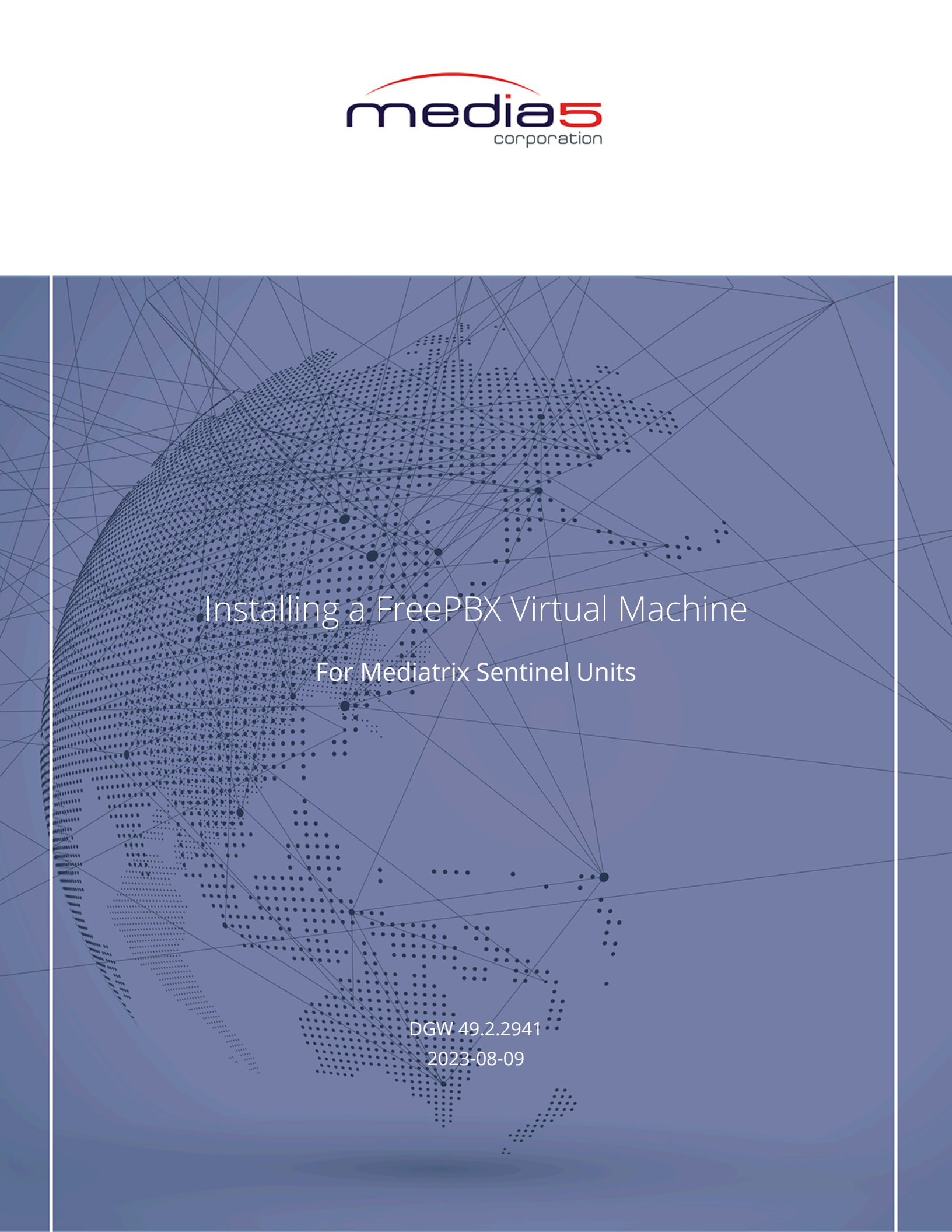


The background of the page is a dark blue gradient with a complex, abstract pattern of white lines and dots. The pattern resembles a network or a stylized map, with lines connecting various points across the page. The dots are arranged in clusters and along the lines, creating a sense of depth and connectivity.

Installing a FreePBX Virtual Machine For Mediatrix Sentinel Units

DGW 49.2.2941

2023-08-09

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Virtual Machine (VM) Installation

Important Information Before you Start

Before proceeding with the FreePBX installation on the VM, please make sure you have uploaded the iso image or you have a bootable USB with the image, and that you have followed one of these documentations. This technical bulletin assumes that you have successfully completed one of the following docs.

- [Installing a Virtual Machine Using an ISO Image](#)
- [Installing a Virtual Machine Using a USB External Device](#)

Once the installation is completed, do not forget to monitor the lifespan of the SSD and disable the swap on Linux.

- [Monitoring lifespan of an SSD](#)

The technical bulletin has been created using a Sentinel400 with 2GB RAM and 16GB SSD on version Dgw 44.0.1535. The FreePBX version is Sangoma 7. The iso used is: *SNG7-FPBX-64bit-1805-2.iso*.

Installing the FreePBX on the Virtual Machine

Steps

- 1) When the **VM** is first created, it is in the **Stopped** state.

Virtual Machines

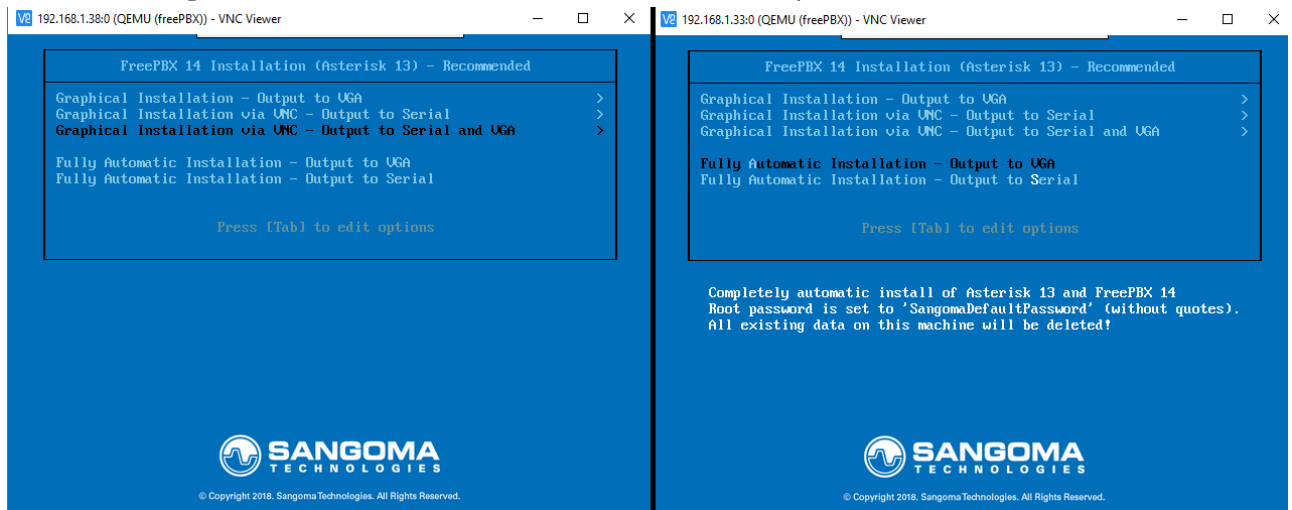
Virtual Machine Status										
Vm Name	Iso Name	MAC Address	Vnc Id	Usb	Network Adapter	Ram (Mb)	Storage (Gb)	Image Format	Nb Cores	State
freePBX	SNG7-FPBX-64bit-1805-2.iso	12:d5:d2:0a:9e:93	0	None	e1000	1500	10	raw	1	Stopped

Virtual Machine Configuration								
Vm Name	Iso Name	MAC Address	Vnc Id	Usb	Network Adapter	Startup	Actions	
freePBX	SNG7-FPBX-64	12:d5:d2:0a:9e:93	0	None	e1000	Manual		

Virtual Machine Creation				
Vm Name	Ram (Mb)	Storage (Gb)	Image Format	Nb Cores
			raw	1

- Set the VNC ID accordingly (you can leave it to 0)
- Set **Usb** to **All**.
- Set **Startup** to **Auto** if you want to start up the VM as soon as the Sentinel is restarted.
- Click **Play** to start the VM

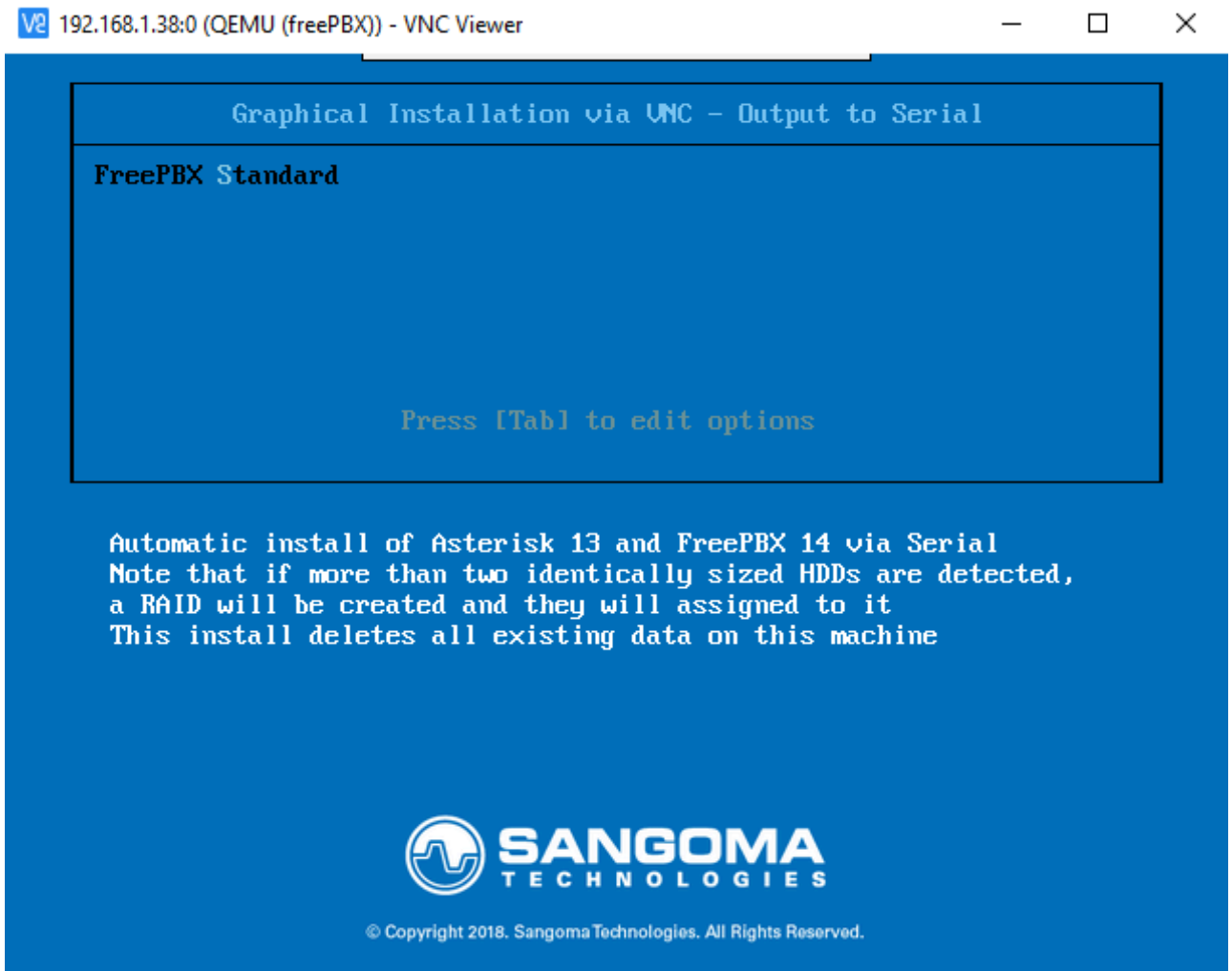
2) Connect using VNC client to the IP address of the network port with virtual switch enabled.



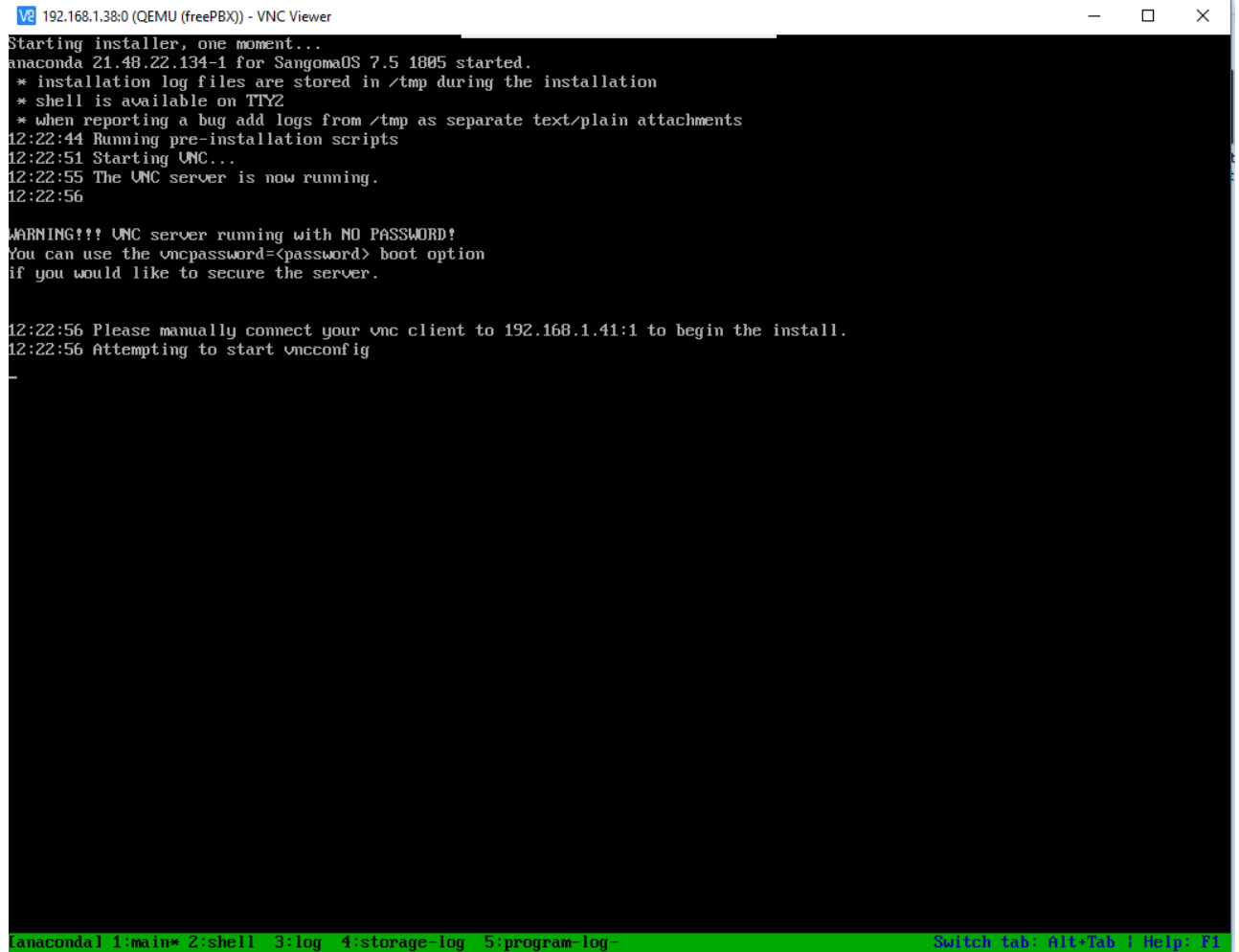
- There are 2 options to perform the installation, step-by-step or fully automated. In case you select **Fully Automatic**, the root password is set to **SangomaDefaultPassword**.
- Supported VNC Clients are: VNC for Chrome, UltraVNC, TightVNC, VNC Viewer.

Note: DO NOT select output to SERIAL, as it will not display anything on the VNC Viewer.

- 3) Start the installation step by step by selecting the FreePBX standard installation:



- 4) Once the installer is launched, if you selected step by step, you will need to connect to a new vnc client to start the installation



The screenshot shows a VNC Viewer window titled "192.168.1.38:0 (QEMU (freePBX)) - VNC Viewer". The terminal output displays the following text:

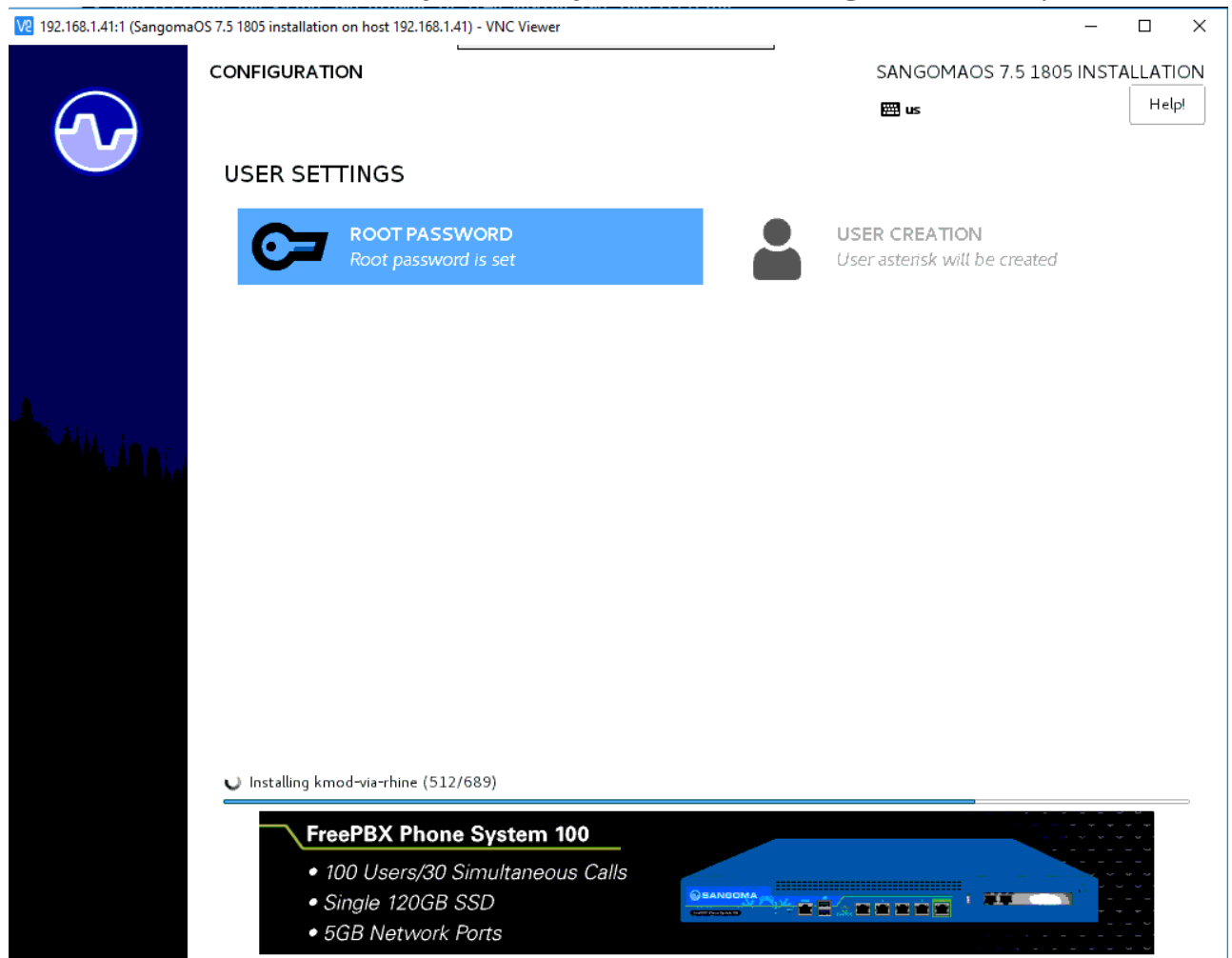
```
Starting installer, one moment...
anaconda 21.48.22.134-1 for SangomaOS 7.5 1805 started.
* installation log files are stored in /tmp during the installation
* shell is available on TTY2
* when reporting a bug add logs from /tmp as separate text/plain attachments
12:22:44 Running pre-installation scripts
12:22:51 Starting UNC...
12:22:55 The UNC server is now running.
12:22:56

WARNING!!! UNC server running with NO PASSWORD!
You can use the vncpassword=<password> boot option
if you would like to secure the server.

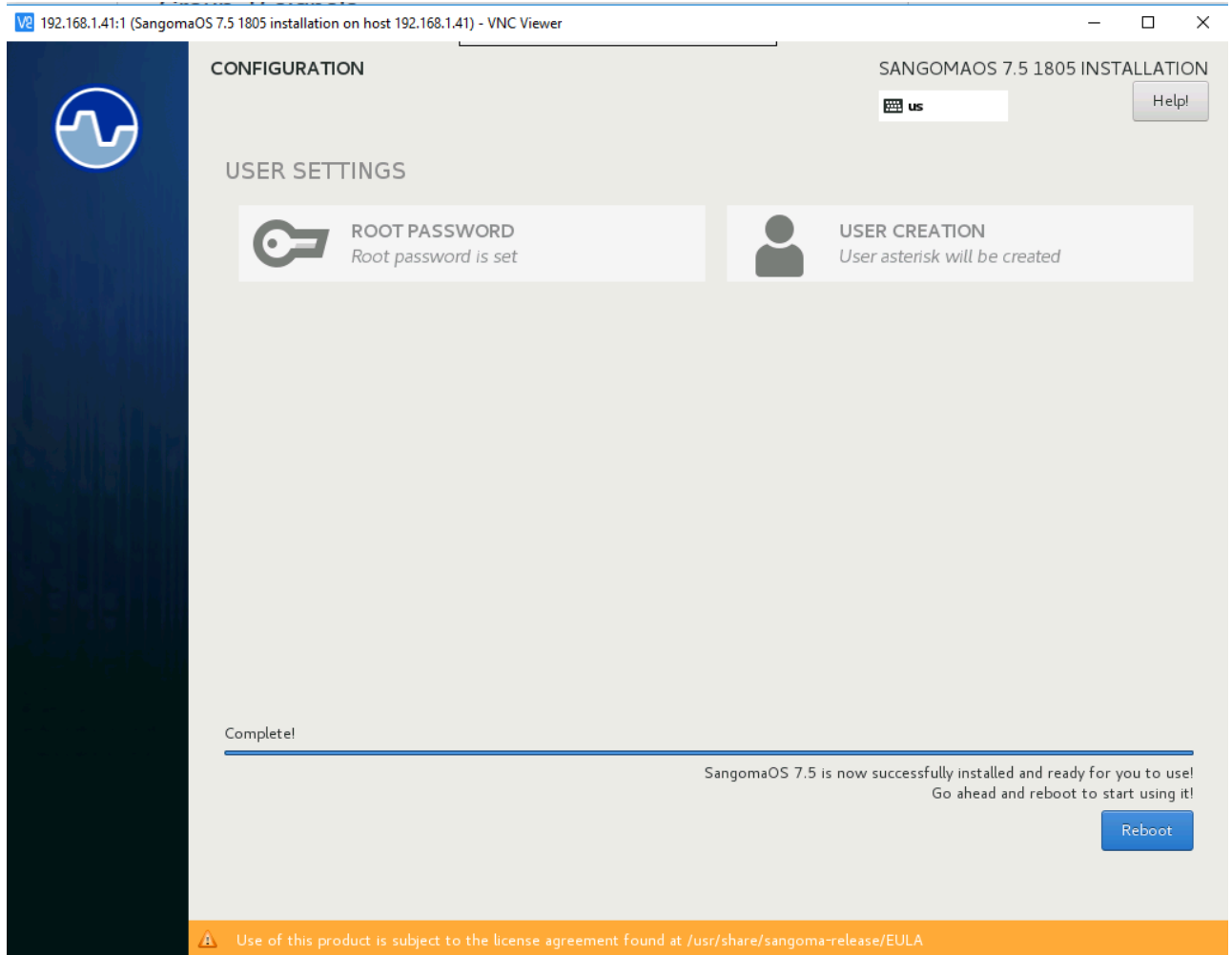
12:22:56 Please manually connect your vnc client to 192.168.1.41:1 to begin the install.
12:22:56 Attempting to start vncconfig
```

The bottom of the window features a green status bar with the text: "anaconda 1:main* 2:shell 3:log 4:storage-log 5:program-log- Switch tab: Alt+Tab | Help: F1".

- 5) The installation will automatically start, and you will have to configure the ROOT password.



- 6) Once the installation is completed, in case you have chosen step by step installation, you will be prompt with the reboot screen. In this case the installation took more than 60 minutes.



- 7) After reboot, you should be able to see the installation information on the VNC client. This is the same screen if you chose the fully automated installation after login as root.

```

192.168.1.38:0 (QEMU (FreePBX)) - VNC Viewer
Sangoma Linux 7 (Core) (x86_64)
Kernel version 3.10.0-862.2.3.el7.x86_64

freepbx login: root
Password:

FreePBX

NOTICE! You have 2 notifications! Please log into the UI to see them!
Current Network Configuration
+-----+
| Interface | MAC Address | IP Addresses |
+-----+
| eth0      | 12:D5:D2:0A:9E:93 | 192.168.1.41 |
|           |                | fe80::10d5:d2ff:fe0a:9e93 |
+-----+

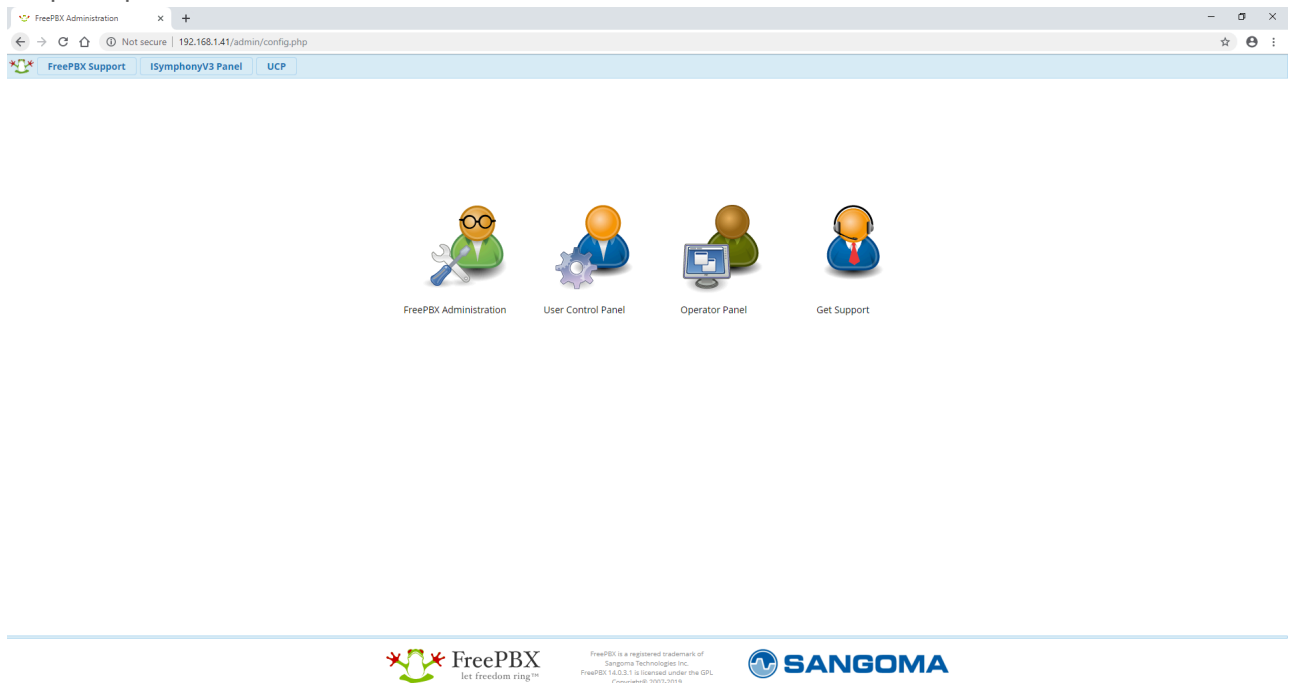
Please note most tasks should be handled through the GUI.
You can access the GUI by typing one of the above IPs in to your web browser.
For support please visit:
    http://www.freepbx.org/support-and-professional-services

+-----+
| This machine is not activated. Activating your system ensures that |
| your machine is eligible for support and that it has the ability to |
| install Commercial Modules. |
| | |
| If you already have a Deployment ID for this machine, simply run: |
| | |
| fwconsole sysadmin activate deploymentid |
| | |
| to assign that Deployment ID to this system. If this system is new, |
| please go to Activation (which is on the System Admin page in the |
| Web UI) and create a new Deployment there. |
+-----+

[root@freepbx ~]#

```

- 8) Follow the on-screen instructions for the initial login and the FreePBX Web interface will appear. You will need to create a new user and password. After creating the user, you will be prompted to the main FreePBX screen.¹



Disabling Swap on Linux

Information

Disabling swapping in the Operating System will optimise the virtual machine in such a way to reduce the wear-and-tear of the Solid State Drive.

Note: If the Solid State Drive fails because it is inadequately used by a third-party software or the operating system, the warranty of the Mediatrix unit will no longer be valid.

Steps

- 1) Open the VNC Client located on a computer of the network connected to the unit.

Note: UltraVNC Viewer, TightVNC Viewer and VNC Viewer are presently supported.

- 2) Open `.../etc/sysctl.conf` file
- 3) Add `vm.swappiness = 0` to the file.
- 4) Open `... /etc/fstab`.

¹ At this point installation is completed. Please proceed with disabling swap on Linux to prolong the lifespan of the SSD.

- 5) Add noatime to the following lines
 - a) `§ UUID=32b414c0-This-is-an-example / ext4 defaults, noatime 1 1`
 - b) `§ UUID=b4598e44-This-is-an-example /boot ext4 defaults, noatime 1 2`
- 6) Comment out
 - a) `§ # UUID=72355f7a-497d-This-is-an-example swap swap defaults 0 0`
- 7) Use the Shutdown command and then restart the Virtual Machine.

IMPORTANT: Do not use the Linux reboot command as the filesystem may not get mounted properly.

Online Help

If you are not familiar with the meaning of the fields and buttons, click **Show Help**, located at the upper right corner of the Web page. When activated, the fields and buttons that offer online help will change to green and if you hover over them, the description will be displayed.

DGW Documentation

Mediatrix devices are supplied with an exhaustive set of documentation.

Mediatrix user documentation is available on the [Media5 Documentation Portal](#).

Several types of documents were created to clearly present the information you are looking for. Our documentation includes:

- **Release notes:** Generated at each GA release, this document includes the known and solved issues of the software. It also outlines the changes and the new features the release includes.
- **Configuration notes:** These documents are created to facilitate the configuration of a specific use case. They address a configuration aspect we consider that most users will need to perform. However, in some cases, a configuration note is created after receiving a question from a customer. They provide standard step-by-step procedures detailing the values of the parameters to use. They provide a means of validation and present some conceptual information. The configuration notes are specifically created to guide the user through an aspect of the configuration.
- **Technical bulletins:** These documents are created to facilitate the configuration of a specific technical action, such as performing a firmware upgrade.
- **Hardware installation guide:** They provide the detailed procedure on how to safely and adequately install the unit. It provides information on card installation, cable connections, and how to access for the first time the Management interface.
- **User guide:** The user guide explains how to customise to your needs the configuration of the unit. Although this document is task oriented, it provides conceptual information to help the user understand the purpose and impact of each task. The User Guide will provide information such as where and how TR-069 can be configured in the Management Interface, how to set firewalls, or how to use the CLI to configure parameters that are not available in the Management Interface.
- **Reference guide:** This exhaustive document has been created for advanced users. It includes a description of all the parameters used by all the services of the Mediatrix units. You will find, for example, scripts to configure a specific parameter, notification messages sent by a service, or an action description used to create Rulesets. This document includes reference information such as a dictionary, and it does not include any step-by-step procedures.

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