

Q2 Progress Report



Met all bottom-line objectives.



TELEMETRY

Collect the ingress traffic at sub-second level on the "nvidarm" host CPU. Passed the `iperf3` stress test up to 98.5 Gbps TCP traffic.

Objectives		FY25				FY26			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Telemetry	Obj 1-1	✓							
	Obj 1-2		👁️						
	Obj 1-3								
	Obj 1-4								
	Obj 1-5								
Kubernetes	Obj 2-1	✓							
	Obj 2-2								
	Obj 2-3								
	Obj 2-4							👁️	

```

xmei@ejfat-6:~/iperf
File Edit View Search Terminal Help
[SUM] 0.00-20.00 sec 229 GBytes 98.4 Gbits/sec 10 sender
[SUM] 0.00-20.00 sec 229 GBytes 98.4 Gbits/sec receiver
iperf Done.
[xmei@ejfat-6 iperf]$
IP: 129.57.177.6 - TCP Packets: 18689890, TCP Bytes: 985350328774 UDP Packets: 252645859, UDP Bytes: 2267748684800
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```



Deploy `e2sar_perf` on 2 Fabric nodes with K8s headless configuration.

```

# Apply the yaml file
try:
    _, stderr = cpnode.execute("kubectl apply -f e2sar-headless-fabric.yaml")
    print(f"stderr: {stderr}")
except Exception as e:
    print(f"Exception: {e}")

```

Stats:

Events Received: 85
Events Mangled: 1
Events Lost: 6
Data Errors: 0
gRPC Errors: 0
Events lost so far: <0:4321> <52:4321> <41:4321> <54:4321> <100:4321> <497:4321>

Completed

Stopping threads
Deregistering worker
Receiver logs:

GitHub links:

- [IPv4 traffic counter](#)
- [K8s e2sar perf on Fabric](#)

Q2 Project Management

- **Further code development.** Talked to the HPDF tech lead and the software design lead @ LBNL and collected feedback.
 - HPDF is in CD1 design phase without detailed application-level use cases.
 - The HPDF SW will heavily depend on vendor or communities.
 - EJFAT and E2SAR should not be declared as the HPDF effort.
 - Suggestion: work towards a debug tool or visualization effort.
- **Future funding opportunity.** LAB 25-3520 call. Collaborate with LBNL on AI-driven automated scientific data lifecycle management.
 - 5-year project. LOI accepted. Full proposal ddl: May-13.
 - Ilya Baldin leads the JLab effort. Propose 50% of my time from Sep-2025.
 - DPU/hardware acceleration is proposed by LBNL researchers.
 - High resolution data center telemetry is also proposed by LBNL.
- **Community outreach:** Confab25 (April). AI4OPs discussion with the LCF scientists.
- **Hardware purchase:** NVIDIA BlueField3 DPU. Amitoj Singh helped to set up a purchase quote. Met NVIDIA people to discuss the use cases.

Department of Energy (DOE)
Office of Science (SC)
Advance Scientific Computing Research (ASCR)



Competitive Portfolios for Advanced Scientific Computing
Research: Data Management and Visualization

DOE National Laboratory Program Announcement Number:
LAB 25-3520

Q2 Financial Report

Budget vs. Actuals - LD2513 (\$K loaded) DPU HPDF-H

Cissie 50% --> 100% since April 2025

