Edge Computing

ONF Connect December 2018
WHO AM I

Daisho Employee 001 (Double Oh One)

Roles:
● Currently Chief Technologist
● Previously Chief Architect

Expertise:
● Big Data - Hadoop, OLTP, OLAP, Vectorization
● Systems Architecture - Distributed systems, Embedded systems

Fun Facts: I like spandex, Licence to code, Our marketing team is awesome!
COMPANY IDENTITY

Vision
Be the industry standard for edge computing platforms.

Mission
Enable low-latency computing everywhere.
OUR TEAM

Corporate Operations  
Menlo Park, CA

Product R&D  
Madrid, Spain

7 + 9 = 16
Latency = Gridlock

The future requires standardized low-latency computing across an explosion of data, exponentially distributed infrastructure, and devices.
GLOBALLY DISTRIBUTED USERS

Localize Services - Move Computing Resources Closer to Your Users

SLOW: ANNOYING

FAST: HAPPY
SOLUTION

Nalej Platform is Edge Computing-as-a-Service

Nalej unifies IoT, Mobile, Fog, and Cloud devices to provide high-performance, low-latency digital experiences.
DIGITAL EDGE
TRANSFORMATION
DIGITAL TRANSFORMATION

Telecom enabled Edge Computing-as-a-Service

Integration with CORD in Three Phases

Proximity drives performance and lowers latency. CORD on Nalej enables service mobility to drive proximity.

**Nalej:**
1. Unifies CORD infrastructure
2. Deploys CORD
3. Is CORD
XOS/ONOS ADJACENT

Infrastructure: Unified Compute, Storage, and Network
OPEN CORD DEPLOYMENT

CORD with Service Mobility Transforms XOS and ONOS
NALEJ INTEGRATES CORD

Best-fit Architecture and Service Mobility for All Applications
THE EDGE OPPORTUNITY
WHY NOW

Digital Transformation the Bridge between the Present and Future

- Monolithic
  - Application
  - Hardware
  - Network

- Cloud and Mobile
  - Application
  - Cloud
  - Mobile App
  - Mobile Device
  - Cell Network

- Edge
  - IoT Service
  - IoT Device
  - IoT Network

---

- Virtualization
  - Application
  - Virtualization

- Containerization
  - App Service
  - Containerization

---

Cloud Transformation

Telecom Enabled Edge Transformation

Cost, Performance, Complexity

Low

High
HYPERMOBILITY

Proximity Drives Performance and Lowers Latency

SLOW: DEATH
High-latency Cloud Roundtrip

FAST: LIFE
Real-time Localized Decision Making
NALEJ SIMPLIFIES EDGE

Use Existing Skills, Tools, and Nalej Libraries and Features

IoT & Mobile Devices
- Libraries for registering embedded applications
- Device profiling
- Unified monitoring and alerting

Infrastructure
- Registration and discovery
- Network profiling
- Automated lifecycle management

Microservices & Applications
- Packaging and deployment
- Multi-layer networking and profiling
- Active replication, rebalancing, and disaster avoidance

LINUX
DOCKER
KUBERNETES
WIN THE FUTURE TOGETHER

Work with us

Nalej v0.1 Alpha
1/19/2019

Running OpenCORD services on ARM devices:
- Cachengo hardware
- OpenCORD software
- Nalej orchestration

We are looking for collaboration partners!

http://daisho.group
http://daisho.group

Launching 1/19/2019
BONUS
NALEJ PLATFORM

Core Components

Data Plane - Isolated compute infrastructure where end-user applications are deployed.

Management Plane - Configuration management for connected infrastructure and applications.

Control Plane - Network connectivity for all infrastructure resources.

Features

- Monitoring
- Orchestration
- Deployment
- Management
- Control
- Machine Learning
- Service Rebalancing
- Caching
- Configuration
- Networking
HOW IT WORKS

Edge Service Graph

SERVICE PROFILE
- Resources
- Capabilities
- Connectivity
- Cost
- Performance
- Security

Configuration and Deployment
- Public/Private Repository: GitHub, Docker, etc...
- Public/Private Infrastructure: IoT, Mobile, Cloud, etc...

Management and Intelligence

Infrastructure Control and Network

Automated Service Management
DEPLOYMENT MODEL

NALEJ CONTROL
- Public Net
- Monitoring
- Orchestration
- Management

NALEJ CLUSTER
- Local Net
- Service Net
- Abstraction
- P2P VPN

NALEJ FOG
- Local Net
- Abstraction
- Service Net
- P2P VPN