



Control-command and supervision
Communication gateway
Data management

streamx

Technologies

StreamX is a product which currently operates on Windows® 32 bit operating systems.

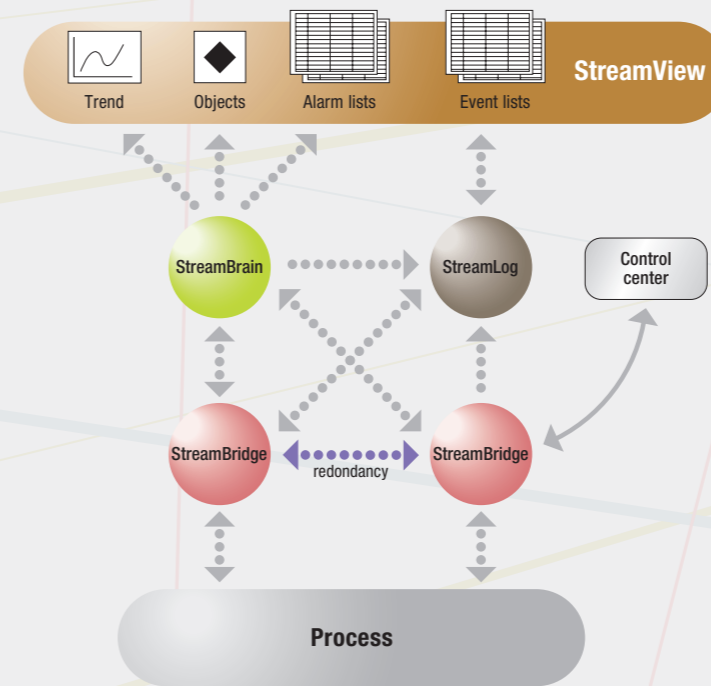
The great majority of modules use the latest Microsoft .NET technologies as well as COM+ and DCOM technologies.

Communication between StreamX modules is effected primarily via .NET remoting and is compliant with standard MSMQ.

The StreamView layer is based on ActiveX technology. It can be hosted in a container such as GraphWorX®, PcVue® or InTouch®.

StreamX is a registered trademark of the RE/SIG consortium.
Windows is a registered trademark of Microsoft. GraphWorX® is a registered trademark of ICONICS.
InTouch® is a registered trademark of Wonderware. PcVue® is a registered trademark of Arc Informatique.

StreamX is a modular solution for the control and management of real time data acquisition processes; it can be adapted to existing systems or new installations.



StreamX, a modular solution

From transfer with the process of information and commands to the creation and management of synoptical controls, different StreamX modules allow complete, effective and high performance command and control of installations. The solution can be deployed in a range of architectures that facilitate adaptation to particular requirements of the user or project.

Open and independent, StreamX allows rapid implementation, without hardware limitations, of multiple communication protocols for data exchanges with the process or with any third party data management system. StreamX can be configured for local or remote command and control and incorporates a complete SCADA calculator capable of processing both object status and their transitions.

Some of its modules can be used independently, e.g. to create a communication gateway between inter-dependent systems or for an application which integrates engineering standard IEC 61850.

StreamX enables decision-making and action stations to be multiplied in complete safety and with a full knowledge of the facts. It facilitates project management, enables data to be standardized and offers important time-saving benefits for multiple projects.

- StreamX publishes data and makes them accessible to different processing units.
- A broad range of tools and functions enables data to be managed and processed in response to the user's needs.
 - Advanced principles and methods guarantee security both in terms of users and data.
 - Backup resources allow the archiving of information.
- A flexible and user-friendly interface gives users the means to create and manage synoptical controls at their own convenience.
- Intuitive and ergonomic tools enable all modules of the StreamX solution to be configured. These tools give users complete autonomy in controlling their data.

Owners

StreamX is owned by a consortium of utilities active in the generation and distribution of electric power. These utilities help to develop the product through their knowledge and expertise in the construction and operation of the projects they operate.

They master and use new StreamX developments, which are then validated by their integrators and operators.

Because they own StreamX and make extensive use of it in many fields, such as the distribution and production of electricity and gas, district heating, etc., they make an important contribution to the product's long-term viability.



Development

Development and maintenance of StreamX are assured by the company Infoteam SA. Its engineers follow a developmental strategy of continuous integration of the latest advances in engineering and industrial IT. They are able to provide integrators and operators with sophisticated technical support or full solution integration services.

StreamX is a modular solution comprising two families:

- Real time modules handling acquisition, command and control functions.
- Data management and system configuration tools

Real time modules

StreamBridge Acquisition Server

StreamBridge handles the acquisition, routing, archiving and management of process signals by communicating with different types of RTU or IED and also with different protection or control and command equipment.

StreamBridge serves as a communication gateway and integrates many protocols such as IEC 61850, IEC 60870-5-101, -103, -104, TG800, RP570/1, etc. It transmits information and commands between the process and StreamBrain (the local SCADA) or any third party market system, as well as to a control centre. It can also interconnect third party systems via proprietary or standardized protocols.

StreamBridge is also an OPC server, giving it uniform and standardized communication capabilities with the outside world. Depending on particular application requirements, StreamBridge can be redundant and provide a hot standby. Ease of implementation, together with its low cost, allows multiple deployment and installation as close as possible to the process.

StreamBrain SCADA Calculator

StreamBrain is the calculator containing all SCADA functions. It distributes information to all operators and processes their actions. It ensures control of the process and manages changes in the state of process objects, such as alarms, etc.

StreamBrain manages access rights granted to operators to send commands or acknowledge alarms, according to their profiles, in various domains within an application or according to work stations.

StreamBrain is also OPC client and server. Its process identification points can use many sources originating from StreamBridge or from a standard OPC server.

StreamLog Event Recorder

The StreamLog application layer is in a sense the black box of the whole system. Depending on the configuration, changes of state of process objects and system events are recorded here, together with all actions taken by operators. All of these events are recorded with the corresponding date and time.

StreamLog provides users with an unlimited number of lists or logbook type which can be freely configured to meet application requirements.

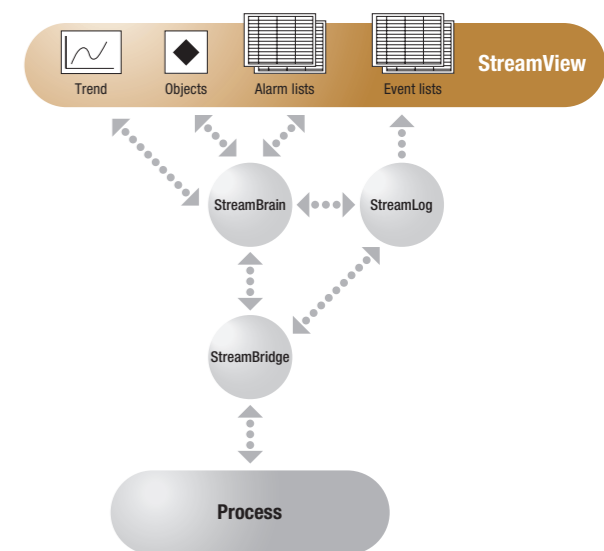
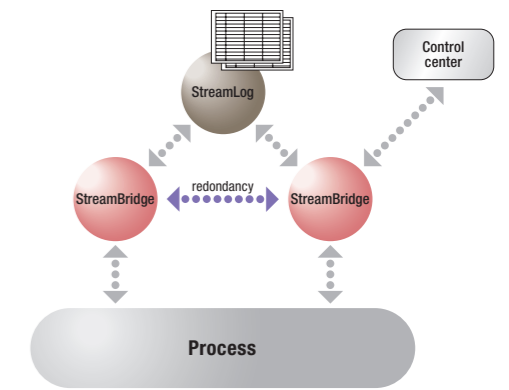
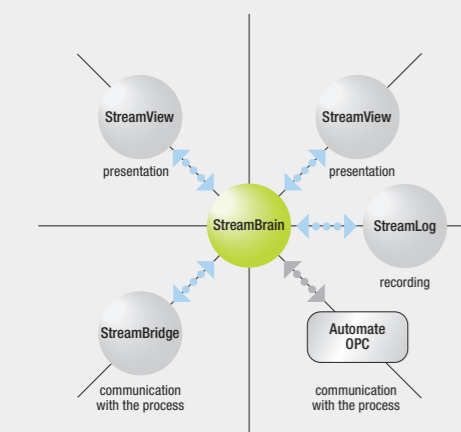
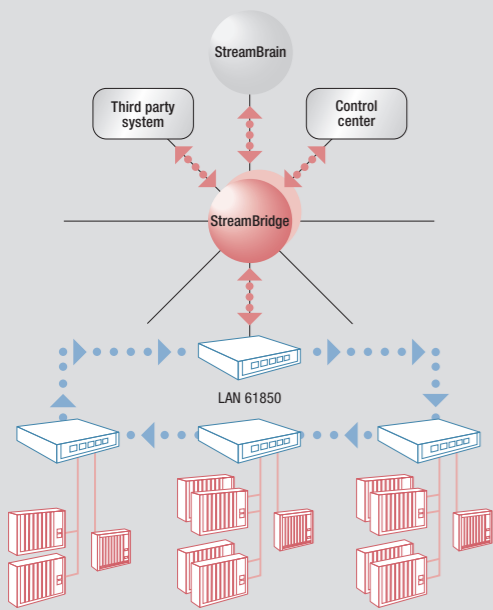
A number of search and sort possibilities are available enabling these events to be displayed in the StreamView section.

StreamView Process Display

StreamView allows a graphic representation of process objects, event lists and alarm lists via a multi-station and multi-screen interface.

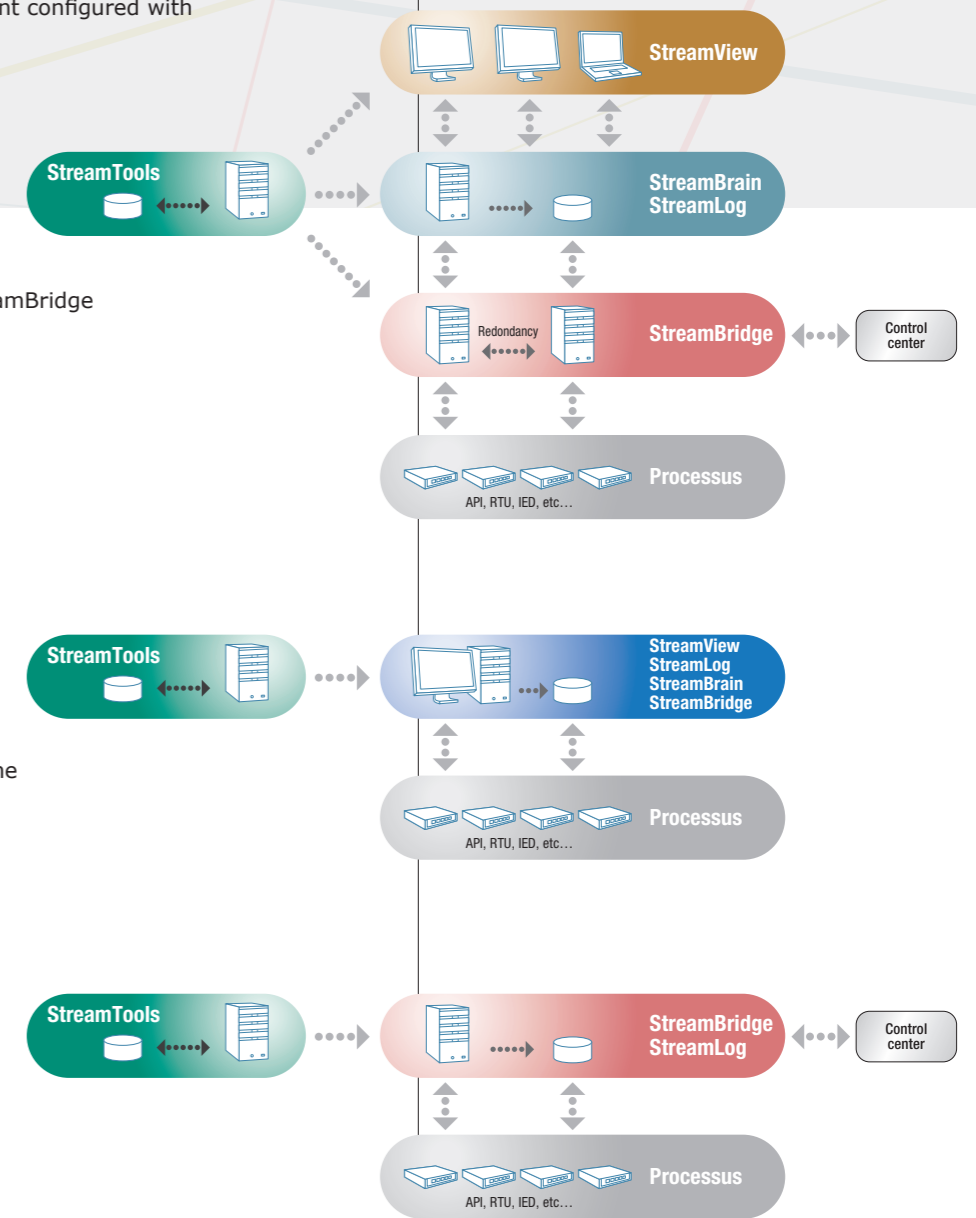
StreamX uses tried and tested market containers to host ActiveX components specific to data types to be displayed and ensure the graphic representation of data.

StreamView also offers graphic display tools to present the operator with a view of instantaneous measurement trends, together with historical values stored in the databases.



Architecture

StreamX is a modular product. Its architecture may be of the distributed or single station type. Its main modules, i.e. StreamBridge, StreamBrain, StreamView and StreamLog, can therefore be spread over one or more machines and the entire deployment configured with the StreamTools application.



Configuration and management modules

StreamTools Configuration Tools

Web application for the configuration of different modules in the StreamX range and management of process data, enabling the configuration of several separate projects to be managed.

StreamTools also facilitates all configuration database maintenance operations (backup, user management, validations, etc.).

Requiring no software, it can be accessed from any workstation via the internet, respecting access rights and using an ultra-secure link. Data are backed up in databases and exported in binary format files to the runtime modules.

Different data configuration versions and all additions, deletions and modifications are archived with a historical record, thereby providing a comprehensive overview of the evolution of a particular project and facilitating a flashback.

StreamTools uses advance security strategies at both user and data level to ensure total cohesion between projects and the operators who set up configurations.

System configuration

The system parameters of StreamX real-time modules are managed and backed up via a dedicated application.

