



Apache Server Management

Apache is a powerful, flexible web server which implements the latest protocols and is highly configurable and extensible with third party modules with the ability to write custom modules. With the TELEHOUSE Management Framework, TELEHOUSE provides the highest level of support and management to ensure the availability and performance of your Apache Web Server.

Correlation Engine Technology

TELEHOUSE's correlation engine technology includes APIs for reading alerts and messages from a variety of tools such as HP OpenView, NetIQ AppManager and HP Insight Manager, among others. The correlation engine filters, correlates, validates, and auto-resolves routine alerts, allowing our analysts to focus on complex and proactive analysis of pre-screened, validated events. On average, 98% of incoming alerts and messages are automatically resolved by the correlation engine. By capturing and prioritizing the relevant data, the correlation engine enables exceptionally efficient incident management that improves your system performance.

Expert Analysts

TELEHOUSE dedicated Apache experts ensure high performance and availability of your Apache web server. Support analysts are available 24x7 to respond to system events and for direct customer support through phone or email. With over a decade of focused experience in managed services and thousands of applications under management, TELEHOUSE successfully manages complex environments.

ITIL Best Practices

TELEHOUSE employs the IT Infrastructure Library (ITIL) Service Delivery and Service Support processes of Incident, Problem, Configuration, Change, Release, Service Level, Availability and Capacity Management. These standardized ITIL processes define our services and ensure consistent and measurable performance. TELEHOUSE's Management Action Plans (MAPs) are incident management best practices, which correspond to every event type that is monitored.

Managed Components

1) Apache Server Availability:

TELEHOUSE will monitor and verify that the application is running and functional. Critical system processes and daemons will also be monitored to ensure they are running within established parameters. Server restarts will be completed in the event of a system crash, panic or halt, and the acceptance of client connections will be verified.

2) Apache Server Instance:

TELEHOUSE will monitor each separate instance of your Apache application.

3) Configuration File Changes:

TELEHOUSE will advise you when changes are made within the Configuration files to ensure that unauthorized changes are not being made to your system.

4) System/Event Log File Monitoring:

TELEHOUSE will monitor application logs looking for specific keywords and phrases indicating critical issues to investigate. With Apache, the keyword search is based on the availability of the 'httpd' process. Additional keywords can be added at any time and keywords that are determined to be ineffective can be removed.

5) Load Distribution:

For load balanced environments, TELEHOUSE will gather statistics on load distribution to allow optimization of your system resources.

6) Patch Management:

TELEHOUSE will, on a periodic basis, review installed patches vs. the latest available from the Apache Software Foundation and make recommendations for upgrades. Depending on the selected support option, TELEHOUSE will schedule with the customer and install the appropriate patch-sets.

Managed Components for Apache Server

- Apache Server Availability
- Apache Server Instance
- Apache Configuration File Changes
- Log File Monitoring
- Load Distribution (Load Balanced Environments)
- Patch Management
- Performance Management & Statistical Tracking
- URL Monitoring

TELEHOUSE Management Framework Value

- Leverage TELEHOUSE's best-of-breed monitoring technologies and proven implementation processes to provide rapid and effective management.
- Gain visibility into your IT environment by viewing ticket, performance, and trend details through the customer Portal.
- Rely on expert analysts, ITIL best practices and Management Action Plans (MAPs) to improve the stability and availability of your environment.

For more information visit www.TELEHOUSE.com



7) Performance Management and Statistical Tracking:

TELEHOUSE will identify, troubleshoot and resolve performance issues and collect data on web response time based on URL checks. Performance reporting is displayed in the customer portal.

8) URL Monitoring:

In addition to monitoring the internal application components, TELEHOUSE will verify the availability of web applications from an end customer perspective to provide a more comprehensive view of the environment. This monitoring is accomplished by performing 'HTTP(S) get' commands against specified web pages, whether visible to the general public or not. The service includes monitoring, reporting, and if purchased, problem resolution of those components and processes that are problematic.

TELEHOUSE will monitor one (1) URL for each supported instance of Apache. The URL monitoring relies on simple HTML strings being present in the rendered page within a fixed period of time (usually ten seconds or less). A sampling interval can be set to minimize the number of false positives due to network latency and Internet response errors. For example, if the URL is unavailable for two consecutive samplings (taken at three minute intervals), then the agent will initiate an alert. TELEHOUSE will track URL performance statistics on a historical basis and display charts on response times in the customer portal.

Example Event Resolution

The following example demonstrates the Silver, Gold, and Platinum service responses for a common Apache event: **Apache Process Unavailable**.

TELEHOUSE Silver

For TELEHOUSE Silver services, the customer will receive notification of validated events. A TELEHOUSE Analyst will consult the Management Action Plan for this event. The MAP dictates that the analyst will perform the following:

Event Types Monitored

- Process availability
- File not found
- Invalid content
- Process count mismatch
- Invalid user (server)
- Log error issues

- 1) Log on to the server that reported the problem
- 2) Check for the httpd process by grepping for that instance
- 3) Contact the customer with the information
On average, the initial response time is less than five minutes.

TELEHOUSE Gold

For TELEHOUSE Gold services, a Primary Analyst is assigned to every account and understands the configuration of the environment. Rather than escalating directly to the customer, the same Apache event is now escalated to a Primary Analyst. The Primary Analyst consults their predefined set of troubleshooting and resolution steps in the Management Action Plan. The Primary Analyst will perform the following troubleshooting and resolution steps:

- 1) Stop the Apache processes
- 2) Stop one or all web cache processes depending on the problem
- 3) Check the log file (error_log) for any failure information
- 4) Depending on the problem reporting instance, start the Apache processes
- 5) Ensure problem resolution after restart by checking the latest log file for any errors during startup
- 6) Report any problems with the startup to the customer

In addition, the Primary Analyst will also watch for a trend of these types of issues to proactively advise the customer of configuration changes to stabilize the environment.



TELEHOUSE Silver, Gold, Platinum Support Overview	Silver	Gold	Platinum
→ 24x7 Support Center coverage	✓	✓	✓
→ Event correlation and validation with correlation engine technology	✓	✓	✓
→ Customer portal (system health, ticket reports, performance reports)	✓	✓	✓
→ Ticket tracking, communication, notification and escalation management	✓	✓	✓
→ Management Action Plans with validation and notification steps	✓	✓	✓
→ Incident management (detection, classification, notification, recording, and closure)	✓	✓	✓
→ Project management for installation	✓	✓	✓
→ Apache log file parsing using specific keywords	✓	✓	✓
→ Validation of Apache server response to requests	✓	✓	✓
→ Individual Apache instance availability monitoring (additional instances sold separately)	✓	✓	✓
→ Apache configuration file monitoring	✓	✓	✓
→ URL monitoring and reporting (sold separately)	✓	✓	✓
→ Management Action Plans with validation, troubleshooting, resolution and escalation steps		✓	✓
→ Incident resolution based on MAP procedures (restarts of processes, services, servers, etc)		✓	✓
→ Primary Analyst assigned to every account for incident investigation, diagnosis, and control		✓	✓
→ Proactive problem identification		✓	✓
→ Configuration identification, status, verification and audit		✓	✓
→ Availability, response time, trend, and performance reporting and analysis		✓	✓
→ Patch reporting and analysis		✓	✓
→ Analyze repetitive critical Apache log file errors and suggest corrective action		✓	✓
→ Monitor data source connections used by Apache		✓	✓
→ Validate database and web server dependencies for Apache		✓	✓
→ Advise of request throughput and response time discrepancies		✓	✓
→ Suggest enhancements to enable support for Java, JSP, EJB, or Java Servlets as Apache add-ons		✓	✓
→ Project management resource assigned for installation and ongoing account maintenance			✓
→ Complete problem management with incident root cause analysis, when appropriate			✓
→ Enterprise account management with complete understanding of architecture			✓
→ Change management coordination, review, risk assessment and justification*			✓
→ Release management planning, deployment and acceptance*			✓
→ Monitor ticket activity (24 hour report) and work to reduce false positive and non-critical items			✓
→ Streamline resolution procedures to reduce resolution times of tickets			✓
→ Configuration management (identification, planning, control and optimization)			✓
→ Apache patch maintenance and installation			✓
→ Perform changes to optimize the Apache configuration files			✓
→ Install and apply fixes to security vulnerabilities according to industry standards			✓
→ Perform enhancements to enable support for Java, JSP, EJB, or Java Servlets as Apache add-ons			✓
→ Root cause analysis of cluster fail over events (post mortem)			✓

*TELEHOUSE provides change management for all objects that are contracted under the Platinum support option. This includes both TELEHOUSE and customer initiated changes.

For objects not under TELEHOUSE management, such as custom code or content, TELEHOUSE will perform the change control activities and documentation steps normally associated with change management, only if the Enterprise Change Management option is purchased separately. For further details, please refer to the Change Management Technical Specification.



Support Options Summary TELEHOUSE Silver

Infrastructure and Application Monitoring

- Customer Portal Access*
- Project Management*
- Incident Management (Validation, Notification, and Escalation)
- Reporting

TELEHOUSE Gold

Infrastructure and Application Resolution

- All the features of Silver, plus
- Incident Resolution
- Proactive Problem Identification
- Configuration Identification
- Reporting and Analysis

TELEHOUSE Platinum

Infrastructure & Application Management.
All the features of Gold, plus

- Problem Management (Error Control, Root Cause Analysis)
- Change Management
- Configuration Management
- Release Management
- Reporting and Proactive Services (Performance Tuning, Customized Services)

* Please see the Engagement Services technical specification for details.

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TELEHOUSE Platinum

For TELEHOUSE Platinum services, the Primary Analyst will also understand the architecture of the environment and applications deployed in Apache. With this more in-depth understanding of your environment, the Primary Analyst can perform many proactive tasks such as performing enhancements to enable support for Java, JSP, EJB or Java Servlets as add-ons to base Apache, suggesting and performing changes to optimize the Apache configuration files, installing and applying fixes to security vulnerabilities to adhere to industry standards, and monitoring ticket activity to reduce false positive and non-critical items.

Engagement Services for Silver, Gold and Platinum

TELEHOUSE will perform the following activities as part of its engagement service:

- Audit and document site requirements
- Establish and maintain Virtual Private Network (VPN) connectivity
- Deploy Client Agent management tools
- Configure the customer portal for customers to view performance trends and analysis

These services are detailed in the technical specification for TELEHOUSE Engagement Services.

Version and Patch Support Policy:

TELEHOUSE supports vendor-supported software versions defined as those versions that are under maintenance and being patched by the vendor.

Customers must have maintenance agreements in-place and systems should be patched to within six months of the vendor's most recent available patches.

Exceptions to this, as well as overall supported applications will only be considered on a special approval basis and will require an engineering review and contract addendum.

Apache is supported on Linux, BSD, Solaris and Windows.