

HPE - VIT Engagement Initiative

Project Details

Project:

Theme: Data security with NVMe over Fabric technology

Objective: Understand evolving trends with NVMe over Fabric (NVMe-oF) and analyze potential vulnerability points in transport and data at rest.

What are the current challenges with NVMe over Fabric technology?

What are the vulnerability points with existing NVMeOF reference implementations of initiator and targets?

What is the viewpoint of data at rest security from the specification perspective?

How NVMe-oF can enable Storage as a service in the cloud?

What are the aspects covering security vs. performance for reference implementations?

POC: Demonstrate NVMe-oF data exchange with a reference implementation of initiator and target and how the exchange can be secured, show impact to performance when security aspects are implemented, provide a reference specification or architecture for data at rest principles to NVMe-oF specification.

Final deliverable:

Presentation material with the findings

POC demo

Research:

Understand NVMe-oF protocol and its application

Understand vulnerability and performance bottlenecks in specification and reference implementation

Understand challenges in data security space

References:

<https://nvmexpress.org/wp-content/uploads/NVMe-over-Fabrics-1.1-2019.10.22-Ratified.pdf>

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