



Infor Distribution FACTS UnForm 10 Document Archiving and Management Integration and Implementation Guide

Release level 9.3.1

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About this guide

This guide describes how SDSI's Unform 10.0 Document Archiving and Management (DAM) is integrated to Infor Distribution FACTS.

Intended audience

This manual is designed with the FACTS Channel Partner and FACTS Implementation Consultant in mind. *This is a technical manual*, and it is not intended for the end user.

Related documents

Infor product documentation is available from the Infor Support Portal. System administrators must have a working knowledge of Distribution FACTS and be familiar with the current version of these documents:

- *Infor Distribution FACTS System Management User Guide*
- *Unform documentation*

Contacting Infor

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If we update this document after the product release, we will post the new version on this website. We recommend that you check this website periodically for updated documentation.

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Overview

SDSI's UnForm 10.0 Document Archiving and Management (DAM) is integrated to FACTS and is available as a FACTS Module (UA). This integration allows documents and reports printed from FACTS to be archived (stored online) for later retrieval, printing or emailing. UnForm DAM functionality is available from almost all FACTS report and forms.

For more information on the UnForm DAM product, refer to <http://www.unform.com/sdsi.cgi?p=unform10>. For more information on the UnForm/FACTS integration and access to the rule file, facts9.3.0rul, and the available scan jobs, refer to http://www.unform.com/sdsi.cgi?p=unform9&sp=articles/facts/facts_rule_file/facts9.3

Requirements

To implement UnForm 10.0 DAM with FACTS, you must have the following:

FACTS 9.3.0 or higher

Unform 10.0 with DAM authorized and the UnForm Rule File (facts9.3.0.rul) developed for FACTS 9.3 by SDSI.

ImageMagick – a freeware image conversion utility (www.imagemagick.org)

Ghost Script – a freeware PostScript and PDF interpreter (www.ghostscript.com)

Properly-configured FACTS Printer

Note: For UnForm Archiving to function correctly with FACTS (regardless of where the output is going - i.e. FaxLink, a printer, etc), there are two requirements of the PxPlus device driver being used:

The letters "uf" must be in the device driver program name. This is case sensitive as lower case. If, for example, you setup a FaxLink printer which utilizes UnForm to format the output prior to faxing, the device driver program name could be "faxlink-uf". The device driver program name cannot be "faxlink", as the letters "uf", which identify it as an UnForm driver, are not present.

The device driver must declare the '*X' mnemonic the same way that the standard uf9ptr device driver defines it - e.g. 2190 mnemonic (chan)*X'=pgn+";process". This likewise is case sensitive.

If both conditions are true, the printer is recognized as an UnForm Archiving device, and FACTS adds the appropriate information to tell UnForm how to archive the document.

If either of these conditions is not true, UnForm may still be used, but the document will not be archived.

Hardware Considerations

Processing power and disk space are two primary hardware considerations.

The process of archiving a document requires that the print job be processed twice by UnForm:

- Once to produce the printed output (if any)
- Once to create the PDF to be archived

As a result, the server chosen to be the UnForm server should have adequate processing power and memory to handle the expected volume of print jobs.

If you are currently using UnForm for forms generation, expect the Archiving function to consume roughly twice the resources when it is implemented.

Disk space requirements should be given serious consideration. While the PDF files are stored in compressed format, over time they will consume significant amounts of disk space.

The UnForm DAM integration with FACTS allows you to select a physical location for each library that is created. Libraries roughly follow the FACTS modules, so there will be a library for AR, for AP, for GL, etc. You can select which documents you wish to archive and which you only want to print. Once a library is created in a specific physical location, it is not easy to move it, because the internal links between documents reference the physical locations. This is a key feature of the integration.)

As a result, it is highly recommended that you plan your server for growth from the beginning. Ensure that you have plenty of disk space or that you can easily add disk space without having to change directory locations.

Server virtualization products are excellent tools to help this process, because they allow resources to be allocated and reallocated as needed or for the server itself to be quickly and easily moved from one physical machine to another without disruption.

Important terms

Library – This is a collection of documents within UnForm DAM. All security in UnForm is controlled at the library level.

Library Name – This is the actual name of the directory that contains the library files. Library names cannot exceed 20 characters long. All library names for FACTS have a dash (-) and the company number added to the end of them.

Library Path – This is the location on the UnForm server where the library is located. The Library + Library path may not exceed 120 characters long. A blank library path will result in the library being located under the UnForm server's arc directory.

Document Code – This is a fixed code we have assigned to each form or document that is specifically recognized by UnForm DAM. This code allows FACTS and the Rule file to agree on which document is being handled without worrying that it could change. This code is hard-coded in FACTS programs and in the Rule file.

Document Type – This is the term used to identify a specific type of document to the user within the UnForm browser interface. This value is soft-coded within FACTS and is communicated to UnForm via a trailer page specifically for the UnForm DAM integration.

Document ID – This identifies a specific document within a document type. For example, while all Daily Sales Registers have the document type 'DailySalesRegister', an individual DSR's document ID will be the register number.

Category – Categories are created within the UnForm library for each document that is stored there. Categories group document into hierarchical tree views to allow the user to quickly and easily navigate to the document they are looking for.

PDF Link – A PDF link appears as underlined text within a PDF document. They function much like a hypertext link, as when the user clicks on the underlined text, the document the link refers to will be loaded in a new browser window. PDF links are usually used when there are many relationships between documents (e.g. the Daily Sales Register has references to many invoices).

Document Link – A Document link appears in an expandable window accessed by a "Document" button at the top of stored PDF documents. Document Links are usually used when the document relationship isn't based on something printed on the document itself (e.g. the Daily Sales Register is related to its GL Distribution, but there is no text on the register on which to create a PDF link). Note that there are cases where a document may have multiple document links (e.g. an Invoice will have a document link to the Pick Ticket and potentially a Bill of Lading).

Entity - Entities are used to relate documents to a single customer, vendor or employee. For example, an AP Check belongs to a specific Vendor; an AR Statement or SO Invoice belongs to a specific Customer. As these documents are printed, UnForm automatically captures the Vendor, Customer or Employee the document belongs to and records that with the archived document. This allows the distributor to create an UnForm user code and associate it with an Entity. When that user signs in, they can see only those documents that belong to them.

Configuration

UnForm DAM configurations require these components.

- FACTS 9.3 or higher with the UA module authorized and a properly-configured printer. For FACTS 9.3.1 and higher, the Use Secure URL (Https) checkbox must be selected for

secure communications. Refer to the Technical changes and details section of this document.

- Unform 10.0 or later with DAM authorized.

It should be noted that UnForm Archiving requires more CPU usage and more memory than UnForm without the Archiving module. There are multiple options for server configuration with UnForm. Refer to the UnForm documentation for details.

These are some of the situations that may indicate a need for UnForm to be run on a separate server.

- High volume of printing through UnForm
- Expected high volume of browsing through the UnForm Archives
- Existing concerns over the performance of the FACTS server
- Limited available disk space on the FACTS server

Prior to deciding whether UnForm should be installed on a separate server, consider the impact on other applications or modules which rely on UnForm. For example, Earnest and Associates' Document Delivery Module relies on UnForm, and if your customer uses Document Delivery, you should consult with Earnest and Associates concerning its compatibility and its configuration requirements.

Properly configured FACTS clients

When using WindX, no UnForm client is required, but when running a local PxPlus instead of WindX, the Unform 10.0 client must be installed.

Print jobs that are sent to a FACTS UnForm printer are transmitted to the UnForm server by the UnForm client. The UnForm product uses the new rule file to identify the print job, enhance it as appropriate, print it to the selected destination (which can be nowhere), and place an archive of the document in the proper library.

FACTS must be running with the UA module code turned on and a proper authorization code. Both the Modules Purchased Flag in System Control F/M and the Modules Used Flag in Company Control F/M must be set, and the Archiving tab of System Control F/M must be properly filled out to identify the UnForm server, port address, and CGI location (usually /arc).

The FACTS printer (or printers) must be setup such that the link file refers to the uf9ptr device driver (this device driver is updated for Unform 10.0 and is automatically placed in the UnForm server directory when 10.0 is installed), and the .unf file associated with each link file must identify the UnForm server and rule file (e.g. -p winpw -server localhost -f facts9.3.0.rul).

With UnForm Installed on a Windows Server, complete these tasks.

ImageMagick and GhostScript must be installed, and the proper executables must be identified in the UnForm Server Manager's Configuration Screen.

The ImageMagick executable is `convert.exe` and the GhostScript executable is `gswin32c.exe` (both with the proper path). Refer to the UnForm documentation for further installation instructions.

With UnForm Installed on a Unix/Linux/AIX Server, complete these tasks.

ImageMagick and GhostScript must be installed and the `uf90d.ini` file edited based on SDSI's instructions found in the UnForm User Guide.

The ImageMagick program is 'convert' and the GhostScript program is often just 'gs' (both with the proper path if they are not located in the operating system's PATH variable). These programs may already be installed on some Unix/Linux OS's. Before downloading and installing them, verify that they are not already there.

It can be difficult to locate ImageMagick and GhostScript binaries for some Unix platforms. When this is the case, a "Windows Support Server" can be used. This configuration allows UnForm on Unix/Linux to use a separate Windows server to do image and PDF conversion. Refer to the UnForm documentation for a complete explanation and installation instructions.

Optional configuration settings

There is no further configuration required, but there are some optional settings that may be implemented.

Archiving or not

Depending on how you count them, there are approximately 65 individual reports and forms that are specifically recognized by UnForm DAM. Each of those may be individually selected within FACTS to archive or not. By default, they are all set to be archived when printed to an UnForm printer.

The UnForm Archiving Setup (SME630) program is used to flag each of these reports or forms to either be archived or not. This program is specific to company, so while one company may choose to archive a specific document, another may choose not to.

In addition to those reports and forms that are specifically recognized, the UnForm rule file contains logic to generically detect other reports and either archive all of them or none of them based on the module they originated from. At the beginning of the UnForm rule file is a set of constants which turn on/off archiving of the "generic" reports by module.

Library Location

By default, all the libraries are stored under the UnForm server's "arc" directory. If this location is acceptable, there is no need to do anything else.

If you wish to change the physical location of the libraries, the program SME631 Archiving Library Setup, may be used to change the location library by library.

The path entered here is relative to the UnForm server, not the client, and it should be a full path with the proper slashes (forward for Unix/Linux, backward for Windows), and it must end with a slash. It can use a global variable or function to control the actual path.

Note that the library locations should be established prior to printing anything to the library, as moving a library after it contains documents will cause the PDF links within the documents to break.

Also note that changing the path does not move any existing documents already in the library. It will simply create a NEW library at the new location, leaving the old one intact. To move an existing library, refer to the UnForm Archiving documentation.

Library Names

As standard product, FACTS contains default names for all the libraries, and all of the documents are assigned to a specific library. If the default settings are acceptable, there is no need to do anything.

This table shows the default libraries and assignments.

Library	Documents
AcctsPayable-xx	All Accounts Payable Documents
AcctsReceivable-xx	All Accounts Receivable Documents
Banking-xx	Bank Transaction Register and Listing
Commissions-xx	SA Commission Report
GeneralLedger-xx	All GL Document, including Financial Statements
InventoryControl-xx	All Inventory Control Documents
JobCost-xx	All Job Cost Documents
Manufacturing-xx	All Manufacturing Control Documents
Payroll-xx	All Payroll Documents
PurchaseOrders-xx	All Purchase Order Documents
SalesOrders-xx	All Sales Order and Service/Repair Documents

The “-xx” at the end of the library names represent the company number being added to the end of the library names. This happens automatically so company data is stored separately.

Note that controlling and securing access to libraries is done at the library level. A user either has access to the entire library or to none of it. As a result, we have separated the libraries largely by module, with the exceptions seen above.

The “generic reports” that are recognized by the rule file will go into the same libraries listed in the table with these additions.

This table shows the generic report assignments.

Library	Documents
EDI-xx	EC reports
Email-xx	EM reports
WarehouseMgt-xx	EW reports
FaxLink-xx	FL reports
JobStream-xx	JS reports (e.g. Job Stream Listing, Job Stream Results)
OfficeAutomation-xx	OA reports
RelationshipMgt-xx	RM reports
SalesAnalysis-xx	SA reports
SalesOrders-xx	SR reports

Each of the default library selections may be changed on a company-by-company basis. Use the UnForm Archiving Setup (SME630) program to select a different library for each of the specifically-recognized documents. Libraries for the “generic reports” may be changed by updating the constant at the beginning of the UnForm rule file.

Note that document categories were designed based on the default library structure. Changing the default may or may not adversely impact the usability of the document categories. Categories are discussed in more detail later in this document.

Document Types

FACTS ships with default document types defined for each of the specifically recognized forms and reports. These document types may be overridden on a company-by-company basis using the UnForm Archiving Setup (SME630) program.

Changing document types to make them more readable or to localize them for a specific company is fine, but it should be done at the beginning of the process to avoid breaking any existing PDF links in the existing documents.

Barcoding

Many of the forms in FACTS are setup to support adding a barcode to the bottom of the form. The purpose of this barcode is to allow the printed document to later be scanned back into UnForm and have it automatically recognized and attached to the original document.

The barcoding is accomplished by shrinking the image of the form slightly to allow blank space at the bottom where the barcode is added.

For a form to “support” barcoding requires work be done in the rule file, thus you cannot simply add a barcode to a form without first adding the proper code to the rule file. All forms that support barcoding already have the coding changes made to the rule file.

For those forms, you can change whether the barcode is added to the document by changing the flag in UnForm Archiving Setup (SME630).

By default, all forms that support barcoding will be set to add the barcode. If the user doesn't want the barcode added, they can change the setting in UnForm Archiving Setup (SME630).

Categories

Categories are essentially levels of a tree view that may be navigated from the UnForm browser interface to locate documents. Out of the box, the UnForm rule file contains a set of defined categories for each document.

Changing the categories, adding new ones or deleting existing ones requires changes to the rule file.

Making changes to the categories defined in the rule file does not change the established categories for documents already on file. It only impacts new documents being printed.

Scanning

Scan jobs are UnForm programs that allow a user to scan in external documents and store them in the UnForm DAM libraries. Out of the box, SDSI has created two scan jobs for FACTS.

The first scan job will scan all documents printed from FACTS with a barcode added. This scan job will automatically recognize the document and place it in the correct library.

The second scan job scans Accounts Payable Vendor Invoices. Since these documents are not able to be recognized automatically, the user is prompted for the critical information, including company #, vendor # and document ID.

Both scan jobs require and utilize an ODBC connection to the FACTS server to capture the proper library that the documents belong in.

Any additional scan jobs must be coded. Additionally, the AP Vendor Invoice scan job could be enhanced to automatically recognize specific Vendor invoices utilizing OCR technology. Refer to the UnForm documentation for details.

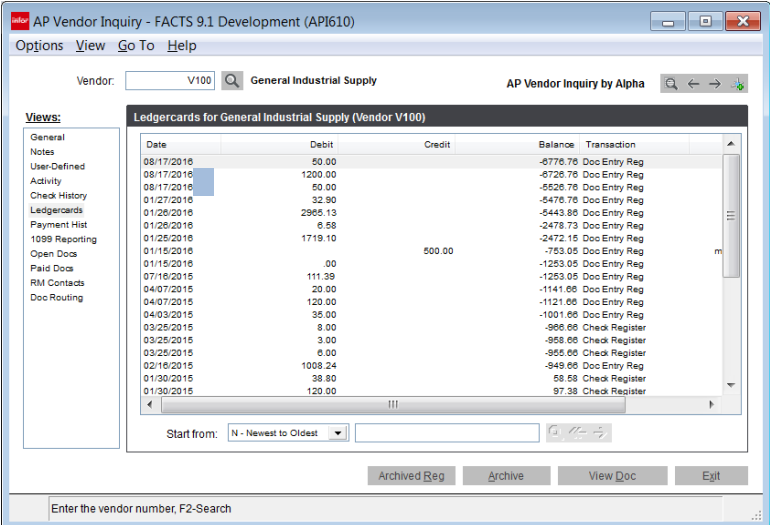
UnForm archiving functionality in FACTS

This section describes the type of functionality UnForm provides for different types of FACTS programs.

Inquiries

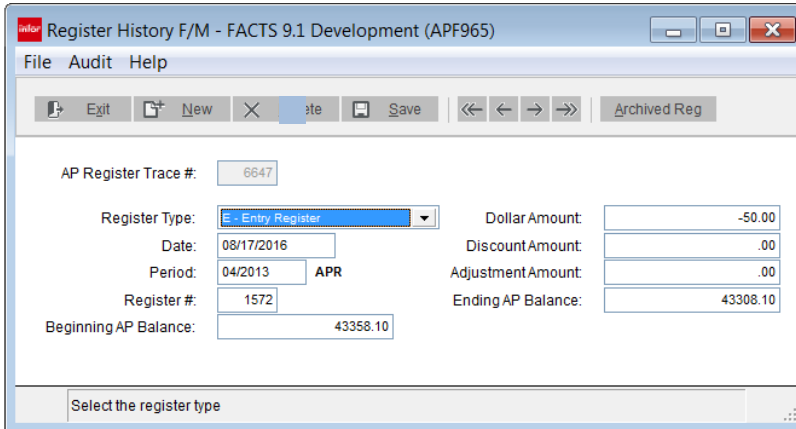
Documents that are archived in UnForm are available for viewing from many programs throughout FACTS. Throughout FACTS inquiry, print, maintenance and entry programs, look for buttons or hyperlinks that refer to **Archived Doc**, **Archived PO**, **Archived Reg**, etc.

These are examples of FACTS programs with archive links.

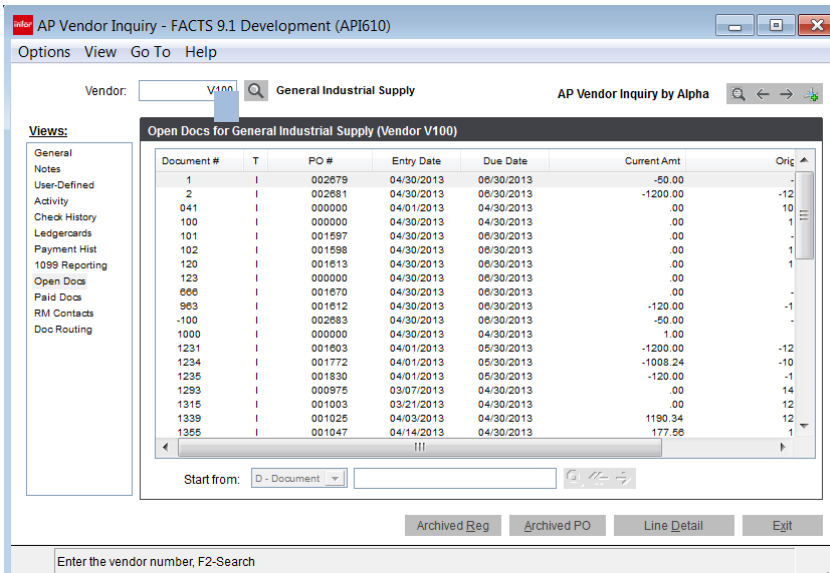


In AP Vendor Inquiry, Ledgercards View (above), the **Archived Reg** button displays the archive of the register that the highlighted transaction appeared on.

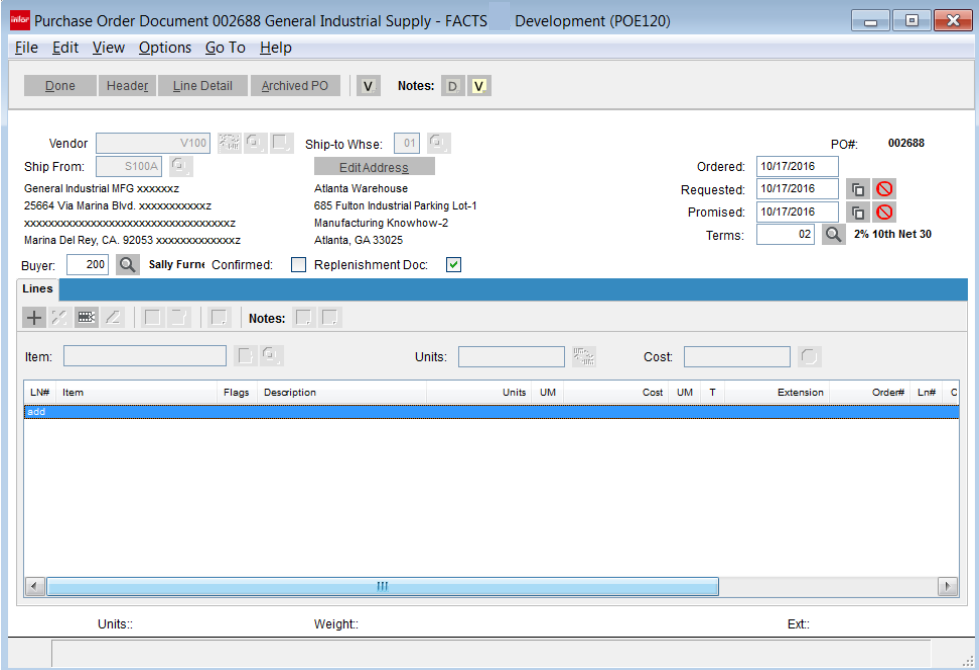
If your system has an **Archive** button, it is the link to the Archive module's copy of that register and is unrelated to the UnForm Archiving integration.



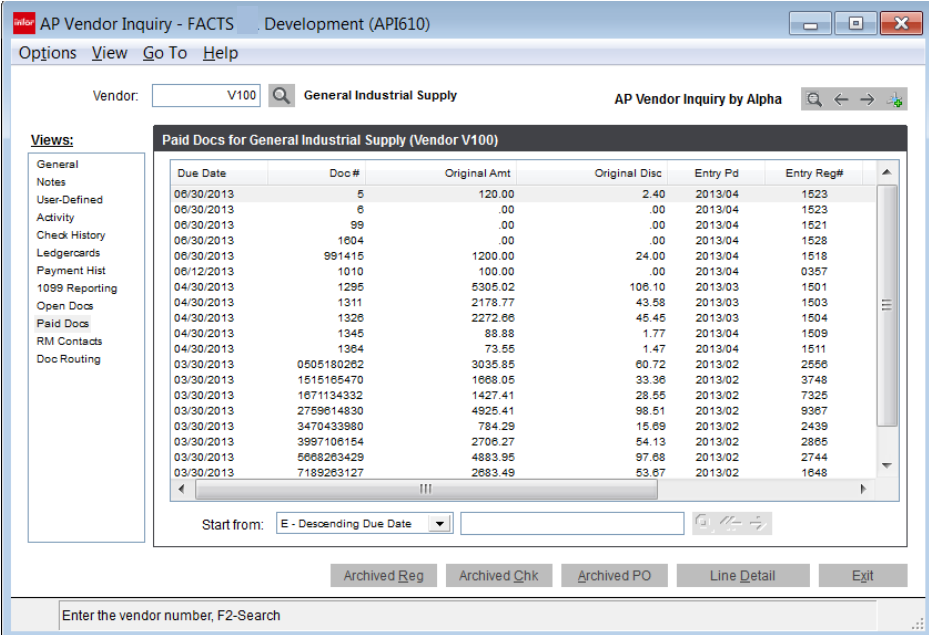
Register History F/M (above) has an **Archived Reg** button that displays the archived image of the register.



On the AP Vendor Inquiry, Open Docs View (above), the **Archived Reg** button displays the archived copy of the AP Document Entry Register, and the **Archived PO** button displays the archived copy of the purchase order.



From within PO Entry (above), the **Archived PO** button displays the archived image of the purchase order if it has already been printed.



On the Paid Docs view of AP Vendor Inquiry (above), there are three documents you can access:

- The AP Document Entry and Adjustment Register
- The AP Check that paid the document
- The Purchase Order the document was for

Registers and GL Distributions

There are typically three steps involved with running a register:

- 1 Print the Register.
- 2 Print the GL Distribution.
- 3 Update the Register.

The steps must be performed in the order listed, and you can stop any time prior to running the update.

The register and the GL distribution are stored separately in UnForm DAM, but they are linked together. When a register and GL distribution have been printed, but the update was not run, the two documents are displayed in the UnForm Archives. Within UnForm, there is no way to capture that the update was not run until the register is re-run. When the register is re-run, second copy of the register is visible to UnForm. Then it can be determined determine that the original copies of both the register and the GL distribution are obsolete.

The original copies are saved in UnForm, and in the time between the second printing of the register and the second printing of its GL distribution, the GL distribution is marked Obsolete in UnForm.

Checks

There is similar functionality for checks. When checks are printed, you may decide to make changes and reprint them. There is no direct link between the multiple copies of the checks, and in UnForm, both checks are displayed as valid.

When the check register is run, it prints the check numbers that were voided as a result of the reprint. At that point, it can be determined in UnForm which checks are no longer valid, and the checks are marked as voided.

You can also print "Plain Paper Vouchers". These are also archived as separate documents and attached to the checks.

Technical changes and details

This section describes the changes made within FACTS to implement UnForm Archiving.

With UnForm Archiving there are two metadata files, SMUNFO and SMUNFL, and two FACTS files, SMUNFC and SMUNFP.

A field has been added to SMRPTS – UNIFORM_DOC_CODE\$. For reports that use the Report Formatter, this field allows the Report Formatter to add the proper UnForm trailer page. It is ignored for reports that do not use Report Formatter.

These four programs control the UnForm Archiving Interface.

UnForm Library Setup (SME631)

As a default, all archiving libraries will be physically placed on the UnForm server under the `./arc` directory (e.g. `/SDSI/uf90/server/arc`). This location may be overridden by entering the desired path (or variable containing the path). Note that the library path must be appropriate to the server and must end in a slash. This field is not validated since it can be an eval.

UnForm Archiving Setup (SME630)

As a default, all available documents are set to archive, and all documents that can be bar coded are set to be bar coded. There is no need to access or run either SME630 or SME631 for UnForm Archiving to work. You only need to access these programs to change the default settings.

UnForm Library Metadata (SMF004)

This program maintains the list of valid UnForm Libraries.

Archiving Metadata Entry (SMF003)

This program maintains the list of recognized, archive-able documents and their default title, library and document type. Additionally, you can set which date to report on the UnForm archiving trailer page and whether bar coding is enabled for this document.

Enabling bar coding requires rule file work to be performed.

Documents that are not setup in SMF003 and do not have the appropriate calls (detailed below) to add the trailer page and do not have the proper UnForm rule file changes, are considered “generic reports”. Archiving these reports is controlled by the rule file.

Most generic reports may be archived by updating specific rule file constants at the beginning of the rule file. Generic reports that may be captured are limited to all reports which use SMC040 to add the standard title to the report.

UnForm scan jobs and ODBC

UnForm scan jobs require an ODBC connection to the FACTS server to determine the library and document type of the scanned documents. The PxPlus data dictionary must be updated after installing FACTS.

Archiving is accomplished by UnForm rule file changes and changes to FACTS reports and prints.

All reports/prints/forms that are specifically referenced in the metadata now make 2 calls:

- `prog/SM/SMC040;archiving_to_unform",print_channel,document_code$,return_unform_flag`
- `prog/SM/SMC040;output_unform_info",print_channel,document_code$,alternate_document_title$`

SMC040;archiving_to_unform checks that the printer selected is an UnForm printer and that the document ID being printed is selected to be archived. If both of those are true, `unform_flag` will be returned as true.

SMC040;output_unform_info adds the additional page to the end of the document that instructs UnForm how to archive that document. This page **MUST** be the last page printed or UnForm will not recognize it.

As a result, **SMC045** was changed to receive the document code, so it can properly suppress any trailing form feeds, etc. If a call to SMC045 is already present, it must be modified to send in the document code. If there is no call to SMC045, one must be added and must include the document code.

Drill downs from FACTS to archived documents are accomplished in these ways.

call

```
"prog/SM/SMC040;archived_document_url",document_code$,document_id$,run_it,return_document_url$
```

This call will construct the URL to the specific document requested. If the document doesn't exist in the archives, no URL will be returned. If the variable `run_it` is true and the document doesn't exist, the user will be given a message that the document isn't on file.

Setting `run_it=1` before the call will cause SMC040 to automatically launch the URL in addition to returning the URL in the variable `return_document_url$`. Setting `run_it=0` will only return the URL.

Running the URL is accomplished by calling `%api_prog$+";fire_url",document_url$`.

Alternatively, to access a list of documents starting at a specific document ID, you can:

call

```
"prog/SM/SMC040;partial_document_url",document_code$,partial_document_id$,run_it,document_url$
```

The only difference between this and `archived_document_url` is that the browser will list all documents, starting with the first one on file beginning with `document_id$`. It doesn't look for

an exact match on the document_id\$, and no check is made to determine if any documents are on file that match the partial document ID.

General changes to registers and GL distributions

Headings of registers and GL Distributions were changed to include 4-digit years and periods and to include both the register date and the GL period on both documents. This was necessary for UnForm to create the appropriate links between the documents and to create the required categories.

HTTPS communications

With the support of Unform v10, in FACTS v9.3, some Unform communications require secure, HTTPS communications. The supporting program, SMC040, that handles this is hard-coded for the non-secure method of communications and is not user-selectable. On the Archiving tab of System Control FM (SMF950), check the Use Secure URL (HTTPS) checkbox to make the use of secure or non-secure communication methods user-selectable. Setting this checkbox ensures that all subsequent Unform communications utilize the HTTPS communication method. Clearing this checkbox, ensure that all subsequent Unform communications utilize the normal, non-secure, HTTP communication method.

A command line argument of “-nostatus” is constructed to check if an archive exists. This command line argument suppresses the pop-up communications message that is displayed. The UP93INC upprog contains an SMS section, defaulting the value to “N”.