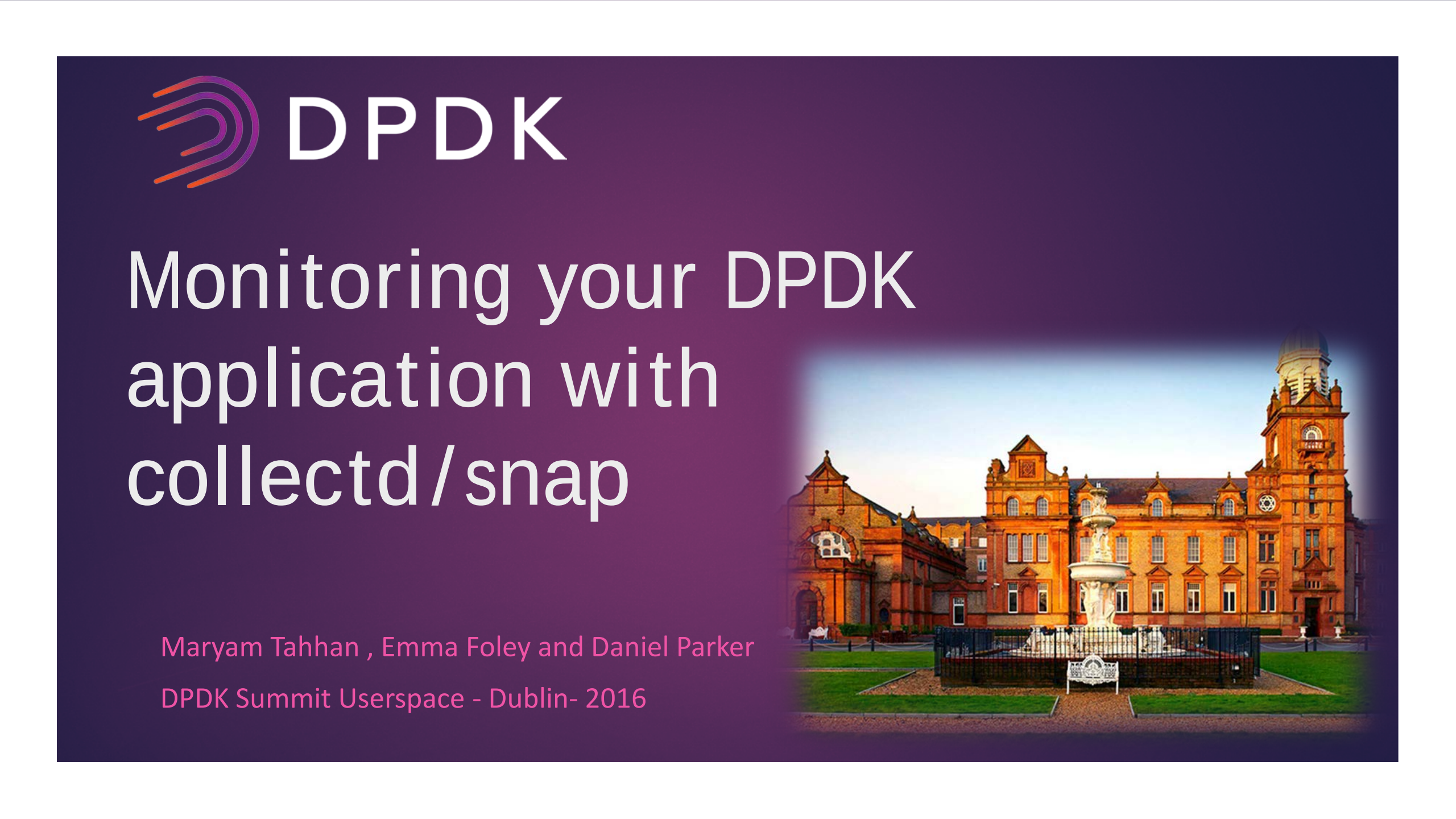

Monitoring your DPDK application with collectd/snap

Maryam Tahhan , Emma Foley and Daniel Parker

DPDK Summit Userspace - Dublin- 2016

Agenda

- Why would you want to monitor your application?
- How can you monitor your application?
- Demo
- How can you get metrics and events to OpenStack?
- Summary

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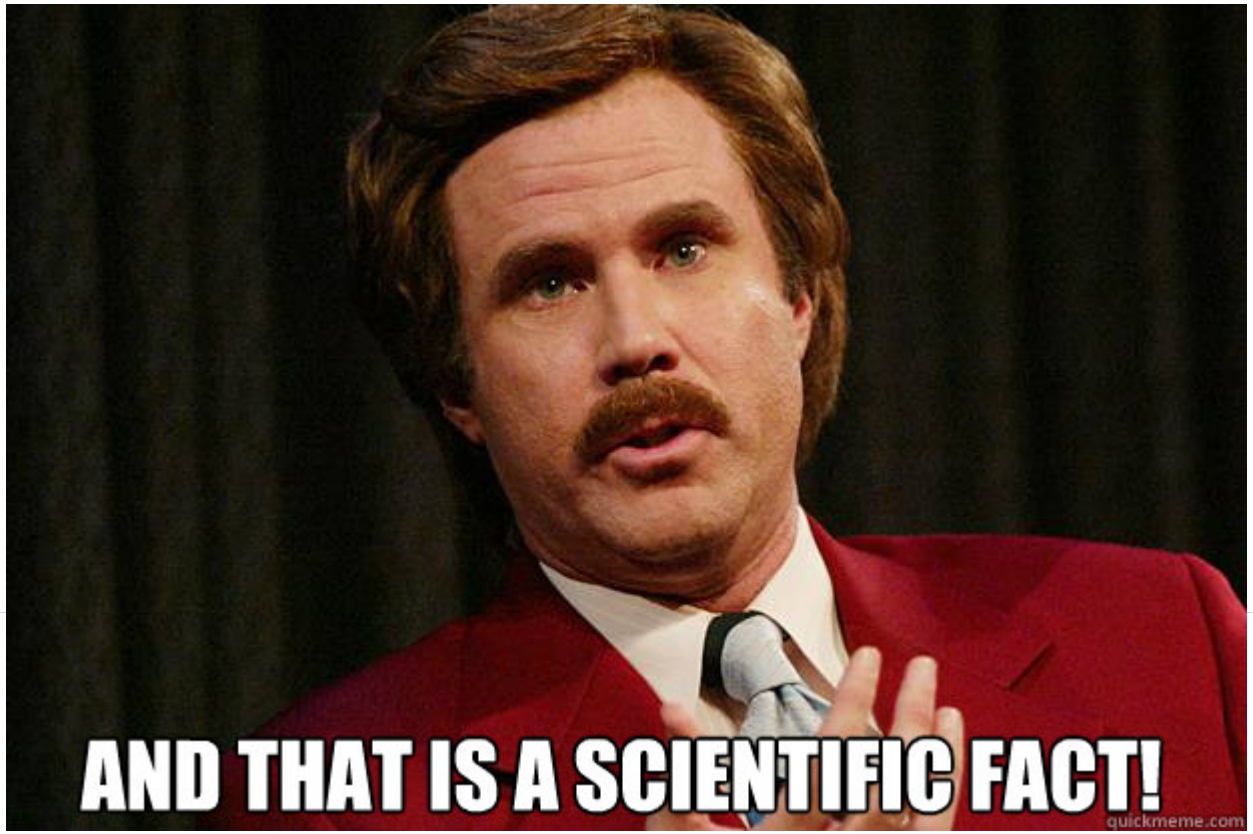
Why would you want to monitor your application?

"Data Centres are powering our everyday lives. Organizations can lose an average of $138,000 for one hour of downtime." [1].

Telco and Enterprise alike are asking how they get and provide Service Assurance, QoS and provide SLA's on the platform and services when deploying NFV.

It is vital to monitor systems for malfunctions or misbehaviours that could lead to service disruption and promptly react to these faults/events to minimize service disruption/downtime.


AND THAT IS A SCIENTIFIC FACT!
quickmeme.com

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How Can you monitor your application?

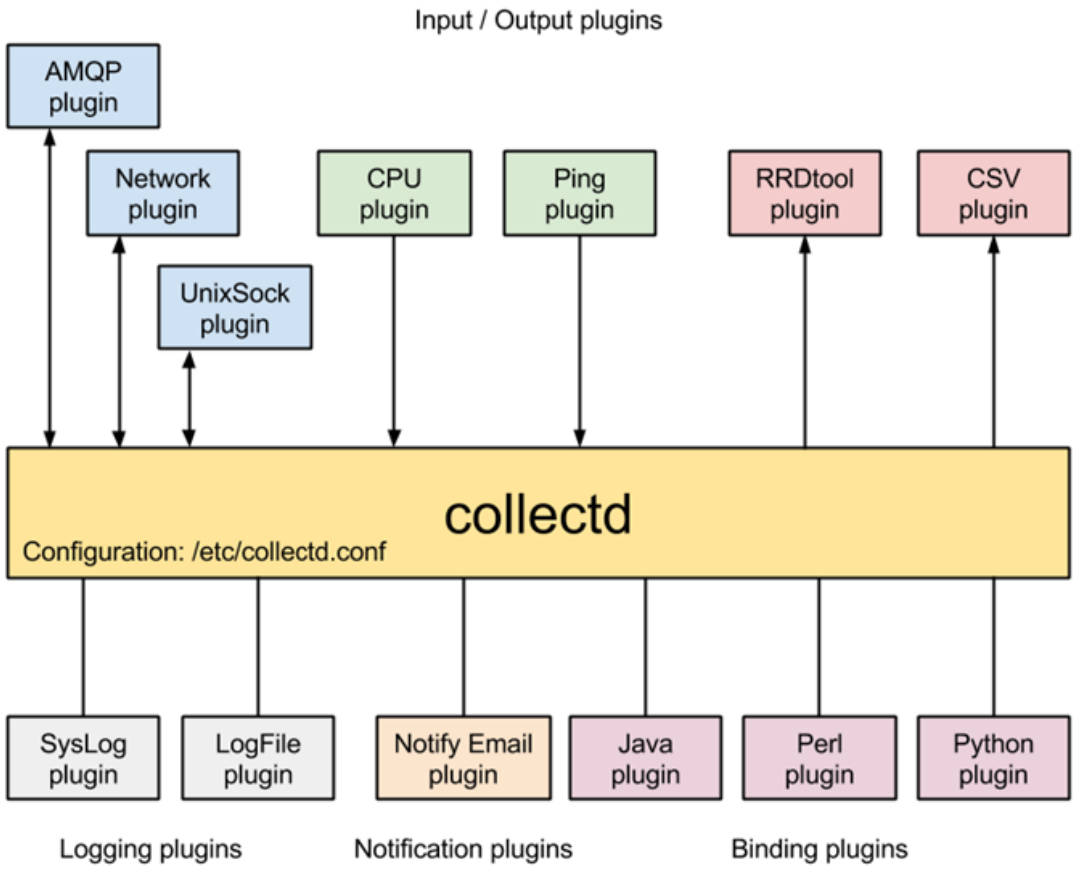
Collectd

- A systems statics collection daemon.
- Plugin Architecture
- Supports 90+ plugins
- collectd also provides some simple thresholding and event notification capabilities

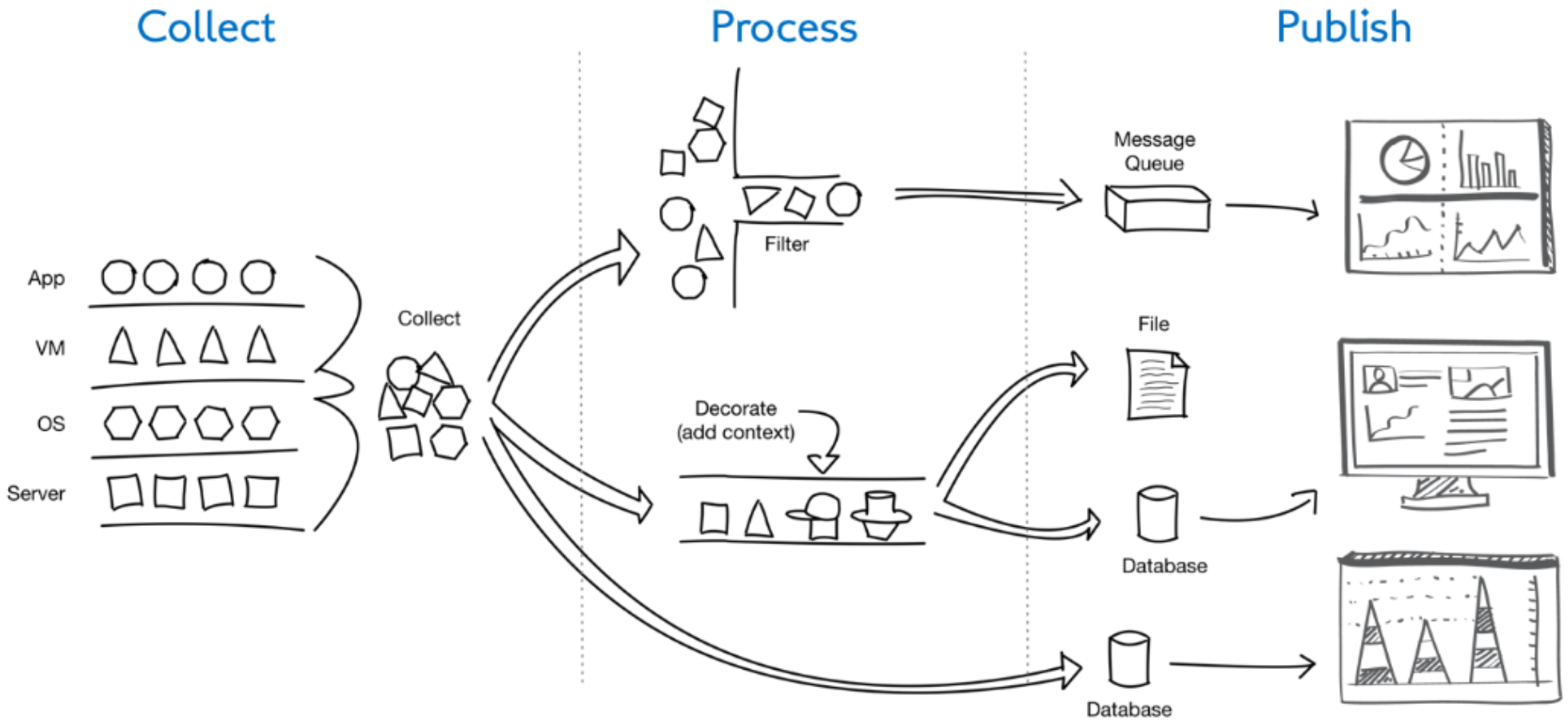
Snap

- An open telemetry framework designed to simplify the collection, processing and publishing of system data through a single API.
- Plugin Architecture
- Tribe
- Dynamic updates

Collectd architecture



Snap Architecture



At this point you're thinking...

DPDK Plugins

- DPDK stats
  - Runs as a DPDK secondary process.
  - Use DPDK xstats API to retrieve stats for each DPDK interface.
  - Available in upstream collectd
  - Will be upstreamed to snap shortly.

- DPDK Events
  - Uses DPDK Keep Alive to report packet processing core status.
  - Reports DPDK interface Link status.
  - Will be upstreamed to both collectd and snap shortly.

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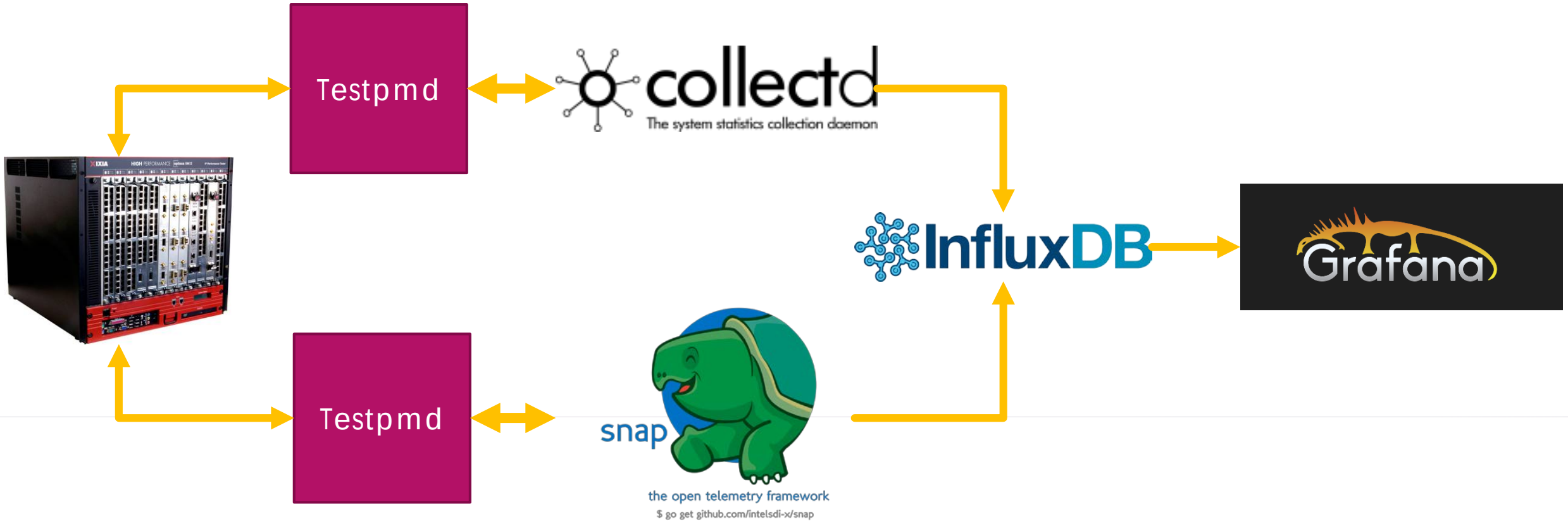
Demo


Testpmd
collectd
The system statistics collection daemon
InfluxDB
Grafana
Testpmd
snap
the open telemetry framework
$ go get github.com/intelsdi-x/snap

Demo

- Add Demo youtube here


DONT ACT LIKE YOU'RE NOT IMPRESSED
memegen.com

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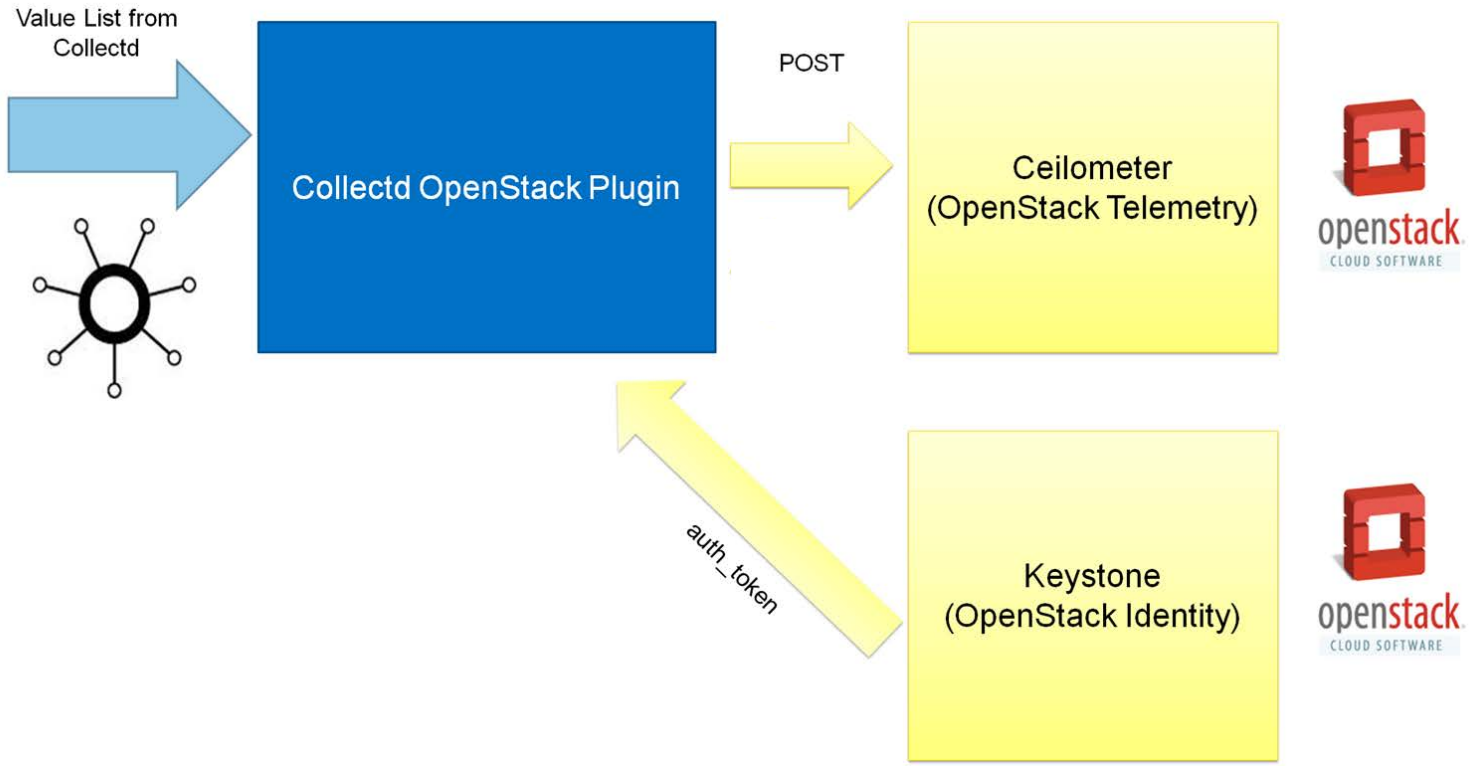
How to get metrics and stats to OpenStack



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Summary

- “Trying to manage a complex cloud solution without a proper telemetry infrastructure in place is like trying to walk across a busy highway with blind eyes and deft ears. You have little to no idea of where the issues can come from, and no chances to take any smart move without getting in trouble”. [1]
- You can now monitor your DPDK application by leveraging the DPDK plugins for snap and collectd and you can also leverage visualization tools to showcase the performance of your application in action.
- The metrics and stats collectd by the dpdk plugins fit into a bigger service assurance picture if you are deploying a DPDK application in the cloud.

Questions?

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STAY
CLASSY!
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References

[1] https://azure.microsoft.com/en-us/blog/cloud-service-fundamentals-telemetry-basics-and-troubleshooting/

Backup


ACTUALLY, I'M NOT EVEN MAD
THAT'S AMAZING
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