SightLine Power Agent for UNIX Systems

Metric Overview

SightLine™ collects and reports performance data for all key components of UNIX operating systems: CPU, Memory, Disk, Network and File Systems, and hundreds of other metrics including Process Information.

Network Statistics — Network statistics are collected at the controller level. SightLine collects Net Traffic Rates, Collisions (sign of network problems) and Resends (sign of controller problems), Number of Packets, Volume of Traffic, and TCP Stats, Input Packets/Sec, Output Packets/Sec, Collisions/Sec, IP Pkts Received/Sec.

NFS Statistics — Network File System (NFS) metrics provide statistics on the traffic and overhead associated with NFS operations. SightLine reports rates of Calls, Volume, and Failures to flag problems with the NFS subsystem. Client and server statistics include Calls, Badcalls, Reads, Writes, etc.

RPC Statistics — A process can be executed on a host other than the one that produces the call. Remote Procedure Calls (RPC) metrics provide information on the volume and rates of Procedure Calls to and from other hosts. SightLine reports Client and Server Statistics.

Disk Statistics — SightLine reports disk statistics provided by the kernel. Depending on the UNIX platform, they can include %Busy, Volume of Traffic, Queue Length, Wait Times, and Service Times, %Read, %Write, etc.

File System — File systems can be mounted across physical disks. Their space on most UNIX boxes is set and cannot be changed easily, so it is very important to monitor their use. Besides Space Utilization, SightLine reports Volume of Traffic of FS and I-nodes Used.

TTY — TTY metrics record utilization of terminal lines. SightLine reports these rates in several forms.

CPU Statistics — *CPU Utilization* - SightLine provides global as well as per CPU statistics. Depending on the type of UNIX, SightLine will report the different modes System, User, Wait I/O. Depending on the type of UNIX platform, CPU wait states are also reported. *Context Switching* - Context Switching incurs system CPU cycles and diminishes the amount of CPU left for user processing. SightLine reports types and rates of context switching globally as well as per process. *Processes* - SightLine reports on the rate at which processes are placed in the Run Queue and Swap Queue, as well as the number of processes in various States, Run, Sleep, etc., and Users Logged In. *System Calls and Remote System Calls* - System calls account for a lot of the overhead on a system. System calls are routines performed on behalf of processes on the system. SightLine reports types and rates for all system calls.

Memory Statistics — *Memory* - These metrics include Space Utilization, Paging, and Swapping Statistics. *Swap* - These metrics provide information on disk space where Paged and Swapped Memory resides. Some systems will crash if Swap Space is filled. SightLine also reports Swap Rates in blocks. *Buffer Cache* - The Buffer Cache is a block of memory where I/O's are cached. This greatly enhances the performance of the disk I/O subsystem, but at the expense of available memory. SightLine reports Rates, Misses, and Hits for both Reads and Writes. *Name Cache*- The Name Cache is a block of memory that caches the recently used I-nodes (file headers), which saves the system overhead of translating them into filespecs. The trade-off is used memory. Size and Rates are reported.

IPC Statistics — Depending on the type of UNIX platform, Interprocess Communication (IPC) includes Message Queues, Semaphore and Shared Memory interprocess communication traffic parameters including Msg Ops/Sec, Msgs Queued, Sema Ops/Sec, Sema in System, and Shared Memory in Use.

Streams Statistics — Streams are used in some forms of UNIX as the basic underlying structure for communication, including the network traffic and IPC on the node. SightLine reports Rates, Number in Use, and Utilization by buffer size.

Callout Usage Values — Callouts are used for timers and other time coordinating functions. In some forms of UNIX, when the callout table gets full, the system crashes. The information is kept in a block of memory called the Callout table. SightLine reports utilization statistics.

Kernel Statistics — Tunable Parameters-This group of metrics depends on the UNIX platform. SightLine reports all the user changeable metrics that deal with kernel configuration and performance.

- Process Age Interval Secs
- Pg Steal High Mark
- Pg Steal Low Mark
- Min Non Swap Memory Pgs
- Min Swap Memory Pgs

Kernel Metrics — This group contains more user changeable metrics that affect how much memory the kernel will utilize with buffers and tables. For example:

- I/O Buffers
- Hash Buffers (**20)
- System Callouts
- Process Table Size
- Clists Allocated
- Max Memory/User
- Max Process/User
- Physical I/O Buffers
- Stream Buffers

Process Level Data — Event Scope used to monitor process level utilization.

- *Pid#* - The Process Identification Number.
- *Userid* - The name of the User that owns this process.
- *Taskname* - The name of the process.
- *Usr% (User CPU utilization)* - The amount of User CPU this process used during the sample interval. On a multi-processor machine this is the value of CPU usage for this process on all CPU's.
- *Sys% (System CPU utilization)* - The amount of System CPU this process used during the sample interval. On a multi-processor machine this is the value of CPU usage for this process on all CPU's.
- *Cuser% (Child user CPU utilization)* - The amount of User CPU that children of this process used. You will only see values when a child of this process completes during the interval.
- *Csys% (Child system CPU utilization)* - The amount of System CPU that children of this process used. You will only see values when a child of this process completed during the interval.
- *Size K (Process size)* - The amount of memory that this process is using in Kilobytes.
- *Pri (Priority Level)* - Level of Priority of the process.
- *Bread* - The number of Block Reads done by this process during this interval.
- *BWrite* - The number of Block Writes done by this process during this interval.
- *PgFlt* - The number of Page Faults for this process during the interval.

Supported UNIX Flavors:

IBM AIX
Sun Solaris
Tru64
Stratus VOS
HP-UX (SightLine also available for HP-UX on Itanium 2)
Linux (SightLine also available for Red Hat Linux on Itanium 2)

SightLine…the Key to Performance Information

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