



Jongyoul Lee

Corporate EVP, Samsung Electronics

SAMSUNG

Open Innovation: The Next Step in Memory Evolution

Jongyoul Lee

Corporate EVP, Samsung Electronics

Samsung's Open Source Journey



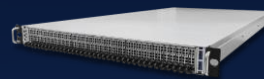
F2FS



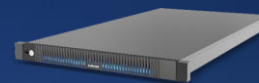
Multi-Stream



Open MPDK



Mission
Peak



Poseidon
Project



OCP
Compliant
SSD

2015 ~ 2018

2019

2020

2021



Community
Member



Silver
Member



Gold
Member

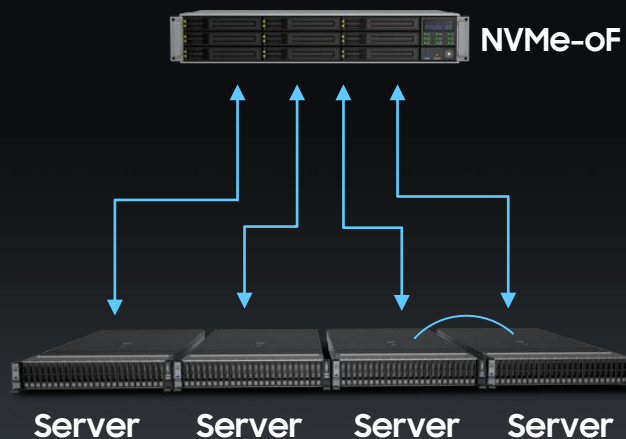


Future
Technology
Initiative

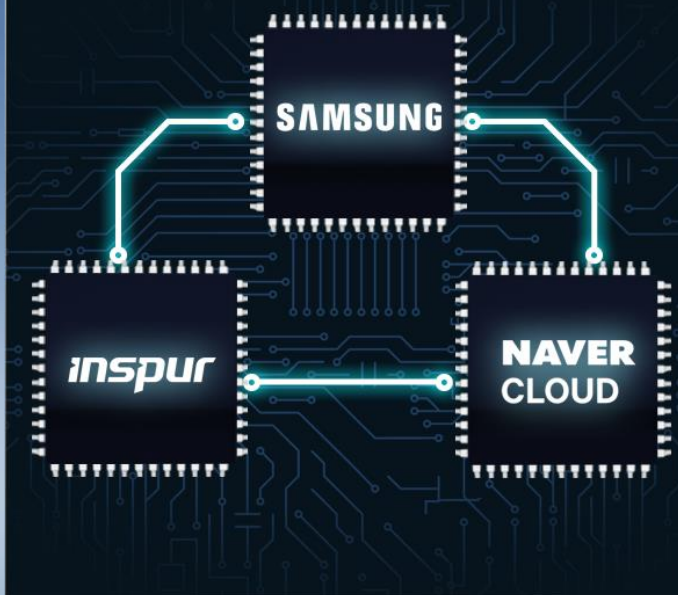
Poseidon V1

Announced in OCP 2020 vSummit

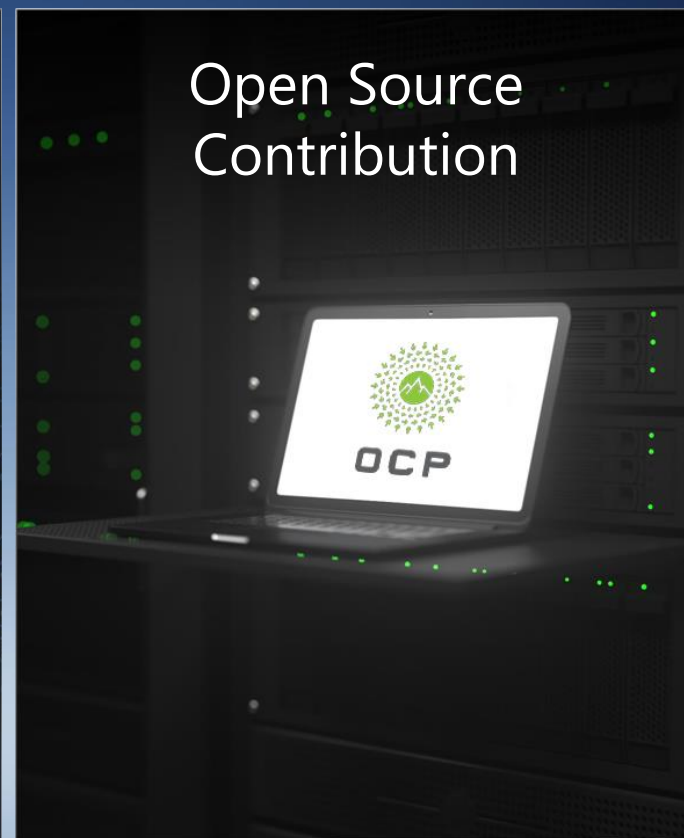
High Performance
Storage Ref. Platform



Multi-Industry
Collaboration



Open Source
Contribution

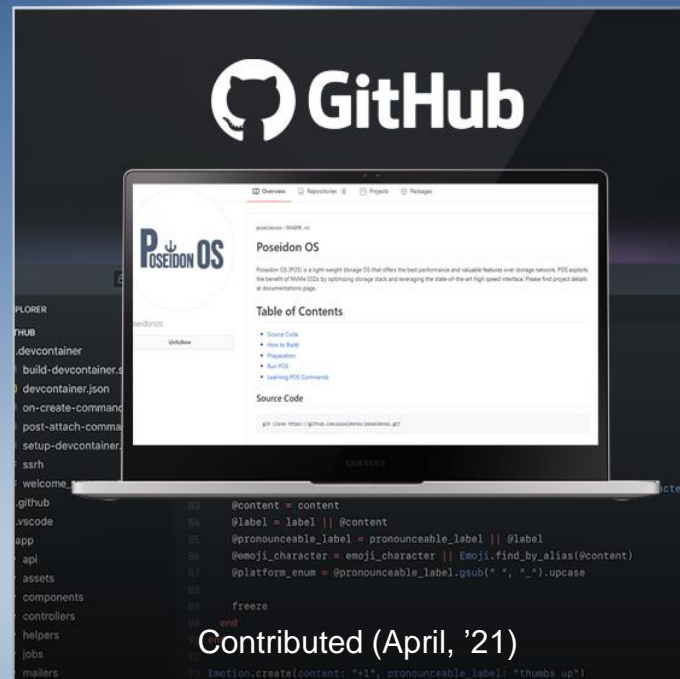


Our Accomplishments

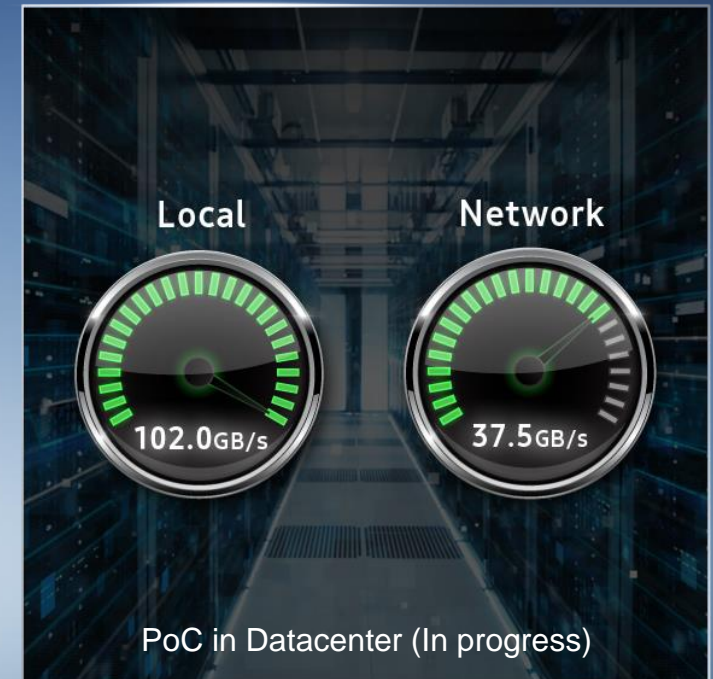
Reference System Development



Open Source Contribution



Performance Achievement





Alan Chang

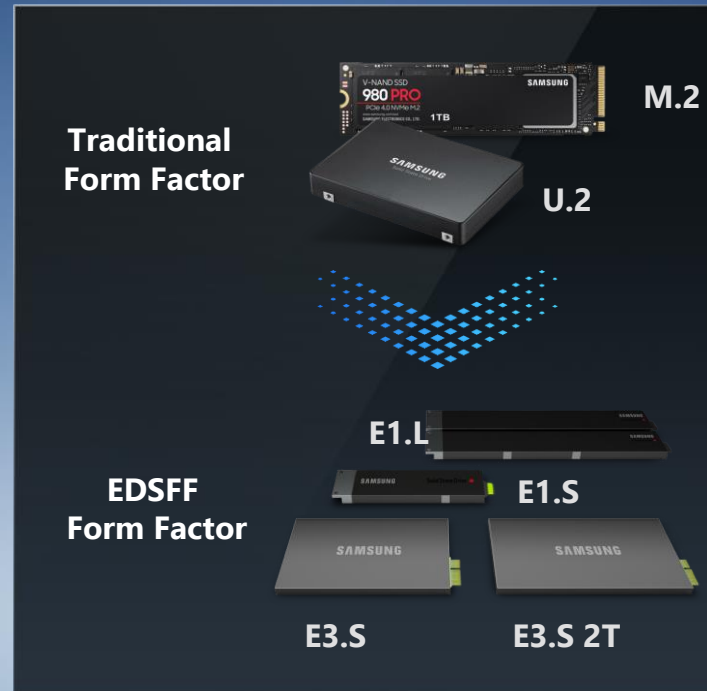
VP of Technical Operation, Inspur

System Trends in Datacenter

High Speed Interface



New Form Factor



Emerging Standard



Poseidon V2

PCIe Gen5 based Open HW

Higher Performance

EDSFF E3 Reference

More Capacity

Two Types of Servers



Key Components

PCIe Gen5 SSD

Boot Drive

DDR5 Memory

CXL Interface

OCP NIC

DC-SCM



Composable Architecture

High-Performance
Shared Storage

E3.S SSD x 24

High-Memory Server
For Cloud Service

CXL Memory Expander x 8
+ SSD x 8

Accelerator Server
For AI/ML

E3.S SSD x 8 + SmartSSD x 8



Samsung Solutions in Poseidon

ZNS+QLC
SSD



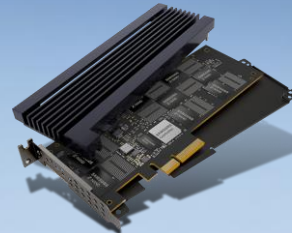
PCIe Gen5
SSD



SmartSSD



Z-SSD



CXL Memory
Expander



DDR5



Performance

Capacity

Poseidon Storage OS

Reference solution for
End-to-End integration
from SSD to Application

Poseidon OS

SSD



NVMe-oF



Server



Application



OS Features

Storage Functions

Volume Management
Performance Throttling
Provisioning

Robustness

SW RAID
Multi-path Connection
2 Node HA

Performance Optimization

NUMA-aware Capability
NVMe Friendly IO path
Dedicated APIs

Manageability

Performance Profiler
Development APIs
Resource Monitoring

Roadmap



Meet Samsung @



Booth B14

Expo Hall Talk

Tuesday November 9
1:30pm – 1:45pm
Hall 1

Executive Talk

Tuesday November 9
4:30pm – 4:55pm
210AE

Engineering
Workshop

Wednesday November 10
3:00pm – 3:15pm
210DH



OCP
GLOBAL
SUMMIT



OCP
GLOBAL
SUMMIT