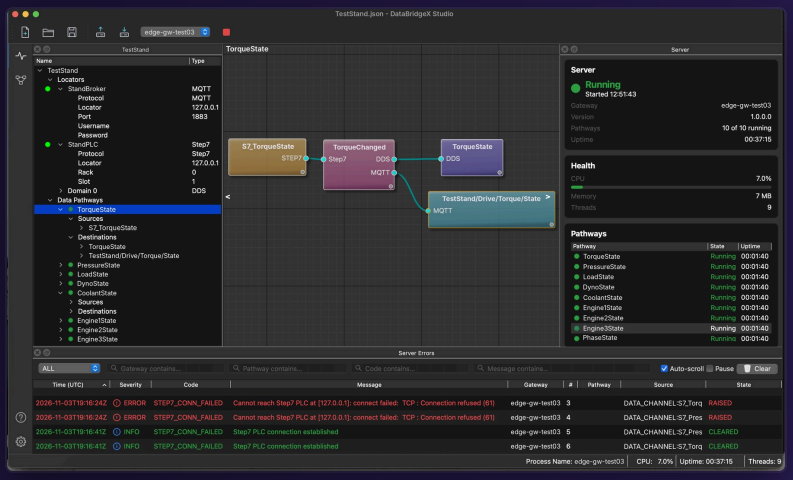
FederatedDesigns

PRODUCT BRIEF

CONTEXTUAL DATA INTEGRATION

DataBridgeX

Data becomes more valuable **when you understand how it relates.**



LIVE MODE A PLC value change, published to DDS and MQTT by DataBridgeX Edge.

Systems produce data. Operations run on information. Controllers, instrumentation, vehicles, and databases each report part of what is happening, each in its own protocol. On its own, that data tells you what a value was, not what was happening when it changed.

Information is data in context, and DataBridgeX is the bridge between the two. It brings data from independent systems together, attaches the context you define, and uses events to derive information that no single source provides.

Program data, not protocols

1

Choose the data

In DataBridgeX Studio, pick the data you need from any connected system.

2

Program the pathway

Connect sources to destinations through events. This is where context is defined.

3

Run it as a data flow

Deploy it, and the pathway executes as a live data flow on DataBridgeX Edge.

Time tells you when. Context tells you what was happening.

TIME-SERIES VIEW	WITH DATABRIDGEX CONTEXT
Torque was 12,000 ft-lb at 10:42	Torque was 12,000 ft-lb during Test Run 14, Phase 2
Hydraulic pressure increased	Pressure rose while "engine under load" was active
Controller entered a fault state	The S7 controller faulted during the high-temperature soak
RPM decreased	RPM dropped at the Phase 2 to Phase 3 transition
Several signals changed at once	Stand, instrumentation, and vehicle changed together in one test step

Context doesn't establish causation. It gives you the relationships needed to investigate it.

AT A GLANCE

Connectivity

OPC UA · MQTT · SQL · DDS · Modbus · Siemens S7

+ more coming

DataBridgeX Studio
Create, edit, and orchestrate data pathways

DataBridgeX Edge
The gateway server that runs pathways as live data flows

Logic
Events and compound events across multiple sources

Protocol code
None required

WHERE IT FITS

Test & evaluation
Bring test stand, instrumentation, and vehicle data together per run.

Lab integration
Connect legacy PLCs and modern DDS systems without custom code.

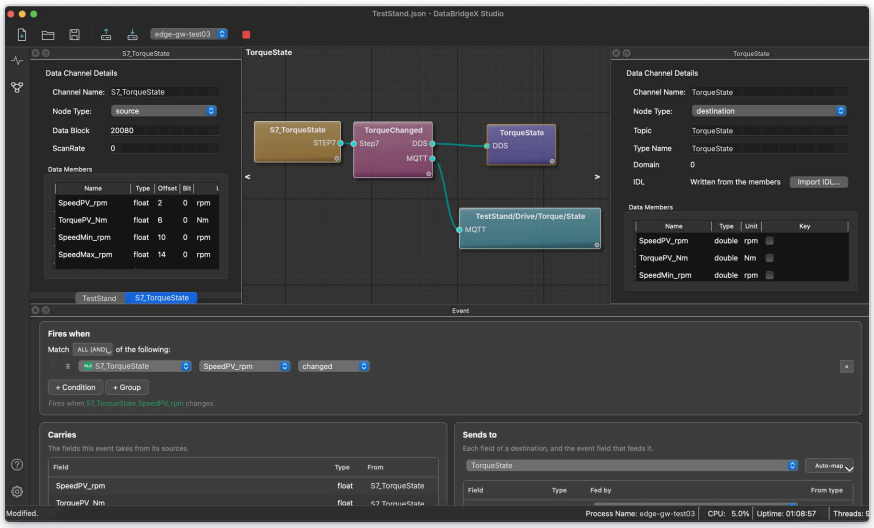
Operations
Derive operational states and share them with other systems.

WHERE CONTEXT COMES FROM

DataBridgeX doesn't guess at meaning. Context comes from the flows, events, and compound events you define, so every derived result traces back to a rule you can inspect.

Build pathways visually. Run them live.

Every pathway is built from the same few pieces in DataBridgeX Studio, then deployed to DataBridgeX Edge. No protocol code at any step.



DATABRIDGEX STUDIO

Anatomy of a pathway

Source nodes feed event nodes, which feed destination nodes. Locators connect them to your systems.

1. **Locators.** Connect once to each system: an MQTT broker, an S7 PLC by rack and slot, a DDS domain.
2. **Source nodes.** The data to read, such as S7 data blocks by offset and bit.
3. **Event nodes.** Fire on conditions, combined with ALL or ANY, grouped for compound logic.
4. **Destination nodes.** DDS topics typed from IDL, MQTT topics, and more, with auto-map.

Above: one S7 value change fires an event that feeds a DDS topic and an MQTT topic, converting **float** *to* **double** *on the way.*

Run it live on DataBridgeX Edge

HEALTH

See the gateway

Running state, version, CPU, memory, threads, and uptime for each DataBridgeX Edge gateway.

PATHWAYS

See every flow

The state and uptime of every deployed pathway, at a glance.

FAULTS

See what went wrong

Connection faults logged as raised and cleared, filterable by gateway, pathway, and code.

Connects what you already have

Available today, with new connectors added regularly. Need one that isn't listed? Ask us.

Siemens S7
PLCs and data blocks, by offset and bit

Modbus
Controllers, test stands, instruments

OPC UA
Instrumentation and industrial servers

DDS
Vehicle and mission buses, typed from IDL

MQTT
Brokers, dashboards, and cloud services

SQL
Databases for results and records

More than a historian or protocol gateway

	PROTOCOL GATEWAY	HISTORIAN	DATABRIDGEX
Primary job	Translate between protocols	Record values over time	Bring data together in context
Organized by	Point-to-point mappings	Signal and timestamp	The flows and context you define
Logic	Limited or none	Queries after the fact	Events and compound events as data flows
Result	The same data, elsewhere	A searchable record	New, derived information

Connect the data. Add the context.
Deliver the information.

TALK TO US

www.federateddesigns.com
eva@federateddesigns.com

© 2026 Federated Designs. All product names and trademarks are the property of their respective owners.