Synadia

Synadia Cloud

Synadia, the company behind NATS.io, empowers developers and enterprises to accelerate the delivery of distributed applications across edge, IoT, cloud and on-premises environment

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Synadia Cloud, a multi-tenant SaaS deployment of Synadia Platform, enables software architects, developers and operators to focus on building high-performance, low-latency, globally distributed applications – without touching their infrastructures.

Based on open-source technologies – NATS (con-nectivity: distributed communication patterns) and NATS JetStream (data: streaming, key-value, object storage; events: real-time event sourcing and feeds), Synadia Cloud is a global, cloud-agnostic SaaS offering, fully managed by Synadia with enhanced security, compliance and advanced scalability.

Synadia Cloud eliminates deployment complexity and accelerates application development and operations for AI/ML, IoT and edge environments. In addition, Synadia offers cloud-based management for self-hosted NATS clusters, enabling customers to "bring their own NATS" to the managed service.

Founded by the creator of NATS and home to its most active maintainers, Synadia provides access to distributed system and NATS experts and support for distributed environments spanning multiple clouds, regions and the customer-defined edge.

KEY BENEFITS

- **High Performance:** Provides low-latency and high-throughput communications, making it ideal for demanding real-time processing and data streaming applications.
- **Scalability:** Scales effortlessly from a single node to a large footprint of globally dispersed nodes without compromising performance.
- **Security:** Offers built-in security features including TLS, Auth Callout, multiple forms of authentication, multi-tenancy and fine-grained access controls.
- **Simplicity:** Easy to deploy with a straightfor-ward API for quick integration with existing systems. View and manage your NATS capabilities such as accounts and users with an all-in-one control plane integrated into Synadia Cloud.
- **High Availability:** Provides protection against node and network failures with a cluster architecture, ensuring that clients can always connect and communicate.
- **Multi-Cloud, Edge and IoT:** Seamlessly integrates with multiple cloud providers, supports IoT devices and operates efficiently at the edge.
- **Customer Support:** Take your NATS journey with confidence knowing a team of experts is delivering proactive and reactive services to ensure your business uptime and success.

Core Features

- **Messaging**: High-performance messaging with support for various patterns including distributed communication patterns, real-time event sourcing and feeds.
- **Data Persistence with NATS JetStream:** High-performance, real-time and replayable; built-in key-value system and object store, replicated across the system for resiliency. Extend NATS and JetStream to your premises or the edge with leaf node mode.
- **Multi-Tenant Support:** Secure and isolated environments for multiple tenants with the same infrastructure.
- **Management:** Synadia managed, multi-tenant SaaS offering with an easy-to-use API and all-in-one control plane, providing centralized management of one or multiple NATS systems and including purpose-built monitoring of servers and clients, CLI and views of real-time connections, users, streams/consumers, exports, alerts and settings.
- **Bring Your Own NATS:** Connect your own NATS system with an add-on to any of three managed plans.
- **Security:** Managed decentralized auth with optional auth callout and PKI-based authentication system, with account-based signing keys for access revocation and programmatic user control.

Summary Technical Specifications

- **Protocol:** Support for the NATS protocol over TCP or WebSockets and supports MQTT 3.1 and HTTP.
- **Latency:** Sub-millisecond latency for real-time applications.
- **Throughput:** Capable of handling millions of messages per second.
- **Security:** Multi-tenancy, decentralized authentication with fine-grained authorization controls, signing key rotation and revocations. TLS encryption.
- **Management:** Offers a unified dashboard, multi-cluster management/support, fine grain and policy-driven access control, real-time updating, real-time monitoring via Prometheus, centralized management of security.
- P**rogramming Languages:** Tier one, Synadia supported and maintained client libraries are available for popular programming languages: Go, Rust, JavaScript, .NET, Ruby, Java, Python and C. Community libraries cover other programming languages.
- **NATS JetStream:** Provides message persistence across nodes; flow control with streams; key-value store for KV workloads and object store for unstructured data; at-least-once and exactly-once message delivery; scalable and fault-tolerant.

Technical Use Cases

- **AI/ML:** Provides high-speed inference at the edge and large-scale model training across multiple regions and clouds.
- **Edge Computing:** Enables real-time data processing at the edge, reducing latency and bandwidth usage.
- **IoT:** Efficient communication, fleet management and data streaming for IoT devices.

Success Stories

Oil & Gas

R I V I T T

Captured machine data from field devices at the edge and moved that data in milliseconds from where drilling begins to anywhere the customer wanted it.

"The simplicity and efficiency of NATS-based Synadia Cloud have enabled us to move faster than our competitors, providing our clients with reliable and real-time data, which is crucial in the oil and gas industry. Not only is Synadia Cloud fast and secure but it took only 90 minutes to put up the first cloud instance. Synadia Cloud enriched Rivitt's solution."
– Miles Hill, CEO and founder, Rivitt

Industrial AI

Intelecy

Securely collected data from tens of thousands of sensors in multiple factories and pushed that data into the cloud using Synadia Cloud.

"Intelecy's platform relies on the robust performance of Synadia Cloud to deliver real-time machine learning insights that optimize industrial processes, making it indispensable for our operations."
– Jonathan Camp, Chief Security Officer, Intelecy

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