

Technical Overview

ActionPoint Enterprise Server acts as an intelligent work-queue manager, performs automatic workload balancing, and collects statistics system managers need to manage, tune, and control the system. It ensures reliability, and provides for reporting of statistics and results.

ActionPoint Enterprise Server uses the Microsoft VBA IDE, which offers customers easy compiling and debugging of Information Process Projects or IPPs. An IPP defines an *CaptureFlow*, and is a set of instructions that tells the Server which modules to use, the order in which to use them, how each module needs to process each page of information, and what to do with data generated by each module. ActionPoint Enterprise Server includes several generic processes that can be modified using the Microsoft VBA IDE. A fully interactive IPP debugger ships with the Enterprise Server.

ActionPoint Enterprise Server also provides a virtually unlimited number of Instances and Trigger Values per instance, allowing customers to create extremely complex *CaptureFlows*.

ActionPoint Enterprise Server uses Dynamic Values, which greatly simplify the process of specifying fields of data to capture from a document. Values can be created within the MDF (Module Definition File) during setup, or they can be created dynamically from a client module. The resulting Values are stored very efficiently, because storage spaces are allocated only as needed.

ActionPoint Enterprise Server delivers captured data and images to ERP systems, Websites, workflow processing systems and content management systems using universal exporters, standards-compliant exporters such as ODBC export, XML export and email export, and Enterprise Specific exporters to systems such as Documentum's DocBase® and IBM's VisuallInfo®.

Product Components

ActionPoint Enterprise Server™ is composed of the Server component, the Supervisor and a collection of Modules and Utilities.

Server

The Server component is an open integration platform that runs under the Microsoft Windows NT® Server operating system. The Server component takes advantage of Windows NT in the following ways:

- The Server component uses memory caching to improve performance.
- The Server component uses windows NT's security features to handle module login, system access, and Batch security.
- The Server component uses Windows NT's reporting features, such as the Performance Monitor and Event Log, to monitor system performance and overall status.

The Server component provides the following benefits:

- Maximizes throughput by automatically balancing the workload: An information capture job may be broken into several work units, which are typically a single page of information. The Server component queues each work unit until the module is ready to process it. Multiple modules may be running on separate client workstations simultaneously. By balancing work units across all available client workstations, the Server component maximizes throughput.

- Intelligently sequences the workload for greater performance: The Server component eliminates unnecessary processing bottlenecks by routing work units to only those modules required for processing. For example, the Server can specify that data collected from a certain form be routed to post-submit processing, while routing documents that contain pages with text to an OCR module.
- Ensures data integrity and provides data recovery: The Server component maintains data integrity between memory mapped job information and a file stored on hard disk. When the user-defined "sync time" is reached, the Server component automatically saves (syncs) these two files. In the event of a power failure, you can access saved job statistics using the server "rollback to last sync" feature, and recover with no loss of synched data.
- Maintains user security: The Server component uses the Windows NT User Manager for Domains to maintain user security. A system administrator can easily add or remove user access to the Server component through this security system.
- Gathers job specific data: The Server component gathers every piece of data generated about an information capture job. This data is stored in ActionPoint Enterprise Server as user-defined IA Values. The Server component also saves each image and text file generated during each stage of processing.

Supervisor

ActionPoint Enterprise Server's Supervisor provides exceptional management capabilities such as the ability to monitor system statistics, install processes, define a batch, install user licenses and specify user permissions.

Monitoring system data

The Supervisor makes it easy to analyze system throughput for each information capture job. The Supervisor monitors how many modules are available to process information, which client workstations are running modules, and the status of each page of data as it passes through the system. Using the Supervisor's reporting displays, it is possible to quickly determine how to allocate resources and adjust processing priority. If client workstations must be added to alleviate bottlenecks, ActionPoint Enterprise Server continues to process all open batches while the new workstations are set up.

Defining a Batch

The Supervisor defines the scope of a batch for ActionPoint Enterprise Server. Using the Supervisor, the batch is named, an IPP chosen, and a processing priority assigned. Once this information has been entered, the Enterprise Server is ready to receive the information capture job. The Server component routes work to the appropriate modules according to the IPP. During processing, the Supervisor tracks the progress of the batch.

Installing User Licenses

The Supervisor makes it easy to install, upgrade, and renew user licenses. ActionPoint Enterprise Server and a complete set of InputAccel modules are provided on a CD-ROM. To extend capabilities, the purchased license codes are entered into the system using the Supervisor. This licensing mechanism makes it easy to upgrade or expand the system using new license codes, which are available via phone, fax, and email.

Specifying Permissions

The Supervisor lets administrators define access privileges for individuals or groups,

such as who is allowed to run a module, install or delete an IPP, and create, view, modify, or delete a batch.

Modules

Index module allows the user to key-from-image at multiple levels and manipulate images within the hierarchical "tree view". Operators can use "rubber band zones" to 'grab' sections of previously OCRd text with a mouse and automatically populate the corresponding index fields. This eliminates key data entry altogether. In addition, using ActionPoint Enterprise Server's asynchronous processing, images can be allocated to indexing at any level of the hierarchy. Additional features are external validations and lookups, automated data pre-population, value formatting and restrictions, drop-down lists and combo boxes, and keyboard based tree navigation.

MQ Watch connects to and watches a MSMQ message queue. Typically, this module imports incoming messages at the Page (0) Level. During setup, you can configure the module to start a new document every n pages or every n minutes, whichever comes first.

PDFform combines an existing Adobe PDF form with Enterprise Data Values to create output PDF files for each value set.

WebTif creates "sequential" PDF or TIF images documenting the progress of a Dialog Server Web session. The PDF or TIF is created by merging the DHTML sent to a Dialog Server browser client and the XML data that the user posted.

Export Modules

Export modules extend integration with Enterprise systems. ActionPoint Enterprise Server includes a myriad of universal, standards compliant and enterprise-specific export modules.

Image Export makes it easy to transfer images and data to virtually any imaging, workflow, and full-text retrieval application. Images can be exported in a variety of industry standard formats, including Group 3 and 4 compressed, several types of TIFF, and CALS Type 1.

Index Export is used to transfer indexing or other data to applications. Index information can include virtually any information, for example the time an image was scanned or a file was imported, decoded barcode values, key entered data, OCR results, etc.

Full Text Export is used to save OCRd text in a file format usable by a target application, such as word processing or spreadsheet applications.

Email Export exports any Enterprise Data Value, including files, to a Windows Messaging system.

MQ Export connects to a MSMQ message queue. When a page is exported at Level 0, the module generates a message on the queue with a data set, which is user-configurable. This module might be used in conjunction with WebTif to export XML Instance Documents to export a message queue, or to export other forms of data.

ODBC Export exports to and imports from ODBC-compliant databases. ODBC Export automatically polls the backend database to facilitate data mapping. The module uses radio buttons to select different functions, such as "Insert," "Update," and "Fetch", and also serves as an interface for running stored SQL procedures. The ODBC Export module supports the following databases: SQL Server 6.5, Oracle 8.0.5, Access 97, and DB2 server 5.2.

XML Export creates a structured XML Instance Document from IA Values. During setup, you can

map IA Values to elements and attributes. The XML Instance Document that is created conforms to an XSDL Schema.

Enterprise Specific Export Modules

A number of specific modules that convert images and/or data to specialized formats are available. Application-specific export modules include:

- IBM ContentManager™ and MVS/ESA™ Export
- Documentum Compatible Export
- FileNet Compatible Export
- Eastman Software Compatible Export
- OpenText Compatible Export

Utilities

Copy copies a Batch file and sends it to another Server or saves it to a directory or an FTP site. Copy can also retrieve a Batch file from a directory, an FTP site, or a Server and restore it to a Server.

DLL Unloader searches a Windows system for 16-bit libraries loaded by currently running modules and optionally unloads them. In the unlikely event that a module quits or crashes, you can instruct DLL Unloader to remove all libraries that remain loaded to ensure proper functioning of the modules.

DLL Viewer displays all currently running 32-bit applications and the libraries loaded by each.

Excel Graphing imports and graphs any Enterprise Data Values from any specified Batch. Excel Graphing is a Microsoft Excel® worksheet containing two graphing macros.

Image automatically rotates pages in 90-degree increments, rotating the front and back of duplex pages in opposite directions. Image also can generate thumbnail images for pages and can round an image width to a 16-bit or 32-bit multiple.

Module retrieves and sets Enterprise Data Values for any Batch. Module can help with IPP and module development debugging by checking that another module has correctly set Enterprise Data Values and then setting new Enterprise Data Values if necessary.

Multi splits the Tree to add new Levels; deletes Nodes from the Tree; and sounds a beep when a module finishes processing all Tasks. Multi can also insert a shim, which holds Tasks until the entire Batch is processed.

Spawn automatically launches another program at any point in a Process. For example, after export, Spawn can launch an importer, or it can execute a command line prompt, such as "winword\p filename" to print a document.

Timer changes Values at a user specified time for a specific Batch or for a group of Batches. For example, Timer can change the priority of a Batch to trigger modules not requiring an operator to run overnight, or it can trigger Multi to delete Batches after a specified amount of time.

Watch regularly checks a defined directory, and when a file is found, it sends the file to processing.