Synadia

NATS

Man Group London Hackathon 2024

Saturday 9th of November 2024

Synadia

whoami

Ziya Suzen

Software Engineer @ Synadia

NATS .NET Maintainer

ziya@synadia.com

@_mtmk

@mtmk

NATS is a Distributed Messaging Middleware

- Everything in a single 16MB static Go binary with no dependencies
  - Messaging, streaming, data-store and service mesh all in a single binary
- Subject-based addressing
  - No sockets, IP, ports, load-balancers, service mesh or firewalls
- Official client libraries (plus many others)
- Secure (zero-trust), multi-tenant, encryption in-flight and at rest
- Incubating CNCF project
- Simple and easy to use!

Simplicity

- Single binary
- 8 MB docker image with no external dependencies
- “Text-based” protocol with just a handful of verbs

| PUB | SUB | UNSUB | CONNECT | INFO | MSG | -ERR | +OK | PING | PONG |

- Low Configuration
  - ✓ Clients only need a url and credentials
  - ✓ Servers auto-discover
  - ✓ You can share configuration files amongst servers
- Simple and Straightforward APIs

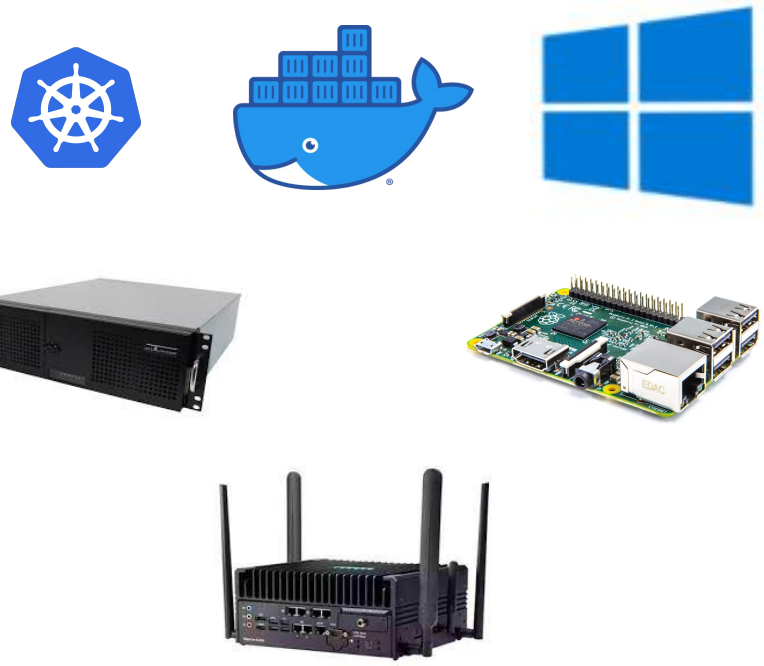
Patterns

Messaging, streaming, and views

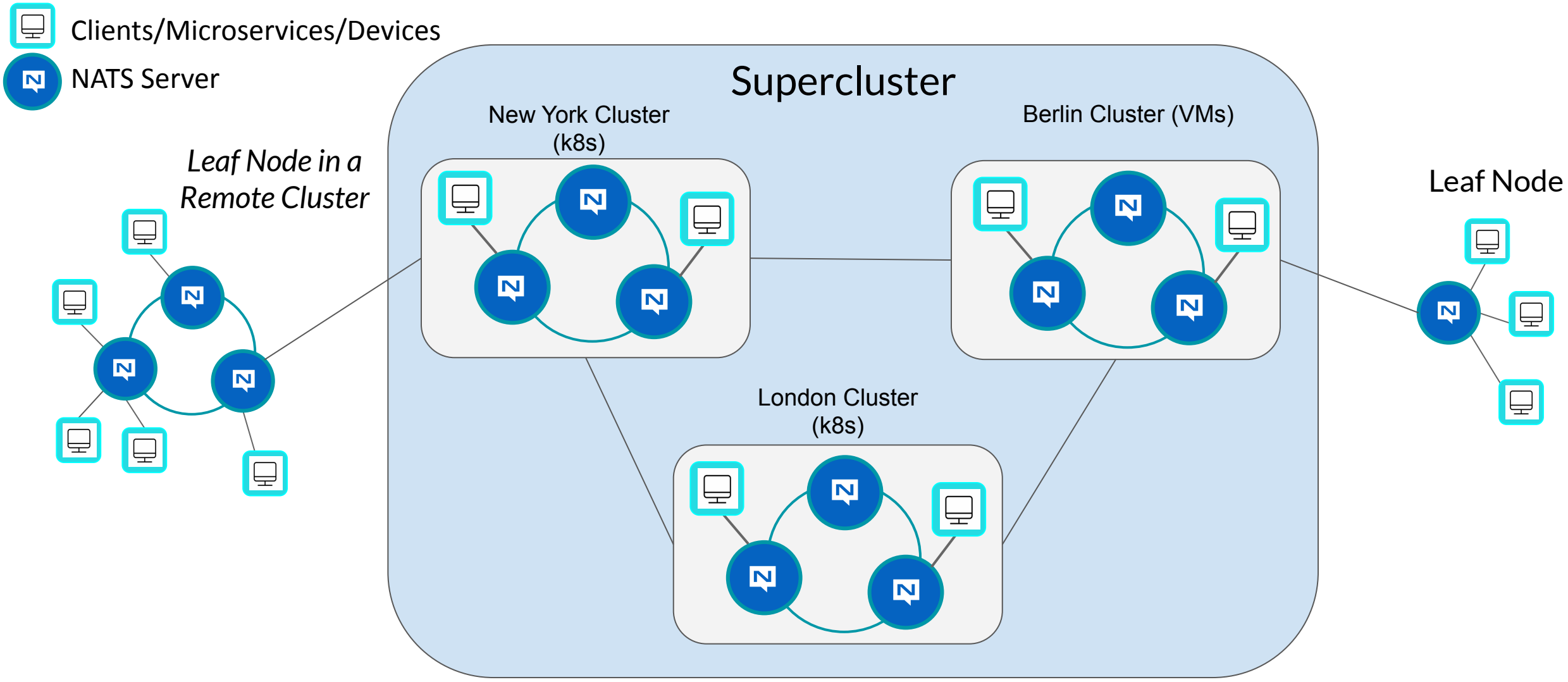
- Stateless, low-latency M:N messaging
  - Publish-subscribe, request-reply, queue groups, services
- Persistent streams and consumers
  - Retention policies, placement, server-side filtering
- Key-value
  - Historical values, expiry, watcher, optimistic updates
- Object store
  - Auto-chunking, expiry, watcher, references

Deployment Environments

- 128 Core and 1TB Memory Systems to a Raspberry Pi Zero2 for the Server
- MicroControllers for clients
- Kubernetes
- Docker
- Bare Metal
- VMs
- Edge Devices



Deployment Topologies



Why NATS?

Open Source. Simple. Secure. Scalable.

Thank You!

github.com/nats-io/**nats.net**

github.com/nats-io/**nats.py**

github.com/nats-io/**nats-server**

https://nats.io