



**ASSET TRACKING & INVENTORY MANAGEMENT**

# Alleviate Bottlenecks and Streamline Operations with Ultra-precise Asset Tracking and Inventory Management

Small obstacles in the day-to-day operations of your company can cascade into major failures that hurt your reputation and bottom line. Streaming data applications help you harness the full potential of streaming data to bypass such obstacles with ultraprecise asset tracking and inventory management.

## Is your business realizing the full value of its streaming data?

More than 80% of Fortune 100 companies use Apache Kafka for streaming data to modernize operations and customer experiences.

*But moving data — even at scale — is not the same as deriving its total value.*

- More often than not, companies rely on complicated streaming data application architectures to build streaming data applications. The result?
- Increased overhead from managing multiple data systems.
- Compounding latency due to querying at multiple stages, which defeats the utility of “real-time” use cases.
- Ever-increasing operational expenses.

Sound familiar? If so, it’s time to think differently about how your business builds streaming data applications.

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## Build streaming data applications in minutes, not months, with Nstream

Nstream, based on SwimOS (Open Source) is the first [full-stack streaming data application development platform](#) that allows enterprises to design, build, test, and deploy applications faster and more efficiently than ever before.

*In fact, Nstream delivers a 10x faster time-to-value and a 70% lower total cost of ownership (TCO) compared to alternate approaches.*

Nstream's fully-integrated solution enables real-time visibility and action while eliminating the need to integrate multiple data systems, hire new SMEs for each data system, or pay multiple vendors.

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## How streaming data applications improve asset tracking and inventory management

If supply chain visibility and optimization are a top concern, you're not alone. In an [EY survey of more than 500 corporate executives](#), the majority (58%) said that increasing supply chain visibility is a major business priority, while only 37% of executives believe they've achieved an ideal state of visibility.

A key culprit behind these supply chain blind spots is that many enterprises have technology stacks that are not designed to work efficiently with streaming data. Whereas batch processing is too slow and alternate approaches to real-time analysis and action are expensive and difficult to scale, streaming data applications allow businesses to unlock total, end-to-end visibility and immediately act on important changes as they occur.

For example, a chain of stores using a traditional data-driven application architecture would have to constantly poll their entire product dataset to identify stockouts. Scraping an inventory system every second could easily cost millions each year. Plus, streaming relevant updates all the way to customers in a mobile app further drives cost and latency to unacceptable levels.

With streaming data applications built on the Nstream Platform, however, a business can see the inventory status, cost, and other relevant metadata for every single item in the store — in real-time — via a combination of stateful services and streaming APIs (described under How Nstream's innovation works). What's more, these applications could reflect inventory changes to a customer's mobile app within millisecond latency, all while taking up the same amount of cost and bandwidth that would be used to deliver stale results. Nstream delivers these outcomes at a much lower TCO and faster time to value than other solutions.

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## How Nstream advances asset tracking and inventory management across verticals

### RETAIL

#### Reduce friction with product-level visibility

Nstream allows retailers to monitor inventory flow down to the individual product. This provides insight into what products are currently on the floor, which items are selling quickly, and how much time is left until an order arrives in a customer's mailbox. This real-time supply chain visibility enhances the customer experience and removes points of friction that could hurt the business.

### TRANSPORTATION

#### Spot bottlenecks early and provide precise delivery windows

Gone are the days when customers and businesses had to deal with wide, ambiguous delivery windows. Monitor thousands or even millions of moving parts — many on wheels — to optimize routes and ensure everything gets where it's needed on time. Nstream can be used to build applications that offer precision tracking for every step of the shipment journey so organizations can quickly spot potential bottlenecks and automate remediation actions.

### FINANCIAL SERVICES

#### Protect assets and gain customer trust

Asset and transaction data monitoring in the financial services industry is critical for earning customer trust and keeping the business profitable. For example, real-time tracking capabilities allow institutions and individuals to monitor transaction anomalies and suspicious activity to mitigate fraud and identity theft. Organizations can better protect assets and nurture lifelong customers by reducing losses and risk.

## How your business benefits with the Nstream Platform

BENEFIT	HOW?	WHY DOES IT MATTER?
<b>Total business visibility</b>	A real-time user interface provides a live model of the ever-evolving business state. You can see an aggregate view showcasing functional operations or zoom in on real-world objects (assets, transactions, customers, etc.) to get a granular view.	Real-time visibility is vital to understanding complex business operations and spotting potential issues well in advance.  <i>Proof point:</i> An enterprise customer uses Nstream to deploy a real-time interactive map view of 20M+ IoT devices.
<b>Sophisticated automation</b>	Context-enriched streaming data is used to automate nuanced, time-sensitive decisions.	Acting on insights at the same speed as data processing makes the business more agile and competitive.
<b>Faster time to value and lower total cost of ownership (TCO)</b>	The full-stack streaming data application development platform removes the need for multiple data systems to set up and maintain.	Managing multiple distributed data systems is time-consuming and expensive.  <i>Proof point:</i> Nstream offers a 10x faster time-to-value with a 70% lower TCO.
<b>Fully integrated software</b>	Streaming data applications unify state, compute, persistence, and messaging into a single, vertically integrated data processing architecture.	Teams can focus on implementing business logic for specific use cases.  <i>Proof point:</i> Nstream applications require 4x fewer engineering hours to design, build, test, and maintain.
<b>Stream-to-stream joins</b>	Stateful processing and entity-parallel services ensure that all necessary context remains with relevant business objects rather than scattered across database tables.	Implement a full-context real-time decision-making system while preventing a prohibitive cost increase and high latency.

### How Nstream's innovation work

Nstream helps you create powerful streaming data applications in minutes, not months. It is possible because of the following technology innovations.

- **Stateful services:** With stateful services, applications do not forget their state and have the functionality of an application server on real-time / streaming data.
- **Streaming APIs:** Streaming APIs facilitate pushing data through the entire application stack. Think of streaming APIs as having the functionality of REST APIs but for real-time / streaming data.
- **Real-time user interfaces (UIs) and enterprise integrations:** Real-time UIs allow users to see the real-time state of their business down to the real-world object (such as a customer, truck, asset, or connected device) scale. Our real-time UIs easily integrate with business intelligence (e.g., Tableau), enterprise applications (e.g., Twilio), microservices, and custom UIs (e.g., Angular, React).



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## Case Study: Itron drives the future of smart power grids



Itron helps utilities and cities safely, securely, and reliably deliver critical energy infrastructure solutions to communities in more than 100 countries. Itron needed a scalable solution that allowed its customers to monitor millions of endpoints and the power grid in real-time to accelerate EV charging deployments. With Nstream's technology, Itron can now view the status of real-world objects (track meters, substations, and additional transformers) as they update in real-time.

With a real-time view of grid infrastructure, Itron utility customers can identify where chargers aren't in use and better control electricity use at charging stations by conserving energy instead of running chargers non-stop.

The result — Itron's solution can save end customers more than 35% on their energy costs through managed charging and can save utilities more than 20% annualized, considering grid infrastructure investments and ongoing management.

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## Nstream receives industry recognition



Nstream has been recognized by Gartner as an example vendor of Unified Real-Time Platforms in the Market Guide for Event Stream Processing for its streaming application platform as a service (PaaS).



The analyst firm Intellyx honored Nstream with the [Digital Innovator Award](#) for driving enterprise digital transformation, and recognizes Nstream as a vendor worth watching.

## Getting started FAQ

### Q: Do I need to replace my tech stack to use Nstream?

A: No. Nstream helps you build SDAs and sends data back to your existing systems without being disruptive to your current stack.

### Q: Does Nstream integrate with my existing streaming data technologies?

A: Yes, Nstream will easily integrate with your existing stack. Here are just some examples of our integrations: Tableau, Thoughtspot, Looker, ServiceNow, Twilio, Angular, React.

### Q: Do I need streaming data developer experience to build a streaming app?

A: No! Nstream is a low-to-no-code solution; we provide templates to help you get started and on your way to building streaming applications in minutes (not months!).



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## Ready to build your own streaming data application?

Streaming data applications present an exciting opportunity to take your streaming data to the next level. Nstream is the first open-source, full-stack streaming data application platform. To learn more about Nstream or to get started with Nstream and your existing tech stack, discover more [here](#).

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## About Nstream

Nstream's application development platform, built on [SwimOS](#) - has been open-source since 2019.

Nstream is an innovator in open-source, full-stack streaming data application development platforms, revolutionizing real-time operations for enterprises. With Nstream's cutting-edge innovations, organizations can effortlessly harness the power of streaming data, reduce operational costs, and improve scalability and agility. Nstream's technology enables businesses to unlock the full potential of their data, turning insights into action — immediately.

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