MFP Print Server

User Guide

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Chapter 1

Introduction

1

This chapter provides an overview of your MFP Print Server's features.

Features

Congratulations on the purchase of your new MFP Print Server. Your MFP Print Server was designed to provide a simple and efficient network printing solution. It is packed with features, including:

➢ **Wireless LAN Support.** Wireless stations supporting the IEEE 802.11b or IEEE 802.11g standard can interoperate with the MFP Print Server. Both LAN and WLAN users can print to the attached printer or printers.

➢ **Versatility.** The MFP Print Server supports all functions of MFP (Multi-function Printer). It features a 10/100BaseT Ethernet interface port for connection to your LAN and operating system support includes Microsoft Windows XP and Vista.

➢ **Easy Installation.** The Print Server makes adding printers or plotters to your network simple.

➢ **Web-based Interface.** The Web-based interface provides an easy method of configuration in TCP/IP networks regardless of your operating system.

➢ **Compact Size.** This allows the MFP Print Server to be used even where space is limited.

Safety Instructions

For your own safety, and to protect your MFP Print Server, please observe the following safety advice.

1. Unplug this device from its power source before cleaning. Use only a slightly dampened cloth for cleaning. Do not use liquid or aerosol cleaners.

2. Avoid using this product near water. Exposure to water poses an electric-shock hazard.

3. Do not place the MFP Print Server on an unstable surface. The device may fall causing serious damage to the device.

4. This device should only be used with the power supply type specified on the marking label. If you are not sure of type of your local power supply, consult your dealer or the local power company.

5. Do not pinch, crimp or otherwise damage the power cord. If exposed to foot traffic, ensures that the cable is properly shielded and does not pose a tripping hazard.

6. If using an extension cord, makes sure the total ampere rating of the products using the cord does not exceed the extension cord's ampere rating.

7. Do not attempt to service this device, as opening or removing casing may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.

8. The MFP Print Server should be serviced by qualified service personnel under the following conditions:
   - The power cord is damaged or frayed.

- Liquid has been spilled onto the product.
- The product has been exposed to rain or water.
- The product does not operate normally in accordance with the operating instructions.
- The device has been dropped or the casing has been damaged.

Package Contents

You should find the following items packaged with your MFP Print Server. If any items are missing, contact your dealer immediately.

- The MFP Print Server unit
- Power Adapter
- One CD-ROM containing all support programs and this manual
- Quick Install Guide

Physical Details

Details of the LEDs and connections are in this Chapter. Further details are contained in *Appendix A - Specifications*.

PS801H

- 1 USB Printer Port
- IEEE 802.11g/802.11b Wireless Station
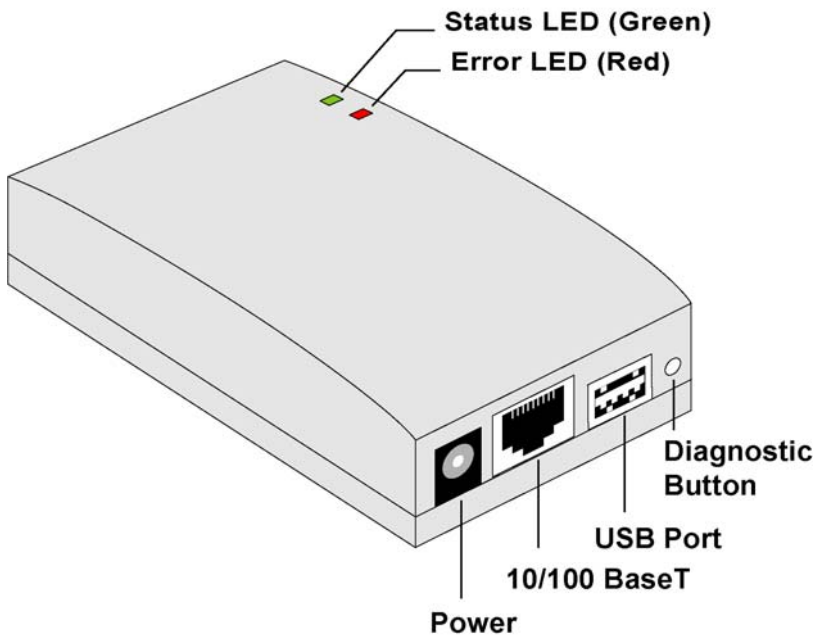- 10/100BaseT LAN connection

Figure 1: PS801H

LED Indicators

The MFP Print Server has LED indicators on the top. The Error LED is red. The Status indicator LED is green. The LED indicator modes are described in the following table.

Status LED (Green)	Error LED (Red)	Status Description
Off	Off	No power.
On	Off	Normal operation - Idle.
Flashing	Off	Normal operation - transmitting or receiving packets from the network.
On	On	Hardware error.
Flashing	Flashing	Firmware upgrade in progress.

Diagnostic Push Button

The button is recessed; a pin or paper clip can be used to press it. This button has 2 functions:

- Restore the factory default settings
- Print a test page containing all current settings.

To restore the factory default settings:

1. Turn the MFP Print Server OFF.

2. Press and hold the diagnostic button. While pressing the button, switch the MFP Print Server ON.

3. If you continue pressing the button for 10 seconds, a diagnostic page will be printed, showing the new (default) settings.

To generate a Diagnostic print out

1. Ensure that both the MFP Print Server and the attached printer are ON.

2. Press the diagnostic button, and hold it in for 2 seconds.

3. The test page, containing the current settings, will be printed.

   Note:

   PostScript printers are unable to print this page. If you have a PostScript printer, the test page will not be printed.

Chapter 2

2

LAN Installation

This chapter describes how to install the MFP Print Server in your Local Area Network.

Procedure

1. Preparation

- Ensure the power is OFF. Do not connect the MFP Print Server while power is On.
- Find the *Default Server Name* for your MFP Print Server. The *Default Server Name* is shown on a sticker on the base of the device. It consists of 8 letters and/or digits. Record this name; it may be needed during configuration.

2. Connect the Printer

Use the cable supplied with your printer to connect the printer to the USB port on the MFP Print Server unit.

3. Connect the Network Cable

Connect the network cable to the 10/100BaseT LAN connector on the MFP Print Server.

Note!	• **To use the LAN interface, the LAN cable needs to be inserted BEFORE powering ON.** • **In the default Wireless "Infrastructure" mode, connecting a LAN cable will disable the Wireless interface. To use both the LAN and Wireless interfaces, the Wireless mode must be changed to "Ad-hoc".** • **The Wired (LAN) interface should be used for initial configuration.**

4. Power Up

Plug in the power adapter cable and power up. Start-up will take only a few seconds.

Use only the Power Supply unit provided with the MFP Print Server. Using a different Power Supply may cause damage.

5. Check the LEDs

- The Error LED should flash, then turn Off. When the Error LED goes off and the Status LED remains lit or flashes, the Print Server is ready.
- The Error LED will remain flashing if the MFP Print Server can't connect to the USB printer.

MFP Configuration

3

This chapter provides an overview of the configuration process.

Overview

The MFP Print Server is designed to support many different platforms, and the configuration required would depend upon the environment in which it is installed.

- The MFP Print Server usually requires configuration, but if there's a DHCP server on your network, then the device is just plug-and-play. A Windows-based setup Wizard is also provided on the CD-ROM to simplify this task.
- PCs wishing to use the printer attached to the MFP Print Server always require configuration.

Configuration Methods

The following methods are available to perform the required MFP Print Server configuration:

- **Windows-based Wizard** - see below for details.
- **Web-based setup** - see Chapter 4 for details.

Using the Windows Wizard

The Windows-based Wizard is supplied on the CD-ROM, and runs on Windows XP and Windows Vista.

Using this Wizard is the recommended method to configure the MFP Print Server.

It can be used configure the Print Server for your Network environment, even if the MFP Print Server does not have a valid IP address.

Procedure

1. Insert the supplied CD-ROM into your drive. If the setup program does not start automatically, run *SETUP.exe* in the root folder.
2. On the first screen, shown below, click *Setup Wizard*.

Figure 2: MFP Screen

3. Click *OK* or *Skip* if all the setup procedures listed on the first screen are checked.

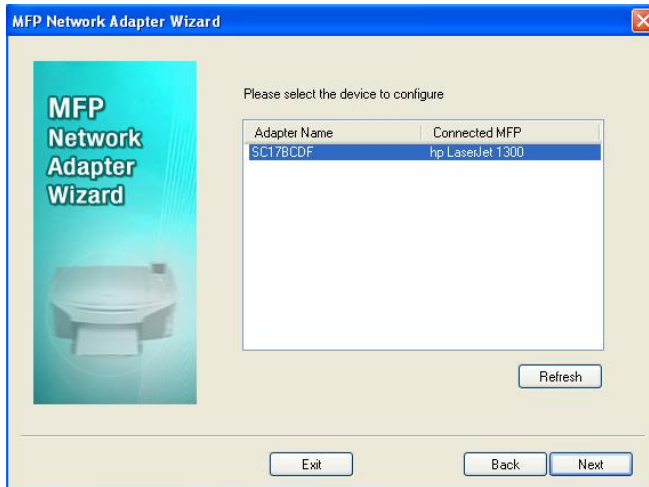4. Select your MFP Print Server, then click *Next* to continue.

Figure 3: Adapter Screen

5. Click *Next* to configure the *IP Address* screen.
   - Select *Obtain IP Address automatically* if your LAN has a DHCP Server, otherwise select *Use following IP address*.
   - For *Use following IP address*, enter an unused address from the range used on your LAN.
     Use the same *Subnet Mask* and Default *Gateway* as PCs on your LAN.
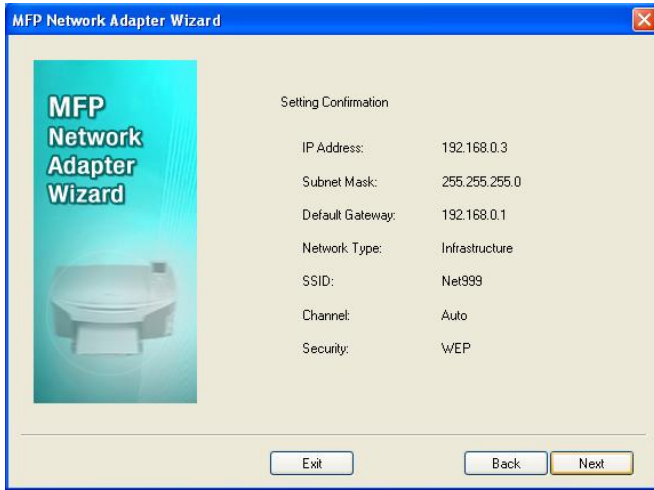
6. Click Next to see the following screen

Figure 4: Status Screen

7. Click *Next* and *Exit* to continue to the final screen
8. Click *Finish* to save the data to the MFP Print Server.

If the desired MFP is not listed:

- Check that both the MFP Print Server and the printer are properly connected, and powered on.
- Check that the proper Printer Driver has been installed.

Windows Setup

1. Insert the supplied CD-ROM into your drive. If the setup program does not start, run SETUP.exe in the root folder.
2. Click *PC Install* to install the utility and bus driver.

Figure 5: Main Screen

3. Follow the prompts to complete the installation.
4. The MFP Print Server Utility will then run.

MFP Print Server Utility Setup

1. The program will search for the MFP Printer Servers on the network, and the *MFP Print Server Utility* screen will be displayed.

   - The names of the attached printer servers will be displayed if possible.
   - If the MFP is occupied by other user, the status field will display the information of the user and IP address. Otherwise the default status icon should be ![icon] if the MFP is available.
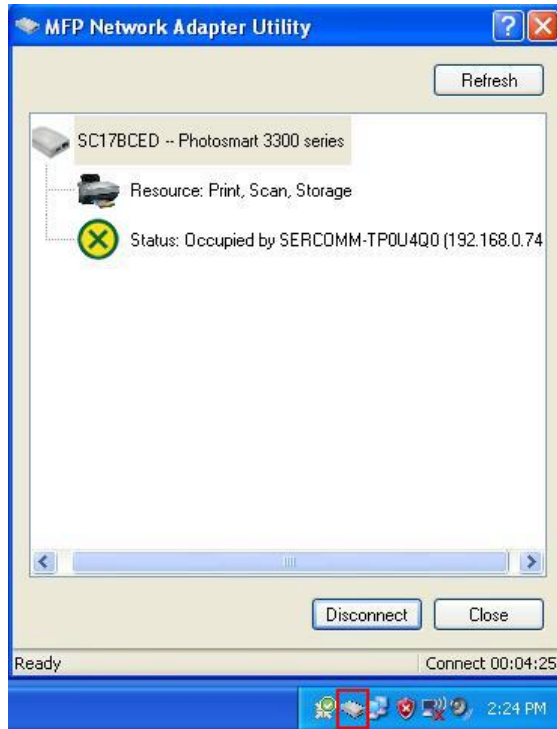

Figure 6: MFP Icon

> **If your MFP Print Server is not listed:**
> - Check that both the MFP Print Server and the printer are properly connected, and powered on.
> - Check that the proper Printer Driver has been installed.

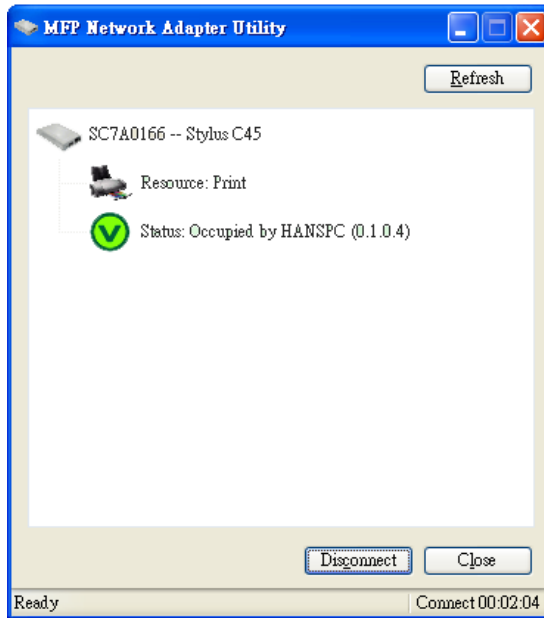2. Once the MFP has been connected successfully, the button will show "Disconnect" instead of "Connect".

Figure 7: Utility Screen

3. Configuration is now complete.

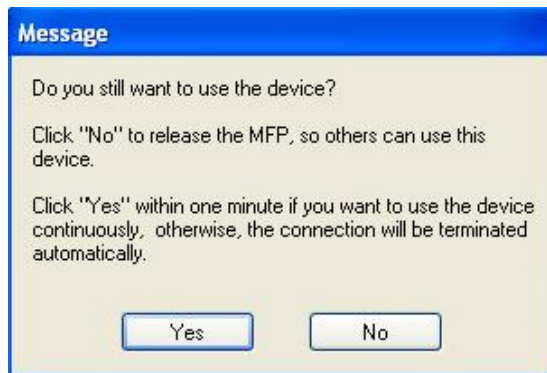**Note**: If MFP has been idled for 5 minutes after connected, you will see the following message

Figure 8: Idle Message

The MFP will be disconnected automatically if you don't respond to the message within 1minute.

Chapter 4

4

Web-Based Management

This chapter explains how to use your Web Browser to configure the MFP Print Server.

Overview

The MFP Print Server incorporates the HTTP server. This allows you to connect to the MFP Print Server and configure it using your Web Browser. Most browsers should work, provided they support tables and forms.

Preparation

Because it supports dynamic IP Address allocation using DHCP, BOOTP, or RARP, the Print Server ships with an IP Address of 0.0.0.0.

This is NOT a valid IP Address.

Therefore, you must do ONE of the following:

- Check your **DHCP server** (if you have one), and determine the IP Address allocated to the MFP Print Server.

- Use the **Diagnostic Button** (if fitted) to print a report which includes the current IP address. (Press the Diagnostic Button, and hold it for 2 seconds.)

- Use the **Setup Wizard** or another MFP Print Server utility to allocate a valid IP Address to the Print Server.

- Add an entry to the `arp` table to associate the hardware address of the Print Server with the desired IP address, as follows:

      arp -s IP_Address 00:c0:02:xx:xx:xx   (Unix)
      arp -s IP_Address 00-c0-02-xx-xx-xx   (Windows)

   Where:
   `IP_Address` is the IP Address you wish to assign to the MFP Print Server.
   `00:c0:02:xx:xx:xx` is the hardware address of the MFP Print Server.

Example (Unix):

      arp -s 192.168.0.21 00:c0:02:12:34:56

Example (Windows):

      arp -s 192.168.0.21 00–c0–02–12–34–56

Note: The hardware address of the Print Server is shown on a sticker on the base of the device.

Connecting to the Print Server

1. Start your Web Browser.

2. In the *Address* box, enter *HTTP://* followed by the IP Address of the MFP Print Server.
    e.g.

        http://192.168.0.100

3. You will then be prompted for the password. If no password has been set, just press ENTER.

4. Use the menu bar to move from one screen to another. Remember to save each screen before changing to a different screen.

Configuration Screens

The following configuration screens are available.

TCP/IP

Figure 9: TCP/IP Screen

IP Address	
DHCP Client	Select this if your LAN has a DHCP Server. The MFP Print Server will then automatically obtain an IP address from the DHCP Server.
Fixed IP Address	Select this to assign a fixed IP address to the MFP Print Server. If selected, you must enter the Device IP Address, Subnet Mask, and Gateway.
Device IP Address	IP Address assigned to the MFP Print Server. Enter an unused IP address from the address range used on your LAN.
Subnet Mask	Use the same values as PCs on your LAN (or on the same LAN segment, if you have a Router).
Gateway Address	Use the same values as PCs on your LAN (or on the same LAN segment, if you have a Router).

Connection	
Delay before reconnection attempt	Sets how long the MFP Print Server should wait before retrying a TCP/IP connection which is lost. Allowable values are from 0 to 255 seconds, with 2 as the default.
Number of reconnection attempts	Set how many attempts at reconnection will be made. After that, the TCP/IP session will be terminated. Allowable values are from 0 to 255, with 254 as the default.

Wireless Configuration

There are 2 options on the menu for Wireless configuration - **Basic** and **Security**.

Wireless - Basic

The settings on this screen must match the other Wireless stations in order for communication to occur.

Figure 10: Wireless Screen

Configuration	
Region or Domain	Select your region from the drop-down list.
	This field displays the region of operation for which the wireless interface is intended. It may not be legal to operate the router in a region other than the region shown here. If your country or region is not listed, please check with your local government agency for more information on which channels you are allowed to use, and select a region, which allows those channels. (The channel list changes according to the selected region.)
Station name	This is the same as the *Device (Host) Name* on the WAN screen. On your PC, some Wireless status screens may display this name as the Access Point in use.
Network Type	Select the correct value for your Wireless LAN. • **Ad-hoc** mode is used when there is no Wireless Access Point, and each Wireless station communicates directly with other Wireless stations. • **Infrastructure** mode is used when each Wireless station connects to the Wireless Access point. This also provides access to the wired LAN.
SSID (ESSID)	To communicate, all Wireless stations MUST use the same SSID/ESSID. The default value is blank (null). **Note! The SSID is case sensitive.**

Channel No.	In Infrastructure mode, this setting has not effect – the Access Point determines the Channel used.
	For Ad-hoc mode, select the value you wish to use on your Wireless LAN. If you experience lost connections and/or slow data transfers you may need to experiment with different channels to see which is the best.
Link Info Button	Click this button to open a sub screen displaying link information.

Wireless Security Screen

There are 3 options for Wireless security:
- **Disabled** - no data encryption is used.
- **WEP** - data is encrypted using the WEP standard.
- **WPA-PSK** - data is encrypted using the WPA-PSK standard. This is a later standard than WEP, and provides much better security than WEP. Use this if possible.

Wireless Security - WEP

If "WEP" is selected, the screen will look like the following example.

Figure 11: WEP Screen

Security System	**WEP**
	The 802.11b standard. Data is encrypted before transmission, but the encryption system is not very strong.
Authentication	Select the appropriate value, as used on your Wireless LAN - "Open System" or "Shared Key."

Key Size	Select the WEP Encryption level: • **64-bit** (sometimes called 40-bit) encryption • **128-bit** encryption (sometimes called 104 bit encryption) This selection also allows you to choose the input type for the keys - Hex or ASCII.
Keys	• Use the radio buttons to select the default key. • Enter the key value(s) you wish to use. Other stations must have the same key values. • Keys can be entered in Hex or ASCII, according to your *Key Size* selection. Hex characters are the digits (0 ~ 9) and the letters A ~ F.
Passphrase	Enter some printable characters in the Passphrase field and click the "Generate Keys" button to automatically configure the WEP Key(s). For 64 bit keys, four keys fields will be generated. For 128 bit keys, only the selected WEP key will be generated.

Wireless Security - WPA-PSK

If "WPA-PSK" is selected, the screen will look like the following example.

Figure 12: WPA-PSK Screen

Security System	**WPA-PSK** Like WEP, data is encrypted before transmission. WPA is more secure than WEP, and should be used if possible. WPA-PSK is the version of WPA, which does NOT require a Radius Server on your LAN.
Passphrase	Enter the Keyword key value. Data is encrypted using a key derived from the PSK. Other Wireless Stations must use the same PSK. The PSK must be from 8 to 63 characters in length.
Encryption	Other Wireless Stations must use the TKIP method.

Other Screens

Server Status

This screen shows server system data and the current settings for all of the other screens. It is read-only; no data can be input on this screen.

Printer Status

This screen displays the current status of each port. For each port, the following data is listed:

- **Connected Printer**- the model name of the printer connected to the port, if the printer name is known. (If the printer is not bi-directional, this information is unavailable.)
- **Status** - the current status of the printer (On-line, Off-line, Out of paper)
- **Printing Information** - this will show either *Idle* or *Printing*.

Appendix A

Specifications

A

General Specifications

PS801H	
Power Consumption	5.5w max.
External Power Adapter	5V DC
LEDs	2
USB 2.0 Port	1
Ethernet Connecter	10/100BaseT
FCC / CE	FCC, CE. Class B

Environmental Specifications	
Operating Temperature	0 ~ 40°C
Storage Temperature	-10 ~ 70°C
Shipping Temperature	-40 ~ 70°C
Operating Humidity	10 ~ 80%
Storage Humidity	5 ~ 90%
Shipping Humidity	5 ~ 100%

Regulatory Approvals

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Channel

The Wireless Channel sets the radio frequency used for communication.
· Access Points use a fixed Channel. You can select the Channel used. This allows you to choose a Channel which provides the least interference and best performance. In the USA and Canada, 11 channel are available. If using multiple Access Points, it is better if adjacent Access Points use different Channels to reduce interference.
· In "Infrastructure" mode, Wireless Stations normally scan all Channels, looking for an Access Point. If more than one Access Point can be used, the one with the strongest signal is used. (This can only happen within an ESS.)
· If using "Ad-hoc" mode (no Access Point), all Wireless stations should be set to use the same Channel. However, most Wireless stations will still scan all Channels to see if there is an existing "Ad-hoc" group they can join.

Note:This equipment marketed in USA is restricted by firmware to only operate on 2.4G channel 1-11

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