



Tranzeo WiMAX

Pico Base Station Firmware Upgrade via AirSync Application Note

Copyright © 2008 Tranzeo Wireless Technologies
ALL RIGHTS RESERVED

Notice: No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or stored in a database or retrieval system for any purpose without the express written permission of Tranzeo.

Tranzeo reserves the right to make changes to this document at any time without notice and assumes no responsibility for its use.

Proximity and Airsync are trademarks of Proximity, Inc., in the USA and other countries. Windows is a registered trademark of Microsoft Corporation. All other brand or product names are or may be trademarks or service marks of and are used to identify products or services of their respective owners.

Table of Contents

- PREFACE3**
 - Document Revision Level3
 - Document Conventions3
- QUICK CONFIGURATION5**
 - 1.1 Configuration Checklist.....5
 - 1.2 Step 1: Connect the Pico Base Station to AirSync5
 - 1.3 Step 2: Add the pBS firmware as an AirConsole package6
 - 1.4 Step 3: Associate the Package to the pBS Group9
 - 1.5 Step 2a: Alternate install via pBS Web Interface.....11
 - 1.6 Step 4: Confirm the Firmware Image on the pBS.....13

Preface

This application note walks through the steps to update the firmware for the Tranzeo Pico Base Station (pBS) using the AirSync management system. Additional detailed instructions on using packages to manage pBS firmware are available in the *Proximity AirSync Practical User's Guide*.

Document Revision Level

Revision	Date	Description
Version 0.5	Nov. 2008	Preliminary Release

Document Conventions

This guide uses the following typographic conventions:

Convention	Description
Bold	Indicates text on a window, other than the window title, including menus, menu options, buttons, and labels
<i>Italic</i>	Indicates a variable
screen/code	Indicates text displayed or entered on screen or at the command prompt.
boldface screen font	Information you must enter is in boldface screen font
< italic screen >	Variables appear in italic screen font between angle brackets
[]	Default responses to system prompts are in square brackets

This guide uses icons to draw your attention to certain information. Warnings are the most critical.

Icon	Meaning	Description
	Note	Notes call attention to important and/or additional information.

	Tip	Tips provide helpful information, guidelines, or suggestions for performing tasks more effectively.
	Caution	Cautions notify the user of adverse conditions and/or consequences (e.g., disruptive operations).
	WARNING	Warnings notify the user of severe conditions and/or consequences (e.g., destructive operations).

Quick Configuration

1.1 Configuration Checklist

The following checklist identifies the steps for configuring your WiMAX network. Please check each step as you complete it.

Step 1: Connect the Pico Base Station.

Step 2: Add the pBS firmware as an AirConsole package

Step 3: Associate the Package to the pBS Group.

Alternatively, you can use the pBS web interface instead of AirConsole. If desired in place of steps 2 and 3 use:

Step 2a: Alternate install via pBS Web Interface

Then to confirm the installation:

Step 4: Confirm the Firmware Image on the pBS

1.2 Step 1: Connect the Pico Base Station to AirSync

To update the pBS firmware via AirSync the pBS must be accessible from the AirSync server, and registered with AirSync as shown in the devices tab of the AirConsole interface. Please refer to the Tranzeo "Pico Base Station and Subscriber Unit Quick Configuration Guide" for more details.



To configure the Pico Base Station, the AirSync server PC's IP address must be on the same subnet (192.168.0.xxx, where xxx is a number from 1 to 253) as the Pico Base Station, and the PC's netmask must be set to 255.255.255.0.



The Pico Base Station is configured with a default 192.168.0.254 IP address common to all Pico Base Stations. Therefore, do not simultaneously connect multiple un-configured Pico Base Stations to a common Local Area Network (LAN) and try to access them using the 192.168.0.254 IP address. The "Bridge IP Address" of the Pico Base Station must be changed from 192.168.0.254 to an alternate value that matches the IP schema of your network if multiple Pico Base Stations will be managed by a single AirSync installation.

1.3 Step 2: Add the pBS firmware as an AirConsole package

To add the pBS firmware as a package in AirConsole:

1. Using the server where you installed AirSync and AirConsole, click the Windows **Start** button, point to **All Programs**, point to **AirSync**, point to **AirConsole**, and click **AirConsole**.
2. Once the AirSync Management Console window appears, go to **Manage** menu and then click **Packages**. On the **Packages** tab, click **Add package**, this will show the details pane for the new package on the right side of the window. Enter a description (for example pBS update 2.2Tb84 package). Then select the **Tranzeo TR-WMX-3.5-pBS (WiMAX BS)** device type. Figure 1 shows this process. Click **Save** at the top of the **Details** tab. Click the **Ok** button when prompted signifying the package was successfully added.

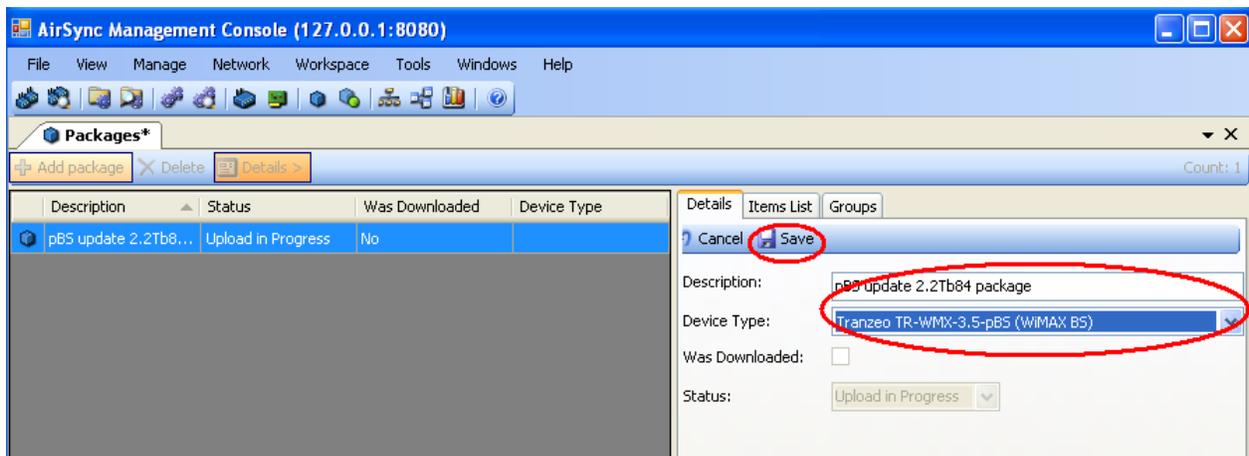


Figure 1: How to define a package in AirSync.

- Next, associate the firmware image with this new package. Click the **Items List** tab, then click the **List** button underneath the **List** tab (see Figure 2). A new pane showing the **Package Items** in your new package will open up. In this pane, ensure the drop down option associated with **Package:** is your new description created above in 2. Next, click the **Add new Item** button in this **Package Items** pane. This will open a window in which you can browse to the appropriate firmware. Select the appropriate firmware and click Open. For example, open the file "AirSync-2.2Tb084_Firmware_Tranzeo\Tranzeo\pBS-WiMAX\gw2348-airsync-wimax-dev-244-1478-138-v2.2Tb84-r97.tar.gz". See Figure 3. The **Package Item Details** pane will open. Enter another appropriate description for the firmware associated with this package (for example 2.2Tb84 firmware). See Figure 4. Verify the **Update Item Type** is **Image**, then click Save. See Figure 4. You should see this package added, and the progress bar for this package item fill up to 100% when the AirSync server uploads the image, as shown in Figure 5.

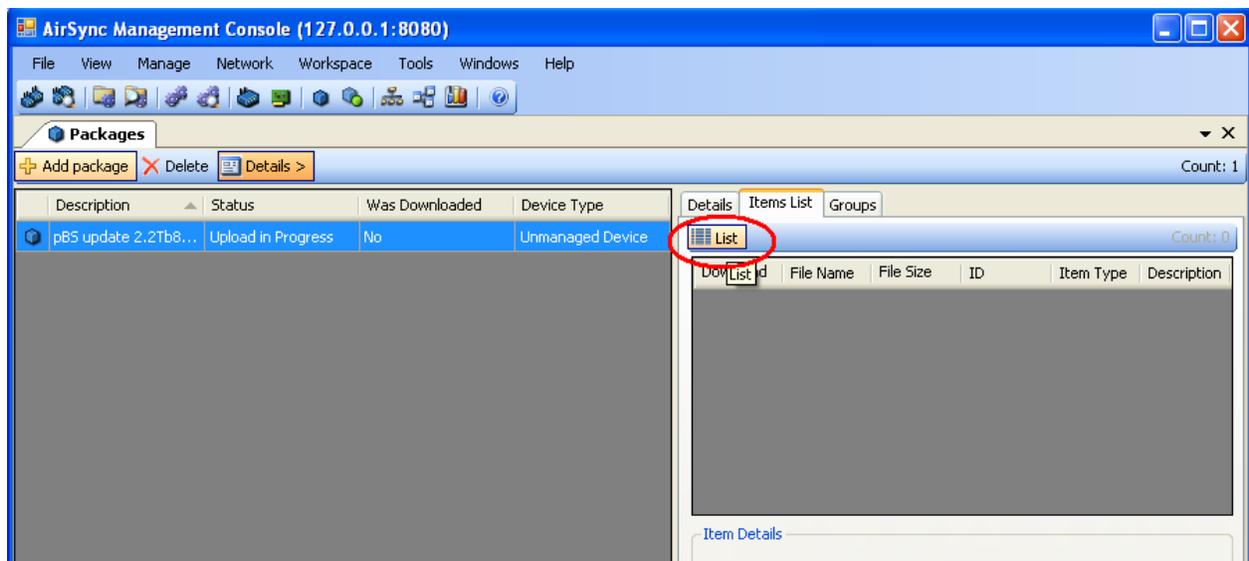


Figure 2: How to add the pBS firmware to the package list.

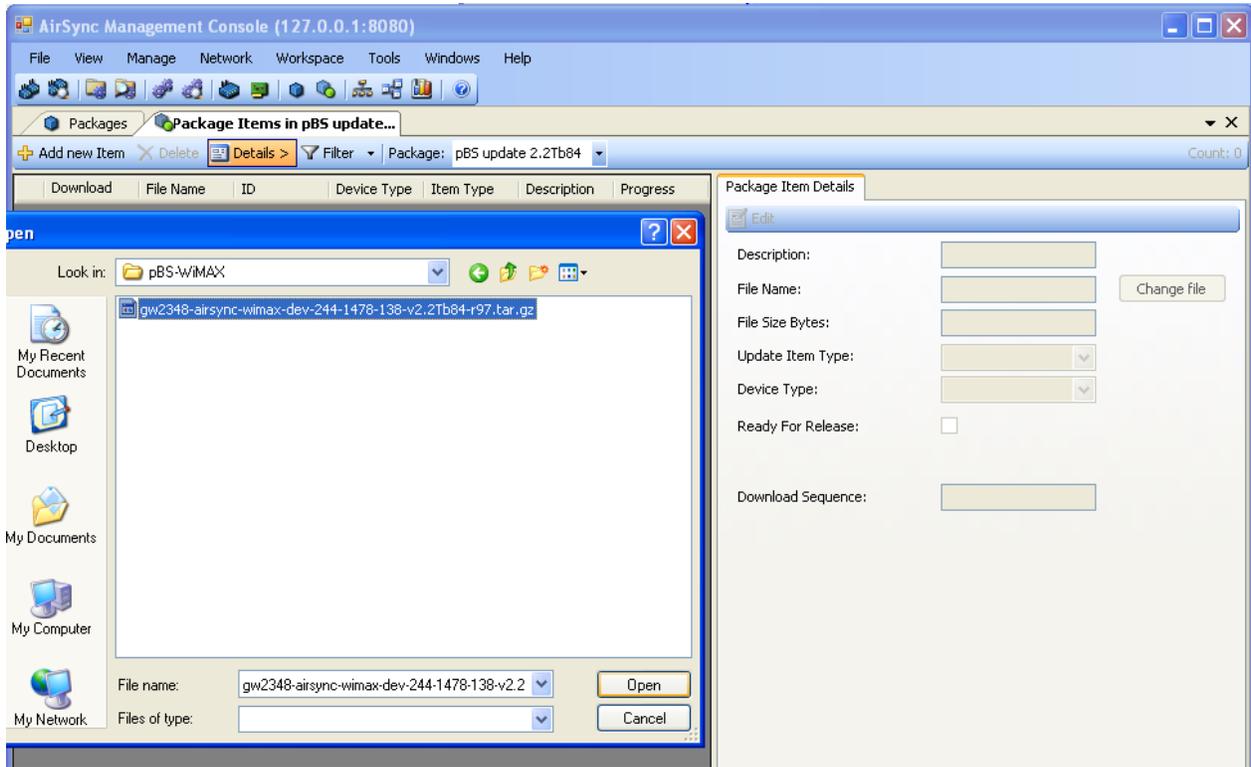


Figure 3: How to upload the pBS firmware to the package list.

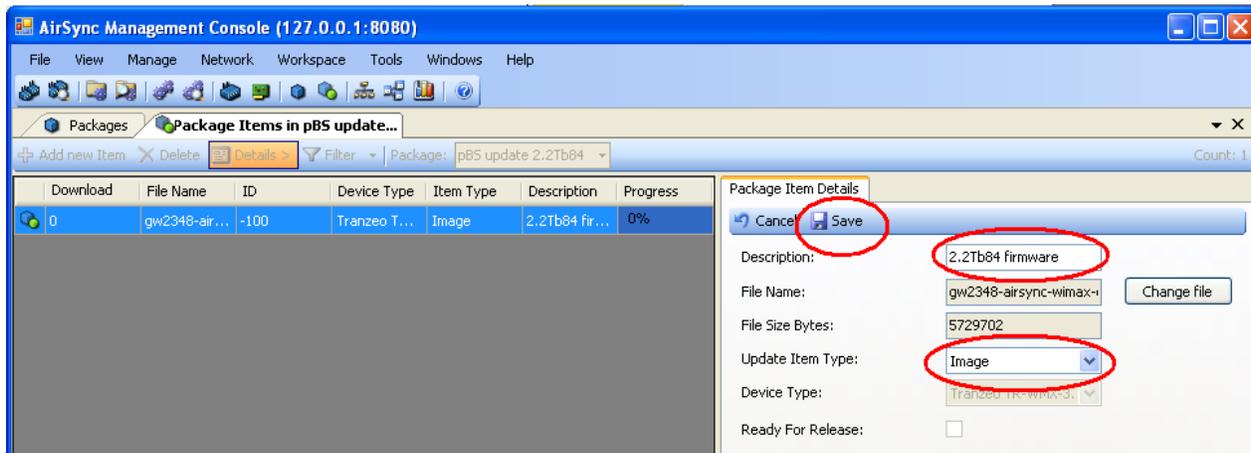


Figure 4: How to upload the pBS firmware to the package list.

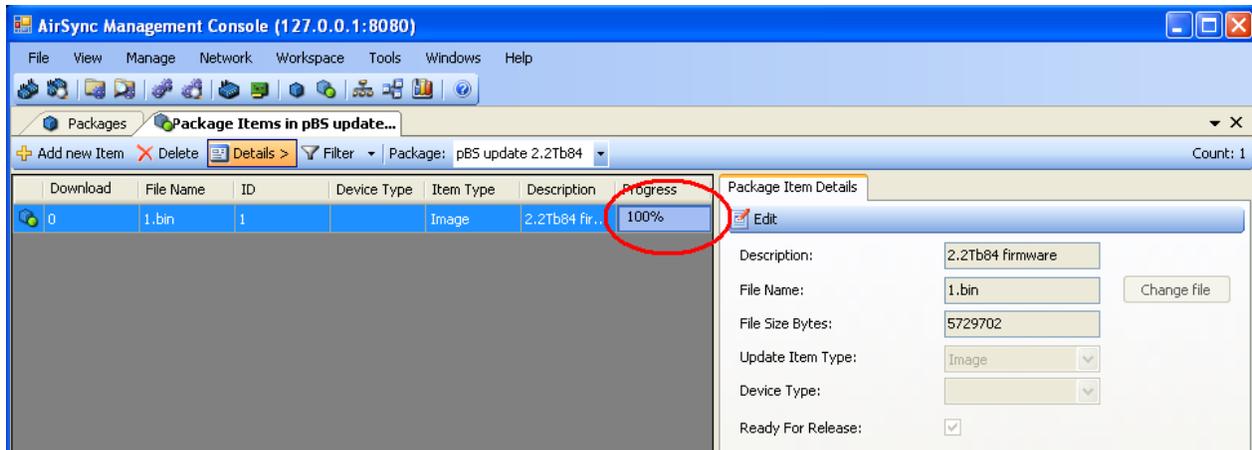


Figure 5: Demonstrating the firmware upload progress.

1.4 Step 3: Associate the Package to the pBS Group

Now that you have defined the new pBS firmware image as part the package, you must associate it with the group the pBS uses. Using group associations is how AirSync automatically manages the packages installed to each pBS. Thus once the image package is associated to the pBS via a group, AirSync will automatically manage the image update process. To associate the new package with the pBS group:

1. Go to the **Packages** pane within AirConsole. On the **Packages** tab, double-click on the new package to open the **Details** pane, and then select the **Groups** tab. Using the drop down list, select the Group assigned to the pBS, for example the "Default" group, then click the **Assign to group** button. Figure 6 shows this process.

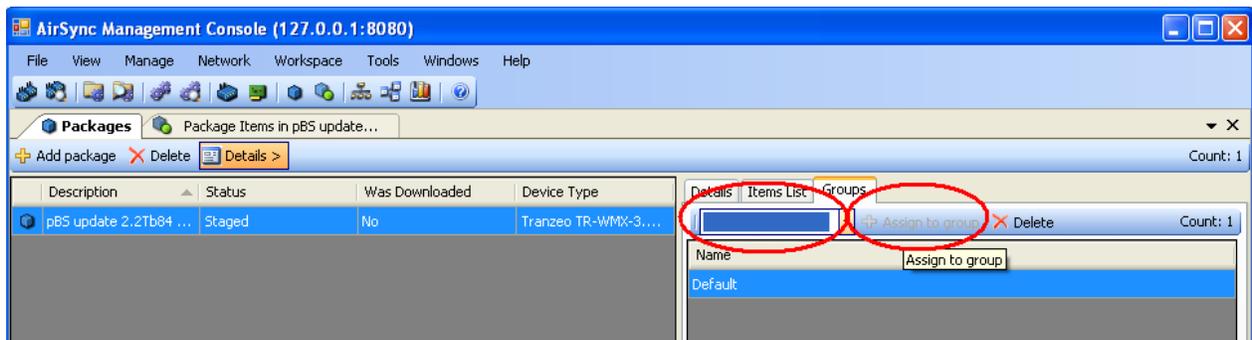


Figure 6: Demonstrating how to assign a package to a group.



If AirSync has not assigned the pBS to the same group you assigned the new package to (for example the Default group), the upgrade will not take place. Thus, confirm which group AirSync associates with the pBS bs_ofdm0 interface.

This is available using the details tab for the bs_ofdm0 interface selectable via the Device Interfaces option under the Manage menu, then double clicking on the bs_ofdm0 interface for the pBS. Next, confirm that the device interface details are associated with the package's group, using the edit button if needed to select the proper group. Care should be taken in selecting different groups, since the groups define the QoS rules, and what communication flows are configured. Using the default group ensures basic connectivity between the pBS and each subscriber unit.

2. Next, you must confirm the package as ready to release to the pBS. Click the **Details** tab within the Packages view for the new package, and then click the **Edit** button underneath the **Details** tab. This will open up the drop down options, "Staged" and "Ready for Release" under the status line. Select the **Ready for Release** status, then click Save. See Figure 7.

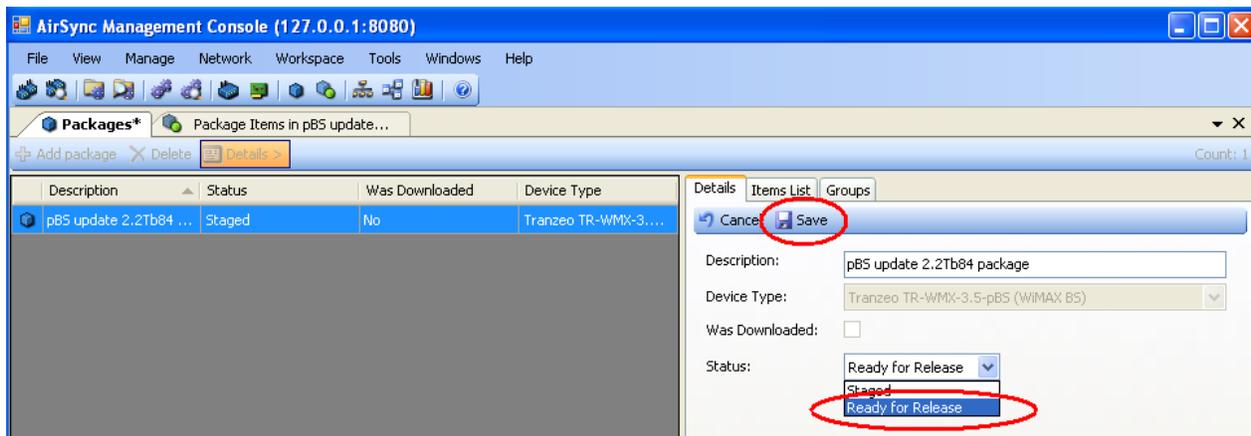


Figure 7: How to change a package to ready for release.

3. Once the package is ready for release and assigned to the pBS's group the image update will take place automatically. You can view the status of the pBS update using the **Packages Assigned** and **Packages Downloaded** tabs available in the Device Details pane of the **Devices** window. The Packages Assigned pane should list the new package (for example pBS update 2.2Tb84 package) with the Status "Ready for Release", as shown in Figure 8. After a few minutes, the Package Downloaded pane should show the package with the update status "Update Success", as shown in Figure 9. Please be patient as the package update may take a few minutes.

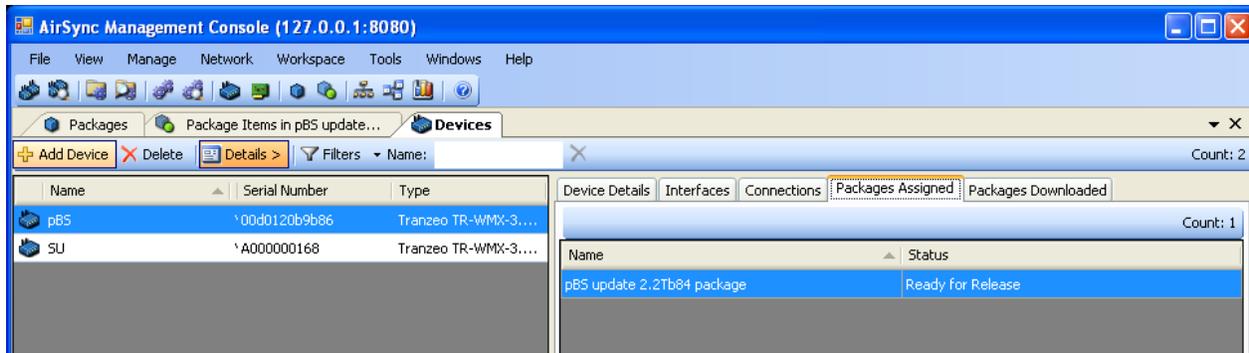


Figure 8: How to verify a package is assigned to the pBS's group and ready for release.

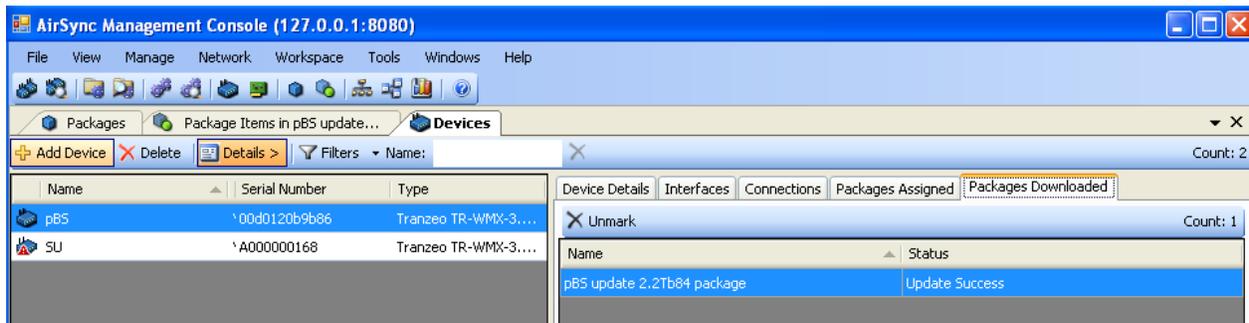


Figure 9: Verifying a package upgrade of the pBS.

1.5 Step 2a: Alternate install via pBS Web Interface

As an alternate approach to using AirSync, the firmware on the pBS maybe updated using the web interface on the pBS. You may do this in place of Step 2 and Step 3 above. To update the pBS firmware via it's web interface:

1. First, connect a PC that has the pBS firmware stored on it to the Ethernet port on the pBS. Ensure that the pBS and the PC are using the same internet subnet. The example below uses the pBS's default IP address of 192.168.0.254 and an IP address of 192.168.0.112 for the PC.
2. To upload the firmware an ftp or http server is required. In our example, we use an http server, since the server is available within Windows XP.
3. To enable an http server on Windows XP open the control panel (**Start > Control Panel**), and double-click **Add or Remove Programs**. Select the option on the left of the pane to **Add/Remove Windows Components**. The Windows Components Wizard will open. Select the option to install **Internet Information services (IIS)**. Click Next and complete the Wizard to install IIS using the default settings. This will enable an http server within Windows XP.
4. Next, place the firmware within the server directory, for example at the location **C:\Inetpub\wwwroot\gw2348-airsync-wimax-dev-244-1478-138-v2.2Tb84-r97.tar.gz**.

- Now open the web interface to the pBS, from the PC using a web browser and typing the pBS IP address into the navigation bar (for example **http://192.168.0.254**). Then select to the Firmware tag under the Administrative options in the left column. This will open the Firmware web page as shown below in Figure 10.

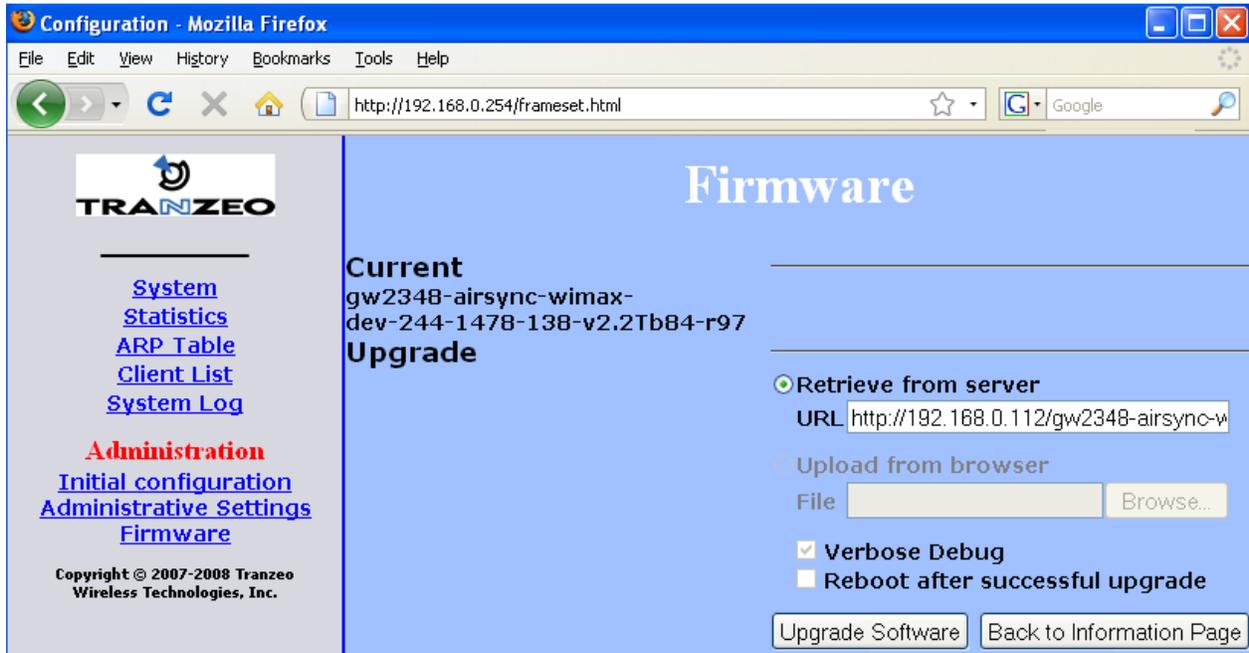


Figure 10: Firmware upgrade web page for the pBS.

- Within the firmware web page, type the URL of the PC including the firmware name under the Retrieve from server option. For example **http://192.168.0.254/gw2348-airsync-wimax-dev-244-1478-138-v2.2Tb84-r97.tar.gz**
- Finally click the Upgrade Software button on the Firmware page of the web interface. The firmware update process will take a few minutes. Once completed the **Firmware Upgrade – done!** page, showing the detailed upgrade status will be displayed. This is shown below in Figure 11.

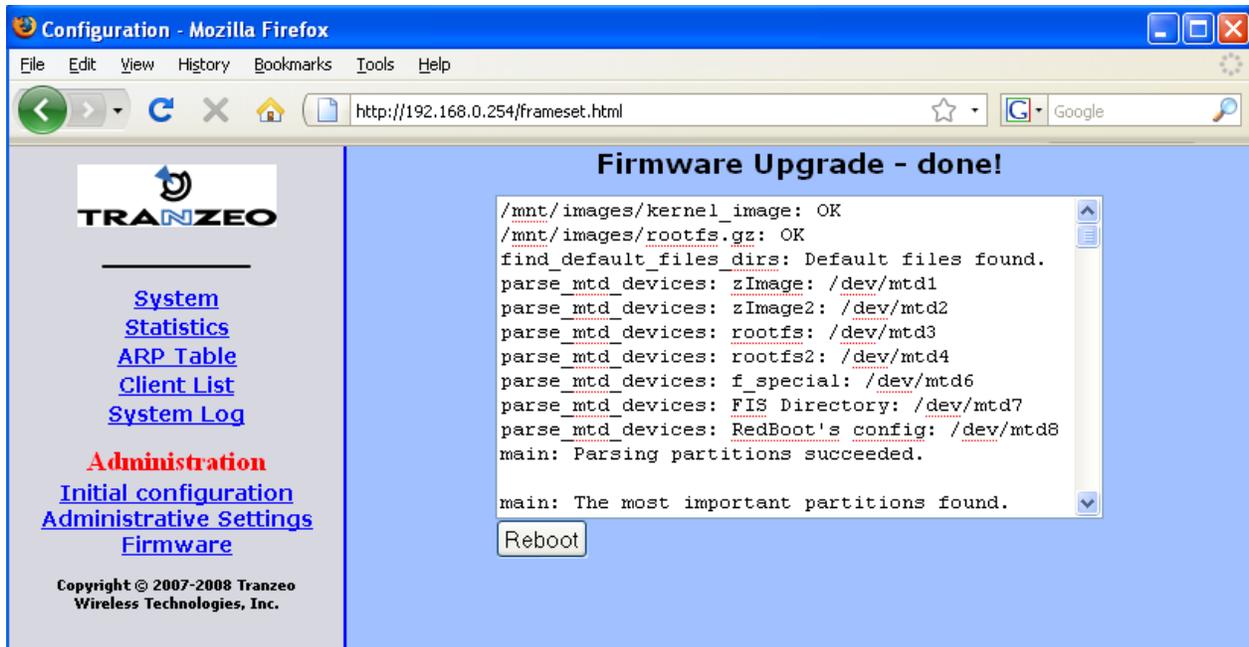


Figure 11: A successful firmware upgrade web page for the pBS.

8. To complete the firmware upgrade, press the reboot button.

1.6 Step 4: Confirm the Firmware Image on the pBS

Following either the upgrade process using AirSync or the pBS web interface, you can confirm the firmware image using the pBS web interface. The Firmware page of the pBS web interface displays the current image (see for example Figure 10). Confirm that this tag is the same as the image uploaded either through the web interface, or as an AirSync package item.

For more information, please visit www.tranzeo.com.