

# Monitoring RHIC through EPICS-ADO bridges

- AdoEpics bridge performance:
  - Overhead of the get()/set() requests: 0.3 ms.
  - Data transfer of encoded (XDR) data: 30 MB/s.
  - Data transfer of binary data: 300MB/s.
- Goal:
  - Run several bridges to real RHIC equipments.
  - Load bridges with multiple client connections.
  - Monitor the CPU and memory usage.

# Environment

## EIC control infrastructure

The EIC network and host environment is **not established yet**.  
The EPICS clients (pages, plotting, logging) are not yet available.

## Current deployment

- The processes are running in the CAD environment, at **acndvm04** VM.
- To run the tools, described in this presentation:  
`:ssh acndvm04`  
`:source /opt/epics/setup.csh`  
`:python -m procman -c /opt/epics/procman`
- Simple clients from github were used :
  - `pypet` - for control pages,
  - `pvplot` – for plotting,
  - `aplog/apstrim` – for data logging.
- The starting/stopping of tools is managed by a mini StartUp app: `procman`.

# Applications, managed by the procman

1...	2...	3...	4...
Applications		_status_	
1	adoEpics bridges		
2	RHIC summary	started	
3	qfg.911-t17	started	
4	Pet qfg.911-t17	stopped	
5	InjKickScopeBlu	started	
6	InjKickScopeYel	started	
7	LFSchottky	started	
8	HFSchottky	started	
9	imgMans	started	
10	am simple	started	

Bridges

Applications		_status_
1	Plotting	
2	BeamDipoles	started
3	BeamDipoles file	stopped
4	QFG T17.A0	stopped
5	QFG T17.A1	stopped
6	QFG T17.A2	stopped
7	QFG T17.A3	stopped
8	InjKickBlu	stopped
9	InjKickYel	stopped
10	LF SChottky	stopped
11	HF SChottky	stopped

Plotting

Applications		_status_
1	Control pages	
2	RHIC summary	started
3	Pet am simple	stopped

Control pages

1...	2...	3...	4...
Applications		_status_	
1	Logging		
2	BeamDipoles	started	
3	View Beams	stopped	
4	LFSchottky	started	

Loggers

# Resource utilization at acndvm04

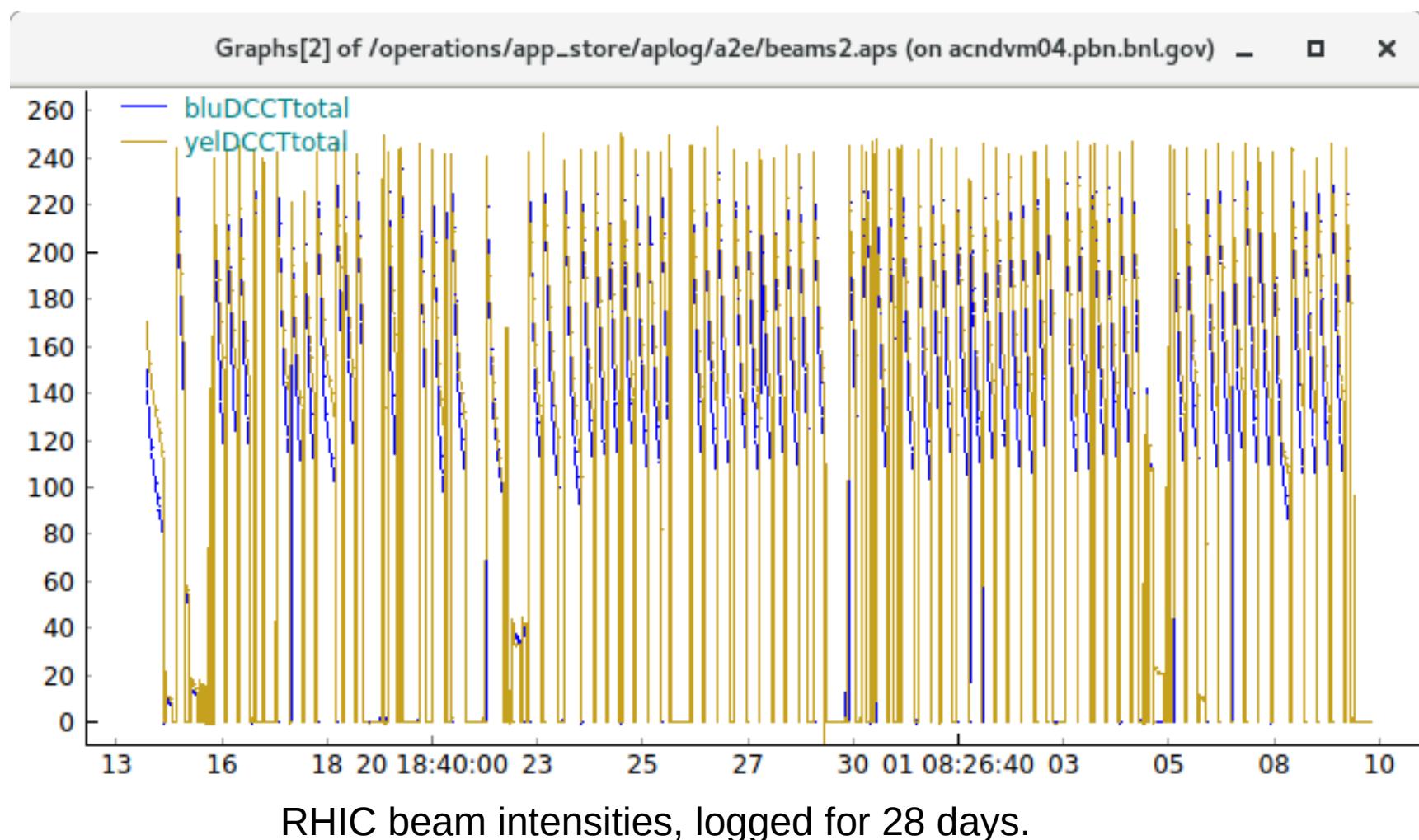
	Applications	_status	response
1	adoEpics bridges		
2	RHIC summary	started	
3	qfg.911-t17	started	
4	Pet qfg.911-t17	stopped	
5	InjKickScopeBlu	started	
6	InjKickScopeYel	started	
7	LFSchottky	started	
8	HFSchottky	started	
9	imgMans	started	
10	am simple	started	

#PVs	CPU	Mem
<-11	0.3%	0.6%
<-236	0.6%	0.8%
<-0		
<-27	0%	0.1%
<-27	0%	0.1%
<-52	0.2%	0.7%
-<52	0.4%	0.2%
<-136	1.6%	0.6%

Bridged ~500 parameters from ~20 ADOs.  
Many of them are arrays.

- **Total CPU usage: 3%,**
- **Memory usage: 3%**

# Long term test



# Example: RHIC Summary

