



**EtherHaul™ and MultiHaul™  
License Upgrade Procedure**

**June 2018**

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## Table of Contents

<b>1. Purpose.....</b>	<b>3</b>
<b>2. License Upgrade Overview.....</b>	<b>3</b>
<b>3. Verifying License Key.....</b>	<b>4</b>
<b>4. Loading License Key.....</b>	<b>4</b>
<b>5. Licensing Components.....</b>	<b>6</b>
<b>6. Temporary License.....</b>	<b>7</b>

### 1. Purpose

Siklu provides easy migration to support multi-Gigabit throughputs, enabling operators to enhance bandwidth capacity on a “pay as you grow” basis as well as adding features and capabilities according to their networks evolutions.

You can order the following licenses (capacity steps and features availability depend on your platform):

- Data rate (capacity)
  - EtherHaul [Mbps]: 100 | 200 | 500 | 1000 | 2000 | 5000 | 10000
  - MultiHaul [Mbps]: Base Unit 500 | 1800, Terminal Unit 100 | 1000
- Layer 2 networking capabilities – OAM and Resiliency (Ethernet Ring Protection)
- Synchronization – Synchronous Ethernet and IEEE1588
- Encryption – AES
- PSE – Poe Out
- ExtendMM – extended range using low-frequency link as backup

### 2. License Upgrade Overview

License upgrade keys are generated by Siklu based on radio’s serial number upon order.

The license key is a signature file containing the license configuration that can be loaded on the radio it was generated for only.

To obtain a license key, submit a request to Siklu using the “License Generation Request Form”, summarizing the required information. You will be asked to provide the radio’s details (such as product type, serial number and current license configuration), requested license configuration and license Purchase Order details.

Once received, and following the receipt of a purchase order, Siklu will generate and send you a license key for the requested license configuration.

The license key should be loaded to radio using HTTP (recommended) or FTP or TFTP via the CLI or Web-GUI.

**Note:** FTP service must be free and not blocked by Firewall/Antivirus or occupied by other software or services.



If you run into problems using the FTP license upgrade, try using TFTP (often not blocked or used by other software services).

After license key was loaded, the licensing components should be enabled. If you set radio to factory default configuration, the license components will be enabled automatically.

### 3. Verifying License Key

License key content can be verified by viewing it with any text editor.

Before loading the license key, verify the serial number and license components by checking the [settings] and [license] sections of the digitally-signature file:

```
...
...
[settings]
host-id = 00-26-C6-82-EE-11
date = 2014.09.01
time = 08:08:11
type-of-bind = unit
binding-number = F414003133
signing-certificate = d2:a9:cc:4b:78:9b:b5:22

[license]                                     ← 1=enable, 0=disable
encryption = 0
oam = 1
synce = 1
extended-mm = 0
resiliency = 1
data-rate = 1000
...
...
```

### 4. Loading License Key

License key is loaded to the radio using HTTP (GUI only) or FTP/SFTP/TFTP (CLI or Web-GUI).

A running FTP/TFTP/SFTP server has to be available, storing the license key. SW upgrade using the web-GUI (starting SW version 6.9) is supported also over HTTP. In such case, no FTP server is required.

Any FTP server software available on the web can be used for loading the license key.

Loading licenses using HTTP is the recommended and most convenient way to download and upgrade the license.

Before loading the license file to the radio:

Note:



Verify the license key name matches the radio's serial number.  
The radio's serial number is available in the CLI or the GUI.

Loading license file using the Web-GUI:

<p><b>General</b></p> <p><b>Advanced Settings</b></p> <p style="background-color: #008000; color: white;"><b>Maintenance</b></p> <p><b>Event Configuration</b></p>	<p>File Transfer - Protocol</p> <p> <input checked="" type="radio"/> HTTP                   <input type="radio"/> FTP                   <input type="radio"/> TFTP                   <input type="radio"/> SFTP             </p> <p>Server IP: <input type="text"/></p> <p>Path: <input type="text"/></p> <p>User: <input type="text"/> Password <input type="text"/></p> <p style="text-align: right;">Copy to Remote &gt;&gt;</p>
	<p>File Transfer - Parameters</p>

Alternatively, use the CLI to load the license file:

```
copy license ftp://<ftp_user>:<ftp_password>@<FTP server IP
address>/<license_file_name>
```

*for example:*

```
EH-1200>copy license ftp://user:admin@192.168.0.222/F124003133.lic
Done
```

....

```
License file replaced successfully.
```

## 5. Licensing Components

After license key is loaded, license components 'permission' will be enabled, based on the license configuration and their 'status' should be enabled by the user.

License components relate to the license ordered, where license components 'resiliency' and 'oam' are related to the Layer 2 networking license.

- **Status:** current configuration
- **Permission:** max allowed license

Note that when downloading license file using the Web-GUI, you will have to reboot the radio for the license components to be available for configuration.

### 1. Checking the license components settings:

The screenshot shows the 'System' configuration page in the Siklu Web-GUI. The 'Licensing' section is active, displaying a table of license components and their settings.

	Config	Status	Permission	Temporary	Remaining time
Data-Rate	<input type="text" value="2000"/>	2000	2000	<input type="checkbox"/>	30d 0h 0m
L2 (OAM)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	30d 0h 0m
SyncE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	30d 0h 0m
L2 (Resiliency)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	30d 0h 0m
ExtendMM™	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	30d 0h 0m
PSE (PoE Out)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	30d 0h 0m

Additional fields visible in the screenshot include:

- SW Upgrade: SW File Name:  [Browse] [Download]
- Accept Timeout [Sec]:  [Accept]
- Scheduled Run Time [HH:MM]:  [Run]
- License File Name:  [Browse] [Download]

Or via the CLI:

```
EH-1200>show license

license oam          status      : enable
license oam          permission  : enable

license synce        status      : enable
license synce        permission  : enable

license encryption   status      : enable
license encryption   permission  : enable

license data-rate    status      : 1000
license data-rate    permission  : 1000

license resiliency   status      : enable
license resiliency   permission  : enable

license extend-mm    status      : disable
license extend-mm    permission  : disable
```

## 2. Configuring license components:

```
EH-1200>set license data-rate status 1000

Set done: license
```

## 6. Temporary License

The system supports temporary license that is available for 30 days. Once enabled, a countdown timer will run as long as the system is powered up. When timer expires, the system will reboot and come up with data rate /functionality based on the available license.

The temporary license can be enabled/disabled for each license component individually.

**Caution:** Use temporary license with caution and do not forget to apply permanent license. If the 30 day expire before adding permanent license, link might go down or some essential functionality, controlled by license, will be disabled, what might impair service.