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A proxy agent is client-side software that allows HP Web Jetadmin to discover and manage devices that are connected directly to the network. The proxy agent is capable of passing the same types of queries to PC-connected devices that are typically passed to network-connected devices. Therefore, HP Web Jetadmin can gather additional device information about PC-connected devices, such as remaining toner levels, page counts, and status.

HP provides the following proxy agents:

- **HP SNMP Proxy Agent** works by exposing object identifiers (OIDs) in the printer management information base (MIB) to the Microsoft® SNMP service that runs on the host PC where the device is connected through a USB port.

- **HP WS Pro Proxy Agent** is a Web service that runs under the network service account on a PC workstation and replicates a device’s services from the host computer’s USB interface to its network interface.

While most devices support HP SNMP Proxy Agent, a few devices require HP WS Pro Proxy Agent.

The HP Proxy Agents package includes the following:

- **HP SNMP Proxy Agent**—Separate MSI installers for the 32-bit and 64-bit operating systems

- **HP WS Pro Proxy Agent**—A single EXE installer for both the 32-bit and 64-bit operating systems

To download the HP Proxy Agents package, go to [www.hp.com/go/webjetadmin](http://www.hp.com/go/webjetadmin), click **Download now**, and then follow the instructions.

As a general rule, you should install both HP SNMP Proxy Agent and HP WS Pro Proxy Agent. However, be aware that there are a few devices that HP Web Jetadmin can discover through both HP SNMP Proxy Agent and HP WS Pro Proxy Agent. If you install both proxy agents on a machine where HP Web Jetadmin discovers one of these devices, the device appears in the device list twice.

For more information about the proxy agents, see the [*Discovering PC-Connected Devices in HP Web Jetadmin*](http://www.hp.com/go/webjetadmin) white paper. This white paper is available from the HP Web Jetadmin support page (in English).
HP SNMP Proxy Agent is installed on a desktop client PC. HP Web Jetadmin uses HP SNMP Proxy Agent to discover and manage HP printers and scanners that are connected locally (for example, through a USB connection). HP SNMP Proxy Agent exposes management objects through the Microsoft SNMP service on the client PC. In HP Web Jetadmin, a simple PC-connected discovery finds the locally attached devices. HP Web Jetadmin can then gather additional device information—such as remaining toner levels, page counts, and status—through the proxy.

Features

HP SNMP Proxy Agent includes the following functionality:

- HP Web Jetadmin queries the HP-proprietary and standard management objects in the supported devices. Different devices offer varying levels of support, but many devices expose the model name, engine page count, supplies levels, serial number, and so on.
- HP Web Jetadmin supports reading and writing information on PC-connected devices.
- HP Web Jetadmin detects status changes in a PC-connected device by polling or manually refreshing the device. HP Web Jetadmin does not support traps for PC-connected devices.
- A discovery must complete successfully before a PC-connected device is available in HP Web Jetadmin.
- HP SNMP Proxy Agent and HP Web Jetadmin support multiple PC-connected devices (for example, through a USB connection) on a single desktop client PC.
- HP SNMP Proxy Agent adds support for some HP Officejet Pro devices through the HP Officejet Basic Driver - IT Professional Use Only driver package.
- HP Web Jetadmin can perform a PC-connected discovery by using the IP broadcast method. HP Web Jetadmin uses an SNMP query for the IP broadcast packet. However, this discovery method yields limited results because some systems and many networks block IP broadcast traffic for security and overall management reasons. The workstation or server that HP Web Jetadmin sends the IP broadcast to must have an SNMP service that responds to these packets. For a comprehensive and scaled discovery plan, HP recommends that you also use other discovery methods, such as IP range and Specified addresses.
System requirements

HP SNMP Proxy Agent is supported on the following Microsoft operating systems:

- Windows 7
- Windows 8.1
- Windows 10
- Windows Server 2008

To allow queries from the HP Web Jetadmin server, HP Universal Print Driver (UPD) must be installed.

To allow queries from the HP Web Jetadmin server, the Windows SNMP service must be installed, configured, and running as follows:

- Configure the SNMP service Properties so that **Accepted community names** includes `public` with **READ ONLY** rights.
- Enable a configuration so that it can be modified by choosing and configuring a **READ WRITE** community name.
- Configure the SNMP service Properties to accept **SNMP packets from any host** or from HP Web Jetadmin.

**NOTE:** Microsoft does not include the SNMP service with the Home editions of Windows. The exact mechanism for installing the SNMP service varies depending on the Windows version. In Windows 7, go to **Control Panel > Programs and Features**, click **Turn Windows features on or off** on the sidebar, and then enable the **Simple Network Management Protocol (SNMP)** feature.

Firewall settings must permit HP Web Jetadmin to query the proxy agent using **SNMP**. **UDP port 161** should be open.

**NOTE:** Not all versions of Windows automatically enable **UDP port 161** when you install the SNMP service. If the SNMP service is running, but cannot be accessed from a remote machine, the firewall on the PC might be blocking SNMP traffic.

Install HP SNMP Proxy Agent

- **Standalone installation**
- **Silent installation/network installation**

You must install the Microsoft SNMP service prior to installing HP SNMP Proxy Agent. You can install HP SNMP Proxy Agent either before or after you install the HP printer driver.

Two installation modes are available through standard tools such as Microsoft Systems Management Server (SMS)—standalone mode and silent/network mode.

Standalone installation

The standard (non-silent) installation takes input in the form of responses to dialog boxes. To initiate a standalone installation of HP SNMP Proxy Agent, run one of the following commands:

- `Msiexec /i "HP SNMP Proxy_32_10_4_0.msi"`
- `Msiexec /i "HP SNMP Proxy_64_10_4_0.msi"

The installer then guides you through a series of dialogs.
Silent installation/network installation

The silent mode (without a UI) is provided for push-based installations. To initiate a silent installation of HP SNMP Proxy Agent, run one of the following commands:

- Msiexec /i "HP SNMP Proxy_32_10_4_0.msi" /qn
- Msiexec /i "HP SNMP Proxy_64_10_4_0.msi" /qn

The following switches are also available with this installer:

- /s
  Executes a silent extraction of the packaged binaries on the client system.
- /qn
  Executes the MSI in silent mode. Specifying /s applies this setting.
- /i
  Installs the package.
- /fv
  Ugrades an existing package.
- /x
  Uninstalls an existing package.
- PERMITTEDMANAGERS="ipaddress1;ipaddress2;...;ipaddressn"
  Sets up the SNMP service to respond to requests only from the specified IP addresses. This parameter is used from the command line. An empty string, such as PERMITTEDMANAGERS="", removes all existing entries that the proxy installer previously made. A value of "*" indicates that the SNMP service should be able to receive values from any server.
- VALIDCOMMUNITIES="communityname1;communityname2;...communitynamen"
  Sets up the SNMP service to respond only to servers that send a request with one of the specified community names. This parameter is used from the command line.

Error logging

By default, the installer creates the snmpprint.log file in the Windows folder. This is a hardcoded aspect of the installer and currently cannot be overridden.

Supported devices

For a complete list of the devices that can be discovered with HP SNMP Proxy Agent, see the Discovering PC-connected Devices in HP Web Jetadmin white paper. This white paper is available from the HP Web Jetadmin support page (in English).
Questions and answers

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why does HP Web Jetadmin fail to discover my locally attached device?</td>
<td>The following troubleshooting steps might help analyze this problem:</td>
</tr>
<tr>
<td></td>
<td>● On the HP Web Jetadmin server, verify basic network connectivity with the PC client. Substitute the IPv4 address of the client PC for IPAddr in the following command: ping IPAddr</td>
</tr>
<tr>
<td></td>
<td>● On the HP Web Jetadmin server, use a third-party tool, such as Net-SNMP snmpget, to verify a successfully installed, configured, and running SNMP service and firewall on the client PC. Substitute the IPv4 address of the client PC for IPAddr in the following command: snmpget -v1 -c public IPAddr 1.3.6.1.2.1.1.1.0</td>
</tr>
<tr>
<td></td>
<td>● On the HP Web Jetadmin server, use a third-party tool, such as Net-SNMP snmpget. Substitute the IPv4 address of the client PC for IPAddr in the following command: snmpget -v1 -c public IPAddr 1.3.6.1.4.1.11.2.4.3.13.1.0</td>
</tr>
<tr>
<td></td>
<td>If SNMP and the proxy agent are functioning, the proxy agent responds with an INTEGER value greater than zero. If the proxy agent has not been successfully installed, the response is NO SUCH NAME.</td>
</tr>
<tr>
<td></td>
<td>● The following registry key identifies the proxied devices on the client PC: HKLM\SOFTWARE\Hewlett-Packard\HP SNMP Proxy\PrnId</td>
</tr>
<tr>
<td></td>
<td>If the device does not appear in this list, restart the SNMP service or reboot the PC. If the device is installed, powered on, and working (for example, you can print to it), but the device still does not appear in this list, the device's driver might not implement an enterprise device management interface.</td>
</tr>
<tr>
<td>After I run a PC-connected discovery and the locally attached devices are discovered, how do I know which devices are PC-connected devices?</td>
<td>Discovered PC-connected devices are displayed in the device lists with the network-connected devices.</td>
</tr>
<tr>
<td></td>
<td>To display a device list that includes only those devices that were discovered as PC-connected devices, enable a filter. Go to View &gt; Preferences, select Device Filters, double-click PC-Connected Devices, and then click OK.</td>
</tr>
<tr>
<td></td>
<td>To display the PC Connected column, which identifies the devices that are PC-connected, on any device list, display the device list, right-click in a column header, and then select Customize. In the Select Columns wizard, select All from the Category list, double-click PC Connected in the Available Columns list, and then click OK.</td>
</tr>
<tr>
<td>Can I generate reports about my locally attached devices by using the HP Web Jetadmin Reports feature?</td>
<td>Yes. Reports about PC-connected devices should be possible. However, the data that HP Web Jetadmin can collect differs from device to device.</td>
</tr>
<tr>
<td>What happens when the IP address of the client PC changes?</td>
<td>HP Web Jetadmin finds the proxied devices on the new IP address during the next successful discovery.</td>
</tr>
<tr>
<td>Can I use any version of HP Web Jetadmin to manage PC-connected devices?</td>
<td>HP SNMP Proxy Agent requires HP Web Jetadmin 10.2 or later for full functionality.</td>
</tr>
</tbody>
</table>

Revision history (partial)

The following table provides a partial history of the improvements and fixes made for HP SNMP Proxy Agent.
<table>
<thead>
<tr>
<th>Proxy version</th>
<th>Release date</th>
<th>Improvements and fixes</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.4.0</td>
<td>HP Web Jetadmin 10.4 (10.4.98174) 28-October-2015</td>
<td>HP SNMP Proxy Agent 10.4.0 supports HP Universal Print Driver (UPD) 6.1 and earlier. Previous versions of HP SNMP Proxy Agent support only versions of UPD prior to 6.1.</td>
</tr>
<tr>
<td>10.3.0010</td>
<td>HP Web Jetadmin 10.3 SR1 (10.3.85669) 26-November-2012</td>
<td>- Updated HP SNMP Proxy Agent to use the latest language monitor DLL in HP Universal Print Driver (UPD) 5.6 or later. If UPD 5.6 or later is used, HP SNMP Proxy Agent 10.3.0010 is required to display the toner levels.</td>
</tr>
</tbody>
</table>
3 HP WS Pro Proxy Agent 10.4.5

- System requirements
- Install HP WS Pro Proxy Agent
- Uninstall HP WS Pro Proxy Agent from the command line
- Error logging and troubleshooting
- UIO test tool
- Configure the HP WS Pro Proxy Agent service behind a firewall
- Supported devices
- Questions and answers
- Revision history (partial)
- Appendix A: Required configuration steps for HP ScanJet 8500/N9120

HP WS Pro Proxy Agent supports HP printers that use Web Services (WS) to communicate with HP Web Jetadmin and do not support enough of SNMP for HP SNMP Proxy Agent to discover them. HP WS Pro Proxy Agent runs under the less-privileged network service account when it is installed on workstations.

**System requirements**

HP WS Pro Proxy Agent is supported on the following Microsoft operating systems:

<table>
<thead>
<tr>
<th>NOTE:</th>
<th>If 32-bit and 64-bit versions of an operating system are available, both versions are supported.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Windows 7</td>
</tr>
<tr>
<td></td>
<td>- Windows 8.1</td>
</tr>
<tr>
<td></td>
<td>- Windows 10</td>
</tr>
<tr>
<td></td>
<td>- Windows Server 2008</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOTE:</th>
<th>If User Account Control (UAC) is enabled on the Windows client, you must run the installation for HP WS Pro Proxy Agent as an administrator.</th>
</tr>
</thead>
</table>

HP WS Pro Proxy Agent requires Microsoft .NET Framework 3.5 and 4.5. The installer verifies that the correct version is installed.

<table>
<thead>
<tr>
<th>NOTE:</th>
<th>If .NET Framework 3.5 is not installed on Windows 8, an error message appears stating that .NET Framework 2.0 must be installed.</th>
</tr>
</thead>
</table>

**Install HP WS Pro Proxy Agent**

- Standalone installation
- Silent installation
- Install HP WS Pro Proxy Agent with User Account Control enabled
Two installation modes are available through standard tools such as Microsoft Systems Management Server (SMS)—standalone mode and silent mode.

**Standalone installation**

To initiate a standalone installation of HP WS Pro Proxy Agent, run the following command:

```
HPWSProxyService_10_4_3.exe WJAHOSTIP=xxx.xxx.xxx.xxx
WJADISCOVERYPORT=xxxxx LEDMDISCOVERYPORT=xxxxx
```

- **WJAHOSTIP=xxx.xxx.xxx.xxx**
  Optional. The host IP address of the HP Web Jetadmin server where HP WS Pro Proxy Agent sends WS Probe Hello packets when the service starts and when the service detects that the host machine has changed IP addresses. This parameter keeps PC-connected devices up-to-date in HP Web Jetadmin device lists without requiring another discovery. If this parameter is not specified, the HP Web Jetadmin host IP address is not configured for HP WS Pro Proxy Agent to use.

- **WJADISCOVERYPORT=xxxxx**
  Optional. The port where HP WS Pro Proxy Agent sends WS Probe Hello packets. The port specified for this parameter must be the same as the port on which HP Web Jetadmin is configured to listen for PC connect WS Hello messages. The default is port 27893.

- **LEDMDISCOVERYPORT=xxxxx**
  Optional. The UDP port on which HP WS Pro Proxy Agent listens for discovery probe requests. The port specified for this parameter must be the same as the port on which HP Web Jetadmin is configured to send PC connect WS probes. The default is port 27893.

The following are examples of the standalone installation command:

- To install HP WS Pro Proxy Agent with the default values for the optional parameters, enter the following command:
  
  `HPWSProxyService_10_4_3.exe`

- To install HP WS Pro Proxy Agent by specifying values for the optional parameters, enter the following command:
  
  `HPWSProxyService_10_4_3.exe WJAHOSTIP=1.2.3.4 WJADISCOVERYPORT=27893 LEDMDISCOVERYPORT=27893`

The installer then guides you through a series of dialogs.

**Silent installation**

The silent mode (without a UI) is provided for push-based installations. A silent installation can be initiated when User Account Control (UAC) is enabled.

To initiate a silent installation of HP WS Pro Proxy Agent, run the following command:

```
HPWSProxyService_10_4_3.exe /S /v/qn /V"WJAHOSTIP=xxx.xxx.xxx.xxx
WJADISCOVERYPORT=xxxxx LEDMDISCOVERYPORT=xxxxx"
```

For more information about the optional parameters and default values, see **Standalone installation on page 8**.

The following is an example of the silent installation command that uses the default values for the optional parameters:

```
HPWSProxyService_10_4_3.exe /S /v/qn /V
```
The following are examples of the silent installation command that specify values for the optional parameters:

- HPWSProxyService_10_4_3.exe /S /v/qn /V"WJADISCOVERYPORT=27893"
- HPWSProxyService_10_4_3.exe /S /v/qn /V"WJAHOSTIP=1.2.3.4 WJADISCOVERYPORT=27983 LEDMDISCOVERYPORT=27983"

### Install HP WS Pro Proxy Agent with User Account Control enabled

If User Account Control (UAC) is enabled, you must run the installation command from the elevated (administrator) Command Prompt.

### Uninstall HP WS Pro Proxy Agent from the command line

You can uninstall HP WS Pro Proxy Agent from the command line. The following is the command syntax:

```
msiexec.exe /qn /uninstall <ProductCode>
```

The following is the command-line parameter:

- `<ProductCode>`

  Specifies the product code for the version of HP WS Pro Proxy Agent that you are uninstalling. The following are the product codes.

<table>
<thead>
<tr>
<th>HP WS Pro Proxy Agent version</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP WS Pro Proxy Agent 10.3.6</td>
<td>{3BF03BC8-8B49-4082-AF2D-F159AB27FD74}</td>
</tr>
<tr>
<td>HP WS Pro Proxy Agent 10.3.8</td>
<td>{E1A6D281-7D99-4946-ACD7-C1A3D60B9E03}</td>
</tr>
<tr>
<td>HP WS Pro Proxy Agent 10.4.1</td>
<td>{716FB540-940E-4ABF-92C0-2B063C480251}</td>
</tr>
<tr>
<td>HP WS Pro Proxy Agent 10.4.2</td>
<td>{358F8677-A281-424A-81B4-0B03B3AAAC849}</td>
</tr>
<tr>
<td>HP WS Pro Proxy Agent 10.4.3</td>
<td>{014D70E8-B0CB-4E59-99E4-17FBC69075FA}</td>
</tr>
<tr>
<td>HP WS Pro Proxy Agent 10.4.5</td>
<td>{2F9CF869-8B68-4505-9DB0-329CE47FC0F4}</td>
</tr>
</tbody>
</table>

The following is an example of the uninstallation command:

```
msiexec.exe /qn /uninstall {358F8677-A281-424A-81B4-0B03B3AAAC849}
```

### Error logging and troubleshooting

#### Change the settings in the ProxyService.config.xml file

The settings in the ProxyService.config.xml file determine the behavior of HP WS Pro Proxy Agent. The ProxyService.config.xml file and the corresponding log files (HPWSProxyServiceLog.log and DeviceManager.log) are located in one of the following directories:

- On a 32-bit operating system:
  
  C:\Program Files\HP Inc\HPWSProxy\bin\n
- On a 64-bit operating system:
  
  C:\Program Files (x86)\HP Inc\HPWSProxy\bin\n
NOTE: For HP WS Pro Proxy Agent 10.3.8 and earlier, these files are located in one of the following directories:

- On a 32-bit operating system:
  C:\Program Files\Hewlett-Packard Company\HPWSProxy\bin\
- On a 64-bit operating system:
  C:\Program Files (x86)\Hewlett-Packard Company\HPWSProxy\bin\

Validate whether HPWSProxyService can communicate with a USB-connected printer

If the HPWSProxyServiceLog.log file contains endpoints, the proxy server can communicate with a USB-connected device. The following is an example of an endpoint in the log:

ProcessID:1944, Time:6/14/2016 6:26:58 PM, MustWrite] Hosted Endpoints are

Validate whether remote communication with an LEDM USB-connected printer outside of HP Web Jetadmin is possible

To test whether the endpoint of an LEDM device in the example in the previous section is accessible via the network, add /DevMgmt/ProductConfigDyn.xml to the URL. From the example in the previous section, use the following URL in a web browser to test the endpoint:


A user name and password are requested. The user name and password must be for a user who has access to the PC to which the device is connected. For this example, the PC has an IP address of 10.10.10.20. If no data is displayed, the network is blocking the traffic or HPWSProxyService has been stopped.

The endpoint contains the device UUID that the printer generates. The last digits of the UUID are the MAC address of the printer.

Default ProxyService.config.xml file

The following is the default ProxyService.config.xml file:

```xml
<?xml version="1.0" encoding="utf-8"?>
<ProxyServiceConfig>
  <SimulatedMode>false</SimulatedMode>
  <UseAug2004Addressing>true</UseAug2004Addressing>
  <EnableHTTPS>true</EnableHTTPS>
  <!--Log levels are : Error, Message, Warning,All -->
  <LogLevel>Error</LogLevel>
  <DefaultRegistryPath>SOFTWARE\Wow6432Node\Hewlett-Packard \HPLedmProxyAgent</DefaultRegistryPath>
  <RegistryPath>SOFTWARE\Hewlett-Packard\HPLedmProxyAgent</RegistryPath>
  <RegistryPathToGetWJAHostIP>SOFTWARE\Hewlett-Packard\HPLedmProxyAgent</RegistryPathToGetWJAHostIP>
  <EnableTestingIPAddressChange>false</EnableTestingIPAddressChange>
  <DefaultPort>8082</DefaultPort>
  <DefaultWSTransferPort>8083</DefaultWSTransferPort>
  <AssignedPort>8020</AssignedPort>
  <EnableCustomDiscovery>true</EnableCustomDiscovery>
  <UIOVersion>2.0.0.533</UIOVersion>
</ProxyServiceConfig>
```
● **LogLevel** (all versions of HP WS Pro Proxy Agent)

The default log level is **Error**. To change the log level, edit the `ProxyService.config.xml` file in one of the directories listed previously. After the log level is changed, HPWSProxyService must be restarted.

If the log level is set to **All**, HPWSProxyService creates a second log file called `DeviceManager.log`.

● **EnableActiveDeviceDetection** (HP WS Pro Proxy Agent 10.4.1 and later)

The default value is **true**. HPWSProxyService actively checks to detect whether printers are attached to the PC. This functionality is new in HP WS Pro Proxy Agent 10.4.1. Earlier versions of HP WS Pro Proxy Agent use only passive listening for Windows event to detect newly attached printers.

The following is an example of a log message:

```
```

When HP WS Pro Proxy Agent detects a new printer, HPWSProxyService is restarted and the following log messages are in the log file:

```
DetectedDeviceCount = 1 HostedDeviceCount = 0
```

Detected mismatch in detected device count and Proxy hosted device count. Restarting proxy...

● **LogDetectedPrinterInfo** (HP WS Pro Proxy Agent 10.4.1 and later)

If the value of `LogDetectedPrinterInfo` changes to **true**, the value of **LogLevel** must be changed to **All**. After the changes are made and HPWSProxyService is restarted, the information about the USB-connected printer that is received from Windows is logged in the `DeviceManager.log` file.

The following is an example of the log data:

```
```

● **LogLedmAdapterClientIPLocking** (HP WS Pro Proxy Agent 10.4.1 and later)

After the value of `LogLedmAdapterClientIPLocking` is changed to **true** and HPWSProxyService is restarted, the HPWSProxyLog.log file shows the IP address of the requestor, which is normally HP Web Jetadmin. `LogLedmAdapterClientIPLocking` is set to the off state by default because IP address resolution *might* cause a delay on an LEDM adapter that receives a lot of requests.

Due to the nature of various network setups, the IP address might not reflect the true IP address of the source. For example, the address in the log might not be the actual address of the HP Web Jetadmin host.

The following is an example of a message:
UIO test tool

HPWSProxyService uses Universal I/O DLLs (UIO DLLs) to communicate with PC-connected devices over USB. You can use the UIO test tool to determine if a problem is caused by the UIO DLLs, device, or other proxy components.

Use the following steps to execute the UIO test tool:

1. Double-click the UIOTest.exe file. This file is located in the HPWSProxy\bin\ directory.
2. From the Select Printer list, select the USB-connected printer. This list includes the printers that were previously connected, but are now disconnected. This list is the same as the list shown in Control Panel > Hardware and Sound > Devices and Printers.
3. Select a printer type: FuturesSmart, or LEDM for non-FutureSmart devices. For FutureSmart devices, skip to step 6. For LEDM devices, continue to step 4.
4. From the Select LEDM Tree list, select a tree element.
5. Click the Get On All the Trees or Get On A Selected Tree button.
6. Select a Service Urn from the drop down menu.
7. Click Get.

The results are written in the UIOLog.txt file. This file is in the same directory as the UIOTest.exe file. Prior to HP WS Pro Proxy Agent 10.3.8, this file was created in the C:\temp directory. For HP WS Pro Proxy Agent 10.4.1 and later, the results are also written in the display pane.

The following are examples of log entries:

<table>
<thead>
<tr>
<th>Time</th>
<th>Tree Location</th>
<th>Response Status Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>24/06/2016</td>
<td>/DevMgmt/MediaHandlingDyn.xml</td>
<td>null</td>
<td>printer is connected</td>
</tr>
<tr>
<td>24/06/2016</td>
<td>/DevMgmt/DiscoveryTree.xml</td>
<td>200</td>
<td>printer is responding correctly</td>
</tr>
<tr>
<td>24/06/2016</td>
<td>/TestNode/ExpectFailure</td>
<td>404</td>
<td>endpoint not existing (while printer is connected)</td>
</tr>
</tbody>
</table>

Response Status Code null means: printer is connected
Response Status Code 200 means: printer is responding correctly
Response Status Code 404 means: endpoint not existing (while printer is connected)
Other Response Status Code might be different per device model.

Configure the HP WS Pro Proxy Agent service behind a firewall

For the HP WS Pro Proxy Agent service to work behind a firewall, you must add the proxy service and/or the ports the proxy service uses to the firewall exception list. The proxy service uses two TCP ports for HTTP or HTTPS communication with HP Web Jetadmin and one UDP port for discovery.

NOTE: At this time, the two TCP ports are dynamic. The HP WS Pro Proxy Agent service requests the two TCP ports on the first startup.
To add the proxy service and its ports to the firewall exception list, perform the following steps:

1. Add the HPDeviceProxyService.exe file from the proxy installation directory to the firewall exception list. The HPDeviceProxyService.exe file is located in one of the following directories:
   - For a default installation on a 32-bit operating system:
     C:\Program Files\HP Inc\HPWSProxy\bin\n   - For a default installation on a 64-bit operating system:
     C:\Program Files (x86)\HP Inc\HPWSProxy\bin\n
   **NOTE:** In many cases, adding an exception or rule to the firewall to allow a specific service also allows an HP Web Jetadmin discovery to take place. If the additional step of adding ports is required, proceed to step 2.

2. Add the TCP and UDP ports that the HP WS Pro Proxy Agent service uses to the firewall exception list. The TCP and UDP port numbers are defined in the following registry entries:
   - For a 32-bit operating system:
     HKEY_LOCAL_MACHINE\SOFTWARE\Hewlett-Packard\HPLedmProxyAgent
   - For a 64-bit operating system:
     HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hewlett-Packard\HPLedmProxyAgent

   The values of Port and WSTransferPort must be added to the firewall exception list as TCP ports. The values for Port and WSTransferPort might vary from one host PC to another, depending on the availability of free ports on the host system. By default, the HP WS Pro Proxy Agent service finds free ports starting at port 8020.

   The value of LEDMDiscoveryPort must be added to the firewall exception list as the UDP port. The value of LEDMDiscoveryPort is the same as the value the administrator set while installing HP WS Pro Proxy Agent.

Supported devices

For a complete list of the devices that can be discovered with HP WS Pro Proxy Agent, see the Discovering PC-connected Devices in HP Web Jetadmin white paper. This white paper is available from the HP Web Jetadmin support page (in English).

Questions and answers

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do I detect whether a proxy is installed and which proxy is installed?</td>
<td>You can access Add/Remove Programs to see which proxy is installed, but Add/Remove Programs might not provide the version of the installed proxy.</td>
</tr>
<tr>
<td>Does HP Web Jetadmin use ICMP to discover devices through HP WS Pro Proxy Agent?</td>
<td>Yes. HP Web Jetadmin does an initial test on the IP address to determine if it is active. The hosting system must respond or HP Web Jetadmin cannot discover devices. In some cases, ICMP can be blocked by a firewall, but should be enabled to ensure that the discovery works. You can issue a simple Windows command at the administrator command window to add ICMP to the protocols that the Windows firewall allows. The following is an example:        &quot;netsh firewall set icmsetting type = all mode = enable&quot;</td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Why can I see the following message in the DeviceManager.log file?</td>
<td>When running the HPWS Proxy as a network service, the HP Web Jetadmin DLL cannot be accessed by the HPWS Proxy. The HPWS Proxy does not detect the USB-connected ScanJets 8500 and ScanJets N9120 devices. All other devices that are supported by the HPWS Proxy can be discovered when the HPWS Proxy is running as a network service.</td>
</tr>
<tr>
<td>WIA dll Access denied. Kindly run the WS proxy service in Local user mode.</td>
<td></td>
</tr>
</tbody>
</table>
The following table provides a partial history of the improvements and fixes made for HP WS Pro Proxy Agent.

### Table 3-1 Revision history for HP WS Pro Proxy Agent (partial)

<table>
<thead>
<tr>
<th>Proxy version</th>
<th>Release date</th>
<th>Improvements and fixes</th>
</tr>
</thead>
</table>
| 10.3.8        | HP Web Jetadmin 10.3 SR8 (10.3.96073) 25-February-2015 | • HP WS Pro Proxy Agent is now delivered as an EXE file instead of an MSI file.  
• The HP WS Pro Proxy Agent service can now be started or reinstalled via a silent installation when User Account Control (UAC) is enabled. |
| 10.3.6        | HP Web Jetadmin 10.3 SR6 (10.3.93671) 16-May-2014       | • Updated the UID version to fix device communication errors that occur for the following PC-connected devices:  
  ‒ HP LaserJet Pro 200 color M251  
  ‒ HP LaserJet Pro 400 Printer M401  
  ‒ HP LaserJet Pro 400 MFP M425  
  ‒ HP LaserJet Pro 200 color MFP M276  
• Added the ability to manage the new HP Officejet Pro 8610, HP Officejet Pro 8620, and HP Officejet Pro 8630 devices with the HP Officejet Pro MFP Universal Plug-in (UPI).  
• Updated HP WS Pro Proxy Agent to detect a printer when the VMware Workstation is installed on the same machine. |
| 10.4.1        | HP Web Jetadmin 10.4 SR1 (10.4.99821) 7-September-2016   | • Fixed the issue with HP WS Pro Proxy Agent crashing.  
• Changed the installation directory path from Hewlett-Packard Company\HPWSProxy to HP Inc\HPWSProxy.  
• Changed the directory where the UIOlog.txt file is saved to the same directory as the UITest.exe file.  
• Added additional logging.  
• HP WS Pro Proxy Agent now actively and passively checks for USB-connected printers. Previously HP WS Pro Proxy Agent only passively checked for USB-connected printers. |
| 10.4.2        | HP Web Jetadmin 10.4 SR2 (10.4.101715) April-2017        | • Added support for FutureSmart 4 devices with firmware 2457434_663606 and above.  
• The support of HPWS Proxy with USB connected FutureSmart devices requires HP Web Jetadmin 10.4 SR2 or later. |
| 10.4.3        | HP Web Jetadmin 10.4 SR3 (10.4.103054)                   | • Added support for HP Scanjet 8500 fn2 and HP ScanJet Flow N9120 fn2.  
• The support of HPWS Proxy with USB connected ScanJet 8500/9120 devices requires HP Web Jetadmin 10.4 10.4 SR3 or later and special configuration steps. For more information, see Appendix A. |
| 10.4.5        | HP Web Jetadmin 10.4 (10.4.105723)                      | • 11810 HP Web Jetadmin is now showing the actual MAC address of a USB connected device instead of |
Table 3-1 Revision history for HP WS Pro Proxy Agent (partial) (continued)

<table>
<thead>
<tr>
<th>Proxy version</th>
<th>Release date</th>
<th>Improvements and fixes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>28-January-2019</td>
<td>EXIT when the HPWS Proxy Agent is running on Microsoft Windows 10.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● 11841 During the startup of the HPWS Proxy, if the file was corrupted, the HPWS Proxy will recreate a default ProxyServiceConfig.xml.</td>
</tr>
</tbody>
</table>

Appendix A: Required configuration steps for HP ScanJet 8500/N9120

HPWS Proxy running under local account

1. Open Services and select Stop on the HPWSProxyService.
2. Right-click the HPWSProxyService and select Properties.
3. On the Log On tab, select Local System Account and then click OK.
4. Restart the HPWSProxyService.

UPD 6.4 or higher is installed and ScanJet is listed under devices

1. Install UPD 6.4 and higher
2. After the UPD driver installed, wait until the Digital Sender displays on Windows in Devices and Printers.

All hardware NULL drivers for the ScanJets have been updated (no more NULL drivers available)

1. Right-click on the Digital Sender icon in the Devices and Printers folder, and then click Properties.
2. Select the Hardware tab and select the first HP Digital Sender (NULL) driver in the list, and then click Properties.
3. In the Properties window, select the Driver tab and click Update Driver.
4. In the Update Driver window, click Browse My Computer for Driver Software.
5. Select HP Printer (BIDI). If not listed, skip to step 8.
6. Uncheck Show compatible hardware and select HP Inc. under Manufacturer.
7. Under Model, select the first model with HP Printer (BIDI), and then click Next.
8. Click Close.
9. Repeat steps 1-8 for all HP Digital Sender (NULL) drivers.

After all NULL drivers have been updated, the communication with the HPWS Proxy will be possible.