



Comunicaciones Unificadas

Instalación Asterisk 1.8 en CentOS
5.x



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Laboratorio UM

- Instalación Asterisk 1.8, para realizar pruebas con Enterprise voice utilizaremos la integración de Asterisk con Lync Server 2010
- **Requerimientos:**
Instalación CentOS 5.x en equipo virtual en Hyper-V R2
Linux IC 2.1 (instaladas)
- **Instalación CentOS 5.x Básica (Recomendado)**
<http://bit.ly/tSso4B>



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Antes de comenzar tener actualizado el CentOS con -> **yum -y update**

```
[root@CentOS ~]# yum -y update
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
 * base: centos.digitalcompass.net
 * extras: centos.mirror.freedomvoice.com
 * updates: mirror.hmc.edu
Setting up Update Process
No Packages marked for Update
[root@CentOS ~]#
```



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Agregar los siguientes paquetes ->

```
yum install wget gcc gcc-c++ make perl libxml2-devel ncurses-devel newt-devel openssl-devel kernel-devel
```

```
[root@CentOS ~]# yum -y install wget gcc gcc-c++ make perl libxml2-devel ncurses-devel newt-devel openssl-devel kernel-devel
```

Installed:

```
libxml2-devel.i386 0:2.6.26-2.1.12.e15_7.2  
libxml2-devel.x86_64 0:2.6.26-2.1.12.e15_7.2  
ncurses-devel.i386 0:5.5-24.20060715  
ncurses-devel.x86_64 0:5.5-24.20060715  
newt-devel.i386 0:0.52.2-15.e15  
newt-devel.x86_64 0:0.52.2-15.e15  
openssl-devel.i386 0:0.9.8e-20.e15_7.1.0.1.centos  
openssl-devel.x86_64 0:0.9.8e-20.e15_7.1.0.1.centos  
perl.i386 4:5.8.8-32.e15_7.6
```

Dependency Installed:

```
e2fsprogs-devel.x86_64 0:1.39-33.e15  
keyutils-libs-devel.x86_64 0:1.2-1.e15  
libselinux-devel.x86_64 0:1.33.4-5.7.e15  
libxml2.i386 0:2.6.26-2.1.12.e15_7.2  
popt.i386 0:1.10.2.3-22.e15_7.2  
slang-devel.x86_64 0:2.0.6-4.e15  
gdbm.i386 0:1.8.0-26.2.1.e15_6.1  
krb5-devel.x86_64 0:1.6.1-63.e15_7  
libsepol-devel.x86_64 0:1.15.2-3.e15  
newt.i386 0:0.52.2-15.e15  
slang.i386 0:2.0.6-4.e15  
zlib-devel.x86_64 0:1.2.3-4.e15
```

Complete!

```
[root@CentOS ~]#
```




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Ejecutar los siguientes comandos ->

```
mkdir /usr/src/asterisk
```

```
cd /usr/src/asterisk
```

```
wget http://downloads.asterisk.org/pub/telephony/asterisk/asterisk-1.8-current.tar.gz
```

```
wget http://downloads.asterisk.org/pub/telephony/dahdi-linux-complete/dahdi-linux-complete-current.tar.gz
```

```
wget http://downloads.asterisk.org/pub/telephony/libpri/libpri-1.4-current.tar.gz
```

```
tar xvzf libpri-1.4-current.tar.gz
```

```
tar xvzf dahdi-linux-complete-current.tar.gz
```

```
tar xvzf asterisk-1.8-current.tar.gz
```

```
[root@CentOS ~]# mkdir /usr/src/asterisk
```

```
[root@CentOS ~]# cd /usr/src/asterisk
```

```
[root@CentOS asterisk]# █
```

```
[root@CentOS asterisk]# wget http://downloads.asterisk.org/pub/telephony/asterisk/asterisk-1.8-current.tar.gz
```

```
--2012-02-23 14:49:59-- http://downloads.asterisk.org/pub/telephony/asterisk/asterisk-1.8-current.tar.gz
```

```
Resolving downloads.asterisk.org... 76.164.171.233, 2001:470:e0d4::e9
```

```
Connecting to downloads.asterisk.org|76.164.171.233|:80... connected.
```

```
HTTP request sent, awaiting response... 200 OK
```

```
Length: 24820991 (24M) [application/x-gzip]
```

```
Saving to: `asterisk-1.8-current.tar.gz'
```

```
100%[=====>] 24,820,991 444K/s in 61s
```

```
2012-02-23 14:51:01 (396 KB/s) - `asterisk-1.8-current.tar.gz' saved [24820991/24820991]
```

```
[root@CentOS asterisk]# █
```



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Comandos de la pagina anterior

```
[root@CentOS asterisk]# wget http://downloads.asterisk.org/pub/telephony/dahdi-linux-complete/dahdi-linux-complete-current.tar.gz
--2012-02-23 14:52:27-- http://downloads.asterisk.org/pub/telephony/dahdi-linux-complete/dahdi-linux-complete-current.tar.gz
Resolving downloads.asterisk.org... 76.164.171.233, 2001:470:e0d4::e9
Connecting to downloads.asterisk.org|76.164.171.233|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2462664 (2.3M) [application/x-gzip]
Saving to: `dahdi-linux-complete-current.tar.gz'

100%[=====>] 2,462,664 419K/s in 6.8s

2012-02-23 14:52:34 (356 KB/s) - `dahdi-linux-complete-current.tar.gz' saved [2462664/2462664]

[root@CentOS asterisk]# wget http://downloads.asterisk.org/pub/telephony/libpri/libpri-1.4-current.tar.gz
--2012-02-23 14:52:52-- http://downloads.asterisk.org/pub/telephony/libpri/libpri-1.4-current.tar.gz
Resolving downloads.asterisk.org... 76.164.171.233, 2001:470:e0d4::e9
Connecting to downloads.asterisk.org|76.164.171.233|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 339669 (332K) [application/x-gzip]
Saving to: `libpri-1.4-current.tar.gz'

100%[=====>] 339,669 225K/s in 1.5s

2012-02-23 14:52:54 (225 KB/s) - `libpri-1.4-current.tar.gz' saved [339669/339669]

[root@CentOS asterisk]# █
```



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Comandos de dos paginas anteriores

```
asterisk-1.8.9.2/CREDITS
asterisk-1.8.9.2/BUGS
asterisk-1.8.9.2/sample.call
asterisk-1.8.9.2/UPGRADE-1.2.txt
asterisk-1.8.9.2/formats/
asterisk-1.8.9.2/formats/format_h264.c
asterisk-1.8.9.2/formats/format_vox.c
asterisk-1.8.9.2/formats/format_g719.c
asterisk-1.8.9.2/formats/format_sln16.c
asterisk-1.8.9.2/formats/format_sln.c
asterisk-1.8.9.2/formats/format_siren14.c
asterisk-1.8.9.2/formats/format_pcm.c
asterisk-1.8.9.2/formats/format_jpeg.c
asterisk-1.8.9.2/formats/format_ilbc.c
asterisk-1.8.9.2/formats/format_h263.c
asterisk-1.8.9.2/formats/format_g723.c
asterisk-1.8.9.2/formats/format_g729.c
asterisk-1.8.9.2/formats/format_gsm.c
asterisk-1.8.9.2/formats/format_wav.c
asterisk-1.8.9.2/formats/format_ogg_vorbis.c
asterisk-1.8.9.2/formats/msgsm.h
asterisk-1.8.9.2/formats/Makefile
asterisk-1.8.9.2/formats/format_wav_gsm.c
asterisk-1.8.9.2/formats/format_siren7.c
asterisk-1.8.9.2/formats/format_g726.c
asterisk-1.8.9.2/agi/
asterisk-1.8.9.2/agi/numeralize
asterisk-1.8.9.2/agi/agi.xml
asterisk-1.8.9.2/agi/eagi-sphinx-test.c
asterisk-1.8.9.2/agi/jukebox.agi
asterisk-1.8.9.2/agi/DialAnMp3.agi
asterisk-1.8.9.2/agi/eagi-test.c
asterisk-1.8.9.2/agi/fastagi-test
asterisk-1.8.9.2/agi/Makefile
asterisk-1.8.9.2/agi/agi-test.agi
[root@CentOS asterisk]#
```




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Ejecutar los siguientes comandos ->

```
cd /usr/src/asterisk/libpri-1.4.11.5
```

```
make
```

```
make install
```

```
gcc -Wall -Werror -Wstrict-prototypes -Wmissing-prototypes -g -fPIC -O2 -MD -MT rose_other.lo -MF .rose_other.lo.d -MP -c -o rose_other.lo rose_other.c
gcc -Wall -Werror -Wstrict-prototypes -Wmissing-prototypes -g -fPIC -O2 -MD -MT rose_q931.lo -MF .rose_q931.lo.d -MP -c -o rose_q931.lo rose_q931.c
gcc -Wall -Werror -Wstrict-prototypes -Wmissing-prototypes -g -fPIC -O2 -MD -MT rose_qsig_aoc.lo -MF .rose_qsig_aoc.lo.d -MP -c -o rose_qsig_aoc.lo rose_qsig_aoc.c
gcc -Wall -Werror -Wstrict-prototypes -Wmissing-prototypes -g -fPIC -O2 -MD -MT rose_qsig_cc.lo -MF .rose_qsig_cc.lo.d -MP -c -o rose_qsig_cc.lo rose_qsig_cc.c
gcc -Wall -Werror -Wstrict-prototypes -Wmissing-prototypes -g -fPIC -O2 -MD -MT rose_qsig_ct.lo -MF .rose_qsig_ct.lo.d -MP -c -o rose_qsig_ct.lo rose_qsig_ct.c
gcc -Wall -Werror -Wstrict-prototypes -Wmissing-prototypes -g -fPIC -O2 -MD -MT rose_qsig_diversion.lo -MF .rose_qsig_diversion.lo.d -MP -c -o rose_qsig_diversion.lo rose_qsig_diversion.c
gcc -Wall -Werror -Wstrict-prototypes -Wmissing-prototypes -g -fPIC -O2 -MD -MT rose_qsig_mwi.lo -MF .rose_qsig_mwi.lo.d -MP -c -o rose_qsig_mwi.lo rose_qsig_mwi.c
gcc -Wall -Werror -Wstrict-prototypes -Wmissing-prototypes -g -fPIC -O2 -MD -MT rose_qsig_name.lo -MF .rose_qsig_name.lo.d -MP -c -o rose_qsig_name.lo rose_qsig_name.c
gcc -Wall -Werror -Wstrict-prototypes -Wmissing-prototypes -g -fPIC -O2 -MD -MT version.lo -MF .version.lo.d -MP -c -o version.lo version.c
gcc -shared -Wl,-hlibpri.so.1.4 -o libpri.so.1.4 copy_string.lo pri.lo q921.lo prished.lo q931.lo pri_aoc.lo pri_cc.lo pri_facility.lo asn1_primitive.lo rose.lo rose_address.lo rose_etsi_aoc.lo rose_etsi_cc.lo rose_etsi_diversion.lo rose_etsi_ect.lo rose_etsi_mwi.lo rose_other.lo rose_q931.lo rose_qsig_aoc.lo rose_qsig_cc.lo rose_qsig_ct.lo rose_qsig_diversion.lo rose_qsig_mwi.lo rose_qsig_name.lo version.lo
/sbin/ldconfig -n .
ln -sf libpri.so.1.4 libpri.so
[root@CentOS libpri-1.4.12]# make install
mkdir -p /usr/lib
mkdir -p /usr/include
install -m 644 libpri.h /usr/include
install -m 755 libpri.so.1.4 /usr/lib
#if [ -x /usr/sbin/sestatus ] && ( /usr/sbin/sestatus | grep "SELinux status:" | grep -q "enabled" ); then /sbin/restorecon -v /usr/lib/libpri.so.1.4; fi
( cd /usr/lib ; ln -sf libpri.so.1.4 libpri.so )
install -m 644 libpri.a /usr/lib
if test $(id -u) = 0; then /sbin/ldconfig -n /usr/lib; fi
[root@CentOS libpri-1.4.12]#
```




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Ejecutar los siguientes comandos ->

```
cd /usr/src/asterisk/dahdi-linux-complete-2.4.1.2+2.4.1
```

```
make all
```

```
make install
```

```
make config
```

```
# break applications linked with zaptel. But, this also meant that
# applications linked with libtonezone.so.1.0 broke when dahdi-tools
# 2.1.0 was installed.
/bin/ln -sf libtonezone.so.2.0 \
    /usr/lib/libtonezone.so.1.0
/bin/ln -sf libtonezone.so.2.0 \
    /usr/lib/libtonezone.so.1
/sbin/restorecon -v /usr/lib/libtonezone.so
/usr/bin/install -c -d -m 755 //usr/include/dahdi
/usr/bin/install -c -m 644 tonezone.h /usr/include/dahdi/
#####
###
### DAHDI tools installed successfully.
### If you have not done so before, install init scripts with:
###
###   make config
###
#####
make[1]: Leaving directory `/usr/src/asterisk/dahdi-linux-complete-2.6.0+2.6.0/tools'
make -C tools config
make[1]: Entering directory `/usr/src/asterisk/dahdi-linux-complete-2.6.0+2.6.0/tools'
install -D dahdi.init /etc/rc.d/init.d/dahdi
/usr/bin/install -c -D -m 644 init.conf.sample /etc/dahdi/init.conf
/usr/bin/install -c -D -m 644 modules.sample /etc/dahdi/modules
/usr/bin/install -c -D -m 644 xpp/genconf_parameters /etc/dahdi/genconf_parameters
/usr/bin/install -c -D -m 644 modprobe.conf.sample /etc/modprobe.d/dahdi.conf
/usr/bin/install -c -D -m 644 blacklist.sample /etc/modprobe.d/dahdi.blacklist.conf
install -D ifup-hdLC /etc/sysconfig/network-scripts/ifup-hdLC
/sbin/chkconfig --add dahdi
DAHDI has been configured.

List of detected DAHDI devices:

No hardware found
make[1]: Leaving directory `/usr/src/asterisk/dahdi-linux-complete-2.6.0+2.6.0/tools'
[root@CentOS dahdi-linux-complete-2.6.0+2.6.0]#
```



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Ejecutar los siguiente comandos ->

```
cd /usr/src/asterisk/asterisk-1.8.4
```

```
./configure
```

```
make menuselect
```

```
[root@CentOS asterisk]# cd /usr/src/asterisk/asterisk-1.8
asterisk-1.8.9.2/          asterisk-1.8-current.tar.gz
[root@CentOS asterisk]# cd /usr/src/asterisk/asterisk-1.8
asterisk-1.8.9.2/          asterisk-1.8-current.tar.gz
[root@CentOS asterisk]# cd /usr/src/asterisk/asterisk-1.8.9.2/
[root@CentOS asterisk-1.8.9.2]# ./configure_
```

```

      .$.      7$$$$      .$$77
     .$$      $$$$$      .$$$7
    .7$      .?      $$$$$      .?      7$$$
   $.$.      .$$$7.  $$$$7.  7$$$      .$$$
  .777.      .$$$$$77$$$77$$$$$7.      $$$
 $$$~      .7$$$$$$$$$$$$$7.      .$$$
  $$7      .7$$$$$$$7:      7$$$
 $$$      ?7$$$$$$$$$I      .$$$7
 $$$      .7$$$$$$$$$$$$$$$      :$$$
 $$$      $$$$$$7$$$$$$$$$$$$$      .$$$
 $$$      $$$ 7$$$7. $$$      .$$$
 $$$      $$$$7      .$$$
 7$$$7      7$$$      7$$$
 $$$      $$$
 $$$7.      $$$ (TM)
  $$$$$$.      .7$$$$$ $
  $$$$$$$$$$$$$7$$$$$$$$$. $$$$$
  $$$$$$$$$$$$$$.

```

```
configure: Package configured for:
configure: OS type : linux-gnu
configure: Host CPU : x86_64
configure: build-cpu:vendor:os : x86_64 : unknown : linux-gnu :
configure: host-cpu:vendor:os : x86_64 : unknown : linux-gnu :
[root@CentOS asterisk-1.8.9.2]#
```



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Ejecutar los siguiente comandos ->

make menuselect

En mi caso solo ejecuto **Save & Exit**

```
Asterisk Module and Build Option Selection

Add-ons (See README-addons.txt)
Applications
Bridging Modules
Call Detail Recording
Channel Event Logging
Channel Drivers
Codec Translators
Format Interpreters
Dialplan Functions
PBX Modules

--- extended ---
XXX chan_mobile
[ ] chan_ooh323
[ ] format_mp3
XXX res_config_mysql
--- deprecated ---
XXX app_mysql
[ ] app_saycountpl
XXX cdr_mysql

Depends on:
Can use:
Conflicts with:
Support Level:

Save & Exit Exit

<ENTER> toggles selection | <F12> saves & exits | <ESC> exits without save
```




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Ejecutar los siguiente comandos ->

make

make install

```
are/iax/iaxy.bin"; \  
    fi  
CFLAGS="-I/usr/include/libxml2 -pipe -Wall -Wstrict-prototypes -Wmissing-prototypes -Wmissing-d  
eclarations -g3 -march=k8 " build_tools/mkpkgconfig "/usr/lib/pkgconfig";  
for x in static-http/*; do \  
    /usr/bin/install -c -m 644 $x "/var/lib/asterisk/static-http" ; \  
done  
/usr/bin/install -c -m 644 doc/core-en_US.xml "/var/lib/asterisk/static-http";  
for x in images/*.jpg; do \  
    /usr/bin/install -c -m 644 $x "/var/lib/asterisk/images" ; \  
done  
make -C sounds install  
make[1]: Entering directory `/usr/src/asterisk/asterisk-1.8.9.2/sounds'  
make[1]: Leaving directory `/usr/src/asterisk/asterisk-1.8.9.2/sounds'  
+---- Asterisk Installation Complete -----+  
+                                          +  
+   YOU MUST READ THE SECURITY DOCUMENT   +  
+                                          +  
+ Asterisk has successfully been installed. +  
+ If you would like to install the sample  +  
+ configuration files (overwriting any     +  
+ existing config files), run:            +  
+                                          +  
+               make samples               +  
+                                          +  
+----- or -----+  
+                                          +  
+ You can go ahead and install the asterisk +  
+ program documentation now or later run:  +  
+                                          +  
+               make progdocs              +  
+                                          +  
+ **Note** This requires that you have     +  
+ doxygen installed on your local system  +  
+-----+  
[root@CentOS asterisk-1.8.9.2]#
```



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Ejecutar los siguiente comandos ->

make samples

make config

```
Installing file configs/sla.conf.sample
Installing file configs/smdi.conf.sample
Installing file configs/udptl.conf.sample
Installing file configs/unistim.conf.sample
Installing file configs/usbradio.conf.sample
Installing file configs/users.conf.sample
Installing file configs/voicemail.conf.sample
Installing file configs/vpb.conf.sample
if [ "y" = "y" ]; then \
    echo "Updating asterisk.conf" ; \
    sed -e 's|^astetcdir.*$|astetcdir => /etc/asterisk|' \
        -e 's|^astmoddir.*$|astmoddir => /usr/lib/asterisk/modules|' \
        -e 's|^astvarlibdir.*$|astvarlibdir => /var/lib/asterisk|' \
        -e 's|^astdbdir.*$|astdbdir => /var/lib/asterisk|' \
        -e 's|^astkeydir.*$|astkeydir => /var/lib/asterisk|' \
        -e 's|^astdatadir.*$|astdatadir => /var/lib/asterisk|' \
        -e 's|^astagidir.*$|astagidir => /var/lib/asterisk/agi-bin|' \
        -e 's|^astspooldir.*$|astspooldir => /var/spool/asterisk|' \
        -e 's|^astrundir.*$|astrundir => /var/run/asterisk|' \
        -e 's|^astlogdir.*$|astlogdir => /var/log/asterisk|' \
        "/etc/asterisk/asterisk.conf" > "/etc/asterisk/asterisk.conf.tmp" ; \
    /usr/bin/install -c -m 644 "/etc/asterisk/asterisk.conf.tmp" "/etc/asterisk/asterisk.conf" ; \
    rm -f "/etc/asterisk/asterisk.conf.tmp" ; \
fi ; \
/usr/bin/install -c -d "/var/spool/asterisk/voicemail/default/1234/INBOX"
Updating asterisk.conf
build_tools/make_sample_voicemail ""//var/lib/asterisk" ""//var/spool/asterisk"
Installing file phoneprov/00000000000000.cfg
Installing file phoneprov/00000000000000-directory.xml
Installing file phoneprov/00000000000000-phone.cfg
Installing file phoneprov/polycom_line.xml
Installing file phoneprov/polycom.xml
Installing file phoneprov/snom-mac.xml
[root@CentOS asterisk-1.8.9.2]# make config
[root@CentOS asterisk-1.8.9.2]#
```



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Ejecutar los siguiente comandos ->

chkconfig dahdi on

chkconfig asterisk on

service dahdi start

Service asterisk start

```
[root@CentOS asterisk-1.8.9.2]# chkconfig dahdi on
[root@CentOS asterisk-1.8.9.2]# chkconfig asterisk on
[root@CentOS asterisk-1.8.9.2]# service dahdi start
Loading DAHDI hardware modules:
 wct4xxp: [ OK ]
 wcte12xp: [ OK ]
 wct1xxp: [ OK ]
 wcte11xp: [ OK ]
 wctdm24xxp: [ OK ]
 wcfxo: [ OK ]
 wctdm: [ OK ]
 wcb4xxp: [ OK ]
 wctc4xxp: [ OK ]
 xpp_usb: [ OK ]

Running dahdi_cfg: [ OK ]
[root@CentOS asterisk-1.8.9.2]# service asterisk start
Starting asterisk:
[root@CentOS asterisk-1.8.9.2]# █
```




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Por ultimo validamos que nuestro Asterisk funcione-> asterisk -r

```
[root@CentOS asterisk-1.8.9.2]# asterisk -r
Asterisk 1.8.9.2, Copyright (C) 1999 - 2011 Digium, Inc. and others.
Created by Mark Spencer <markster@digium.com>
Asterisk comes with ABSOLUTELY NO WARRANTY; type 'core show warranty' for details.
This is free software, with components licensed under the GNU General Public
License version 2 and other licenses; you are welcome to redistribute it under
certain conditions. Type 'core show license' for details.
=====
Connected to Asterisk 1.8.9.2 currently running on CentOS (pid = 10426)
Verbosity is at least 3
CentOS*CLI> █
```

En próximos instructivos se realizara la integración de Asterisk con Lync 2010