Licensed Program Specifications

IBM Application Support Facility for z/OS
Version 3 Release 4
Program Number 5655-002

Application Support Facility is an integral part of output management solutions with high-volume output of documents, allowing users and customer applications to create documents online and in batch based on pre-defined templates, paragraphs, and data.

Customers using the Document Composition function in Application Support Facility define the document layout and formatting using IBM Document Composition Facility (DCF). Optionally, Document Composition function customers can use Document Connect for ASF to allow users to create documents from a Web client rather than the traditional 3270 interface. The interfaces of Application Support Facility allow customers to integrate the services of the product with business applications requiring document output no matter whether the document is to be printed, faxed, e-mailed, or accessed from the Intranet or Internet.

Customers using the Document Writing Feature of Application Support Facility define the document layout and formatting using IBM DisplayWrite/370. Application Support Facility also provides compatibility support for customers using OfficeVision/MVS™.

Enhancements delivered in Application Support Facility V3R4 that apply to the Document Composition function include:

- Exploitation of IBM DB2 V8, or later, for customers using DB2®
- Optional use of DB2 for all ASF databases
- Access to documents not created with Application Support Facility
- Batch utilities enhancements
- Installation, customization, and access control improvements

Enhancements delivered in Application Support Facility V3R4 that apply to the Document Connect for ASF include:

- Service oriented architecture (SOA) integration
- Support for portal and Web services clients
- Support for multinode high availability installations of IBM WebSphere® Application Server
- Increased ability to integrate the Document Connect for ASF client with other applications
- Support for zAAP processors
- Additional document output options
- Improved performance
- Reduced prerequisites
- Additional customization options

Enhancements to the Document Composition function

When choosing to use DB2 as your Application Support Facility database platform, you can now optionally use DB2 for all Application Support Facility databases. Previously Application Support Facility required VSAM or DL/I for the scratch databases. In addition to the continued support for VSAM and DL/I, DB2 is now supported for these databases.

The utilities to transfer items between Application Support Facility databases have been significantly enhanced.

- The resource unload utility now allows you to download items from a Completed Document Library (CLL) database to a flat file and then reload them to another CLL database. You can also use this utility to delete items from the CLL database.
- For customers storing Application Support Facility databases in IBM DB2
  - The resource unload utility is now able to restrict processing to only those versions of a General Information Library (GIL) record that fall within a specific time frame.
  - The resource unload utility can now directly transfer items from the Saved Document Library (SLL) database to the CLL database in one step, improving overall performance for this task.

- When processing the SLL database, up to 32,767 single document requests can now be specified.

The improved post installation steps for Application Support Facility V3R4 more clearly differentiate between the three transaction managers supported: IMS™, CICS®, and DB2. Only those parameters which apply to the selected environment are presented to the system programmer for customization. The jobs generated to run Application Support Facility are then contained in transaction manager specific JCL libraries.

Many customer environments include databases containing documents or text in line-mode format that have not been created using Application Support Facility. Previously, these documents could only be displayed through separate applications, many requiring 3270 emulation. Application Support Facility V3R4 allows you to display the contents of these documents as part of your Application Support Facility user interface, whether you use the 3270 panel interface or the Web client interface available with Document Connect for ASF.

Application Support Facility V3R4 has improved the way you manage customized programs. The Application Support Facility tailoring members have been separated from the program code and are now in separate load libraries. In addition, customer written exits are now separate programs, making them easier to maintain and move to production.

In order to customize Application Support Facility messages and panels many customers overwrite labels provided in the Application Support Facility message pool. This practice made it necessary to redo these changes after applying PTFs for the message pool. Application Support Facility V3R4 now provides a customer message pool designed for customer modifications, making these customizations easier to maintain during the service process.

PL/I is no longer required to modify or create exit routines in Application Support Facility. You can use any available language supported in your z/OS® environment.

Improved access control lets all Application Support Facility batch programs run in Authorized Program Facility (APF) libraries. In addition, the definition of a document template supports separate authorization levels for modifying a paragraph and inserting a new paragraph.

Enhancements to the Document Connect for ASF feature

With Application Support Facility V3R4, Document Composition functions can be optionally executed using DB2 stored procedures as an alternative to CICS or IMS transactions. This allows you to choose the transaction manager that is right for your installation.

If you store Application Support Facility databases in IBM DB2 V8 or V9, you may realize performance improvements during the document composition process from a Web client. These improvements are due to the Application Support Facility exploitation of DB2 functions such as multiple-row read and multiple-row write. The most significant improvements can be seen in Distributed Relational Database Architecture™ (DRDA®) environments, where DB2 data is requested from a remote location.

In addition, the performance of spellchecking, opening and saving paragraphs, and previewing documents from the Web client has been improved.

Now the Document Connect for ASF server component performs as a standard J2EE application that can be invoked from different clients. This includes a Portal client, a Web services client, and a Web client. In support of these clients, Application Support Facility now provides services that can be integrated with SOA applications. In addition, Document Connect for ASF includes improvements to the graphical user interface.

You can now integrate the Document Connect for ASF client with other applications:

- A new C++ API (MFC client) allows the integration of Document Connect for ASF with C++ applications on Microsoft® Windows®
- A new C# API (.NET client) allows the integration of Document Connect for ASF with .NET applications on Microsoft Windows
- A new Java™ client API (Java client) allows the integration of Document Connect for ASF with Java applications on Windows

- A new HTTP POST API (Web client) allows the integration of Document Connect for ASF with Web client applications
- A new Java server API (runtransaction API) allows the integration of Document Connect for ASF with enterprise applications on WebSphere Application Server

Document Connect for ASF supports the system management of multinode high availability WebSphere Application Server installations. By using WebSphere Application Server variables for setup parameters and file locations, customers can configure WebSphere Application Server for use with Document Connect for ASF on one system and use that configuration for multiple systems.

Many of the Document Connect for ASF server functions that run on WebSphere Application Server are now eligible to run on zAAP processors. This can allow you to offload some of the Java and XML workload associated with Document Connect for ASF to separate specialty processors (such as zAAP), freeing the general purpose processors for other System z™ workloads.

The updated Document Connect for ASF feature provides improved integration of data stream transforms. Customers can now use more than one data stream transform (such as AFP™ to PDF) on one system. Selecting a specific transform for a specific document can be done at run time. In addition, Application Support Facility line output can now be converted to xsl:fo for further processing with an xsl:fo formatter.

The contents of the SLL and CLL databases play an important role in output management systems based on Application Support Facility. Customer applications may have a need to process particular documents in these databases outside of Application Support Facility. With Application Support Facility V3R4, Document Connect for ASF users can now search these databases and generate a list of items that meet the search criteria. In addition, Document Connect for ASF users can display a list of SLL and CLL items for further processing.

Document Connect for ASF now includes additional controls over the paragraph selection process used by users. This includes the ability to preselect paragraphs and mark paragraphs available for modification in the paragraph selection tree displayed for the user. In addition, two new exits are provided. The first lets you control and modify the attributes of the paragraphs shown: paragraphs can be added or removed and their modification attributes can be changed. This lets you protect or hide paragraphs from the user's view so that they may not be changed. The second exit lets you display additional paragraphs for insertion into the paragraph selection tree, allowing you to retrieve paragraphs more dynamically.

You can now integrate your own help files with Document Connect for ASF. The files must be in HTML format.

With the updated Document Connect for ASF feature, you can more easily e-mail composed documents, sending them as e-mail attachments. Using standard paramters, other information contained in the e-mail (such as sender, recipients, and subject) can be supplied by the application invoking Application Support Facility. With the improved integration of datastream transforms, it is now possible to use AFP for document preview and PDF as the format for e-mail attachments.

A new toolkit is provided allowing customers to verify the conversion of standard paragraphs from DCF to HTML and from HTML to DCF based on the customization settings on the Document Connect for ASF server.

The updated Document Connect for ASF feature installs more easily with WebSphere Application Server. You are no longer required to modify WebSphere Application Server classpath, libpath, or shared library settings.

The number of prerequisite products required to use Document Connect for ASF has been reduced:

- The Java Runtime Environment is no longer required on the Web client.
- When using WebSphere MQ or CICS Transaction Gateway to connect WebSphere Application Server to the Application Support Facility host, you no longer need to install the connection product on the application server. Because Document Connect for ASF now uses WebSphere Resource Adapters, WebSphere MQ or CICS Transaction Gateway is only required on the z/OS host.

Graphical user interface for ASF administration

Customers can increase administrator productivity and reduce the time required to implement changes to document resources by using the IBM Administration Client for ASF (5655-U83). The Elipse-based graphical interface can replace the 3270 interface for administering the ASF databases General Information Library (GIL) and User Profile Library (UPL). Administration of Application Support Facility can now be done by staff trained in workstation tools, eliminating the need for training in 3270 command and panel-driven interfaces.

Using this new interface, your administrators can more easily manage the Application Support Facility environment. Both the document structures and the document elements can be displayed and manipulated in various panes of one window. Benefits include expanding and contracting tree structures, dragging and dropping elements into documents, and editing text using a rich text editor. Together, these new features greatly improve the user experience when compared to the traditional 3270 interface that requires navigating from one separate menu to another, viewing only one item at a time.

Through the Eclipse-based graphical interface, Administration Client for Application Support Facility provides additional function over the traditional 3270 administration interface provided with Application Support Facility. Your administrators can:

- Separate the administration environment into a database for test and maintenance, plus a mirrored production database
- Control changes of GIL items in production, test, and maintenance
- Define and manage the contents of maintenance packages so that groups of resources can be updated and moved through the change process together
- Define and perform advanced database searches, sorting and using the result list to find and make document resource changes
- Show the tree structure of data items, such as LTDs
- Open several database items in parallel

Specified operating environment

Hardware requirements

Application Support Facility for z/OS V3R4 will operate on any hardware that supports z/OS V1.7 or later, and the prerequisite software.

The Document Connect for ASF server will operate on any hardware that supports the prerequisite software, including the installed release of WebSphere Application Server.

The Web client for Document Connect for ASF will operate on any hardware that supports the prerequisite software.

Display Devices

For use of the classic 3270-based functions of Application Support Facility for z/OS V3R4 you need a 3270 emulator session.

Software requirements

All prerequisites and corequisites for these products apply.

The products listed are supported only while service is available for those products.

Application Support Facility for z/OS V3R4 requires the following:

- z/OS V1.7, or later (5694-A01) including Language Environment®
- One of the following:
  - IMS V9 (5655-J38)
  - IMS V10 (5635–A01)
  - CICS Transaction Server for z/OS V3.1 or later (5697-E93)

The Document Composition function requires the following additional software:

- Document Composition Facility V1R4 (5748-XX9) with at least the following PTFs installed:
  - PTF UN15120 (APAR PN12161)
  - PTF UN58443 (APAR PN27883 and APAR PN39828)
  - PTF UN79261 (APAR PN71567)
  - PTF UN87763 (APAR PN76775)
  - PTF UN89989 (APAR PN83692)

- To use the continuous formatting, release control, and versioning functions, or to create cross-reference listings, one of the following is required:
  - DB2 V8 (5625-DB2)
  - DB2 V9 (5635-DB2)

The Document Writing Feature requires the following additional software:

- DisplayWrite/370 for MVS/CICS V2R2 (5685-101)

The Document Connect for ASF server requires the following additional software:

- The following are required on z/OS for connectivity between WebSphere Application Server and Application Support Facility for z/OS V3R4:
  - When running under CICS, one of the following:
    - WebSphere MQ for z/OS V6.0 (5655-L82)
    - CICS Transaction Gateway for z/OS V6.0 or later (5655-M69)
    - CICS Transaction Gateway for z/OS V7.0 or later (5655-R25)
  - When running under IMS, one of the following:
    - WebSphere MQ for z/OS V6.0 (5655-L82)
    - The IMS Connect function included in IMS V9 (5655-J38)
- The following are required on the WebSphere server where the Document Connect for ASF server is deployed, regardless of the platform:
  - When connecting to CICS using CICS Transaction Gateway, CICS ECI Resource Adapter 6.0.2.1 or later is required.
  - When connecting to IMS, IMS Connector 9.10.21 or later is required.
  - An HTTP server supported by WebSphere Application Server V6.0; for example, IBM HTTP server 6.0, or later.

In addition, the following software is required, depending on the Document Connect for ASF server platform:

- For z/OS:
  - WebSphere Application Server for z/OS V6.0.2.11, V6.0.2.22, V6.1, or later (5655-N01)
- For AIX®:
  - AIX 5L™ V5.3 or later (5765-E61)
  - WebSphere Application Server V6.0, or later
  - All prerequisites for the above software
  - DB2 Connect V9.1 Enterprise Edition when connecting to the host programs using stored procedures
- For distributed Linux® platforms:
  - Any version of Linux supported by WebSphere Application Server V6.0, or later
  - WebSphere Application Server V6.0, or later
  - All prerequisites for the above software
  - DB2 Connect V9.1 Enterprise Edition when connecting to the host programs using stored procedures
- For Windows:
  - Microsoft Windows 2003
  - WebSphere Application Server V6.0, or later
  - All prerequisites for the above software
  - DB2 Connect V9.1 Enterprise Edition when connecting to the host programs using stored procedures

When using the Document Connect for ASF client, users require a workstation with:

- One of the following:
  - Microsoft Windows XP SP2
  - Microsoft Windows Vista
- Microsoft Internet Explorer Version 6.0, or later, running in the Local Intranet security zone and with ActiveX controls and JavaScript™ enabled
- Microsoft Windows Installer 2.0

In addition, the following products are required to use specific functions of Document Connect for ASF:

- To preview documents in AFP format, an AFP viewer plug-in for Internet Explorer is required. An AFP Viewer plug-in is delivered with the product.
- To preview documents in PDF format:
  - A solution for converting AFP to PDF on the server is required. Infoprint Transform for AFP to Adobe PDF V2.1 for z/OS (5655-P20) is one example.
  - A PDF viewer plug-in for Internet Explorer must be installed on each user's workstation. Adobe® Acrobat Reader is one example.
- To archive the final documents produced by users, an archive solution is required. The IBM Content Manager family of products is one example.

- To invoke the Web client from within a 3270 emulator session, one of the following is required:
  - IBM Personal Communications V4.3, or later
  - Attachmate EXTRA! Version 6.4, or later
  - WRQ Reflection for IBM Version 8, or later
  - Reflection for IBM 2007, or later

Compatibility

Application Support Facility for z/OS V3R4 is upwardly compatible with:

- Application Support Facility for z/OS V3R3
- The combined solution of Application Support Facility V3R2 and its Document Writing Feature
- Application Support Facility V3R2 for OfficeVision/MVS compatibility

Performance considerations

The performance depends on the number of active users, the types of terminals connected, the types of functions invoked, the system configuration and the ratio of local to remote distribution.

With Application Support Facility no significant overhead is added to the business environment. As the size of your Application Support database increases and as the complexity of document compositions increases, database retrieval and document composition can take more time.

Security, auditability, and control

Application Support Facility for z/OS V3 R4 and Document Connect for ASF use the security and auditability features of the host hardware and operating system software. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

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The following are Excluded Components:

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Apache Commons-Collections V3.2
Apache Commons-Configuration V1.1
Apache Commons-DBCP V1.2.1
Apache Commons-JXPath V1.2
Apache Commons-Logging V1.1
Apache CommonsPool V1.3
Apache log4j V1.2.14
Apache XML4J V4.5.1
Apache XSLT4J V2.7.8
IBM Dojo Toolkit V0.4
IBM Dojo Toolkit V0.9
IBM Eclipse Help System for WAS 6.x V3.0.1
IBM Eclipse Help System Installer V3.1.2
IBM Eclipse Help System V3.1.2
IBM Eclipse SDK V3.2.2
International Component for Unicode (ICU4J) V3.4
Software Installation Tool V5.0

Specified Operating Environmant

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