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Server Direct Print
User's Manual

Overview

Describes the operating environment and system configuration of Server Direct Print.

Sample Program

Describes how to use the sample program and how to configure the system.

Request and Response

Describes the requests and responses of Server Direct Print.

Status Notification

Describes the Status Notification function.

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Key to Symbols

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⚠	Provides information that must be observed to avoid damage to your equipment or a malfunction.
✎	Provides important information and useful tips.

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About this Manual

Aim of the Manual

This manual presents information that is necessary information for using the TM-Intelligent.

The TM-Intelligent series in this manual is a generic term for the TM-DT series and TM-i series.

The TM-DT series in this manual is a generic term for the following printers.

- TM-T88V-DT
- TM-T70II-DT
- TM-H6000IV-DT

The TM-i series in this manual is a generic term for the following printers.

- TM-T88V-i
- TM-T70-i
- TM-T20II-i
- TM-T82II-i
- TM-T83II-i
- TM-L90-i

Manual Content

The manual is made up of the following sections:

Chapter 1   Overview

Chapter 2   Sample Program

Chapter 3   Request and Response

Chapter 4   Status Notification

Contents

Overview

This chapter describes the overview of Server Direct Print and Status Notification.

Overview of Server Direct Print

Server Direct Print function enables the TM intelligent printer (TM-i and TM-DT) to obtain the print data from the Web server and print the data. The Web server application performs printing by including print data in the response to a print request from the TM intelligent printer.
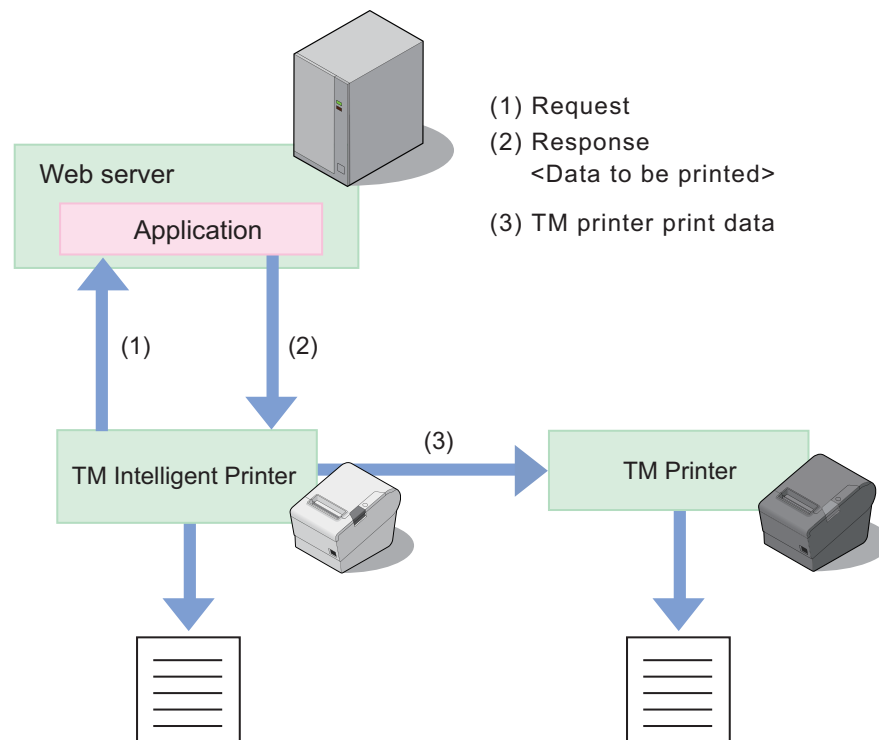
TM intelligent printer periodically sends a print request ((1) in the figure above) to the Web server.

The Web server application includes print data in the response ((2) in the figure above) to a print request from the TM intelligent printer. (When no print data exists, the Web server returns an empty response.)

If print data for the TM printer is included in a response, the TM intelligent printer controls the TM printer in order to do the printing ((3) in the figure above).

The print data can be printed in the ePOS-Print XML format.

Upon receipt of a response of print data including print layout from the Web server application, the TM intelligent printer converts the ePOS-Print XML format into the print layout and prints it.

If the spooler is enabled in the TM intelligent printer, print data can be saved in the spooler, which allows an operation in which the next print request can be processed regardless of the printer status. [1]

In a system consisting of multiple printers, if forwarding is set in the TM intelligent printer, print data can be printed from another printer when it cannot be printed from the printer. [1] [2]

[1] : For TM-i Firmware Ver.4.1 or later of the TM-i series. Not supported by the TM-DT series.

[2] : When forwarding is set in the TM intelligent printer.

Difference from General Printing System

In general printing systems, the application sends a print instruction to the printer.

With Server Direct Print, the printer sends an Inquiry of print request to the Web application, and the Web application returns a response that has print data included in it.

Traditional Printing

Server Direct Print

Computer

Application

Specifies a printer

Print layout data

TM Printer

Print data

Web Server

Application

Global IP Address

TM Intelligent Printer
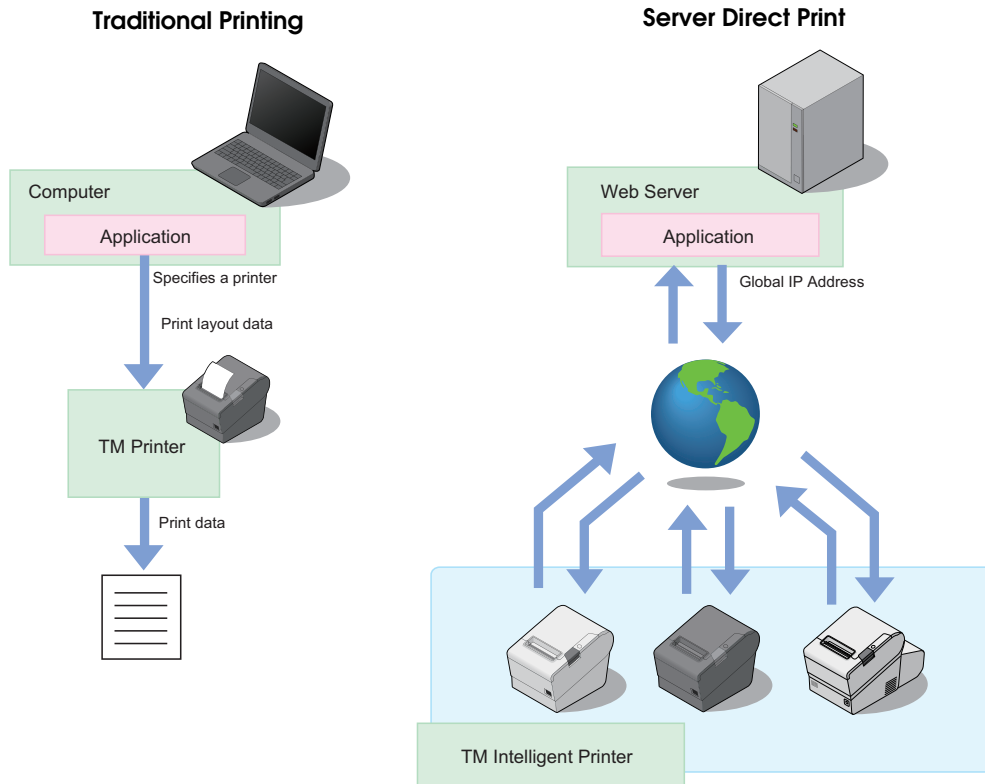
Printing Process

1   TM intelligent printer asks the Web server whether data to be printed exists.

2   When data to be printed exists, the Web server application creates an XML-format response containing the data to be printed, and returns it to the TM intelligent printer.
When no data to be printed exists, an empty response is returned.

3   TM intelligent printer prints the data to the specified printer.

4   TM intelligent printer sends a request (printing result) to check whether the data was printed properly. *

5   Upon receipt of the printing result, the application performs the required process. The Web server automatically responds with an empty response.

*: If the spooler is enabled in the TM intelligent printer, a request (print result) is returned upon receipt of a response (print request) (for TM-i Firmware Ver.4.1 or later of the TM-i series).

The printing flow is as follows:
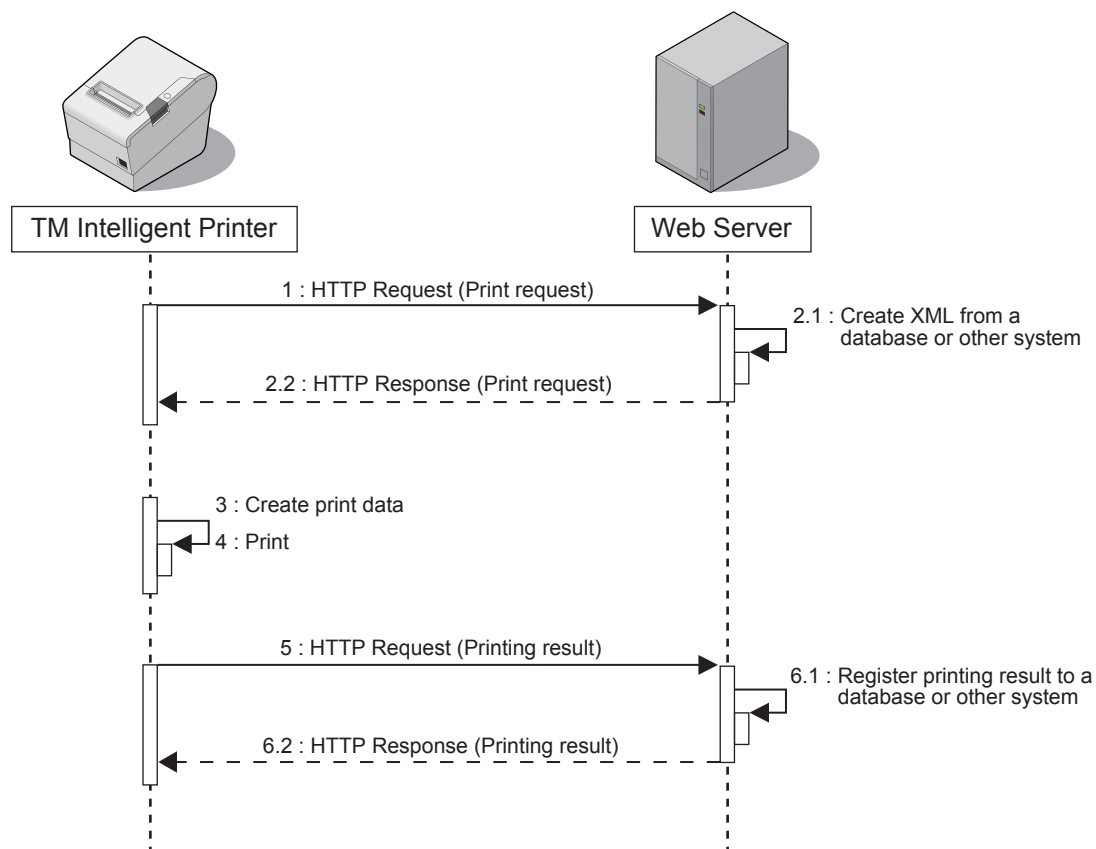
Overview of Status Notification

Status Notification is the function used to periodically notify the printer status to the Web server. The web server registers status from TM intelligent printer to database, then responds with an empty response to TM intelligent printer.

Operating the printer management application created by the user with the Web server enables grasp of the status of the printers installed in a shop from a remote place.
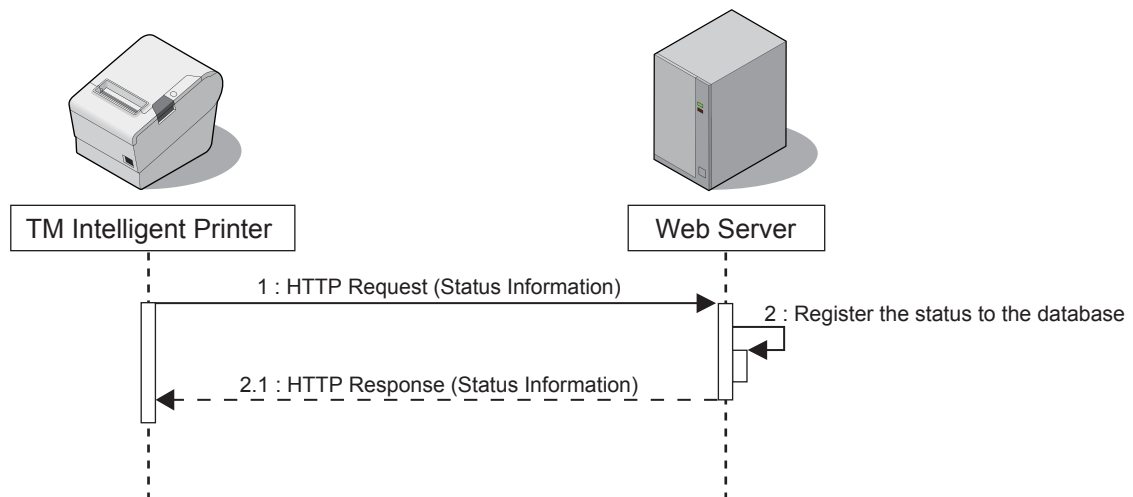
Operating Environment

How to Access the Web server

How to access	TM-DT	TM-i
Proxy server	✔*1	✔*2
Proxy authentication	-	✔*2
Digest authentication	✔*3	✔*2
HTTPS communication	✔*4	✔*2
HTTPS communication with server authentication	-	✔*2

✔ : Supported, - : Not supported

*1: Available only for Web contents automatic updating

*2: TM-i firmware Ver.4.0 or later

*3: Available only for Server Direct Print and Status Notification

*4: ePOS-Device Ver.2.2 or later (TM-DT software Ver.2.2)

Number of URLs accessible for Server Direct Print

Model	Version	Number of URLs accessible
TM-DT		1
TM-i	TM-i firmware Ver.4.0 or later	3
	TM-i firmware Ver.3.x or earlier	1

TM Intelligent Printer

TM Intelligent Printer		ePOS-Print
TM-DT	TM-T88V-DT TM-T70II-DT TM-H6000IV-DT	ePOS-Device Ver.2.2 or later
TM-i	TM-T88V-i TM-T70-i TM-T20II-i TM-T82II-i TM-T83II-i TM-L90-i	TM-i firmware Ver.3.0 or later

> For details about how to check the version of TM-i Firmware and of ePOS-Device, refer to the Technical Reference Guide for each printer.

TM Printer

TM printers that can be controlled via the TM intelligent printer.

Available TM printers are different depending on the version of the TM-i firmware or TM-DT software installed in the product. For details, refer to the Technical Reference Guide for each printer.

Contents In the Package

Manual

❏ Server Direct Print User's Manual (This Document)
❏ Technical Reference Guide for each printer

Sample Program

File name	Description
SDP_Sample_Vx.x.xE.zip	Contains a sample program for Server Direct Print.
epsonsample.zip	Contains a sample program for ePOS-Print XML.
README.txt	Describes the changes from the previous version.

Utility

Used to register NV logo to the printer.

Utility		TM printer
Utility specialized for each model	TM-T88V Utility	• TM-T88V-DT, TM-T88V-i
	TM-T70II Utility	• TM-T70II-DT
	TM-H6000IV Utility	• TM-H6000IV-DT
	TM-T20II Utility	• TM-T20II-i
	TM-T82II Utility	• TM-T82II-i
	TM-T83II-i Utility	• TM-T83II-i
Logo registration utility (TMFLogo)		• TM-L90-i
		• TM-T70-i

> For the utility to register the NV logo to a printer other than the TM intelligent printer, refer to the Technical Reference Guide for each printer.

Download

For customers in North America, go to the following web site:

http://www.epsonexpert.com/ and follow the on-screen instructions.

For customers in other countries, go to the following web site:

https://download.epson-biz.com/?service=pos

Restriction

❏ If power is restored the device or the cover is open during printing, printing may not occur properly.

❏ To turn the device power off and on, be sure to allow an interval of five seconds or more between power off and on.

❏ Use a switching hub to connect the device.
If no switching hubs are used, the device in online status is more likely to be judged as offline depending on the traffic condition.

❏ Drawer open operates when the TM intelligent printer is in online status (when the roll paper is loaded and the roll paper cover is closed).
If you are using a TM-i (TM-i firmware Version 3.0 or later)/ TM-DT (TM-DT software Version 2.2 or later), if you designate forced transmission mode with ePOS-Print XML, it will operate offline.

❏ When the specified timeout time has passed after printing starts, the printing is canceled, but the data recognized by the printer before print cancelling process starts is printed.

Sample Program

This chapter describes how to use the sample program for Server Direct Print.

> • In this chapter, a system configuration using a Web server is explained as an example.
> • In this chapter, the Web server is described as a Web server configured with IIS (Microsoft Internet Information Services).
>   When using other environment, interpret the descriptions accordingly.

Overview

Use the sample program screen to enter orders. The Web server sends a response containing print data for a request sent from the TM intelligent printer. The TM intelligent printer uses the returned response data to print a delivery slip to the main unit and two pieces of cooking slip to the TM printer. The print results appear on the screen.

Version 1.00
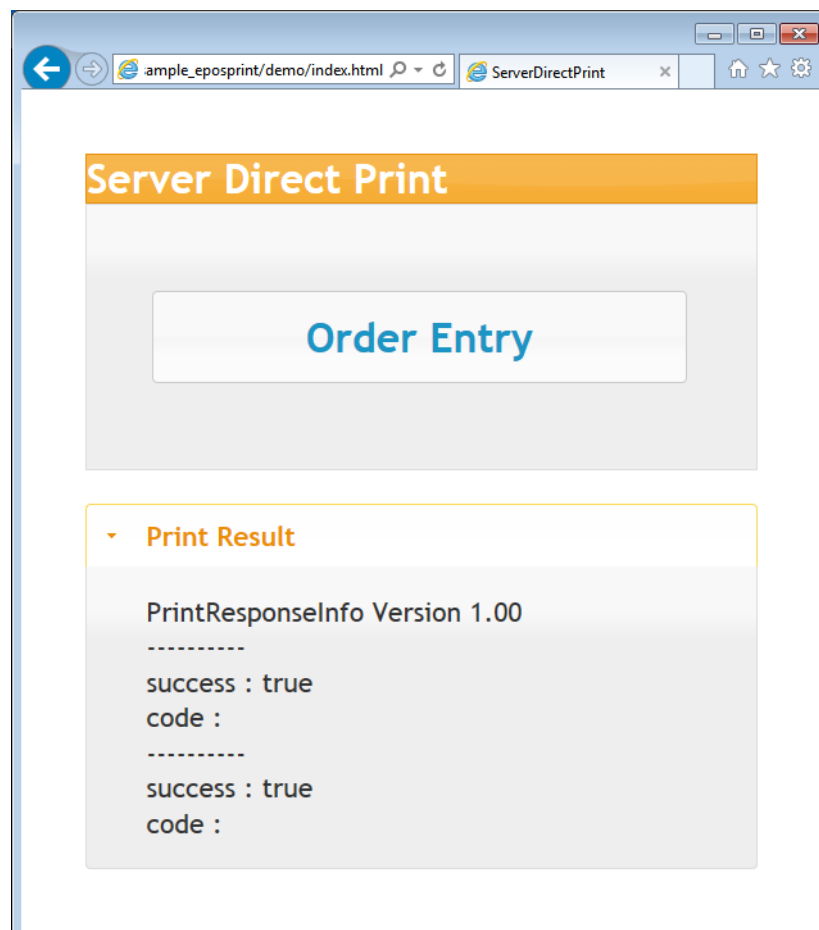
Version 2.00

Specification of Version 2.00 is available in the TM-i Firmware Ver.4.1 or later.
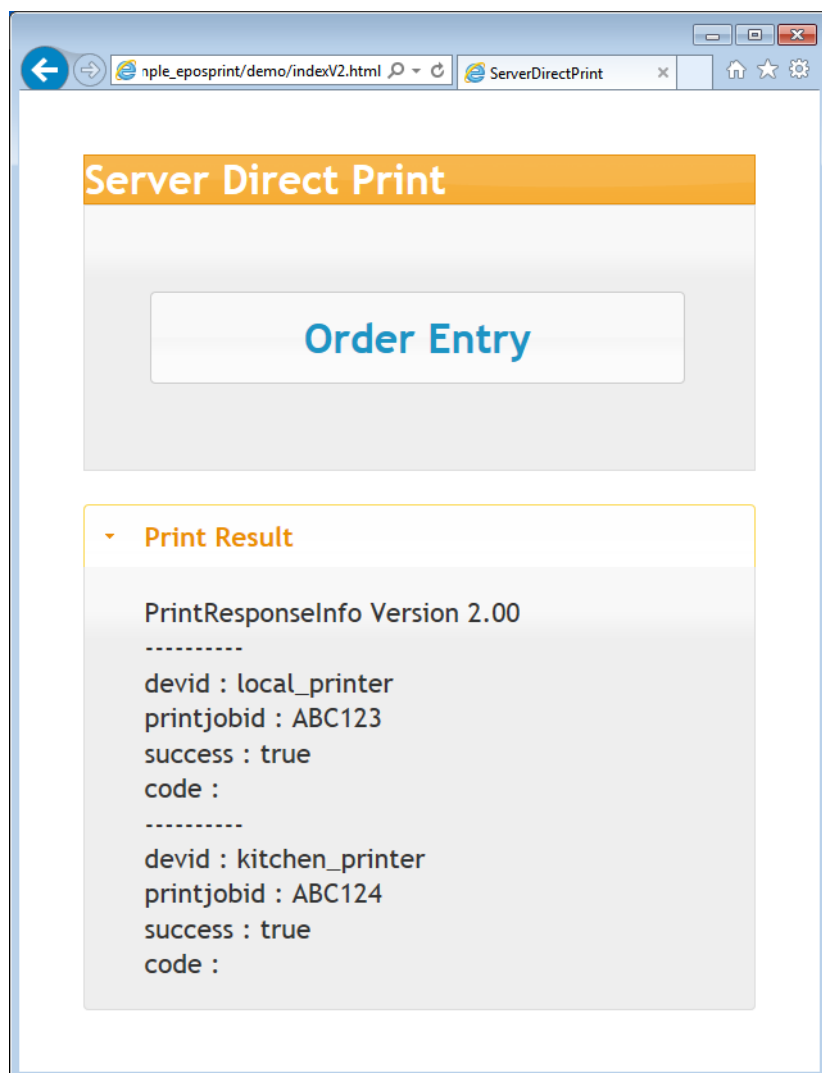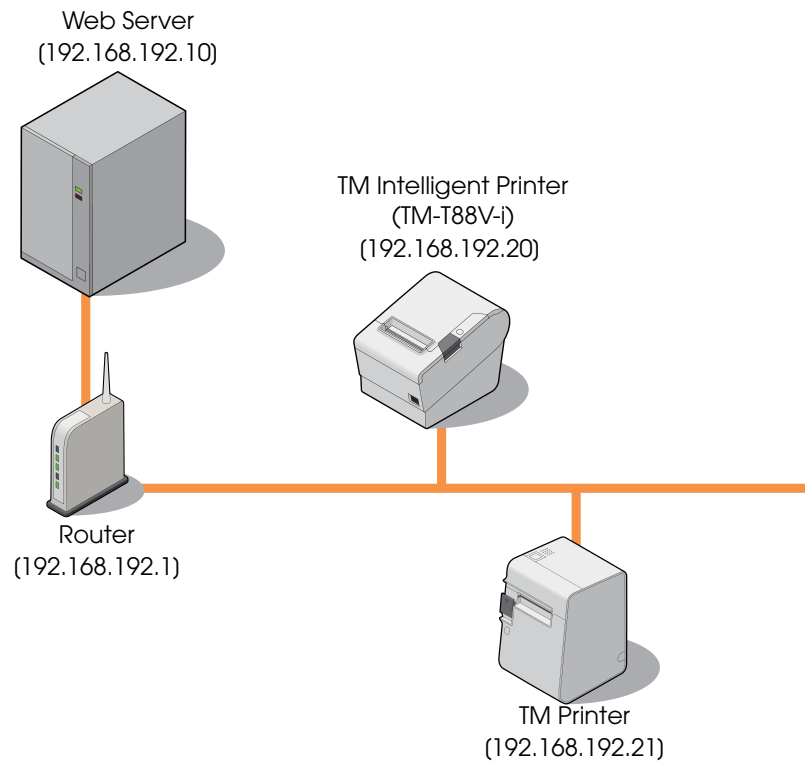
Hardware Configuration

The system configuration of the sample program is as shown below.

Web Server
(192.168.192.10)

TM Intelligent Printer
(TM-T88V-i)
(192.168.192.20)

Router
(192.168.192.1)

TM Printer
(192.168.192.21)

❏ Web Server
 (Its operation has already been checked using IIS and XAMPP.)

❏ Router

❏ TM Intelligent Printer

❏ TM Printer

File Configuration

File Name		Description
Test_print.php		The server returns a response containing print data when the printer sends a request.
resultPrint.log		The printing result is retained in this file. The file is created after printing.
demo	index.html	Sends a print instruction and displays the printing result. (For Version 1.00)
	sample.xml	The data of response message. (For Version 1.00)
	indexV2.html	Sends a print instruction and displays the printing result. (For Version 2.00)
	sampleV2.xml	The data of response message. (For Version 2.00)

Printing Result

Cooking Slip	Delivery Slip
2 Alt Beer Seat: A-3 `Kitchen` 【New Order】 0001 2013-03-19 13:53 15	**DELIVERY TICKET** Order 0001 Time Mar 19 2013 13:53:15 Seat A-3 Alt Beer $6.00 x 2 $12.00 **TOTAL** **$12.00**

Program Flow

The flow from the initial display to the print completion of the sample program is as shown below.

1. Start the browser.

2. Enter the order.

3. Receive a request from the printer.

4. Responses print data (sample.xml) to the printer.

5. Output the printing result sent from the printer to resultPrint.log after

6. Display the printing result on the screen.
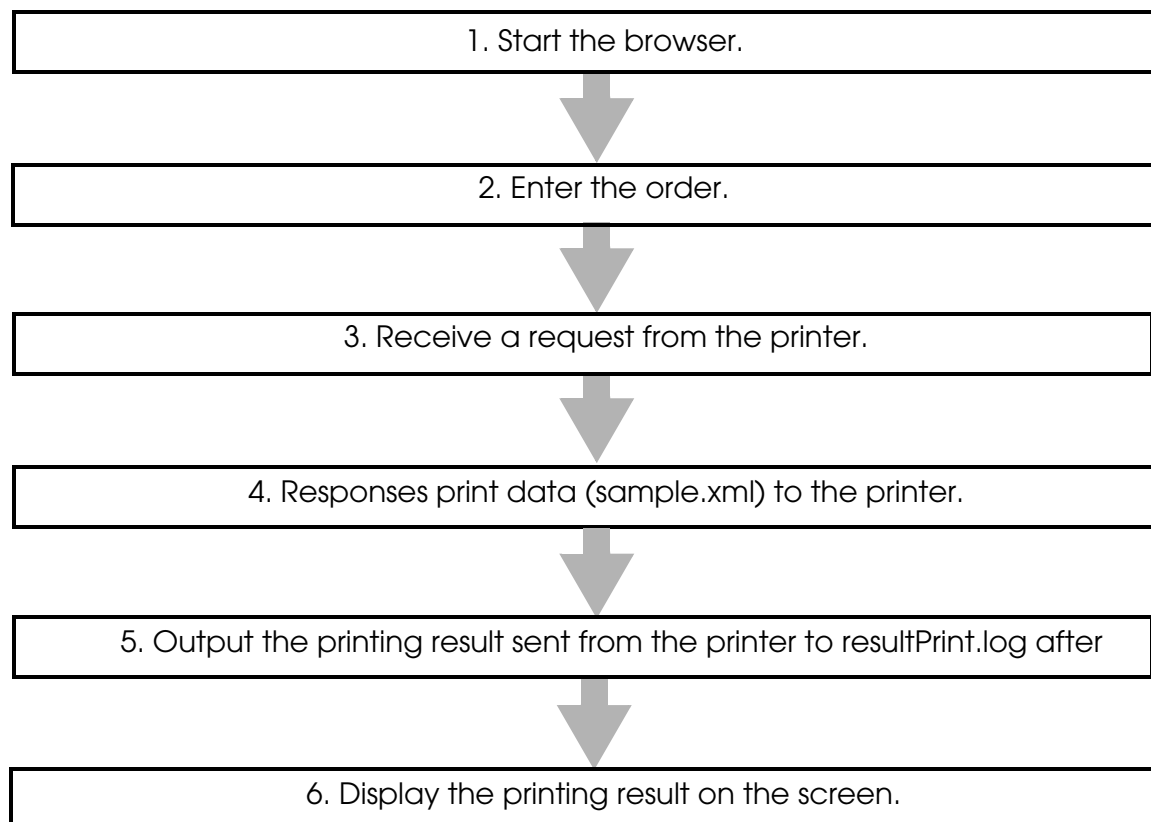
Environment Settings

The environment setting flow of the sample program is as shown below.

1. Router Settings

Set information such as SSID, IP address, DHCP and allocated IP address. For details, see the manual for each device.

2. Web Server Settings

1. Web Server Configuration

Configure IIS and XAMPP in the computer.

2. Sample Program Configuration (p.20)

Save the sample program files in the computer.

3. Network Settings

Configure the network settings such as IP address to the computer.

3. TM Printer Network Settings

Configure the network settings such as IP address to the TM printer to be connected.
Configure the network settings such as IP address to the printer by using EPSON TMNet WebConfig from a Web browser on the setup computer.
For the configuration procedure, refer to the Technical Reference Guide for each TM printer.

2

4.TM Intelligent Printer Settings

❏ TM-i ()

- IP Address Setting
- Server Direct Print Setting (Including Server authentication setting and Proxy server setting)
- Register the TM Printers (Device ID, IP Address)

❏ TM-DT ()

- Initial OS Settings
- Initializing the ePOS-Device
- IP Address Setting
- Service Startup Settings
- Server Direct Print Setting
- Register the TM Printers (Device ID, IP Address)

Sample Program Configuration

Save the sample program files to the Web server.
Save the files directly under the following folders:

Environment	Folder	Saved File
IIS	inetpub\wwwroot	Test_print.php
XAMPP	xampp\htdocs	demo\index.html 　　　\sample.xml (Expansion of epsonsample_eposprint.zip)

> For details about how to create a zip file, refer to the Technical Reference Guide for each printer.

TM Intelligent Printer Settings

TM-i Settings

❏ IP Address Setting   : Refer to the Technical Reference Guide for each printer.

❏ Server Direct Print Setting   :

- Server authentication setting (TM-i Firmware Ver.4.0 or later, available)
- Proxy server setting (TM-i Firmware Ver.4.0 or later, available)

❏ Register the TM Printers   :

Server Direct Print Settings

Configure the Server Direct Print settings by using EPSON TMNet WebConfig.
For TM-i Firmware Ver.4.0 or later, configure the server authentication and the proxy server settings when necessary. For TM-i Firmware Ver.3.x or earlier, the server authentication and proxy server setting are unavailable.

1 Start the Web browser on the setup computer and enter as follows:
For TM-i Firmware Ver.4.0 or later
http://(IP address of the TM-i)/webconfig/
For TM-i Firmware Ver.3.x or earlier
http://(IP address of the TM-i)/PrinterConfigurationPage/

2 EPSON TMNet WebConfig starts.
For TM-i Firmware Ver.4.0 or later, select (Web Service Settings) - (Direct Print).
For TM-i Firmware Ver.3.x or earlier, select (Configuration) - (Direct Print).

3 The "Server Direct Print Setting" screen appears.
Set the following items and click (Submit) / (Apply).
For TM-i Firmware Ver.4.0 or later

Item		Description
Server Direct Print		Select the (Enable).
ID		Set ID for the server-side program to identify TM-i. This ID becomes the user ID used for Digest access authentication. The set value will also be passed as an ID parameter value for the form data posted to the server.
		Not required for the sample program.
Password		Set your password used for Digest access authentication.
		Not required for the sample program.
Server 1	URL	Specify the Test_print.php address of the Web server.
		Example: http://(IP address of the Web server)/Test_print.php
		Click the (Access Test) button to check if the address is accessible.
	Interval(s)	Set the request interval.
		Request interval refers to the interval between the end of the previous communication and the start of the next communication.
Authenticate Server		Sets whether the server authentication is performed with the registered certificate when accessed through https.

For TM-i Firmware Ver.3.x or earlier

Item	Description
Server Direct Print	Select the (Enable).
ID	Set ID for the server-side program to identify TM-i. This ID becomes the user ID used for Digest access authentication. The set value will also be passed as an ID parameter value for the form data posted to the server. Not required for the sample program.
Password	Set your password used for Digest access authentication. Not required for the sample program.
URL	Specify the Test_print.php address of the Web server. **Example: http://(IP address of Web server)/Test_print.php** Click the (Access Test) button to check if the address is accessible.
Interval(s)	Set the request interval. Request interval refers to the interval between the end of the previous communication and the start of the next communication.

4 When using the proxy server, select (System Settings) - (Proxy).

5 The "Proxy" screen appears. Set the following items, then click (Apply).

Item		Description
Proxy URL and Port Number		Enter the proxy server URL and port number in the following: "http://host name: port number". Example: **http://10.0.0.1:8008**
ID		Registers the proxy authentication ID.
Password		Registers the proxyauthentication password.
Enable Proxy for following services	Automatic Update	Sets whether the proxy is used for automatic update of Web contents.
	Direct Print	Sets whether the proxy is used for Server Direct Print.
	Status Notification	Sets whether the proxy is used for Status Notification.

Registration of TM Printer

Register the device ID and IP address of the controlled TM printer to TM-i. Use EPSON TMNet WebConfig to register the device ID.

> ⚠️
> - TM-i printer cannot be deleted from the device.
> - The device ID of TM-i printer can be changed.

1 Connect all TM printers to the network and power on.

2 EPSON TMNet WebConfig starts.
For TM-i Firmware Ver.4.0 or later, select (Web Service Settings) - (Direct Print).
For TM-i Firmware Ver.3.x or earlier, select (Configuration) - (Direct Print).

3 The "Printer" / "Device Settings" screen appears.
Set the following items and click (Add) / (Submit).

Item	Description
Device ID	Set the ID for the controlled printer. (Any character string)
Model	Select the model for the controlled printer.
IP Address	Set the printer IP address for each device ID.
Retry Interval (ms)	Set the timeout retry interval. Specify "100".

4 The information of the registered device is displayed.
Click (Test Print) to check if the registered printer operates properly.

TM-DT Settings

Configure the following settings to TM-DT.

❏ Initial OS Settings : Refer to the Technical Reference Guide for each printer.

❏ Initializing the ePOS-Device : Refer to the Technical Reference Guide for each printer.

❏ IP Address Settings : Refer to the Technical Reference Guide for each printer.

❏ Service Startup Settings :

❏ Server Direct Print Settings :

❏ Registration of TM Printer :

Service startup settings

To make service startup settings, use EPSON TMNet WebConfig and the following procedure.

1 Start EPSON TMNet WebConfig from the shortcut on the desktop.
EPSON TMNet WebConfig starts.

> If you are making settings from an external device, set the TM-DT IP address in the address for the Web browser. The default IP address for TM-DT is 192.168.192.168.
> http://[IP address of the TM-DT]/webconfig/

2 Select as (Settings)-(Web service settings)-(Startup settings).

3 The "Startup settings" screen appears.
Set the following according to the system you are using, and then click (Apply).

Item	Description	Setting
Device control	Sets whether to use TM-DT to control peripheral POS devices.	On (Default)
Automatic update of web content	Sets whether to automatically update web content.	Off
Server direct print	Sets whether to use server direct print.	On
Status notification	Sets whether to send status notification when using the server direct print function.	On/Off

Server Direct Print Settings

Configure the Server Direct Print settings using EPSON TMNet WebConfig.

1   EPSON TMNet WebConfig starts.
Select as (Settings)-(Web service settings)-(Direct print).

2   The "Server direct print" screen appears.
Set the following items and click (OK).

Item	Description
ID	Set ID for the server-side program to identify TM-DT. This ID becomes the user ID used for Digest access authentication. The set value will also be passed as an ID parameter value for the form data posted to the server. Not required for the sample program.
Password	Set your password used for Digest access authentication. Not required for the sample program.
URL	Specify the Test_print.php address of the Web server. **Example: http://(IP address of the Web server)/Test_print.php** Click the (Access Test) button to check if the address is accessible.
Intercal (sec)	Set the request interval. Request interval refers to the interval between the end of the previous communication and the start of the next communication.

Registration of TM Printer

Register the device ID and IP address of the controlled TM printer to TM-DT. Use EPSON TMNet WebConfig to register the device ID. This printer is already registered with the "local_printer" device ID, and therefore this setting is not required.
Use the following procedure for registration.

1   Connect all TM printers to the network and power on.

2   EPSON TMNet WebConfig starts.
Select as (Settings)-(Web service settings)-(Printer).

3   The "Printer" screen appears.
Set the following items and click (Add).

Item	Description
Device ID	Set the ID for the controlled printer. (Any character string)
Model no.	Select the model for the controlled printer.
IP address	Set the printer IP address for each device ID.
Retry interval (ms)	Set the timeout retry interval. Specify "100".

4   The information of the registered device is displayed in "Registered printers".
Click (Test Print) to check if the registered printer operates properly.

Execution of Sample Program

1   Using EPSON TMNet WebConfig, confirm that Server Direct Print settings are valid.

2   Open the sample program page from the Web browser.
Example: **http://(IP address of the Web server)/demo/index.html**

3   Click (Order Entry).

4   In response to a request from the TM intelligent printer, print data is sent and a slip is printed from the printer.

5   resultPrint.log is created from the printing result sent from the TM intelligent printer and the printing result is displayed on the screen.

Request and Response

This chapter describes requests from the TM intelligent printer and responses from the Web server.
User's application can start printing by returning a response containing print data to a HTTP POST request (print request) from the printer.
It can also check if printing is properly finished by analyzing a HTTP POST request (print request) from the printer.

Request (Print Request)

This section describes the request (print request) from the TM-i.
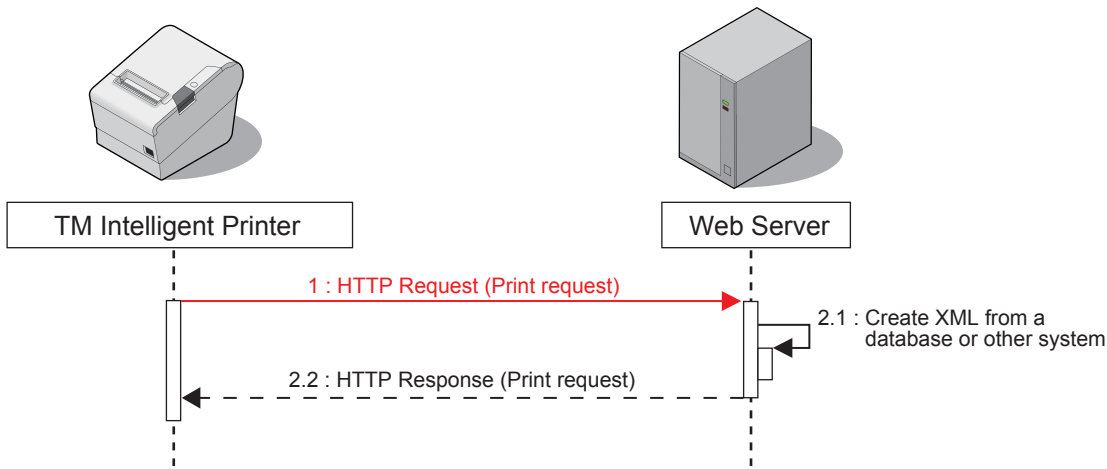
TM intelligent printer periodically sends a HTTP POST request (print request) shown below.
The format of request message is URL-encoded form data (application/x-www-form-urlencoded).
Set the sending destination and sending interval according to "Server Direct Print Settings" (p. 21).
If communication fails, it is attempted again after a specified interval.

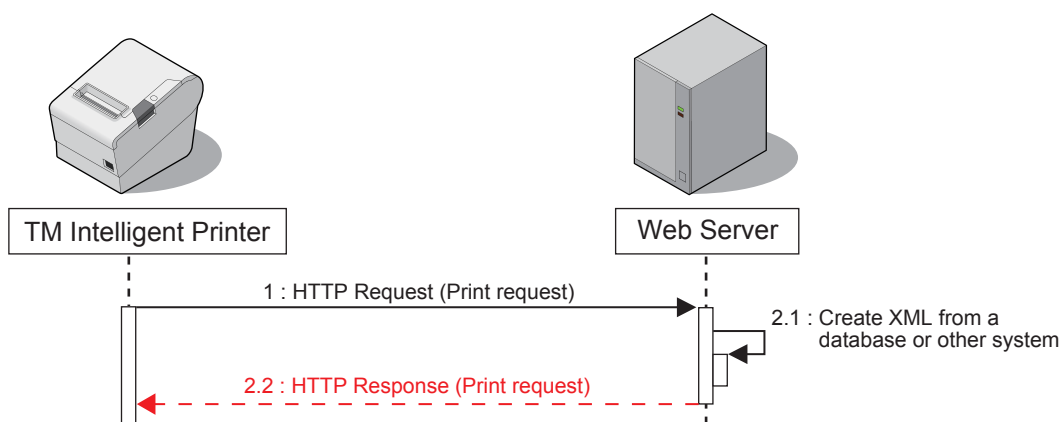| Parameter	Value
ConnectionType	GetRequest
ID	The ID set with WebConfig (p. 21)

Header
```
POST /demo/Test_print.php HTTP/1.1
Host: 192.168.192.10
Content-Type: application/x-www-form-urlencoded
Content-Length: 29
```

ConnectionType=GetRequest&ID=

Response (Print request)

This section describes the response (print request) containing the print data from the Web server.

Response data created in XML(text/xml) from the application is returned. The data also contains print data.
When an invalid print request is received, the server retries a request (print request) after a specified interval.

Format of the response message

```
HTTP/1.1 200 OK
Content-Type: text/xml; charset=utf-8
Content-Length: xxx

<?xml version="1.0" encoding="utf-8"?>
<PrintRequestInfo>
        .
        .
        .
</PrintRequestInfo>
```

Print Data

Basic Configuration

```
HTTP/1.1 200 OK
Content-Type: text/xml; charset=utf-8
Content-Length: xxx

<?xml version="1.0" encoding="utf-8"?>
<PrintRequestInfo>
    <ePOSPrint>
            .
            .
            .
    </ePOSPrint>

    <ePOSPrint>
            .
            .
            .
    </ePOSPrint>
</PrintRequestInfo>
```

<ePOSPrint> tag
Print request 1

<ePOSPrint> tag
Print request 2

Note: Enclosing the ePOSPrint tag in the PrintRequestInfo tags enables sending multiple print requests to the printer.

Print Data Configuration

Print data consists of the <Parameter> tag and the <ePOSPrint> tag.
Describe the print data in the ePOS-Print format and specify the data to the <epos-print> tag. For ePOS-Print XML reference, see Chapter 4 "ePOS-Print XML Reference" in "ePOS-Print XML User's Manual".

<Parameter>tag

<ePOSPrint>tag

```
HTTP/1.1 200 OK
Content-Type: text/xml; charset=utf-8
Content-Length: xxx

<?xml version="1.0" encoding="utf-8" ?>
 <PrintRequestInfo>
   <ePOSPrint>
     <Parameter>
     <devid>local_printer</devid>
     <timeout>10000</timeout>
     </Parameter>
     <PrintData>
     <epos-print xmlns="http://www.epson-pos.com/schemas/2011/03/epos-print">
     <text lang="en" />
     <text smooth="true" />
     <text align="center" />
     <text font="font_b" />
     <text width="2" height="2" />
     <text reverse="false" ul="false" em="true" color="color_1" />
     <text>DELIVERY TICKET</text>
     <feed unit="12" />
     <text></text>
     <text align="left" />
     <text font="font_a" />
     <text width="1" height="1" />
     <text reverse="false" ul="false" em="false" color="color_1" />
     <text>Order 0001</text>
     <text width="1" height="1" />
     <text reverse="false" ul="false" em="false" color="color_1" />
     <text>Time Mar 19 2013 13:53:15</text>
     <text>Seat A-3</text>
     <text></text>
     <text width="1" height="1" />
     <text reverse="false" ul="false" em="false" color="color_1" />
     <text>Alt Beer</text>
     <text>$6.00 x 2</text>
     <text x="384" />
     <text>$12.00</text>
     <text></text>
     <text reverse="false" ul="false" em="true" />
     <text width="2" height="1" />
     <text>TOTAL</text>
     <text x="264" />
     <text>$12.00</text>
     <text reverse="false" ul="false" em="false" />
     <text width="1" height="1" />
     <feed unit="12" />
     <text align="center" />
     <barcode type="code39" hri="none" font="font_a" width="2" height="60">0001
                  </barcode>
     <feed line="3" />
     <cut type="feed" />
     </epos-print>
     </PrintData>
   <ePOSPrint>
 <PrintRequestInfo>
```

When Specifying the Print Job ID

Specification of print job ID is available in the TM-i series (TM-i Firmware Ver.4.1 or later).

When specifying the print job ID, specify Version="2.00" for the <PrintRequestInfo> tag.
It is also required to specify the print job ID in the <Parameter> tag.

<PrintRequestInfo> tag —

Specify the print job ID —

```
HTTP/1.1 200 OK
Content-Type: text/xml; charset=utf-8
Content-Length: xxx

<?xml version="1.0" encoding="utf-8"?>
<PrintRequestInfo Version="2.00">
  <ePOSPrint>
    <Parameter>
      <devid>local_printer</devid>
      <timeout>10000</timeout>
      <printjobid>ABC123</printjobid>
    </Parameter>
    <PrintData>
      <epos-print xmlns="http://www.epson-pos.com/schemas/2011/03/epos-print">
            .
            .
            .
      </epos-print>
    </PrintData>
  </ePOSPrint>
</PrintRequestInfo>
```

Print Data Details

Set the <Parameter> tag as shown below.

```
<Parameter>
    <devid>(Device ID used for slip printing)</devid>
    <timeout>(Timeout time (in milliseconds))</timeout>
</Parameter>
```

Example

```
<Parameter>
    <devid>local_printer</devid>
    <timeout>10000</timeout>
</Parameter>
```

When Specifying the Print Job ID

> Specification of print job ID is available in the TM-i series (TM-i Firmware Ver.4.1 or later).

When specifying the print job ID, specify the print job ID in the <Parameter> tag.
The print job ID must have 1 to 30 characters and allowable characters are alphanumerical characters, underscore, hyphen and period.

Specify the print job ID ——

```
<Parameter>
    <devid>local_printer</devid>
    <timeout>10000</timeout>
    <printjobid>ABC123</printjobid>
</Parameter>
```

Response When No Printing Is Performed

When no printing is required, to notify no print data, the following response is returned for a HTTP request (print request) sent from the TM intelligent printer.
See Test_print.php of the sample program.

```
HTTP/1.1 200 OK
Content-Type: text/xml; charset=utf-8
Content-Length: 0
```

Request (Printing Result)

TM intelligent printer sends a HTTP POST request (printing result) shown below after printing.
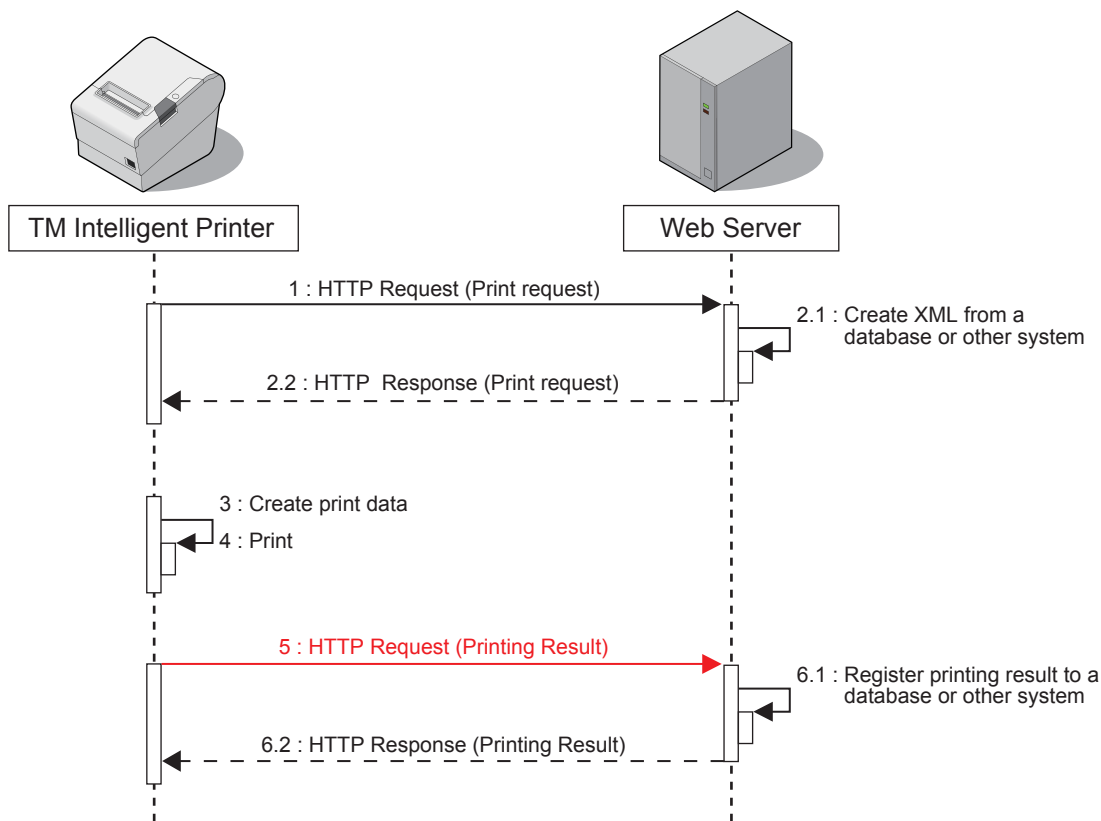
The application can check the printing result (if printing is properly finished) and the printer status by analyzing request data.
If communication fails, it is attempted again after a specified interval.

Format of the request message

```
POST /demo/Test_print.php HTTP/1.1
Host: 192.168.192.10
Content-Type: application/x-www-form-urlencoded
Content-Length: xxx

ConnectionType=SetResponse&ID=&ResponseFile=Printing Result
```

Parameter	Value
ConnectionType	SetResponse
ID	The ID set with WebConfig (p. 21)
ResponseFile	Printing result

Print Result Configuration

Check the <response> tag for the printing result.

<response>tag

```
<?xml version="1.0" encoding="utf-8"?>
<PrintResponseInfo Version="1.00">
#Success
   <response xmlns="http://www.epson-pos.com/schemas/2011/03/epos-print"
success="true" code="" status="251854870" battery="0"/>
#Failed
   <response xmlns="http://www.epson-pos.com/schemas/2011/03/epos-print"
success="false" code="EX_BADPORT" status="1" battery="0"/>
</PrintResponseInfo>
```

When the Print Job ID Is Specified

Specification of print job ID is available in the TM-i series (TM-i Firmware Ver.4.1 or later).

When the print job ID is specified, Version attribute in the <PrintResponseInfo> tag is returned as "2.00".

<PrintResponseInfo> tag

```
<?xml version="1.0" encoding="utf-8"?>
<PrintResponseInfo Version="2.00">
   <ePOSPrint>
     <Parameter>
       <devid>local_printer</devid>
       <printjobid>ABC123</printjobid>
     </Parameter>
     <PrintResponse>
                  .
                  .
                  .
     </PrintResponse>
   </ePOSPrint>
</PrintResponseInfo>
```

3

Print Result Details

<response> tag

Check if the <response> tag indicates "success" or "failed".

Item	Description
true	Success
false	Failed

On failure, an error code is described in "code".

For details, see .

```
<PrintResponseInfo Version="1.00">
#Success
  <response xmlns="http://www.epson-pos.com/schemas/2011/03/epos-print" success="true" code=""
            status="251854870" battery="0"/>
#Failed
  <response xmlns="http://www.epson-pos.com/schemas/2011/03/epos-print" success="false"
            code="EX_BADPORT" status="1" battery="0"/>
</PrintResponseInfo>
```

When the Print Job ID Is Specified

Specification of print job ID is available in the TM-i series (TM-i Firmware Ver.4.1 or later).

When the print job ID is specified, the print job ID is returned in the <Parameter> tag.

```
<?xml version="1.0" encoding="utf-8"?>
<PrintResponseInfo Version="2.00">
  <ePOSPrint>
   <Parameter>
    <devid>local_printer</devid>
    <printjobid>ABC123</printjobid>      ← Print job ID
   </Parameter>
   <PrintResponse>
           .
           .
           .
   </PrintResponse>
  </ePOSPrint>
</PrintResponseInfo>
```

Error code

Request Error

This occurs when the device has a problem. The following table shows errors that can occur.

Errors in Device

Code	Message	Cause
EPTR_AUTOMATICAL	An automatically recoverable error occurred.	Continuous printing of high-density printing
EPTR_BATTERY_LOW	No remaining battery.	No battery
EPTR_COVER_OPEN	The device has a problem.	The cover is open.
EPTR_CUTTER	The device has a problem.	The cutter has a foreign matter.
EPTR_MECHANICAL	The device has a problem.	Mechanical error, etc.
EPTR_REC_EMPTY	There is no paper.	No paper
EPTR_UNRECOVERABLE	An unrecoverable error occurred.	Low voltage
EX_BADPORT	The port is invalid or the device is not connected.	• The registered information is invalid. • The device power is off. • The device is not connected. • Other device control software exists on the system.
EX_TIMEOUT	Timeout occurred.	• The process was not completed within a certain period of time. • A large amount of data was sent with 1 method.

Errors in Models Supporting Spooler

Code	Cause
EX_SPOOLER	No buffer for the print queue
JobNotFound	The specified job ID does not exist
Printing	Printing in progress

3

Response (Printing Result)

The Web server sends a response (print result) upon receipt of print result to the TM intelligent printer.
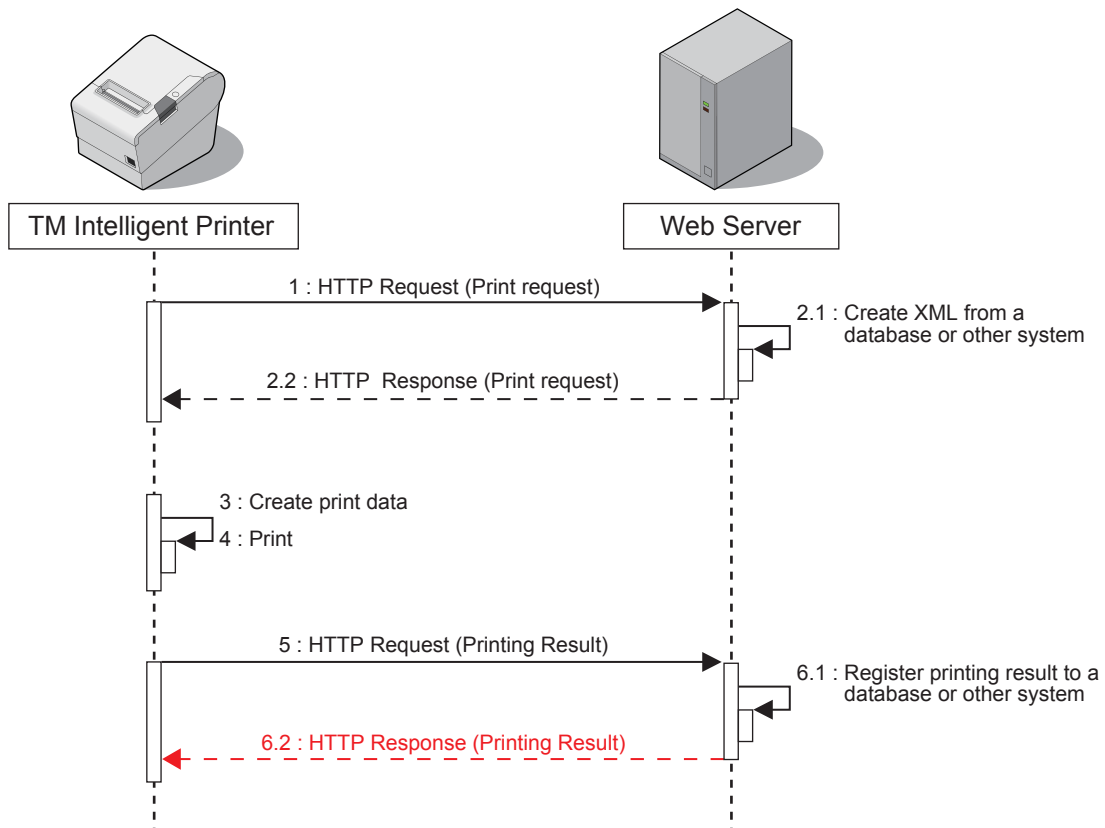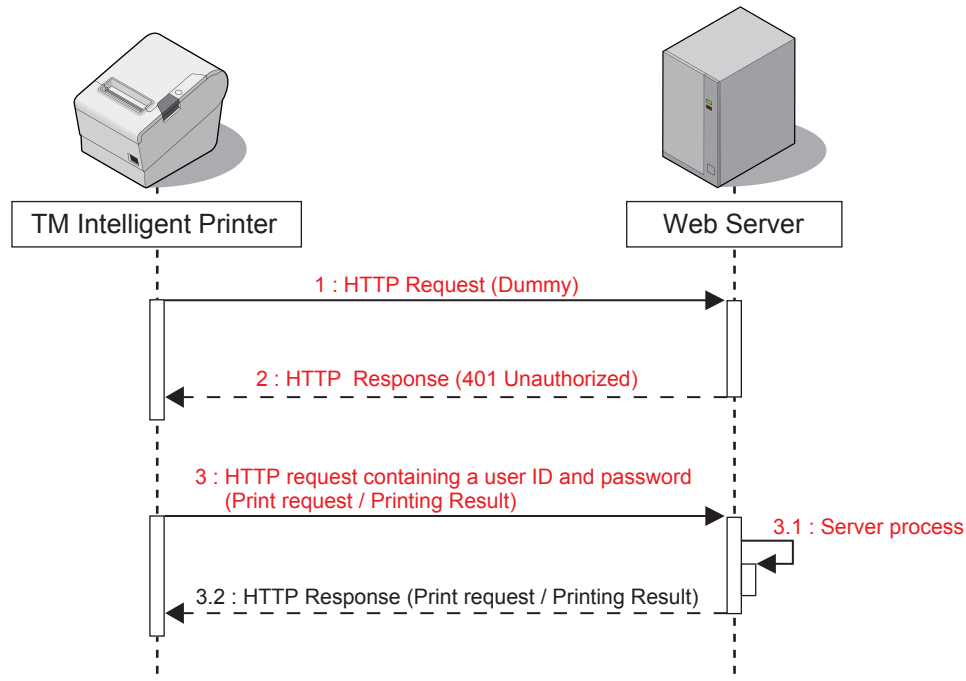

The format of response message is XML(text/xml).

To indicate that the server received the printing result, the Web server returns a response as follows:

```
HTTP/1.1 200 OK
Content-Type: text/xml; charset=utf-8
Content-Length: 0
```

Digest Access Authentication

This section describes the flow and settings for carrying out Digest access authentication with the web server.

For Digest access authentication, the printer sends a dummy HTTP request before sending a print-related request to the server. The server returns a response with HTTP status code "401 Unauthorized". The printer sends a print-related request containing the user ID and password. The server carries out the Digest access authentication process. Once authenticated, the server continues to carry out the print-related process.

Digest Access Authentication Settings

Digest access authentication requires settings for the TM intelligence printer and the server.

TM Intelligent Printer

Use EPSON TMNet WebConfig of TM-i/TM-DT to set your user ID and password required for Digest access authentication.
For details, see "Server Direct Print Settings" for individual TM intelligent printers.

(TM-i: p. 21/ TM-DT: p. 24)

Web Server Settings

For detailed information on how to set Web server's Digest access authentication, see individual Web server documents, etc.

Program Example

See the following programming data (file name: Test_print.php)

```php
<?php

    header('Content-Type: text/xml; charset=UTF-8');

    define("REQUEST_XML_PATH", "demo/request/sample.xml");
    define("RESPONSE_XML_PATH", "demo/response/sample.xml");

    if (isset($_POST["ConnectionType"])) {
        $http_request = $_POST["ConnectionType"];
    }

    if ($http_request == 'GetRequest') {
        # send print data

        # ID
        #
        #
        $shop_id = $_POST["ID"];

        # create print data
        if (file_exists(REQUEST_XML_PATH)) {
            # return print data
            $handle = fopen(REQUEST_XML_PATH, "r");
            fpassthru($handle);
            fclose($handle);

            # move file
            rename(REQUEST_XML_PATH, RESPONSE_XML_PATH);
        }
    } else if ($http_request == 'SetResponse') {
        # get print result

        $xml = simplexml_load_string($_POST["ResponseFile"]);
        $version = $xml['Version'];

        if ($version == '1.00') {

            # save log
            $fhandle = @fopen("ResultPrint.log", "wt");
            fprintf($fhandle, "PrintResponseInfo Version %s\n", $version);
            foreach ($xml->response as $response) {
                fprintf($fhandle, "----------\nsuccess : %s\ncode : %s\n",
            $response['success'], $response['code']);
            }
            fclose($fhandle);

        } else if ($version == '2.00') {

            # save log
            $fhandle = @fopen("ResultPrint.log", "wt");
            fprintf($fhandle, "PrintResponseInfo Version %s\n", $version);
            foreach ($xml->ePOSPrint as $eposprint) {
                $devid = $eposprint->Parameter->devid;
                $printjobid = $eposprint->Parameter->printjobid;
                $response = $eposprint->PrintResponse->response;
                fprintf($fhandle, "----------\ndevid : %s\nprintjobid : %s\nsuccess :
            %s\ncode : %s\n", $devid, $printjobid, $response['success'],
            $response['code']);
            }
            fclose($fhandle);

        } else {
            # Ignore other version
        }

    } else {
        # Ignore other connectionType than GetRequest and SetResponse.
    }
?>
```
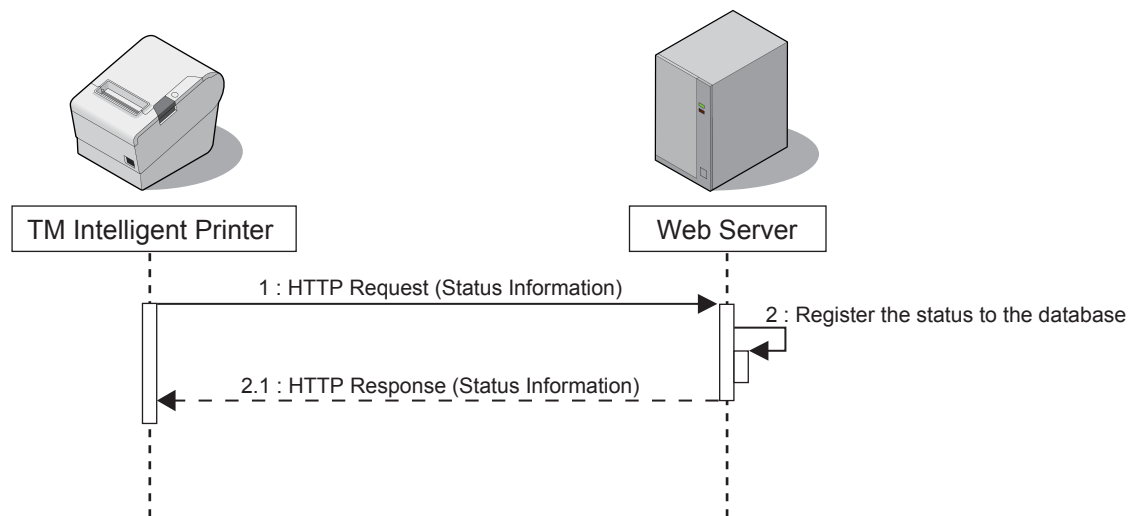
Status Notification

This chapter describes the Status Notification function.

Overview

Status Notification is used to periodically notify the TM intelligent printer status to the Web server. The Web server automatically responds with an empty response.
Operating the printer management application created by the user with the Web server enables grasp of the status of the printers installed in a shop from a remote place.

For TM-DT, enable the following settings in EPSON TMNet WebConfig.
- ePOS-Device
- Service startup settings (p. 24)
- Device control (p. 24)
- Server direct print (p. 25)
- Status notification (p. 24)

4

Overview of Status Notification Sample Program

This program displays the status of the connected printer on the screen.
For the configuration such as Hardware Configuration (p. 17) and Environment Settings (p. 19), the same configuration is used as with the Server Direct Print.

File Configuration

File Name		Description
Test_status.php		Obtains and displays the result in response to a request from the printer.
resultPrint.log		The printing result is retained in this file. The file is created after printing.
demo	indexStatus.html	Displays the printer status.

TM Intelligent Printer Settings

The registration screen will vary according to the model of TM Intelligent printer.

TM-i Settings

Configure the Status Notification settings using EPSON TMNet WebConfig.
Use the following procedure for registration.

1 Connect the printer to the network and turn the power ON.

2 Start the Web browser on the setup computer and enter as follows:
For TM-i Firmware Ver.4.0 or later
http://(IP address of the TM-i)/webconfig/
For TM-i Firmware Ver.3.x or earlier
http://(IP address of the TM-i)/PrinterConfigurationPage/

3 EPSON TMNet WebConfig starts.
For TM-i Firmware Ver.4.0 or later, select (Web Service Settings) - (Status Notification).
For TM-i Firmware Ver.3.x or earlier, select (Configuration) - (Status Notification).

4 The "Status Notification" / "Status Notification Settings" screen appears.
Set the following items and click (Apply) / (Submit).

For TM-i Firmware Ver.4.0 or later

Item	Description
Status Notification	Select the (Enable).
ID	Set ID for the server-side program to identify TM-i. This ID becomes the user ID used for Digest access authentication. The set value will also be passed as an ID parameter value for the form data posted to the server. Not required for the sample program.
Password	Set your password used for Digest access authentication. Not required for the sample program.
URL	Specify the Test_print.php address of the Web server. Example: **http://(IP address of the Web Server)/Test_status.php** Click the (Access Test) button to check if the address is accessible.
Interval(s)	Set the request interval. Request interval refers to the interval between the end of the previous communication and the start of the next communication.
Authenticate Server	Sets whether the server authentication is performed with the registered certificate when accessed through https.

For TM-i Firmware Ver.3.x or earlier

Item	Description
Status Notification	Select the (Enable).
ID	Set ID for the server-side program to identify TM-i. This ID becomes the user ID used for Digest access authentication. The set value will also be passed as an ID parameter value for the form data posted to the server. Not required for the sample program.
Password	Set your password used for Digest access authentication. Not required for the sample program.
URL	Specify the Test_print.php address of the Web server. Example: **http://(IP address of the Web Server)/Test_status.php** Click the (Access Test) button to check if the address is accessible.
Interval(s)	Set the request interval. Request interval refers to the interval between the end of the previous communication and the start of the next communication.

4

TM-DT Settings

Configure the Status Notification settings using EPSON TMNet WebConfig.

1 Connect the TM-DT to the network and turn the power ON.

2 Start EPSON TMNet WebConfig from the shortcut on the desktop.
EPSON TMNet WebConfig starts.

> If you are making settings from an external device, set the TM-DT IP address in the address for the Web browser. The default IP address for TM-DT is 192.168.192.168.
> http://[IP address of the TM-DT]/webconfig/

3 Select as (Settings)-(Web service settings)-(Status notification).
The "Status notification" screen appears.

4 Set the following items and click (Apply).

Item	Description
ID	Set ID for the server-side program to identify TM-DT. This ID becomes the user ID used for Digest access authentication. The set value will also be passed as an ID parameter value for the form data posted to the server. Not required for the sample program.
Password	Set your password used for Digest access authentication. Not required for the sample program.
URL	Specify the Test_print.php address of the Web server. Example: **http://(IP address of the Web Server)/Test_status.php** Click the (Access Test) button to check if the address is accessible.
Interval (sec)	Set the request interval. Request interval refers to the interval between the end of the previous communication and the start of the next communication.

Execution of Sample Program

1   Confirm that Status Notification of TM intelligent printer is set.

2   Open the sample program page from the Web browser.
Example: http://(IP address of the Web Server)/demo/IndexStatus.html

3   The "resultPrint.log" is created from the message from the TM intelligent printer and the result is displayed on the screen.

4
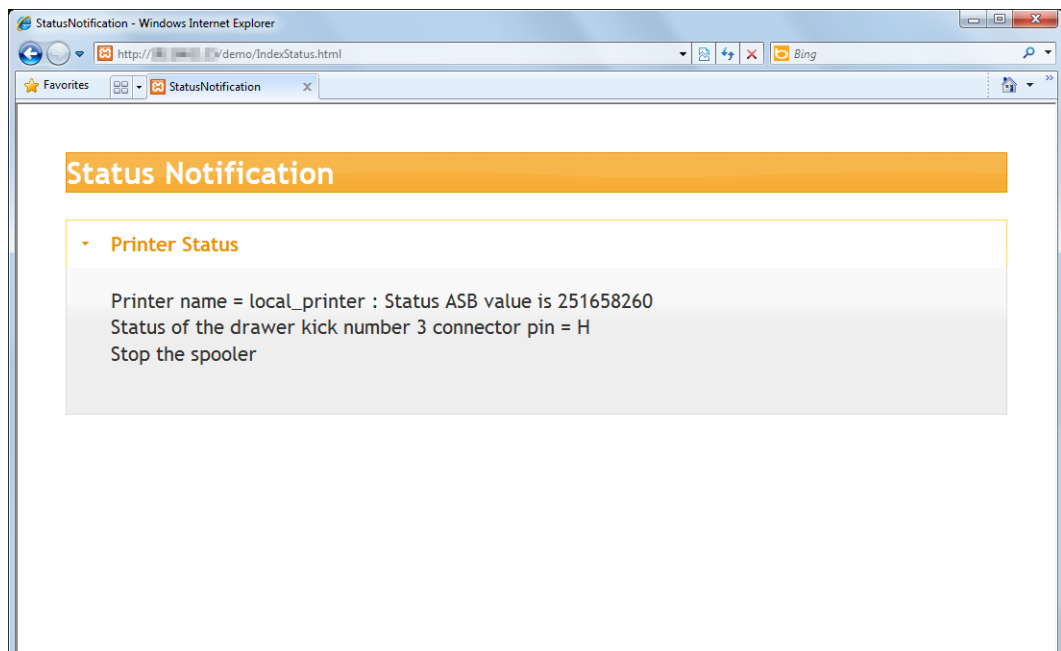
Status Type

The following types of ASB (AutoStatusBack) status can be obtained from the TM-i.

Code	Description
0x00000001	No printer response
0x00000002	Print complete
0x00000004	Status of the drawer kick number 3 connector pin = "H"
0x00000008	Offline status
0x00000020	Cover is open
0x00000040	Paper feed switch is feeding paper
0x00000100	Waiting for online recovery
0x00000200	Paper feed switch is being pressed
0x00000400	Mechanical error occurred
0x00000800	Auto cutter error generated
0x00002000	Unrecoverable error generated
0x00004000	Auto recovery error generated
0x00020000	No paper in the roll paper near end detector
0x00080000	No paper in the roll paper end detector
0x01000000	Buzzer activated (supported model only)
0x80000000	Stop the spooler

Program Example

Refer to the programming below. (File name: Test_status.php)

```php
<?php
  header('Content-Type: text/xml; charset=UTF-8');
  # Open the file to save status.
  $fhandle = @fopen("ResultStatus.log", "wt");

  # Update the printer status.
  if (isset($_POST["Status"])) {
    $status =  $_POST["Status"];
  }
  $xml = simplexml_load_string($status);

  foreach ($xml->printerstatus as $printerstatus) {
          $asb = hexdec($printerstatus['asbstatus']);
          $strmsg = "";
    if (($asb & 0x00000001) == 0x00000001)
    {
          $strmsg .= "  No TM printer response\n";
    }
    if (($asb & 0x00000002) == 0x00000002)
    {
        $strmsg .= "  Print completed \n";
    }
    if (($asb & 0x00000004) == 0x00000004)
    {
          $strmsg .= "  Status of the drawer kick number 3 connector pin\n";
    }
    if (($asb & 0x00000008) == 0x00000008)
    {
          $strmsg .= "  Offline status \n";
    }
    if (($asb & 0x00000020) == 0x00000020)
    {
        $strmsg .= "  Cover is open \n";
    }
    if (($asb & 0x00000040) == 0x00000040)
    {
          $strmsg .= "  During paper feeding by pressing paper feed switch \n";
    }
    if (($asb & 0x00000100) == 0x00000100)
    {
          $strmsg .= "  Waiting for online recovery \n";
    }
    if (($asb & 0x00000200) == 0x00000200)
    {
          $strmsg .="  Paper feed switch is being pressed (ON) \n";
    }
    if (($asb & 0x00000400) == 0x00000400)
    {
          $strmsg .= "  Mechanical error generated \n";
    }
    if (($asb & 0x00000800) == 0x00000800)
    {
          $strmsg .= "  Auto cutter error generated \n";
    }
```

4

```php
        if (($asb & 0x00002000) == 0x00002000)
        {
                $strmsg .= "  Unrecoverable error generated \n";
        }
        if (($asb & 0x00004000) == 0x00004000)
        {
                $strmsg .= "  Auto recovery error generated \n";
        }
        if (($asb & 0x00020000) == 0x00020000)
        {
                $strmsg .= "  No paper in the roll paper near end detector \n";
        }
        if (($asb & 0x00080000) == 0x00080000)
        {
                $strmsg .= "  No paper in the roll paper end detector \n";
        }
        if (($asb & 0x80000000) == 0x80000000)
        {
                $strmsg .= "  Stop the spooler \n";
        }

                 $result = fprintf($fhandle, "Printer name = %s : Status ASB value is
                              %s \n",  $printerstatus['devicename'], $asb);
                 $result = fprintf($fhandle,  "%s\n", $strmsg);
                 if ($result) {
                     # OK
                 } else {
                     # N.G
                 }
     }
  }
  fclose($fhandle);

 ?>
```

Request and Response

Request

The format of request message is URL-encoded form data (application/x-www-form-urlencoded).

Parameter	Value
ConnectionType	Status
ID	The ID set with WebConfig (p. 40)
ResponseFile	Status Information

```
POST /demo/Test_status.php HTTP/1.1
Host: 192.168.192.10
Content-Type: application/x-www-form-urlencoded
Content-Length: xxx

ConnectionType=SetStatus&ID=&Status=Status Information
```

The status information configuration is as follows:

Obtain the ASB status
```
<?xml version="1.0" encoding="utf-8"?>
<statusmonitor Version="1.00">
  <printerstatus devicename="kitchen_printer" asbstatus = "0x00000001"/>
  <printerstatus devicename="kitchen_printer2" asbstatus = "0x00000001"/>
  <printerstatus devicename="local_printer" asbstatus = "0x0F00003C"/>
</statusmonitor>
```

Response

The format of response message is XML(text/xml).

To indicate that the server received the status notification, the Web server returns a response as follows:

```
HTTP/1.1 200 OK
Content-Type: text/xml; charset=utf-8
Content-Length: 0
```

Digest Access Authentication

Digest access authentication can be used for the status notification.
See "Digest Access Authentication" (p.37)

4