

Major Highlights

ID	Task	status	Comments
M15	Establish general framework for RTDP simulation	■	Significant work started on this, but not fully completed
M16	Create configurable CPU proxy component	✓	Fully configurable via command line
M17	Create configurable GPU proxy component (hardware and software)	✗	Development to be informed by CPU component
M18	Create configurable FPGA proxy component (hardware and software)	✗	Development to be informed by CPU component
M19	Create functioning hardware GPU component (e.g., CLAS12 L3)		
M20	Create functioning hardware FPGA component (e.g., ML4FPGA)		
M21	Configure simulation of full SRO system using existing JLab hardware resources		
M22	Establish working test of system that transfers >=100Gbps from CH to compute center		
M23	Establish working test of system that includes GPU component for portion of the stream		
M24	Establish working test of system that includes FPGA component for portion of the stream		
M25	Test system with remote compute facility (e.g., BNL or NERSC) at limits of available resources		
M26	Configure system that results in stream(s) being received by JLab from external source		
M27	Collaborate with HPDF group to evaluate processing SRO data at JLab for external experiments		
M28	Complete documentation for platform to be used by non-experts		

Cycle-Based Workflows Development:

- Developed and successfully deployed Cyclic workflows for:
 - iperf3 testing
 - Prometheus monitoring

CPU Emulator Development and Testing:

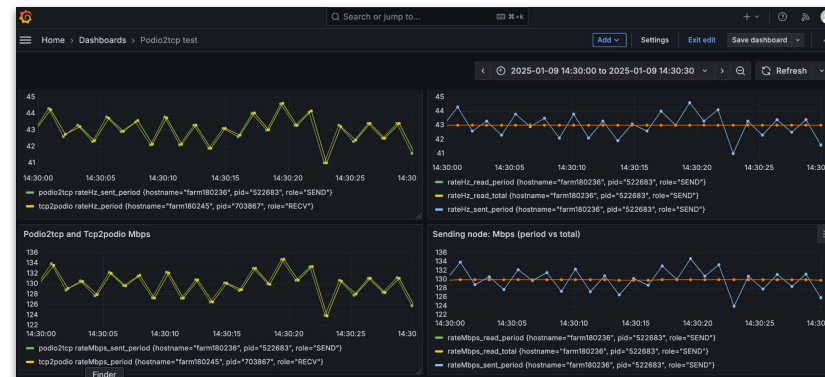
- **Containerization:** Converted the CPU emulator into an Apptainer-compatible container for portability across HPC environments.
- **SLURM Testing**
- **Configuration Refinement**

Configuration Management:

- Validated standalone configurations

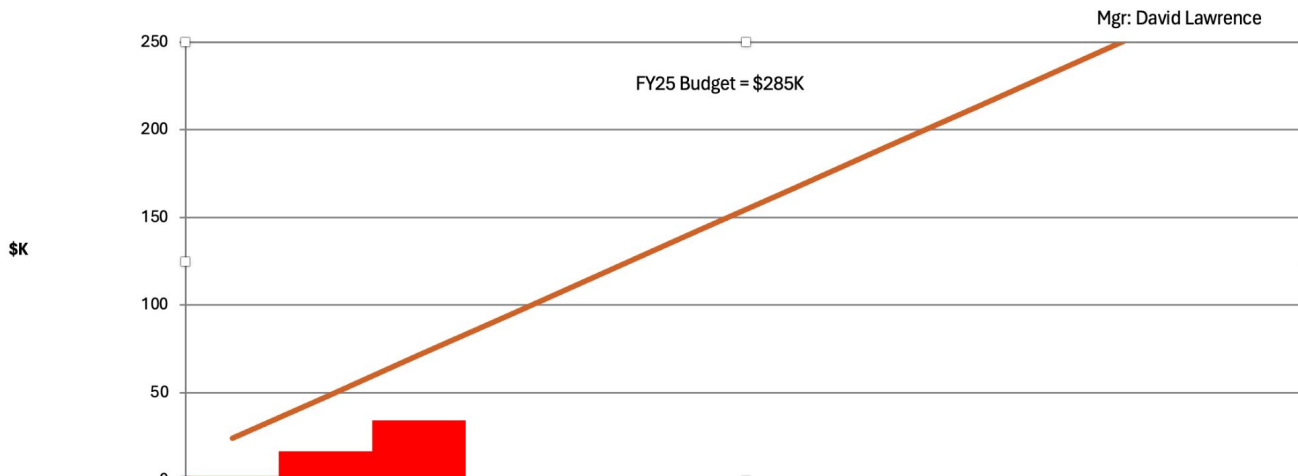
Workflow Automation Progress:

- Designed Cyclic workflows for Prometheus and iperf3, with dependency handling for sequential and parallel task execution.
- Prepared groundwork for integrating the CPU emulator into the Cyclic framework.



Budget

Budget vs. Actuals - LD2512 (\$K loaded)
SRO RTDP2



	Oct-24	Nov-24	Dec-24									
YTD Spending	2.29012	16.40906	34.21428	0	0	0	0	0	0	0	0	0
Pending	0	0	0	0	0	0	0	0	0	0	0	0
Open Obligations	0	0	0	0	0	0	0	0	0	0	0	0
Expenses	0	0	0	0	0	0	0	0	0	0	0	0
Labor	2.29012	16.40906	34.21428	0	0	0	0	0	0	0	0	0
Funding	285	285	285	285	285	285	285	285	285	285	285	285
Projected Spending	23.75	47.5	71.25	95	118.75	142.5	166.25	190	213.75	237.5	261.25	285

FY25

Personnel shifted to some other pressing projects during FY25Q1.

Time pressure on those has now relaxed and we are refocusing on RTDP in FY25Q2.