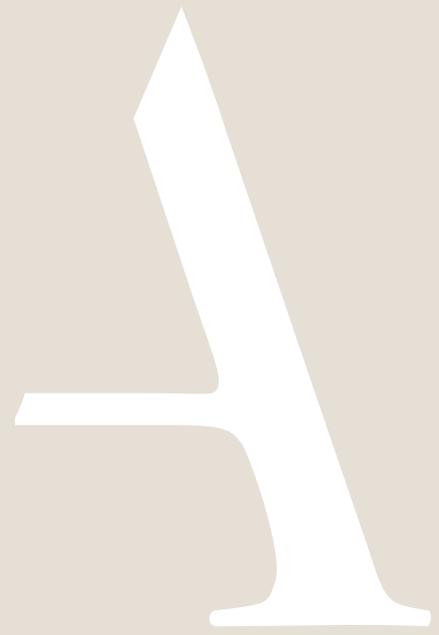




INtime[®] Distributed RTOS Licensing
with Entitlement
using Web Configuration
Procedure
INtime 7



Appendix 2 - Internet Activation with an Entitlement

Use this procedure if the INtime target host has an internet connection and an interactive installation is desired. An Entitlement administered by your company's Operations Manager is required. This alternative prompts for an Entitlement code.

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%\servrc file.

The use of the Entitlement method is recommended to provide control for each license activation. Providing an Entitlement is preferable to providing delegate user account credentials. With individual Entitlements, control of an individual license is retained. Delegate user account credentials should only be provided to trusted users.

The interactive activation method removes the manual steps involved in the license activation process by connecting the INtime installation to the TenAsys license server.

The interaction with the server first establishes a connection to validate the Entitlement, then sends the "fingerprint" data, and installs the returned license string.

Step by Step Automated Activation Example

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

Activation of a target host is performed with the aid of 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.

```
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
OrtosCIExtension.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 2.1 - 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.

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**.

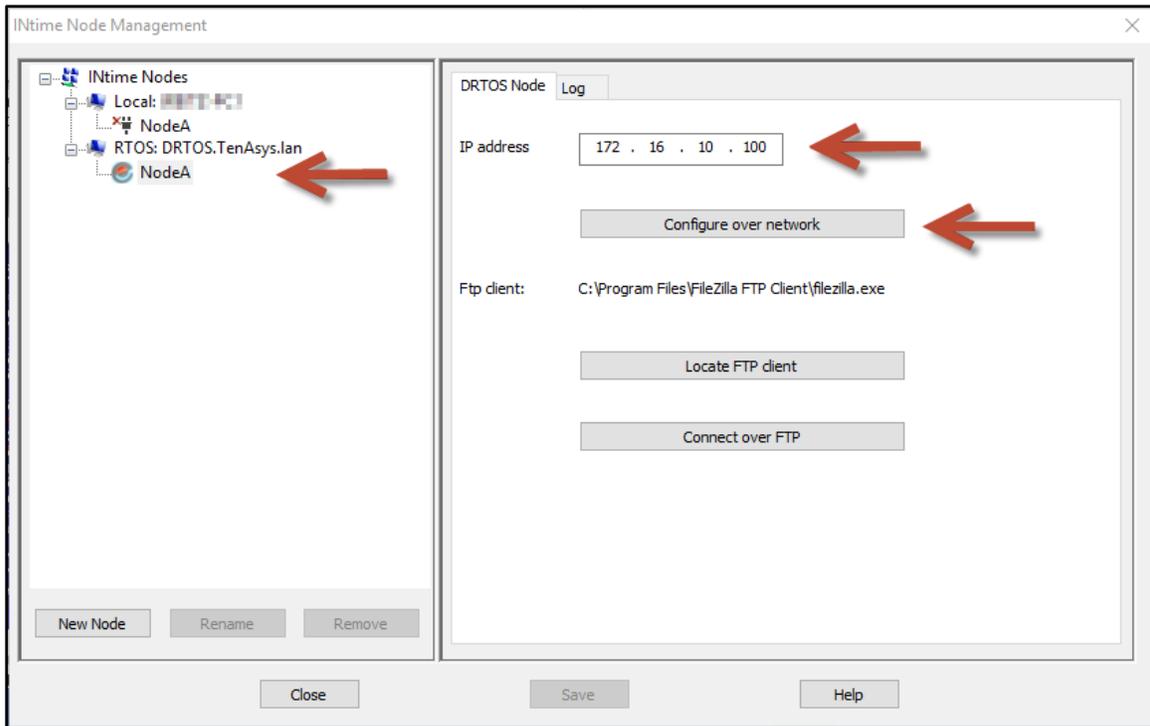


Figure 2.2 – Select the RTOS node with the INtime Node Manager.

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

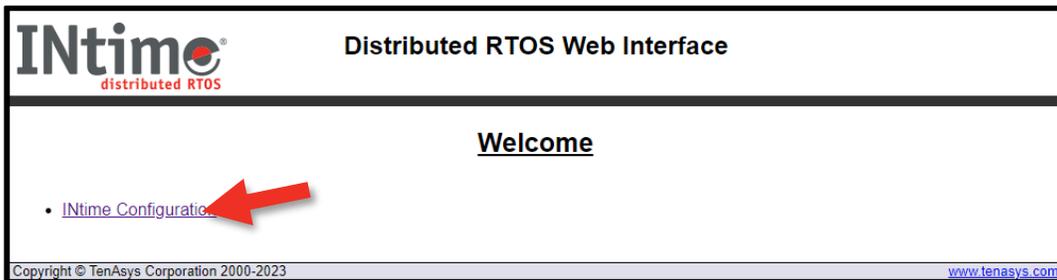


Figure 2.3 – Initial screen from the RTOS web server.

Click **INtime Configuration**.



Figure 2.4 - Password screen of the built-in web server on the target host.

Enter the target host password set in the installation configuration process. If the password was not set, it is blank. 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.

INtime Version: 7.0.23108.1 | Copyright © TenAsys Corporation 2000-2023 | www.tenasys.com System time: Wed, 3 May 2023 09:52:13

Figure 2.5 - Main screen of the target host's built-in web server.

Click the **License** menu and a screen listing 4 license options 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.](#)

INtime Version: 7.0.23108.1 | Copyright © TenAsys Corporation 2000-2023 | www.tenasys.com System time: Wed, 3 May 2023 09:59:56

Figure 2.6 - Activation option screen and activation against TenAsys license server.

Click **Activate with entitlement**.

INtime distributed RTOS

Host Name **DRTOS** Up time **5 days 12:19:35**
 Host IP **192.168.1.208** License State **unlicensed**

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

Licensing - Activate with Entitlement

Name Value

Entitlement

Activate

[Back to license management](#)

INtime Version: 7.0.23108.1 | Copyright © TenAsys Corporation 2000-2023 | www.tenasys.com System time: Wed, 3 May 2023 11:39:33

Figure 2.7 - Activate with Entitlement option screen.

Enter the Entitlement and click **Activate**. The application will automatically take a “fingerprint” of the host, communicate, and use the Entitlement from the TenAsys license server and download a license string to the target host. The target host is activated and ready to run with a permanent license.

INtime distributed RTOS		Host Name DRTOS	Up time 5 days 12:20:48
		Host IP 192.168.1.208	License State unlicensed
Info	System	Nodes	Devices
Control	Syslog	TPAT	INshell
License			Admin
Licensing - Activate with Entitlement			
Name	Value		
Entitlement	<input type="text" value="d0b97518-19d5-4abe-857d-b92f55a5f3d8"/>		
Activating...please wait. On success the licensing system is reset.			
Back to license management			
INtime Version: 7.0.23108.1		Copyright © TenAsys Corporation 2000-2023	System time: Wed, 3 May 2023 11:40:46

Figure 2.8 – Successful activation

Click **Back to license management** to verify the new license.

INtime distributed RTOS		Host Name DRTOS	Up time 5 days 10:46:21
		Host IP 192.168.1.208	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	System time: Wed, 3 May 2023 10:06:19

Figure 2.9 – License page after activation