TIBCO Flogo Software Pushes Boundaries for IoT Digital Business

**Challenge**

Enterprises span the globe both physically and digitally. To act quickly on important events originating from IoT devices, global businesses need to address data, connectivity, compute power, and networking challenges.

**Solution**

TIBCO Flogo Enterprise software is a visual flow designer enabling ultra-light applications to easily run on resource-constrained IoT devices. Businesses rely on Flogo software to consume events from anywhere and act on them in real time. Light yet powerful modern Flogo apps can leverage embedded AI and machine learning to assist in taking the most appropriate and timely actions.

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When we were thinking about how to get data from Internet of Things (IoT) devices into the enterprise to make it useful for business decisions, TIBCO seemed an obvious choice, and the relationship has been great.

—Bruce Jackson, CTO of Thingstream
Benefits

Edge processing for faster decisions

Built using the Go language, Flogo applications are self-contained, meaning they don’t require dependent code that has to be packaged with the application. Along with a small footprint, Flogo apps use far less memory than those built with Java, so they can run on memory-constrained IoT devices. Data can be processed closer to the source, for less latency and network cost, and actions can be taken faster before moments of opportunity pass.

An example of a TIBCO customer taking advantage of Flogo edge processing is global shipment management company, CargoSmart. Helped by Flogo and TIBCO Streaming software, the company is applying artificial intelligence to IoT data for informed disruption handling. A medical supply manufacturer that needed to validate continual refrigeration of medicines during cross-Atlantic shipping, sends temperature sensor data to the Flogo app for anomaly detection and customer alerting. The app could also run automated tasks to stabilize temperature between low and high thresholds to reduce alerts and the need for human involvement.

Low power consumption, greater innovation opportunity

TIBCO customer Thingstream, a leading provider of connectivity-as-a-service (CaaS) for IoT applications, uses Flogo software to ensure optimal customer operations by monitoring extreme environmental conditions in real time over extended periods. Some of these devices need to run in the field for decades, without human intervention or replacement. And of course, they need power to consistently send and receive messages over that time. Thingstream depends on the lightweight Flogo deployment model that aligns with the company’s requirements for low energy consumption.

“There’s a tradeoff between processing power on a device and battery life. You really want something that will compile down into something that’s small and efficient, and that’s really the goal of Flogo,” said Bruce Jackson, CTO of Thingstream.

Faster time-to-market, smarter insights with machine learning

Easy-to-use Flogo Enterprise software also accelerates development of new apps, thanks to its built-in connectivity to various real-time messaging and streaming technologies such as Kafka and MQTT. It also supports embedded machine learning (ML) models, real-time access to data, and the ability to automatically act on events using ML.
The ability to embed ML into edge devices is proving profitable for several TIBCO customers. Ralph Ho of CargoSmart said, “TIBCO’s agile technology allows us to facilitate custom analyses and dashboards with customers. It’s shortening time to market and allowing us to deliver exactly what customers need to meet their business objectives.”

**Improved customer experience**

Perhaps the most important indicator of a successful digital business is its ability to create a positive customer experience. Every digital business today experiences increased pressure to deliver fast, reliable solutions to its customers. Flogo software reduces the time it takes for developers to build apps using a visual flow designer. You don’t necessarily have to write code to build and connect your apps, but you can if you need to. When you design visually, use pre-built connectors, and tap into best-of-bread innovation provided by open source software, you can accelerate the development of really cool apps. Here’s what TIBCO customers are saying:

“Without ever having to develop code, you can literally click, drag, configure, and have a complete flow of data direct from Flogo straight into the enterprise.”

“TIBCO’s agile technology allows CargoSmart to facilitate, or to co-design with customers, custom analyses and dashboards. It’s shortening time to market and also allowing us to deliver exactly what customers need to meet their business objectives.”

“TIBCO is enabling our customers to move more quickly and express requirements and demands for change because of the agility we’ve gained. We’re able to address those requirements and deliver on them more quickly. Our responsiveness is reflected in the happiness of our customers.”