Individual Access to Stored PDF- and HTML-Documents via Comfort Panel

WinCC Comfort V11

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SIMATIC
Access to Stored PDF/HTML-Documents

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Table of Contents

1 Task

Introduction

Via an operator panel, data such as, e.g.

- the screen content

- a shift log

- an error message log

can be output via an hardware printer in paper form or in electronic form as PDF or HTML file.

The application describes in an example, how the stored files can be accessed again as PDF or HTML file via the operator panel.

Overview of the automation task

The figure below provides an overview of the automation task.

Figure 1-1
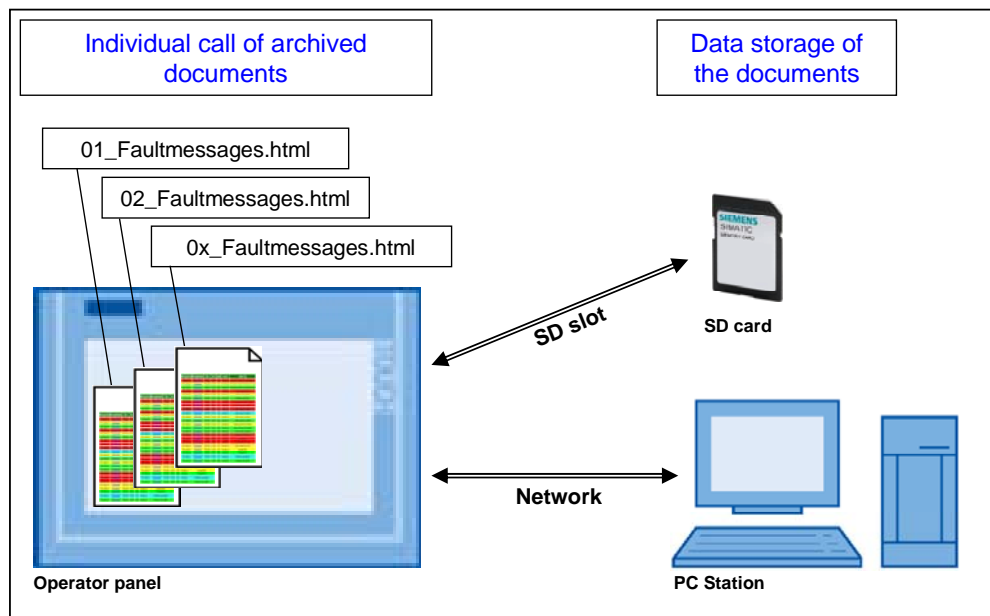
Description of the automation task

In the "Printing with SIMATIC Comfort Operator Panels" (Link) application, it is described how you can print files in PDF or HTML file format via a Comfort Panel.

The names of the files to be printed have previously been specified via the settings of the printer driver as shown below.

- Name_Year_Month_Day.pdf
- Name_Year_Month_Day.html

Every day respective files have been printed and saved on an external storage medium.

Example:

- Report_2012_02_08.pdf
- Report_2012_02_09.pdf
- Screens_2012_02_10.pdf
- Alarms_2012_02_12.html
- Alarms_2012_02_13.html
- etc.

The following functions are to be implemented:

1. The individual files are to be accessed individually via an operator panel
2. It has to be possible to specify the storage path individually
3. The name of the file is to be specified via output fields
   - Name
   - Date
   - File format (PDF or HTML)

Furthermore, it is to be made possible to access the printer settings directly from Runtime in the "Control Panel", without previously exiting the Runtime of the operator panel.

2 Solution

2.1 Overview of the general solution

Schematic layout

Comfort operator panels have an integrated PDF viewer and an Internet Explorer to display internet pages. Via this Internet Explorer HTML documents can also be output.

The storage path and the file name can be individually specified via "Symbolic I/O Fields".

A script then compiles the file name from the individual specifications.

Furthermore there is the option to directly access the settings of the printer parameters in the "Control Panel".

The following figure shows the configured service site:

Figure 2-1

In the further course, the individually used functions and scripts are described in detail.

Access to Stored PDF/HTML-Documents
Version 1.0, Entry ID: 59868149

Advantages

The application on hand offers the following advantages:

- Simple compilation of the file name
- Fast specification of the name through the "Symbolic I/O Fields"
- Due to the configurable scripts, no or only little adjustments to the configuration are required
- Option to subsequently adjust the printer settings

Topics not covered by this application

This application does not include a description of

- the Comfort Panel used. This document describes only the steps that are necessary for this application.
- how, for instance, to create a network connection between a control panel and the configuration computer.
- the installation of the SIMATIC Software WinCC Comfort.

Basic knowledge of these topics is assumed.

Assumed knowledge

Knowledge for dealing with or handling a Comfort Panels and the Software WinCC Comfort is assumed.

2.2 Description of the core functionality

Core of this application is to access PDF or HTML documents whose file name is made up via "Symbolic I/O Fields" and compiled to **one** file name via a script.

What can the application perform?

The application describes

- the functions and objects used below
  - – Text lists
  - – Properties of the tags used
  - – Scripts
  - – Screen
- Operation of the application.
- How you can adjust the configuration to your requirements

Sample configuration

To test the application, you can use the configuration included. An TP1200 Comfort Panel is used as operator panel.

The configuration of the TP1200 Comfort Panel can **not** be used in the PC Runtime simulation. The configuration contains a script that can only be run on an operating device with Windows CE system.

Note	In order to use the configuration on a PC Runtime system, you have to adjust the project. For this purpose, look at the information under the following chapter **3.3**.

PDF files

Sample printouts of PDF files are enclosed to the application. They serve as example to access them via the operator device.

HTML files

Sample printouts of HTML files are enclosed to the application. They serve as example to access them via the operator device.

2.3   Hardware and software components used

The application document was generated using the following components:

Hardware components

Table 2-1

Component	Qty.	MLFB / order number	Note
TP1200 Comfort	1	6AV2124-0MC01-0AX0	Alternative: Operator panels that support the VBScript and have an internet or PDF viewer.

Standard software components

Table 2-2

Component	Qty.	MLFB / order number	Note
WinCC Comfort V11 SP2	1	6AV2101-0AA01-0AA5	**Optional:** For the sample configuration. Alternative: WinCC Advanced V11 SP2 or higher. WinCC Professional V11 SP2 or higher.

Sample files and projects

The following list includes all files and projects used in this example.

Table 2-3

Component	Note
59868149_Printer_ServiceSite_CODE_v10.zip	This zip file contains the WinCC Comfort project.
59868149_Printer_ServiceSite_DOKU_v10_e.pdf	This document.
59868149_Printer_ServiceSite_SampleFiles_v10.zip	The zip file contains the PDF/HTML sample files.

3 Functional Mechanisms of this Application

TP1200 Comfort configuration

Below, the individual configuration steps for the TP1200 Comfort Panel are described.

As already described in chapter **1** under "Description of the Automation Task" the files should be accessed with the following structure:

- Name_Year_Month_Day.pdf

- Name_Year_Month_Day.html

. The storage path can furthermore be specified as desired.

3.1 Text lists used

For the individual "place holders" such as storage path, name, year, month, day and the file format (PDF/HTML) individual text lists have been created.

The text lists can be found in project navigation under the "**Text and graphics list**" menu item. Select the "**Text lists**" tab.

Figure 3-1
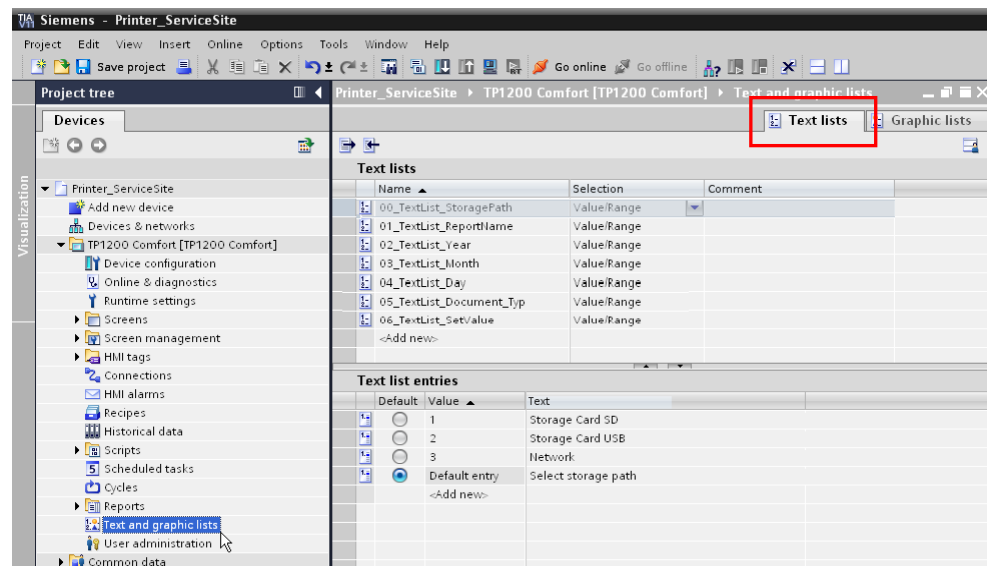
"00_TextList_StoragePath" text list

The text list contains a list of the selectable storage places.
In this example:

- SD storage card

- USB stick

- Network

The value of the text list is later transferred to the "Script_StoragePath" script via a tag as parameter. In the script, the precise storage location incl. possible "sub-folders" are stored.

The "select storage path" is defined additionally as "default value". It serves as a note that a "storage location" is to be selected when starting Runtime for the first time.

"01_TextList_ReportName" text list

The text list contains the list of possible names that the file to be accessed may have.

In this example:

- Report
- Alarm
- Screen

The value of the text list is later transferred to the "Script_Set_DataFileName" script via a tag as parameter. In the script, the precise "Name" is stored.

"02_TextList_Year" text list

The text list contains the list of the possible year that the file to be accessed may have.

In this example:

- 2010 to
- 2020

The value of the text list is later transferred to the "Script_Set_DataFileName" script via a tag as parameter.

Note the entry in the text list under the "**Value**" item. This corresponds to the year.

"03_TextList_Month" text list

The text list contains the list of the possible month that the file to be accessed may have.

In this example:

- 01 to
- 12

The value of the text list is later transferred to the "Script_Set_DataFileName" script via a tag as parameter.

Note the entry in the text list under the "**Value"** item. This corresponds to the month.

3.1 Text lists used

"04_TextList_Day" text list

> The text list contains the list of the possible day that the file to be accessed may have.
>
> In this example:
>
> - 01 to
>
> - 31
>
> The value of the text list is later transferred to the "Script_Set_DataFileName" script via a tag as parameter.
>
> Note the entry in the text list under the "**Value**" item. This corresponds to the day.

"05_TextList_Document_Type" text list

> The text list contains the list of possible file types that can be accessed.
>
> In this example:
>
> - PDF
>
> - HTML
>
> The value of the text list is later transferred to the "Script_Set_DataFileName" script via a tag as parameter. In the script the "data type" is then added to the file name.

"06_TextList_SetValue" text list

> The text list is assigned to a button ([Link]).
>
> If the parameters for the file name are changed, such as, e.g. the date, the operator will then be shown via this text list that the "new name" (changed values) have not yet been accepted.
>
> The text list contains the following entries:
>
> - Accept changed values
>
> - Values have been accepted

3.2 Tags used

The tags used in the application are summarized in the "ServiceSite" folder and the "TagTable_ServiceSite" tag table.

The tags can be found in project navigation under the "**HMI tags**" menu item.

Figure 3-2
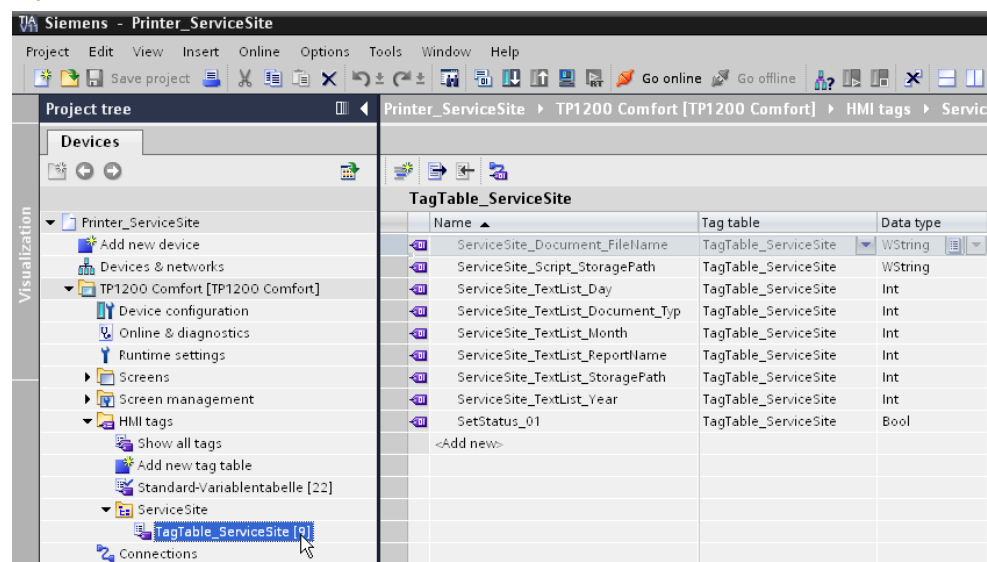
"ServiceSite_TextList_..." tags

The tags with the "ServiceSite_**TextList_...."** wording are assigned to the text lists with the same name.

The values of the tags are transferred to the "Script_Set_DataFileName" script as parameter.

The following tags

- ServiceSite_TextList_Day

- ServiceSite_TextList_Month

- ServiceSite_TextList_Year

are provided with a start value. For this purpose, open the tag properties. You can adjust the stored start value under the "Properties > Value" tab.

"ServiceSite_Document_FileName" tag

The compound file name is output via the tag.

"ServiceSite_Script_StoragePath" tags

The name of the storage place is output via the tag.

"SetStatus_01" tag

If a value change takes place via the symbolic I/O fields then this is output via the design of a button as "Status" (Link).

3.3 Scripts used

For the implementation of the application three scripts are used.

- Script_OpenDocFile_CE *)
- (Script_OpenDocFile_PC) *)
- Script_Set_DataFileName
- Script_StoragePath

The scripts can be found in the project navigation under the
"**Scripts**" menu item.

*) The "Script_OpenDocFile_CE" script can only be used for an operator panel with Windows CE. In order to use the application for a PC Runtime station, you have to use the "Script_OpenDocFile_PC" script instead of the "Script_OpenDocFile_CE" script.

3.3.1 Script_OpenDocFile_CE

The script checks whether the selected document exists. The file name is transferred to the script via a parameter. If the document exists, it is opened via the "**StartProgram**" system function.

If the selected document is **not** available, a system message is output. Look at row "**32**" in the script.

In row "**38**" the complete file name is put in "inverted commas".
Reason: If the path contains blanks, the program is only started correctly if the path is written in inverted commas, e.g.
"\Storage Card SD\ Report_2012_02_08.pdf**"**

Due to the configuration, no adjustments within the script are required.
Exception: if you want to adjust the text of the system message.

The script is accessed via the "Open file" button ([Link]).

Type

The script is of the "Sub" type.

Parameter

The script has a parameter to facilitate adjustments to the configuration.

- Parameter_DocFileName
  - The file name incl. storage path is transferred to the script via the parameter. The value is from the return value of the "Script_Set_DataFileName" script.

Script description

The script contains describing comments.

3.3.2 Script_OpenDocFile_PC

Contains the same functionality as the "Script_OpenDocFile_CE" script. The difference lies in accessing the file system for a PC Runtime system.

3.3.3 Script_Set_DataFileName

The script compiles the file name for the file to be accessed and outputs the result as "return value".

Type

The script is of the "function" type. Due to this functionality the script can output a **return value**.

Parameter

The script has parameters to facilitate adjustments to the configuration.

- Return value
  - The compiled file name is output via the return value. The file name is output on the panel via an I/O field (Link).
- Parameter_StoragePath
  - The storage path is transferred to the script via the parameter. The value is from the return value of the "Script_StoragePath" script.
- Parameter_ReportName
  - The "**Name"** that was specified via the parameter that was specified via the "01_TextList_ReportName" text list and the respective tags.
- Parameter_Year
  - The script is transferred the "**Year**" via the parameter that was specified via the "02_TextList_Year" text list and the respective tags.
- Parameter_Month
  - The script is transferred the "**Month**" via the parameter that was specified via the "03_TextList_Month" text list and the respective tags.
- Parameter_Day
  - The script is transferred the "**Day**" via the parameter that was specified via the "04_TextList_Day" text list and the respective tags.
- Parameter_Doc_Typ
  - The script is transferred the "**Document type**" (PDF/HTML) via the parameter that was specified via the "05_TextList_Document_Typ" text list and the respective tags.

Script description

The script contains describing comments.

Adjusting script

In the line 23 to 30 the name of the file to be accessed is specified. It can be adjusted to your specifications here.

3.3.4 Script_StoragePath

The script compiles the storage path from the "00_TextList_StoragePath" text list and outputs the result as "return value".

Type

The script is of the "function" type. Due to this functionality the script can output a **return value**.

Parameter

The script has parameters to facilitate adjustments to the configuration.

- Return value
  - The storage path is output via the return value. The value is transferred to the "Script_Set_DataFileName" script via a tag.
- Parameter_StoragePath
  - The storage path is transferred to the script via the parameter. The value originates from the "00_TextList_StoragePath" text list and the corresponding tags.

Script description

The script contains describing comments.

Adjusting script

The precise storage path incl. all sub-files is specified in the rows 17 to 24. It can be adjusted to your specifications here.

3.4 "001.1_Thema_A" created image

The two following functions are implemented via the "001.1_Thema_A" screen (service site).

- Direct access of the printer properties.
- Compilation of the document name and the subsequent output of the selected document.

Access the screen via project navigation under the "**Screens > 001_Thema**" menu item.

3.4.1 Accessing the printer properties

The printer properties can be directly opened via the "Printer properties" button without ending Runtime.

Figure 3-3
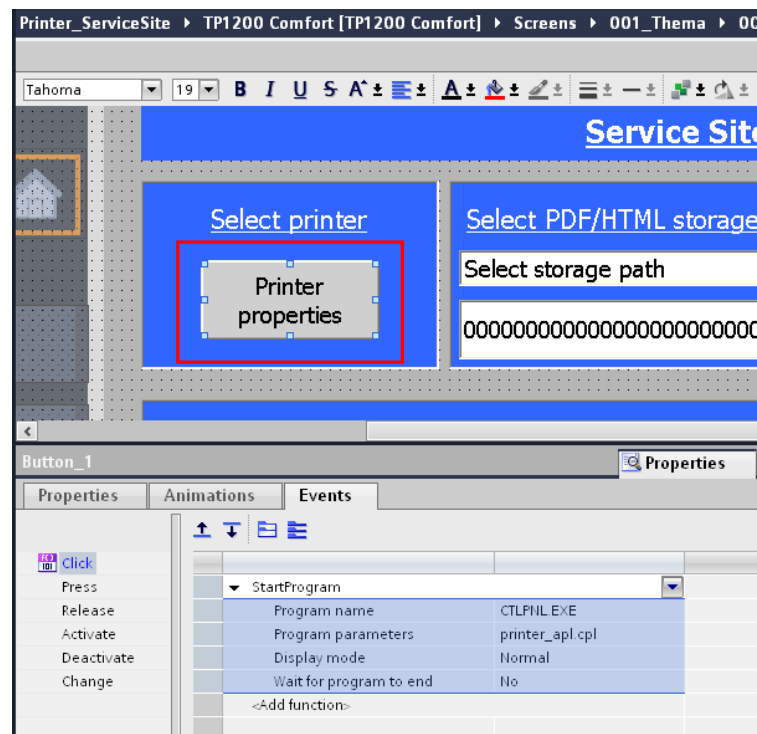
For this purpose, open the button properties.
The "**StartProgram**" function is stored under "Properties > Events > Click".

"StartProgram" parameter

Program name:	CTLPNL.EXE
Program parameter:	printer_apl.cpl
Format:	Normal
Wait for end of program:	No

3.4.2 Compilation of the document name

Overview

Figure 3-4

Symbolic I/O fields

The file name of the file to be accessed is compiled via the symbolic I/O fields.

On all symbolic I/O fields the "ResetBit" is configured under "Properties > Events > Activate".

Via the symbolic I/O field (**1**) the "**Script_StoragePath"** script is accessed under "Properties > Events > Input finished".

I/O fields

The storage path is output via the I/O field (**2**).

The "ResetBit" function is configured under "Properties > Events > Activate".

The file name is output via the I/O field (**3**).

Buttons

The displayed values are accepted through the (**4**) button.

The "**Script_Set_DataFileName**" script is accessed under "Properties > Events> Click".

The "SetBit" function is configured under "Properties > Events > Release".

The "06_TextList_SetValue" text list is used under "Properties > Properties > General" and the "Label" menu item.

The file is accessed via the (**5**) button. The name of the file to be accessed is listed in the I/O field on the bottom right.

The "**Script_OpenDocFile_CE**" script is accessed under "Properties > Events> Click".

Note	Please find a detailed description of the tags used in the included configuration.

4 Operating the Application

4.1 Preparation

A sample configuration and printouts in PDF and HTML format are included in the application.

- First of all transfer the configuration to a TP1200 Comfort Panel.
- Save the following files directly onto a SD memory card
  - the "Styles" file
  - Alarms_2012_02_08.pdf
  - Report_2012_02_08.pdf
  - Screens_2012_02_08.pdf
  - Report_2012_02_08.html
  - Alarms_2012_02_08.html

4.2 Accessing printer properties

Click the "**Printer properties**" button. After clicking it, the "Printer properties" window opens. Make the desired settings.

By clicking the "**OK**" button the window is closed again.

Figure 4-1
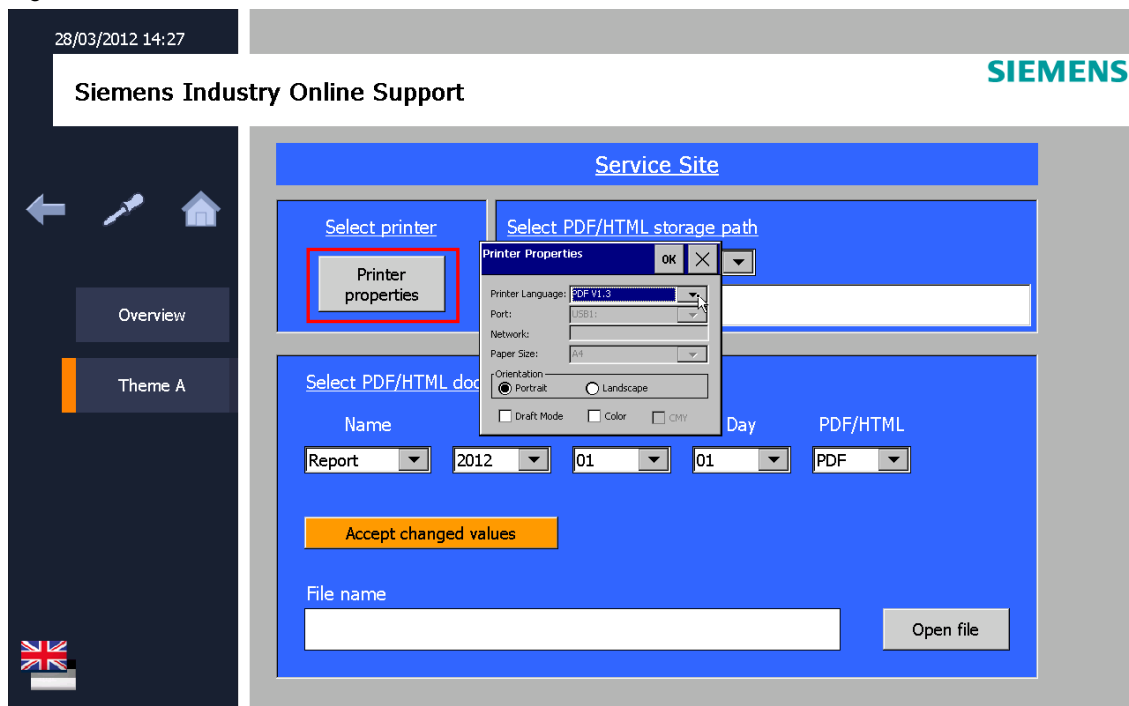
4.3 Accessing PDF or HTML documents

Overview

Figure 4-2
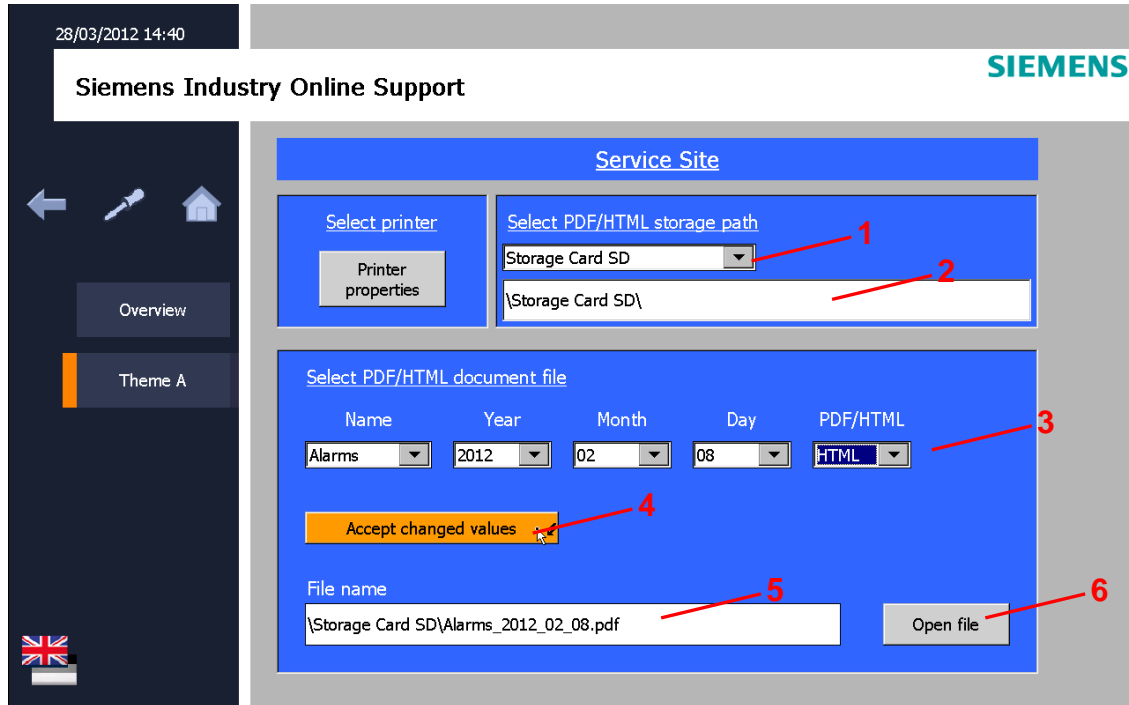
Principal sequence

The principle approach for accessing a PDF or HTML document is as follows.

1. **Specifying storage path**
   Specify the storage path via the drop-down list **(1)**.
   In the I/O field **(2)** below, the selected storage path is shown. You can also specify or expand it "manually".

2. **Specifying file name**
   Specify the file name via the individual fold-out lists **(3)**.
   In this example the "Alarms_2012_02_08.html" file name was selected.

3. **Accepting changed values**
   Click the "Accept changed values" **(4)** button.
   After the clicking the button it turns "green" and the "Values have been accepted" text is displayed.
   In the file name "I/O field" **(5)** the complete file name incl. storage path is displayed. You can also specify or expand the name "manually" if required.

4. **Opening file**
   Click the "Open file" **(6)** button.
   After clicking the button, the selected file is opened. If the file is not available, a system message is output. In this case, check the specified storage path and the file name.

4.3 Accessing PDF or HTML documents

View of the "Alarms_2012_02_08.html" file

Figure 4-3

View of the "Report_2012_02_08.pdf" file

Figure 4-4

5 Literature

Internet Links

Table 5-1

	Topic	Title
/1/	Application	Printing with SIMATIC Comfort operator panels http://support.automation.siemens.com/WW/view/en/58205602
/2/	Manual	SIMATIC HMI Comfort Panels operator panels http://support.automation.siemens.com/WW/view/en/58205602
/3/	FAQ	How can you start specific items in the Control Panel directly from the Runtime of a Comfort Panel? http://support.automation.siemens.com/WW/view/en/59885461
/4/	FAQ	Tips and tricks for creating scripts http://support.automation.siemens.com/WW/view/en/57132412
/5/	FAQ	Which VBS information and VBS programming aids are there in WinCC (TIA Portal)? http://support.automation.siemens.com/WW/view/en/59885894
/6/	Reference to the entry	http://support.automation.siemens.com/WW/view/en/59868149
/7/	Siemens Industry Online Support	http://support.automation.siemens.com

6 History

Table 6-1

Version	Date	Revisions
V1.0	04/2012	First issue