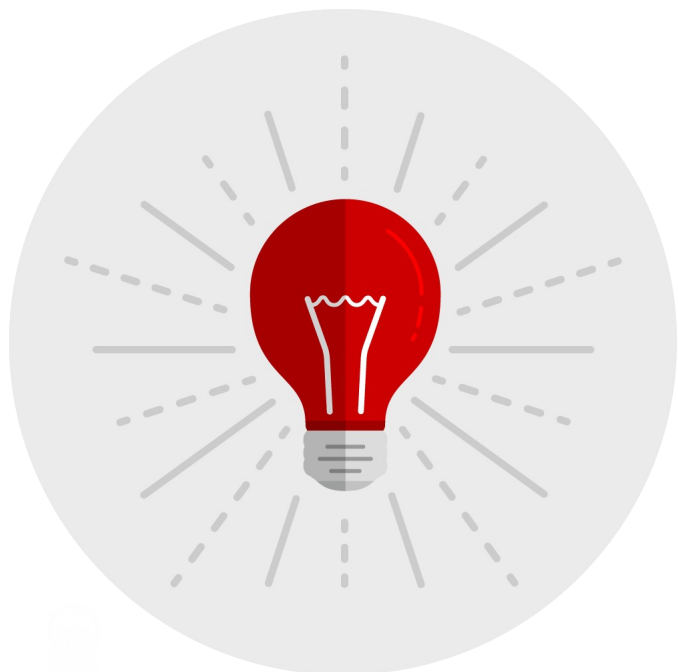


Practical Performance Co-Pilot

#pcp-team
Brno, Oct 2019

PCP is highly customizable - can be overwhelming.
Best starting point is ...



```
# dnf install pcp-zeroconf
```

Suitable for all systems – laptops to supercomputers.

Gives you a working, auto-configured local setup:

- Lightweight service startup
- pcp-doc
- pcp-system-tools

Today we'll cover

Quick start

how?

what?

> Basics

Get results

pmchart, Grafana

pmrep, dstat, atop

> Toolkit

Plan ahead

pmlogger, pmie

APIs

> Strategic

Hands-on, demos

What is a metric?

Values and time stamps!



Identification?

→ *name, labels*

Is it a counter? relatively constant? Or a 'gauge'?

→ *semantics*

Bytes? Milliseconds? Seconds? KB/sec? bits/sec?

→ *units*

Floating point value? 32/64 bit? Signed/unsigned? String?

→ *type*

Set of related values? Histogram?

→ *instance domains*

What are metric 'Sources' and 'Domains'?

Metric SOURCE:

Hosts

→ *pmcd* (daemon) or *local* (shared libraries)

Archives

→ 20190528.meta.xz

→ 20190528.index

→ 20190528.0.xz

Metric DOMAIN:

Kernel, device drivers, applications, databases, services, ...



Get results



Distributed systems

- Network traffic - *pmchart*
- Overview - *pmstat*

eBPF tracing

- Sampling – BCC, bpftrace {*pmdabcc,pmdabpftrace*}
- Visualise - *Grafana*
- Reporting - *pmrep, pcp-dstat*

> Toolkit

Plan ahead

Record

- *pmlogger, pmlogconf*
- *pmlogsummary, pmdiff*

Infer

- *pmie, pmieconf*

APIs

> Strategic



Zeroconf - lightweight services



pmcd

“PM” performance metrics
“CD” collector daemon



pmie

“IE” inference engine



pmlogger

Indexed time series data
Black box flight recorder



TAM articles and blog posts

Analyzing RHEL with PCP
Analyzing podman with PCP
Browser metrics: Vector and PCP
Implementing dstat with PCP

Red Hat Knowledge Base

<https://access.redhat.com/articles/1145953>


Community resources

<https://pcp.io/>
<https://github.com/performancecopilot/pcp/projects/1>

Thank you

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