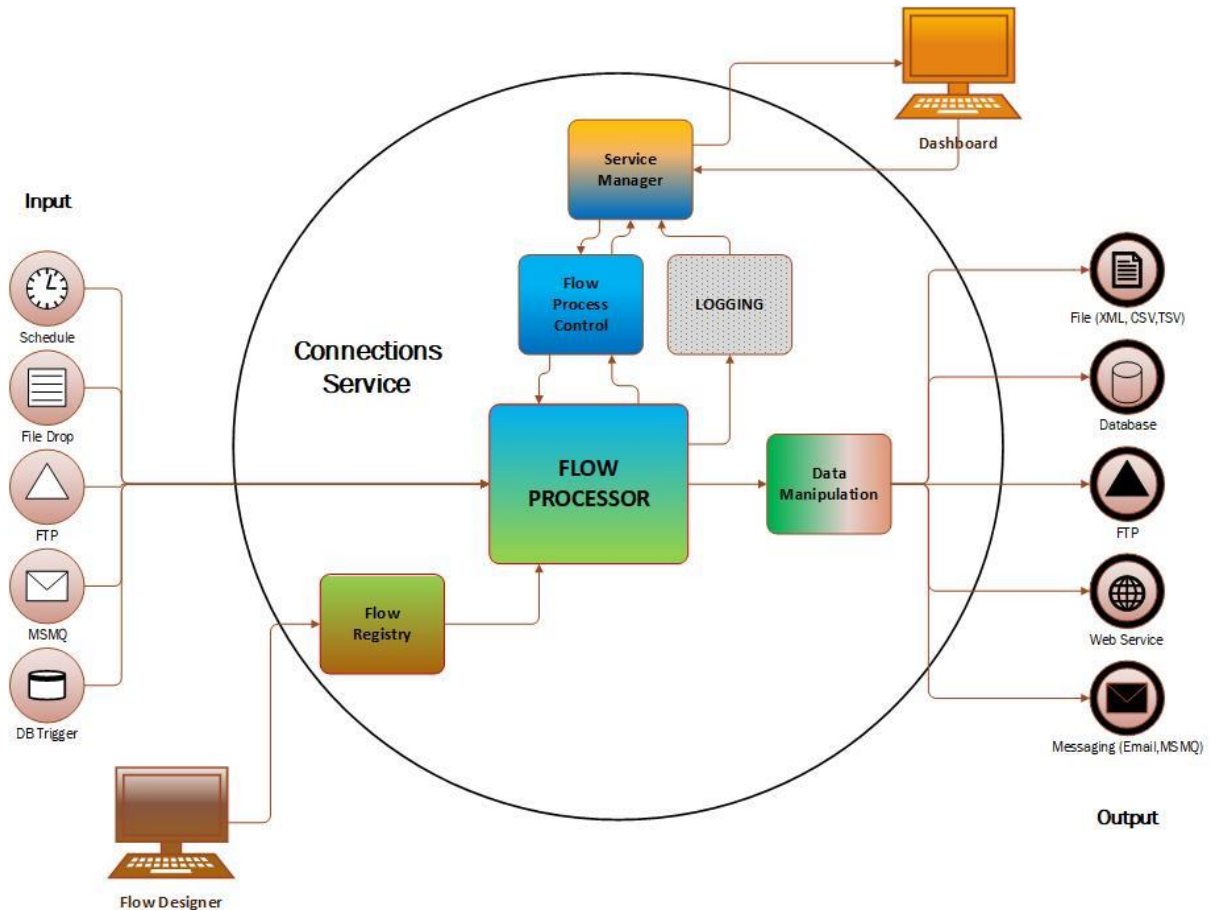


Connections Solution Overview

Connections™ is the integration and concurrent data processing engine from Cocoon Technology. Utilising the latest Microsoft .Net multi-threaded technology, Connections can be used to construct a seamless pipeline between otherwise disparate dataflows.



At A Glance

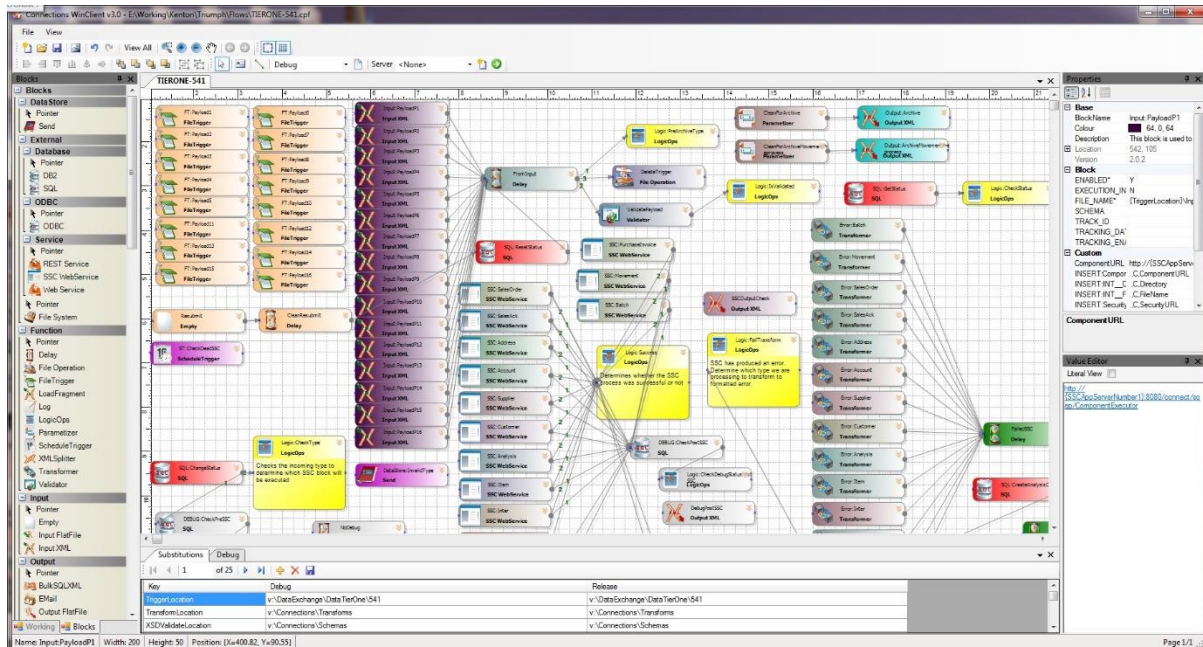
The Flow Processor is triggered into action by any input method (Schedule, file drop, FTP drop, MSMQ message or DB Trigger).

Once initiated, the flow processor will action the operations in the flow as configured by the Flow Designer. These operations manage the manipulation of data from the input and/or any other data retrieved as per instructions in the flow configuration.

The result of each flow process iteration can be configured to provide an output method, forwarding its data into any of the following formats – File (XML, flat, Comma/Tab Variable), Database record insertion/update, FTP drop, Web Service call and message (Email, MSMQ).

Flow Designer

The Flow Designer tool allows for the creation and maintenance of flow configurations which are added to the Connections Service flow registry.



Each flow configuration is designed to follow a set of instructions as part of an end-to-end flow process and can be functionally categorised thus:

Input

Schedule – occurs when a schedule is due. This can be a recurring event configurable from once a minute to once a year, or a pre-set daily, weekly, monthly occurrence at a pre-set time of day.

File Drop – event occurs when a file new is detected in a predefined location.

FTP – is triggered from an FTP file drop in a predefined location.

MSQM – is instigated by a received Microsoft Message Queue message.

DB Trigger – a database record trigger can be used to trigger a flow process.

These instructions are all trigger mechanisms that initiate the flow process.

External Data Source

SQL Server/ODBC/DB2 – data may be extracted from an external database to be used as additional input data or validation/verification as part of the flow process. The external data source may also be updated at this point as part of the data manipulation instructions in the flow configuration.

Web Service – data can be sent or retrieved as part of the flow operation. Configuration in the Flow Processor allows for a wide range of operations for both RESTful and generic web service applications.

Data Manipulation & Logic

The Flow Processor contains predefined processes that the flow design can use to handle incoming data: validation, transformation/conversion, split, fragment, sequential logic, parameters and external file operations. Each process is fully configurable.

Output

File – generates a file in a specified format (generally XML, CSV, TSV) but can be configured to output into any predefined format.

Database – results sent to a configured database in DML queries where any insert, update or delete operations may be performed.

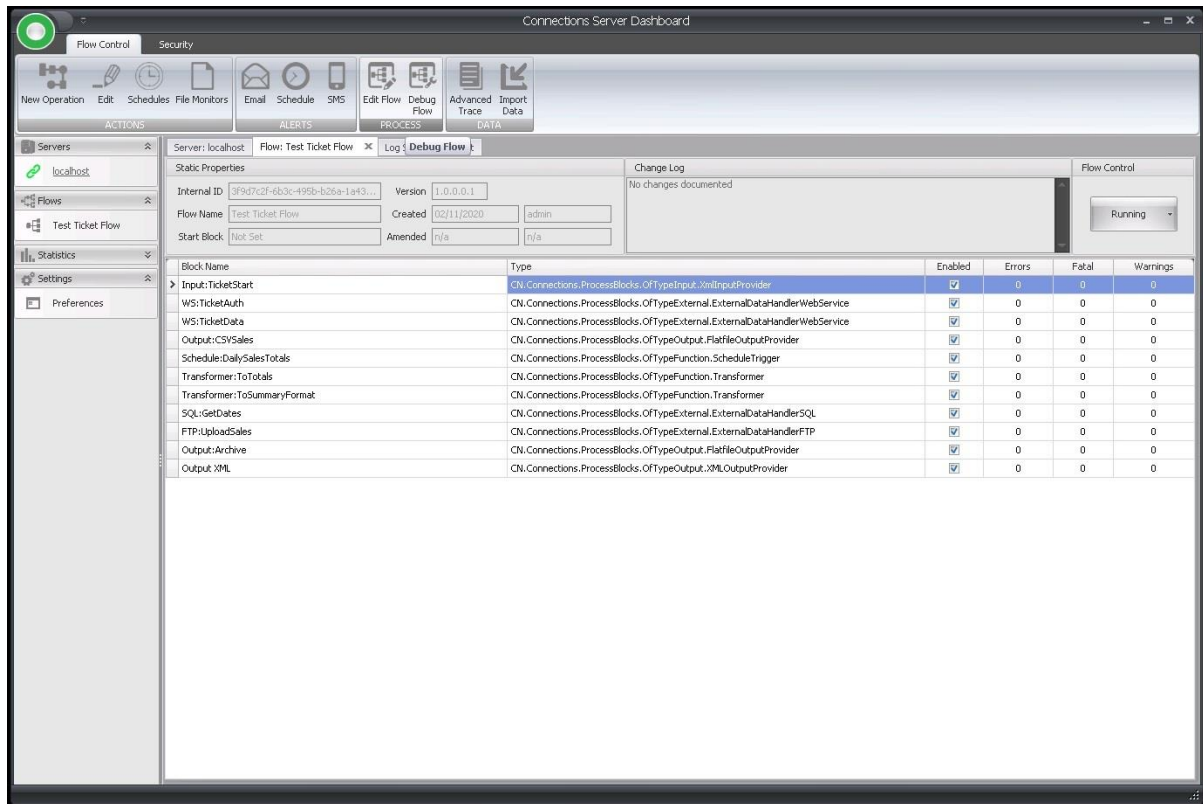
FTP – output is sent to a configured FTP location in a single operation.

Web Service – results may be sent as a payload to a web service or used as a trigger mechanism for a web service.

Messaging – output can be sent as emails or MSMQ records.

Connections Dashboard

The Connections Dashboard is the user interface to the Connections Service. It provides the visibility required to manage the Flow Processor and its flow operations.



Each flow and its processing parts can be monitored and controlled from the flow interface.

From here you can:

- Switch individual flow operations on/off
- Temporarily pause a flow and resume at a later time.
- Enable/disable individual flow process operations.
- Enable/disable trigger mechanisms or change schedule trigger times.
- Monitor flow errors and warnings.

The screenshot displays the 'Connectors Server Dashboard' interface. The main window shows a log for the 'Test Ticket Flow' on the 'localhost' server. The log table includes columns for Timestamp, Log Type, Process ID, Flow Name, Block Name, Status, Duration, and Details. The log entries show a sequence of operations including 'SQL:GetDates', 'WS:TicketAuth', 'WS:TicketData', 'Transformer:ToTotals', 'Transformer:ToSummary...', 'Output:Archive', 'Output:CSVSales', and 'FTP:UploadSales'. Most operations are marked as 'Completed' or 'Started' with a status of 'Ok'.

Timestamp	Log Type	Proc...	Flow	Block	Status	Duration	K...	Details
2020/10/12 07:00...	Information	36	Test Ticket Flow	SQL:GetDates	Ok	0		Completed
2020/10/12 07:00...	Information	36	Test Ticket Flow	WS:TicketAuth	Ok	0.9114585		Completed
2020/10/12 07:00...	Information	36	Test Ticket Flow	WS:TicketData	Ok	0.5514683		Completed
2020/10/12 07:00...	Information	36	Test Ticket Flow	Transformer:ToTotals	Ok	0.0469614		Completed
2020/10/12 07:00...	Information	36	Test Ticket Flow	Transformer:ToSummary...	Ok	0.0156575		Completed
2020/10/12 07:00...	Information	36	Test Ticket Flow	Output:Archive	Ok	0		Started
2020/10/12 07:00...	Information	36	Test Ticket Flow	Output:Archive	Ok	0		Completed
2020/10/12 07:00...	Information	36	Test Ticket Flow	Output:CSVSales	Ok	0		Completed
2020/10/12 07:00...	Information	36	Test Ticket Flow	FTP:UploadSales	Ok	0		FTP file upload (SalesOut_202010120700.csv) successful
2020/10/12 07:00...	Information	36	Test Ticket Flow	FTP:UploadSales	Ok	0		Started
2020/10/12 07:00...	Information	36	Test Ticket Flow	Output:CSVSales	Ok	0		Started
2020/10/12 07:00...	Information	36	Test Ticket Flow	Transformer:ToSummary...	Ok	0		Started
2020/10/12 07:00...	Information	36	Test Ticket Flow	Transformer:ToTotals	Ok	0		Started
2020/10/12 07:00...	Information	36	Test Ticket Flow	WS:TicketData	Ok	0		Started
2020/10/12 07:00...	Information	36	Test Ticket Flow	WS:TicketAuth	Ok	0		Started
2020/10/12 07:00...	Information	36	Test Ticket Flow	SQL:GetDates	Ok	0		Started
2020/10/11 07:00...	Information	35	Test Ticket Flow	Input:TicketStart	Ok	0.1273616		Completed
2020/10/11 07:00...	Information	35	Test Ticket Flow	SQL:GetDates	Ok	0		Completed
2020/10/11 07:00...	Information	35	Test Ticket Flow	WS:TicketAuth	Ok	0.9309149		Completed
2020/10/11 07:00...	Information	35	Test Ticket Flow	WS:TicketData	Ok	0.5458882		Completed
2020/10/11 07:00...	Information	35	Test Ticket Flow	Transformer:ToTotals	Ok	0.0312415		Completed
2020/10/11 07:00...	Information	35	Test Ticket Flow	Transformer:ToSummary...	Ok	0.0156478		Completed
2020/10/11 07:00...	Information	35	Test Ticket Flow	Output:Archive	Ok	0		Started
2020/10/11 07:00...	Information	35	Test Ticket Flow	Output:Archive	Ok	0.0156371		Completed
2020/10/11 07:00...	Information	35	Test Ticket Flow	Output:CSVSales	Ok	0		Completed
2020/10/11 07:00...	Information	35	Test Ticket Flow	FTP:UploadSales	Ok	0		FTP file upload (SalesOut_202010110700.csv) successful
2020/10/11 07:00...	Information	35	Test Ticket Flow	FTP:UploadSales	Ok	0		Started
2020/10/11 07:00...	Information	35	Test Ticket Flow	Output:CSVSales	Ok	0		Started

The System Log keeps a record of the success and timestamps of all flows and their individual operations.

Notifications may occur when an external part of the flow process encounters errors or warnings, e.g. an external web service has become unavailable maybe due to a network fault, or a hard disk that contains required files is no longer available.

The log interface is important for monitoring the health of your system.