

Subscriber Data Management

TPD Troubleshooting Guide

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Table of Contents

Chapter 1: Introduction.....	7
Overview.....	8
Scope and Audience.....	8
Manual Organization.....	8
Documentation Admonishments.....	8
Customer Care Center.....	9
Emergency Response.....	11
Related Publications.....	11
Locate Product Documentation on the Customer Support Site.....	12
List of Acronyms and Abbreviations.....	12
Chapter 2: TPD (32100-32999).....	14
Detecting and Reporting Problems.....	15
Alarm Severity.....	15
Critical Alarms.....	15
100000000002000 - Uncorrectable ECC memory error.....	15
100000000004000 - SNMP get failure.....	15
Major Alarms.....	16
3000000000000001 – Server fan failure.....	16
3000000000000002 - Server internal disk error.....	16
3000000000000004 – Server RAID disk error.....	16
3000000000000008 - Server Platform error.....	17
3000000000000010 - Server file system error.....	17
3000000000000020 - Server Platform process error.....	17
3000000000000080 - Server swap space shortage failure.....	18
3000000000000100 - Server provisioning network error.....	18
3000000000001000 - Server disk space shortage error.....	18
3000000000002000 - Server default route network error.....	19
3000000000004000 - Server temperature error.....	20
3000000000008000 – Server mainboard voltage error.....	20
3000000000010000 – Server power feed error.....	20
3000000000020000 - Server disk health test error.....	21
3000000000040000 - Server disk unavailable error.....	21
3000000000100000 – Device interface error.....	22
3000000000200000 – Correctable ECC memory error.....	22

300000000400000	– Power Supply A error.....	22
300000000800000	– Power Supply B error.....	22
300000001000000	– Breaker panel feed error.....	23
300000002000000	– Breaker panel breaker error.....	23
300000004000000	– Breaker panel monitoring error.....	24
300000008000000	– Server HA Keepalive error.....	25
300000080000000	– HP disk problem.....	25
300000100000000	– HP Smart Array controller problem.....	25
300000200000000	– HP hpacucliStatus utility problem.....	26
300000400000000	– Multipath device access link problem.....	26
300000800000000	– Switch link down error.....	26
300001000000000	– Half Open TCP Socket Limit.....	27
Minor Alarms.....		27
5000000000000001	– Server disk space shortage warning.....	27
5000000000000002	– Server application process error.....	27
5000000000000004	– Server hardware configuration error.....	28
5000000000000020	– Server swap space shortage warning.....	28
5000000000000040	– Server default router not defined.....	28
5000000000000080	– Server temperature warning.....	29
5000000000000100	– Server core file detected.....	29
5000000000000200	– Server NTP Daemon not synchronized.....	29
5000000000000400	– CMOS battery voltage low.....	30
5000000000000800	– Server disk self test warning.....	30
5000000000001000	– Device warning.....	30
5000000000002000	– Device interface warning.....	30
5000000000004000	– Server reboot watchdog initiated.....	31
5000000000008000	– Server HA failover inhibited.....	31
5000000000010000	– Server HA Active to Standby transition.....	31
5000000000020000	– Server HA Standby to Active transition.....	32
5000000000040000	– Platform Health Check failure.....	32
5000000000080000	– NTP Offset Check failure.....	32
5000000000100000	– NTP Stratum Check failure.....	32
5000000000200000	– SAS Presence Sensor Missing.....	33
5000000000400000	– SAS Drive Missing.....	33
5000000000800000	– DRBD failover busy.....	33
5000000001000000	– HP disk resync.....	34
5000000002000000	– Telco Fan Warning.....	34
5000000004000000	– Telco Temperature Warning.....	34
5000000008000000	– Telco Power Supply Warning.....	35
5000000010000000	– Invalid BIOS value.....	35
5000000020000000	– Server Kernel Dump File Detected.....	35

5000000040000000 – TPD Upgrade Failed.....	35
5000000080000000– Half Open Socket Warning Limit.....	36

Chapter 3: Syscheck Utility.....	37
Overview.....	38
Operation.....	38
Automatic Operation.....	38
Manual Operation.....	38
Commands.....	38
Reporting.....	41
Output.....	41
Logs.....	42

List of Figures

Figure 1: Syscheck Command Summary.....	41
Figure 2: Syscheck Example Output.....	42

List of Tables

Table 1: Admonishments.....	8
Table 2: Syscheck Commands Description.....	39

Chapter 1

Introduction

Topics:

- *Overview.....8*
- *Scope and Audience.....8*
- *Manual Organization.....8*
- *Documentation Admonishments.....8*
- *Customer Care Center.....9*
- *Emergency Response.....11*
- *Related Publications.....11*
- *Locate Product Documentation on the Customer Support Site.....12*
- *List of Acronyms and Abbreviations.....12*

This chapter provides general information about manual organization, the scope of this manual, its targeted audience, how to get technical assistance, how to locate customer documentation on the Customer Support site, and a list of acronyms.

Overview

This manual describes all available alarms and provides their recovery procedures. Alarms are generated by the TPD operating system, which is installed on the application server with most applications.

Scope and Audience

This manual is for maintenance personnel that are responsible for alarm resolution. When instructed by the application, use this manual to locate the alarm number and its recovery procedure. This manual also describes the System Healthcheck Utility, which generates a log file that can be provided to the [Customer Care Center](#) for alarm resolution.

Manual Organization



This manual is organized into the following chapters:


- [Introduction](#) contains general information about manual organization, the scope of this manual, its targeted audience, how to get technical assistance, how to locate customer documentation on the Customer Support Site, and a list of acronyms.
- [TPD \(32100-32999\)](#) lists all available TPD alarms and provides their recovery procedures.
- [Syscheck Utility](#) describes the System Health Check (syscheck) utility, which is used to perform platform monitoring.

Documentation Admonishments

Admonishments are icons and text throughout this manual that alert the reader to assure personal safety, to minimize possible service interruptions, and to warn of the potential for equipment damage.

Table 1: Admonishments

	<p>DANGER: (This icon and text indicate the possibility of <i>personal injury</i>.)</p>
	<p>WARNING: (This icon and text indicate the possibility of <i>equipment damage</i>.)</p>

	CAUTION: (This icon and text indicate the possibility of <i>service interruption</i> .)
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Customer Care Center

The Tekelec Customer Care Center is your initial point of contact for all product support needs. A representative takes your call or email, creates a Customer Service Request (CSR) and directs your requests to the Tekelec Technical Assistance Center (TAC). Each CSR includes an individual tracking number. Together with TAC Engineers, the representative will help you resolve your request.

The Customer Care Center is available 24 hours a day, 7 days a week, 365 days a year, and is linked to TAC Engineers around the globe.

Tekelec TAC Engineers are available to provide solutions to your technical questions and issues 7 days a week, 24 hours a day. After a CSR is issued, the TAC Engineer determines the classification of the trouble. If a critical problem exists, emergency procedures are initiated. If the problem is not critical, normal support procedures apply. A primary Technical Engineer is assigned to work on the CSR and provide a solution to the problem. The CSR is closed when the problem is resolved.

Tekelec Technical Assistance Centers are located around the globe in the following locations:

Tekelec - Global

Email (All Regions): support@tekelec.com

- **USA and Canada**

Phone:

1-888-FOR-TKLC or 1-888-367-8552 (toll-free, within continental USA and Canada)

1-919-460-2150 (outside continental USA and Canada)

TAC Regional Support Office Hours:

8:00 a.m. through 5:00 p.m. (GMT minus 5 hours), Monday through Friday, excluding holidays

- **Caribbean and Latin America (CALA)**

Phone:

USA access code +1-800-658-5454, then 1-888-FOR-TKLC or 1-888-367-8552 (toll-free)

TAC Regional Support Office Hours (except Brazil):

10:00 a.m. through 7:00 p.m. (GMT minus 6 hours), Monday through Friday, excluding holidays

- **Argentina**

Phone:

0-800-555-5246 (toll-free)

- **Brazil**

Phone:

0-800-891-4341 (toll-free)

TAC Regional Support Office Hours:

8:30 a.m. through 6:30 p.m. (GMT minus 3 hours), Monday through Friday, excluding holidays

- **Chile**

Phone:

1230-020-555-5468

- **Colombia**

Phone:

01-800-912-0537

- **Dominican Republic**

Phone:

1-888-367-8552

- **Mexico**

Phone:

001-888-367-8552

- **Peru**

Phone:

0800-53-087

- **Puerto Rico**

Phone:

1-888-367-8552 (1-888-FOR-TKLC)

- **Venezuela**

Phone:

0800-176-6497

- **Europe, Middle East, and Africa**

Regional Office Hours:

8:30 a.m. through 5:00 p.m. (GMT), Monday through Friday, excluding holidays

- **Signaling**

Phone:

+44 1784 467 804 (within UK)

- **Software Solutions**

Phone:

+33 3 89 33 54 00

- **Asia**

- **India**

Phone:

+91 124 436 8552 or +91 124 436 8553

TAC Regional Support Office Hours:

10:00 a.m. through 7:00 p.m. (GMT plus 5 1/2 hours), Monday through Saturday, excluding holidays

- **Singapore**

Phone:

+65 6796 2288

TAC Regional Support Office Hours:

9:00 a.m. through 6:00 p.m. (GMT plus 8 hours), Monday through Friday, excluding holidays

Emergency Response

In the event of a critical service situation, emergency response is offered by the Tekelec Customer Care Center 24 hours a day, 7 days a week. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

A critical situation is defined as a problem with the installed equipment that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical situations affect service and/or system operation resulting in one or several of these situations:

- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability
- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with the Tekelec Customer Care Center.

Related Publications

For information about additional publications that are related to this document, refer to the *Related Publications* document. The *Related Publications* document is published as a part of the *Release Documentation* and is also published as a separate document on the Tekelec Customer Support Site.

Locate Product Documentation on the Customer Support Site

Access to Tekelec's Customer Support site is restricted to current Tekelec customers only. This section describes how to log into the Tekelec Customer Support site and locate a document. Viewing the document requires Adobe Acrobat Reader, which can be downloaded at www.adobe.com.

1. Log into the [Tekelec Customer Support](#) site.
 - Note:** If you have not registered for this new site, click the **Register Here** link. Have your customer number available. The response time for registration requests is 24 to 48 hours.
2. Click the **Product Support** tab.
3. Use the Search field to locate a document by its part number, release number, document name, or document type. The Search field accepts both full and partial entries.
4. Click a subject folder to browse through a list of related files.
5. To download a file to your location, right-click the file name and select **Save Target As**.

List of Acronyms and Abbreviations

AS	application server
BAT.....	Battery
CMOS.....	Complementary Metal Oxide Semiconductor
CPU	Central Processing Unit
DRBD	Distributed Replicated Block Device
ECC.....	Error Correcting Code
GUI	Graphical User Interface
HA.....	High Availability
HP.....	Hewlett Packard
HVAC.....	Heating, Ventilation, and Air Conditioning
IP.....	Internet protocol
LED.....	Light Emitting Diode
MPS	Multi-purpose Server
NTP.....	Network Time Protocol
OID.....	Object Identifier
PCI	Peripheral Component Interface
RAID	Redundant array of independent disks
RAM.....	Random Access Memory
RTN	Return

SAS Serial Attached SCSI
SNMP..... Simple Network Management Protocol
TPD..... Tekelec Platform Distribution. TPD is standard Linux-based operating system.
UAM..... Unsolicited alarm message
VDC..... Voltage Direct Current

Chapter

2

TPD (32100-32999)

Topics:

- *Detecting and Reporting Problems.....15*
- *Alarm Severity.....15*
- *Critical Alarms.....15*
- *Major Alarms.....16*
- *Minor Alarms.....27*

This chapter lists all available Tekelec Platform Distribution (TPD) alarms and provides their recovery procedures. TPD alarms are generated by the TPD operating system, which is installed on the application server with most applications. Not all applications use all TPD alarms. When instructed by the application, use this chapter to locate the TPD alarm number and its recovery procedure.

Detecting and Reporting Problems

The TPD System Health Check (syscheck) utility reports its alarm events to the TPD Alarm Manager utility. The Alarm Manager utility is the central broker for all platform alarms and dispatches the alarms to all available alarm-reporting parties (e.g., SNMP, LEDs, local applications).

When a fault or error is detected, the Alarm Manager utility triggers alarm notification by these actions:

- Lights the appropriate alarm LED of the platform components.
- Sends an alarm message to the application running on the application server. The application:
 - Displays the alarm on the application GUI
 - Sends the alarm message to the system. The system notifies the operator by sending a UAM to the operator screen
- Logs the results of the syscheck test in a file to be forwarded to the [Customer Care Center](#). Refer to the “Savelogs Procedure” of your application.

Alarm Severity

Alarms can be one of three different severity levels:

1. Critical
2. Major
3. Minor

Critical Alarms

100000000002000 - Uncorrectable ECC memory error

Description: This alarm indicates that chipset has detected an uncorrectable (multiple-bit) memory error that the ECC (Error-Correcting Code) circuitry in the memory is unable to correct.

Severity: Critical

OID: 1.3.6.1.4.1.323.5.3.18.3.1.1.14

Alarm ID: TKSPLATCR14

Recovery

Contact the Tekelec [Customer Care Center](#) to request hardware replacement.

100000000004000 - SNMP get failure

Description: The server failed to receive SNMP information from the switch.

Severity: Critical

OID: 1.3.6.1.4.1.323.5.3.18.3.1.1.15

Within this trap is one bind variable, the OID of which is 1.3.6.1.2.1.1.5 <sysname>, where <sysname> is the name of the switch where the failure occurred.

Alarm ID: TKSPLATCR15

Recovery

1. Use the following command to verify the switch is active: `ping switch1A/B` (this requires command line access).
2. If the problem persists, contact the Tekelec [Customer Care Center](#).

Major Alarms

3000000000000001 – Server fan failure

Description: This alarm indicates that a fan on the application server is either failing or has failed completely. In either case, there is a danger of component failure due to overheating.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.1

Alarm ID: TKSPLATMA1

Recovery

Contact the Tekelec [Customer Care Center](#).

3000000000000002 - Server internal disk error

Description: This alarm indicates the server is experiencing issues replicating data to one or more of its mirrored disk drives. This could indicate that one of the server's disks has either failed or is approaching failure.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.2

Alarm ID: TKSPLATMA2

Recovery

1. Run syscheck in Verbose mode (see procedure [Run Syscheck Manually](#)).
2. Contact the [Customer Care Center](#) and provide the system health check output.

3000000000000004 – Server RAID disk error

Description: This alarm indicates that the offboard storage server had a problem with its hardware disks.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.3

Alarm ID: TKSPLATMA3

Recovery

1. Determine if the hardware platform is PP5160.

Note: SDM on the PP5160 platform uses raid0 configuration.

If the platform is a PP5160, no action is required.

2. Contact the Tekelec [Customer Care Center](#) and provide the system health check output.

3000000000000008 - Server Platform error

Description: This alarm indicates an error such as a corrupt system configuration or missing files, or indicates that syscheck itself is corrupt.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.4

Alarm ID: TKSPLATMA4

Recovery

1. Run syscheck in Verbose mode (see procedure [Run Syscheck Manually](#)).
2. Contact the [Customer Care Center](#) and provide the system health check output.

3000000000000010 - Server file system error

Description: This alarm indicates that syscheck was unsuccessful in writing to at least one of the server's file systems.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.5

Alarm ID: TKSPLATMA5

Recovery

1. Run syscheck in Verbose mode (see procedure [Run Syscheck Manually](#)).
2. Contact the [Customer Care Center](#) and provide the system health check output.

3000000000000020 - Server Platform process error

Description: This alarm indicates that either the minimum number of instances for a required process are not currently running or too many instances of a required process are running.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.6

Alarm ID: TKSPLATMA6

Recovery

Rerun syscheck in verbose mode (see procedure [Run Syscheck Manually](#)).

- If the alarm has been cleared, the problem is solved.
- If the alarm has not been cleared, contact the [Customer Care Center](#).

300000000000080 - Server swap space shortage failure

Description: This alarm indicates that the server's swap space is in danger of being depleted. This is usually caused by a process that has allocated a very large amount of memory over time.

Note: The interface identified as eth0 on the hardware is identified as eth91 by the software (in syscheck output, for example).

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.8

Alarm ID: TKSPLATMA8

Recovery

Contact the Tekelec [Customer Care Center](#).

300000000000100 - Server provisioning network error

Description: This alarm indicates that the connection between the server's ethernet interface and the customer network is not functioning properly.

Note: The interface identified as eth0 on the hardware is identified as eth91 by the software (in syscheck output, for example).

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.9

Alarm ID: TKSPLATMA9

Recovery

1. Verify that a customer-supplied cable labeled TO CUSTOMER NETWORK is securely connected to the appropriate server. Follow the cable to its connection point on the local network and verify this connection is also secure.
2. Test the customer-supplied cable labeled TO CUSTOMER NETWORK with an Ethernet Line Tester. If the cable does not test positive, replace it.
3. Have your network administrator verify that the network is functioning properly.
4. If no other nodes on the local network are experiencing problems and the fault has been isolated to the server or the network administrator is unable to determine the exact origin of the problem, contact the Tekelec [Customer Care Center](#).

300000000001000 - Server disk space shortage error

Description: This alarm indicates that one of the following conditions has occurred:

- A filesystem has exceeded a failure threshold, which means that more than 90% of the available disk storage has been used on the filesystem.
- More than 90% of the total number of available files have been allocated on the filesystem.
- A filesystem has a different number of blocks than it had when installed.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.13

Alarm ID: TKSPLATMA13

Recovery

1. Run syscheck in Verbose mode.
2. Contact the Tekelec [Customer Care Center](#).

300000000002000 - Server default route network error

Description: This alarm indicates that the default network route of the server is experiencing a problem. Running `syscheck` in Verbose mode will provide information about which type of problem is occurring.



CAUTION: When changing the network routing configuration of the server, verify that the modifications will not impact the method of connectivity for the current login session. The route information must be entered correctly and set to the correct values. Incorrectly modifying the routing configuration of the server may result in total loss of remote network access.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.14

Alarm ID: TKSPLATMA14

Recovery

1. Run `syscheck` in Verbose mode.
If the output should indicates:

```
The default router at <IP_address> cannot be pinged
```

Go to [Step 2](#), otherwise go to [Step 3](#).

2. Perform the these substeps:
 - a) Verify the network cables are firmly attached to the server, network switch, router, hub, and any other connection points.
 - b) Verify that the configured router is functioning properly.
Request that the network administrator verify the router is powered on and routing traffic as required.
 - c) Request that the router administrator verify that the router is configured to reply to pings on that interface.
 - d) If the alarm is cleared, the problem is resolved.
3. Contact the [Customer Care Center](#) with the `syscheck` output collected in the previous steps.

300000000004000 - Server temperature error

Description: The internal temperature within the server is unacceptably high.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.15

Alarm ID: TKSPLATMA15

Recovery

1. Ensure that nothing is blocking the fan's intake. Remove any blockage.
2. Verify that the temperature in the room is normal. If it is too hot, lower the temperature in the room to an acceptable level.

Note: Be prepared to wait the appropriate period of time before continuing with the next step. Conditions need to be below alarm thresholds consistently for the alarm to clear. The alarm may take up to five minutes to clear after conditions improve. It may take about ten minutes after the room returns to an acceptable temperature before syscheck shows the alarm cleared.

3. Run syscheck (see [Run Syscheck Manually](#)).
 - If the alarm has been cleared, the problem is resolved.
 - If the alarm has not been cleared, continue with the next step.
4. If the problem has not been resolved, contact the Tekelec [Customer Care Center](#).

300000000008000 – Server mainboard voltage error

Description: This alarm indicates that one or more of the monitored voltages on the server mainboard have been detected to be out of the normal expected operating range.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.16

Alarm ID: TKSPLATMA16

Recovery

Contact the Tekelec [Customer Care Center](#).

300000000010000 – Server power feed error

Description: This alarm indicates that one of the power feeds to the server has failed. If this alarm occurs in conjunction with any Breaker Panel alarm, there might be a problem with the breaker panel.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.17

Alarm ID: TKSPLATMA17

Recovery

1. Verify that all the server power feed cables to the server that is reporting the error are securely connected.
2. Run syscheck
 - If the alarm has been cleared, the problem is resolved.
 - If the alarm has not been cleared, continue with the next step.
3. Follow the power feed to its connection on the power source. Ensure that the power source is ON and that the power feed is properly secured.
4. Run syscheck
 - If the alarm has been cleared, the problem is resolved.
 - If the alarm has not been cleared, continue with the next step.
5. If the power source is functioning properly and the wires are all secure, have an electrician check the voltage on the power feed.
6. Run syscheck
 - If the alarm has been cleared, the problem is resolved.
 - If the alarm has not been cleared, continue with the next step.
7. If the problem has not been resolved, contact the Tekelec [Customer Care Center](#).

300000000020000 - Server disk health test error

Description: Either the hard drive has failed or failure is imminent.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.18

Alarm ID: TKSPLATMA18

Recovery

1. Perform the recovery procedures for the other alarms that accompany this alarm.
2. If the problem has not been resolved, contact the Tekelec [Customer Care Center](#).

300000000040000 - Server disk unavailable error

Description: The smartd service is not able to read the disk status because the disk has other problems that are reported by other alarms. This alarm appears only while a server is booting.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.19

Alarm ID: TKSPLATMA19

Recovery

Contact the Tekelec [Customer Care Center](#).

3000000000100000 – Device interface error

Description: This alarm indicates that the IP bond is either not configured or down.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.21

Alarm ID: TKSPLATMA21

Recovery

Contact the Tekelec [Customer Care Center](#).

3000000000200000 – Correctable ECC memory error

Description: This alarm indicates that chipset has detected a correctable (single-bit) memory error that has been corrected by the ECC (Error-Correcting Code) circuitry in the memory.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.22

Alarm ID: TKSPLATMA22

Recovery

No recovery necessary. If the condition persists, contact the Tekelec [Customer Care Center](#) to request hardware replacement.

3000000000400000 – Power Supply A error

Description: This alarm indicates that power supply 1 (feed A) has failed.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.23

Alarm ID: TKSPLATMA23

Recovery

1. Verify that nothing is obstructing the airflow to the fans of the power supply.
2. Run syscheck in verbose mode (see procedure [Run Syscheck Manually](#)). The output will provide details about what is wrong with the power supply.
3. Contact the Tekelec [Customer Care Center](#) and provide them the syscheck verbose output. Power supply 1 (feed A) may need to be replaced.

3000000000800000 – Power Supply B error

Description: This alarm indicates that power supply 2 (feed B) has failed.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.24

Alarm ID: TKSPLATMA24

Recovery

1. Verify that nothing is obstructing the airflow to the fans of the power supply.
2. Run syscheck in verbose mode (see procedure [Run Syscheck Manually](#)). The output will provide details about what is wrong with the power supply.
3. Contact the Tekelec [Customer Care Center](#) and provide them the syscheck verbose output. Power supply 2 (feed B) may need to be replaced.

3000000001000000 – Breaker panel feed error

Description: This alarm indicates that the server is not receiving information from the breaker panel relays.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.25

Alarm ID: TKSPLATMA25

Recovery

1. Verify that the same alarm is displayed by multiple servers:
 - If this alarm is displayed by only one server, the problem is most likely to be with the cable or the server itself. Look for other alarms that indicate a problem with the server and perform the recovery procedures for those alarms first.
 - If this alarm is displayed by multiple servers, go to the next step.
2. Verify that the cables that connect the servers to the breaker panel are not damaged and are securely fastened to both the Alarm Interface ports on the breaker panel and to the serial ports on both servers.
3. If the problem has not been resolved, call the Tekelec [Customer Care Center](#) to request that the breaker panel be replaced.

3000000002000000 – Breaker panel breaker error

Description: This alarm indicates that a power fault has been identified by the breaker panel.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.26

Alarm ID: TKSPLATMA26

Recovery

1. Verify that the same alarm is displayed by multiple servers:
 - If this alarm is displayed by only one server, the problem is most likely to be with the cable or the server itself. Look for other alarms that indicate a problem with the server and perform the recovery procedures for those alarms first.
 - If this alarm is displayed by multiple servers, go to the next step.

2. Look at the breaker panel assignments and verify that the corresponding LED in the PWR BUS A group and the PWR BUS B group is illuminated Green.

If one of the LEDs in the PWR BUS A group or the PWR BUS B group is illuminated Red, a problem has been detected with the corresponding input power feed. Contact the Tekelec [Customer Care Center](#).
3. Check the BRK FAIL LEDs for BUS A and for BUS B.
 - If one of the BRK FAIL LEDs is illuminated Red, then one or more of the respective Input Breakers has tripped. (A tripped breaker is indicated by the toggle located in the center position.) Perform the following steps to repair this issue:
 - a) For all tripped breakers, move the breaker down to the open (OFF) position and then back up to the closed (ON) position.
 - b) After all the tripped breakers have been reset, check the BRK FAIL LEDs again. If one of the BRK FAIL LEDs is still illuminated Red, skip to [Step 4](#).
 - If all of the BRK FAIL LEDs and all the LEDs in the PWR BUS A group and the PWR BUS B group are illuminated Green, go to [Step 5](#).
4. Run syscheck
 - If the alarm has been cleared, the problem is resolved.
 - If the alarm has not been cleared, continue with the next step.
5. If the problem has not been resolved, contact the Tekelec [Customer Care Center](#).

3000000004000000 – Breaker panel monitoring error

Description: This alarm indicates a failure in the hardware and/or software that monitors the breaker panel. This could mean there is a problem with the file I/O libraries, the serial device drivers, or the serial hardware itself.

Note: When this alarm occurs, the system health check is unable to monitor the breaker panel for faults. Thus, if this alarm is detected, it is imperative that the breaker panel be carefully examined for the existence of faults. The LEDs on the breaker panel will be the only indication of the occurrence of either alarm

- 3000000001000000-Breaker Panel Feed Error or
- 3000000002000000-Breaker Panel Breaker Error

until the Breaker Panel Monitoring Error has been corrected.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.27

Alarm ID: TKSPLATMA27

Recovery

1. Verify that the same alarm is displayed by multiple servers:
 - If this alarm is displayed by only one server, the problem is most likely to be with the cable or the server itself. Look for other alarms that indicate a problem with the server and perform the recovery procedures for those alarms first.

- If this alarm is displayed by multiple servers, go to the next step.
2. Verify that both ends of the labeled serial cables are secured properly (for locations of serial cables, see the appropriate hardware manual).
 3. Run syscheck
 - If the alarm has been cleared, the problem is resolved.
 - If the alarm has not been cleared, continue with the next step.
 4. Contact the Tekelec [Customer Care Center](#) and provide the system health check output.

300000008000000 – Server HA Keepalive error

Description: This alarm indicates that heartbeat process has detected that it has failed to receive a heartbeat packet within the timeout period.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.28

Alarm ID: TKSPLATMA28

Recovery

1. Determine if the mate server is currently down and bring it up if possible.
2. Determine if the keepalive interface is down.
3. Determine if heartbeat is running (service TKLCha status).

Note: This step may require command line ability.
4. Contact the Tekelec [Customer Care Center](#).

300000008000000 – HP disk problem

Description: This major alarm indicates that there is an issue with either a physical or logical disk in the HP disk subsystem. The message will include the drive type, location, slot and status of the drive that has the error.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.32

Alarm ID: TKSPLATMA32

Recovery

Contact the [Customer Care Center](#) and provide the system health check output.

300000010000000 – HP Smart Array controller problem

Description: This major alarm indicates that there is an issue with an HP disk controller. The message will include the slot location, the component on the controller that has failed, and status of the controller that has the error.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.33

Alarm ID: TKSPLATMA33

Recovery

Contact the [Customer Care Center](#) and provide the system health check output.

3000000200000000 – HP hpacucliStatus utility problem

Description: This major alarm indicates that there is an issue with the process that caches the HP disk subsystem status for syscheck. This usually means that the hpacucliStatus daemon is either not running, or hung.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.34

Alarm ID: TKSPLATMA34

Recovery

Contact the [Customer Care Center](#) and provide the system health check output.

3000000400000000 - Multipath device access link problem

Description: One or more "access paths" of a multipath device are failing or are not healthy, or the multipath device does not exist.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.35

Alarm ID: TKSPLATMA35

Recovery

Contact the Tekelec [Customer Care Center](#).

3000000800000000 - Switch link down error

Alarm Type: TPD

Description: The link is down.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.36

Within this trap are two bind variables, the OIDs of which are:

- 1.3.6.1.2.1.1.5 <sysname>, where <sysname> is the name of the switch where the failure occurred.
- 1.3.6.1.2.1.2.2.1.1 <link index>, where <link index> is the index of the failed link.

Alarm ID: TKSPLATMA36

Recovery

1. Verify the cabling between the port and the remote side.
2. Verify networking on the remote end.
3. If the problem persists, contact the Tekelec [Customer Care Center](#) who should verify port settings on both the server and the switch.

3000001000000000– Half Open TCP Socket Limit

This alarm indicates that the number of half open TCP sockets has reached the major threshold. This problem is caused by a remote system failing to complete the TCP 3-way handshake.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.37

Alarm ID: TKSPLATMA37

Recovery

1. Run syscheck in verbose mode (see procedure [Run Syscheck Manually](#)).
2. Contact the Tekelec [Customer Care Center](#) and provide the system health check output.

Minor Alarms

5000000000000001 – Server disk space shortage warning

Description: This alarm indicates that one of the following conditions has occurred:

- A file system has exceeded a warning threshold, which means that more than 80% (but less than 90%) of the available disk storage has been used on the file system.
- More than 80% (but less than 90%) of the total number of available files have been allocated on the file system.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.1

Alarm ID: TKSPLATMI1

Recovery

1. Run syscheck in verbose mode (see procedure [Run Syscheck Manually](#)).
2. Contact the Tekelec [Customer Care Center](#) and provide the system health check output.

5000000000000002 – Server application process error

Description: This alarm indicates that either the minimum number of instances for a required process are not currently running or too many instances of a required process are running.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.2

Alarm ID: TKSPLATMI2

Recovery

1. Run syscheck in verbose mode (see procedure [Run Syscheck Manually](#))
2. Contact the [Customer Care Center](#) and provide the system health check output.

5000000000000004 – Server hardware configuration error

Description: This alarm indicates that one or more of the server's hardware components are not in compliance with Tekelec specifications (refer to the appropriate hardware manual).

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.3

Alarm ID: TKSPLATMI3

Recovery

1. Run syscheck in verbose mode (see procedure [Run Syscheck Manually](#))
2. Contact the [Customer Care Center](#) and provide the system health check output.

5000000000000020 – Server swap space shortage warning

Description: This alarm indicates that the swap space available on the server is less than expected. This is usually caused by a process that has allocated a very large amount of memory over time.

Note: For this alarm to clear, the underlying failure condition must be consistently undetected for a number of polling intervals. Therefore, the alarm may continue to be reported for several minutes after corrective actions are completed.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.6

Alarm ID: TKSPLATMI6

Recovery

Contact the Tekelec [Customer Care Center](#).

5000000000000040 – Server default router not defined

Description: This alarm indicates that the default network route is either not configured or the current configuration contains an invalid IP address or hostname.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.7

Alarm ID: TKSPLATMI7

Recovery

1. Run syscheck in verbose mode (see procedure [Run Syscheck Manually](#)).
2. Contact the Tekelec [Customer Care Center](#) and provide the system health check output.

500000000000080 – Server temperature warning

Description: This alarm indicates that the internal temperature within the server is outside of the normal operating range. A server Fan Failure may also exist along with the Server Temperature Warning.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.8

Alarm ID: TKSPLATMI8

Recovery

1. Ensure that nothing is blocking the fan's intake. Remove any blockage.
2. Verify that the temperature in the room is normal. If it is too hot, lower the temperature in the room to an acceptable level.

Note: Be prepared to wait the appropriate period of time before continuing with the next step. Conditions need to be below alarm thresholds consistently for the alarm to clear. The alarm may take up to five minutes to clear after conditions improve. It may take about ten minutes after the room returns to an acceptable temperature before syscheck shows the alarm cleared.

3. Replace the filter (refer to the appropriate hardware manual).

Note: Be prepared to wait the appropriate period of time before continuing with the next step. Conditions need to be below alarm thresholds consistently for the alarm to clear. The alarm may take up to five minutes to clear after conditions improve. It may take about ten minutes after the filter is replaced before syscheck shows the alarm cleared.

4. If the problem has not been resolved, contact the Tekelec [Customer Care Center](#) and provide the system health check output.

500000000000100 – Server core file detected

Description: This alarm indicates that an application process has failed and debug information is available.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.9

Alarm ID: TKSPLATMI9

Recovery

Contact the Tekelec [Customer Care Center](#).

500000000000200 – Server NTP Daemon not synchronized

Description: This alarm indicates that the NTP daemon (background process) has been unable to locate a server to provide an acceptable time reference for synchronization.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.10

Alarm ID: TKSPLATMI10

Recovery

Contact the Tekelec [Customer Care Center](#).

500000000000400 – CMOS battery voltage low

Description: The presence of this alarm indicates that the CMOS battery voltage has been detected to be below the expected value. This alarm is an early warning indicator of CMOS battery end-of-life failure which will cause problems in the event the server is powered off.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.11

Alarm ID: TKSPLATMI11

Recovery

Contact the Tekelec [Customer Care Center](#).

500000000000800 – Server disk self test warning

Description: A non-fatal disk issue (such as a sector cannot be read) exists.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.12

Alarm ID: TKSPLATMI12

Recovery

Contact the Tekelec [Customer Care Center](#).

500000000001000 – Device warning

Description: This alarm indicates that either we are unable to perform an snmpget command on the configured SNMP OID or the value returned failed the specified comparison operation.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.13

Alarm ID: TKSPLATMI13

Recovery

1. Run syscheck in Verbose mode (see procedure [Run Syscheck Manually](#)).
2. Contact the [Customer Care Center](#) and provide the system health check output.

500000000002000 – Device interface warning

Description: This alarm can be generated by either an SNMP trap or an IP bond error. If syscheck is configured to receive SNMP traps, this alarm indicates that a SNMP trap was received with the “set”

state. If syscheck is configured for IP bond monitoring, this alarm can mean a slave device is not up, a primary device is not active or syscheck is unable to read bonding information from interface configuration files.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.14

Alarm ID: TKSPLATMI14

Recovery

1. Run syscheck in Verbose mode (see procedure [Run Syscheck Manually](#)).
2. Contact the [Customer Care Center](#) and provide the system health check output.

500000000004000 – Server reboot watchdog initiated

Description: This alarm indicates that the hardware watchdog was not strobed by the software and so the server rebooted the server. This applies to only the last reboot and is only supported on a T1100 application server.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.15

Alarm ID: TKSPLATMI15

Recovery

Contact the Tekelec [Customer Care Center](#).

500000000008000 – Server HA failover inhibited

Description: This alarm indicates that the server has been inhibited and therefore HA failover is prevented from occurring.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.16

Alarm ID: TKSPLATMI16

Recovery

Contact the Tekelec [Customer Care Center](#).

500000000010000 – Server HA Active to Standby transition

Description: This alarm indicates that the server is in the process of transitioning HA state from Active to Standby.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.17

Alarm ID: TKSPLATMI17

Recovery

Contact the Tekelec [Customer Care Center](#).

500000000020000 – Server HA Standby to Active transition

Description: This alarm indicates that the server is in the process of transitioning HA state from Standby to Active.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.18

Alarm ID: TKSPLATMI18

Recovery

Contact the Tekelec [Customer Care Center](#).

500000000040000 – Platform Health Check failure

Description: This alarm is used to indicate a syscheck configuration error.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.19

Alarm ID: TKSPLATMI19

Recovery

Contact the Tekelec [Customer Care Center](#).

500000000080000 – NTP Offset Check failure

Description: This minor alarm indicates that time on the server is outside the acceptable range (or offset) from the NTP server. The Alarm message will provide the offset value of the server from the NTP server and the offset limit that the application has set for the system.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.20

Alarm ID: TKSPLATMI20

Recovery

Contact the Tekelec [Customer Care Center](#).

500000000100000 – NTP Stratum Check failure

Description: This alarm indicates that NTP is syncing to a server, but the stratum level of the NTP server is outside of the acceptable limit. The Alarm message will provide the stratum value of the NTP server and the stratum limit that the application has set for the system.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.21

Alarm ID: TKSPLATMI21

Recovery

Contact the Tekelec [Customer Care Center](#).

500000000200000 – SAS Presence Sensor Missing

Description: This alarm indicates that the T1200 server drive sensor is not working.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.22

Alarm ID: TKSPLATMI22

Recovery

Contact the Tekelec [Customer Care Center](#) to get a replacement server.

500000000400000 – SAS Drive Missing

Description: This alarm indicates that the number of drives configured for this server is not being detected.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.23

Alarm ID: TKSPLATMI23

Recovery

Contact the Tekelec [Customer Care Center](#) to determine whether the issue is with a failed drive or failed configuration.

500000000800000 – DRBD failover busy

Alarm Type: TPD

Description: This alarm indicates that a DRBD sync is in progress from the peer server to the local server. The local server is not ready to act as the primary DRBD node, since it's data is not up to date.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.24

Alarm ID: TKSPLATMI24

Recovery

A DRBD sync should not take more than 15 minutes to complete. Please wait for approximately 20 minutes, and then check if the DRBD sync has completed. If the alarm persists longer than this time period, contact the Tekelec [Customer Care Center](#).

5000000001000000 – HP disk resync

Description: This minor alarm indicates that the HP disk subsystem is currently resynchronizing after a failed or replaced drive, or some other change in the configuration of the HP disk subsystem. The output of the message will include the disk that is resynchronizing and the percentage complete. This alarm should eventually clear once the resync of the disk is completed. The time it takes for this is dependant on the size of the disk and the amount of activity on the system.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.25

Alarm ID: TKSPLATMI25

Recovery

If the percent recovering is not updating, wait at least 5 minutes between subsequent runs of syscheck, then contact the [Customer Care Center](#) and provide the system health check output.

5000000002000000 – Telco Fan Warning

Alarm Type: TPD

Description: This alarm indicates that the Telco switch has detected an issue with an internal fan.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.26

Alarm ID: TKSPLATMI26

Recovery

1. Contact the Tekelec [Customer Care Center](#) to get a replacement switch. Verify the ambient air temperature around the switch is as low as possible until the switch is replaced.
2. Tekelec [Customer Care Center](#) personnel can perform an snmpget command or log into the switch to get detailed fan status information.

5000000004000000 – Telco Temperature Warning

Alarm Type: TPD

Description: This alarm indicates that the Telco switch has detected the internal temperature has exceeded the threshold.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.27

Alarm ID: TKSPLATMI27

Recovery

1. Lower the ambient air temperature around the switch as low as possible.
2. If problem persists, contact the Tekelec [Customer Care Center](#).

500000008000000 – Telco Power Supply Warning

Alarm Type: TPD

Description: This alarm indicates that the Telco switch has detected that one of the duplicate power supplies has failed.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.28

Alarm ID: TKSPLATMI28

Recovery

1. Verify breaker wasn't tripped.
2. If breaker is still good and problem persists, contact the Tekelec [Customer Care Center](#) who can perform a **snmpget** command or log into the switch to determine which power supply is failing. If the power supply is bad, the switch must be replaced.

500000001000000 – Invalid BIOS value

Description: This alarm indicates that the HP server has detected that one of the setting for either the embedded serial port or the virtual serial port is incorrect.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.29

Alarm ID: TKSPLATMI29

Recovery

Contact the Tekelec [Customer Care Center](#).

500000002000000 – Server Kernel Dump File Detected

Description: This alarm indicates that the kernel has crashed and debug information is available.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.30

Alarm ID: TKSPLATMI30

Recovery

Contact the Tekelec [Customer Care Center](#).

500000004000000 – TPD Upgrade Failed

Description: This alarm indicates that a TPD upgrade has failed.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.31

Alarm ID: TKSPLATMI31

Recovery

1. Run the following command to clear the alarm.
`/usr/TKLC/plat/bin/alarmMgr -clear TKSPLATMI31`
2. Contact the Tekelec [Customer Care Center](#).

500000080000000– Half Open Socket Warning Limit

This alarm indicates that the number of half open TCP sockets has reached the major threshold. This problem is caused by a remote system failing to complete the TCP 3-way handshake.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.32

Alarm ID: TKSPLATMI32

Recovery

1. Run syscheck in verbose mode (see procedure [Run Syscheck Manually](#)).
2. Contact the Tekelec [Customer Care Center](#) and provide the system health check output.

Chapter 3

Syscheck Utility

Topics:

- *Overview.....38*
- *Operation.....38*
- *Commands.....38*
- *Reporting.....41*
- *Output.....41*
- *Logs.....42*

This chapter describes the System Health Check (syscheck) utility, which is used to perform platform monitoring.

Overview

System Health Check (syscheck) is the utility used to perform platform monitoring. Syscheck periodically monitors for critical, major, and minor platform errors. During these periods, an increase in CPU utilization will be noticeable on the server but will not impede the ability of the server to provide application service.

Operation

Automatic Operation

Syscheck automatically starts and stops during the initialization process by the script `/etc/init.d/syscheck`. The startup script starts syscheck with the `-daemon` option to run as a background task. To verify that the daemon process is running, issue the command `syscheck --status`. This command returns a response with either the process ID if syscheck is running, or a message that it is not running.

Manual Operation

Syscheck can be manually executed with the following methods:

- Log in as syscheck. When logging in, syscheck will be run and then the login connection will be dropped. This account does not have shell access.
- From the root account, the Command Line Interface can be utilized directly. See [Table 2: Syscheck Commands Description](#) for command descriptions and [Figure 1: Syscheck Command Summary](#) for command syntax.

Procedure — Run Syscheck Manually

1. Connect the Local Access Terminal to the application server whose status you want to check.
2. Log in as the syscheck user.

```
Login: syscheck
Password: syscheck
```

3. Run syscheck utility in Verbose mode to print detailed information. See [Table 2: Syscheck Commands Description](#) for command descriptions and [Figure 1: Syscheck Command Summary](#) for command syntax.
4. Report the results to the [Customer Care Center](#).

Commands

[Table 2: Syscheck Commands Description](#) contains a complete list of all supported flags and a description of the appropriate usage. [Figure 1: Syscheck Command Summary](#) shows a summary of the command syntax provided by syscheck.

Table 2: Syscheck Commands Description

Flag/ Parameter	Description
General	
-V	Print syscheck engine version and exit.
-h	Print usage information.
-daemon	Executes syscheck as a background task that never exits.
-kill	Stops the syscheck daemon.
-status	Prints current program status; Used to see if the daemon is running and what pid it is using.
-T	Print tree structure of the module directory and exit.
-n	Print the modules selected for running, but do not execute them.
-f <config>	Use the provided file as the master configuration file. The default <config> is /usr/TKLC/plat/etc/syscheck.conf.
-c <class_dir>	Use the provided directory path as the class directory. Overrides the default. Can be used to run checks off a CD, etc. The default <class_dir> is /usr/TKLC/plat/lib/Syscheck/modules.
-k <keyword>	Search all module config files for <keyword> and run the modules that match. Can be used to create custom reports.
<class> <module> -or- <class> all	Select the unique <module> in the specified <class>. -or- Select all modules in the specified <class>.
No <class>, <module>, or <keyword> specified	If no <class>, <module>, or <keyword> is specified, then by default, all modules found will be run.
-verbose	Prints in Verbose mode.
-normal	Prints in normal mode. Errors are displayed.
-decode	Decode the Hex String from the logs or Eagle®.
-reconfig	Reconfigure the configuration files for new setup.
No parameters	Prints in normal mode. Errors are displayed.
Volume Level	

-q	Quiet mode. The command will not print any output, the status of the checks can be determined by the return code of the command. This option is ideal for calls from automated pre/post-upgrade scripts. This cannot be used with the -v, -D, -T, -V, -n options.
-v	Verbose mode. The command will print all the output from the selected checks. The output will be helpful in verifying a system check module was run and passed. This cannot be used with the -q option.
-D	Debug mode. The command will print extremely loud output including internal variable settings. This option is ideal for use by engineers testing their modules. When this option is set, the verbose output flag is automatically set. This cannot be used with the -q option.
No parameters	Summary mode. The command will print only summary warnings and failures. If no volume level flag is set (-q, -v, -D) then the summary mode is assumed.
Log Destination	
-l	Log as well. This command will send the verbose output of the command to the log file as well as sending the desired output volume level to the screen. This option cannot be used with the -L, -T, -V, -n options.
-L	Log as well. This command will send the verbose output of the command to the log file as well as sending the desired output volume level to the screen. This option cannot be used with the -L, -T, -V, -n options.
No parameters	Screen only. If neither -l or -L option flags are set, then the output is sent only to the screen at the desired output volume level.


```
syscheck [-reconfig]
syscheck [-decode] <hexstring>
syscheck [-q|-v|-D|-verbose|-normal] [-l|-L] [-n] [-f <config>] [-c
<class_dir>] -k <keyword>
syscheck [-q|-v|-D|-verbose|-normal] [-l|-L] [-n] [-f <config>] [-c
<class_dir>] <class> <module>
syscheck [-q|-v|-D|-verbose|-normal] [-l|-L] [-n] [-f <config>] [-c
<class_dir>] <class> all
syscheck [-q|-v|-D|-verbose|-normal] [-l|-L] [-n] [-f <config>] [-c
<class_dir>]
syscheck [-v|-D|-verbose|-normal] [-f <config>] [-c <class_dir>] -T
syscheck -V
syscheck -h
syscheck --daemon
syscheck --kill
syscheck --status
```

Figure 1: Syscheck Command Summary

Reporting

Platform errors that are detected during monitoring are always reported. The TPD methods used to report platform errors when an application is not installed are listed below:

- Output of Syscheck (see [Figure 2: Syscheck Example Output](#) for an example of the syscheck output)
- Syscheck log files (see section [Logs](#))
- Front Panel Alarm LEDs

TPD provides an Alarm Manager that is the central broker for all alarms. The Alarm Manager will dispatch the alarm to all interested parties (e.g., SNMP, LEDs, local applications).

There may be additional methods of reporting errors when an application is installed; for details, refer to the documentation specific to the applicable application.

Output

The output from the syscheck command when executed on a server installed with the TPD will report any issues that are currently detected on the server. A sample of output produced by executing the

command `syscheck` is shown in [Figure 2: Syscheck Example Output](#). In the event that an error occurs, `syscheck` provides alarm data strings and diagnostic information for platform errors in its output.

```
# syscheck
Running modules in class proc...
*      run: FAILURE:: MAJOR::3000000000000020 -- Server Platform Process
Error
*      run: FAILURE:: Only 0 instance(s) of snmpd running. 1 instance(s)
required!
*      run: FAILURE:: MAJOR::3000000000000020 -- Server Platform Process
Error
*      run: FAILURE:: Only 0 instance(s) of tklcTpdCardCfgS running. 1
instance(s) required!
One or more module in class 'proc" FAILED

Running modules in class system...
                                OK

Running modules in class disk...
                                OK

Running modules in class hardware...
                                OK

LOG LOCATION: /var/TKLC/log/syscheck/fail_log
```

Figure 2: Syscheck Example Output

Logs

Syscheck log files reside in `/var/TKLC/log/syscheck`. The active log is called `fail_log`. Once the size of the active log file reaches 1MB, the logs will be "rolled": the oldest log file's suffix is incremented by 1 (up to 4), then the next oldest log file's suffix is incremented by 1. This process is repeated with the final result being up to 5 revisions of each log file existing in the log directory. `fail_log` is the newest and `fail_log.4` is the oldest log.

Every time `syscheck` is executed either manually or automatically, the pass or failure status is recorded in the active log file.

`SyscheckAdm` creates an audit log in this directory named `admin.log`