

Gnocchi and Collectd for faster fault detection and maintenance

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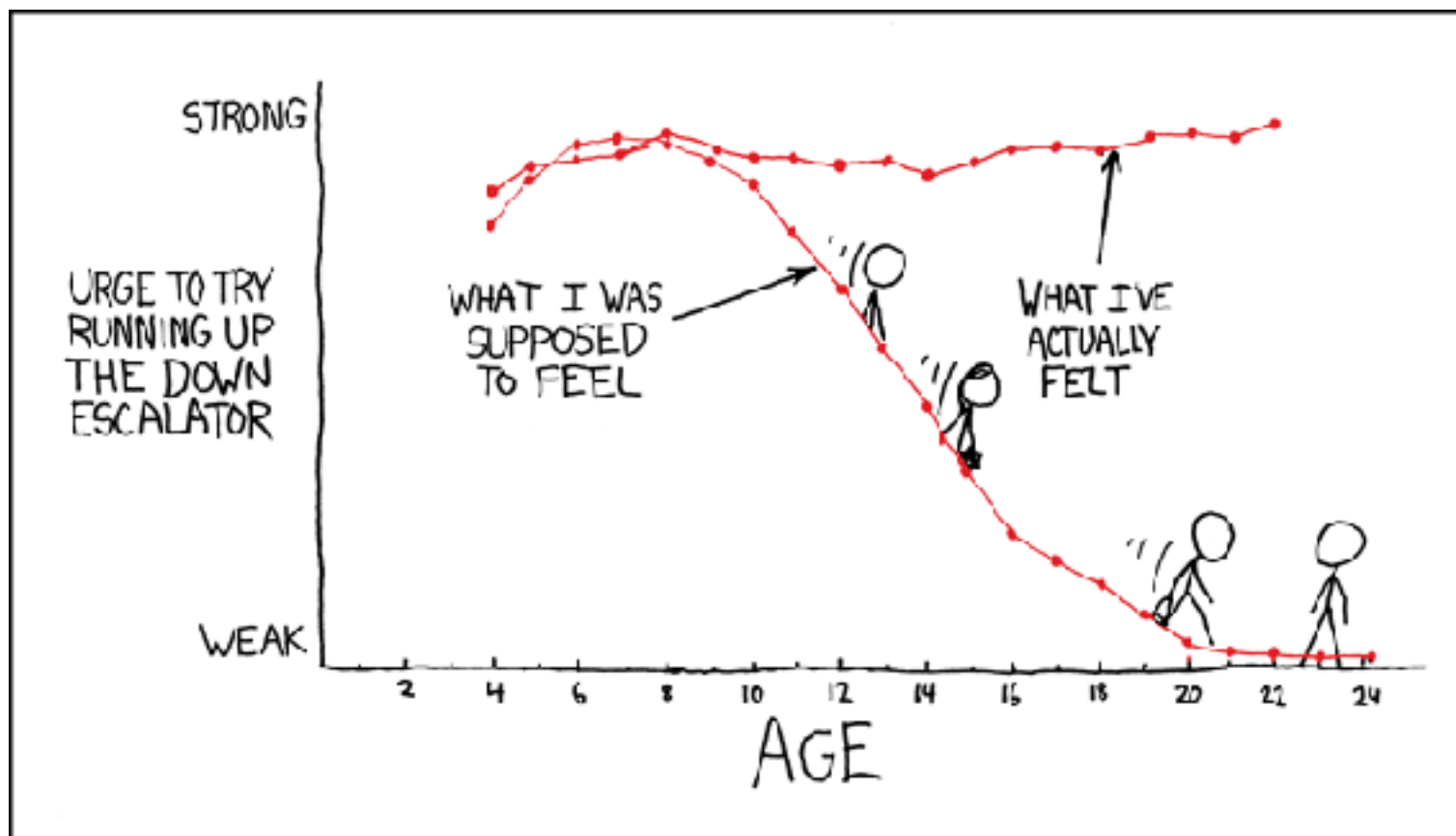


What's this all about?

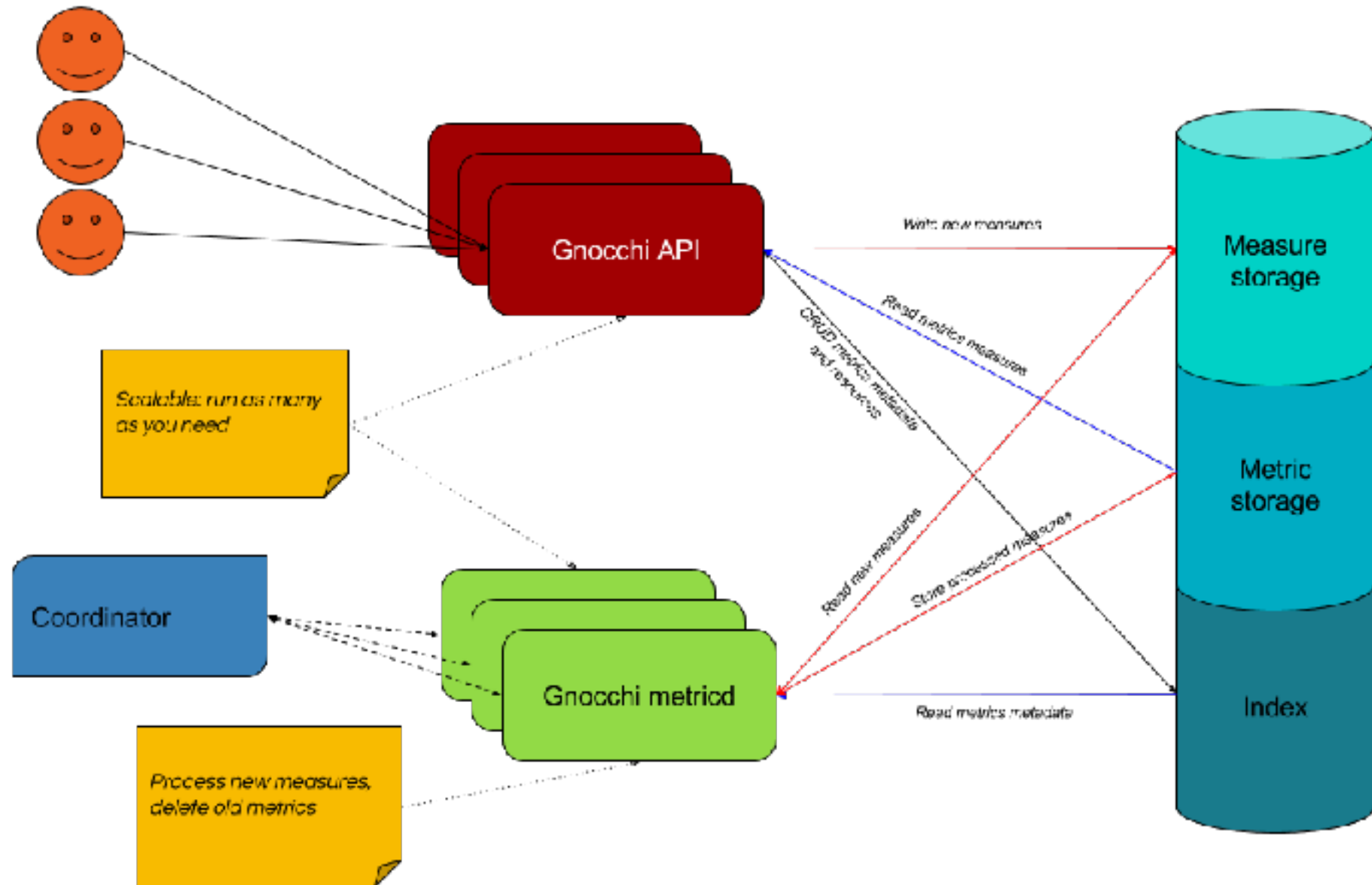
- What is Gnocchi?
- What is collectd?
- How do they work together?
- What can I do with this?
- How can these possibly improve?

What is Gnocchi?

- Time series database as a service
- Part of OpenStack Telemetry 2014-2017
- Database backend for OpenStack Ceilometer metering
- Pre-computed aggregation
- Largely scalable



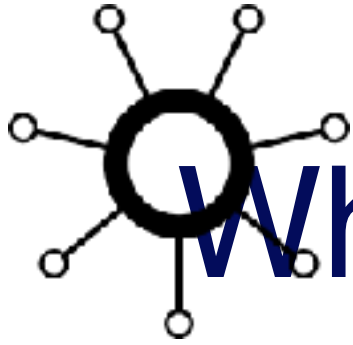
Gnocchi architecture





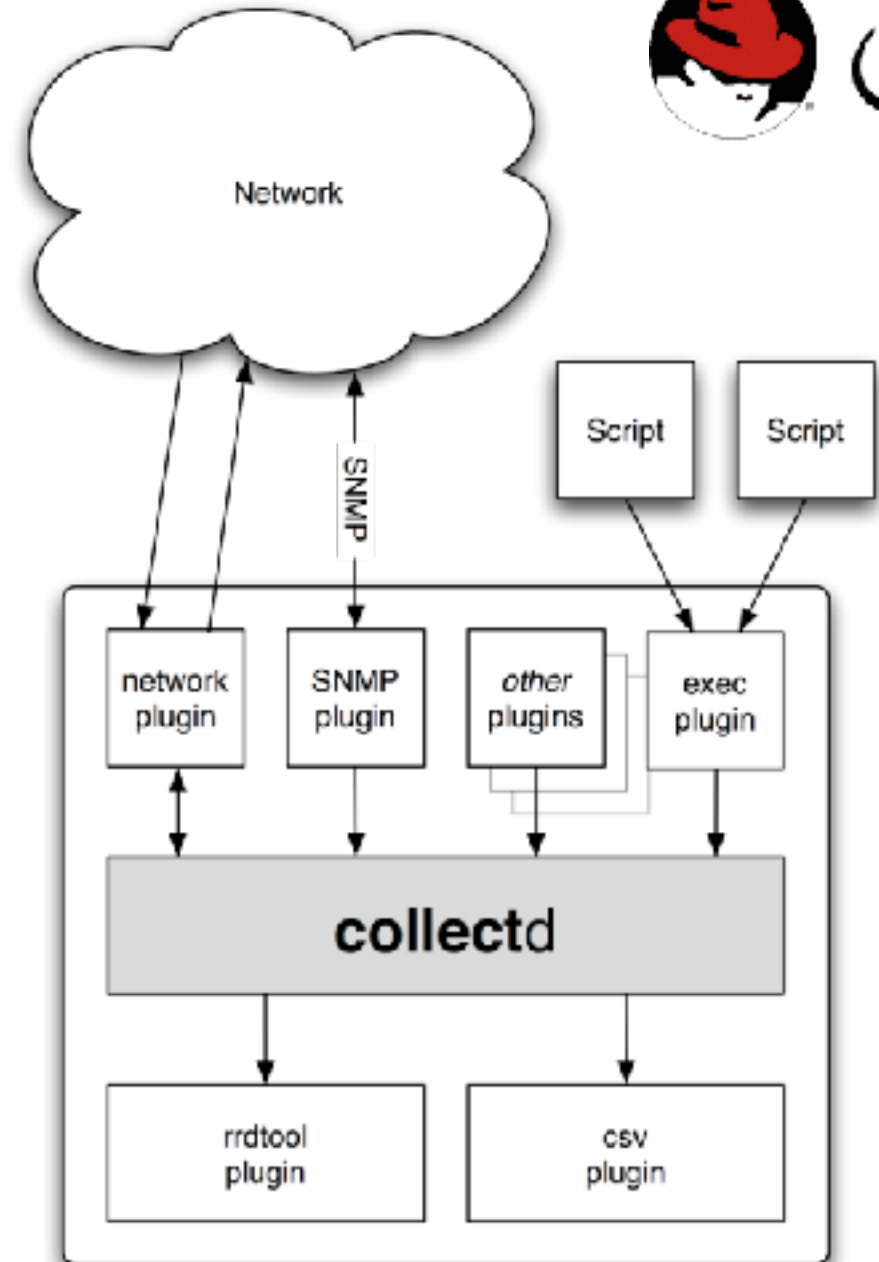
Gnocchi / Ceilometer

- Gnocchi is more **scalable**
- Can handle **more data**
- **Faster** responses on reading and writing
- Ceilometer old storage API is **deprecated**
- But why do I want these advantages?
 - § Because you may want to use collectd!



What is Collectd?

- A system statistics collection daemon
- Uses plugins to collect system statistics/events and can mangle/publish those statistics/events in a number of ways.
- Extensible via plugins
- Supports thresholding and notifications
- Platform independent



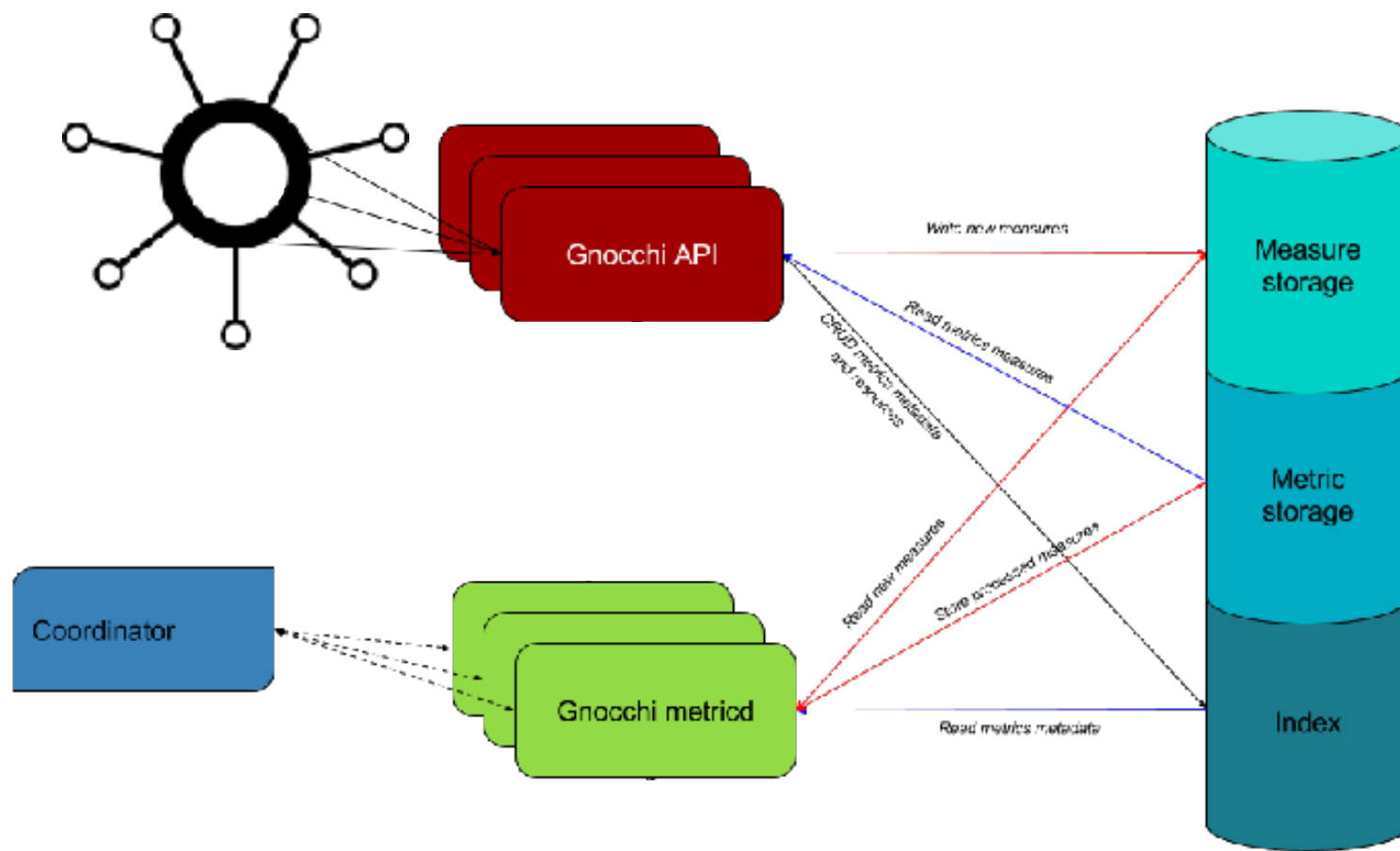
Source: <https://collectd.org/images/architecture-schematic.png>



What kind of information is available?

- cpu
- load
- ping
- interface
- memory
- disk
- IPMI
- RDT
- ovs
- hugepages
- processes
- libvirt
- dpdkstats
- etc

How do collectd and gnocchi go together?



How is collectd used in OpenStack?

- OPNFV Doctor
- OpenStack Watcher
- OpenStack Vitrage
- Aodh (OpenStack alarming)



WATCHER
an OpenStack Community Project



VITRAGE
an OpenStack Community Project



How can I use events and alarms?

- Collectd generates events!
- collectd -> aodh (thresholds)
- collectd->gnocchi->aodh (all other alarms)



What new features can I expect to see?

- [Barometer OPNFV E Release Plan](#)
 - RDT, IPMI, PMU, RAS, Libvirt, vSwitch, PCIe, SNMP, Aodh and Gnocchi plugins for collectd.
 - Collectd protocol extensions for dynamic configuration.
- [Gnocchi](#)
 - Stability and performance improvements

What do I do next?

- Try collectd out for yourself
 - [collectd](#), [collectd-ceilometer-plugin](#), [gnocchi](#)
- The examples here are not a monitoring solution, but tools to facilitate your solutions
 - Billing, rating, prediction, auto-scaling, fault management, capacity planning, etc

Can you repeat that?

- Gnocchi can handle LOTS of metrics
- Collectd generates lots of metrics
- Some projects already use collectd metrics/events
- Collectd-gnocchi and collectd-aodh let you get in on the action!



What are your Questions?

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Where can I find more information?

- [collectd and Vitrage Integration: An Eventful Presentation](#)
- [Intel - Collectd and Vitrage Integration: An Eventful Demo](#)
- [Automating Noisy Neighbour Detection with OpenStack Watcher](#)
- [OPNFV Doctor](#)
- [Barometer stats](#)
- [OpenStack Vitrage](#)



Thank You!

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