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

- App
- mailq
- DB
- Kernel
- PMCD

- pmlogger
- pmchart
- pmie
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
    • dmcache, 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]