* **Nagios**

is an [event monitoring](https://en.wikipedia.org/wiki/Event_monitoring) system.

Nagios offers monitoring and alerting services for servers, switches, applications and services.

 It alerts users when things go wrong and alerts them a second time when the problem has been resolved.

* **Cacti**

is an open-source, web-based network monitoring, performance, fault and configuration management framework designed as a front-end application for the open-source, industry-standard data logging tool RRDtool.

 Cacti allows a user to poll services at predetermined intervals and graph the resulting data. Through the use of Cacti plugins, it has been extended to encompass all of the FCAPS operational management categories.

It is generally used to graph time-series data of metrics such as CPU load and network bandwidth utilization. A common usage is to monitor network traffic by polling a network switch or router interface via Simple Network Management Protocol (SNMP).

* **Smokeping**

is a deluxe latency measurement tool.

It can measure, store and display latency, latency distribution and packet loss. SmokePing uses RRDtool to maintain a longterm data-store and to draw pretty graphs, giving up to the minute information on the state of each network connection.

RRDtool (round-robin database tool) aims to handle [time series](https://en.wikipedia.org/wiki/Time_series) data such as [network](https://en.wikipedia.org/wiki/Computer_network) [bandwidth](https://en.wikipedia.org/wiki/Bandwidth_%28computing%29), [temperatures](https://en.wikipedia.org/wiki/Temperature) or [CPU load](https://en.wikipedia.org/wiki/Load_%28computing%29). The data is stored in a [circular buffer](https://en.wikipedia.org/wiki/Circular_buffer) based [database](https://en.wikipedia.org/wiki/Database), thus the system storage footprint remains constant over time.