



## Installing or Upgrading the DFSIG

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Cisco IPICS supports voice interoperability between radio frequency subsystems that support conventional P25 radio systems. To enable this support, you install and configure the Cisco Digital Fixed Station Interface Gateway (DFSIG).

The DFSIG installs and operates in a dedicated VM. For a list of supported VMs, see *Cisco IPICS Compatibility Matrix*.

The DFSIG installation process consists of two general procedures: First you configure the VM for your environment, then you install and configure the DFSIG software in the VM.

This chapter includes these sections:

- [DFSIG Overview, page 7-1](#)
- [Installing or Upgrading the DFSIG Software, page 7-2](#)

### DFSIG Overview

The DFSIG is an optional software package for Cisco IPICS. It runs in dedicated VM and provides the connectivity between Cisco IPICS and the conventional P25 radio systems with which you will interoperate.

The DFSIG includes the following components:

- P25 Gateway—Handles the transcoding between the G.711 codec of a multicast stream and the Improved Multi-Band Excitation (IMBE) codec
- Console Arbitrator (CAR)—Handles the implementation of the DFSI standard and interoperability with DFSI-capable fixed stations

The DFSIG provides these interoperability modes:

- Channel selection
- Repeater mode selection (direct/talkaround or repeater)
- Squelch
- Encryption
- Console priority
- Emergency calls

# Installing or Upgrading the DFSIG Software

This section describes how to install or upgrade the DFSIG software.

## Before You Begin

Deploy the VM OVA image for Cisco IPICS as described in the “[Obtaining and Deploying the VM OVA Image for the Cisco IPICS Operating System](#)” section on page 2-4. In [Step 1c](#) of this procedure in that section, make sure to download the `dfsig-4.10.1-2cpu.ova`. After you deploy the VM OVA for your environment, you are ready to install or upgrade the DFSIG software on the server.

To install the DFSIG software, perform the following steps.

## Procedure

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- Step 1** If you are upgrading the DFSIG, take the following actions, otherwise, skip to [Step 2](#).
- From a client PC, take these actions to obtain the DFSIG installation file:
    - Go to this URL (you must have a valid Cisco.com user ID and password to access this URL):  
<http://www.cisco.com/cisco/software/navigator.html?mdfid=280723930&flowid=7120>
    - Click the **IPICS Release 4.10.2** link.
    - Click **Download** next to **dfsig-4.10.2.bin**.  
Follow the onscreen instructions to download the DFSIG installation file to your local drive.
  - Copy the DFSIG installation file from your local drive to the following folder on the VM that you deployed for the DFSIG:  
**/root/installer**
  - Log in as the root user to the VM that you deployed for the DFSIG and enter the following commands to modify the permissions on the DFSIG installation file, where *installerfilename* is the name of the DFSIG installation file that you put on the server:  

```
[root]# cd /root/installer  
[root]# chmod 755 installerfilename.bin
```
- Step 2** Log in as the root user to the VM that you deployed for the DFSIG if you are not logged in already and enter the following commands, where *installerfilename.bin* specifies the name of the installer file:
- ```
[root]# cd /root/installer  
[root]# ./installerfilename.bin
```
- After a short time, a Welcome message appears.
- If you are upgrading the DFSIG software on this server, continue to [Step 3](#).
- If you are performing a fresh install of the DFSIG, skip to [Step 4](#).
- Step 3** If you are upgrading the DFSIG software, take either of these actions:
- Press 1 and **Enter** to install the DFSIG software. This process installs the DFSIG software and completely removes the older version of the software and its configuration information.
  - Press 2 and **Enter** to upgrade to the DFSIG software. This process installs the DFSIG and retains the earlier DFSIG configuration information.



### Caution

If you choose option 1, you lose all of your existing DFSIG configuration information.

- Step 4** When you are prompted to continue, type **y** then press **Enter**.  
Text displays to inform you that you must read and accept the terms of the End User License Agreement (EULA) before you can proceed.
- Step 5** Take these actions:
- Press **Enter** to display the EULA.
  - Press the **Spacebar** to scroll through and view the EULA, then type **y** and press **Enter** to continue with the installation.  
You must accept the terms of the EULA to proceed.
- Step 6** When you are prompted to continue, type **y** then press **Enter**.
- Step 7** When you are prompted for an DFSIG Administration Console user name, enter a user name that you will use if you need to access the DFSIG Administration Console, then press **Enter**.  
The user name can include letters and numbers only. It cannot be blank.
- Step 8** When you are prompted for an DFSIG Administration Console password, enter a password that you will use to access the DFSIG Administration Console, then press **Enter**.  
The password must follow these guidelines:
- Must contain at least 6 characters
  - Cannot contain any variation of cisco or oscic (for example, abCiSCo12 is not valid)
  - Cannot contain three or more same consecutive characters (for example, a password that contains AAA or 888 is not valid)
  - Must contain at least one uppercase letter, one lowercase letter, one number, and one special character (special characters include !, @, and #)
- Step 9** Reenter the DFSIG administration console password when you are prompted to do so, then press **Enter**.
- Step 10** When you see the “Password accepted” message, press **Enter**.
- Step 11** When you are prompted to begin the installation, type **y** then press **Enter**.  
The DFSIG software installs. A progress bar indicates how the installation is proceeding.
- Step 12** When you are prompted whether you want to reboot the server, type **y** then press **Enter**.  
The server reboots.
- Step 13** When you see the log in prompt, log in as the Linux root user and press **Enter**.
- Step 14** Take these actions to run the network configuration script and configure eth1:
- Enter this command:  

```
[root]# network_config
```
  - At the **Enter option** prompt, press **3** then press **Enter**.
  - Enter an IP address for eth1, then press **Enter**.
  - Press **A** to apply the configuration that you entered and exit the configuration script.
  - When you are prompted whether you want to apply the configuration now, press **Y** then press **Enter**.

