Performance Co-Pilot cheat sheet

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PCP basics

Installation

Package **zero-conf** pulls in dependencies, starts daemons, starts archiving of a default set of metrics. On RPM based distros (RHEL, Fedora, CentOS etc.):

dnf -y install pcp-zeroconf Installation via Ansible playbook:

linux-system-roles.metrics

Verify pcp installation:

pcp

systemctl status pmcd pmlogger

Important tools

Tools from package 'pcp-system-tools' can be used with either the running pmcd, or PCP archive files:

- pcp atop
- pcp collectcl
- pcp free
- pcp iostat
- pcp dstat

Important Pathes

/var/lib/pcp/config/ /var/log/pcp/ /etc/pcp/

Working with metrics

Which metrics are offered by the running pmcd?
pminfo

Which metrics related to cpu are available? # pminfo | grep cpu

pmie

pmie, performance metrics interference engine, can react on defined metric states: send email on high load, and so on.

- # pmie –verbose –timestamp –interval 1
- # /etc/pcp/pmie/config.default
- #pmie –
archive 20200512 –
config <
rules>

pmdas

PMDA installation

PMDA's are code pieces capable of reading metrics from their area like sensors, database, and so on. PMDS's can be searched as packages and installed, for example on yum4/dnf distros:

- # dnf search pcp-pmda
- # dnf install -y pcp-pmda-lmsensors
- # cd /var/lib/pcp/pmdas/lmsensors
- # less README
- # ./Install

Anomaly search in archives

Which metrics are remarkably different in a certain timeframe? Example: we had I/O problems from 2am to 3am:

./archives/20120512 | less

What are the top 5 cpu and memory hogs? # pmrep proc.hog.cpu, proc.memory.rss \ -J 5 -1 -g -b MB

What are the current PIDs, and how much rss uses process with pid 75?

pmrep proc.smaps.rss -g | less # pmrep proc.smaps.rss -g -i '.*75.*'

Archive files

Basics

Which archive is pmlogger logging into?
pcp

Set a variable to current archive, and evaluate how many metrics are logged in the archive:

cd /var/log/pcp/pmlogger/<hostname> # pminfo -a <archivename>| wc -l

Have pmdiff point out 'significant peaks' in archives:

pmdiff -a <archivename>

Accessing metrics

Most basic access to metrics:

pmstat -t 1

pmrep -a <archivename><metric>

pcp -a 20180831.11.31 -origin @1pm \ dstat -time -disk -mem 60sec 10

Graphical access

pmchart

#dnf -y install pcp2pdf; pcp2pdf -a <arch>

Setup client systems to offer metrics via pmcd: install pcp, open packet based firewall, enable remote access in pmcd:

yum -y install pcp

Install PCP on clients

firewall-cmd –permanent –zone=public –add-port= $44321/\mathrm{tcp}$

firewall-cmd –reload

Remote collection

if grep -q PMCD_LOCAL /etc/sysconfig/pmcd; then

sed -ie 's,PMCD_LOCAL.*,PMCD_LOCAL= /etc/sysconfig/pmcd

else

echo 'PMCD_LOCAL=0' »/etc/sysconfig/pmcd $^{\rm c}$

fi

grep PMCD_LOCAL /etc/sysconfig/pmcd service pmcd restart chkconfig pmcd on

Install PCP on collector system

On the collector, we install pcp-zeroconf which also sets up logging to archive files. We then set variable CLIENT to the clients name, create a config- and controlfile, and notify pmlogger of the changes. yum -y install pcp-zeroconf

CLIENT=rhel7u8a

/usr/libexec/pcp/bin/pmlogconf \ /var/lib/pcp/config/pmlogger/con-

fig.\$CLIENT

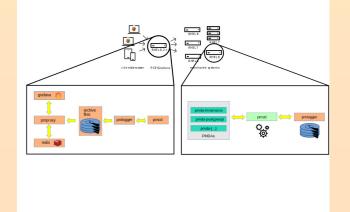
optionally, execute the last command a second time

echo "\$CLIENT.local n
PCP_LOG_DIR/pmlogger/\$CLIENT.local"

" -r -T30d -c config.\$CLIENT" \
;/etc/pcp/pmlogger/con-

trol.d/\$CLIENT

/usr/libexec/pcp/bin/pmlogger_check



Links

- [1] kbase: Index of (PCP) articles, solutions, tutorials, white papers
- [2] Ansible:https://github.com/linux-system-roles/metrics https://github.com/performancecopilot/ansible-pcp
- [3] Performance Co-Pilot site
- [4] Articles: Solve performance mysteries with PCP / PCP and podman / PCP and dstat