computers for a value of a key or for all values of a key under registry hives HKEY_CLASSES_ROOT, HKEY_CURRENT_USER, HKEY_LOCAL_MACHINE, HKEY_USERS, HKEY_CURRENT_CONFIG (and HKEY_DYN_DATA for Windows 9X based computers).

You have to enable this feature in the general settings “REGISTRY”.



You can then define your registry query by clicking “Registry” toolbar menu.

The screenshot shows a Mozilla Firefox browser window displaying the OCS Inventory Next Generation interface. The main title bar reads "OCS Inventory - Mozilla Firefox". The page header includes the "OCS inventory" logo and "Ver. 4020". Below the header is a toolbar with various icons. A message box displays "1 Result(s) (Download)". A table lists one result:

| name | regtree | regkey | regvalue |
|----------------------------------------------------|---------|-----------------------------------------------|----------|
| HKLM\Software\Microsoft\Windows\CurrentVersion\Run | 2 | Software\Microsoft\Windows\CurrentVersion\Run | * |

At the bottom of the table are buttons for "Add", "Update", and "Delete".

Click “Add” button to add a new query. Enter a name for this query, for example MS Office XP if you want to retrieve MS Office XP registration number, select the registry hive (HKEY_LOCAL_MACHINE in this example), enter the registry key (SOFTWARE\Microsoft\Office\10.0\Registration\{9011040C-6000-11D3-8CFE-0050048383C9}) and the value name to query (ProductID) and validate. Put star (*) in field “Name of the key” to get all values of the key (This is useful to get all values of key “HKLM\Software\Microsoft\Windows\CurrentVersion\Run” to know which process are automatically started for example).

The screenshot shows a Mozilla Firefox browser window displaying a configuration dialog for a registry request. The title bar reads "OCS Inventory - Mozilla Firefox". The dialog is titled "Registry requests". It contains the following fields:

- Name (you choose) :
- Registry hive :
- Path of the key (Ex: SOFTWARE\Mozilla) :
- Name of the key that will be read (* for all) :

At the bottom are "Send" and "Cancel" buttons.

After that, each time a Windows client connects; it will retrieve and store all the values corresponding to these keys.

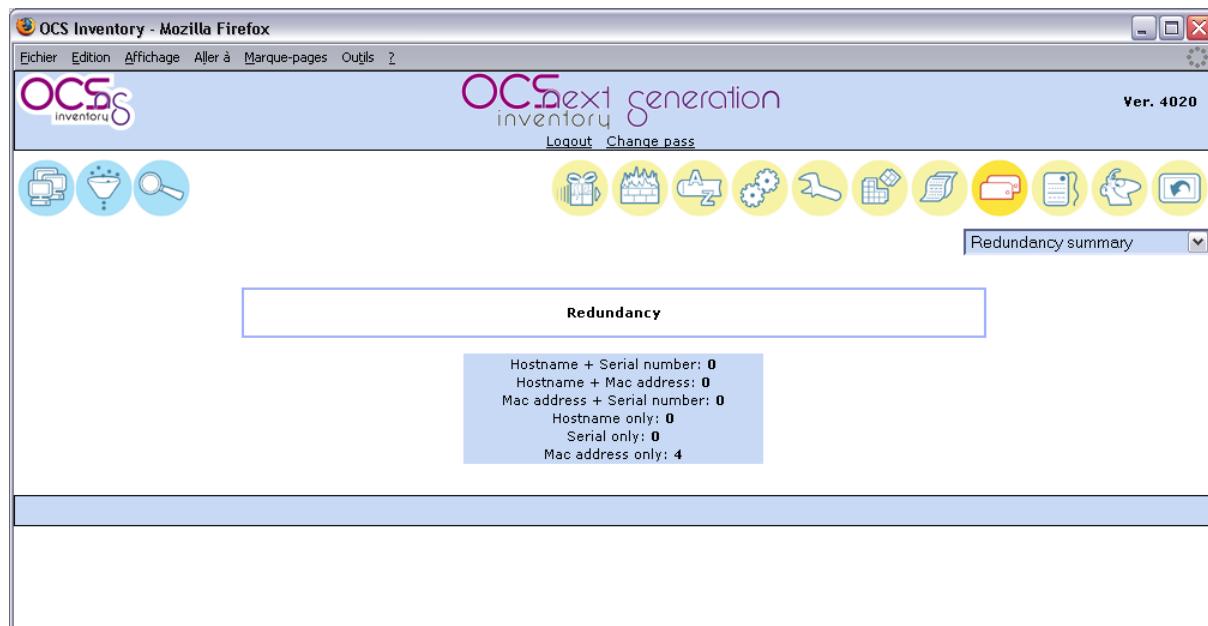
6.5 Managing duplicates computers.

OCS Inventory NG is able to detect a renamed computer, reinstalled computer...

Generally, it will handle that alone. But sometimes, it is impossible for the server to know whether two computers are the same or not, for example when it has no network adapter (no Mac address) or when the serial number was not properly set by the constructor (If you change a computer's name, the application won't be able to recognize it if it has no serial or no Mac address, and thus a duplicate fake computer may be created).



This page accessible by clicking "Duplicates" toolbar menu is used to solve this problem.



The screenshot shows the OCS Inventory Next Generation web interface. At the top, there is a navigation bar with links for Fichier, Edition, Affichage, Aller à, Marque-pages, Outils, and a help icon. The main header reads "OCS next generation inventory" with "Ver. 4020" to the right. Below the header is a toolbar with several icons representing different functions. A dropdown menu labeled "Redundancy summary" is open. The main content area is titled "Redundancy". It contains a summary table with the following data:

| | |
|------------------------------|---|
| Hostname + Serial number: | 0 |
| Hostname + Mac address: | 0 |
| Mac address + Serial number: | 0 |
| Hostname only: | 0 |
| Serial only: | 0 |
| Mac address only: | 4 |

You may choose the kind of comparison you want in the top right combo-box.

- ✓ Redundancy summary – Shows the number of redundant computers detected with each comparison method.
- ✓ "Hostname + Serial number", "Hostname + Mac address", "Mac address + Serial number" - These are the two criteria comparison methods, the more reliable. It returns all computers that have two criteria in common.
- ✓ "Hostname only", "Serial only", "Mac address only" - These are the one criterion comparison methods; it only shows all computers that share one parameter.

Once computers are shown, it's up to you to check whether several computers are redundant or not.



The screenshot shows the OCS Inventory Next Generation web interface. At the top, there's a toolbar with various icons for tasks like inventory, reports, and management. Below the toolbar, a banner reads "Redundancy". A message indicates "4 Result(s)" and provides a link to "Download". A "Show:" dropdown is set to "15". A button labeled "Merge redundant computers" is visible. The main area is a table listing four computers. The columns are: MAC address, Serial number, Tag, Last inventory, Computer, User, Operating system, Ram(MO), and CPU(MHz). The data is as follows:

| MAC address | Serial number | Tag | Last inventory | Computer | User | Operating system | Ram(MO) | CPU(MHz) |
|-------------------|---------------|------------|---------------------|------------|------------|-----------------------------------|---------|----------|
| 00:02:55:F7:C1:44 | N/A | [checkbox] | 06/29/2006 17:28:11 | [checkbox] | [checkbox] | Microsoft Windows 98 | 510 | 1002 |
| 00:02:55:F7:C1:44 | KBPPCM0 | [checkbox] | 06/29/2006 17:09:12 | [checkbox] | [checkbox] | Microsoft Windows XP Professional | 512 | 1002 |
| 00:50:56:C0:00:08 | 300707890004 | [checkbox] | 06/29/2006 09:48:13 | [checkbox] | [checkbox] | Microsoft Windows XP Professional | 735 | 2392 |
| 00:50:56:C0:00:08 | 22TOT0J | [checkbox] | 06/29/2006 09:28:58 | [checkbox] | [checkbox] | Microsoft Windows XP Professional | 1024 | 2391 |

At the bottom of the table, there's a "Mass processing:" menu with options: Frequency, Deploy, Delete.

After that, you only have to select (checkbox) computers that look the same, and click “merge redundant computers”: all the data from checked computers will be merged.

The administrative data of the oldest computer are kept on the merged device.

NB: When those filters are applied, some values are filtered out (For example: 'NNNNNNNN' or 'xxxxxxxxxxxx' for serial number).

6.6 Editing administrative information.

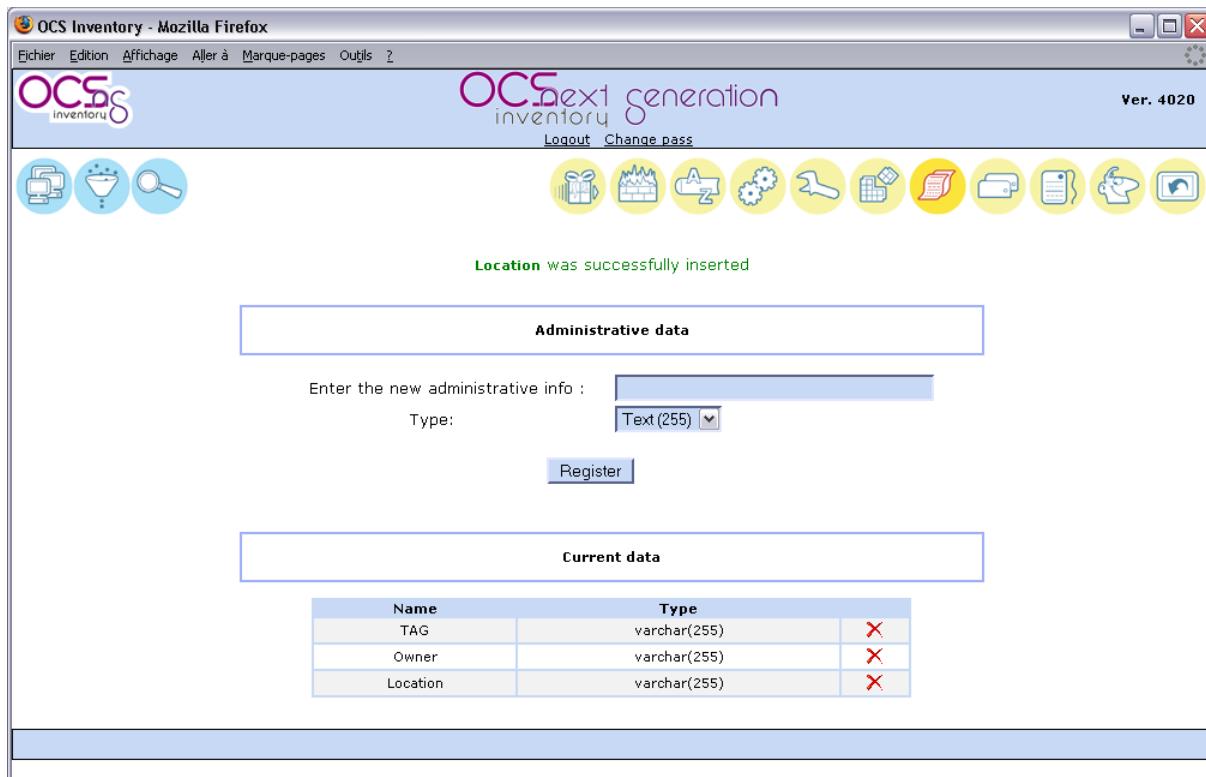
OCS Inventory NG allows you to store custom information for each inventoried computers. For example, you can add administrative information to specify the owner of the computer, or the location of the computer.

This administrative information is stored both on the server and on the client to avoid any loss of data.

For example, if the database is lost, all clients will come back with their administrative information.



You can define the administrative information you want for each computer by clicking “Admininfo” toolbar menu.

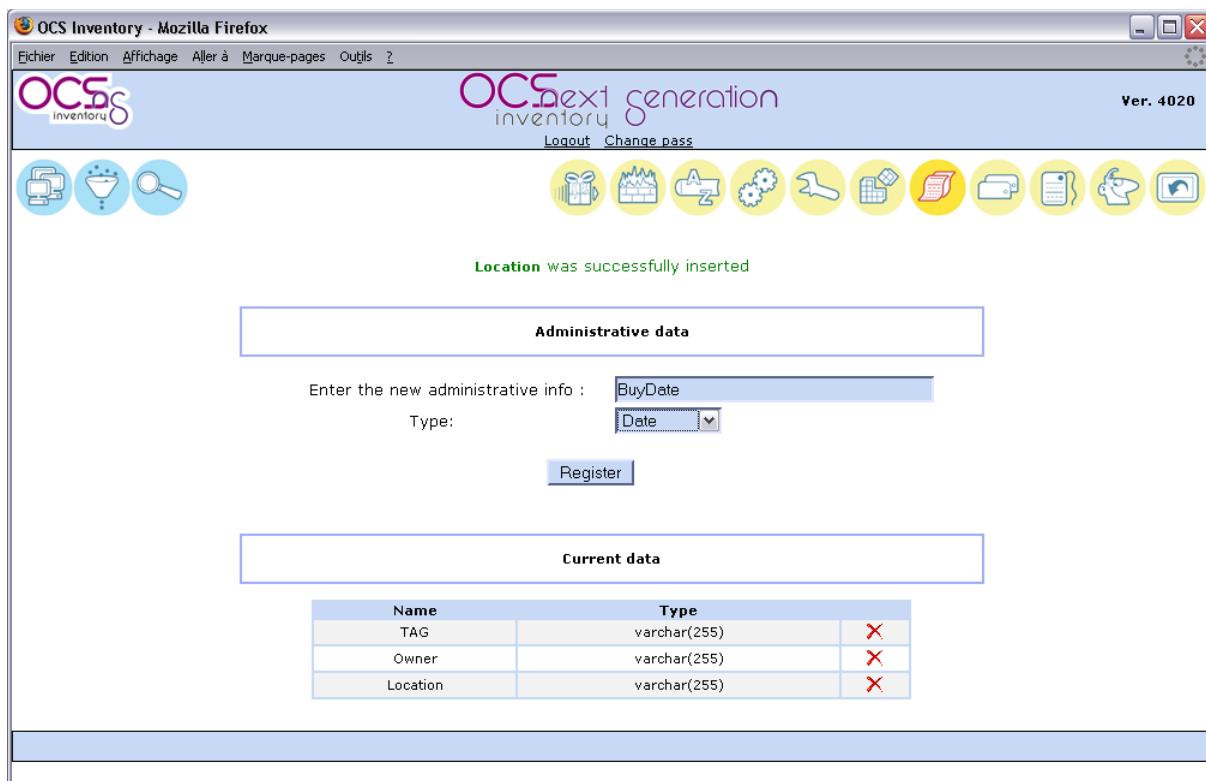


You can add new administrative information definition by entering their name (space or special characters are not allowed) and selecting their type. You can choose type between:

- ✓ Text.
- ✓ Integer.
- ✓ Real.
- ✓ Date.

To delete an administrative information definition, just click on red cross at the end of the corresponding line.

For example, we will add administrative information corresponding to the buy date of computer.



| Name | Type | |
|----------|--------------|---|
| TAG | varchar(255) | X |
| Owner | varchar(255) | X |
| Location | varchar(255) | X |

You can now browse all your computers to set the buy date for each.

6.7 Editing the label

If the “DEPLOY” option is activated, clients may get the “label” file. It is used to fill the popup shown on first start of a client.

This popup asks for the “TAG” value that is used to class computers (it may be, for example, a unit code, the name of one of your company’s section, a street number etc.)



This “label” file is generated during the server install, and may be edited by clicking “Label” toolbar menu.



If you submit a blank label, the label file will be deleted, and no window will be displayed anymore on client's computer.

6.8 *Importing inventory for non network connected computers.*

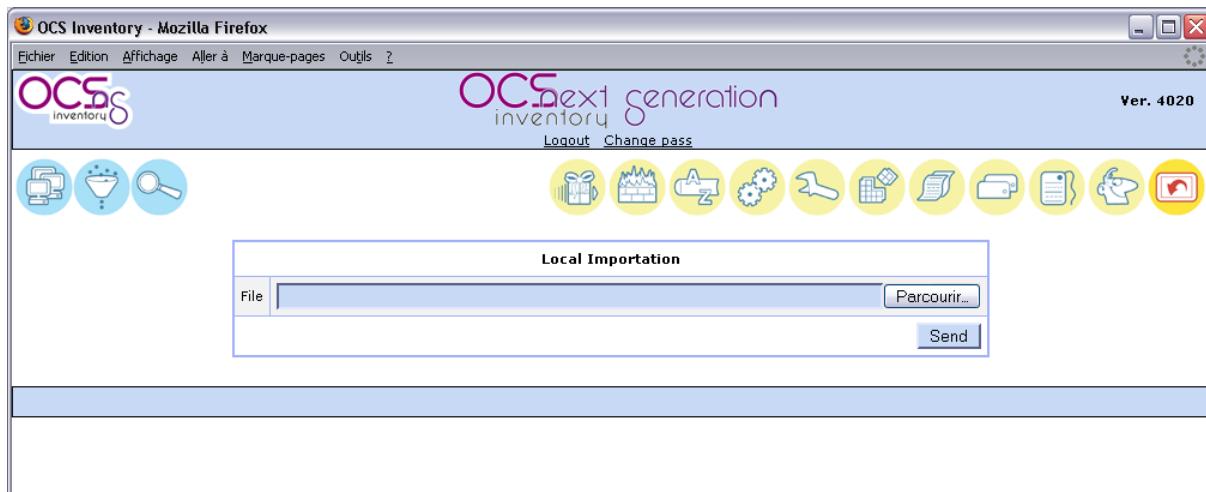
6.8.1 With Administration server through your web browser

For non network connected computers, you can import inventory results from a file created on the computer by the agent run in local mode (see § 3.2 We have chosen to package OCS inventory NG server for Windows as an integrated package containing all required components. As is, the 3 main components of Management server (database server, web communication server and web administration server) are installed on the same computer.). We assume that you're able to save this file in your hard disk from your mailbox, or any other way.

NB: If Communication Server is not running on standard HTTP port 80, or on the same computer as Administration console, you must update General Options. See § 6.2 Managing OCS Inventory NG general options.)



Click “Local import” toolbar menu, browse your hard drive to select the “.ocs” file created by agent release and click “send” button.



6.8.2 With Communication server through a Perl script

Communication server provides the ability to import inventory from a file created on the computer. This file has “.ocs” extension.

We assume that administrator can get the file from somewhere, his mailbox, a USB drive or any other place.

Go to the directory where you’ve installed Communication server, “/usr/local/ocsinventory-NG” for us, and run the script “Ocsinventory_local.pl” with path to file which contains inventory results as argument.

NB: With OCSInventory NG Server for Windows, import script “local_import.bat” is located in “INSTALLDIR\binutils” directory, where “INSTALLDIR” is the installation folder selected during server setup.

This will import inventory results into the database.

```
[root@l16753101aa0 ocsinventory-NG]# Ocsinventory_local.pl ST32491DL-2005-06-23-10-04-02.ocs
OK for ST32491DL-2005-06-23-10-04-02.ocs
-----
Successfully inventoried : 1
Errors : 0
:-)
```

Figure 6 : Sample import of a single inventory results file.

If you have multiple files to import, you can put them in a directory and then launch the script “Ocsinventory_local.pl” without argument, but within the directory where resides files to import.

```
[root@l16753101aa0 home]# Ocsinventory_local.pl
OK for ST32491DL-2005-06-23-10-04-02.ocs
-----
Successfully inventoried : 1
Errors : 0
:-)
```

Figure 7 : Sample of multiple inventory results files in directory home.

6.9 Using software dictionary for GLPI integration.

Software dictionary is used to categorize detected software. This feature is very useful when you use OCS Inventory NG combined with GLPI. As is, you can group software in a category and GLPI will import them with the name of category.

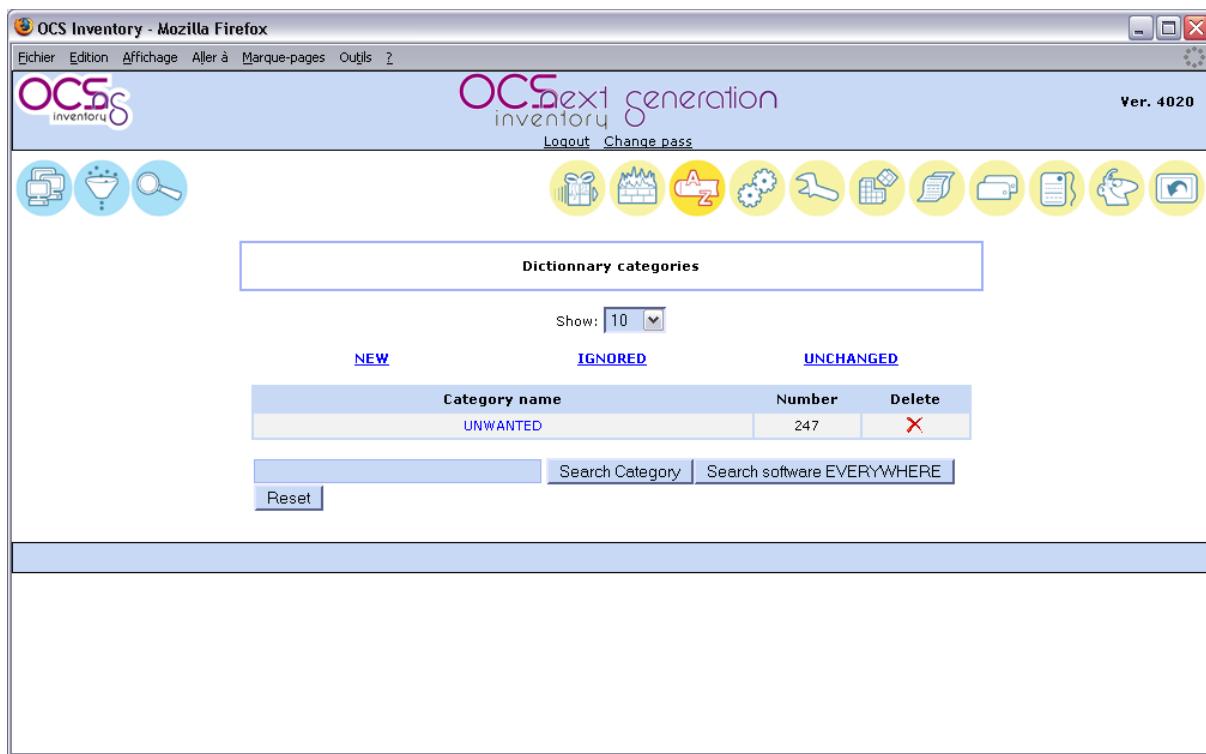
For example, you have many version of Microsoft Office (97, 2000, XP, 2003...), but you don't care about version. You just want to manage total number of MS Office. You can create a category “Microsoft Office” and insert in this category all version of MS Office. In GLPI, you will only see “Microsoft Office”. Software dictionary acts as a rename or group utility for GLPI.



Click “Dictionary” toolbar menu.

There are 3 categories by default:

- ✓ NEW: include all new or not yet categorized software.
- ✓ IGNORED: you can put in this category all software you don't want to import in GLPI.
- ✓ UNCHANGED: you can put in this category all software you don't want to “rename” in GLPI. These software will be imported as is.



You can search software with part of his name by fill in input and clicking “Search software EVERYWHERE” button.

If you manage many categories, you can search a category by fill in part of his name in input and clicking “Search category” button.

Click on a category name to display software included.

The screenshot shows a Mozilla Firefox browser window displaying the OCS Inventory Next Generation interface. The title bar reads "OCS Inventory - Mozilla Firefox". The main header features the "OCS inventory" logo and the text "next generation" along with "Ver. 4020". A navigation menu at the top includes "Fichier", "Edition", "Affichage", "Aller à", "Marque-pages", "Outils", and "?". Below the menu is a toolbar with several icons. The main content area is titled "Catégorie NEW (208)". It displays a table of software packages with columns for "Number", "Software name", and "The page/Nothing". The table lists various Windows security updates (Hotfixes) such as "Mise à jour de sécurité pour Windows XP (KB911280)", "Mise à jour de sécurité pour Windows XP (KB914389)", etc. At the bottom of the table, there are checkboxes for "Move ALL" and "The page/Nothing", and dropdown menus for "to a new category" and "to an existing category". Below the table are search and reset buttons, and a link to "Go to the category: IGNORED". Navigation links at the bottom right include "1...21" and arrows.

| Number | Software name | The page/Nothing |
|--------|-----------------------------------------------------------------|--------------------------|
| 32 | Mise à jour de sécurité pour Windows XP (KB911280) | <input type="checkbox"/> |
| 32 | Mise à jour de sécurité pour Windows XP (KB914389) | <input type="checkbox"/> |
| 32 | Mise à jour de sécurité pour Windows XP (KB917344) | <input type="checkbox"/> |
| 32 | Mise à jour de sécurité pour Windows XP (KB917953) | <input type="checkbox"/> |
| 27 | Mise à jour de sécurité pour Windows XP (KB916281) | <input type="checkbox"/> |
| 27 | Mise à jour de sécurité pour Windows XP (KB918439) | <input type="checkbox"/> |
| 24 | Mise à jour de sécurité pour Lecteur Windows Media 9 (KB917734) | <input type="checkbox"/> |
| 17 | Correctif Windows 2000 - KB911280 | <input type="checkbox"/> |
| 17 | Correctif Windows 2000 - KB914389 | <input type="checkbox"/> |
| 17 | Correctif Windows 2000 - KB916281 | <input type="checkbox"/> |

Move ALL to a new category: OR to an existing category:

Go to the category: 1...21

You can select software to move to new category (you must fill in the new category name) or to an existing category (select it in the dropdown).

If you check “Move all”, all software, even those not displayed, will be moved to the desired category, not only the selected ones.

You can select all displayed software by clicking “The page” and deselect all displayed software by clicking “Nothing”.

7 Using IP discovery feature.

IP discovery feature allow OCS Inventory NG to discover all network connected devices on the network.

For this, Communication server asks a number of most “active” computers running OCS Inventory NG agent to scan for MAC addresses in their sub network at each run. **They will not scan the entire wide area network, but only their local network defined by the couple IP address/subnet mask.**

7.1 Introduction.

Inventory software is very useful for administrator. It allows “enlightening” his computers stock. Today, with use of TCP/IP, we can say that enlightenment is done at the same time for all the enterprise network, especially if, like OCS Inventory NG, working is natively network based.

But, what about devices which do not send inventory, for many reasons like a forgetting, a lack of cooperation from users? What about from all “alive” devices which cannot run inventory agent (printers, switches, routers, WiFi access points...)? What about computers which do not have to be connected on your network and which are conspicuous for their discretion?

IPDISCOVER try to answer to those problematic. Even if it can work independently, it matches perfectly to OCS structure. As working is based on a communication between all hosts of information system and a central server, it's easy for the server to order at his “subordinate” to make some little tasks, as getting registry key, doing an inventory or retrieving all devices answering on his IP segment.

7.2 How does it work?

7.2.1 Retrieving information.

OCS NG system is based on a dialog between agents installed on computers and Apache module on OCS NG server. Exchange is done in compressed XML and allows configuring agent tasks.

When a computer send an inventory result, server try to determine if it needs some other computers (number can be configured) to scan hosts in this sub network. Gateway IP address are used to cartography enterprise network.

If it's needed, server estimate host quality and decide to activate or not host as an ipdiscover enabled computer. In this case, computer will send systematically an inventory, independently of general configuration parameter 'FREQUENCY'.

7.2.2 Election mechanism.

Once server has determined that there is a need for the selected gateway, it evaluates the following criteria:

- ✓ QS: operating system must be Windows XP or Windows 2000 (all versions) or Linux.
- ✓ QUALITY: this parameter means the host connection average to the server in days. It is evaluated dynamically by Communication server only when there is more than the number (defined by 'IPDISCOVER' option) of inventoried hosts for a gateway. If current computer sending inventory results has better quality than another IPDISCOVER enabled computer for this gateway, current computer will replace the other one. 'IPDISCOVER' option must be greater than zero to enable this feature!
- ✓ FIDELITY: total connection number to the server of the computer. This number must be at least 3, to allow QUALITY to be computed from representative data.
- ✓ NETMASK: sub network mask. It must describe a maximum of B class IP network (2 first bytes to 255 => 255.255.X.X).
- ✓ LASTDATE: when Communication server compute QUALITY, if it finds a host which hasn't sent inventory results from number of days defined by 'IPDISCOVER_MAX_ALIVE' option, it will replace this host by a new one.

NB: You can customize agent's ipdiscover settings for each computer from the administration console. You can totally disable ipdiscover or force ipdiscover on a specific network. These options are available on computer properties page, under "Customization" section. However, the election mechanism is the best way to do the network discovery. Use ipdiscover customization with care.

7.2.3 How do agents work?

Once agent has received order to proceed to discovery of his sub network, it identifies first network interface to use. It tries then to resolve through ARP all IP addresses answering on his segment (delay between 2 hosts can be defined using option "IPDISCOVER_LATENCY", see § 6.2 Managing OCS Inventory NG general options.). All devices answering to the question are stored in XML inventory result and sent to server.

7.2.4 Server tuning

When doing a new installation of OCS NG, we understand easily that it requires some times to be ready to enable ipdiscovery feature. It requires some times to grab all gateways and to

elect computers for ipdiscovery. As a computer can only be elected if it REALLY provides an inventory, it may be wiser to configure at the beginning ‘FREQUENCY’ option to zero, always generate an inventory. You can increase this value later, when infrastructure will be ready.

Analyzing errors (thought ipdiscover-util.pl used directly or from web interface) will allow you to detect potential problems. More the value of QUALITY will be lesser, more your ipdiscover information will be up to date.

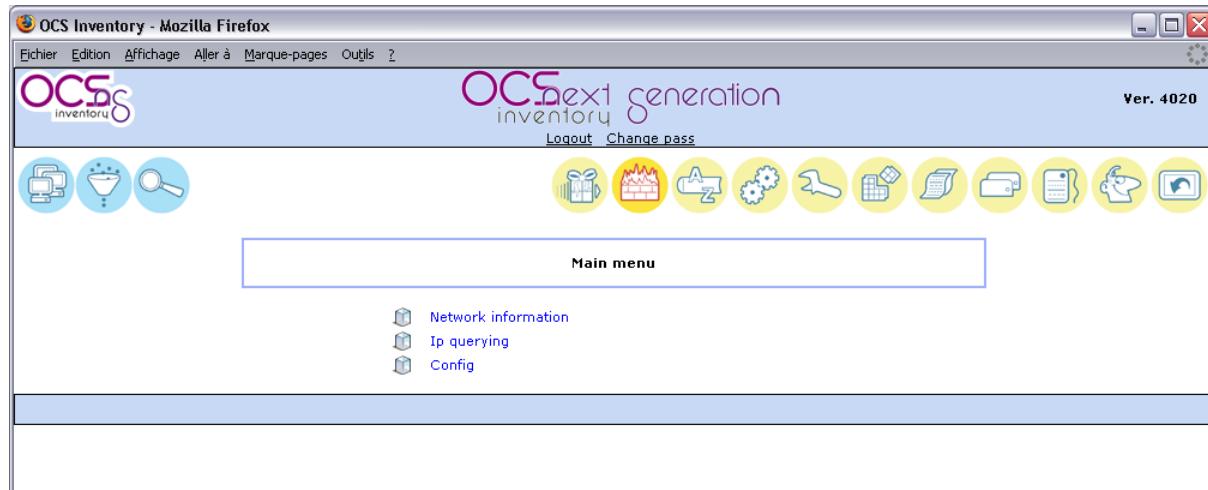
System will be giving you the best in a domain, with a daily authentication and inventory. Tests done with this configuration on 20 000 hosts and 250 sub networks generate a DAILY actualization of 15 000 IP addresses.

To finish, value set for IPDISCOVER will tell to server how many computers are wished by gateway to run this task (if you set this value to zero, feature will be disabled).

7.3 Working with results.



You can view which computers run the IP discovery scans by clicking on toolbar “Security” menu (“IpDisc” menu if some languages).



7.3.1 Manage names of your networks.

You may define your sub networks by a name and a unique ID, to view results easily.

Click on “Config” menu and then on “Subnet names” menu to manage your sub networks.

The screenshot shows a Mozilla Firefox browser window displaying the OCS Inventory Next Generation interface. The title bar reads "OCS Inventory - Mozilla Firefox". The main header says "OCS next generation inventory" and "Ver. 4020". The top menu includes "Fichier", "Edition", "Affichage", "Aller à", "Marque-pages", "Outils", and "?". Below the menu is a toolbar with various icons. The main content area has a blue header "Add a subnet". It contains fields for "Network name" (with a dropdown arrow), "IP address", "Uid", "mask", and a "Send" button. Below this is a "Subnet list" section with a table:

| Click to edit | Uid | Network(s) | mask |
|---------------|-----|------------|---------------|
| [redacted] | 2 | [redacted] | 255.255.254.0 |
| [redacted] | 1 | [redacted] | 255.255.255.0 |
| [redacted] | 3 | [redacted] | 255.255.253.0 |
| [redacted] | 4 | [redacted] | 255.255.255.0 |
| [redacted] | 5 | [redacted] | 255.255.252.0 |

Enter sub network name (ex DMZ), ID, IP address and IP network mask, then click “Send” button to validate.

To remove a sub network definition, just click red cross at the end of corresponding line.

7.3.2 Show list of networks

You can view the list of sub network configured in your network by selecting “Network information” menu.

The screenshot shows the OCS Inventory Next Generation web interface. At the top, there's a navigation bar with links for Fichier, Edition, Affichage, Aller à, Marque-pages, Outils, and ?.

The main header reads "OCS next generation inventory" with "Ver. 4020" to its right. Below the header are two rows of icons: a row of three blue icons (printer, antenna, magnifying glass) on the left, and a row of ten yellow icons representing various network and system components (server, firewall, database, gear, hand, document, clipboard, wrench, gear, gear).

A blue header bar contains the text "Network information" and "(143 uninventoried network interfaces)".

Below this is a table with the following columns: Click to edit,Uid, Network name, Inventoried, Non-inventoried, IpDiscover, and Identified.

| Click to edit | Uid | Network name | Inventoried | Non-inventoried | IpDiscover | Identified |
|---------------------|-----|-----------------|-------------|-----------------|------------|------------|
| -> Click to edit <- | 0 | 192.168.133.0 | 1 | 19 | 1 | 0 |
| -> Click to edit <- | 0 | 192.168.226.0 | 1 | 0 | 0 | 0 |
| -> Click to edit <- | 0 | 192.168.234.0 | 1 | 61 | 1 | 0 |
| -> Click to edit <- | 0 | 192.168.68.0 | 1 | 0 | 0 | 0 |
| -> Click to edit <- | 0 | 255.255.255.255 | 1 | 0 | 1 | 0 |
| [redacted] | 4 | [redacted] | 14 | 21 | 2 | 0 |
| [redacted] | 3 | [redacted] | 13 | 13 | 2 | 0 |
| [redacted] | 2 | [redacted] | 70 | 23 | 2 | 0 |
| [redacted] | 1 | [redacted] | 26 | 5 | 2 | 6 |

For each network, you will be able to view how many inventoried hosts, non inventoried hosts, IPDISCOVER feature enabled hosts and identified hosts (known hosts manually registered in the database) are connected to this network.

Click on the number of needed column to view each type of devices.

7.3.3 Show inventoried hosts in the network.

You can view the list of inventoried hosts on your network by clicking on number in column “Inventoried” in the network list.

- OCS Inventory - Mozilla Firefox

Devices of network [redacted]

20 Result(s)
(Download)

Show: 10

◀ 1 2

| mask | n.ipgateway | quality | fidelity | Tag | Last inventory | Computer | User | Operating system | Ram(MO) | CPU(MHz) |
|---------------|-------------|---------|----------|------------|------------------------|------------|----------------|-------------------------------------------------------------------------|---------|----------|
| 255.255.255.0 | | 1.140 | 298 | [redacted] | 05/29/2006 06:48:51 | [redacted] | [redacted] | Microsoft Windows 2000 Server | 1024 | 2660 |
| 255.255.255.0 | | 0.939 | 344 | [redacted] | 06/22/2006 14:37:03 | [redacted] | [redacted] | Microsoft Windows 2000 Server | 1024 | 2394 |
| 255.255.255.0 | | 0.796 | 422 | [redacted] | 06/29/2006 06:32:42 | [redacted] | Administrateur | Microsoft Windows 2000 Server | 1024 | 2394 |
| 255.255.255.0 | | 1.000 | 373 | [redacted] | 06/29/2006 07:02:50 | [redacted] | Administrateur | Microsoft Windows 2000 Advanced Server | 2048 | 2660 |
| 255.255.255.0 | | 0.889 | 375 | [redacted] | 06/29/2006 07:17:45 | [redacted] | Administrateur | Microsoft Windows 2000 Server | 1280 | 1393 |
| 255.255.255.0 | [redacted] | 1.122 | 338 | [redacted] | 06/29/2006 07:21:37 | [redacted] | root | Linux(Redhat / Red Hat Linux Advanced Server release 2.1AS (Pensacola)) | 3017 | 3060 |
| 255.255.255.0 | [redacted] | 1.054 | 118 | [redacted] | 06/29/2006 08:49:42 | [redacted] | [redacted] | Linux(Redhat / Red Hat Linux release 7.3 (Valhalla)) | 881 | 2395 |
| 255.255.255.0 | | 0.659 | 594 | [redacted] | 06/29/2006 10:47:56 | [redacted] | Administrateur | Microsoft Windows 2000 Server | 1024 | 2394 |
| 255.255.255.0 | | 1.029 | 413 | [redacted] | 06/29/2006 11:02:44 | [redacted] | Administrateur | Microsoft Windows 2000 Advanced Server | 2048 | 2660 |
| 255.255.255.0 | | 1.182 | 346 | [redacted] | 06/29/2006 12:48:18 | [redacted] | Administrateur | Microsoft Windows 2000 Server | 512 | 1393 |

Mass processing: Frequency Deploy Delete

◀ 1 2

7.3.4 Show uninventoried network devices.

You can view the list of active network devices detected with IPDISCOVERY on your network by clicking on number in column “Non inventoried” in the network list.

- OCS Inventory - Mozilla Firefox

Subnet [redacted]

ANALYZE

(Download)

| IP address | MAC address | DNS name | Date | Register |
|------------|-------------------|----------|---------------------|-------------------|
| [redacted] | 00:0d:60:eb:85:17 | | 2006-06-22 01:23:28 | [register icon] X |
| [redacted] | 00:0d:60:eb:85:21 | | 2006-06-22 01:23:28 | [register icon] X |
| [redacted] | 00:0e:0C:05:B5:84 | | 2006-05-02 01:14:21 | [register icon] X |
| [redacted] | 00:14:5e:28:6a:f9 | | 2006-06-29 17:25:08 | [register icon] X |
| [redacted] | 00:16:9d:02:6f:c1 | | 2006-06-29 17:25:08 | [register icon] X |

If there is, in the list, devices you know as legitimate, you can register them so they will not be displayed next time. For this, just click the icon at the end of corresponding line. Before, you may want to register “Device type” to easily identify known hosts (see §7.3.8 Registering known hosts.).

You may also analyze this network by clicking “Analyze” button. IPDISCOVER-UTIL perl script will be used to determine, for each network device, his NetBios name or DNS name and the type of operating system.

NB: This feature uses IPDISCOVER-UTIL perl script available only under Linux Server which requires the following components.

- ✓ *nmap (tested on 3.75)*
- ✓ *nmblookup (part of the samba suite, tested on 3.0.7/3.0.10)*
- ✓ *Perl module Net::IP*
- ✓ *Perl module DBI*
- ✓ *Perl module DBD::mysql*
- ✓ *Perl module XML::Simple*

The following types are used:

- ✓ **Windows**: host seems to run one version of Microsoft Windows operating system.
- ✓ **Linux**: host seems to run under Linux operating system.
- ✓ **Network**: operating system cannot be determined, so it can be network device such as router, managed switch, printer, or host running Sun Solaris or IBM AIX... Maybe, host is running some firewall software?
- ✓ **Phantom**: host is not responding at this time. Maybe it is powered off or there is a firewall ?

| IP address | MAC address | DNS name/NetBIOS | Date | Register |
|------------|-------------------|------------------|---------------------|----------|
| [REDACTED] | 00:14:5e:28:6a:f9 | - | 2006-06-29 17:25:08 | |
| [REDACTED] | 00:16:9d:02:6f:c1 | - | 2006-06-29 17:25:08 | |

| IP address | MAC address | DNS name/NetBIOS | Date | Register |
|------------|-------------------|------------------|---------------------|----------|
| [REDACTED] | 00:0d:60:eb:85:17 | - | 2006-06-22 01:23:28 | |
| [REDACTED] | 00:0d:60:eb:85:21 | - | 2006-06-22 01:23:28 | |
| [REDACTED] | 00:0e:0c:05:b5:84 | - | 2006-05-02 01:14:21 | |

If a network device is legitimate, you can register it by clicking on icon “Register” at the end of corresponding line. You will be able to enter a brief description and to select network device type while registering it (see § 7.3.8 Registering known hosts.).

7.3.5 Show IPDISCOVER enabled hosts.

You can view the list of hosts running IPDISCOVERY feature on your network by clicking on number in column “IpDiscover” in the network list.

The screenshot shows a Mozilla Firefox window titled "- OCS Inventory - Mozilla Firefox". The main content area is labeled "Devices of network" and displays a table with two rows of data. The columns are: quality, fidelity, Tag, Last inventory, Computer, User, Operating system, Ram(MO), and CPU(MHz). The first row has values: 1.023, 123, [redacted], 06/29/2006 17:25:08, [redacted], [redacted], Linux(Redhat / Red Hat Enterprise Linux ES release 3 (Taroon Update 4)), 3010, 2661. The second row has values: 0.995, 124, [redacted], 06/29/2006 01:24:43, [redacted], [redacted], Linux(Redhat / Red Hat Linux Advanced Server release 2.1AS (Pensacola)), 500, 2399. Below the table, there is a "Mass processing:" menu with options Frequency, Deploy, and Delete.

7.3.6 Show known or identified hosts.

You can view the list of known hosts already identified by someone on your network by clicking on number in column “Identified” in the network list.

The screenshot shows a Mozilla Firefox window titled "- OCS Inventory - Mozilla Firefox". The main content area is labeled "Network devices list of network" and displays a table with six rows of data. The columns are: MAC address, IP address, Network number, Device type, Device description, and Submitted by. The last column for each row contains a red 'X' icon. The data rows are: 00:03:ba:99:61:dd, [redacted], [redacted], Sun Solaris, [redacted], [redacted]; 00:03:ba:99:62:19, [redacted], [redacted], Sun Solaris, [redacted], [redacted]; 00:03:ba:99:71:f5, [redacted], [redacted], Sun Solaris, [redacted], [redacted]; 00:03:ba:99:73:71, [redacted], [redacted], Sun Solaris, [redacted], [redacted]; 00:12:00:79:94:c1, [redacted], [redacted], Commutateur, Switch Cisco Catalyst 3750, [redacted]; 00:30:8c:01:7f:7f, [redacted], [redacted], ADIC, Robot de sauvegarde, [redacted].

7.3.7 Managing known device types.

You can register devices (such as routers, switches, network printers, computers for which there is no inventory agent...) as you know they are legitimate. As is, they will not be displayed in the list of uninventoried devices, to allow you concentrate on suspicious devices.

You may first define some device types to identify them easily.

Click on “Config” menu to manage your device types.

The screenshot shows a Mozilla Firefox browser window with the OCS Inventory Next Generation interface. The title bar reads "OCS Inventory - Mozilla Firefox". The main header says "OCS next generation inventory" and "Ver. 4020". A navigation menu on the left includes icons for printer, network, and search. Below it is a toolbar with various yellow circular icons representing different device types. A large blue rectangular input field is labeled "Add a type". Below it is a "Type name :" input field with a "Send" button. A table titled "Network devices types" lists the following items:

| Type | Action |
|-------------|--------|
| Badgeuse | X |
| Commutateur | X |
| Routeur | X |
| Imprimante | X |
| Firewall | X |
| Onduleur | X |
| ADIC | X |
| Sun Solaris | X |

You can add new device type by entering the “Type name” you want and clicking “Send” button.

You can remove any device type by clicking on the red cross at the end of corresponding line.

7.3.8 Registering known hosts.

You can add new devices by browsing list of uninventoried devices and clicking the icon at the end of corresponding line. This will bring you to page for adding or removing network devices and “MAC” field will be automatically fill in.

The screenshot shows a Mozilla Firefox browser window with the URL <http://localhost> - OCS Inventory. The page title is "Add a new network device". The form contains fields for MAC address, Description, and Type (set to "Switch"), with a "Send" button. Below the form is a table titled "Network devices list of network" showing two results, both of which are Sun Solaris. Each result has a red "X" icon at the end of its row. The table has columns: MAC address, IP address, ipsubnet, Device type, Device description, and Submitted by.

| MAC address | IP address | ipsubnet | Device type | Device description | Submitted by |
|-------------|------------|------------|-------------|--------------------|--------------|
| [redacted] | [redacted] | [redacted] | Sun Solaris | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | Sun Solaris | [redacted] | [redacted] |

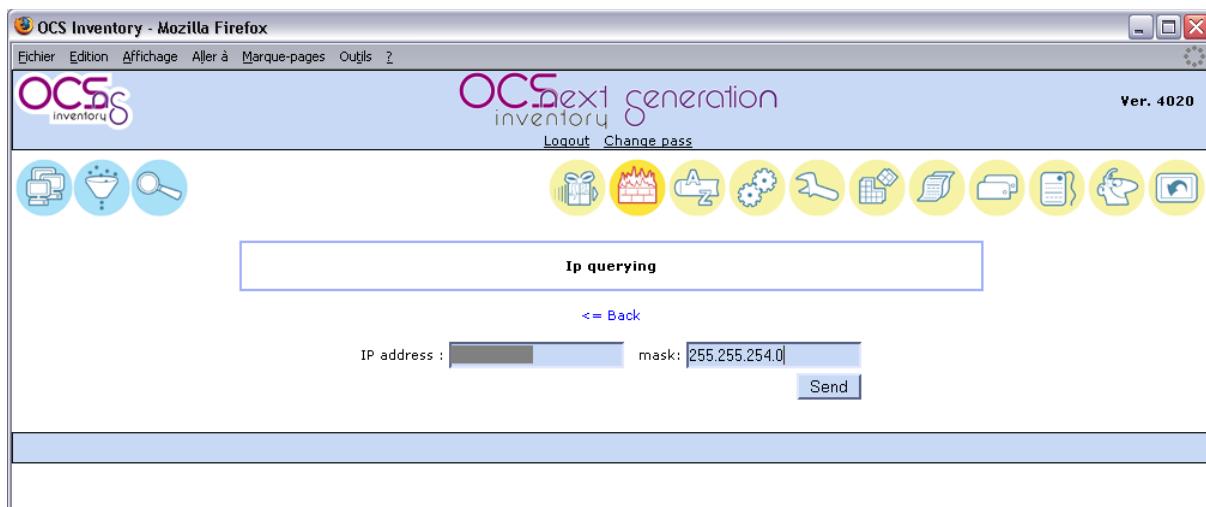
To remove a network device, just click on the red cross at the end of corresponding line.

7.3.9 Scanning an IP address

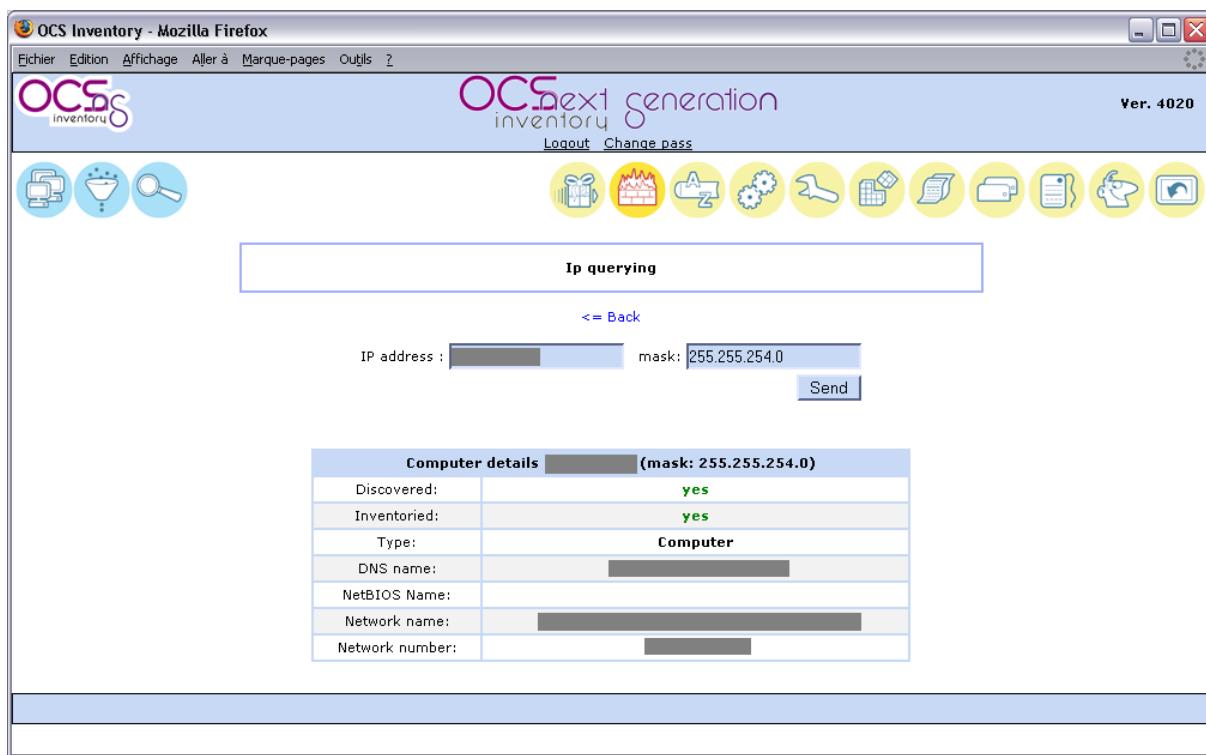
You can scan query specific IP address to obtain information about the host. Go to “Security” menu and click on “IP querying” menu and then enter IP address, network mask and click “Send” button.

NB: This feature uses IPDISCOVER-UTIL perl script available only under Linux Server which requires the following components.

- ✓ *nmap (tested on 3.75)*
- ✓ *nmblookup (part of the samba suite, tested on 3.0.7/3.0.10)*
- ✓ *Perl module Net::IP*
- ✓ *Perl module DBI*
- ✓ *Perl module DBD::mysql*
- ✓ *Perl module XML::Simple*



IPDISCOVER-UTIL perl script will use NMAP and NMBLOOKUP utilities to get information about the host (DNS name, NetBios name...) and also show if host is inventoried and/or discovered.



8 Deploying packages or executing commands on client hosts.

OCS Inventory NG includes package deployment feature on client computers. From the central management server, you can upload packages which will be downloaded through HTTP/HTTPS and launched by agent on client computer.

NB: This feature has been tested with OCS Inventory NG Agent for Windows service only. As software installation requires Administrator privileges, agent launched through a login script or shortcut in start menu under user account may not be able to launch software installation. Also, background download of package may take a long time, and may block login script. So, we do not recommend using package deployment feature using login script inventory.

8.1 How does it work?

A package has 4 main components:

- ✓ a priority,
- ✓ an action,
- ✓ optionnaly a ZIP or TAR.GZ file including how many files and directories you want,
- ✓ and optionnaly a command to launch.

There are **11 levels of priority**, level 0 to 10. Level 0 is the highest priority and level 10 the lowest. Package of priority level 0 will be deployed before package of priority 1. Package of priority level 1 will be deployed before package of priority 2...

Action is associated with file to deploy and command to launch. This triplet may be one of the following:

- ✓ **Action Launch:** to deploy a ZIP or TAR.GZ file and launch with or without parameters an executable file **included** in ZIP or TAR.GZ file.

ZIP or TAR.GZ file will be uncompressed into a temporary directory, and associated command (name of executable file without path!) will be launched into this temporary directory.

This action allows retrieving result code of launched command.

- ✓ **Action Execute:** to deploy a ZIP or TAR.GZ file (optional), and launch with or without parameters an executable file **included or not** in ZIP or TAR.GZ file.

If executable is not included in ZIP or TAR.GZ file, it must be part of software already installed on client computer. Typically, it may be a Windows standard command like Windows Installer call, RPM or DPKG or TAR.GZ command on Linux.

ZIP or TAR.GZ file will be uncompressed into a temporary directory, and associated command (name of executable file with path or parameters if needed) will be launched into this temporary directory.

This action does not allow retrieving result code of launched command. However, this action allows you running command on client computers, without deploying any file. For example, you can use it to run specific operating system configuration command.

- ✓ **Action Store:** to deploy a ZIP or TAR.GZ file and only store his content on a folder of client computer.

There is no command associated with this action, only a path to specify where to store extracted files.

NB: All packages you want to deploy must be compressed with ZIP for Windows Agents and tar gzipped for Linux computers.

If you want to build your own installer, you may want to look at NullSoft Installer System (<http://nsis.sourceforge.net>) or Inno Setup (<http://www.jrsoftware.org>). These tools are GPL installer for Windows able to create one file self extracting installer.

For example, this feature allows you to create a ZIP package including Media Player Classic executable, a sub directory including some MP3 files and a play list for Media Player Classic referencing these MP3 into sub directory. Associated command will be a call to Media Player Classic with command line switch to launch play list. Once this package will be downloaded on Windows clients, users will have Media Player Classic launched and playing MP3 from play list. Beautifull, isn't it ;-)

You create through administration console your deployment package. It is automatically described by:

- ✓ A reference in database, used by Communication server to ask agent to download the package.
- ✓ An information file, named “info”. It is an XML file describing the package and action agent will have to launch,
- ✓ 0 or more data fragment files. File you will upload (if there is one) will be splitted in small parts to allow agents downloading parts by parts, and then easily resuming a

failed download. If download of a fragment fails, only this fragment will be downloaded another time, not all the package. You will be able to choose fragment size according to your network capabilities.

***NB:** as you will upload your package through Administration console, you may configure PHP and Apache to allow uploading large files. See § 11.2.4 Uploads size for package deployment. to know how to configure this.*

Once package is built, you must activate it. It indicates where is located SSL enabled web server (i.e. deployment servers) where agent will be able to download information file and fragment files.

Finally, you must select on which computer you will deploy the package.

From now, agent is able deploying the package.

When agent send an inventory to Communication server, Communication server tell the agent if he has one or more packages to deploy, with the level of priority of each package, and where it can find information files.

Agent then begins a download period. A period is composed of cycles, defined by configuration option “DOWNLOAD_PERIOD_LENGTH”. By default, a period contains 10 cycles.

At each cycles, it compute “cycle’s number modulo package priority”. If it equals to 0, it download package fragment files. After each fragment, it will wait “DOWNLOAD_FRAG_LATENCY” (configuration option set to 10 seconds by default) before downloading the next fragment.

When all fragment of package are downloaded, it will launch package command and wait “DOWNLOAD_CYCLE_LATENCY” (configuration option set to 60 seconds by default) before beginning a new cycle and incrementing cycle number.

When all cycle of a period have been processed, it waits “DOWNLOAD_PERIOD_LATENCY” (configuration option set to 0 seconds by default).

If all packages have been successfully downloaded and installed, it stops. If not, it begins a new period of cycles.

***CAUTION:** Priority level 0 is a special level. All packages with priority 0 will be downloaded before all others packages with greater priority at the beginning of each cycle. If download fails, agent will retry to download failed packages of priority 0, without checking others package. So it can completely stop deployments. USE PRIORITY LEVEL 0 WITH CARE!*

You may use these settings to customize your network bandwidth usage. By increasing latency options, you will increase time to download fragments and reduce network use average.

By increasing period length option, you will delay new download of failed fragments, but also, by decreasing period length to a value lower than 10, you can stop downloading package with priority level higher than this value.

8.2 Requirements.

Deployment server storing information files must have SSL enabled, as downloading the deployment information file is very critical. This information file contains description of package and command to launch. So, if somebody can usurp your deployment server, he may launch any command he wants on your computers. That's why deployment server must use SSL to allow agents authenticating the server and ensuring this is the real deployment server.

Agent must have a certificate to validate deployment server authentication. This certificate must be stored in a file named “cacert.pem” in OCS Inventory NG agent’s folder under Windows, and in directory “/etc/ocsinventory-client” under Linux.

Under Windows, you can use OCS Inventory NG Packager (see § 6.3 Uploading Agent for deployment through launcher “OcsLogon.exe”.) to create an agent installer which include certificate, or you can use the following sample login script to copy certificate file in agent’s folder (we assume that agent is installed under “C:\Program Files\OCS Inventory Agent” and certificate file is available on a share “MYSHARE” on server “MYSERVER”).

```
@echo off
REM Check if CA file exists
if exist "C:\Program Files\OCS Inventory Agent\cacert.pem" goto CA_END
REM CA file does not exists, install it
Copy \\MYSERVER\MYSHARE\cacert.pem "C:\Program Files\OCS Inventory Agent\cacert.pem"
:CA_END
```

If you have a Public Key Infrastructure, you must create a valid server certificate for your deployment server and copy your Authority certificate file into file “cacert.pem”.

If you do not have a Public Key Infrastructure, you can use a self signed certificate for your deployment server, and copy server certificate into file “cacert.pem”.

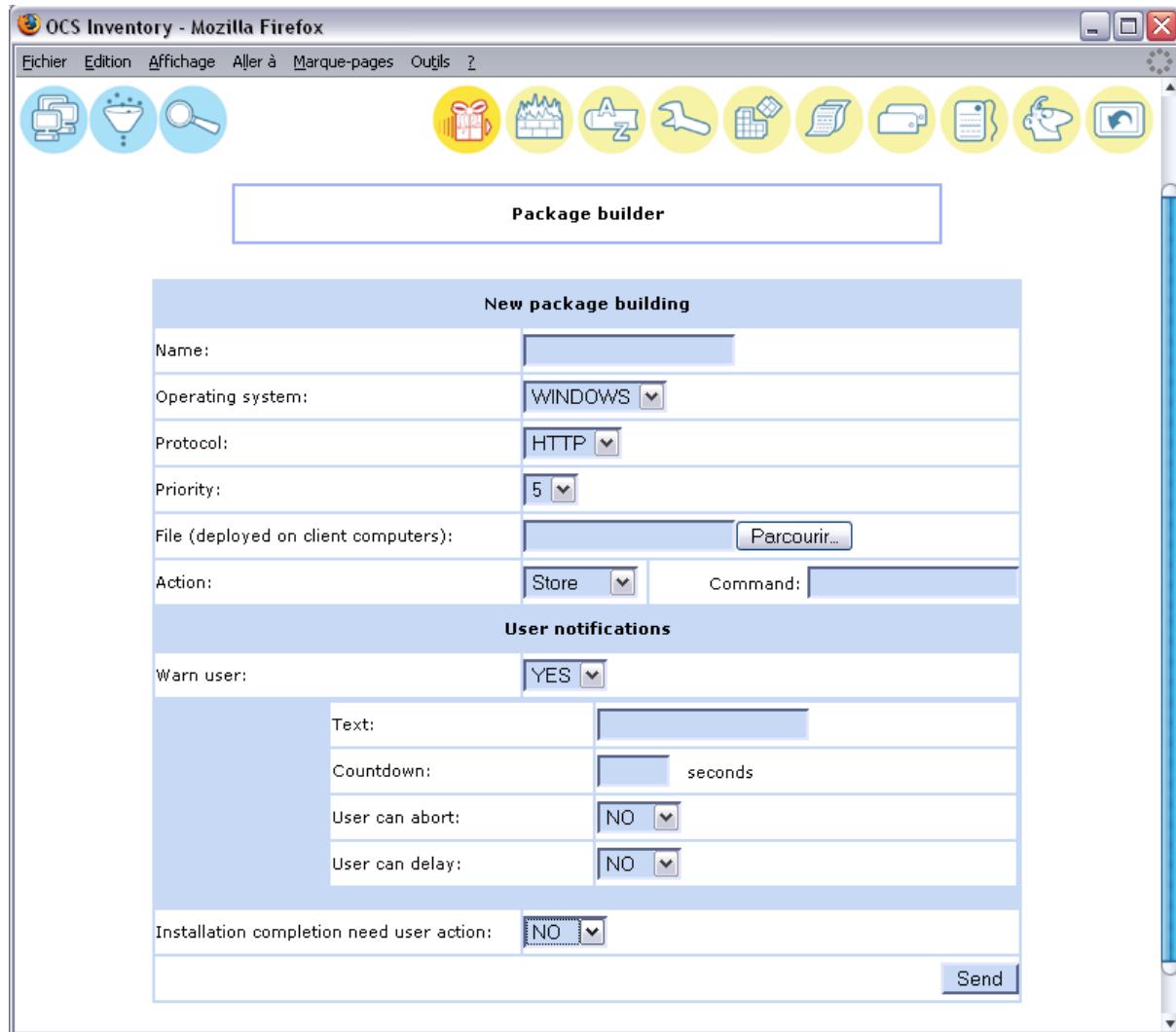
Refer to § 8.8 Using SSL certificates in Package deployment. For more informations.

8.3 Creating packages.

First of all, you must build your package.



Point your mouse on “Deployment” menu and select “Build”.



Enter a name for your package.

Select operating system for this package. You can choose between Windows and Linux.

Select download protocol for this package. At this time, only HTTP protocol is available.

Select priority on this package. You can choose level 0 to 10 for priority. Package with lesser priority will be downloaded before package of greater priority, except if download fails (cf § 8.7 Deployment statistics and success validation.).

You may also choose to warn user that something is being launched on his computer. Set “Warn user” dropdown list to “YES”, fill in text to display to user, how long to display the text before auto validating package installation (set 0 to wait indefinitely) and if user can cancel deployment or delay deployment to next inventory.

You may also specify if package deployment needs a user interaction by setting dropdown list “Installation completion need user action” to “YES”, for example, if setup needs that user fill in informations on a dialog to terminate.

Last, you can select your action in “Action” dropdown list. Here are some samples describing what kind of package you can build.

8.3.1 Deploying package through “Launch” command.

Package you want to deploy has one or more files, with at least an executable file for launching package setup. Compress theses files using ZIP tool if package addresses Windows computers, using tar and gzip if package addresses Linux computers.

Choose action “Launch” and click “Browse” button to select your ZIP or TAR.GZ file.

In field “Command”, just fill in name of executable file without path, but with, optionally, parameters. It’s this command which will be launched on client computer once package will be downloaded and uncompressed to a temporary directory.

In our following example, we deploy a new release of OCS Inventory NG Agent for Windows, using silent installation, specifying Communication server address my_ocs_com_srv, disabling use of IE proxy settings and enabling debugging mode. So, ZIP file only include file “OcsAgentSetup.exe” and the “File name” field contains:

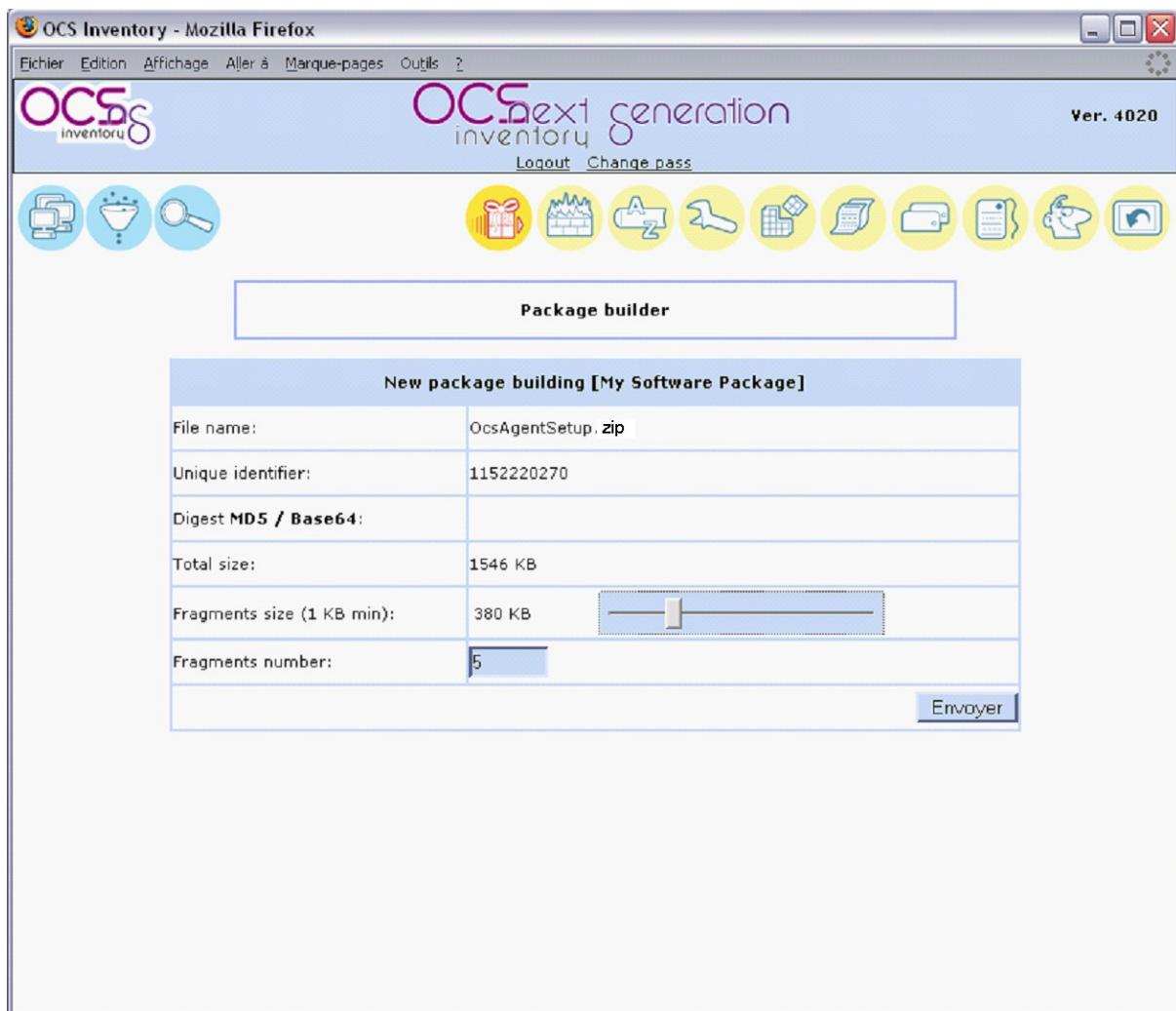
- ✓ OcsAgentSetup.exe /S /SERVER:my_ocs_com_srv /NP /DEBUG



Click “Send” button to upload package to Administration console.

Next, you must specify the size of each fragment of package to allow agent downloading package by small parts. This will allow download resuming. If download of a fragment fails, only this fragment will be downloaded another time, not all the package. So choose fragment size according to your network capabilities.

Administration console will then split package in fragments and store them in a folder named as package timestamp in directory “download” of apache web server root directory. It will also create in the same directory the package information file named “info”, an XML file describing the package and action agent will have to launch.



8.3.2 Deploying package through “Execute” command.

Package you want to deploy has one or more files, with optionally an executable file for launching package setup. Compress these files using ZIP tool if package addresses Windows computers, using tar and gzip if package addresses Linux computers.

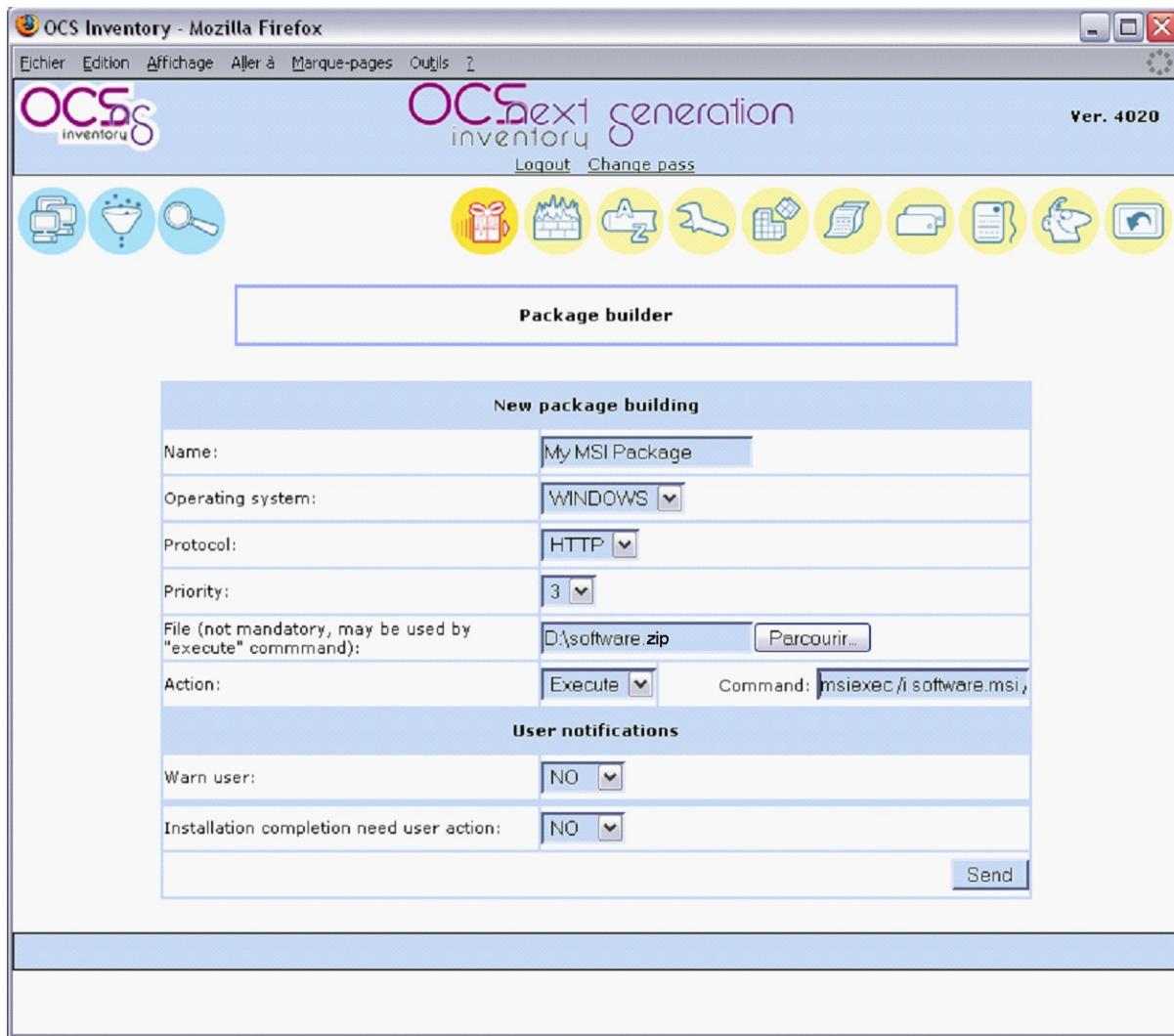
Choose action “Execute” and click “Browse” button to select your ZIP or TAR.GZ file.

In field “Command”, just fill in path of executable file to launch with parameters (full path is not required as application executable is listed on system search path, or is included in package). It’s this command which will be launched on client computer once package will be downloaded.

NB: Environnement variables are expanded in “Command”. It enables you to use things such as %SystemDrive%, %SystemRoot%, %windir%, %ProgramFiles%, %CommonProgramFiles% ...etc.

In our following example, we deploy software using silent Windows Installer installation. So, ZIP file only include file “software.msi” and the “Command” field contains:

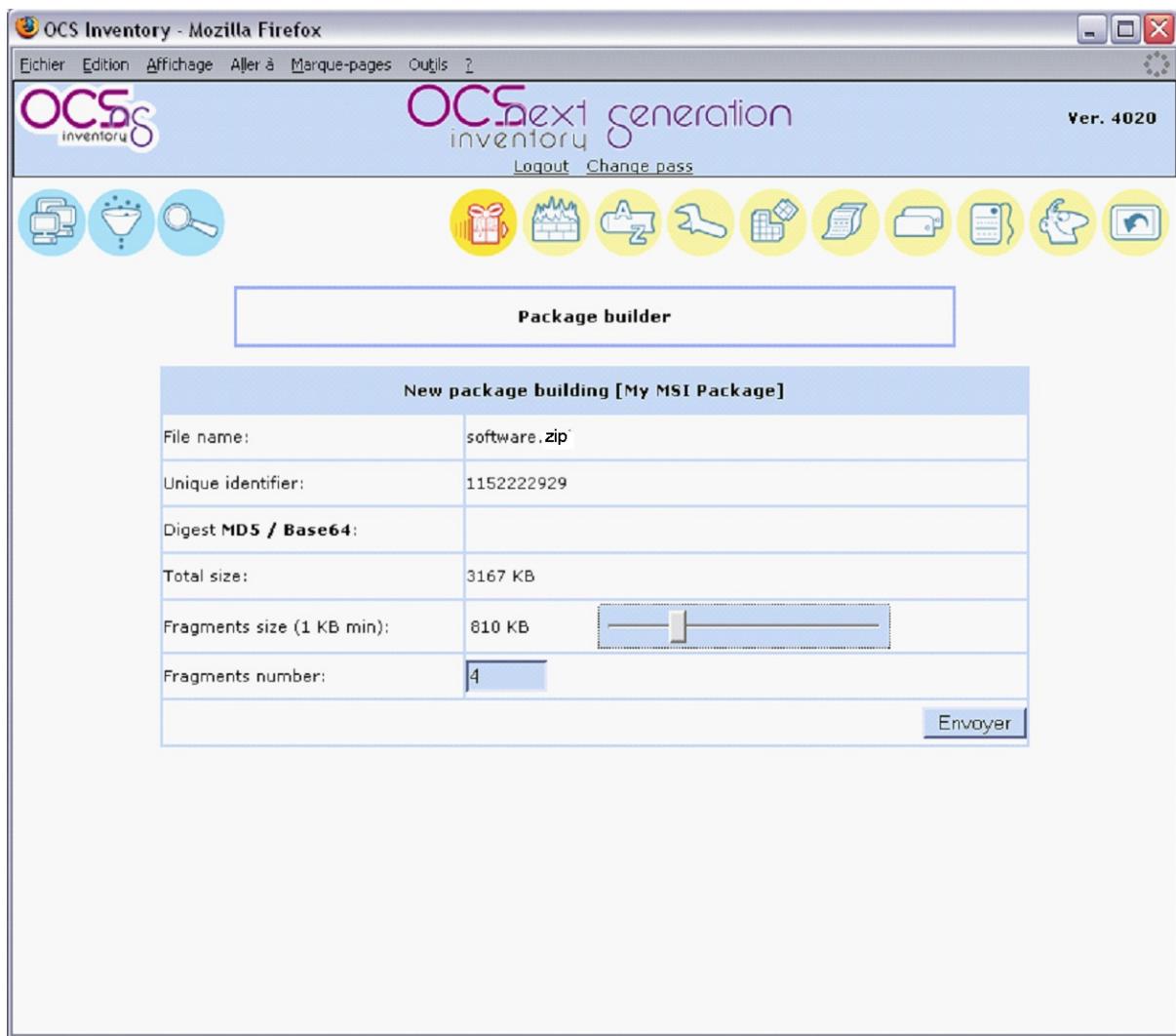
- ✓ msieexec.exe /i software.msi /quiet



Click “Send” button to upload package to Administration console.

Next, you must specify the size of each fragment of package to allow agent downloading package by small parts. This will allow download resuming. If download of a fragment fails, only this fragment will be downloaded another time, not all the package. So choose fragment size according to your network capabilities.

Administration console will then split package in fragments and store them in a folder named as package timestamp in directory “download” of apache web server root directory. It will also create in the same directory the package information file named “info”, an XML file describing the package and action agent will have to launch.



8.3.3 Command through “Execute” command.

Package you want to deploy is only a command launch.

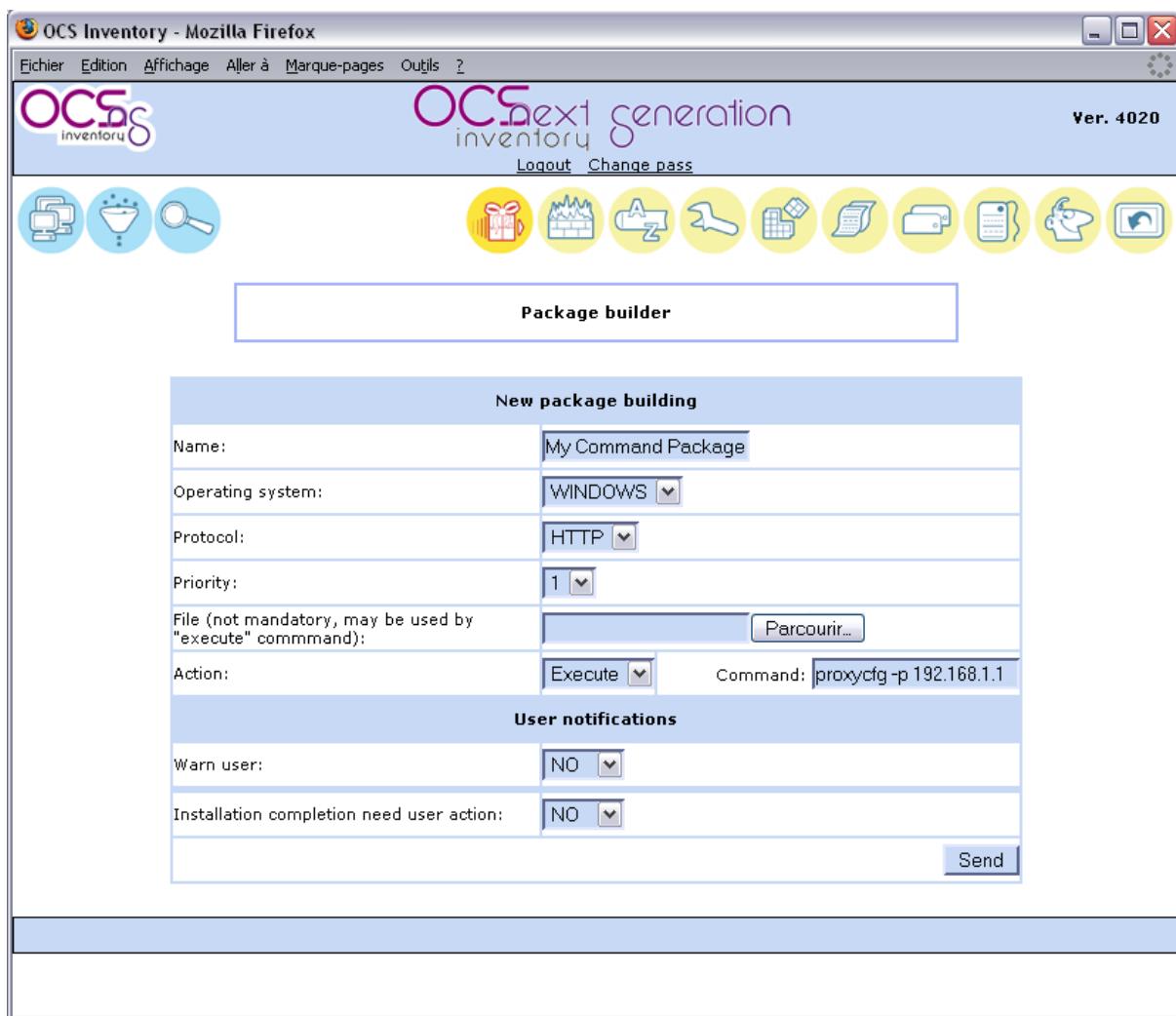
Choose action “Execute” and leave field “File” empty.

In field “Command”, just fill in name of command with, optionally, parameters. It’s this command which will be launched on client computer once package will be downloaded.

NB: Environnement variables are expanded in “Command”. It enables you to use things such as %SystemDrive%, %SystemRoot%, %windir%, %ProgramFiles%, %CommonProgramFiles% ...etc.

In our following example, we deploy a command to specify proxy address to use for System Applications under Windows. So the “Command” field contains:

- ✓ Proxycfg.exe /p 192.168.1.1



Click “Send” button to upload package to Administration console.

As you've not selected to upload a file, screen to configure fragment size is not displayed. Administration console will only create, in a folder named as package timestamp in directory “download” of apache web server root directory, the package information file named “info”, an XML file describing the package and action agent will have to launch.

8.3.4 Stored package through “Store” command.

Package you want to deploy has one or more files, to be stored in a specific folder on client computers. Compress these files using ZIP tool if package addresses Windows computers, using tar and gzip if package addresses Linux computers.

Choose action “Store” and click “Browse” button to select your ZIP or TAR.GZ file.

In field “Path”, just fill in path where agent will store extracted files once package will be downloaded.

NB: Environnement variables are expanded in “Command”. It enables you to use things such as %SystemDrive%, %SystemRoot%, %windir%, %ProgramFiles%, %CommonProgramFiles% ...etc.

Also, if provided folder path does not exist, it will be recursively created.

In our following example, we deploy a file to store in folder “C:\My Folder”:

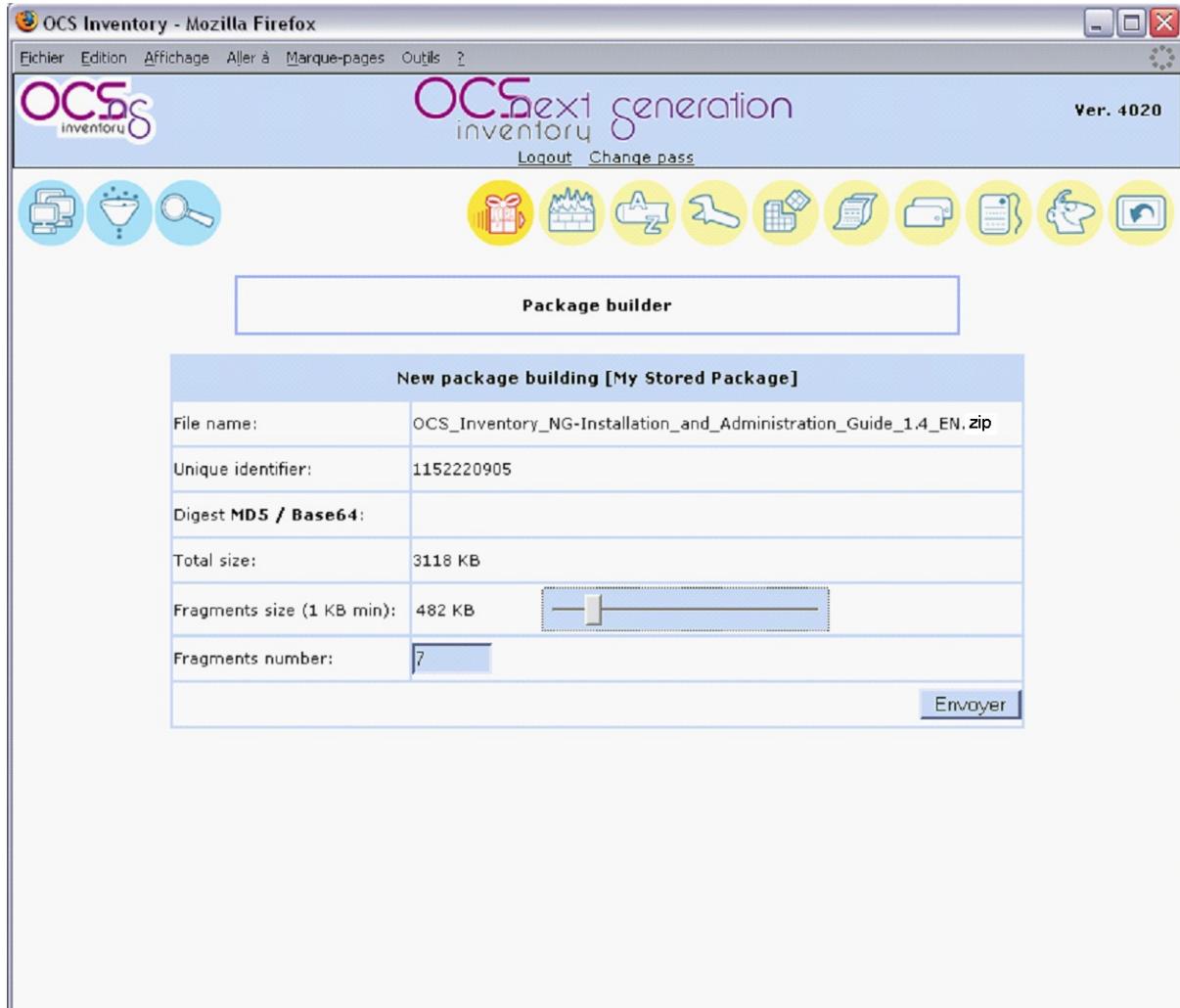


Click “Send” button to upload package to Administration console.

Next, you must specify the size of each fragment of package to allow agent downloading package by small parts. This will allow download resuming. If download of a fragment fails, only this fragment will be downloaded another time, not all the package. So choose fragment size according to your network capabilities.

Administration console will then split package in fragments and store them in a folder named as package timestamp in directory “download” of apache web server root directory. It will

also create in the same directory the package information file named “info”, an XML file describing the package and action agent will have to launch.



8.4 Activating package

Once package have been created, you must specify where agent can download it.

Agent will first download package information file. As this file is very critical, this download must be done using HTTP over SSL (HTTPS) to ensure that agent can authenticate deployment server. Next, download of package fragment described in information file will be done using standard HTTP.

NB: If you do not want to use Administration server as deployment server, you must first copy folder “download/package_timestamp” from Administration server Apache document root directory to another web server. You may want to use a directory synchronization utility like

rsync (<http://samba.anu.edu.au/rsync>) to automatically do this task; otherwise, we will have to do it manually.

You may also choose to host information file on a different web server than the one which hosts fragment files. For example, if you have multiple geographical sites with only one central Communication server, you may want to host information files on Communication server, and fragment files on a web server on each site. For this, you need to activate a package per site, and for each package, information file will be hosted on Communication server and fragment files on site web server. This will dramatically decrease intersite network bandwidth use.



Point your mouse on “Deployment” menu and select “Activate”. You will view here all built package, and also ALL activated package.

You can click the red cross to delete a built package. This will delete package reference from database and also delete information file and fragment files from Administration console download directory. So, deleted package will be unavailable for activation, all activated packages using this package will be deleted, and also unaffected from computers.

The screenshot shows the OCS Inventory Next Generation web interface. At the top, there's a navigation bar with links like Fichier, Édition, Affichage, Historique, Marque-pages, Outils, and a help icon. The main header says "OCS next generation inventory Ver. 4100". Below the header is a toolbar with various icons: gift, firewall, A-Z, wrench, gears, document, clipboard, user, monitor, and question mark. A search bar is also present. The main content area is titled "Package activation". It displays a table with 4 results:

| Timestamp | Name | Priority | Fragments number | Total size | Operating system | Non notified | Success | Errors | Stats | Activate |
|------------|---------------------|----------|------------------|------------|------------------|--------------|---------|--------|-------|----------|
| 1169930274 | My Stored Package | 7 | 6 | 6173129 | WINDOWS | 0 | 0 | 0 | - | |
| 1169930328 | My Command Package | 1 | 0 | 0 | WINDOWS | 0 | 0 | 0 | - | |
| 1169930404 | My MSI Package | 3 | 3 | 3578368 | WINDOWS | 0 | 0 | 0 | - | |
| 1169930463 | My Software Package | 5 | 3 | 1143724 | WINDOWS | 0 | 0 | 0 | - | |

Below the table, there's a note: "Or activate a package manually Timestamp: ". At the bottom, a message says "Terminé" and there are status icons.

Click “Active” button on the line corresponding to the package you want to activate.

In field “HTTPS url”, enter URL for download in HTTPS package information file.
In field “HTTP url”, enter URL for downloading in HTTP package fragment files.

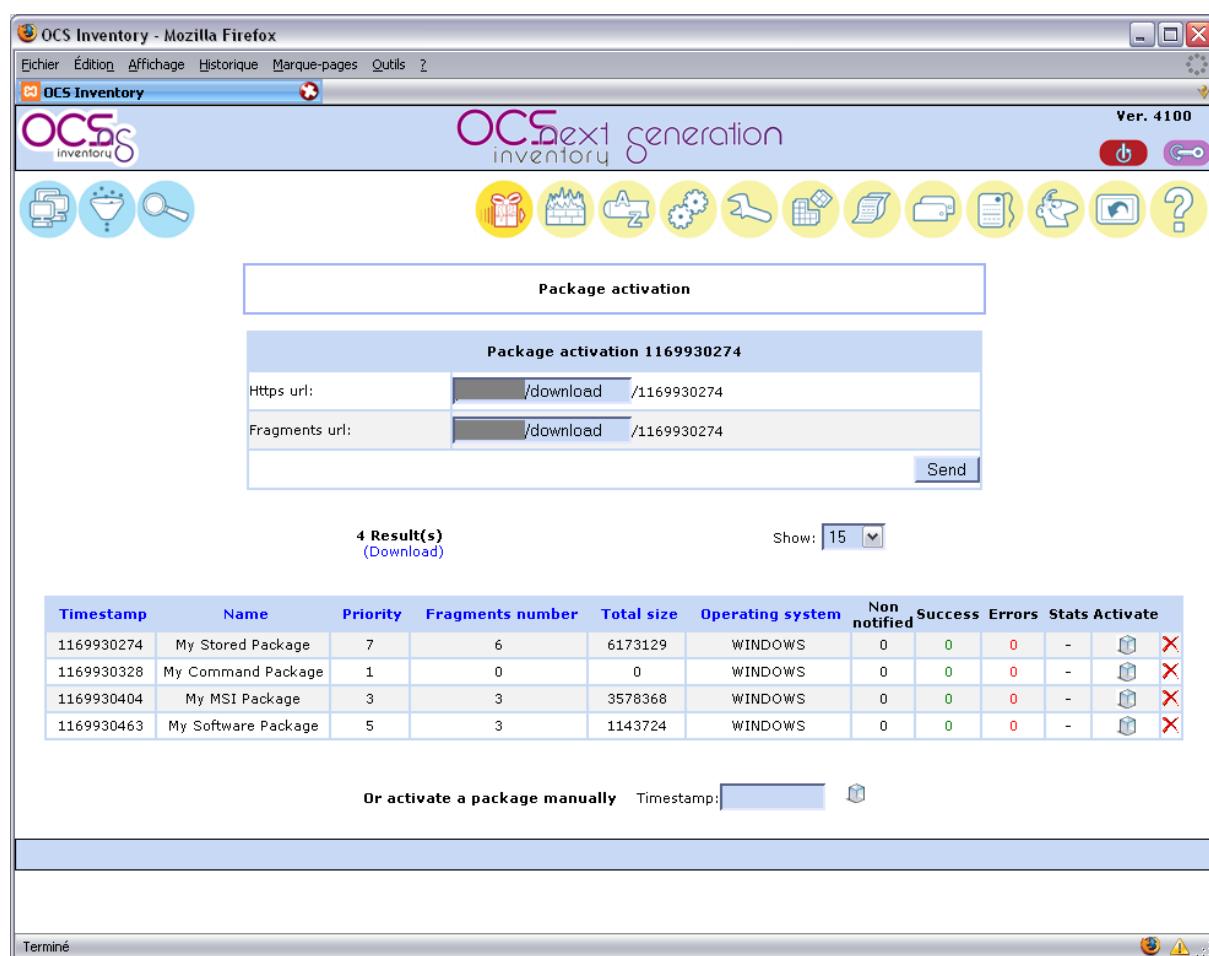
***NB:** Do not enter localhost as server address in URL! Remember that these URLs will be processed by agents.*

If your HTTPS or HTTP deployment server works on non standard ports, you can specify working port using the standard notation “server_address:server_port/folder”. For example, your deployment server works on port HTTP 8080 and HTTPS 4343 on server 192.168.1.1, and packages are located under /download directory. You must fill in

*https url: 192.168.1.1:4343/download
http url: 192.168.1.1:8080/download*

In our case, we've chosen to use Administration server as deployment server for both package information file and package fragments.

So we have filled in both fields something like “ocs-admin-srv.domain.tld/download”.



| Timestamp | Name | Priority | Fragments number | Total size | Operating system | Non notified | Success | Errors | Stats | Activate |
|------------|---------------------|----------|------------------|------------|------------------|--------------|---------|--------|-------|---------------------------------------------------------------------------------------|
| 1169930274 | My Stored Package | 7 | 6 | 6173129 | WINDOWS | 0 | 0 | 0 | - |  |
| 1169930328 | My Command Package | 1 | 0 | 0 | WINDOWS | 0 | 0 | 0 | - |  |
| 1169930404 | My MSI Package | 3 | 3 | 3578368 | WINDOWS | 0 | 0 | 0 | - |  |
| 1169930463 | My Software Package | 5 | 3 | 1143724 | WINDOWS | 0 | 0 | 0 | - |  |

Click send button. Administration console will ensure that both information file and package fragment files are available on specified URLs.

“Non notified” column shows you the number of computers which haven’t yet been notified they have corresponding package to deploy.

“Success” column shows you the number of computers which have successfully deploy corresponding package.

“Errors” column shows you the number of computers which encounter errors deploying corresponding package.

The **“Stats” icon** allows you to view percentile of computers which are waiting for notification, those which are notified (server ask them to deploy the package), and those which have finished deploying with result code (SUCCESS or ERROR).

8.5 Affecting packages to computers.

You can affect package to computer one by one, by displaying computer properties, selecting “Customization” icon and adding the package”. However, this is not the best way if you would like to affect package to many computers.

The best way is to use “Search with various criteria” functions to search for computers you want, and to affect package to all these computers in one time.

In the following example, we will affect package we’ve created to all Windows XP computers.

So first, we search for Windows XP computers.

The screenshot shows the OCS Inventory Next Generation web interface. At the top, there's a navigation bar with links for Fichier, Edition, Affichage, Aller à, Marque-pages, Outils, and a help icon. The main header reads "OCSnext generation" with "inventor4" below it, and "Ver. 4020" to the right. There are two "Logout" and "Change pass" links. Below the header is a toolbar with icons for computer, network, and search. A search bar labeled "Search with various criteria" is present. Underneath is a search form with a dropdown menu set to "Choose", a "Reset" button, and a condition "EQUALS" selected. The search field contains "Microsoft Windows XP Professional". A "Search" button is at the bottom of the form. A note at the bottom says "Jokers: ? (one character), * (several characters)".

This search returns 59 computers on 4 pages.

The screenshot shows the OCS Inventory interface in Mozilla Firefox. At the top, there's a navigation bar with links like 'Fichier', 'Édition', 'Affichage', 'Historique', 'Marque-pages', 'Outils', and a question mark icon. Below the navigation is the 'OCS Next generation' logo and a toolbar with various icons. A search bar labeled 'Search with various criteria' is present. Below the search bar, a table displays 59 results, with the first few rows shown:

| Last inventory | Computer | Operating system | RAM(MO) | CPU(MHz) |
|---------------------|---------------|-----------------------------------|---------|----------|
| 01/27/2007 21:20:21 | SNOOPY-XP-PRO | Microsoft Windows XP Professional | 1024 | 2079 |
| 01/15/2007 14:20:50 | ST32546NG | Microsoft Windows XP Professional | 1024 | 2793 |
| 01/15/2007 14:16:53 | ST209034AH2 | Microsoft Windows XP Professional | 1024 | 2793 |
| 01/15/2007 14:11:19 | PT32687DG | Microsoft Windows XP Professional | 512 | 1729 |
| 01/15/2007 13:49:36 | ST32519MC | Microsoft Windows XP Professional | 1024 | 2391 |
| 01/15/2007 13:18:27 | ST32455DP | Microsoft Windows XP Professional | 1024 | 2399 |
| 01/15/2007 12:42:04 | PT32511DP | Microsoft Windows XP Professional | 735 | 2392 |
| 01/15/2007 12:32:44 | ST32577XXX | Microsoft Windows XP Professional | 512 | 2394 |
| 01/15/2007 12:21:09 | ST209036AH2 | Microsoft Windows XP Professional | 1024 | 2793 |
| 01/15/2007 12:17:21 | PT209056PG | Microsoft Windows XP Professional | 1024 | 1728 |
| 01/15/2007 11:22:03 | ST32611EXT | Microsoft Windows XP Professional | 1024 | 2794 |
| 01/15/2007 10:53:53 | ST209039PR | Microsoft Windows XP Professional | 1024 | 2793 |
| 01/15/2007 10:38:47 | ST32470NM | Microsoft Windows XP Professional | 1024 | 2399 |
| 01/15/2007 10:09:02 | ST32637DEV | Microsoft Windows XP Professional | 1024 | 2793 |
| 01/15/2007 10:07:53 | ST32638NB | Microsoft Windows XP Professional | 1024 | 2792 |

Below the table, there are buttons for 'Frequency', 'Deploy', and 'Delete'. The 'Deploy' button is circled in red. A search filter section follows, with a dropdown menu set to 'Choose' and a search input field containing 'Microsoft Windows XP Professional'. The bottom of the interface shows a status bar with 'Terminé'.

Just click “Deploy” to deploy on all computers returned by the search, not only on visible ones.

The screenshot shows the OCS Inventory interface in Mozilla Firefox. At the top, there's a navigation bar with links like 'Fichier', 'Édition', 'Affichage', 'Historique', 'Marque-pages', 'Outils', and a question mark icon. Below the navigation is the 'OCS Next generation' logo and a toolbar with various icons. A search bar labeled 'Affect a package (59 Computer(s))' is present. Below the search bar, a table displays 3 results, with the first few rows shown:

| Unique identifier | Timestamp | Name | Priority | Https url | Fragments url | fragments | Total size | Operating system | Affect |
|-------------------|------------|--------------------|----------|--------------------|--------------------|-----------|------------|------------------|--------|
| 2 | 1169930328 | My Command Package | 1 | localhost/download | localhost/download | 0 | 0 | WINDOWS | |
| 3 | 1169930404 | My MSI Package | 3 | localhost/download | localhost/download | 3 | 3578368 | WINDOWS | |
| 4 | 1169930404 | My MSI Package | 3 | localhost/download | localhost/download | 3 | 3578368 | WINDOWS | |

Below the table, there are buttons for '<= Back' and 'Show: 15'. The bottom of the interface shows a status bar with 'Terminé'.

Click on “Affect” icon of package line to affect this package to all selected computers.

Agents on computers will be notified at next Communication Server contact they have this package to deploy. So, while agent do not contact Communication server, computer will appear in console with status “WAITING NOTIFICATION”. Once agent has contacted Communication server, the status will be “NOTIFIED”.

8.6 Unactivating packages.



Point your mouse on “Deployment” menu and select “Activated”. You will see here all packages available for deployments on computers.

The screenshot shows a Mozilla Firefox browser window displaying the OCS Inventory Next Generation interface. The title bar says "OCS Inventory - Mozilla Firefox". The main content area shows a list of "Activated packages". At the top of the list, it says "3 Result(s) (Download)". Below this is a table with columns: Unique identifier, Timestamp, Name, Priority, Https url, Fragments url, fragments, Total size, Operating system, and Delete. There are three rows in the table:

| Unique identifier | Timestamp | Name | Priority | Https url | Fragments url | fragments | Total size | Operating system | Delete |
|-------------------|------------|--------------------|----------|--------------------|--------------------|-----------|------------|------------------|--------|
| 2 | 1169930328 | My Command Package | 1 | localhost/download | localhost/download | 0 | 0 | WINDOWS | X |
| 3 | 1169930404 | My MSI Package | 3 | localhost/download | localhost/download | 3 | 3578368 | WINDOWS | X |
| 4 | 1169930404 | My MSI Package | 3 | localhost/download | localhost/download | 3 | 3578368 | WINDOWS | X |

Below the table, a message reads: "You must make a computer search, and then click 'deploy' to affect these activated packages. You may also affect a package to a single computer by using the 'customization' tab of any computer details."

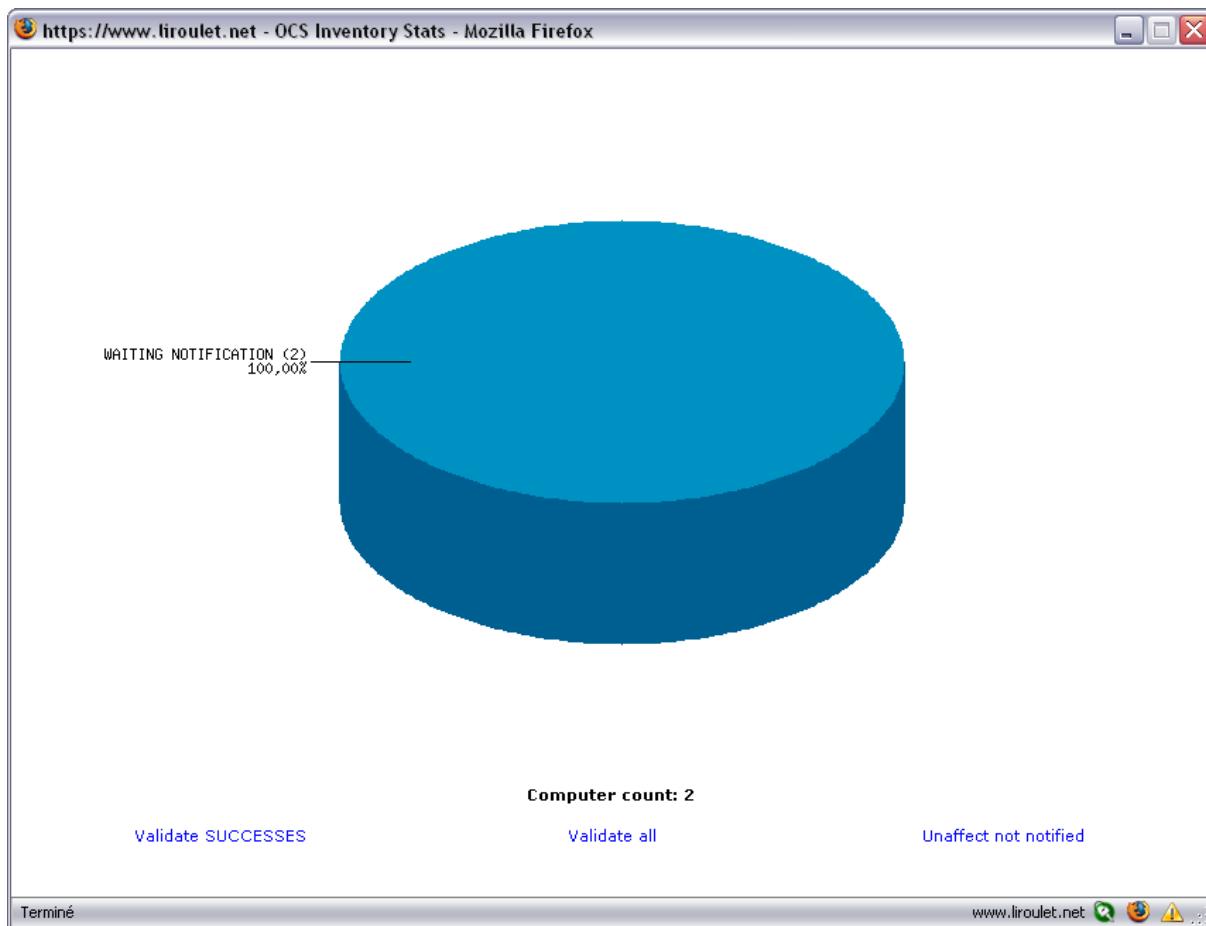
The red cross icon will unaffect package for ALL computers, and unactivate package. So package is still referenced in database, information and fragment files are still available on Administration server download directory. However, it has the same status as if you have just built it and can be activated again.

8.7 Deployment statistics and success validation.

As package may have been activated and then unactivated, deployment statics are in “Activate” menu.

You can show deployment statics by clicking “Stats” icon for a package.

Since you’ve affected package at least to one computer, you will have graphical stats showing deployment notification status.



Status may be once of the following:

| Status code | Meaning |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WAITING NOTIFICATION | Server is waiting for agent communication to notify there is something to download. |
| NOTIFIED | Agent has been notified there is something to download. Now waiting for result code. |
| SUCCESS [code] | Agent has successfully download package and launch command or stored extracted data. With “Launch” action, this status may be completed with command execution return code. |
| ERR_ALREADY_SETUP | Package was previously installed successfully on this computer. |
| ERR_BAD_ID | Agent is unable to download package because it cannot find package ID on deployment server. |
| ERR_BAD_DIGEST | Downloaded data are has bad digest, so agent does not execute associated command. |
| ERR_DOWNLOAD_PACK | Agent was unable to uncompress download ZIP or TAR.GZ file. |
| ERR_BUILD | Agent was unable to rebuild package fragments. |
| ERR_EXECUTE | Agent was unable to execute associated package command. |
| ERR_CLEAN | Agent was unable to clean downloaded package. |
| ERR_TIMEOUT | Agent was unable to download package during DOWNLOAD TIMEOUT days. |
| ERR_ABORTED | User canceled package command execution (you've choosen to notify him, and allowed him to cancel). |
| ERR_EXECUTE_PACK | Not used |

“Validating Success” will clear statistics of computers which have successfully deployed package.

“Unaffect not notified” will unaffected package from computers which do not have contacted server since you've affected package to computers. Package will not be deleted, only computers which do not have yet receive order to deploy this package will have this order cancelled.

“Validate all” will clear all statistics, and unaffected package from non notified computers. It is the same as “Validate Success” + “Unaffected not notified”.

NB: You MUST validate deployment status once deployment ended to clear database deployment status for computer. Otherwise, database will grow up and speed down !

8.8 Using SSL certificates in Package deployment.

Package deployment infrastructure is too much powerfull, so it requireSSL access to validate server before trying to download something from. So you need some SSL certificates for use with your deployment server.

Certificate definition from http://en.wikipedia.org/wiki/Public_key_certificate

*"In [cryptography](#), a **public key certificate** (or **identity certificate**) is a certificate which uses a [digital signature](#) to bind together a [public key](#) with an identity — information such as the name of a person or an organization, their address, and so forth. The certificate can be used to verify that a public key belongs to an individual.*

In a typical [public key infrastructure](#) (PKI) scheme, the signature will be of a [certificate authority](#) (CA). In a [web of trust](#) scheme, the signature is of either the user (a [self-signed certificate](#)) or other users ("endorsements"). In either case, the signatures on a certificate are attestations by the certificate signer that the identity information and the public key belong together."

You can use a quick, easy but limited way, **self signed certificate**, or a more secure and reliable tool, **a PKI with a Certificate Authority**.

Apache web server comes with OpenSSL cryptographic library, which allow creating and managing certificates.

8.8.1 Using self signed certificates.

NB: Take care about certificate validity period, as web server self signed certificate must be installed on each client computer running the agent. When certificate will expire, you will have to generate and deploy new certificate on each client computer!

8.8.1.1 With OCS Inventory NG Server for Linux.

Usually, Apache or mod_ssl packages come with sample scripts to generate certificates, especially test certificates.

However, we provide below a sample script using OpenSSL for generating a self signed certificate for use in Apache.

```
#!/bin/sh
#
# First, generate apache server certificate request
#
```

```
# Generate 1024 bits RSA key, store private key in a
# no password protected PEM file server.key, using
# system default openssl configuration file.
#
echo
echo Generating Apache server private key...
echo
openssl genrsa -out server.key 1024

#
# Next, sign the apache server certificate with the apache
# server key
#
# Sign with PEM certificate server.crt, using PEM file
# server.key for server private key, using system default
# openssl configuration file.
#
# The produced certificate will be valid for 1825 days (about 5 years)
#
echo
echo Generating Apache server self signed certificate...
echo
openssl req -outform PEM -new -key server.key -x509 -days 1825 -out server.crt
```

Figure 8: Sample apache_generate_cert.sh script

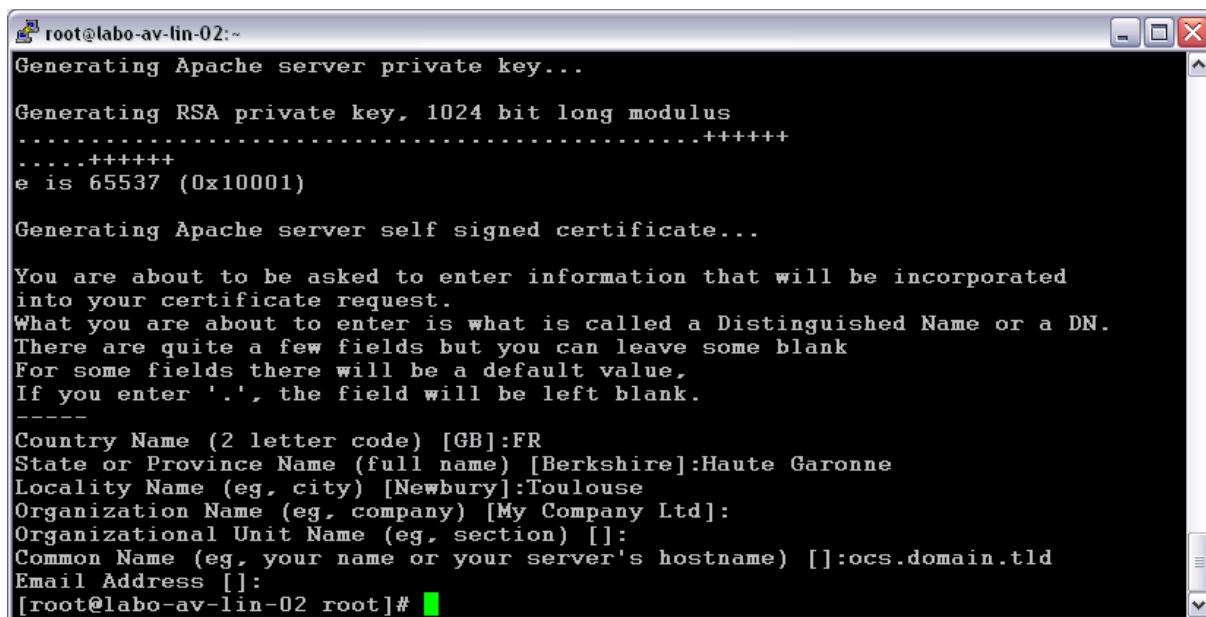
This script generates a RSA private key in file “server.key” and an X.509 self signed certificate in file “server.crt”.

First, launch this script using command:

✓ sh apache_generate_cert.sh

It will generate private key, and prompt you for certificate properties:

- ✓ Country code, usually required
- ✓ State or province name, usually required
- ✓ City, usually required
- ✓ Organisation or company name, usually required
- ✓ Organisational Unit name, usually optional
- ✓ Common name (this is the DNS name or IP address of your server), required
- ✓ An email address, usually optional



```
root@labo-av-lin-02:~ Generating Apache server private key...
Generating RSA private key, 1024 bit long modulus
.....+++++
e is 65537 (0x10001)
Generating Apache server self signed certificate...
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
-----
Country Name (2 letter code) [GB]:FR
State or Province Name (full name) [Berkshire]:Haute Garonne
Locality Name (eg, city) [Newbury]:Toulouse
Organization Name (eg, company) [My Company Ltd]:
Organizational Unit Name (eg, section) []:
Common Name (eg, your name or your server's hostname) []:ocs.domain.tld
Email Address []:
[root@labo-av-lin-02 root]#
```

In our sample, we've generated self signed certificate for our server name "ocs.domain.tld".

Next, you just have to copy server certificate file "server.crt" and server private key file "server.key" files into appropriate directories and update Apache/mod_ssl configuration files to use these files.

Here is a sample and minimalist Apache/mod_ssl configuration for using SSL under CentOS/Fedora/RedHat Linux. (server certificate is stored under "/etc/httpd/conf/ssl.crt" directory and server key is stored under "/etc/httpd/conf/ssl.key" directory).

NB: Generally, Apache/mod_ssl configuration is provided for your system. So, do not use following configuration if your system already has a configuration file for mod_ssl !

```
# This is the Apache server configuration file providing SSL support.
# It contains the configuration directives to instruct the server how to
# serve pages over an https connection. For detailing information about these
# directives see <URL:http://httpd.apache.org/docs-2.0/mod/mod_ssl.html>
#
# For the moment, see <URL:http://www.modssl.org/docs/> for this info.
# The documents are still being prepared from material donated by the
# modssl project.
#
# Do NOT simply read the instructions in here without understanding
# what they do. They're here only as hints or reminders. If you are unsure
# consult the online docs. You have been warned.
#
LoadModule ssl_module modules/mod_ssl.so
#
# Until documentation is completed, please check http://www.modssl.org/
# for additional config examples and module documentation. Directives
```

```
# and features of mod_ssl are largely unchanged from the mod_ssl project
# for Apache 1.3.

#
# When we also provide SSL we have to listen to the
# standard HTTP port (see above) and to the HTTPS port
#
# To allow connections to IPv6 addresses add "Listen [::]:443"
#
Listen 0.0.0.0:443

#
# Some MIME-types for downloading Certificates and CRLs
#
AddType application/x-x509-ca-cert .crt
AddType application/x-pkcs7-crl .crl

# Pass Phrase Dialog:
# Configure the pass phrase gathering process.
# The filtering dialog program ('builtin' is a internal
# terminal dialog) has to provide the pass phrase on stdout.
SSLPassPhraseDialog builtin

## 
## SSL Virtual Host Context
## 

<VirtualHost _default_:443>

# Use separate log files:
ErrorLog logs/ssl_error_log
TransferLog logs/ssl_access_log

# SSL Engine Switch:
# Enable/Disable SSL for this virtual host.
SSLEngine on

# SSL Cipher Suite:
# List the ciphers that the client is permitted to negotiate.
# See the mod_ssl documentation for a complete list.
SSLCipherSuite ALL:!ADH:!EXPORT56:RC4+RSA:+HIGH:+MEDIUM:+LOW:+SSLv2:+EXP

# Server Certificate:
# Point SSLCertificateFile at a PEM encoded certificate. If
# the certificate is encrypted, then you will be prompted for a
# pass phrase. Note that a kill -HUP will prompt again. A test
# certificate can be generated with `make certificate` under
# built time. Keep in mind that if you've both a RSA and a DSA
# certificate you can configure both in parallel (to also allow
# the use of DSA ciphers, etc.)
SSLCertificateFile /etc/httpd/conf/ssl.crt/server.crt

# Server Private Key:
# If the key is not combined with the certificate, use this
# directive to point at the key file. Keep in mind that if
# you've both a RSA and a DSA private key you can configure
# both in parallel (to also allow the use of DSA ciphers, etc.)
```

```
SSLCertificateKeyFile /etc/httpd/conf/ssl.key/server.key

# SSL Engine Options:
# StdEnvVars:
# This exports the standard SSL/TLS related `SSL_*` environment variables.
# Per default this exportation is switched off for performance reasons,
# because the extraction step is an expensive operation and is usually
# useless for serving static content. So one usually enables the
# exportation for CGI and SSI requests only.
SSLOptions +StdEnvVars

# SSL Protocol Adjustments:
# The safe and default but still SSL/TLS standard compliant shutdown
# approach is that mod_ssl sends the close notify alert but doesn't wait for
# the close notify alert from client. When you need a different shutdown
# approach you can use one of the following variables:
# o ssl-unclean-shutdown:
# This forces an unclean shutdown when the connection is closed, i.e. no
# SSL close notify alert is send or allowed to received. This violates
# the SSL/TLS standard but is needed for some brain-dead browsers. Use
# this when you receive I/O errors because of the standard approach where
# mod_ssl sends the close notify alert.
# o ssl-accurate-shutdown:
# This forces an accurate shutdown when the connection is closed, i.e. a
# SSL close notify alert is send and mod_ssl waits for the close notify
# alert of the client. This is 100% SSL/TLS standard compliant, but in
# practice often causes hanging connections with brain-dead browsers. Use
# this only for browsers where you know that their SSL implementation
# works correctly.
# Notice: Most problems of broken clients are also related to the HTTP
# keep-alive facility, so you usually additionally want to disable
# keep-alive for those clients, too. Use variable "nokeepalive" for this.
# Similarly, one has to force some clients to use HTTP/1.0 to workaround
# their broken HTTP/1.1 implementation. Use variables "downgrade-1.0" and
# "force-response-1.0" for this.

SetEnvIf User-Agent ".*MSIE.*" \
    nokeepalive ssl-unclean-shutdown \
    downgrade-1.0 force-response-1.0

# Per-Server Logging:
# The home of a custom SSL log file. Use this when you want a
# compact non-error SSL logfile on a virtual host basis.
CustomLog logs/ssl_request_log \
    "%t %h %{SSL_PROTOCOL}x %{SSL_CIPHER}x \"%r\" %b"

</VirtualHost>
```

Figure 9: Sample Apache/mod_ssl configuration file

Once you've configured your Apache web server, don't forget to restart Apache daemon for changes to take effect.

Last, you have to install server certificate file “server.crt” on each client computer into OCS Inventory Agent installation directory, under the name “cacert.pem”.

8.8.1.2 With OCS Inventory NG Server for Windows.

XAMPP Apache distribution comes with a script “makecert.bat” for generating self signed certificates. This script is located under “INSTALL_PATH\xampp\apache” directory (where INSTALL_PATH is the installation folder of OCS Inventory NG Server)

```
@echo off
set OPENSSL_CONF=./bin/openssl.cnf

if not exist .\conf\ssl.crt mkdir .\conf\ssl.crt
if not exist .\conf\ssl.key mkdir .\conf\ssl.key

bin\openssl req -new -out server.csr
bin\openssl rsa -in privkey.pem -out server.key
bin\openssl x509 -in server.csr -out server.crt -req -signkey server.key -days 365

set OPENSSL_CONF=
del .rnd
del privkey.pem
del server.csr

move /y server.crt .\conf\ssl.crt
move /y server.key .\conf\ssl.key

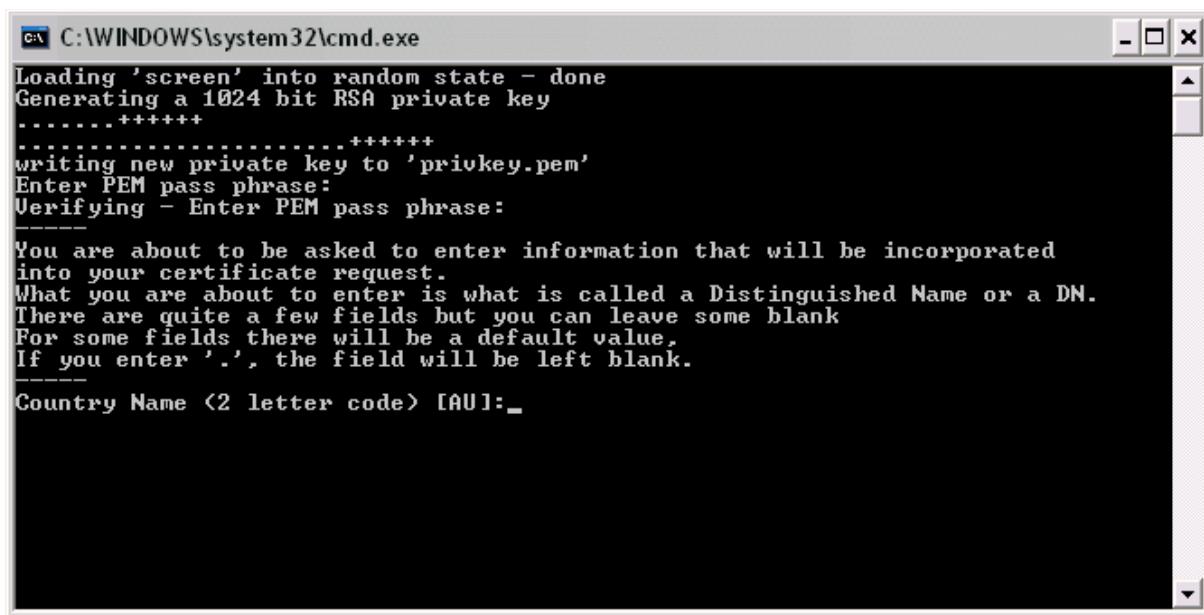
echo.
echo -----
echo Das Zertifikat wurde erstellt.
echo The certificate was provided.
echo.
Pause
```

Figure 10: XAMPP "makecert.bat" default script

This script generate self signed certificate usable for 365 days. If you want to increase certificate validity, you must update directive “-days 365” to specify in days new validity period (1825 days, about 5 years must be up a good value ;-).

Just double run script “makecert.bat”. It will generate a RSA private key and ask you for a password (at least 4 characters).

Enter password and confirm it.

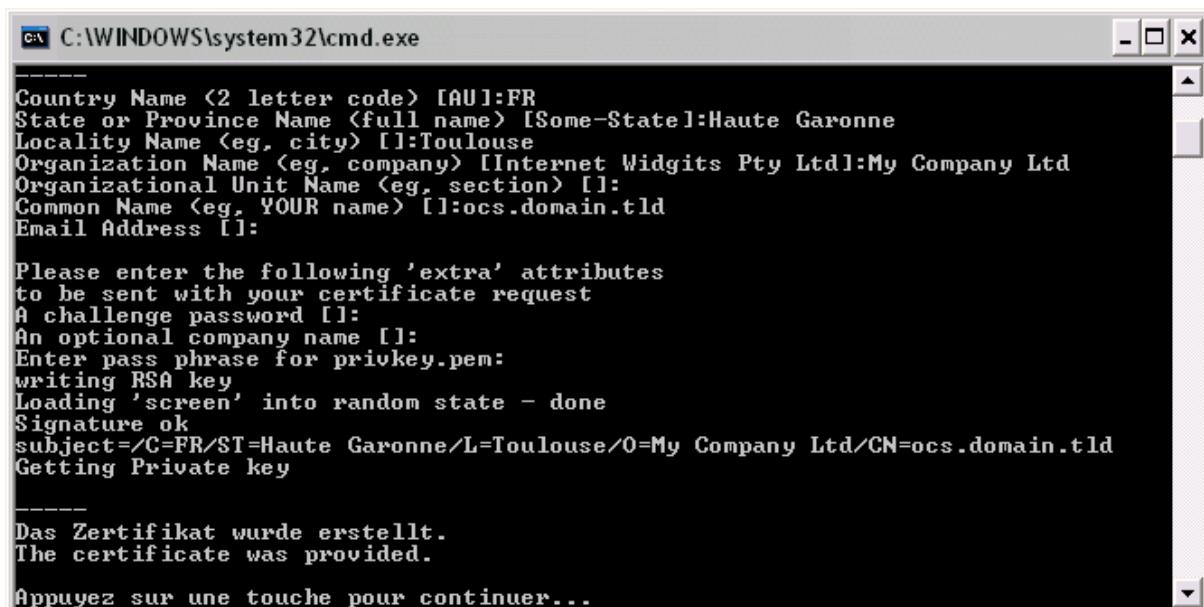


```
C:\WINDOWS\system32\cmd.exe
Loading 'screen' into random state - done
Generating a 1024 bit RSA private key
.....+++++
-----+=====
writing new private key to 'privkey.pem'
Enter PEM pass phrase:
Verifying - Enter PEM pass phrase:
-----
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
-----
Country Name <2 letter code> [AU]:
```

Next, you will be prompted for certificate properties:

- ✓ Country code, usually required
- ✓ State or province name, usually required
- ✓ City, usually required
- ✓ Organisation or company name, usually required
- ✓ Organisational Unit name, usually optional
- ✓ Common name (this is the DNS name or IP address of your server), required
- ✓ An email address, usually optional
- ✓ A challenge password (must be empty, just press enter)
- ✓ An optional company name

Finally, you will be prompted for private key password.



```
C:\WINDOWS\system32\cmd.exe
-----
Country Name <2 letter code> [AU]:FR
State or Province Name <full name> [Some-State]:Haute Garonne
Locality Name <eg, city> []:Toulouse
Organization Name <eg, company> [Internet Widgits Pty Ltd]:My Company Ltd
Organizational Unit Name <eg, section> []:
Common Name <eg, YOUR name> []:ocs.domain.tld
Email Address []:

Please enter the following 'extra' attributes
to be sent with your certificate request
A challenge password []:
An optional company name []:
Enter pass phrase for privkey.pem:
writing RSA key
Loading 'screen' into random state - done
Signature ok
subject=/C=FR/ST=Haute Garonne/L=Toulouse/O=My Company Ltd/CN=ocs.domain.tld
Getting Private key

-----
Das Zertifikat wurde erstellt.
The certificate was provided.

Appuyez sur une touche pour continuer...
```

Now, self signed certificate is created and installed. Just restart Apache2 service for changes to take effect.

Last, you have to install server certificate file “INSTALL_PATH\xampp\apache\conf\ssl.crt\server.crt” on each client computer into OCS Inventory Agent installation directory, under the name “cacert.pem”.

8.8.2 Using PKI with Certificate Authority.

We assume that you’re already using an internal PKI or commercial one like Verisign.

However, if you don’t have an internal PKI, and don’t want to pay for certificates, you can use services provided by cacert.org (<http://www.cacert.org>), a free worldwide PKI provider. Using cacert.org services require that you register your email and DNS domain name, before to be able to request server certificate. See cacert.org manuals.

You may take a look at Pablo Iranzo Gómez excellent article (<http://alufis35.uv.es/OCS-Inventory-Package-Deployment.html>) for more detailed instructions about using cacert.org certificates in OCS Inventory NG.

8.8.2.1 With OCS Inventory NG Server for Linux.

Usually, Apache or mod_ssl packages come with sample scripts to generate certificates request to submit to a PKI provider.

However, we provide below a sample script using OpenSSL for generating a certificate request for use in Apache.

```
#!/bin/sh

#
# Generate server certificate request
#
# Generate 1024 bits RSA key, store private key in a
# no password protected PEM file server.key, store certificate
# request in a PEM file server.csr, using system default
```

```
# configuration file

#
# The produced key will be valid for 1825 days (5 years)

#
echo

echo Generating server private key and certificate request...

echo

openssl req -newkey rsa:1024 -outform PEM -out server.csr -keyout server.key -keyform PEM \
-days 1825 -nodes
```

Figure 11: Sample apache_request_cert.sh script

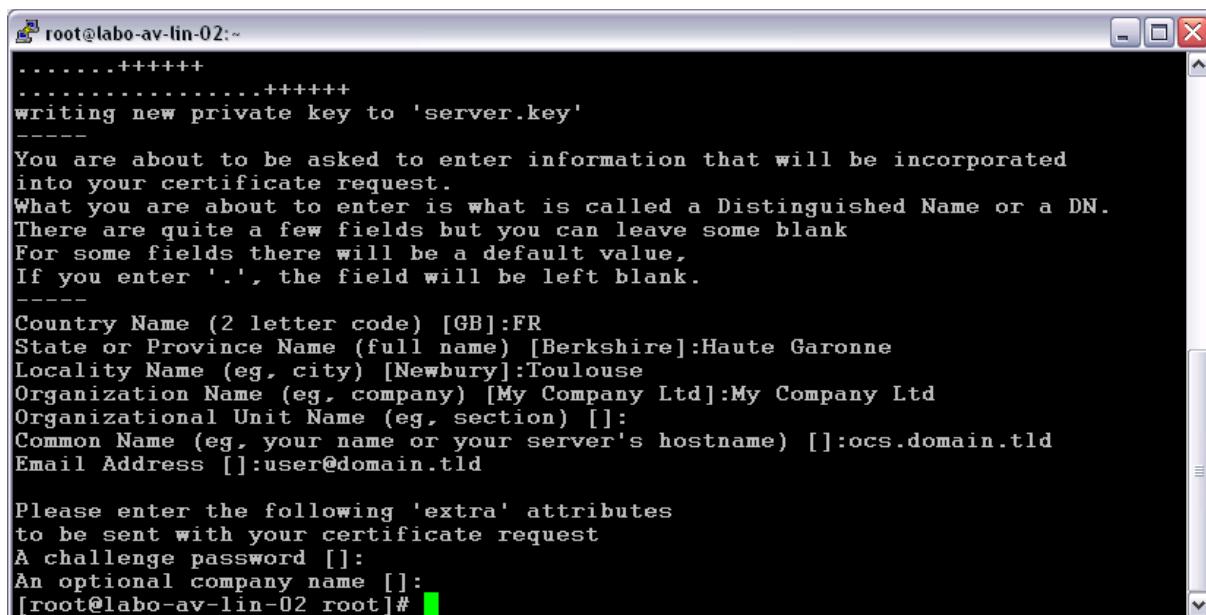
This script generates a RSA private key in file “server.key” and a certificate request in file “server.csr”.

First, launch this script using command:

✓ sh apache_request_cert.sh

It will generate private key, and prompt you for certificate request properties:

- ✓ Country code, usually required
- ✓ State or province name, usually required
- ✓ City, usually required
- ✓ Organisation or company name, usually required
- ✓ Organisational Unit name, usually optional
- ✓ Common name (this is the DNS name or IP address of your server), required
- ✓ An email address, required to receive certificate generated by Certificate Authority.
- ✓ An optional challenge password
- ✓ An optional company name



```
root@labo-av-lin-02:~  
-----+  
-----+  
writing new private key to 'server.key'  
-----  
You are about to be asked to enter information that will be incorporated  
into your certificate request.  
What you are about to enter is what is called a Distinguished Name or a DN.  
There are quite a few fields but you can leave some blank  
For some fields there will be a default value,  
If you enter '.', the field will be left blank.  
-----  
Country Name (2 letter code) [GB]:FR  
State or Province Name (full name) [Berkshire]:Haute Garonne  
Locality Name (eg, city) [Newbury]:Toulouse  
Organization Name (eg, company) [My Company Ltd]:My Company Ltd  
Organizational Unit Name (eg, section) []:  
Common Name (eg, your name or your server's hostname) []:ocs.domain.tld  
Email Address []:user@domain.tld  
  
Please enter the following 'extra' attributes  
to be sent with your certificate request  
A challenge password []:  
An optional company name []:  
[root@labo-av-lin-02 root]#
```

In our sample, we've generated certificate request for our server name "ocs.domain.tld".

Next, you must transmit your certificate request "server.csr" to your PKI Certificate Authority.

Once you've received your server certificate from Certificate Authority, you just have to copy server certificate file "server.crt" and server private key "server.key" files into appropriate directories, and update Apache/mod_ssl configuration files to use these files.

You must also retrieve Certificate Authority root certificate into file "ca_root.crt" to specify it in Apache configuration.

Here is a sample and minimalist Apache/mod_ssl configuration for using SSL under CentOS/Fedora/RedHat Linux. (server certificate is stored under "/etc/httpd/conf/ssl.crt" directory and server key is stored under "/etc/httpd/conf/ssl.key" directory).

NB: Generally, Apache for Win32 comes with a predefined Apache/mod_ssl configuration file. So, do not use following configuration if your system already has a configuration file for mod_ssl !

```
#  
# This is the Apache server configuration file providing SSL support.  
# It contains the configuration directives to instruct the server how to  
# serve pages over an https connection. For detailing information about these  
# directives see <URL:http://httpd.apache.org/docs-2.0/mod/mod_ssl.html>  
#  
# For the moment, see <URL:http://www.modssl.org/docs/> for this info.  
# The documents are still being prepared from material donated by the  
# modssl project.  
#  
# Do NOT simply read the instructions in here without understanding  
# what they do. They're here only as hints or reminders. If you are unsure
```

```
# consult the online docs. You have been warned.  
#  
LoadModule ssl_module modules/mod_ssl.so  
  
# Until documentation is completed, please check http://www.modssl.org/  
# for additional config examples and module documentation. Directives  
# and features of mod_ssl are largely unchanged from the mod_ssl project  
# for Apache 1.3.  
  
#  
# When we also provide SSL we have to listen to the  
# standard HTTP port (see above) and to the HTTPS port  
#  
# To allow connections to IPv6 addresses add "Listen [::]:443"  
#  
Listen 0.0.0.0:443  
  
#  
# Some MIME-types for downloading Certificates and CRLs  
#  
AddType application/x-x509-ca-cert .crt  
AddType application/x-pkcs7-crl .crl  
  
# Pass Phrase Dialog:  
# Configure the pass phrase gathering process.  
# The filtering dialog program ('builtin' is a internal  
# terminal dialog) has to provide the pass phrase on stdout.  
SSLPassPhraseDialog builtin  
  
##  
## SSL Virtual Host Context  
##  
  
<VirtualHost _default_:443>  
  
# Use separate log files:  
ErrorLog logs/ssl_error_log  
TransferLog logs/ssl_access_log  
  
# SSL Engine Switch:  
# Enable/Disable SSL for this virtual host.  
SSLEngine on  
  
# SSL Cipher Suite:  
# List the ciphers that the client is permitted to negotiate.  
# See the mod_ssl documentation for a complete list.  
SSLCipherSuite ALL:!ADH:!EXPORT56:RC4+RSA:+HIGH:+MEDIUM:+LOW:+SSLv2:+EXP  
  
# Server Certificate:  
# Point SSLCertificateFile at a PEM encoded certificate. If  
# the certificate is encrypted, then you will be prompted for a  
# pass phrase. Note that a kill -HUP will prompt again. A test  
# certificate can be generated with `make certificate` under  
# built time. Keep in mind that if you've both a RSA and a DSA  
# certificate you can configure both in parallel (to also allow  
# the use of DSA ciphers, etc.)
```

```
SSLCertificateFile /etc/httpd/conf/ssl.crt/server.crt

# Server Private Key:
# If the key is not combined with the certificate, use this
# directive to point at the key file. Keep in mind that if
# you've both a RSA and a DSA private key you can configure
# both in parallel (to also allow the use of DSA ciphers, etc.)
SSLCertificateKeyFile /etc/httpd/conf/ssl.key/server.key

# Certificate Authority (CA):
# Set the CA certificate verification path where to find CA
# certificates for client authentication or alternatively one
# huge file containing all of them (file must be PEM encoded)
# Note: Inside SSLCACertificatePath you need hash symlinks
#       to point to the certificate files. Use the provided
#       Makefile to update the hash symlinks after changes.
#SSLCACertificatePath /etc/httpd/conf/ssl.crt
SSLCACertificateFile /usr/share/ssl/certs/ca_root.crt

# SSL Engine Options:
# StdEnvVars:
# This exports the standard SSL/TLS related `SSL_*` environment variables.
# Per default this exportation is switched off for performance reasons,
# because the extraction step is an expensive operation and is usually
# useless for serving static content. So one usually enables the
# exportation for CGI and SSI requests only.
SSLOptions +StdEnvVars

# SSL Protocol Adjustments:
# The safe and default but still SSL/TLS standard compliant shutdown
# approach is that mod_ssl sends the close notify alert but doesn't wait for
# the close notify alert from client. When you need a different shutdown
# approach you can use one of the following variables:
# o ssl-unclean-shutdown:
#   This forces an unclean shutdown when the connection is closed, i.e. no
#   SSL close notify alert is send or allowed to received. This violates
#   the SSL/TLS standard but is needed for some brain-dead browsers. Use
#   this when you receive I/O errors because of the standard approach where
#   mod_ssl sends the close notify alert.
# o ssl-accurate-shutdown:
#   This forces an accurate shutdown when the connection is closed, i.e. a
#   SSL close notify alert is send and mod_ssl waits for the close notify
#   alert of the client. This is 100% SSL/TLS standard compliant, but in
#   practice often causes hanging connections with brain-dead browsers. Use
#   this only for browsers where you know that their SSL implementation
#   works correctly.
# Notice: Most problems of broken clients are also related to the HTTP
# keep-alive facility, so you usually additionally want to disable
# keep-alive for those clients, too. Use variable "nokeepalive" for this.
# Similarly, one has to force some clients to use HTTP/1.0 to workaround
# their broken HTTP/1.1 implementation. Use variables "downgrade-1.0" and
# "force-response-1.0" for this.
SetEnvIf User-Agent ".*MSIE.*" \
    nokeepalive ssl-unclean-shutdown \
    downgrade-1.0 force-response-1.0

# Per-Server Logging:
```

```
# The home of a custom SSL log file. Use this when you want a
# compact non-error SSL logfile on a virtual host basis.
CustomLog logs/ssl_request_log \
    "%t %h %{SSL_PROTOCOL}x %{SSL_CIPHER}x \"%r\" %b"

</VirtualHost>
```

Figure 12: Sample Apache/mod_ssl configuration file

Once you've configured your Apache web server, don't forget to restart Apache daemon for changes to take effect.

Last, you have to install Certificate Authority root certificate file "ca_root.crt" on each client computer into OCS Inventory Agent installation directory, under the name "cacert.pem".

8.8.2.2 With OCS Inventory NG Server for Windows.

We provide below a sample script using OpenSSL for generating a certificate request for use in XAMPP Apache.

```
@echo off

REM

REM Generate server certificate request

REM

REM Generate 1024 bits RSA key, store private key in a

REM no password protected PEM file server.key, store certificate

REM request in a PEM file server.csr, using system default

REM configuration file

REM

REM The produced key will be valid for 1825 days (5 years)

REM

echo.

echo Generating server private key and certificate request...

echo.

set OPENSSL_CONF=./bin/openssl.cnf
```

```
bin\openssl req -newkey rsa:1024 -outform PEM -out server.csr -keyout server.key -keyform PEM -days 1825 -nodes
```

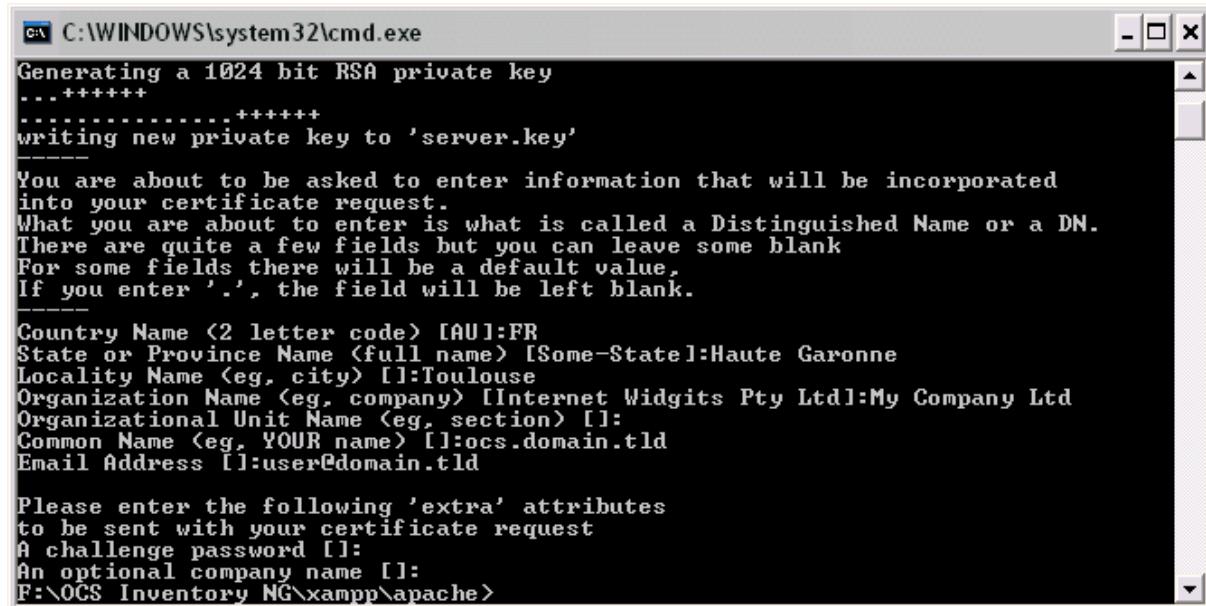
Figure 13: Sample apache_request_cert.sh script

This script generates a RSA private key in file “server.key” and a certificate request in file “server.csr”.

First, copy this script into “INSTALL_PATH\xampp\apache” directory (where “INSTALL_PATH is the installation folder of OCS Inventory NG) and launch it.

It will generate private key, and prompt you for certificate request properties:

- ✓ Country code, usually required
- ✓ State or province name, usually required
- ✓ City, usually required
- ✓ Organisation or company name, usually required
- ✓ Organisational Unit name, usually optional
- ✓ Common name (this is the DNS name or IP address of your server), required
- ✓ An email address, required to receive certificate generated by Certificate Authority.
- ✓ An optional challenge password
- ✓ An optional company name



```
C:\WINDOWS\system32\cmd.exe
Generating a 1024 bit RSA private key
...+++++
.....+++++
writing new private key to 'server.key'

You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.

Country Name (2 letter code) [AU]:FR
State or Province Name (full name) [Some-State]:Haute Garonne
Locality Name (eg, city) []:Toulouse
Organization Name (eg, company) [Internet Widgits Pty Ltd]:My Company Ltd
Organizational Unit Name (eg, section) []:
Common Name (eg, YOUR name) [1:ocs.domain.tld]
Email Address []:user@domain.tld

Please enter the following 'extra' attributes
to be sent with your certificate request
A challenge password []:
An optional company name []:
F:\OCS Inventory NG\xampp\apache>
```

In our sample, we've generated certificate request for our server name “ocs.domain.tld”.

Next, you must transmit your certificate request “server.csr” to your PKI Certificate Authority.

Once you've received your server certificate from Certificate Authority, you just have to copy server certificate file “server.crt” to directory

“INSTALL_PATH\xampp\apache\conf\ssl.crt” and server private key “server.key” files into to directory “INSTALL_PATH\xampp\apache\conf\ssl.key”.

You must also retrieve Certificate Authority root certificate into file “ca_root.crt” to specify it in Apache configuration. Store this file into directory “INSTALL_PATH\xampp\apache\conf\ssl.crt” under name “ca-bundle.crt”.

Update Apache/mod_ssl configuration by editing file ““INSTALL_PATH\xampp\apache\conf\extra\httpd-ssl.conf”, and uncommenting line 132 (remove # character at beginning) as follow.

```
# Certificate Authority (CA):
# Set the CA certificate verification path where to find CA
# certificates for client authentication or alternatively one
# huge file containing all of them (file must be PEM encoded)
# Note: Inside SSLCACertificatePath you need hash symlinks
#       to point to the certificate files. Use the provided
#       Makefile to update the hash symlinks after changes.
#SSLCACertificatePath conf/ssl.crt
#SSLCACertificateFile conf/ssl.crt/ca-bundle.crt
```

Figure 14: Sample Apache/mod_ssl configuration file

Once you’ve configured your Apache web server, don’t forget to restart Apache2 service for changes to take effect.

Last, you have to install Certificate Authority root certificate file “ca_root.crt” on each client computer into OCS Inventory Agent installation directory, under the name “cacert.pem”.

9 Management server tuning.

OCS Inventory NG management server needs some tuning to support the load of a large number of inventoried computers. Performances are just limited by the hardware configuration (especially the amount of RAM, processor is not very loaded) of computer hosting the 3 main components:

- ✓ MySQL database server.
- ✓ Communication server.
- ✓ Administration server.
- ✓ Deployment server.

For example, our production server manages more than 70 000 clients. For this, we have 3 servers running Linux Debian Sarge, one for the database server and the Communication server, another one for Administration console and a replica of database server (we choose to replicate database on Administration server to avoid Administration console SQL queries using CPU and MySQL connexions of database used by Communication server) and the last one for deployment server. Hardware configuration for servers is the following:

- ✓ 1 Intel Pentium Xeon 2,8 GHz.
- ✓ 3 GB RAM

Because of the amount of available RAM, we have to limit the number of simultaneous HTTP connection to Communication and Administration server to 400.

You must keep an eye on Apache web server logs for Communication server to detect any problems. Also, check Communication server log file in directory “/var/log/ocsinventory-NG”.

If you want to upgrade the number of simultaneous connections, you must update the “MaxClients” directive in Apache configuration file, usually “/etc/httpd/conf/httpd.conf”.

Refer to Apache tuning guidelines on Apavhe web site (<http://httpd.apache.org>) for more information.

Also, MySQL database server is limited by default to 100 simultaneous connections. So, if the Communication server handles more than 100 simultaneous requests for inventory, it will not be able to answer all. You can upgrade this value by updating the “max_connections” MySQL variable for mysqld daemon.

Here is sample recommendations found on MySQL web site, using server with different amount of physical memory.

| Parameter | 800 MB | 1.7 GB | 2.4 GB |
|----------------------------------------|--------|--------|--------|
| Table cache | 64M | 64M | 64M |
| Key buffer | 128M | 256M | 256M |
| Sort buffer size | 2M | 2M | 2M |
| Read buffer size | 2M | 2M | 2M |
| Read rnd buffer size | 4M | 4M | 4M |
| Myisam sort buffer size | 64M | 64M | 64M |
| Query cache size | 128M | 128M | 128M |
| InnoDB buffer pool size | 384M | 1024M | 1700M |
| InnoDB additional mem pool size | 20M | 20M | 20M |
| InnoDB log buffer size | 8M | 8M | 8M |

Refer to MySQL tuning guidelines on MySQL web site (<http://dev.mysql.com/tech-resources/articles/>) for more information.

10 Backup/restore of OCS Inventory NG database.

You can use tools like phpMyAdmin or MySQL Administrator to backup/restore MySQL databases.

However, MySQL Server provide standard tools usable in command line.

10.1 Backing up OCS Inventory NG database.

Tool “mysqldump” allows you to dump all content of a database to a single file. These tool is available in directory “INSTALL_PATH\xampp\mysql\bin” where INSTALL_PATH is the installation path you chosen for OCS Inventory NG Server for Windows, and generally can be directly called under Linux.

Simply run the following command to backup OCS Inventory NG database:

```
✓ Mysqldump --add-drop-table --complete-insert --extended-insert --quote-names --  
host=localhost --user="root" --password="root" password" ocsweb >  
mysqldump_ocsweb.sql
```

This will save database content of OCS Inventory NG database “ocsweb” into file “mysqldump_ocsweb.sql”.

10.2 Restoring OCS Inventory NG database.

Tool “mysql” allows you to launch SQL queries on a database. This tool is available in directory “INSTALL_PATH\xampp\mysql\bin” where INSTALL_PATH is the installation path you chosen for OCS Inventory NG Server for Windows, and generally can be directly called under Linux.

Just run MySQL command line interpreter to import saveset previously created “ocsweb” database.

```
✓ Mysql -u root -p ocsweb  
✓ Source "path_to_saveset"  
✓ exit
```

NB: You will be prompted from root password. If you haven't yet set root password, do use use -“p” command line switch.

```
C:\WINDOWS\system32\cmd.exe - mysql -u root -p ocsweb
C:\Program Files\OCS Inventory NG\xampp\mysql\bin>mysqladmin -u root -p create o
csweb
Enter password: *****

C:\Program Files\OCS Inventory NG\xampp\mysql\bin>mysql -u root -p ocsweb
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 47 to server version: 5.0.18-nt

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

mysql> source d:\mysqldump_ocswb_4014.sql
```

```
Query OK, 62 rows affected (0.00 sec)
Records: 62  Duplicates: 0  Warnings: 0

Query OK, 0 rows affected (0.00 sec)
Query OK, 0 rows affected (0.00 sec)
Query OK, 0 rows affected (0.03 sec)
Query OK, 0 rows affected (0.00 sec)
mysql> exit
```

11Common errors.

Check FAQ on OCS Inventory web site for updates.

11.1 Troubleshooting agent's execution.

11.1.1 Windows launcher OcsLogon.exe does not download Agent.

When I launch launcher OcsLogon.exe, agent installation files are not downloaded.

Launcher "OcsLogon.exe" must be renamed with communication server IP address or DNS name (ex : 192.168.1.12.exe or ocs_com.domain.tld.exe). If this is already done, you may have configured a proxy in Internet Explorer, and OCS is using this configuration. Try to disable use of proxy by launching OcsLogon with "/NP" command line switch. In any case, launch OcsLogon with "/DEBUG" command line switch and take a look at log file "C:\ocs-
ng\ocslogon.log" and "C:\ocs-ng\computer_name.log".

Here is a typical OcsLogon.log content of faulting launcher:

```
OCS server port number : Default (80)
Install folder : C:\Ocs-ng
OCSserver is set to: a.b.c.d
Internal Ocslogon version: 4.0.1.4

Testing: C:\ocs-ng\BIOSINFO.EXE
Ocs Inventory NG () was not previously installed.
Start deploying OCS

http://a.b.c.d/ocsinventory/deploy/ocsagent.exe : HTTP/1.1 500 Internal
Server Error
http://a.b.c.d/ocsinventory/deploy/label : HTTP/1.1 500 Internal Server
Error
End Deploying

Testing ocsagent.exe version:0000

Proxy use.
Launching : C:\ocs-ng\OCSInventory.exe /debug /server:a.b.c.d
Cmdline option is :\server_share\ a.b.c.d.exe /debug
```

As you can see, launcher is using proxy settings from IE, and there is "HTTP/1.1 500 Internal Server Error" error when downloading file "ocsagent.exe". This means that launcher is not able to download agent installation file. So try disabling use of proxy by adding « /NP » to agent's command line launch, and then take a look at § 11.1.4 Agent HTTP errors., and then at § 11.3 Communication server errors.

NB: same error for file "label" is not blocking one. This means you aren't using TAG.

11.1.2 Windows agent does not send inventory to server.

I have setup OCS Inventory NG server as said in guide, but when i launch agent, nothing appears in Administration console.

On Windows client computer, launch "INSTALL_FOLDER\ocsinventory.exe /server:communication_server_ip /debug". A log file "computer_name.log" is created in directory "C:\ocs-ng", which will help you finding problem. Generally, you will see something like: "...is not a well configured ocs server" and an http error (see FAQ Windows agent HTTP errors).

Here is a typical "computer_name.log" content of faulting agent:

```
OCS INVENTORY ver. 4014 Starting session for Device <COMPUTER_NAME>
on Friday, February 24, 2006 15:34:27...
Command line parameters: </np /debug /server:a.b.c.d>

WMI Connect: Trying to connect to WMI namespace root\cimv2 on device
<Localhost>...OK.
Registry Connect: Trying to connect to HKEY_LOCAL_MACHINE on device
<Localhost>...OK.
SetupAPI Connect: Trying to connect to SetupAPI on device
<Localhost>...OK.
CHECKINGS: No ocsinventory.dat file found !
IpHlpAPI GetNetworkAdapters...
IpHlpAPI GetNetworkAdapters: Calling GetIfTable to determine network
adapter properties...OK
IpHlpAPI GetNetworkAdapters: Calling GetAdapterInfo to determine IP
Infos...OK
IpHlpAPI GetNetworkAdapters: OK (1 objects).
DID_CHECK: Mac changed new:<00:40:63:D8:BC:61> old:<>, hname changed
new:<COMPUTER_NAME> old:<>
Generating Unique ID for device <COMPUTER_NAME>...OK (COMPUTER_NAME-2006-
02-24-15-34-27)
CHECKINGS: write <COMPUTER_NAME-2006-02-24-15-34-27> and
<00:40:63:D8:BC:61>
in ocsinventory.dat
HTTP SERVER: Connection WITHOUT proxy
HTTP SERVER: Creating CIInternetSession to get inventory parameters...OK.
HTTP SERVER: Connecting to server a.b.c.d 80...OK.
HTTP SERVER: Sending prolog query...
HTTP SERVER: The server <a.b.c.d> is not a well configured OCS server
HTTP ERROR:
<...>

<h1>Server error!</h1>
<p>The server encountered an internal error and was unable to complete
your request.
Either the server is overloaded or there was an error in a CGI script.
</p>

<p>If you think this is a server error, please contact the <a
href="mailto:admin@localhost">webmaster</a>.
```

```
</p>

<h2>Error 500</h2>
<address>
<a href="/">a.b.c.d</a><br />
<span>24.02.2006 15:40:10<br />
Apache/2.2.0      (Win32)      DAV/2      mod_ssl/2.2.0      OpenSSL/0.9.8a
mod_autoindex_color PHP/5.1.1 mod_perl/2.0.2 Perl/v5.8.7
</span>
</address>

HTTP SERVER: Closing HTTP connection
WMI Disconnect: Disconnected from WMI namespace.
SetupAPI Disconnect: Disconnected from SetupAPI.
Execution duration: 00:00:00.
```

As you can see, agent is not using IE proxy settings ("HTTP SERVER: Connection WITHOUT proxy "), and there is error "HTTP SERVER: The server is not a well configured OCS server" followed by "Error 500". So take a look at § 11.1.4 Agent HTTP errors., and then at § 11.3 Communication server errors.

11.1.3 Linux agent does not send inventory to server.

I have setup OCS Inventory NG server as said in guide, but when i launch Linux agent, nothing appears in Administration console.

On Linux client computer, you can use "ocsinv –debug" or "ocsinv –info" to obtain a trace.

Generally, you will see something like: « ...is not a well configured ocs server » and an http error. So take a look at § 11.1.4 Agent HTTP errors., and then at § 11.3 Communication server errors.

11.1.4 Agent HTTP errors.

I see in agent logs http errors. What do they mean ?

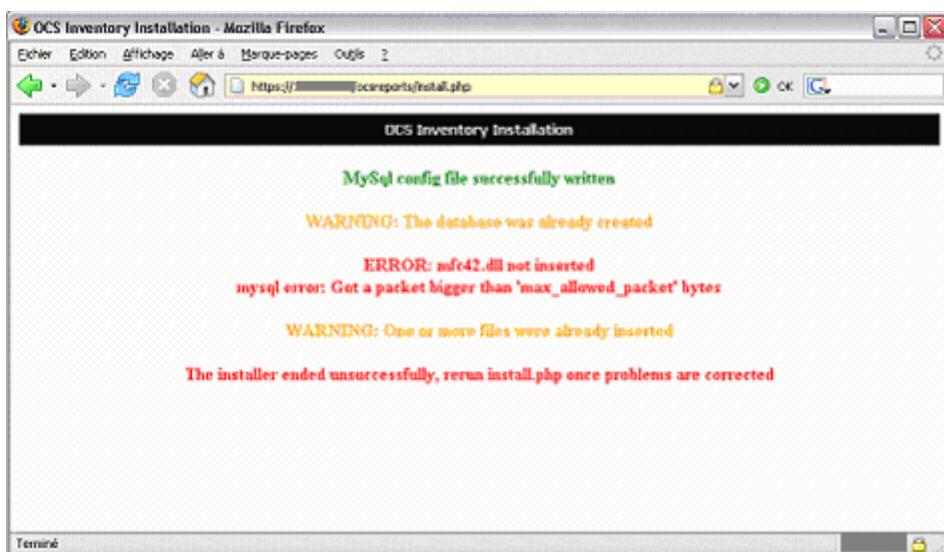
- ✓ **500:** server encountered an internal error. You must take a look at apache log files, especially file "error.log", generally located under "/var/log/httpd".
- ✓ **404:** URL "/ocsinventory" cannot be found on server. You have made a mistake in Apache configuration. Do you have included in apache configuration content of apache_config file ? Do you have updated this content to match your need ?
- ✓ **301:** This error means that you already have a directory named "/ocsinventory" in your apache server, and this name conflicts with apache <location> directive of apache_config file. You must change name of "/ocsinventory" directory.

In all case, you must also take a look at Communication Server log files and check § 11.3 Communication server errors.

11.2 Administration console errors.

11.2.1 MySQL Max_allowed_packet error.

If you encounter an error message with “max_allowed_packet” MySQL error, you must update your MySQL configuration to increase the maximum size of packet accepted by MySQL. We recommend setting the value to 4 MB.



Open the file “my.cnf” (usually available in “/etc” directory under Linux, in “C:\OCSinventoryNG\xampp\mysql\bin” under Windows) and add the line “max_allowed_packet=4M” in “[mysqld]”, “[mysql.server]” or “[safe_mysqld]” section.

```
[mysqld]
datadir=/var/lib/mysql
socket=/var/lib/mysql/mysql.sock
max_allowed_packet=4M

[mysql.server]
user=mysql
basedir=/var/lib
max_allowed_packet=4M

[safe_mysqld]
err-log=/var/log/mysqld.log
pid-file=/var/run/mysqld/mysqld.pid
max_allowed_packet=4M
```



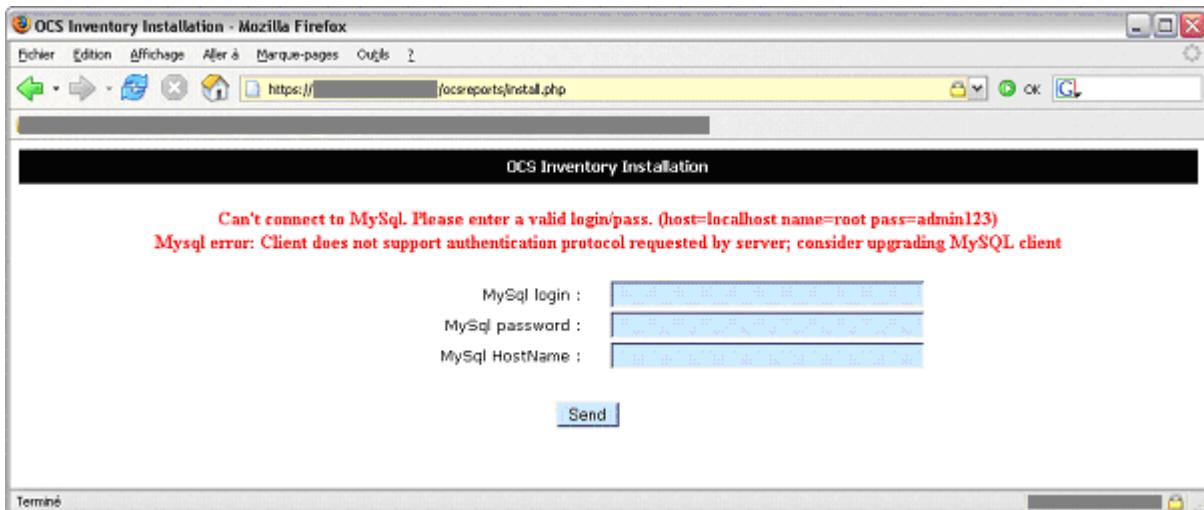
Figure 15 : Sample my.cnf MySQL configuration file.

Then, restart MySQL server.

- ✓ /etc/rc.d/init.d/mysql restart

11.2.2 MySQL Client does not support authentication protocol.

If you encounter an error message with “Client does not support authentication protocol requested by server; consider upgrading MySQL client” MySQL error, you must enable support for old password storage method in your MySQL configuration.



There is 2 way to do this.

1. Add directive “old-passwords” to the file “my.cnf” (usually in directory “/etc” under Linux and in “C:\OCSinventoryNG\xampp\mysql\bin” under Windows), in the section corresponding to your MySQL server.

```
# The MySQL server
[mysqld]
old-passwords
port      = 3306
socket    = mysql
```

Figure 16 : Sample my.cnf MySQL configuration file.

2. Add switch “--old-password” to the command line launching MySQL server.

Then, restart MySQL server.

- ✓ /etc/rc.d/init.d/mysql restart

Next, you may have to update ‘root’ password with the following commands:

- Connect to MySQL database “mysql -u root -p mysql” as root to update his password.
- Then, run the update statement “update user set password=OLD_PASSWORD(‘root_password’) where user=‘root’;”
- Once terminated, exit mysql command interpreter by entering “exit” command.

```
[root@linux root]# mysql -u root -p mysql
Enter password:
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 19 to server version: 4.1.7-standard

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

mysql> update user set password=OLD_PASSWORD('admin123') where user='root';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> exit
Bye
[root@linux root]#
```

Figure 17 : Sample MySQL root password update.

11.2.3 PHP Requested content-length.

If you see in apache error log (file error_log or ssl_error.log) message like following:

```
[Mon Sep 05 18:30:03 2005] [error] [client XXX.XXX.XXX.XXX] Requested content-
length
of 831148 is larger than the configured limit of 524288, referer:
http://administration\_server/ocsreports/?multi=8
```

That’s because Apache directive “LimitRequestBody” is used to limit size of HTTP requests.

To fix this, open Apache configuration file “httpd.conf”, usually in directory “/etc/httpd/conf” (under some distributions, Apache configuration for PHP may also resides in include directory, usually “/etc/httpd/conf.d”).

Find the directive “LimitRequestBody” and ensure that the size is at least 4 MB (4194304 bytes) and not the default 512 KB (524288 bytes).

```
#  
# PHP is an HTML-embedded scripting language which attempts to make it  
# easy for developers to write dynamically generated webpages.  
#  
LoadModule php4_module modules/libphp4.so  
  
#  
# Cause the PHP interpreter handle files with a .php extension.  
#  
<Files *.php>  
SetOutputFilter PHP  
SetInputFilter PHP  
LimitRequestBody 4194304  
</Files>
```

Figure 18 : Sample Apache configuration for PHP.

Update this value if needed and restart Apache daemon.

- ✓ /etc/rc.d/init.d/httpd restart

11.2.4Uploads size for package deployment.

All the configuration settings for your installation are contained in the “php.ini” file or Apache configuration files. Sometimes these setting might be overridden by directives in apache .htaccess files or even with in the scripts themselves. However you cannot over ride the settings that effect file uploads with .htaccess directives in this way. So let's just concentrate on the ini file.

You can call the `phpinfo()` function to find the location of your “php.ini” file, it will also tell you the current values for the following settings that we need to modify:

- ✓ `file_uploads`
- ✓ `upload_max_filesize`
- ✓ `max_input_time`
- ✓ `memory_limit`
- ✓ `max_execution_time`
- ✓ `post_max_size`

The first one is fairly obvious if you set this off, uploading is disabled for your installation, so you will not be able to upload software for deployment. We will cover the rest of the configuration settings in detail below.

Remember to restart Apache web server for changes to take effect.

11.2.4.1 upload_max_filesize and post_max_size.

Files to deploy are *POST*ed to the webserver in a format known as 'multipart/form-data'. The *post_max_size* sets the upper limit on the amount of data that a script can accept in this manner. Ideally this value should be larger than the value that you set for *upload_max_filesize*.

It's important to realize that *upload_max_filesize* is the sum of the sizes of all the files that you are uploading. *post_max_size* is the *upload_max_filesize* plus the sum of the lengths of all the other fields in the form plus any mime headers that the encoder might include. Since these fields are typically small you can often approximate the upload max size to the post max size.

If you want to deploy files up to 200 MB, you must set in “php.ini” file

- ✓ *upload_max_filesize = 200M*
- ✓ *post_max_size = 201M*

11.2.4.2 memory_limit.

When the PHP engine is handling an incoming POST, it needs to keep some of the incoming data in memory. This directive has any effect only if you have used the *--enable-memory-limit* option at configuration time. Setting too high a value can be very dangerous because if several uploads are being handled concurrently all available memory will be used up and other unrelated scripts that consume a lot of memory might effect the whole server as well.

So we recommend using the following value in “php.ini” file:

- ✓ *memory_limit = 16M*

11.2.4.3 max_execution_time and max_input_time

These settings define the maximum life time of the script and the time that the script should spend in accepting input. If several mega bytes of data are being transferred *max_input_time* should be reasonably high.

So we recommend disabling these limits using the following value in “php.ini” file:

- ✓ max_execution_time = -1
- ✓ max_input_time = -1

11.2.4.4 Additonal Comments

The apache webserver has a *LimitRequestBody* configuration directive that restricts the size of all POST data regardless of the web scripting language in use. Some RPM installations sets limit request body to 512Mb. You will need to change this to a larger value or remove the entry altogether.

If you want to deploy files up to 200 MB, you must comment in apache main configuration file.

- ✓ #LimitRequestBody

11.3 Communication server errors.

11.3.1 I see "Unknown directive PerlRequire...." in Apache log files.

This means that mod_perl for Apache is not installed, or loaded at startup by Apache. Install mod_perl and then update apache configuration file "httpd.conf" to load mod_perl.so extension.

You can check which version of mod_perl is installed by launching following command:

- On RPM based Linux: rpm -q mod_perl
- On Debian package based Linux: dpkg -l libapache*-mod-perl*

```
[root@linux conf.d]# rpm -q mod_perl
mod_perl-1.99_16-4.centos4
[root@linux conf.d]#
```

If mod_perl is installed, check Apache configuration files to ensure mod_perl is enabled. You may found something like this:

```
# 
# Mod_perl incorporates a Perl interpreter into the Apache web server,
# so that the Apache web server can directly execute Perl code.
# Mod_perl links the Perl runtime library into the Apache web server
# and provides an object-oriented Perl interface for Apache's C
# language API. The end result is a quicker CGI script turnaround
```

```
# process, since no external Perl interpreter has to be started.  
#
```

```
LoadModule perl_module modules/mod_perl.so
```

If needed, uncomment line (remove # at line begin) and restart Apache.

Please, refer to Apache manual for more details.

11.3.2I see "Can't locate [Perl module name], cannot resolve handler Ocsinventory.pm..." in Apache log files.

Perl module [Perl module name] is not installed on your server. Please, refer to OCS Inventory NG guide or to Perl manual to install missing module.

If this error concerns Perl module "compat.pm" like below

```
[Thu Mar 02 11:43:56 2006] [error] [client client_ip] failed to resolve handler  
'Ocsinventory': Can't locate Apache/compat.pm in @INC (@INC contains:...)
```

You probably have installed Communication server for use with Apache mod_perl version 1.999_21 or previous. Open OCS Inventory NG apache configuration file « ocsinventory.conf » and set variable « OCS_PERL_VERSION » to 2 enable use of mod_perl version 1.999_22 or higher.

```
# Which version of mod_perl we are using  
# For mod_perl <= 1.999_21, replace VERSION_MP by 1  
# For mod_perl > 1.999_21, replace VERSION_MP by 2  
PerlSetEnv OCS_MODPERL_VERSION 2
```

Then restart Apache web server.

If this error concerns Perl module "Apache2/connection.pm" like below

```
[Sun Mar 05 12:46:09 2006] [error] [client client_ip] failed to resolve handle  
'r Ocsinventory': Can't locate Apache2/Connection.pm in @INC (@INC contains:...)
```

You probably have installed Communication server for use with Apache mod_perl 1.999_22 and newer. Open OCS Inventory NG apache configuration file « ocsinventory.conf » and set variable « OCS_PERL_VERSION » to 1 to enable use of mod_perl version 1.999_21 or previous.

```
# Which version of mod_perl we are using  
# For mod_perl <= 1.999_21, replace VERSION_MP by 1  
# For mod_perl > 1.999_21, replace VERSION_MP by 2  
PerlSetEnv OCS_MODPERL_VERSION 1
```

Then restart Apache web server.

11.3.3 I see "Cannot open log file: ..." in Apache logs. Communication server is not able to write his logs.

- ✓ Does directory « /var/log/ocsinventory-NG » (or any other path you've fill in at setup) exists ?
- ✓ Can Apache web server write in this directory ?

11.4 Files and directories permissions under Linux.

We assume that Apache web server is running under account “apache” and group “apache”, and that you’ve setup OCS Inventory NG management server as described previously:

- ✓ Administration console files are in directory “/var/www/html/ocsreports”
- ✓ Deployment server files are in directory “/var/www/html/download”
- ✓ Log for Communication server are in directory “/var/log/ocsinventory-NG”

| Directory | File | Owner | Group | Permissions |
|------------------------------------|------------------|--------|--------|-------------|
| /var/www/html/download | All directories | apache | apache | -rwxrwxr-x |
| | All files | apache | apache | -rw-rw-r-- |
| /var/www/html/ocsreports | dbconfig.inc.php | apache | apache | -rw-rw-r-- |
| | All others | root | root | -rw-r--r-- |
| /var/www/html/ocsreports/ipd | | root | apache | -rwxrwxr-x |
| | All files | apache | apache | -rw-rw-r-- |
| /var/www/html/ocsreports/css | | root | root | -rwxr-xr-x |
| | All files | root | root | -rw-r--r-- |
| /var/www/html/ocsreports/files | | root | root | -rw-r--r-- |
| | All files | root | root | -rw-r--r-- |
| /var/www/html/ocsreports/image | | root | root | -rwxr-xr-x |
| | All files | root | root | -rw-r--r-- |
| /var/www/html/ocsreports/js | | root | root | -rwxr-xr-x |
| | All files | root | root | -rw-r--r-- |
| /var/www/html/ocsreports/languages | | root | root | -rwxr-xr-x |
| | All files | root | root | -rw-r--r-- |
| /var/log/ocsinventory-NG | All files | root | apache | -rwxrwxr-x |
| | All files | apache | apache | -rw-rw-r-- |

11.5 Getting help in forums.

If you are unable to diagnose yourself the problem, you can get help using OCS Inventory NG web site forums (<http://ocsinventory.sourceforge.net/index.php?page=Forums>).

If you do so, please provide us:

- ✓ Server operating system
- ✓ OCS Inventory NG server version and patch level
- ✓ Agent’s operating system
- ✓ OCS Inventory NG agent version
- ✓ Agent execution logs

- Run “AGENT_INSTALL_FOLDER\ocsinventory.exe /NP /DEBUG /SERVER:you_server_address” under Windows. Log file is created on folder “AGENT_INSTALL_FOLDER” under name “your_computer_name.log”.
- Run “ocsinv –debug > ocsinv.log” under Linux. Log file is “ocsinv.log”.
- ✓ Apache server error.log file, located for Windows under “SERVER_INSTALL_FOLDER\xampp\apache\logs\error.log” and for Linux under “/var/log/httpd/*error.log”.
- ✓ OCS Inventory NG Server log file, located for Windows under “SERVER_INSTALL_FOLDER\xampp\apache\logs\ocsinventory-NG.log” and for Linux under “/var/log/ocsinventory-NG/ocsinventory-NG.log” under Linux.

Thanks by advance.