

Wireless – Proxim Tsunami RSU

Version 1.1

This probe monitors a Proxim wireless Tsunami SUs/RSUs (2411, 5054, others). The information are obtained from ORiNOCO, IEEE 802.11 and MIB-II MIBs.

Status page:

Device Status

```
Name: Proxim TMP-xxxx
DNS Name: tmprsu.mywirelessdomain.net
Address: 172.16.1.41
Status: (UP|DOWN) (Reachable since Jan 20, 12:01:03)
Protocol: Wireless - Proxim Tsunami RSU (port 161)
Up Time: 8 days, 1 hours, 23 minutes
SysName: TMPRSU
Location: 999 This A Way Dr. NW
          Issaquah, WA 98027
Contact: John Doe / 555-225-8978
Availability: 99.8 % (of 1 day, 20 hours, 25 minutes)
Packet Loss: 0.85 % (of 10680 total attempts) [Reset]
Recent Loss: 1 pkts at Jan 28, 10:26:28
Round-trip time: 87 msec
```

TMP11 Information

```
Ethernet: 100 Mbps
DDR: enabled (default 6 Mbps, max 11Mbps)
```

Wireless interfaces

```
MAC Address: 00:20:EF:23:56:AB
Network Name (SSID): WirelessA
Operational Mode: 802.11b
Channel: 10
Auto Channel Select: Enabled
Tx Rate: 11 Mbps
Multicast Tx Rate: 11 Mbps
Turbo Mode: Enabled
Rogue Scan: Disabled
FCS Error Count: 1/sec
Failed Count: 1/sec
Retry Count: 1/sec
```

WORP interfaces

```
Mode/Name: Satellite (TMPBSU)
Max Satellites: 250
Remote Partners: 3
Base Announces: 103
Reg/Auth requests: 103
Avg. Local Sig/Noise: -12 dBm / -90 dBm
Avg. Rem. Sig/Noise: -12 dBm / -90 dBm
%Snd Failure/Retries: 0.8%/1.0%
%Rcv Failure/Retries: 0.5%/0.0%
```

Notes:

- The grayed out area in the status page will be filled-in with the standard device info and cannot be changed.
- MIB-II interface statistics will be shown in a separate status page (link status page). There will be one link status page per link. We currently don't show 802.11 counters in this page, but we will look into implementing support for this in later version of InterMapper.
- There is an option to not the wireless interface settings.

Glossary of Terms:

Device Information:

- **Device name:** The type of the device (model). This is determined from comparing the sysObjectID against the OIDs listed in orinocoProducts in ORiNOCO MIB.
- **Ethernet:** The speed of the first ethernet interface (OID OriEthernetIfConfigTableEntry.oriEthernetIfConfigSettings).
- **DDR:** This indicates if the WORP DDRS (Dynamic Data Rate Selection) feature on the BSU is enabled. (OID oriWORPIfDDRStatus). When DDRS is enabled, the default and maximum data rates are also shown in the status page (OIDs: oriVLANStatus).

Wireless interface RF parameters

- **MAC Address:** This is the MAC address of the wireless interface(OID OriWirelessIfPropertiesEntry.oriWirelessIfMACAddress, if not available the MAC address will be obtained from ifTable.ifPhysAddress).
- **Network Name (SSID):** the wireless card SSID string (wireless network name). A wireless interface can have several SSIDs. InterMapper will display of the SSIDs for the wireless inteface (all oriWirelessIfSSIDTableSSID in OriWirelessIfSSIDTableEntry whose oriWirelessIfSSIDTableIndex matches the index of this wireless interface).
- **Operational Mode:** The wireless NIC Operational mode, eg. 802.11b, 802.11g, 802.11b/g, 802.11a only, 802.11g-wifi (OID OriWirelessIfPropertiesEntry.oriWirelessIfOperationalMode).
- **Channel:** The radio frequency channel for this wireless interface (OID OriWirelessIfPropertiesEntry.oriWirelessIfChannel).
- **Auto Channel Select:** This indicates if the automatic frequency channel feature for the wireless interface is enabled (OID OriWirelessIfPropertiesEntry.oriWirelessIfAutoChannelSelectStatus).
- **Tx rate:** The configured transmit rate for unicast traffic for the wireless interface(OID OriWirelessIfPropertiesEntry.oriWirelessIfTxRate).
- **Multicast rate:** The multicast rate of the wireless interface (OID OriWirelessIfPropertiesEntry.oriWirelessIfMulticastRate)
- **Turbo mode:** This indicates if the turbo mode support is enabled/disabled for the wireless interface (OID OriWirelessIfPropertiesEntry.oriWirelessIfTurboModeStatus)
- **Rogue scan:** This indicates if rogue scan is enabled for the wireless interface (OID OriRogueScanConfigTableEntry. oriRogueScanConfigTableScanStatus). If rogue scan is enabled, the scan mode (background/continuous, OID OriRogueScanConfigTableEntry. oriRogueScanConfigTableScanMode) and the scan cycle time (OID OriRogueScanConfigTableEntry. oriRogueScanConfigTableScanCycleTime) will also be shown.
- **FCS Error Count:** The number of MPDU received with Frame Check Sequence (FCS) error per second (OID dot11FCSErrorCount).
- **Failed Count:** The number of MSDUs not transmitted successfully per second. The transmit failuire is due to the number of transmit attempts exceeding either the retry limit or long retry limit (OID dot11FailedCount).
- **Retry Count:** The number of MSDUs successfully transmitted after one or more retransmissions per second (OID dot11RetryCount).

WORP (Wireless Outdoor Routing Protocol) Interfaces:

- **Mode:** The running mode of this interface, this should show Satellite (OID: OriWORPIfConfigTableEntry. oriWORPIfConfigTableMode)
- **Name:** The name of the base station this satellite is associated with. For a base this name will default to the MIB-II sysName (OID: OriWORPIfConfigTableEntry.oriWORPIfConfigTableBaseStationName).
- **Max Satellites:** The maximum of remote partners allowed on this interface (OID: OriWORPIfConfigTableEntry.oriWORPIfConfigTableMaxSatellites).
- **Remote Partners:** The number of remote partners. (OID: OriWORPIfStatTableEntry.oriWORPIfStatTableRemotePartners).
- **Base Announces:** The number of Base Station Announces Broadcasts (BSAB) sent on this interface (OID: OriWORPIfStatTableEntry. oriWORPIfStatTableBaseStationAnnounces).
- **Reg requests:** The number of Registration Requests (RREQ) sent on this interface (OID: OriWORPIfStatTableEntry. oriWORPIfStatTableRegistrationRequests).
- **Auth Requests:** The number of Authentication Requests (AREQ) sent on this interface (OID: OriWORPIfStatTableEntry. oriWORPIfStatTableAuthenticationRequests).
- **Avg. Local Sig.:** The current signal level calculated over all inbound packets (OID: OriWORPIfStatTableEntry. oriWORPIfStatTableAverageLocalSignal).

- **Avg. Local Noise:** The current noise level calculated over all inbound packets (OID: OriWORPIfStatTableEntry. oriWORPIfStatTableAverageLocalNoise).
- **Avg. Remote Sig:** The current remote signal level calculated over the inbound packets (OID: OriWORPIfStatTableEntry. oriWORPIfStatTableAverageRemoteSignal).
- **Avg. Remote Noise:** The current average remote noise level calculated over the inbound packets (OID: OriWORPIfStatTableEntry. oriWORPIfStatTableAverageRemoteNoise).
- **%Snd Failure:** The percent of data packets sent that were (finally) not received successfully by the remote partner (OIDs: OriWORPIfStatTableEntry. oriWORPIfStatTableSendFailures, OriWORPIfStatTableEntry. oriWORPIfStatTableSendSuccess).
- **%Snd Retries:** The percent of data packets sent that needed retransmission but were finally received successfully by the remote partner (OIDs: OriWORPIfStatTableEntry. oriWORPIfStatTableSendRetries, OriWORPIfStatTableEntry. oriWORPIfStatTableSendSuccess).
- **%Rcv Failure:** The percent of data packets that were (finally) not received successfully (OIDs: OriWORPIfStatTableEntry. oriWORPIfStatTableReceiveFailures, OriWORPIfStatTableEntry. oriWORPIfStatTableReceiveSuccess).
- **%Rcv Retries:** The percent of data packets received that needed retransmission by the remote partner but were finally received successfully (OIDs: OriWORPIfStatTableEntry. oriWORPIfStatTableReceiveRetries, OriWORPIfStatTableEntry. oriWORPIfStatTableReceiveSuccess).

Thresholds:

Alarms:

- **Signal dBm too low:**
This alarm will be raised if either remote or local signal level in any of the WORP interfaces reach/fall below the given user-defined threshold (default value -95 dBm). OIDs: OriWORPIfStatTableEntry. oriWORPIfStatTableAverageLocalSignal, OriWORPIfStatTableEntry.oriWORPIfStatTableAverageRemoteSignal.
- **Noise dBm too high:**
This alarm will be raised if either remote or local noise level in any of the WORP interfaces reach/is above the given user-defined threshold (default value -40 dBm). OIDs: OriWORPIfStatTableEntry. oriWORPIfStatTableAverageLocalNoise, OriWORPIfStatTableEntry.oriWORPIfStatTableAverageRemoteNoise..
- **Send retries pct too high:**
This alarm will be raised when $(\# \text{ send retries})/(\# \text{ send success})$ is greater than or equals to the given (user-defined, default 5%) percentage value. OIDs: OriWORPIfStatTableEntry. oriWORPIfStatTableSendRetries, OriWORPIfStatTableEntry. oriWORPIfStatTableSendSuccess.
- **Send failures pct too high:**
This alarm will be raised when $(\# \text{ send failures})/(\# \text{ send success})$ is greater than or equals to the given (user-defined, default 5%) percentage value. OIDs: OriWORPIfStatTableEntry. oriWORPIfStatTableSendFailures, OriWORPIfStatTableEntry. oriWORPIfStatTableSendSuccess.
- **Receive retries pct too high:**
This alarm will be raised when $(\# \text{ receive retries})/(\# \text{ receive success})$ is greater than or equals to the given (user-defined, default 5%) percentage value. OIDs: OriWORPIfStatTableEntry. oriWORPIfStatTableReceiveRetries, OriWORPIfStatTableEntry. oriWORPIfStatTableReceiveSuccess.
- **Receive failures pct too high:**
This alarm will be raised when $(\# \text{ receive failures})/(\# \text{ receive success})$ is greater than or equals to the given (user-defined, default 5%) percentage value. OIDs: OriWORPIfStatTableEntry. oriWORPIfStatTableReceiveFailures, OriWORPIfStatTableEntry. oriWORPIfStatTableReceiveSuccess.
- **FCS errors/sec too high:**
This alarm will be raised if the number of MPDU received with Frame Check (FCS) error per second is greater than or equals to the given user-defined parameter (default 100). OID: dot11FCSErrorCount.
- **Failures/sec too high:**
This alarm will be raised if the number of MSDUs not transmitted successfully per second is greater than or equals to the given user-defined parameter (default 100). OID: dot11FailedCount.
- **Retries/sec too high:**
This alarm will be raised if the number of MSDUs successfully transmitted after one or more retransmissions per second is greater than or equals to the given user-defined parameter (default 100). OID: dot11RetryCount.
- **Security: Rogue AP detected (trap-based)**
This alarm is based on `oriTrapRogueScanStationDetected`, which will be generated when a rogue station is detected. This alarm will clear when acknowledged manually.
- **Security: Unauthorized Manager (trap-based)**
This alarm is based on `oriTrapUnauthorizedManagerDetected`, which will be generated when generated when an

unauthorized manager has attempted to view and/or modify parameters. This alarm will clear when acknowledged manually.

- **Security: Invalid encryption key (trap-based)**
This alarm is based on `oriTrapInvalidEncryptionKey`, which will be generated when an invalid encryption key has been detected. This alarm will clear when acknowledged manually.
- **Security: Authentication failure (trap-based)**
This alarm is based on `oriTrapAuthenticationFailure`, which will be generated when a client authentication failure has occurred. The authentication failures can range from: MAC Access Control Table, RADIUS MAC Authentication, 802.1x Authentication specifying the EAP-Type, WORP Mutual Authentication, SSID Authorization (failure specifying the SSID), VLAN ID Authorization (failure specifying the VLAN ID). This alarm will clear when acknowledged manually.
- **WirelessIf: Wireless card failure (trap-based)**
This alarm is based on `oriTrapWLCFailure`, will clear when acknowledged manually

Warnings:

- **Signal dBm low:**
This warning will be raised if either remote or local signal level in any of the WORP interfaces reach/fall below the given user-defined threshold (default value -90 dBm). OIDs: `OriWORPIfStatTableEntry. oriWORPIfStatTableAverageLocalSignal`, `OriWORPIfStatTableEntry. oriWORPIfStatTableAverageRemoteSignal`.
- **Noise dBm high:**
This warning will be raised if either remote or local noise level in any of the WORP interfaces reach/is above the given user-defined threshold (default value -60 dBm). OIDs: `OriWORPIfStatTableEntry. oriWORPIfStatTableAverageLocalNoise`, `OriWORPIfStatTableEntry. oriWORPIfStatTableAverageRemoteNoise`.
- **Send retries pct high:**
This warning will be raised when $(\# \text{ send retries})/(\# \text{ send success})$ is greater than or equals to the given (user-defined, default 3%) percentage value. OIDs: `OriWORPIfStatTableEntry. oriWORPIfStatTableSendRetries`, `OriWORPIfStatTableEntry. oriWORPIfStatTableSendSuccess`.
- **Send failures pct high:**
This warning will be raised when $(\# \text{ send failures})/(\# \text{ send success})$ is greater than or equals to the given (user-defined, default 3%) percentage value. OIDs: `OriWORPIfStatTableEntry. oriWORPIfStatTableSendFailures`, `OriWORPIfStatTableEntry. oriWORPIfStatTableSendSuccess`.
- **Receive retries pct high:**
This warning will be raised when $(\# \text{ receive retries})/(\# \text{ receive success})$ is greater than or equals to the given (user-defined, default 3%) percentage value. OIDs: `OriWORPIfStatTableEntry. oriWORPIfStatTableReceiveRetries`, `OriWORPIfStatTableEntry. oriWORPIfStatTableReceiveSuccess`.
- **Receive failures pct too high:**
This warning will be raised when $(\# \text{ receive failures})/(\# \text{ receive success})$ is greater than or equals to the given (user-defined, default 3%) percentage value. OIDs: `OriWORPIfStatTableEntry. oriWORPIfStatTableReceiveFailures`, `OriWORPIfStatTableEntry. oriWORPIfStatTableReceiveSuccess`.
- **FCS errors/sec high:**
This warning will be raised if the number of MPDU received with Frame Check (FCS) error per second is greater than or equals to the given user-defined parameter (default 50). OID: `dot11FCSErrorCount`.
- **Failures/sec high:**
This warning will be raised if the number of MSDUs not transmitted successfully per second is greater than or equals to the given user-defined parameter (default 50). OID: `dot11FailedCount`.
- **Retries/sec high:**
This warning will be raised if the number of MSDUs successfully transmitted after one or more retransmissions per second is greater than or equals to the given user-defined parameter (default 50). OID: `dot11RetryCount`.
- **Operational: Wireless service shutdown**
This warning is based on `oriTrapWirelessServiceShutdown`, which will be generated when the wireless interface has shutdown services for wireless clients. This warning will clear when acknowledged manually.

Supported Equipments:

Proxim wireless Tsunami SU/RSU 2411, Tsunami SU/RSU 5054 and Tsunami SU/RSU that supports the ORiNOCO MIB.

Trap Host:

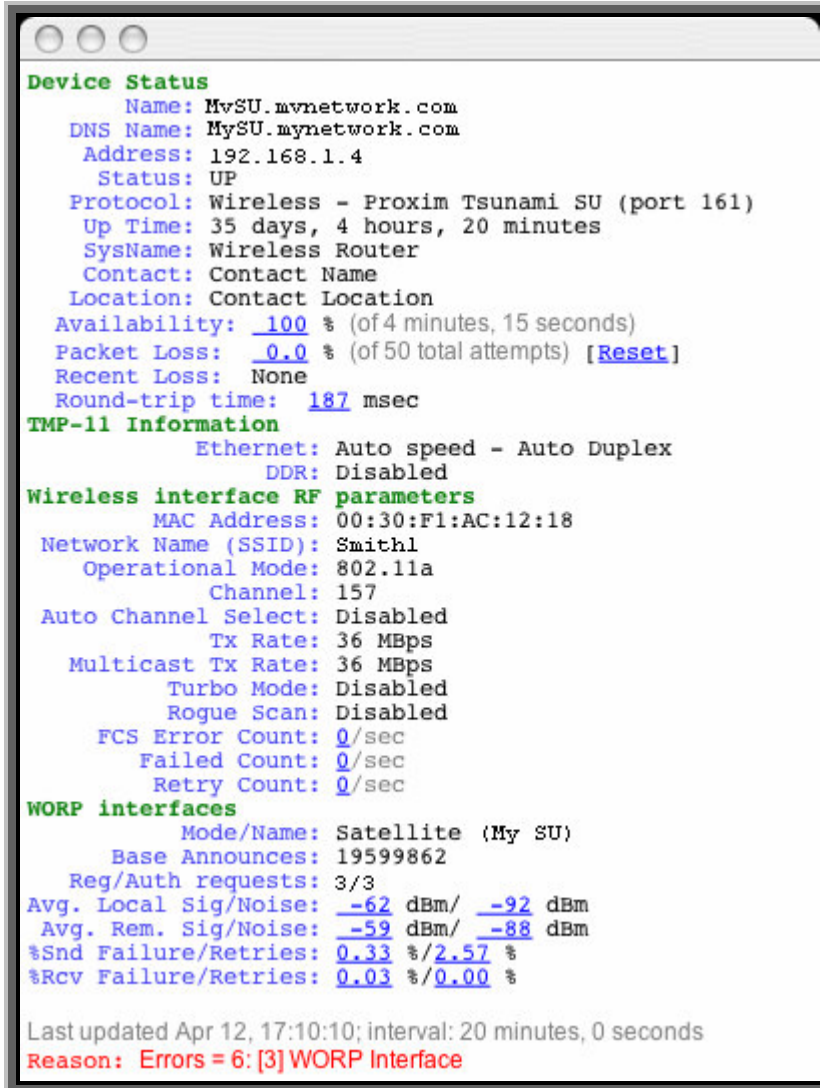
The trap-based alarms/warnings requires that the InterMapper server's IP Address is added into the device's Trap host.

Version:

Included with WISPerMapper 4.3, part of wireless bundle 1.1. Requires InterMapper 4.3 or later.

License:

IMWirelessAddon

Sample Screen Shot:

```
Device Status
  Name: MvSU.mvnetwork.com
  DNS Name: MySU.mynetwork.com
  Address: 192.168.1.4
  Status: UP
  Protocol: Wireless - Proxim Tsunami SU (port 161)
  Up Time: 35 days, 4 hours, 20 minutes
  SysName: Wireless Router
  Contact: Contact Name
  Location: Contact Location
  Availability: 100 % (of 4 minutes, 15 seconds)
  Packet Loss: 0.0 % (of 50 total attempts) [Reset]
  Recent Loss: None
  Round-trip time: 187 msec
TMP-11 Information
  Ethernet: Auto speed - Auto Duplex
           DDR: Disabled
Wireless interface RF parameters
  MAC Address: 00:30:F1:AC:12:18
  Network Name (SSID): Smith1
  Operational Mode: 802.11a
  Channel: 157
  Auto Channel Select: Disabled
  Tx Rate: 36 MBps
  Multicast Tx Rate: 36 MBps
  Turbo Mode: Disabled
  Rogue Scan: Disabled
  FCS Error Count: 0/sec
  Failed Count: 0/sec
  Retry Count: 0/sec
WORP interfaces
  Mode/Name: Satellite (My SU)
  Base Announces: 19599862
  Reg/Auth requests: 3/3
  Avg. Local Sig/Noise: -62 dBm/ -92 dBm
  Avg. Rem. Sig/Noise: -59 dBm/ -88 dBm
  %Snd Failure/Retries: 0.33 %/2.57 %
  %Rcv Failure/Retries: 0.03 %/0.00 %

Last updated Apr 12, 17:10:10; interval: 20 minutes, 0 seconds
Reason: Errors = 6: [3] WORP Interface
```