



Developments in PCP (Performance Co-Pilot)

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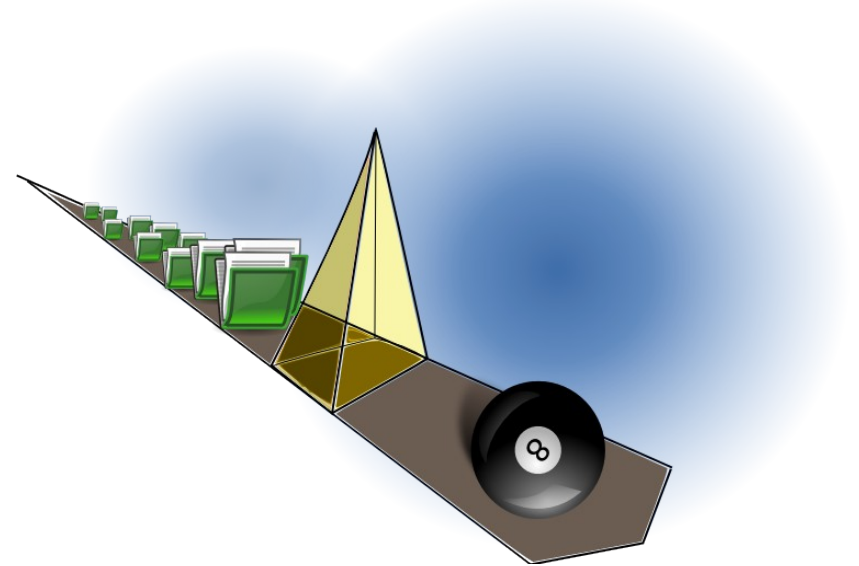
Outline

- Performance Co-Pilot (PCP)
 - Overview
 - PCP Basics
- General
- JSON access
- Containers in PCP
- New metric collectors (PMDAs) and monitor tools

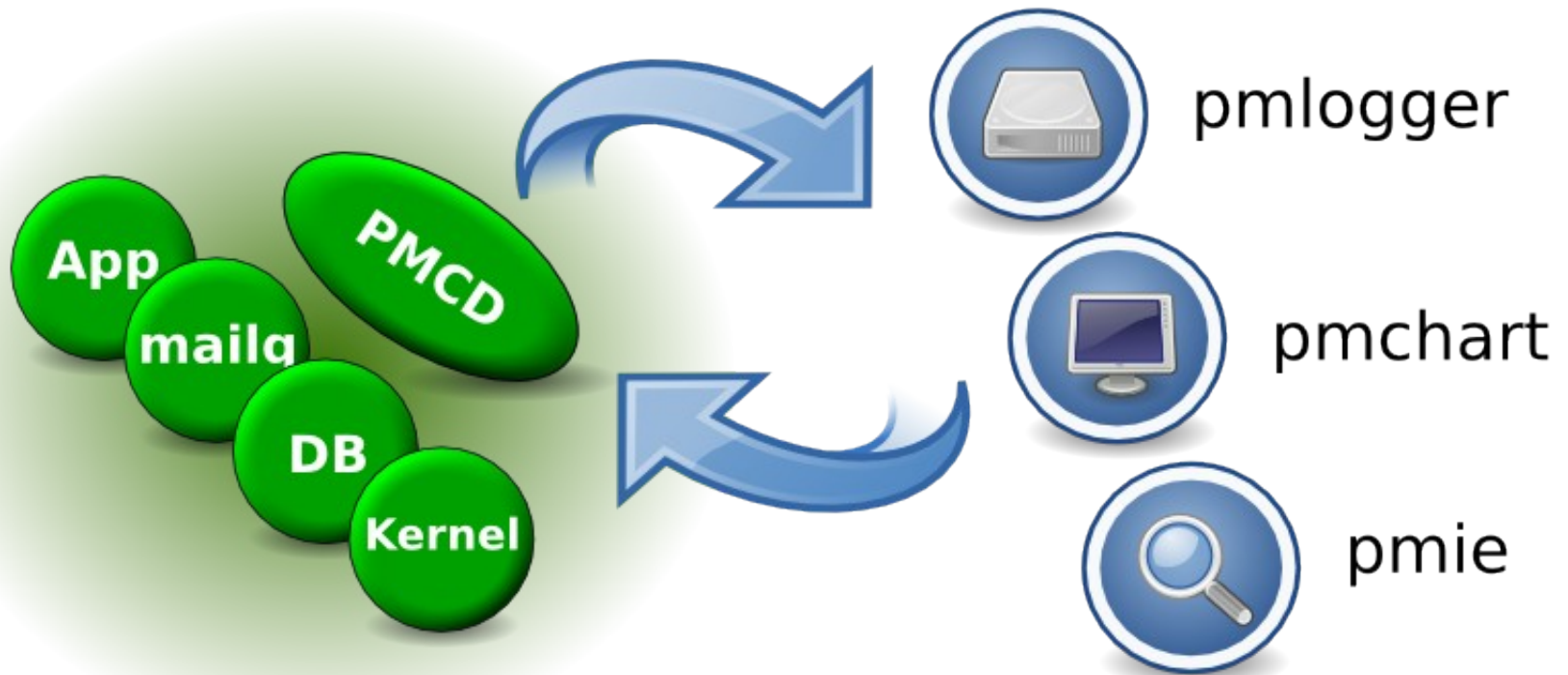


Overview

- What is PCP?
 - Open source **toolkit**
 - System-level analysis
 - Live and historical
 - Extensible (monitors, collectors)
 - Distributed



Architecture



Metrics

- **pminfo --desc -tT --fetch *disk.dev.read***

disk.dev.read [*per-disk read operations*]

Data Type: *32-bit unsigned int*

Semantics: *counter*

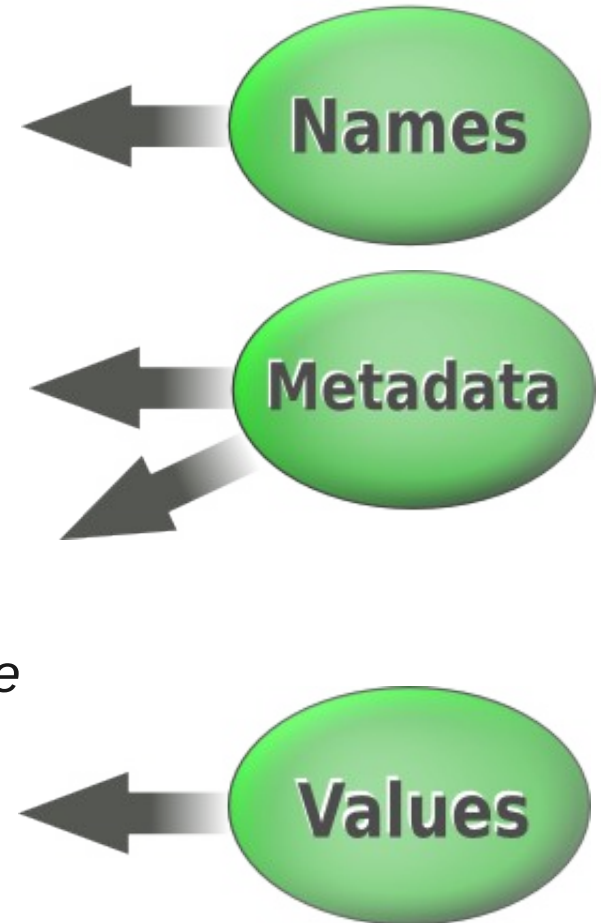
Units: *count*

Help: *Cumulative count of disk reads since boot time*

Values:

inst [0 or "**sda**"] value **3382299**

inst [1 or "**sdb**"] value **178421**

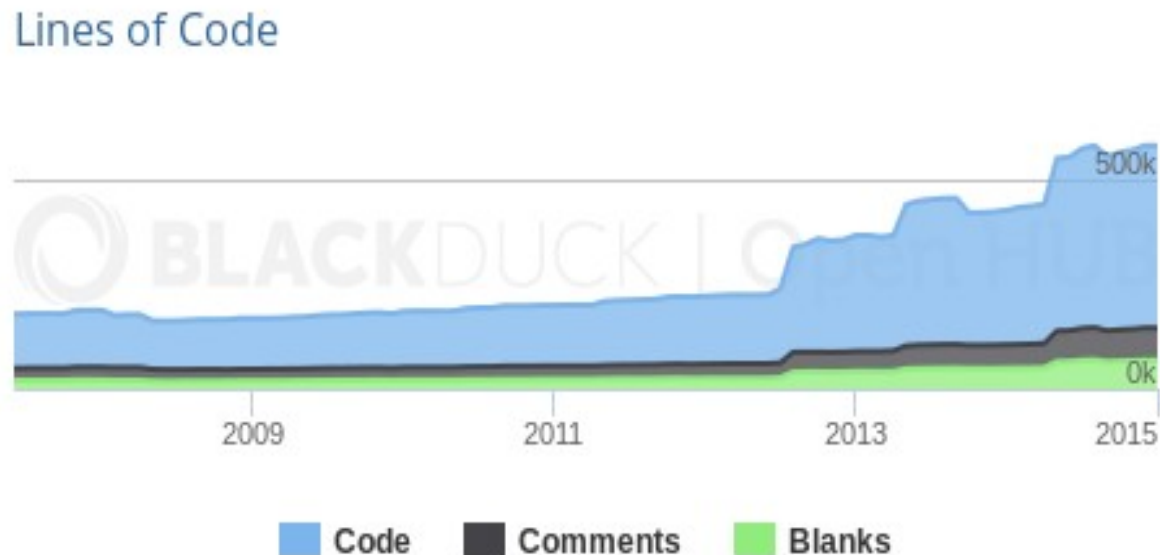




Recent Developments (6-12 months)

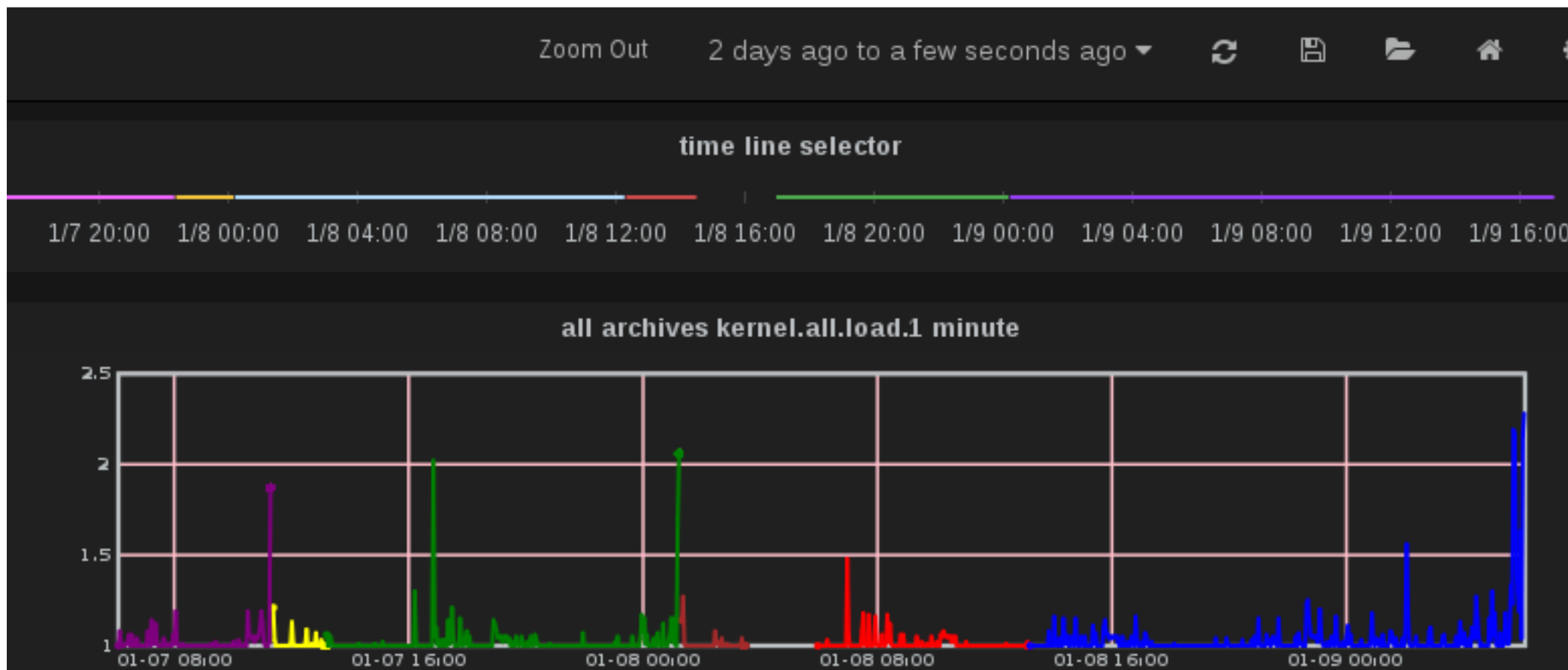
General

- Supported in RHEL 6.6 and RHEL 7 onward
- Tackling long-standing, difficult problems
- Regular stable releases
- Out-of-the-box experience



JSON access

- pmwebd (HTTP/JSON)
- Interactive web charts (graphite/grafana)



Monitoring containers

- Zero-install inside containers
- Wire protocol extensions for container naming
- Simplifying access
 - mapping dev_t to names
 - data reduction to cgroups making up a container
 - processes within a container, etc
- Docker support, but written to allow use by others

New collector work

- Metric collectors
 - Lots of kernel metric additions
 - dmccache, jbd2, gluster, zswap, gfs2, cifs, nfs4.1...
 - cgroups, [hot]proc, nvidia, hardware event counters
 - Web, DNS, elasticsearch, memcached additions
 - Database server additions
 - Python PMDA interfaces

New monitor work

- Reporting tools
 - Python tools
 - iostat, free, numastat, atop, collectl and others
 - Web tools
 - GUI tools
 - pmchart usability improvements
- Ease of setup
- Importing data from sar, iostat

Resources

<http://www.pcp.io>

Source, downloads, books, FAQ, mailing lists

git://git.pcp.io/pcp dev



Questions?

[pcp.io]