Upgrading from FreePBX 10.13.66 to SNG7

This script should only be used on PBXact and FreePBX 10.13.66-X systems and will take your system to the latest PBXact and FreePBX SNG7-PBX-64bit releases.

As this update performs base OS operations, it's highly recommended to perform a full backup of your system and moving these files to a secure location before you continue through this guide.

If your upgrade fails, you can run the recovery script to repair anything missing. Please see 'Recovering from a failed Upgrade' section.

Summary

This allows you to upgrade the Official Distro from 6 to SNG7, and in the process upgrade FreePBX (or PBXact etc) from 13 to 14.

Supported Platforms

- FreePBX Distro
- PBXact Distro
- Other compatible distros

Prerequisites

- 64bit Operating System on current machine (see note below)
- At least 10gb of available space in /
- Internet connectivity (about 200mb of data needs to be downloaded)
- **Not using Hyper-V** as the hypervisor

SNG7 is a 64 bit only operating system. Unfortunately, It is not possible to convert a 32 bit operating system to 64 on the fly, If you are currently running a 32 bit operating system, the simplest way to upgrade is to use the FreePBX Conversion tool, which will allow you to do a live backup of a running machine and restore it to a new 14 machines.

Upgrading a Hyper-V system is explicitly blacklisted due to compatibility issues when changing from a Non-UEFI image to a UEFI capable image. The only way to upgrade a machine running on HyperV is to create a new machine, and then use the FreePBX Conversion Tool to migrate your complete machine to a new one. This is not a destructive process, and can be run on a production machine at any time.

Preparation

The Upgrade is managed by a RPM. Simply install the RPM with the following command

```
yum -y install http://package1.sangoma.net/distro-upgrade-1807-2.sng7.
noarch.rpm
```

Starting Upgrade

The RPM installed above creates the file 'distro-upgrade' which validates the machine, and then starts downloading the requirements. **This does not cause any outage, and can be run at any time.** After installing this, you can reboot the machine at any time and the upgrade will be automatically started.

```
distro-upgrade
```

Output

```
[root@localhost ~]# distro-upgrade


        Sangoma 6 to 7 Upgrade Tool

    Distro Upgrade - Version 1710-3.sng7
    Build Date: 2017-10-28



 Checking prerequsites...
        Checking bitsize of machine      [  ] - x86_64
        Checking for 32 bit packages     [  ] - No i686 rpms found
        Checking available disk space    [  ] - 56G Available
        Checking for outdated system     [  ] - No pending updates.
        Checking for HA Setup            [  ] - Not a HA system
 All prerequsites passed!

Are you ready to upgrade your machine to SNG7? This process requires
two reboots, and will download approximately 400mb of files before
starting. There will be no interruption to service until this machine
is rebooted.

Download files required for upgrade [Yn]?
```

Note that this can be run while the machine is up and processing calls. There is no outage until you reboot the machine. The speed of this is purely related to your internet connection speed. You may interrupt and restart the upgrade at any time, and it will resume downloading.

If there are any errors, **do not continue!** You must resolve the errors (instructions will be provided in the error message) before continuing. You can then re-run distro-upgrade to validate your machine is ready to be upgraded.

After you have passed all the tests, the download can be started by entering 'y' at the prompt.

```
    Download files required for upgrade [Yn]? y
    ######### Starting setup upgrade on Fri Oct 27 21:06:01 EDT 2017 #########
    ######### Creating upgrade repofile #########
    ######### Installing needed packages #########
    Loaded plugins: fastestmirror, kmod
    Setting up Install Process
    Loading mirror speeds from cached hostfile
    upgrade
    | 2.9 kB      00:00

    ... etc ...

    Dependency Installed:
      libgcrypt-devel.x86_64 0:1.4.5-11.el6_4    libgpg-error-devel.x86_64 0:
    1.7-4.el6    libxml2-devel.x86_64 0:2.7.6-17.el6_6.1
      libxslt-devel.x86_64 0:1.1.26-2.el6_3.1    pcre-devel.x86_64 0:7.8-6.
    el6         zlib-devel.x86_64 0:1.2.3-29.el6

    Complete!
    ######### Running preupgrade to inventory running system #########
    ######### Running upgrade-tool to download and prepare upgrade #########
    ######### Verified sangoma-release in package.list #########
    ######### Reboot to finish this stage of the upgrade #########
    ######### Finished setup upgrade on Fri Oct 27 21:14:04 EDT 2017 #########
    Preparations complete!

    Please reboot your machine when convenient. This machine will install all
    the new
    and upgraded packages, and then reboot for a second time automatically.
    After the
    second reboot, it will then continue the upgrade process automatically.
    When the
    upgrade is complete, you will be presented with a standard login prompt.
    [root@localhost ~]#
```

Perform Update

First Reboot (Stage 1)

You need to reboot the machine, which will then perform the upgrade. The 'system upgrade' option will be automatically selected. You can select a previous kernel if you do not want to upgrade at this time.

```
GNU GRUB  version 0.97  (634K lower / 3143488K upper memory)

 ┌────────────────────────────────────────────────────────────────────────┐
 │ System Upgrade (redhat-upgrade-tool)                                     │
 │ SHM2 (2.6.32-642.6.2.el6.x86_64)                                        │
 │ SHM2 6 (2.6.32-504.8.1.el6.x86_64)                                      │
 │                                                                          │
 │                                                                          │
 │                                                                          │
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 │                                                                          │
 │                                                                          │
 │                                                                          │
 └────────────────────────────────────────────────────────────────────────┘

      Use the ↑ and ↓ keys to select which entry is highlighted.
      Press enter to boot the selected OS, 'e' to edit the
      commands before booting, 'a' to modify the kernel arguments
      before booting, or 'c' for a command-line.
```

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After selecting 'System Upgrade' the machine will upgrade all the required packages


```
18.428462] upgrade[1400]: kernel(sysfs_remove_link) = 0x5c2a917b is needed by (installed) kmod-dahdi-linux-2.11.1-22_centos6.2.6.32_642.6.2.el6.x86_64.x86_6

18.431664] upgrade[1400]: spandsp(x86-64) = 0.0.6-0.8.pre21.el6 is needed by (installed) spandsp-devel-0.0.6-0.8.pre21.el6.x86_64
18.433352] upgrade[1400]: libss7 = 1.0.2-7_centos6 is needed by (installed) libss7-devel-1.0.2-7_centos6.x86_64
18.435024] upgrade[1400]: radiusclient-ng = 0.5.6-5.el6 is needed by (installed) radiusclient-ng-devel-0.5.6-5.el6.x86_64
18.436671] upgrade[1400]: liblzma.so.0()(64bit) is needed by (installed) xz-lzma-compat-4.999.9-0.5.beta.20091007git.el6.x86_64
18.438345] upgrade[1400]: python(abi) = 2.6 is needed by (installed) python-ethtool-0.6-5.el6.x86_64
18.440016] upgrade[1400]: python(abi) = 2.6 is needed by (installed) libproxy-python-0.3.0-10.el6.x86_64
18.441677] upgrade[1400]: python(abi) = 2.6 is needed by (installed) python-iwlib-0.1-1.2.el6.x86_64
18.443332] upgrade[1400]: python(abi) = 2.6 is needed by (installed) subversion-1.6.11-12.el6_6.x86_64
18.444927] upgrade[1400]: python(abi) = 2.6 is needed by (installed) python-simplejson-2.0.9-3.1.el6.x86_64
18.446517] upgrade[1400]: python(abi) = 2.6 is needed by (installed) preupgrade-assistant-1.0.2-36.0.1.el6.centos.x86_64
18.448193] upgrade[1400]: python(abi) = 2.6 is needed by (installed) redhat-upgrade-tool-1:0.7.22-3.el6.centos.noarch
18.449782] upgrade[1400]: /sbin/depmod is needed by (installed) kmod-dahdi-linux-2.11.1-22_centos6.2.6.32_642.6.2.el6.x86_64.x86_64
18.451402] upgrade[1400]: libgmp.so.3()(64bit) is needed by (installed) ppl-0.10.2-11.el6.x86_64
18.452983] upgrade[1400]: libgmp.so.3()(64bit) is needed by (installed) cloog-ppl-0.15.7-1.2.el6.x86_64
18.454581] upgrade[1400]: libgmp.so.3()(64bit) is needed by (installed) php-cli-5.3.28-3.shmz65.4.125.x86_64
18.456881] upgrade[1400]: libgmp.so.3()(64bit) is needed by (installed) php-5.3.28-3.shmz65.4.125.x86_64
18.458455] upgrade[1400]: libpcre.so.0()(64bit) is needed by (installed) openscap-1.0.8-1.0.1.el6.centos.1.x86_64
18.460014] upgrade[1400]: libpcre.so.0()(64bit) is needed by (installed) pcre-devel-7.8-6.el6.x86_64
18.461549] upgrade[1400]: libpcre.so.0()(64bit) is needed by (installed) preupgrade-assistant-1.0.2-36.0.1.el6.centos.x86_64
18.463105] upgrade[1400]: libsrtp = 1.4.4-4.20101004cvs.el6 is needed by (installed) libsrtp-devel-1.4.4-4.20101004cvs.el6.x86_64
18.464603] upgrade[1400]: libwat = 2.1.0-1.shmz65.1.17 is needed by (installed) libwat-devel-2.1.0-1.shmz65.1.17.x86_64
18.466092] upgrade[1400]: starting upgrade...
18.467555] upgrade[1400]: preparing RPM transaction, one moment...
20.706879] upgrade[1400]: [4/531] (6%) installing libgcc-4.8.5-11.el7...
20.768693] upgrade[1400]: [5/531] (6%) installing sangoma-release-7-3.1701.03.el7.sangoma...
20.811648] upgrade[1400]: [6/531] (6%) installing setup-2.8.71-7.el7...
20.814346] upgrade[1400]: warning: /etc/group created as /etc/group.rpmnew
20.816922] upgrade[1400]: warning: /etc/gshadow created as /etc/gshadow.rpmnew
20.819481] upgrade[1400]: warning: /etc/passwd created as /etc/passwd.rpmnew
20.853424] upgrade[1400]: warning: /etc/shadow created as /etc/shadow.rpmnew
20.856043] upgrade[1400]: warning: /etc/shells created as /etc/shells.rpmnew
20.946829] upgrade[1400]: [7/531] (6%) installing filesystem-3.2-21.el7...
21.745798] upgrade[1400]: [8/531] (6%) installing basesystem-10.0-7.el7.centos...
21.750430] upgrade[1400]: [9/531] (7%) installing bind-license-9.9.4-38.el7_3.2...
21.767479] upgrade[1400]: [10/531] (7%) installing tzdata-2017a-1.el7...
22.104359] upgrade[1400]: [11/531] (7%) installing libreport-filesystem-2.1.11-35.el7.centos...
22.115115] upgrade[1400]: [12/531] (7%) installing kbd-misc-1.15.5-12.el7...
22.464373] upgrade[1400]: [13/531] (7%) installing kbd-legacy-1.15.5-12.el7...
22.540541] upgrade[1400]: [14/531] (7%) installing vim-filesystem-7.4.160-1.el7_3.1...
22.559751] upgrade[1400]: [15/531] (7%) installing quota-nls-4.01-14.el7...
22.595909] upgrade[1400]: [16/531] (7%) installing libX11-common-1.6.3-3.el7...
22.751035] upgrade[1400]: [17/531] (8%) installing ncurses-base-5.9-13.20130511.el7...
22.809532] upgrade[1400]: [18/531] (8%) installing nss-softokn-freebl-3.16.2.3-14.4.el7...
22.877725] upgrade[1400]: [19/531] (8%) installing glibc-common-2.17-157.el7_3.1...
```

The speed of the upgrade depends on your machine. Note that the package 'selinux-policy-targeted' will take a long period of time to run. This is expected, as it needs to check and possibly re-label every file on the system.

When the first stage of the upgrade is finished, the machine will reboot and will continue the upgrade process.

Second Reboot (Stage 2)

After the Core OS has been upgraded, the machine will reboot into Stage 2, which finishes the upgrade.

```
######### Starting post_upgrade on Fri Jun 23 21:10:13 IST 2017 #########
######### Backing up yum configuration #########
######### Removing un-needed repofiles #########
######### Removing epel-release rpms #########
######### Fixing /etc/my.cnf #########
######### Enabling and starting mariadb #########
######### Running mysql_upgrade #########
######### Restarting Mariadb #########
######### Prepping initial yum transaction #########
######### Running initial yum shell transaction #########
######### Setup yum transaction for Asterisk13 shmz65 packages #########
######### Running Asterisk13 yum shell transaction #########
######### Setup yum transaction for Dahdi shmz65 packages #########
######### Running Dahdi yum shell transaction #########
######### Setup yum transaction for asterisk-sounds #########
######### Running asterisk-sounds yum shell transaction #########
######### Re-installing asterisk13 #########
######### Resetting prosody #########
######### Running yum upgrade #########
[  OK  ] Closed udev Control Socket.
[  OK  ] Closed udev Kernel Socket.
         Stopping udev Kernel Device Manager...
[  OK  ] Stopped udev Kernel Device Manager.
[  OK  ] Closed RPCbind Server Activation Socket.
[  OK  ] Listening on RPCbind Server Activation Socket.
[  OK  ] Closed RPCbind Server Activation Socket.
[  OK  ] Listening on RPCbind Server Activation Socket.
[  OK  ] Closed RPCbind Server Activation Socket.
[  OK  ] Listening on RPCbind Server Activation Socket.
         Stopping Inotify System Scheduler...
[  OK  ] Stopped Inotify System Scheduler.
         Starting Inotify System Scheduler...
[  OK  ] Started Inotify System Scheduler.
```

Warning: If your machine has multiple network interfaces, it is possible that their names may change as part of the upgrade. If so, the machine will abort the upgrade and require you to fix this manually. If you are unable to fix this yourself, you should roll back to your backup, and contact support.

This also upgrades all the PBX Modules

```
Finished downloading
Extracting...Done
Module setcid successfully downloaded
Generating CSS...Done
Module setcid successfully installed
Updating Hooks...Done
Upgrading timeconditions..
Starting timeconditions download..
Processing timeconditions
Downloading...
 130871/130871 [===========================] 100%
Finished downloading
Extracting...Done
Module timeconditions successfully downloaded
converting timeconditions time field to int..OK
checking for generate_hint field..already exists
generating feature codes if needed..OK
Generating CSS...Done
Module timeconditions successfully installed
Updating Hooks...Done
Upgrading tts..
Starting tts download..
Processing tts
Downloading...
 31330/31330 [===========================] 100%
Finished downloading
Extracting...Done
Module tts successfully downloaded
Generating CSS...Done
Module tts successfully installed
Updating Hooks...Done
Upgrading voicemail..
Starting voicemail download..
Processing voicemail
Downloading...
 500042/500042 [===========================] 100%
Finished downloading
Extracting...Done
Module voicemail successfully downloaded
Checking for General Setting migrations..not needed
checking if Voicemail Admin (vmailadmin) is installed..not installed, ok
Generating CSS...Done
Module voicemail successfully installed
Updating Hooks...Done
All upgrades done!
Updating Hooks...Done
######### second pass broken modules #########
```

When the upgrade is finished you will be presented with a Login prompt, and you can log into your system.

```
   _____                    ____  ____  __
  |  ___| __  ___   ___| __ \| __ ) \/ /
  | |_  | '__/ _ \/ _ \ |_) |  _ \\  /
  |  _|| | | |  __/  __/  __/| |_) /   \
  |_|   |_|  \___|\___|_|    |____/_/\_\


  NOTICE! You have 5 notifications! Please log into the UI to see them!


  Current Network Configuration
  +-----------+------------------+-------------------------+
  | Interface | MAC Address      | IP Addresses            |
  +-----------+------------------+-------------------------+
  | eth0      | 00:50:56:B4:86:DB | 10.195.1.11            |
  |           |                  | fe80::250:56ff:feb4:86db |
  +-----------+------------------+-------------------------+


  Please note most tasks should be handled through the GUI.
  You can access the GUI by typing one of the above IPs in to your web
  browser.
  For support please visit:
      http://www.freepbx.org/support-and-professional-services


  [root@upgrade1 ~]#
```

Recovery from a failed upgrade

It is possible that due to unforeseen system configurations, the upgrade may fail. This is often caused by unexpcted (and manually installed) RPMs on your machine. The first thing to try is to run the repair script, by pasting the following commands:

```
wget http://package1.sangoma.net/post_upgrade
chmod 755 ./post_upgrade
./post_upgrade
```

This will attempt to re-run the upgrade script. It will try harder to resolve any issues that may be found, and will be more verbose with errors if it can't.

Troubleshooting

Most problems can be solved by running 'yum update' and reading the errors. If there is an error about 'AAA conflicts with BBB, in package from XXX', you can simply 'rpm --erase --nodeps XXX', and run 'yum update' again.

If you can not solve your problem, you will need to post the errors on the FreePBX Forums.