



Configuring RFID Tag Tracking

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Information About Configuring RFID Tag Tracking

The controller enables you to configure radio-frequency identification (RFID) tag tracking. RFID tags are small wireless devices that are affixed to assets for real-time location tracking. They operate by advertising their location using special 802.11 packets, which are processed by access points, the controller, and the mobility services engine.

To know more about the tags supported by controller, see <http://www.cisco.com/c/en/us/products/wireless/compatible-extensions.html>. The mobility services engine receives telemetry and chokepoint information from tags that are compliant with this CCX specification.

Table 1: Cisco Compatible Extensions for RFID Tags Summary

Partners	AeroScout		WhereNet	Pango (InnerWireless)
Product Name	T2	T3	Wheretag IV	V3
<i>Telemetry</i>				
Temperature	X	X	—	X
Pressure	—	—	—	—
Humidity	—	—	—	—
Status	—	—	—	—
Fuel	—	—	—	—
Quantity	—	—	—	—
Distance	—	—	—	—

Partners	AeroScout		WhereNet	Pango (InnerWireless)
Motion Detection	X	X	—	X
Number of Panic Buttons	1	2	0	1
Tampering		X	X	X
Battery Information	X	X	X	X
Multiple-Frequency Tags	X	X	X	

¹ For chokepoint systems, note that the tag can work only with chokepoints coming from the same vendor.



Note The Network Mobility Services Protocol (NMSP) runs on the mobility services engine. For NMSP to function, the TCP port (16113) over which the controller and the mobility services engine communicate must be open (not blocked) on any firewall that exists between these two devices.

The Cisco-approved tags support these capabilities:

- **Information notifications**—Enables you to view vendor-specific and emergency information.
- **Information polling**—Enables you to monitor battery status and telemetry data. Many telemetry data types provide support for sensory networks and a large range of applications for RFID tags.
- **Measurement notifications**—Enables you to deploy chokepoints at strategic points within your buildings or campuses. Whenever an RFID tag moves to within a defined proximity of a chokepoint, the tag begins transmitting packets that advertise its location in relation to the chokepoint.

You can configure and view RFID tag tracking information through the controller CLI.

Configuring RFID Tag Tracking (CLI)

Step 1 Enable or disable RFID tag tracking by entering this command:

```
config rfid status {enable | disable}
```

The default value is enabled.

Step 2 Specify a static timeout value (between 60 and 7200 seconds) by entering this command:

```
config rfid timeout seconds
```

The static timeout value is the amount of time that the controller maintains tags before expiring them. For example, if a tag is configured to beacon every 30 seconds, we recommend that you set the timeout value to 90 seconds (approximately three times the beacon value). The default value is 1200 seconds.

Step 3 Enable or disable RFID tag mobility for specific tags by entering these commands:

- **config rfid mobility vendor_name enable**—Enables client mobility for a specific vendor’s tags. When you enter this command, tags are unable to obtain a DHCP address for client mode when attempting to select and/or download a configuration.
- **config rfid mobility vendor_name disable**—Disables client mobility for a specific vendor’s tags. When you enter this command, tags can obtain a DHCP address. If a tag roams from one subnet to another, it obtains a new address rather than retaining the anchor state.

Note These commands can be used only for Pango tags. Therefore, the only valid entry for *vendor_name* is “pango” in all lowercase letters.

Viewing RFID Tag Tracking Information (CLI)

Step 1 See the current configuration for RFID tag tracking by entering this command:

```
show rfid config
```

Step 2 See detailed information for a specific RFID tag by entering this command:

```
show rfid detail mac_address
```

where *mac_address* is the tag’s MAC address.

Step 3 See a list of all RFID tags currently connected to the controller by entering this command:

```
show rfid summary
```

Step 4 See a list of RFID tags that are associated to the controller as clients by entering this command:

```
show rfid client
```

Debugging RFID Tag Tracking Issues (CLI)

If you experience any problems with RFID tag tracking, use these debug commands.

- Configure MAC address debugging by entering this command:

```
debug mac addr mac_address
```



Note We recommend that you perform the debugging on a per-tag basis. If you enable debugging for all of the tags, the console or Telnet screen is inundated with messages.

- Enable or disable debugging for the 802.11 RFID tag module by entering this command:

```
debug dot11 rfid {enable | disable}
```

- Enable or disable RFID debug options by entering this command:

debug rfid {all | detail | error | nmsp | receive} {enable | disable}

where

- **all** configures debugging of all RFID messages.
- **detail** configures debugging of RFID detailed messages.
- **error** configures debugging of RFID error messages.
- **nmsp** configures debugging of RFID NMSP messages.
- **receive** configures debugging of incoming RFID tag messages.