

HP Availability Stats and Performance Hybrid Extension for Linux Software

Data sheet



A powerful option to HP Availability Stats and Performance (ASAP) Software, Availability Stats and Performance Hybrid Extension for Linux® (ASAP Hybrid) Software integrates the management of cross-platform HP NonStop server and Linux server applications. ASAP Hybrid Software sends Linux server application data to NonStop servers running ASAP Software for analysis, display, archival, monitoring, and alerting. ASAP Software provides many functions such as alerts, graphs, and grids on domains that do not meet their objectives, and provides custom views.

Key features and benefits

- Extends Availability Stats and Performance Software to include the Linux operating system
- Supports domains of service
- Manages service levels
- Provides alerts based on desired objectives
- Seamlessly integrates Linux and NonStop server application metrics
- Monitors system health and includes error recovery

HP Availability Stats and Performance Hybrid Extension for Linux Software provides an interface for Linux applications to participate in the ASAP availability monitoring architecture.



Linux applications use the ASAP Hybrid application program interface (API) to update counters and other data values directly in memory on the Linux system. ASAP Hybrid Software on the Linux system shares data with ASAP Hybrid on the NonStop server. At predetermined intervals, ASAP Software samples application data to produce productivity and quality metrics to show how the application is performing against service-level objectives. The software provides a view into the internal workings of the application. It can be used to monitor application productivity metrics such as transaction or error rates, and it can monitor performance metrics such as utilization and response time. Most important, it can also monitor application states and availability.

Extends the ASAP application program interface to Linux

ASAP Hybrid Software provides an application programmer with a simple set of API procedures to instrument any 32-bit or 64-bit Linux application. These API procedures are functionally equivalent to the API procedures provided in the HP ASAP Extension (ASAPX) Software used to instrument NonStop server applications. The procedures allow an application to register a domain with the ASAP Hybrid product, update application counters and other data values stored in memory, activate and deactivate ranking for the domain, remove the domain from the registered set, and update the operational state and status text for the domain.

Both standard and thread-safe variants of API procedures are provided. The thread-safe versions permit different threads of the same process to share ASAP Hybrid application counters, and the standard versions allow single-threaded applications to call ASAP Hybrid API procedures without incurring any incremental overhead associated with support for multiple threads. From an application standpoint, the standard and thread-safe calls appear identical; the only difference is that the thread-safe procedures have "_ts" appended to their names.

The API procedures are used for all communication between an instrumented application and the entire ASAP subsystem, except in the case of registering a new domain. This means that once an application has registered a given domain, all updates occur via extremely fast, nonblocking shared-memory operations. The result is that there is virtually no overhead involved in using the ASAP Hybrid API.

Supports domains of service

ASAP Hybrid Software supports the concept of domains of service and requires an application to provide its domain name when registering. A domain name is a unique logical name composed of hierarchical component levels. The following are all examples of domain names:

- Atm\Chicago\West\Branch27\Unit3
- Sales\Accounts\Receive\115
- Funds\Transfer\Swift1
- Servers\Location-231\Serv27
- Comms\Drivers\Sockets
- Automation\Belt-2\Assembly-0498A

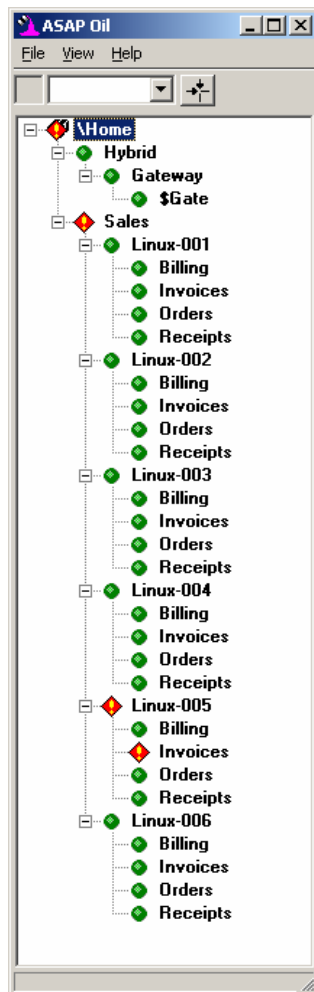
Domain names are used to identify application components and provide operational views into the application from other ASAP components. For example,

ASAP Software's Object Integration Layer (OIL) TreeView displays the status of application domains (see figure 1).

Domain names are constructed to provide optimum value for application monitoring. They allow resources to be grouped according to any logical scheme that best represents how a business is managed.

Figure 1.

ASAP Software's Object Integration Layer (OIL) TreeView.



Manages service levels

ASAP Hybrid Software gives you the ability to record service-level information directly within your Linux application. You can generate service-level metrics at each interval, which are ranked automatically against the service-level objectives for those metrics. You can monitor your Linux application based on the criteria on which you judge its effectiveness.

Provides alerts based on objectives

An associated state is computed for each metric that ASAP Hybrid Software sends to ASAP Software. Within ASAP Software, metric states are used to determine highlighting and alerting to the operator.

ASAP Hybrid Software supports multiple objectives for any application metric using the ASAP Discrete Objectives Thresholds (DOTs) infrastructure. This means that ASAP Hybrid Software uses DOTs to compare objectives against the metric value computed at each interval to determine the state it will report for the metric.

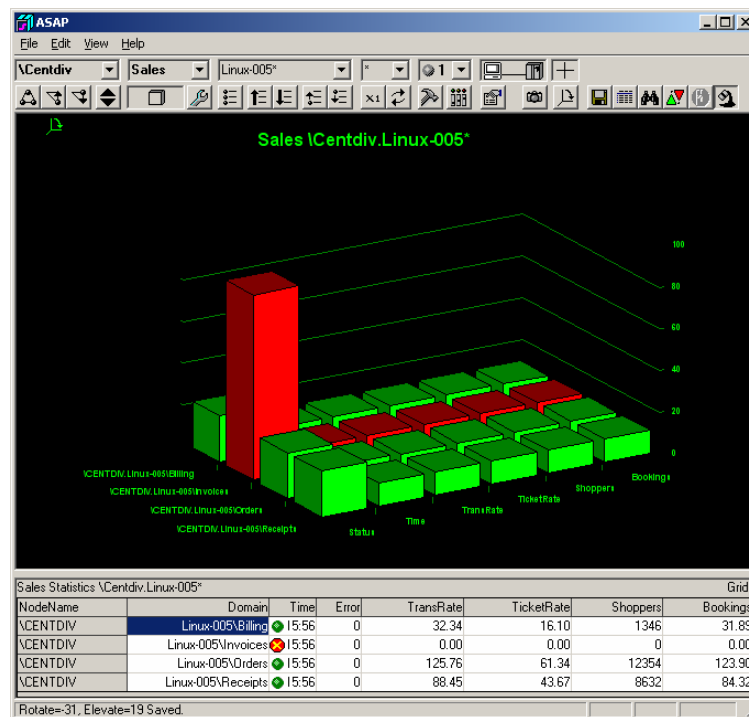
Setting a “less-than” objective for a metric sets a productivity indicator for that metric. For example, if you know the normal transaction rate for a server is 100 transactions per second, you might set a less-than objective at 80 transactions per second. A lower value would indicate degradation of service.

When objectives are not met, ASAP Software uses DOTs to set alert state levels automatically on the failed metric. ASAP Software highlights the alert and notifies the operator through ASAP notification services.

Figure 2 shows the domains of service for a Sales application monitored across six remote Linux based servers. The domains are presented graphically and include the domain application detail. The status of the domain Sales\Linux-005\Invoices is “down.”

Figure 2.

Graphical presentation of application data for downed Linux domain.



Seamlessly integrates Linux application metrics with ASAP data

ASAP Software integrates Linux application counters and data directly from ASAP Hybrid Software. Once data is captured by ASAP Software, it is handled in the same manner as all other ASAP data. All standard ASAP features and capabilities can be used with ASAP Hybrid data in the same way that they can be used with all other ASAP data.

In addition, by using ASAP Hybrid Software in conjunction with ASAPX Software, developers can instrument applications that span both the NonStop and Linux platforms, and correlate metrics and data from each. The result is a complete picture of the availability, performance, and service levels delivered by the entire application.

Monitors system health and error recovery

ASAP Hybrid Software provides many features for monitoring the health of instrumented applications and

- Monitors all active Linux applications that have been instrumented using the ASAP Hybrid API. If one of these applications stops or fails, ASAP Hybrid Software reports this information using ASAP Software. If an entire Linux system fails or is taken off line, ASAP Hybrid Software will report that condition via ASAP Software as well.
- Has components, both NonStop and Linux based, that persist key data, allowing them to be stopped and restarted online without impacting running applications and without losing any data counters or metrics.
- Maintains application data and counters in shared memory, even if the client application fails or stops unexpectedly. This allows the application to be restarted without losing any accumulated metrics or data values.
- Detects when Linux applications become inactive and do not update data counters or values for a period of time. Such a case could indicate an application that is deadlocked, waiting for resources of some type, or has encountered an error that causes it to stop servicing requests. ASAP Hybrid Software reports this condition using ASAP Software.
- Has been instrumented for ASAP Software, and tracks such items as the number of domains registered and removed in a given interval, the number of active Linux systems, network response time to remote Linux systems, error counts, and more. These metrics can be used to determine the state of the entire ASAP Hybrid subsystem, help balance the load across multiple ASAP Hybrid servers, and obtain a global view of the behavior of all instrumented Linux applications.

ASAP Hybrid Software does the work so that your application doesn't have to.

Technical specifications

NonStop server system requirements

Hardware	NonStop server
Software	HP NonStop Kernel Operating System Release Version D48 and later, or Release Gxx or Hxx Availability Stats and Performance Version 2.5 Software and later

Linux server system requirements

Hardware	Any x86 or AMD64 based workstation or server
Software	Red Hat Enterprise Linux 3

Ordering information

Part number	Product name
SE30v2	HP Availability Stats and Performance Software
SE33v1	HP Availability Stats and Performance Hybrid for NonStop Server Software
SE34v1a	HP Availability Stats and Performance Hybrid Extension for Linux Software (License 10 Pack)
SE34v1b	HP Availability Stats and Performance Hybrid Extension for Linux Software (License 50 Pack)
SE34v1c	HP Availability Stats and Performance Hybrid Extension for Linux Software (License 100 Pack)

For more information

To learn more about HP operation management solutions for NonStop servers, contact your HP sales representative or visit www.hp.com/go/nonstop/opmgmt.

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For more information, visit
www.hp.com/go/nonstop/opmgmt.

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