

API Streamer for logistics companies

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This paper summarizes the benefits of API Streamer - the only realtime API management platform. It shows how logistics companies can rapidly deploy realtime APIs with near-zero investment in order to meet massive industry demand for real time visibility - achieved through APIs.



The state of realtime APIs

Supply chains are undergoing massive digital transformation, with Logistics at the forefront. The rise of eCommerce giants has shown how logistics can be wielded as a competitive advantage. This is driven largely by an increase in real time visibility into orders and shipments, powered by realtime APIs. For established players, real time visibility offers opportunities to meet changing customer expectations, drive greater internal efficiencies, and catch up to the eCommerce giants.

As such, developers across logistics are demanding APIs that go beyond traditional request / response REST APIs. They want realtime APIs. In fact, Gartner predicts that by 2020 50% of all APIs will be event-driven (aka realtime). Logistics companies already work with REST APIs. But for the event-driven, realtime nature of logistics data, REST APIs aren't fit for purpose: latency is high and load is heavy, and they're an expensive and inefficient way of exposing this high-volume, time-sensitive data. Developers are seeking out realtime logistics APIs to drive efficiencies.

There are logistics and real time visibility platforms attempting to meet this demand. But they quickly come up against barriers. The cost of exposing realtime data is significant, delivering effective, performant APIs is difficult, and the new type of required infrastructure takes enormous effort and time to build. These providers are losing out on opportunities to drive innovation around their products and services by mis-focusing on infrastructure rather than product innovation.

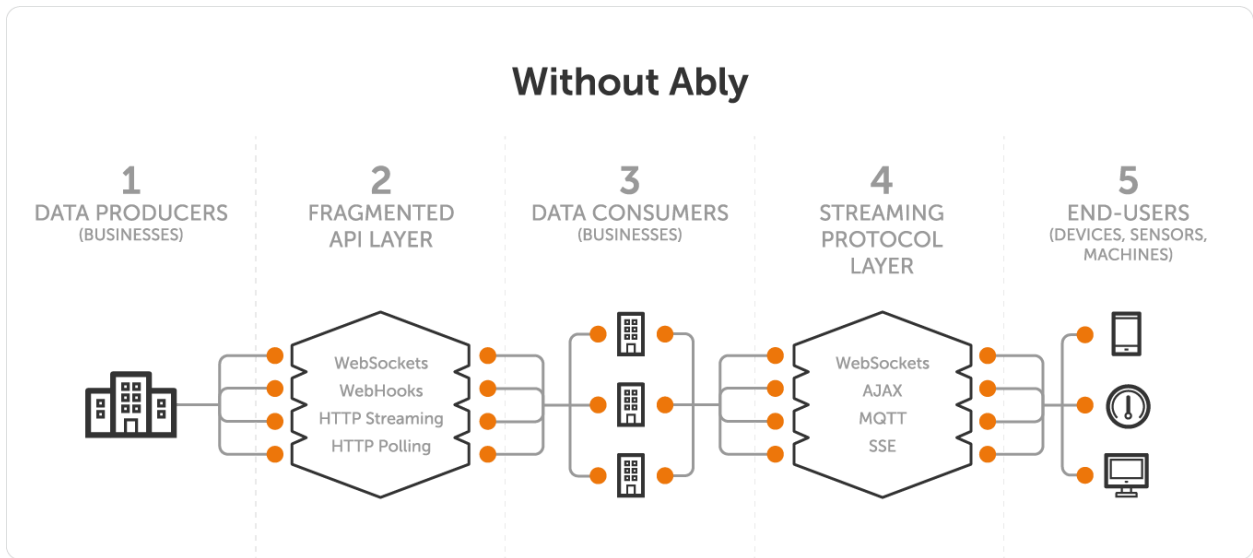
Ably's API Streamer is helping logistics-focused companies gain a realtime advantage by offering the tools and distribution network to rapidly distribute realtime APIs with near-zero investment.

By building on our proven cloud platform, companies are able to completely offload the cost and heavy engineering lifting involved in effectively distributing realtime logistics APIs. This increases developer engagement with their products and services, encourages higher levels of integration, and fosters innovation. All while benefiting from Ably's continued realtime innovation.

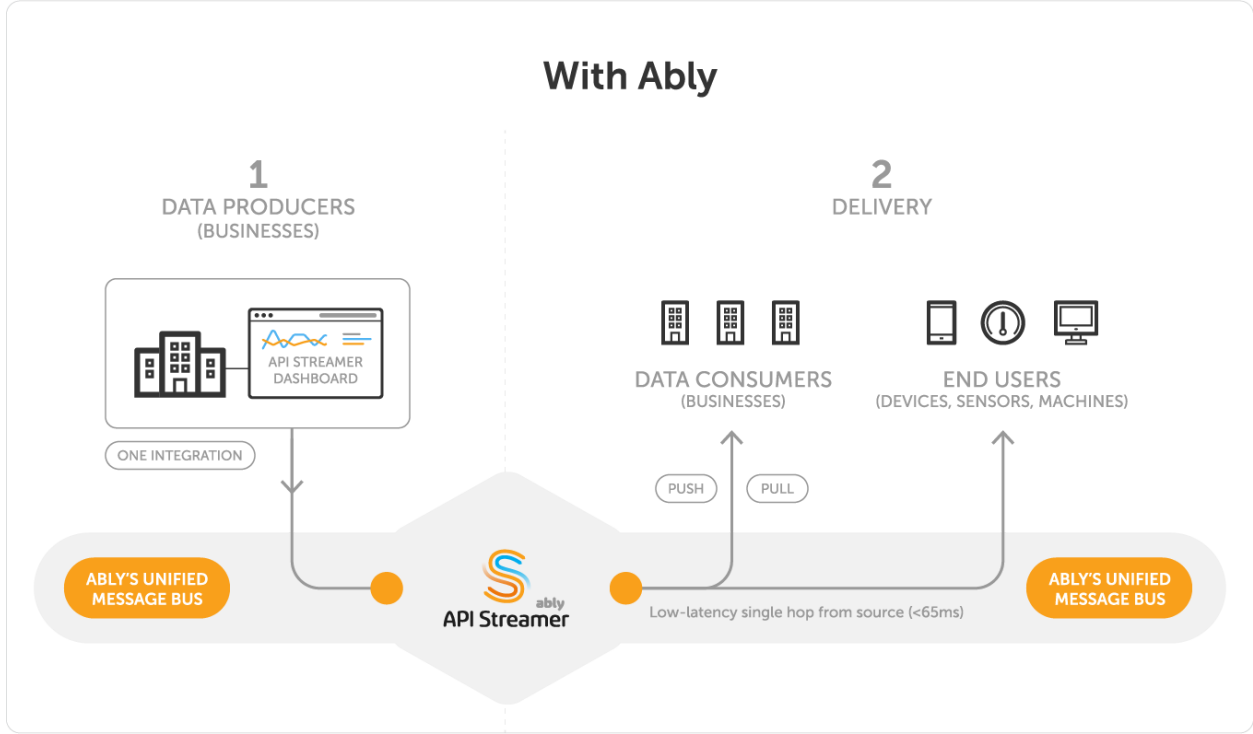
Ably at a glance

- Billions of realtime messages sent over the Ably network each day
- Over 30m end-users across smartphones, tablets, devices, and servers receive data streamed at sub-65ms latencies over the Ably network
- Globally-distributed network spread over 16 physical data centers and 175+ edge acceleration points-of-presence (PoPs)
- Diverse customer base including transport providers, SaaS companies, sports data providers, and financial data providers
- Logistics platforms like SupplyStack already trust Ably to power their realtime needs





Logistics platforms attempting realtime API creation without a realtime API management platform add load and complexity with each additional integration, exacerbated by protocol fragmentation.



Those building on Ably need only integrate once using an open protocol, reducing engineering complexity and infrastructure costs. This single integration provides protocol interoperability across push and pull protocols, with optional end-to-end data streaming for data consumers.

The three essential aspects of effective realtime APIs

With realtime APIs there are three aspects to consider: deploying data, managing data, and distributing data from source to subscriber. API Streamer covers every aspect.



Deploy



Manage



Distribute

Deploy realtime data

API Streamer decouples the complexity of distributing data from the simple operation of publishing event data as it happens. It ensures logistics platforms have a fixed level of complexity and cost regardless of the number of downstream consumers of their data.

As data is generated from various vehicles, containers, and sensors across the globe, logistics platforms need only publish those events once to the Ably network over an open protocol.

Manage realtime data

API Streamer provides data flow control to data producers and logistics platforms through rich management dashboards, analytics on usage, and access control tools.

Data producers can control exactly who has access to data, specific aspects of data, volume of data, and even who pays for the data delivery costs (the bandwidth).

Distribute realtime data

API Streamer, built on Ably's globally-distributed [Data Stream Network](#), allows developers to easily consume data at any scale, with any number of protocols.

Ably's platform handles the heavy lifting of scale, performance, reliability, data integrity, protocol transformation (for example, MQTT or SSE) and push (e.g. serverless function invocation or Kafka delivery) all at sub-65ms global latencies.

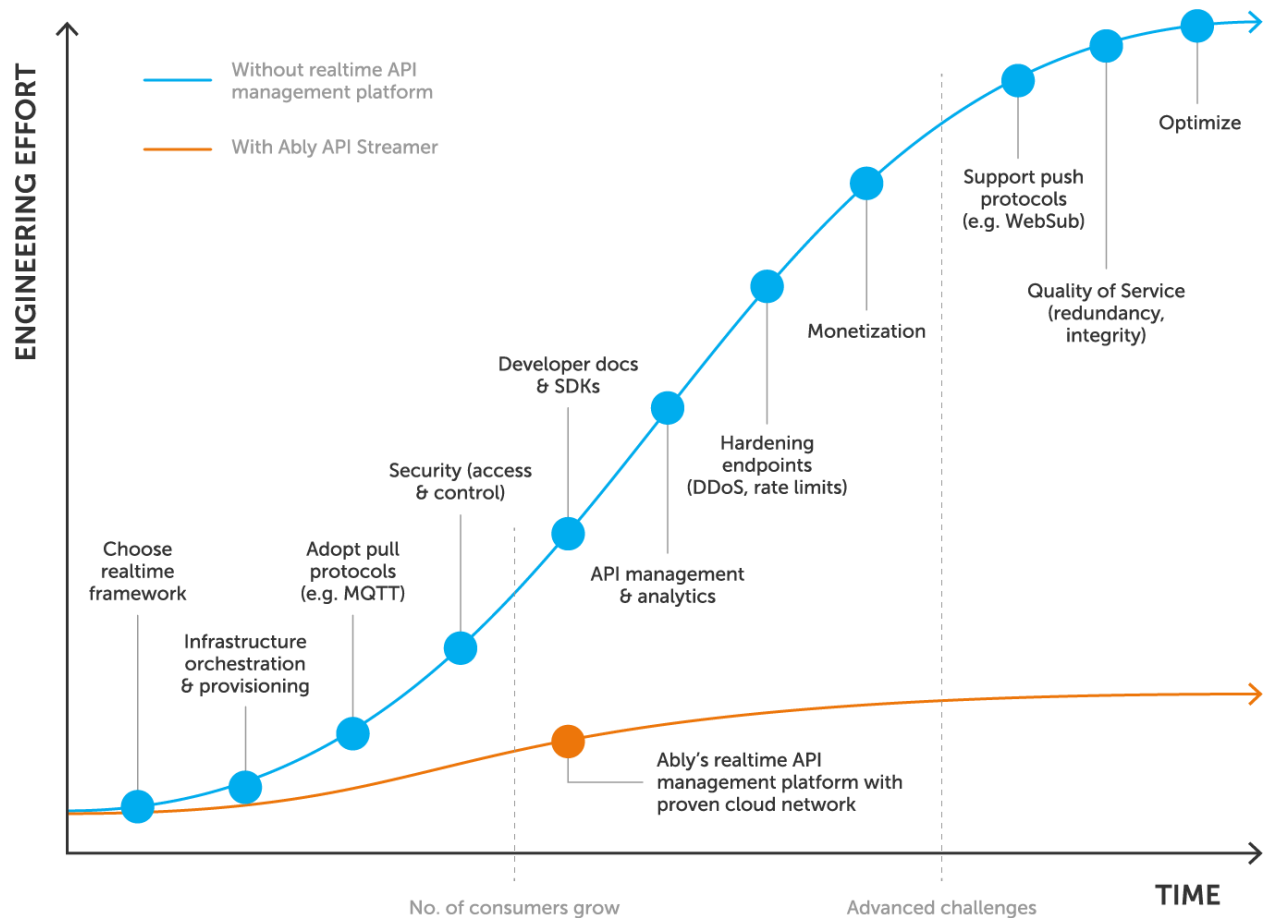


Key benefits and features of API Streamer

Fixed initial and ongoing engineering costs

Providing realtime APIs that developers love is a big undertaking. It requires both significant upfront investment and ongoing maintenance. As event-driven architecture proliferates and realtime API adoption increases, so does complexity, cost, and friction of integration for developers wanting to consume realtime data.

The chart below outlines the iterative evolution for logistics companies exposing realtime APIs themselves versus with a realtime API management and distribution platform like API Streamer.



Serverless cloud realtime messaging infrastructure

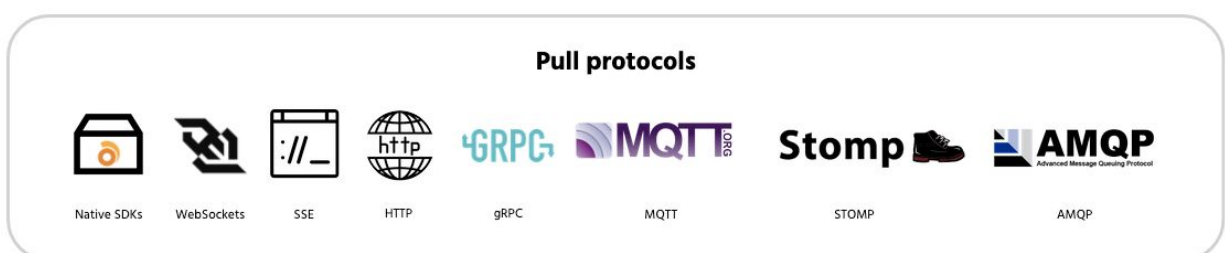
API Streamer is a fully-managed cloud service. You never need to worry about provisioning servers, installing or maintaining hardware and software, network performance, or service reliability.

- The hidden complexities and edge cases of operating realtime infrastructure are solved. Data integrity, mission-critical reliability, stream replay - all built into the core service. Complex, demanding realtime engineering available to you with a few lines of code.
- A cloud network built on our global infrastructure, distributed across 16 data centers, means we can offer end-to-end delivery - from truck GPS sensor right to a shopper's smartphone.
- Our expansive, elastic network is able to rapidly autoscale to millions of concurrent connections, accommodating any amount of growth or unpredictable demand.
- API Streamer is optimized for latency with data cached globally, reduced bandwidth with binary deltas, and IP traffic acceleration with 175+ network edge acceleration PoPs globally.

Pull Subscription Protocols: multi-protocol support

The ecosystem of realtime protocols is extremely fragmented and continues to fragment. This tightly couples data producers and consumers. API Streamer reduces the need for custom integration work by providing multi-protocol support out-of-the-box.

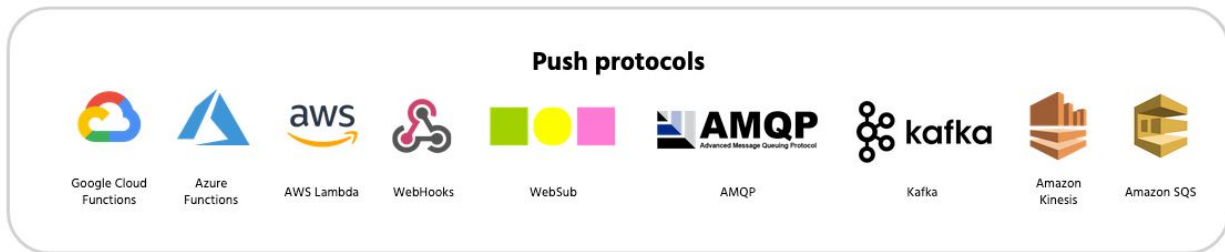
- API Streamer ensures interoperability between data producers and consumers, regardless of protocol, effectively decoupling data source protocol from end destination protocol. This reduces integration work for both data providers and consumers.
- Protocols are better suited to different tasks. SSE is a pull-only protocol. MQTT is a lightweight IoT protocol. WebSockets is effective for bi-directional communication. HTTP Streaming is the lowest common denominator across devices. API Streamer supports all and will continue to support new and emerging protocols now and in the future.



Push Subscription Protocols: third party platforms and streams

Pull protocols are essential for consuming realtime data but don't scale well with high volumes. Push protocols allow consumers to set up designated sinks so they can effectively consume data.

- API Streamer takes care of the complexity of delivering high volumes of data reliably, directly to other clouds, queues, and even serverless functions.
- Extensive support across cloud, hybrid, or legacy environments. All part of the core service.



Security

API Streamer protects realtime APIs from attack, secures them with class-leading authentication, and provides organizational peace of mind with enterprise-grade security and compliance.

- DDoS mitigation baked into the platform with rate limits to prevent API abuse.
- Authentication schemes including API keys, token auth, JWT, and more on the way.
- Enterprise-grade security and peace of mind with TLS and AES256 encryption and EU GDPR, HIPAA, SOC 2 Type II (certification Mar 2020), ISO 27001 (certification Dec 2019) compliance.

Developer-friendly, best-in-class experiences

Developers expect great API experiences. With API Streamer you can provide the best-in-class experience developers demand - out-of-the-box.

- 40+ native SDKs available for developers, significantly lowering integration costs. Extensive documentation for consuming streams across all supported protocols.
- Dashboards help developers explore streams and read documentation, debug delivery issues, configure push protocol sinks, and access analytics.



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- An end-to-end solution delivering data to systems or end-user devices. With current APIs, consumers must process data from producers, store it, and republish it for their end users.

Manage, Monetize, Control

With API Streamer you can go straight to realtime API-creation and monetization, leap-frogging the investment and build phases.

- You control exactly who has access to data, specific aspects of data, volume of data, and even who pays for the data delivery costs (the bandwidth).
- Control billing, quotas, and reporting on usage to better monetize data streams.

Future proof

Realtime technology continues to develop at rapid rates. Embracing the latest innovations is a demanding process even for large, established engineering departments.

- Future proof architecture for logistics platforms, benefitting from Ably's ongoing innovation, keeping you at the bleeding edge of realtime functionality, including support for new standards and protocols as they emerge.
- Limitless scale ready for any amount of growth and unpredictable demand - for example, adverse weather, traffic incidents, or large events.
- Zero maintenance with predictably low and manageable costs.

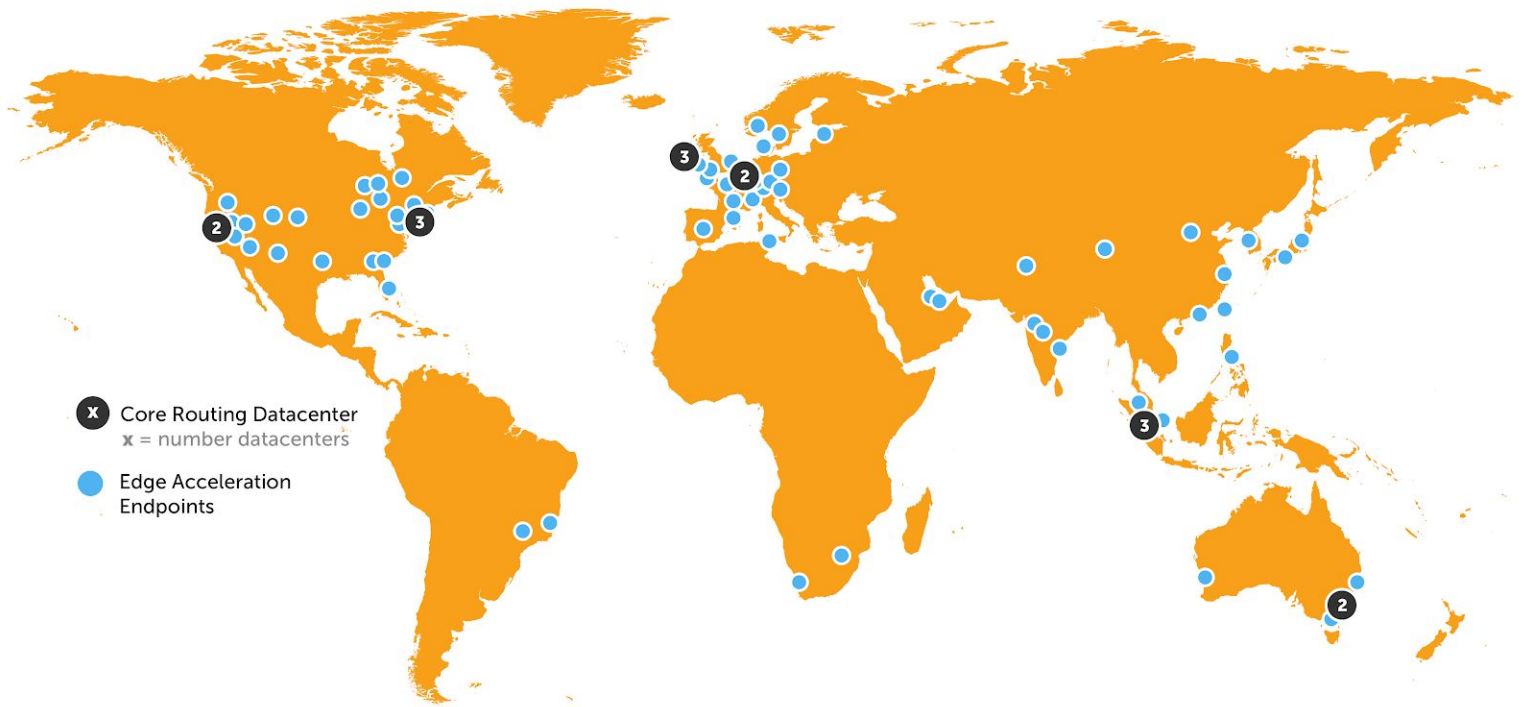
Join the realtime API economy today

By building on Ably's cloud service you skip upfront investment and go straight to easily providing realtime APIs. You benefit from our ongoing platform innovation, enable new ways to distribute realtime data, and attract innovative companies looking to build around your service and scale their realtime operations.

Instead of building infrastructure, focus on turning data streams into revenue streams.



Aby's [Data Stream Network](#) is distributed over 16 physical data centers. Each day thousands of developers stream billions of messages to over 30m end users over the Aby network in sub-65ms. Twitter sends just 500m Tweets per day. Aby's engineers have spent countless hours predicting, finding, and solving the hidden edge cases and nuanced complexities of operating a globally-distributed Data Stream Network. We take care of the infrastructure so you don't need to.



Our services are delivered in the cloud so there's no software or hardware to install or manage.

To learn more about Aby and API Streamer, please contact us.

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