



Network Device Management

IP based networks are now standard for the local area and are rapidly expanding into the wide area with the acceptance of VPN technology. With bigger networks come increasing monitoring and management challenges. With the TELEHOUSE Management Framework, TELEHOUSE provides the highest level of support and management to ensure the availability and performance of your network devices.

Correlation Engine Technology

TELEHOUSE's correlation engine technology includes APIs for reading alerts and messages from a variety of tools. 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

Dedicated network device experts ensure high performance and availability for your environment. 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.

TELEHOUSE Silver

The TELEHOUSE Silver solution provides monitoring for the current state of your network devices

via SNMP traps and will report on the device's interface availability. Near real-time interface traffic analysis reports are presented in the customer portal.

Typical devices that are monitored with this service include L3 switches and routers. This service will monitor a failover pair of network devices that use the active-passive HSRP or VRRP protocols.

Hardware monitoring for any SNMP compliant device is executed for a predefined set of SNMP MIBs. The specific traps and amount of detail collected depend on the available MIBs for each device type and model. At left are examples of SNMP monitored events.

The TELEHOUSE Silver service option does NOT include administration, root cause analysis or failback.

TELEHOUSE Gold

TELEHOUSE Gold includes all of the monitoring services of Silver and also provides monitoring through SNMP Gets. Customers who need more comprehensive data and alert triggers for their enterprise network choose this service option. This service allows customers not only to identify which devices are up or down, but to determine key network bottlenecks or misconfigured interfaces. A TELEHOUSE Primary Analyst will make recommendations on upgrades or changes to network components so that customers can tune their devices for maximum efficiency.

Failover pair port monitoring is limited to the active node. The sidebar at left shows sample listing of events collected via SNMP Gets.

The TELEHOUSE Gold service option does NOT include administration, root-cause analysis or failback.

Key Features

- ICMP Ping Monitoring
- SNMP Monitoring
- MIB II Support
- Incident and Problem Management
- Remote Diagnosis and Remediation
- Vendor Escalation
- Change Management
- Remote Administration Services
- Configuration Backup and Recovery

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



Event Types Monitored via SNMP

- Device availability
- Interface status
- Cold start
- SNMP failure
- Link status
- HSRP Failover
- Warm start

Performance Statistics Collected via SNMP*

- System memory
- CPU utilization
- Temperature
- Power supply state
- Fan status
- Interface utilization (% in/out)
- Interface error (% in/out)
- Interface frame discards (% in/out)

* The list of metrics above is dependent on MIB support by the specific network device and manufacturer. For example, a Cisco Router may support all the features listed above and more.

* Up to 15 metrics from the available MIBs will be collected for each device. Thresholds can be customized to suit your requirements. This may incur an extra charge, as it requires customization and labor.

TELEHOUSE Platinum

For TELEHOUSE Platinum services, a TELEHOUSE Network Engineer will provide escalation to the hardware vendor for issues involving hardware component failure. The Network Engineer will also perform proactive tasks such as monitoring ticket activity (via the 24 Hour Report), working to reduce false positive and non-critical items, and scheduling OS upgrades. Remote administration services include (but are not limited to) additions, deletions and modifications to device passwords, access control lists, routing, and vlan maintenance, depending upon the device type. A backup of the device configuration data will occur daily.

TELEHOUSE Platinum Classes

At the Platinum support option, network devices are categorized into two classes. Class 1 devices are those that are used for only a single networking function, such as a switch or a router. Class 2 devices perform multiple networking functions, such as load balancing and switching, within a single device. TELEHOUSE supports only the switching and routing functions in such devices.

Remote Administration Services

A TELEHOUSE Network Engineer will provide remote device administration services. The services performed must be approved by the customer and follow TELEHOUSE's change management procedures. Please refer to the Change Management Technical Specification for further details. Administration services are provided for the following network device features and protocols:

- Frame Relay
- ATM
- Bridging/Switching
- Multi-service
- ISDN
- IP IGP, EGP
- IP/IOS Features

Event Resolution Example

The following example demonstrates the Silver, Gold, and Platinum service responses for a common network device event: **Interface Serial 0/1 Link Down Trap**.

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:

- Verify that the standby load balancer is active
- Contact the customer with the information gathered

On average, the initial response time is less than five minutes.

TELEHOUSE Gold

For TELEHOUSE Gold services, the same load balancer event is evaluated and diagnosed to determine the probable cause for the event. A TELEHOUSE Primary Analyst will consult the troubleshooting steps in the Management Action Plan and perform the following:

- Log on to the device and perform a 'show interface Serial0/1' to verify operational state
- Determine whether problem is related to configuration issues or third party connection provider
- Verify whether the problem is hardware related by visual inspection from local personnel
- Once the cause is determined, follow escalation to the customer

TELEHOUSE Platinum

TELEHOUSE Platinum consists of all the monitoring services of Silver and Gold and also includes remediation of issues, root-cause analysis, failback, and configuration services. The Platinum support option also includes remote administration of the customer's critical network gear, remote troubleshooting and continuous backups on a set schedule.

When a problem is indicated by abnormal performance or health statistics, a TELEHOUSE Network Engineer will diagnose the cause for the alert and implement the appropriate corrective actions. If required, the network management engineer will perform a detailed investigation and evaluate the effects of the corrective actions.



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	✓	✓	✓
→ ICMP interface traffic analysis reports	✓	✓	✓
→ Near real-time interface traffic analysis reports	✓	✓	✓
→ SNMP device status monitoring	✓	✓	✓
→ Failover event monitoring	✓	✓	✓
→ Management Action Plans with validation, troubleshooting, resolution and escalation steps	✓	✓	✓
→ Monitor ticket activity (24 hour report) and work to reduce false-positive and non-critical items		✓	✓
→ SNMP device health metric monitoring and reporting		✓	✓
→ SNMP interface performance metric monitoring and reporting		✓	✓
→ Customer defined thresholds for SNMP device health and interface metrics		✓	✓
→ Analysis of device configuration and consultation		✓	✓
→ Analysis of device OS upgrade and consultation		✓	✓
→ Project management resource assigned for installation and ongoing account maintenance		✓	✓
→ Network Engineer for enterprise account management with complete understanding of architecture		✓	✓
→ Remote administration of network devices (with customer approval and change management*)		✓	✓
→ Remote diagnosis and remediation of device health issues		✓	✓
→ Remote diagnosis and remediation of interface performance issues		✓	✓
→ Availability, trend, and performance analysis			✓
→ Recommendations on upgrades or changes to increase efficiency			✓
→ Recurring issue root-cause analysis and resolution implementation			✓
→ Vendor escalation in response to hardware component failure*			✓
→ Change management coordination, review, risk assessment and justification*			✓
→ Release management planning, deployment and acceptance*			✓

*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 Consulting Services technical specification for details.

For more information visit
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Consulting 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 Consulting 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.