Wavelink Printer Management

Printer Management
Reference Guide

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Table of Contents

Printer Management

The Printer Management extension for Wavelink Avalanche allows administrators to extend the reach of management to include printers which are attached to mobile devices. These printers may be attached via serial (RS232) or via Bluetooth.

With Printer Management, administrators gain easy access to information about the printers on their networks, including:

- Accurate asset information about installed printers, the firmware they run, and their capabilities.

- The ability to identify which mobile devices are associated with each printer. This enables administrators to more accurately and easily identify a printer uniquely so that it may be set aside for service.

- Usage reports about which printers are being used most frequently and which are nearing the end of their printer head life expectancy.

The following sections provide information about using Printer Management:

- Printer Management Overview

- Installation and Setup

- Using Printer Management with Avalanche

- Using the Printer Management Tool

Printer Management Overview

The Printer Management software is supplied as two components: a Printer Management Server and an Avalanche package. The server communicates with components of Avalanche in order to gather, store, and report information about your printers.

The Avalanche package is installed as the Printer Management client on a mobile device managing a printer. The Printer Management client interfaces with your printing applications and bluetooth/serial printers. It collects and reports information about your printers back to the Printer Management Server.

You can view information collected by Printer Management both from the Avalanche Console and from the Printer Management Tool (accessed through the Web Console).

Installation and Setup

Printer Management requires Avalanche 5.0.2 or later. The Printer Management Server must be installed on the same physical machine as the Avalanche Enterprise Server. It is only compatible when Avalanche has been installed with the included PostgreSQL database on one of the following operating systems:

- Windows XP Professional (32 Bit)

- Windows Vista Business (32 and 64 bit)

- Windows 7 Professional (32 and 64 bit)

The Printer Management client is installed on the mobile device as an Avalanche software package. The mobile device must have an Enabler that is version 5.04-6 or newer, and run Windows Mobile 5, 6.0, 6.1 or 6.5 or Windows CE 5.0 or later.

The client interfaces directly with the printer via serial or Bluetooth. The Printer Management client also exposes a new COM port. Applications which print need to bind to this new COM port to operate.

This section provides information about getting started with Printer Management:

- Supported Devices

- Licensing

- Installing and Configuring the Server

- Configuring the Printer Management Client

- Deploying the Printer Management Client

Supported Devices

Printer Management for Avalanche supports the following printers:

- Zebra QL 420

- Zebra QL 320

- Zebra QL 320+

- Zebra QL 420+

- Zebra QL 220+

- Zebra QL 220

- Zebra MZ 220

- Zebra MZ 320

- Zebra RW 220

- Zebra RW 420

Licensing

Printer Management requires one license for each printer. Licensing is handled through the License Server installed with Avalanche. The License Server is responsible for supplying licenses to the printers. Before you can use Printer Management, you must activate your licenses through Avalanche and provide the address of the License Server.

To activate Printer Management licenses:

1 Obtain the Avalanche product licensing code from Wavelink**.**

NOTE You receive this information in an e-mail from Wavelink.

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2 From the Avalanche Java Console, click **Tools > Manage Licensing**.

The *Licensing* dialog box appears.
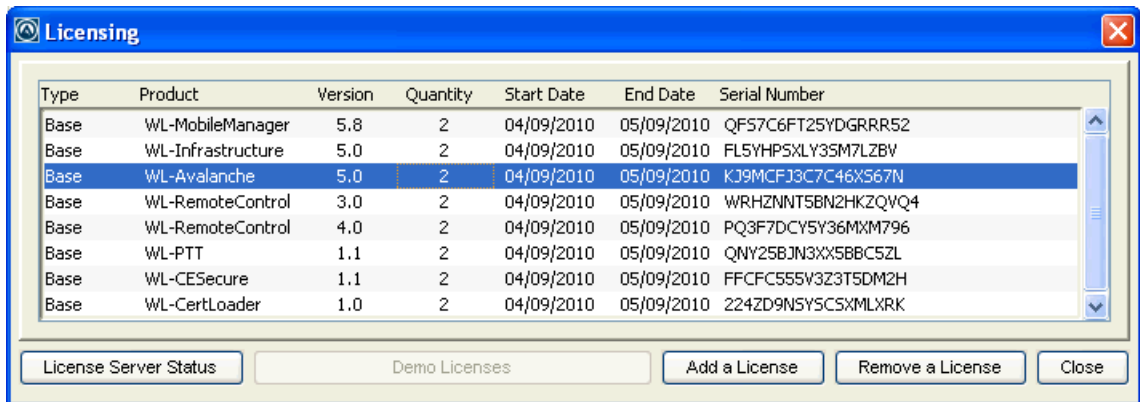
3 Click **Add a License**.

The *Add a License* dialog box appears.

4 Click **Activate a License.**

The *Activate a License* dialog box appears.

5 Type the Product License in the text box and click **Activate**.

Avalanche connects with a secure Wavelink Web site and your license is verified. The licenses appear in the *Licensing* dialog box.

Installing and Configuring the Server

The Printer Management Server must be installed local to the Avalanche Enterprise Server, when Avalanche has been installed with the included PostgreSQL database. The Server has its own installation file.

To install the Printer Management Server:

1 Obtain the Printer Management Server installation file from Wavelink and double-click the icon to start the installation.

The *Installation Wizard* appears.

2 Click **Next**.

The License Agreement screen appears.

3 Accept the license agreement by enabling the **I accept the terms of the license agreement** and click **Next**.

The Choose Install Folder screen appears.

4 Use **Choose** to navigate to an installation folder. Click **Next** when you are done.

The Pre-Installation Summary screen appears.

5 Review the information and ensure that it is correct, then click **Install**.

The Printer Management Server is installed.

6 Click **Done** to close the Installation Wizard.

Configuring the Printer Management Client

The Printer Management client uses three COM ports to operate: one to communicate with the printing application, one for the Bluetooth printer, and one that is used internally by the client.
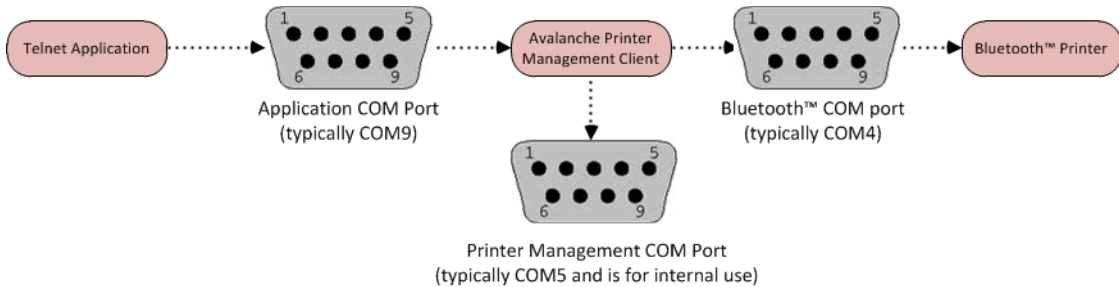
The recommended serial port settings are as follows:

Application Port	COM9
Bluetooth Port	COM4
Printer Management Port	COM5

The application you use to print must be configured with the correct port in order to work with Printer Management. For example, if the application is Wavelink TE, it is normally configured on a Motorola 9090 to communicate over COM4. Following installation of the Printer Management client this will need to be changed to COM9.
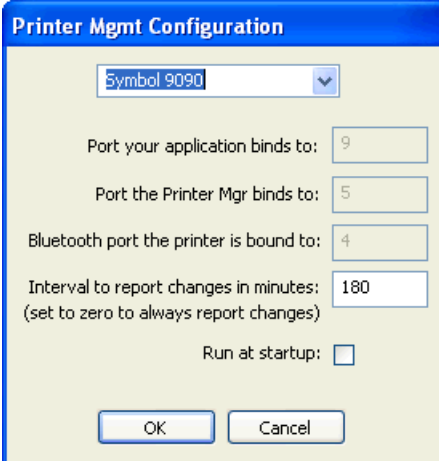
If you are using Wavelink TE, the package's Configuration Utility will allow you to change the printer protocol and port so that it communicates with the Printer Management client.

NOTE COM5 and COM9 are often pre-bound on Motorola devices to be virtual Bluetooth ports, making them unavailable to the Printer Management client. To unbind them, please use the Motorola Bluetooth management utility.

To configure the Printer Management package:

1 Log in to Avalanche as a user with Software Profile read/write privileges.

2 Create a new software profile.

3 Add the Printer Management Avalanche package to the profile.

4 Launch the package configuration utility. This can be launched either from the *Add Device Software Wizard* or by selecting the package from the Software Packages list and clicking **Configure**.

The *Printer Mgmt Configuration* dialog box appears.

5 If the model of the mobile device to which the client will be deployed is not listed, select **Custom** from the drop-down list and enter the values for the COM ports.

NOTE These COM ports must be available on the mobile device.

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6 If you want the Printer Management client to run when the device boots, enable **Run at startup**.

7 Click **OK** to save the settings.

8 Enable and apply the software package and profile to the desired region and location.

Deploying the Printer Management Client

Once the settings for the Printer Management client and the application used for printing have been configured, close the printing application on the mobile device. Deploy the Printer Management client and, if necessary, the new settings for the printing application.

When the Printer Management client is installed, it will automatically run and bind to the printer. If another application is currently bound to the port(s) that the Avalanche Printer Management Client needs, you may need to reconfigure the application and/or warm boot the device.

Once the Printer Management client is running, allow the Enabler to connect to the Mobile Device Server to report printer information. The printer will be displayed in the Mobile Device Inventory, and the properties for the printer can be accessed on the **Properties** tab of the *Device Details* dialog box.

Using Printer Management with Avalanche

When the Printer Management Server has been installed and the client has been deployed and licensed, the client will begin to send information about associated printers back to the Avalanche Console. You can view device details or organize dynamic mobile device groups to include devices with specific properties. This section contains information on the following topics:

- Viewing Printer Details

- Organizing Printer Device Groups

Viewing Printer Details

You can view the properties reported by your printers from the Avalanche Console.

• From the Java Console, navigate to the Mobile Device Inventory, right-click the printer you want to view and select **Mobile Device Details** from the context menu.

• From the Web Console, navigate to the Mobile Device Inventory and click on the name of the printer you want to view.

The following table describes the device properties associated with printer management:

AppVersion	Firmware version for the printer.
BluetoothAddress	Bluetooth MAC address or the MAC address of the serial-to-Bluetooth client adapter.
BluetoothAuthentication	Whether Bluetooth authentication is in use.
BluetoothDiscoverable	Whether the printer is discoverable via Bluetooth.
BluetoothEnable	Whether Bluetooth is enabled (can only be retrieved via serial if it is not).
BluetoothEncryption	Whether Bluetooth encryption is being employed.
BluetoothRadioVersion	Version of the Bluetooth radio adapter.
DeviceCompanyName	Manufacturer name of the printer.
DeviceFriendlyName / BluetoothFriendlyName	Name assigned to the device for Bluetooth identification purposes.
DeviceProductName	Model name of the printer.
HeadLatch	Current status of the head latch. Displays **OK** or **Open**.
MediaStatus	Whether media (paper) is present. Displays **OK** or **Not present**.
MemoryFlashFree	The amount of Flash memory which is free, in bytes.

MemoryFlashSize	The amount of Flash installed on the printer, in bytes.
MemoryRamFree	The amount of RAM free on the printer, in bytes.
MemoryRamSize	The amount of RAM installed on the printer, in bytes.
OdometerLabelDotLength	The number of print dots which constitutes a print label (used for the odometer reading below).
OdometerLatchOpenCount	The number of times the head latch has been opened since new.
OdometerMediaMarkerCount	The number of times the media marker signal has been triggered, if using appropriate media (e.g., labels).
OdometerTotalBytesSent	The total number of bytes sent to the printer for print and commands.
OdometerTotalLabelCount	The total number of labels printed, since new, using the dot length as a metric.
OdometerTotalPrintLength	The total amount of paper which has gone by the print head, in meters, since new.
PowerDtrPowerOff	The power charge status.
PowerInactivityTimeout	The amount of time, in seconds, that the printer will wait between jobs without powering down.
PowerLowBatteryShutdown	The voltage threshold for the printer to shut down.
PowerLowBatteryWarning	The voltage threshold for a battery warning to display on the printer.
PowerPercentFull / Raw	The amount of power left in the battery, as a percentage.
PowerPowerOnCycles	The number of times the printer has powered on, since new.

PowerStatus	Indicates whether the supply voltage is sufficient for operation.
PowerVoltage	Indicates the current voltage supplied by the battery.
SensorPaperSupply	Indicates whether the paper supply is nearing empty.
SensorPeeler	Indicates whether the peeler is jammed or clear.
SensorRibbon	(ink printers only) Displays **OK** to indicate that a ribbon is installed. Otherwise displays **no ribbon**.
SerialNumber	The serial number of the printer.
SoftwareVersion	The version of the Printer Management client in use.

Organizing Printer Device Groups

Since the key printer metrics are reported as Avalanche properties, it becomes easy to create dynamic mobile device groups to perform a variety of tasks, such as identifying printers which need to be inspected and cleaned.

For example, a dynamic mobile device group could be created with the following selection criterion:

```
BlueToothPrinter.OdometerTotalprintlength > 25000000
```

The group is populated when clients report back printer odometer readings. A device is added to the group when it reports a total print length exceeding 25 million millimeters. Once a printer is identified as needing servicing, the user of the mobile device to which it is attached may be notified by text message to bring it in.

Using the Printer Management Tool

The Printer Management Server, in addition to providing printer details to Avalanche, also maintains a printer inventory and database of printer statistics which may be used for the generation of reports. Report data may also be exported for external analysis.

- From the Avalanche Web Console, click **Tools > Printer Management**. When the Printer Management screen appears, click **Connect**.

From the Printer Management Tool, you can access the printer inventory, details pages for all of your printers, and a reporting tool specifically for printer management:

- Printer Inventory

- Printer Details View

- Printer Management Reporting

Printer Inventory

The Printer Management **Home** tab displays the current inventory of printers reported by the mobile devices.

You can click on the column headers to sort the items in the list by column. You can also search for information in any of the fields displayed.

The printer inventory displays the following fields:

Address	The MAC address of the printer's Bluetooth adapter or the address of the serial-to-Bluetooth adapter in use. This MAC address uniquely identifies the printer.
Last Updated	The date and time the printer last checked in with updated printer properties.
Region	The Avalanche Region name for the mobile device which is reporting the information from the printer.
Site	The Avalanche Site name for the mobile device which is reporting the information from the printer.
IP	The IP address of the mobile device reporting the information from the printer.
Model	The manufacturer and model name of the printer.
Cycles	The total number of power cycles the printer has gone through since new.

Supply	The current paper status. Reports OK if paper is present.
Fw Rev	The firmware version of the printer.

In order to get more information on a specific printer, click on the MAC address of the printer. This will take you to the Printer Details View.

Printer Details View

When you click on the MAC address of a printer, the Printer Details screen appears, providing details about the printer. The information includes:

Address	The MAC address of the printer's Bluetooth adapter or the address of the serial-to-Bluetooth adapter in use. This MAC address uniquely identifies the printer.
Make/Model	The make and model of the printer.
Last Updated	The date and time the printer last checked in with updated printer properties.
Region	The region from which the mobile device is reporting the information from the printer.
Site	The site from which the mobile device is reporting the information from the printer.
Software Rev	The version of the Printer Management client in use.
Head Latch	Current status of the head latch. Displays **OK** or **Open**.
Flash Free	The amount of Flash memory which is free, in bytes.
Total Bytes	The number of bytes received by the printer over its lifetime.
Firmware Rev	The firmware version of the printer.
Media Status	Whether the device has paper or not.

RAM Free	The amount of RAM memory which is free, in bytes.
Total Print Length	The total amount of paper which has gone by the print head, in meters, since new.

Printer Management Reporting

One of the most powerful features of Avalanche Printer Management is the ability to run reports to identify usage and asset data. A report can be formatted for the following file types: XLS, HTML, or PDF. Reports may be scheduled ahead of time and can run on a one-time or recurring basis.

Tasks associated with Printer Management reporting include:

• Creating a Report

• Analyzing Report Output

Creating a Report

When you create a report, you choose the type and output format of the report, when the report is run, and which region the report gathers information from. Any reports which are on a recurring schedule or are currently in progress are shown under the Scheduled Reports area.

To create a Printer Management report:

1 From the **Reports** tab, click **Add Report**.

1 Pick the report type and click **Next**.

2 Type the name of the report and select the desired output. Click **Next**.

3 Select the region from which the information will be gathered and click **Next**.

4 Select the sites from which the information will be gathered. Click **Preview** to preview what the report will look like, or click **Schedule** to schedule the report.

5 Select how frequently you want to run the report.

   • If you choose **Run report now,** the report will run immediately.

   • If you select **Run report once at a specified time**, the One Shot Time and Date screen appears. Select the time and date you want to run the report and click **Next**.

- If you select **Run report on a recurring schedule**, the Recurring screen appears. Select the interval at which you want the report to run and click **Next**. Select the date, time, or day of the week options depending on the chosen interval. Click **Next**.

6 The Summary screen appears. Ensure that the information is correct and click **Save**.

   If the report was scheduled to run immediately, it appears in the Completed Reports panel. If not, it appears in the Scheduled Reports panel.

Analyzing Report Output

Once reports are completed they are displayed in the Completed Reports area. They may be viewed by clicking the Magnifying Glass icon.

The following list demonstrates a few examples of analyzing information presented in the reports:

- **Identifying jamming printers**. If the open latch count is disproportionately high, this could indicate frequent jamming.

- **Battery trends indicating batteries with poor charge**. Printers which consistently report low battery levels are likely to have batteries which do not hold a charge.

- **Help with firmware upgrades**. Reports may be created to determine what levels of firmware are installed on each model of printer.

- **Identifying under-performing or rarely used printers**. By using the consumables report, utilization report or the inventory report, an account is given on the amount of data sent to these printers, the amount of paper they used and the total number of times they were powered on and off.

- **Planning for consumables and parts**. Reports can show how much paper is being used by each printer. Also, by knowing the printers under management and their location, you can plan better for spare parts.

Appendix: Wavelink Contact Information

If you have comments or questions regarding this product, please contact Wavelink Customer Support.

E-mail Wavelink Customer Support at: CustomerService@wavelink.com

For customers within North America and Canada, call the Wavelink Technical Support line at 801-316-9000 (option 2) or 888-699-9283.

For international customers, call the international Wavelink Technical Support line at +800 9283 5465.

For Europe, Middle East, and Africa, hours are 9 AM - 5 PM GMT.

For all other customers, hours are 7 AM - 7 PM MST.