



INtime[®] Distributed RTOS Licensing
Appendix 6
with Entitlement
using License Portal Procedure
INtime 7



Appendix 6 – with Entitlement using License Portal

Use this procedure to activate with an Entitlement, but without an activation account. The license type is predetermined by the Entitlement.

Identifying license components:

Fingerprint: ---- BEGIN HOST INFO ----<ascii>---- END HOST INFO ----

Entitlement Code: 8digits-4digits-4digits-4digits-12digits<32 Hexadecimal digits total>

01234567-89AB-CDEF-0123-456789ABCDEF

Used once to obtain a license from the TenAsys license server.

License String: *<ascii license string>[# “16” version “”, no expiration date, exclusive...]

Located in the %INTIMECFG%\servc file.

The license portal method of activation consists of capturing a fingerprint from the target host that needs activation, pasting that fingerprint in the license portal website, saving the returned license file, and loading it on the target host that needs activation using **Install license...** in the build-in web server interface or the **Licman** command in INshell. The details follow.

License Portal Activation Example

Step by Step Automated Activation Example

Activation of the target host can be performed in the first 10 minutes after booting without a license.

Capture the fingerprint

Activation of a target host is performed with either:

- INshell on the INtime Distributed RTOS console.
- The built-in web server on INtime Distributed RTOS. Access the web server interface by entering the IP address from the installation configuration of the target host or from the startup screen at boot time if the host was set to obtain an IP address via DHCP as shown in the example screen below to any browser on a host on the local network.

1. **Using INshell:** Capture the fingerprint from INshell on the INtime Distributed RTOS console with the command:

Licman -f:[file name]

The fingerprint is stored in the file.

2. **Using the build-in web server:** first find the IP address for the INtime Distributed RTOS host:

```
13 files, 4182656 free (130708 clusters)
init: Initialized licensing system.
init: Loading syslogd
init: Loading USB stack
init: License check...
init: Failed to acquire license.
init: Loading network
dhclient: rtl1g0: no link ...
dhclient: rtl1g0: no link ...
dhclient: rtl1g0: no link ...
dhclient: rtl1g0 got link
dhclient: DHCPDISCOVER on rtl1g0 to 255.255.255.255 port 67 interval 2
dhclient: DHCPOFFER from 192.168.1.1
dhclient: DHCPREQUEST on rtl1g0 to 255.255.255.255 port 67
dhclient: DHCPACK from 192.168.1.1
dhclient: New IP Address (rtl1g0): 192.168.1.208
dhclient: New Subnet Mask (rtl1g0): 255.255.255.0
dhclient: New Broadcast Address (rtl1g0): 192.168.1.255
dhclient: New Routers (rtl1g0): 192.168.1.1
dhclient: bound to 192.168.1.208 -- renewal in 43200 seconds.
init: Loading network apps
init: Loading FTP server
init: Loading web server
DrtosCIExtension.rsl loaded
init: Valid license not found.
init: Entering restricted environment to allow for license installation
init: or activation.
init: System will shutdown after 10 minutes.
/>
```

Figure 6.1 - Host boot up screen with the IP address listed.

The host was set up in DHCP mode with the network connection on network device rtl1g0.

3. An alternative is to use the *INtime Node Management* window on any system on the network shared with the INtime Distributed RTOS target host. If using the *INtime Node Management* window, the IP address is displayed on the right after selecting the system on the left. Click **Configure over network**.

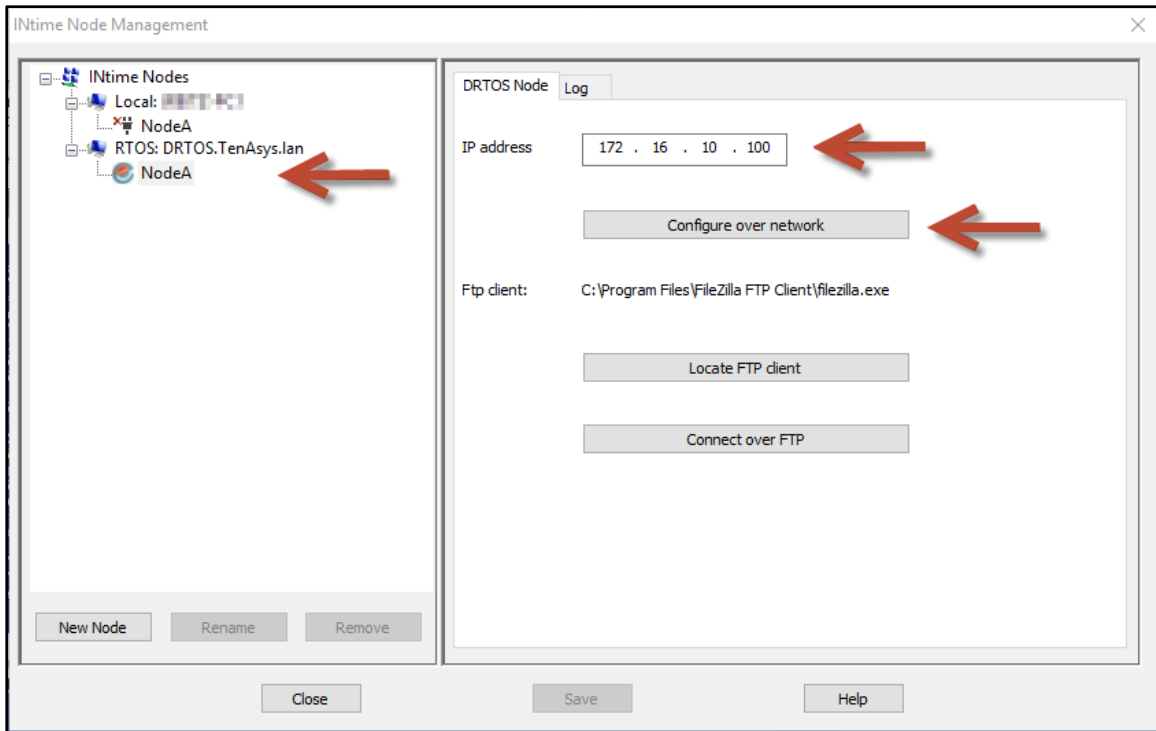


Figure 6.2 – Select the RTOS node with the INtime Node Manager.

All methods get to the initial INtime distributed RTOS screen from the built-in web server.

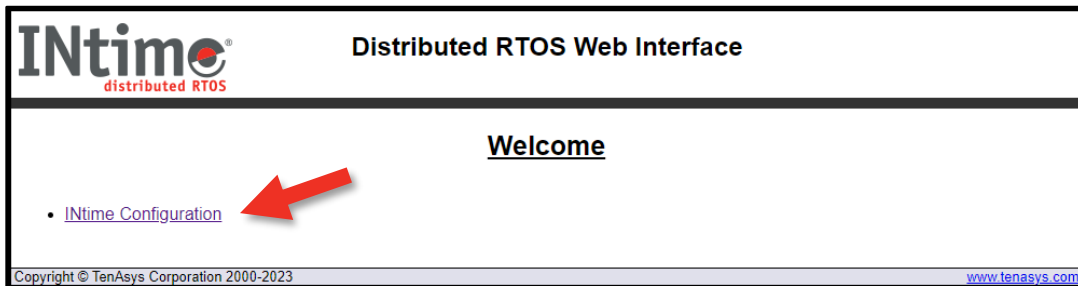


Figure 6.3 – Initial screen from the RTOS web server.

Click **INtime Configuration**.

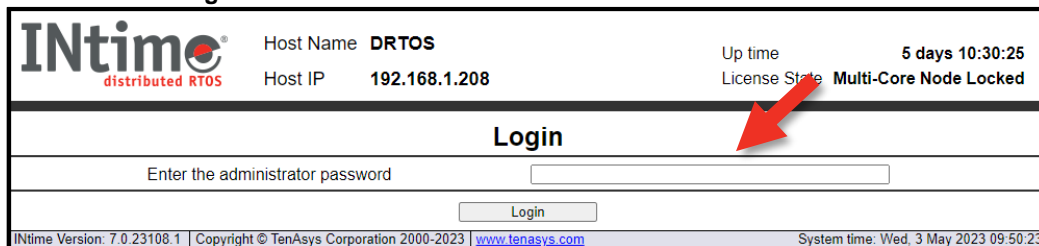


Figure 6.4 - Password screen of the target host's built-in web server.

Enter the target host password set in the installation configuration process. Click **Login**.

INtime distributed RTOS

Host Name **DRTOS** Up time **5 days 10:32:15**
 Host IP **192.168.1.208** License State **Multi-Core Node Locked**

Info System Nodes Devices Control Syslog TPAT INshell **License** Admin

Platform Information

General System Information

INtime Version / Kernel	7.0.23108.1 / 7.1.23107
CPU Name	Intel(R) Celeron(R) CPU N3160 @ 1.60GHz Airmont
BIOS Version	American Megatrends Inc. P1.30H 08/16/2016
Boot Mode	UEFI
System Management Mode	enabled and locked

Real-time Settings

Hyper-Threading	● not present
SpeedStep	● present but disabled
C-states	● C-states are OK
Hardware Controlled Performance (HWP)	● not present

There may be features present in this system which affect the real-time performance. You should carefully assess this platform for usage with your application.

Hyper-Threading means that two logical processing threads share hardware elements that may result in additional latencies in one thread due to activity by the other thread. We recommend disabling Hyper-Threading for best real-time performance.

System Management Mode is enabled on this system. If SMM is activated by means of an SMI then this can seriously affect the response time of the system. However, no SMI has currently been detected by this tool. If you see Jitter values in excess of 100 us then this can be an indication that SMIs have occurred.

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Figure 6.5 - Main screen of the target host's built-in web server.

Click the **License** menu and a screen listing 4 methods to activate the host appears.

INtime distributed RTOS

Host Name **DRTOS** Up time
Host IP **192.168.1.208** License State **unlicensed**

Info System Nodes Devices Control Syslog TPAT INshell **License** Admin

Licensing

- [Activate with entitlement.](#)
- [Activate with activation account.](#)
- [Activate manually: get fingerprint.](#)
- [Activate manually: install license file.](#)
- [Activate manually: install license string.](#)

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Figure 6.6 - Activation option screen and activation against TenAsys-server entry screen.

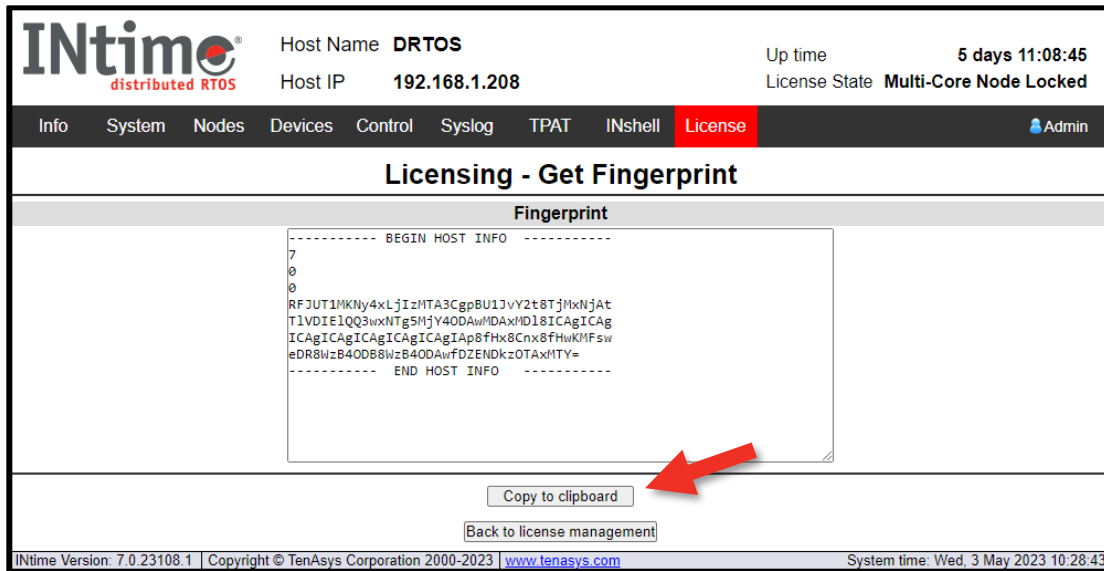


Figure 6.7 - Fingerprint

Use **Copy to clipboard** and paste the buffer to save the fingerprint as a text file, then take the file to an internet connected system.

Obtain the license from the TenAsys License Management portal

Open a browser on the internet connected system to http://licman_portal/entitlement, the *TenAsys License Management* portal.

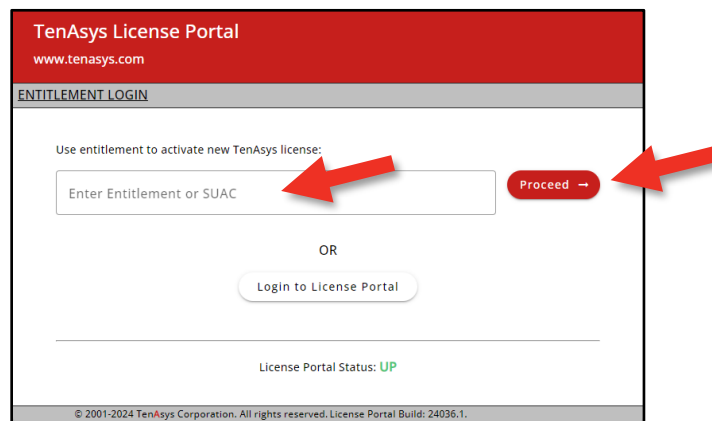


Figure 6.8 – INtime Runtime License portal Entitlement page

Enter the Entitlement.
Click **Proceed**.

Figure 6.9 – TenAsys License Management portal fingerprint entry

Paste the fingerprint from the target host into the open field.

Figure 6.10 – TenAsys License Management portal with fingerprint entered

Click **Create License**.

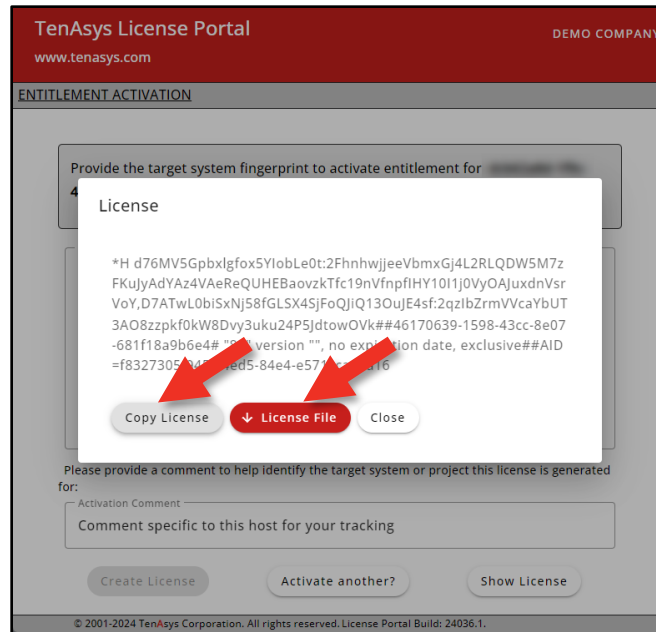


Figure 6.11 – TenAsys License Management portal with generated license string

Use **Copy License** to paste the license string to a file or **Save License** to save the license string to a file. **DO NOT CLOSE THIS PAGE without saving the license string to a file!!** Transfer the license file to the new target host.

Install the license

Installation of a license is performed with either:

- INshell on the INtime Distributed RTOS console.
- The built-in web server on INtime Distributed RTOS. Access the web server interface by entering the IP address from the installation configuration of the target host or from the startup screen at boot time if the host was set to obtain an IP address via DHCP as shown in the example screen below to any browser on a host on the local network.

Using Inshell: after transferring the license file to the INtime Distributed RTOS disk, use the command line:

licman -i:[license.lic]

Confirm the installation of the license with the command:

license list

Using the built-in web server: after transferring the license file to the browser host, open the License page:

INtime distributed RTOS Host Name **DRTOS** Up time **5 days 10:32:15**
 Host IP **192.168.1.208** License State **Multi-Core Node Locked**

Info System Nodes Devices Control Syslog TPAT INshell **License** Admin

Platform Information

General System Information

INtime Version / Kernel 7.0.23108.1 / 7.1.23107
 CPU Name Intel(R) Celeron(R) CPU N3160 @ 1.60GHz Airmont
 BIOS Version American Megatrends Inc. P1.30H 08/16/2016
 Boot Mode UEFI
 System Management Mode enabled and locked

Real-time Settings

Hyper-Threading ● not present
 SpeedStep ● present but disabled
 C-states ● C-states are OK
 Hardware Controlled Performance (HWP) ● not present

There may be features present in this system which affect the real-time performance. You should carefully assess this platform for usage with your application.

Hyper-Threading means that two logical processing threads share hardware elements that may result in additional latencies in one thread due to activity by the other thread. We recommend disabling Hyper-Threading for best real-time performance.

System Management Mode is enabled on this system. If SMM is activated by means of an SMH then this can seriously affect the response time of the system. However, no SMH has currently been detected by this tool. If you see Jitter values in excess of 100 us then this can be an indication that SMHs have occurred.

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Figure 6.12 – License Management window

INtime distributed RTOS Host Name **DRTOS** Up time
 Host IP **192.168.1.208** License State **unlicensed**

Info System Nodes Devices Control Syslog TPAT INshell **License** Admin

Licensing

- [Activate with entitlement.](#)
- [Activate with activation account.](#)
- [Activate manually: get fingerprint.](#)
- [Activate manually: install license file.](#)
- [Activate manually: install license string.](#)

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Figure 6.13 – License Management window

Use **Activate manually: install license file** to import the license file.

INtime distributed RTOS Host Name **DRTOS** Up time
 Host IP **192.168.1.208** License State **unlicensed**

Info System Nodes Devices Control Syslog TPAT INshell **License** Admin

Licensing - Install License File

License file: No file chosen

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Figure 6.14 – Enter license string window

And select the license file.
 Click **Install license file**.
 Click **Back to license management** to verify the new license.

		Host Name DRTOS Host IP 192.168.1.208	Up time 5 days 10:46:21 License State Multi-Core Node Locked						
Info	System	Nodes	Devices	Control	Syslog	TPAT	INshell	License	Admin
Licensing									
Valid license installed: INtime RTOS Multi-Core Distribution Node Locked disk SN locked Time-limited: No Max local nodes: 4 Locking code: 0X2390F									
<ul style="list-style-type: none"> • Activate manually: get fingerprint. • Activate manually: install license file. • Activate manually: install license string. 									
INtime Version: 7.0.23108.1 Copyright © TenAsys Corporation 2000-2023 www.tenasys.com						System time: Wed, 3 May 2023 10:06:19			

Figure 6.15 – License installed