

APPLICATION NOTE

How to configure WaveManager as an External syslog Server

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Content

1. Introduction..... 3

2. Requirements 3

3. Configuring the Router..... 3

4. Configuring WaveManager 5

5. Testing 7

1. Introduction

To configure Acksys router to use a separate server for logging, we obviously need a separate logging server to accomplish this. Hence, you can install an external Syslog server on your machine that allow you to store and capture the router's Syslog. The following sections describe how to configure the router to send its logs to WaveManager as an external syslog server.

2. Requirements

To achieve this note you will need:

- 1x Acksys wireless router
- An external syslog server (WaveManager or Rsyslog server) most of time install on PC in the same LAN network with the router and make sure they are reachable.

3. Configuring the Router

To configure the syslog server, go In the GUI, browse to Tools → Log Settings :

- System Log Output level : Debug
- System log Buffer Size : 1000 (for local logs but can be modified accordantly)
- IP where WaveManager is installed: 192.168.1.100 (IPv4 address of your syslog server)
- External System Log Server Port : 514 (default syslog Listen port)
- Click Save

LOG SETTINGS

You can configure the log parameters on this page.

General settings:

This section is about configuring the system log, which filters and and dispatches the log messages to the user.

The "System Log Output Level" acts as a final filter for the log messages from various components. Set it to the highest level you want to see from any component. So, please make sure the system log output level is high enough to display all required messages.

NOTE : If an "External System Log Server (IPv6)" is set it will have precedence over an "External System Log Server (IPv4)".

Wireless log settings:

These sections configure wireless logging for access points and clients. The messages are sent to the system log.

VRP service log settings:

This section configures logging of VRRP activities. Messages are sent to the system log.

GENERAL SETTINGS	
System Log Output Level	Debug
System Log Buffer Size	1000
	ⓘ KiB
External System Log Server (IPv4)	192.168.1.100
External System Log Server (IPv6)	:::0
External System Log Server Port	514
	ⓘ common to both IP family

To synchronize router Time with Wavemanager, go In the GU , browse to Tools → System :

- Host Name: Your custom Router Name
- System Time : Set your local Time which must be the time of the device on which WaveManager is installed
- Time Zone: Your custom time zone
- Click Save

SYSTEM

The time configuration option allows you to configure, update, and maintain the correct time on the internal system clock

DEVICE LOCAL SETTINGS	
Host name	<input type="text" value="CLIENT"/> <small> ⓘ This device's name. Warning: This value can be changed by dhcp settings from dhcp server </small>
System time	<input type="text" value="03/17/2025 12:19"/> <small> ⓘ format MM/DD/YYYY hh:mm </small>
Time zone	<input type="text" value="Europe/Paris"/>

To allow the router to send WaveManager, go in submenu router Telemetry Setup → Services → Statitics where you have to specify the periodicity of data transfer relative to the frequency of acquisition as shown on the screenshot:

STATISTICS

In this page you can configure the statistics related services.

Warning: Some parameters can be changed by WaveManager

OVERALL SETTINGS	
Enable statistics system	<input checked="" type="checkbox"/> ⓘ To enable any statistics service, please enable this option.
Sample interval	<input type="text" value="5"/> <small> ⓘ Overall interval for all the statistics service. (In seconds) </small>

WEB GRAPH	
Allow to show the graph from status web pages	
Enable statistics graph	<input checked="" type="checkbox"/>

ACKSYS TELEMETRY	
Allow to send information to WaveManager	
Enable telemetry	<input checked="" type="checkbox"/>
Acksys telemetry server port	<input type="text" value="8628"/>
Output interval	<input type="text" value="10"/> <small> ⓘ Acksys telemetry will check if there is any new statistics data available at this frequency. To avoid data accumulation, this value should less than overall sample interval. (In seconds) </small>
Max buffer size	<input type="text" value="102400"/> <small> ⓘ This value will determine the size of buffer and also how much data will be stored in case connection with server is lost. (In bytes) </small>

- Click Save and Apply.

NOTE: if for example there is a data acquisition every 5 seconds and we authorize the data transfer every 2 acquisitions, WaveOS will send the data to WaveManager every 10 seconds. The Output interval parameter defined in the Setup/Statistics page of the products must be, in this case, set to 10; if the value is different, the status of the product changes to **Warning state**
When you check Enable product telemetry settings, WaveManager will be able to send the telemetry parameters of this page to all online products.

4. Configuring WaveManager

To configure WaveManager to collect data, connect to WaveManager , browse to Settings → Operational → Data Collect

- **Collect Settings**

- o Enable data Collect

Enable data collect: this option authorizes WaveManager to use the telemetry protocol to obtain information relating to the connected products.

The Telemetry protocol allows WaveOS to spontaneously send historical data to one or several clients (WaveManager).

The acquisition frequency must correspond to the Sample interval parameter defined in the **Setup/Statistics page** of the products. If the value is different, the status of the product changes to **Warning state**

The time during which the received values are kept is also indicated here. This is useful in particular to control the maximum duration of recording of roaming information, or even the signal level values for the trace of the variations.

▼ Data collect

Collect settings

☒ Enable data collect

Data acquisition every second(s)

Keep data for day(s)

- **Telemetry**

Here we define the port used by the telemetry protocol. The default value is 8628, and it must correspond to the Acksys telemetry server port parameter programmed in the **Setup→Statistics page of the products**. If the value is different, the status of the product changes to **Warning state**

Telemetry

☒ Enable telemetry

Telemetry port

Data transfer every acquisition(s)

☒ Enable product telemetry settings

Setting time

To configure WaveManager to collect logs, connect In the WaveManager, browse to Settings → Syslog

- **Syslog Log server**

- o Server log Port : 514
- o Keep logs for : 1 day (can be modified)
- o Entry log level

System Log

☒ System log server

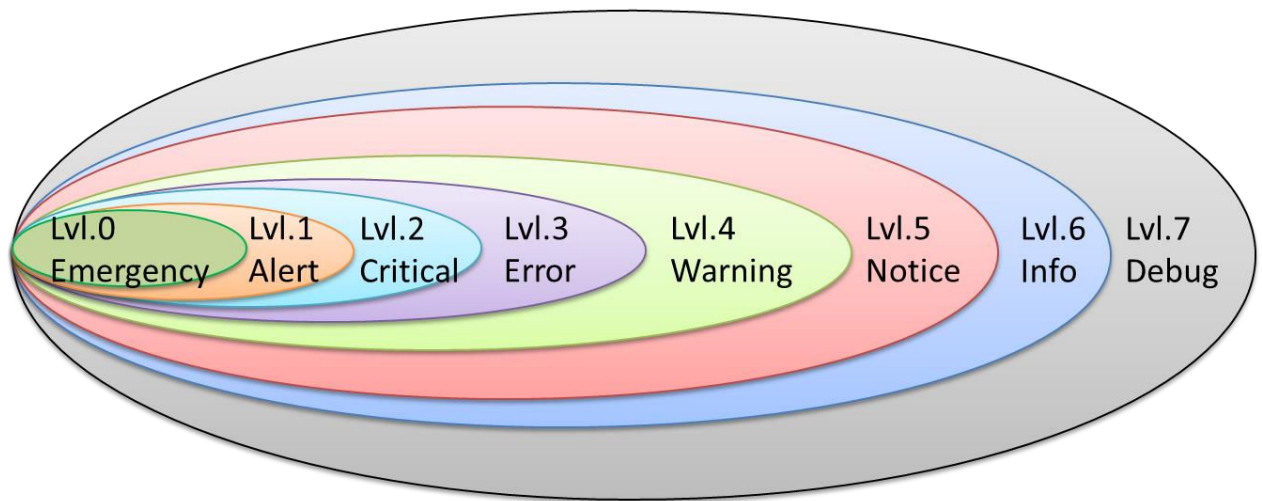
Server log Port:

Keep logs for: day(s)

Entry log level:

Logs Priority Level

Syslog severity levels are crucial components of system logging that help prioritize and categorize log messages. These levels range from 0 (Emergency) to 7 (Debug), providing a standardized way to assess the importance and urgency of system events. Understanding syslog levels is essential for effective system monitoring, troubleshooting, and maintaining network health



5. Testing

When you check Enable **product telemetry settings**, WaveManager will be able to send the telemetry parameters to all online products.

Please Connect in WaveManager , Product View→ Select your router, click on Log Icone and select System Log to view system log.

The screenshot displays the WaveManager Product View interface. The main table lists products, with one router highlighted in a warning state. The right-hand pane shows detailed information for the selected router, including a 'WARNING STATES' section that is highlighted with a red box.

Group	Model	Serial	Product Id	Firmware	Version	IP Address
	AirWan/17	2114201d	00001D33803B	E2148.AC.1	4.18.6.1	192.168.1.1


Group	
Product Id	00001D33803B
Firmware	E2148.AC.1
Version	4.18.6.1
Latitude	0
Longitude	0
Description	User-definable
▼ ROLES LIST	
N°	BSSID SSID Role Security Mode Channel Associ
No detail to display	
> NETWORK INTERFACES	
> PHYSICAL INTERFACES	
▼ WARNING STATES	
- Has invalid telemetry setting : please check the telemetry sample and output intervals.	

Connect in WaveManager , Product View, Select your router, click on Log Icone and select System Log to view system log.

The screenshot shows the ACKSYS WaveManager interface. On the left is a sidebar with 'Products view' selected. The main area displays a list of routers. One router, 'AirWan/17', is selected. A detailed view of this router is shown on the right, including fields for Discovery date, Last connection, IP Address, Mask, Gateway, Group, Product Id, Firmware, Version, Latitude, Longitude, and Description. A 'Log' icon is visible in the top right of the router details panel, and a dropdown menu is open, showing 'WaveManager logs' and 'System logs'.

The screenshot shows the 'SYSTEM LOGS' page in WaveManager. It features a search bar and a table of logs. The table has columns: Date, Category, Severity, and Message. The logs are filtered by date (09/06/2023) and severity (Niv.4 - Warning). The messages indicate 'rrdtool plugin: rrd_update_r failed' and 'illegal attempt to update using time 2008876709 when last update time is 0 (minimum one second step)'.

Date	Category	Severity	Message
09/06/2023 14:01:30	System	Niv.4 - Warning	Acksys collectd[13417]: rrdtool plugin: rrd_update_r failed: /tmp/Acksys/netlink-ip6tnl0/if_errors.rrd: illegal attempt to update using time 2008876709 when last update time is 0 (minimum one second step)
09/06/2023 14:01:30	System	Niv.4 - Warning	Acksys collectd[13417]: rrdtool plugin: rrd_update_r failed: /tmp/Acksys/netlink-ip6tnl0/if_packets.rrd: illegal attempt to update using time 2008876709 when last update time is 0 (minimum one second step)
09/06/2023 14:01:30	System	Niv.4 - Warning	Acksys collectd[13417]: rrdtool plugin: rrd_update_r failed: /tmp/Acksys/netlink-ip6tnl0/if_octets.rrd: illegal attempt to update using time 2008876709 when last update time is 0 (minimum one second step)
09/06/2023 14:01:30	System	Niv.4 - Warning	Acksys collectd[13417]: rrdtool plugin: rrd_update_r failed: /tmp/Acksys/netlink-eth1/if_multicast.rrd: illegal attempt to update using time 2008876709 when last update time is 0 (minimum one second step)
09/06/2023 14:01:30	System	Niv.4 - Warning	Acksys collectd[13417]: rrdtool plugin: rrd_update_r failed: /tmp/Acksys/netlink-eth1/if_dropped.rrd: illegal attempt to update using time 2008876709 when last update time is 0 (minimum one second step)
09/06/2023 14:01:30	System	Niv.4 - Warning	Acksys collectd[13417]: rrdtool plugin: rrd_update_r failed: /tmp/Acksys/netlink-eth1/if_errors.rrd: illegal attempt to update using time 2008876709 when last update time is 0 (minimum one second step)

 **Allow WaveManager on the computer firewall (where WaveManager is running).**

The screenshot shows the Windows Defender Firewall interface. The 'Règles de trafic entrant' (Inbound Rules) section is active. The 'Acksys.WaveManager.Server' rule is highlighted. The 'Actions' pane shows 'Règles de trafic entrant' (Inbound Rules).

Support : <https://support.acksys.fr>