

Section 10 IPP

Overview

IPP (Internet Printing Protocol) is a TCP/IP based client-server protocol. IPP enables printing over any LAN or WAN supporting TCP/IP. The most prevalent example of this is IPP printing over the Internet, which is illustrated below.

![Diagram of the path of a print job from LAN to LAN over the Internet]

In practical terms this means that you can send documents to a remote printer as an addition to or replacement of fax and e-mail, with the same quality and color options of traditional network printing.
User Requirements

The IPP protocol does not require any special configuration of the print server, the IPP function is automatically activated when you install your AXIS 5600 Print Server.

IPP is platform independant and functional in Windows (NT, 95, 98 and 2000), Macintosh, OS/2, NetWare and UNIX environments.

Currently available IPP clients include:

- the Internet Printer Connection software from Hewlett Packard for Windows NT,
- the Microsoft IPP Client delivered with Windows 2000,
- IPP clients for Windows '95 and '98 that can be downloaded from the Microsoft web site.
- the Common Unix Printing System for Unix/Linux environments.

Firewall Considerations

If there are one or more firewalls between the IPP Client and the server, you may have to make some changes to the firewall configuration. IPP uses TCP port 631 for printing, so any firewalls between client and server must be configured to allow bi-directional traffic on that port. Please consult your network administrator if you think any configuration changes are necessary.

IPP Compliance

The Axis print server with integrated IPP is compatible with any 1.0 and 1.1 compliant IPP client. The AXIS 5600 Print Server presents IPP Printer objects to the client, one for each printer port.

Note:

- Axis firmware including IPP can be down-loaded free of charge from the Axis website http://www.axis.com.
- The details on how to print will vary between different IPP clients. Please refer to your client documentation for more specific information.
Address Schemes

When using IPP printing, you need to know the IP address or host name of your IPP-enabled Axis print server. The AXIS 5600 Print Server supports the http: address scheme (which is used in the IPP 1.0 standard), and the ipp: address scheme (used in the IPP 1.1 standard).

The examples given below assume that the host name of the Axis print server is axisps and that the corresponding IP address is 12.100.110.2.

Example

http: address schemes.

<table>
<thead>
<tr>
<th>IPP address using host name</th>
<th>IPP address using IP address</th>
<th>Corresponding printer</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://axisps:631/LPT1">http://axisps:631/LPT1</a></td>
<td><a href="http://12.100.110.2:631/LPT1">http://12.100.110.2:631/LPT1</a></td>
<td>Printer attached to the LPT1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>parallel port</td>
</tr>
<tr>
<td></td>
<td></td>
<td>parallel port</td>
</tr>
<tr>
<td><a href="http://axisps:631/COM1">http://axisps:631/COM1</a></td>
<td><a href="http://12.100.110.2:631/COM1">http://12.100.110.2:631/COM1</a></td>
<td>Printer attached to the COM1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>serial port</td>
</tr>
</tbody>
</table>

Note that the IPP port number (631) should be specified in the http: address scheme.

Example

ipp: address schemes.

<table>
<thead>
<tr>
<th>IPP address using host name</th>
<th>IPP address using IP address</th>
<th>Corresponding printer</th>
</tr>
</thead>
<tbody>
<tr>
<td>ipp://axisps/LPT1</td>
<td>ipp://12.100.110.2/LPT1</td>
<td>Printer attached to the LPT1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>parallel port</td>
</tr>
<tr>
<td>ipp://axisps/LPT2</td>
<td>ipp://12.100.110.2/LPT2</td>
<td>Printer attached to the LPT2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>parallel port</td>
</tr>
<tr>
<td>ipp://axisps/COM1</td>
<td>ipp://12.100.110.2/COM1</td>
<td>Printer attached to the COM1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>serial port</td>
</tr>
</tbody>
</table>
How It Works

In order to print using IPP, you need to be able to access a printer which is connected to the AXIS 5600 with integrated IPP. Once you have access to the destination printer, you are ready to print to the printer of your choice via for example the Internet.

The URL for the destination printer is defined in the print server host name, the port number and the local printer name, in that order. When using IPP printing over the Internet with the AXIS 5600, the host name used for the Axis print server could be “axisps”, for example. The port number used is 631, followed by the local printer name (Ex. LPT1).

A walk-through example of the IPP printing process is perhaps the best way to describe the IPP functionality:

1. As a LAN-user in a Windows environment, you wish to print a document on a color printer which is integrated in another LAN and located in another city.

2. Proceed with selecting the IPP printer to which you want to send your document from your Printer Name list (in File | Print). The name structure of the printer begins with http://axisps:631/....

3. If your destination printer URL does not exist in your Printer Name list, you need to add it. (See the examples below for Windows environments).

4. When you press Print, the print job is sent over the Internet to the AXIS 5600 print server which sends the job to the destination printer.
Adding an IPP printer in Windows ‘95

In this example we will assume the printer's http address is http://axisps:631/LPT1:

To add a destination printer for IPP printing in Windows ‘95:

1. Open Start | Settings | Printers.
2. Choose Add Printer. The Add Printer Wizard will start.
3. Choose Network Printer.
4. In the Network Path or Queue name field, write the http address of the destination printer (http://axisps:631/LPT1). If you do not have the appropriate printer driver installed on your computer, the Installation Wizard will ask you to select one:
5. Specify your printer from the printer list. Click Next.
6. The printer driver corresponding to your printer will be installed.
7. Click Finish when done.

For information on how to use IPP in other environments, please refer to the documentation supplied with your IPP client.
Example

Adding an IPP printer in Windows ‘98

In this example we will assume the printers’ http: address is http://axisps:631/LPT1:

To add a destination printer for IPP printing in Windows ‘98:

1. Open Start | Settings | Printers.
2. Choose Add Printer. The Add Printer Wizard will start.
3. Choose Network Printer.
4. In the Network Path or Queue name field, write the http: address of the destination printer (http://axisps:631/LPT1). If you do not have the appropriate printer driver installed on your computer, the Installation Wizard will ask you to select one:
5. Specify your printer from the printer list. Click Next.
6. The printer driver corresponding to your printer will be installed.
7. Click Finish when done.

For information on how to use IPP in other environments, please refer to the documentation supplied with your IPP client.
Example

Printing to an IPP printer in Windows 2000

In this example we will assume the printers' http: address is http://axisps:631/LPT1.

If you want to print via IPP from Windows 2000:

1. Choose File | Print.

2. If you need to enter a new destination printer, click Find Printer in the Select Printer frame.

3. Enter the printer http: address in the URL or Printer field (http://axisps:631/LPT1). Click OK. If you do not have the appropriate printer driver installed on your computer, the Installation Wizard will ask you to select one.

4. Specify your printer from the printer list. Click OK.

5. The printer driver corresponding to your printer will be installed. Click Finish.

6. Print as usual.

For information on how to use IPP in other environments, please refer to the documentation supplied with your IPP client.