Oracle® Communications Subscriber Data Management

TPD Troubleshooting Guide

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ORACLE®

Oracle® Communications TPD Troubleshooting Guide

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1

Introduction

Topics:

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.
- *Alarms and Events* lists possible 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

Icon	Description
DANGER	**Danger**: (This icon and text indicate the possibility of *personal injury*.)
WARNING	**Warning**: (This icon and text indicate the possibility of *equipment damage*.)

Icon	Description
CAUTION	**Caution**: (This icon and text indicate the possibility of *service interruption*.)
TOPPLE	**Topple**: (This icon and text indicate the possibility of *personal injury* and *equipment damage*.)

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:

  1-888-367-8552 (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:

  +1-919-460-2150

  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:

  8:00 a.m. through 5:48 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

- **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:

    +91-124-465-5098 or +1-919-460-2150

    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**.

Chapter

2

Alarms and Events

Topics:

This section provides general alarm/event information, and lists the types of alarms and events that can occur on the system. Alarms and events are recorded in a database log table. Currently active alarms can be viewed from the Launch Alarms Dashboard GUI menu option. The alarms and events log can be viewed from the View History GUI menu option.

Note: Some of the alarms in this document are shared with other applications and may not appear in this particular product.

General alarms and events information

This section provides general information about alarms and events, including an alarms overview, types of alarms/events, and alarms-related procedures.

Alarms and events overview

Alarms provide information pertaining to a system's operational condition that a network manager may need to act upon. An alarm might represent a change in an external condition, for example, a communications link has changed from connected to disconnected state. Alarms can have these severities:

- Critical application error
- Major application error
- Minor application error
- Cleared

An alarm is considered inactive once it has been cleared and cleared alarms are logged on the **Alarms & Events** > **View History** page of the GUI.

Events note the occurrence of an expected condition. Events have a severity of Info and are logged on the **View History** page.

Events can and should be throttled because the frequently generated events can overload the MP or OAM server's system or event history log (e.g., generating an event for every ingress message failure). By specifying a throttle interval (in seconds), the events will appear no more frequently than once during the interval duration period (e.g., if the throttle interval is 5-seconds, the event will be logged no frequently than once every 5-seconds).

The following figure shows how Alarms and Events are organized in the application.
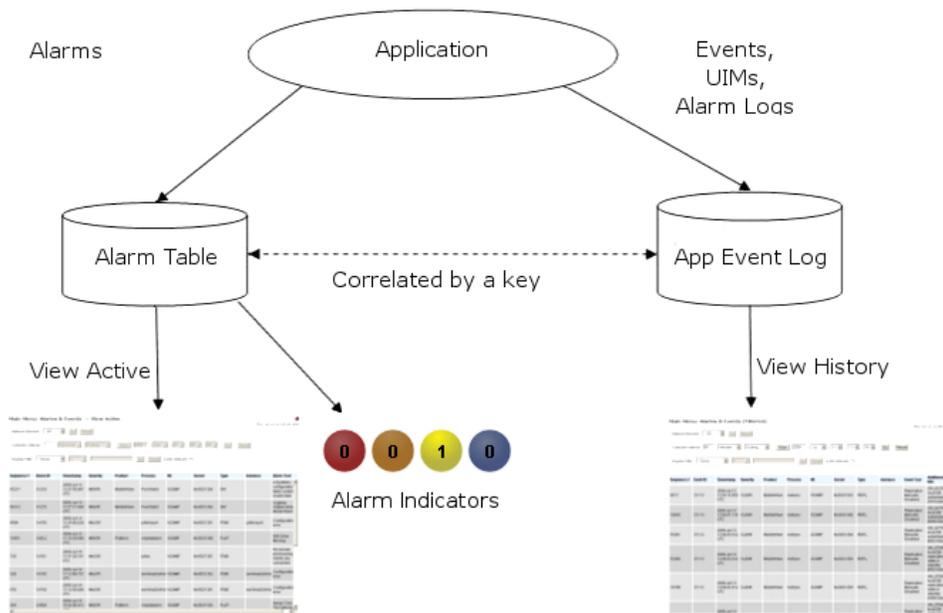
Figure 1: Flow of Alarms

Alarms and events are recorded in a database log table. Application event logging provides an efficient way to record event instance information in a manageable form, and is used to:

- Record events that represent alarmed conditions
- Record events for later browsing
- Implement an event interface for generating SNMP traps

Alarm indicators, located in the User Interface banner, indicate all critical, major, and minor active alarms. A number and an alarm indicator combined represent the number of active alarms at a specific level of severity. For example, if you see the number six in the orange-colored alarm indicator, that means there are six major active alarms.

●	Active Critical Alarm (bright red)
●	Active Major Alarm (bright orange)
●	Active Minor Alarm (bright yellow)
●	No active Critical Alarm (pale red)
●	No active Major Alarm (pale orange)
●	No active Minor Alarm (pale yellow)
○	Not Connected (white)

Figure 2: Alarm Indicators Legend

Figure 3: Trap Count Indicator Legend

Alarm and event ID ranges

The **AlarmID** listed for each alarm falls into one of the following process classifications:

Table 2: Alarm/Event ID Ranges

Application/Process Name	Alarm ID Range
IPFE	5000-5099
OAM	10000-10999
SBR	12000-12999
ComAgent	19800-19909
DSR Diagnostics	19910-19999
DSR	22000-22999
TVOE	24400-24499
CAPM	25000-25499
OAM Alarm Management	25500-25899
Platform	31000-32700

Alarm and event types

This table describes the possible alarm/event types that can be displayed.

Note: Not all applications use all of the alarm types listed.

Table 3: Alarm and Event Types

Type Name	Type
CAF	Communication Agent (ComAgent)
CAPM	Computer-Aided Policy Making (Diameter Mediation)
CFG	Configuration
CHG	Charging
CNG	Congestion Control
COLL	Collection

Type Name	Type
CPA	Charging Proxy Application
DAS	Diameter Application Server (Message Copy)
DB	Database
DIAM	Diameter
DISK	Disk
DNS	Domain Name Service
DPS	Data Processor Server
ERA	Event Responder Application
FABR	Full Address Based Resolution
HA	High Availability
HSS	Home Subscriber Server
IF	Interface
IP	Internet Protocol
IPFE	IP Front End
LOG	Logging
MEAS	Measurements
MEM	Memory
NP	Number Portability
OAM	Operations, Administration & Maintenance
PDRA	Policy DRA
pSBR	Policy SBR
PLAT	Platform
PROC	Process
PROV	Provisioning
NAT	Network Address Translation
RBAR	Range-Based Address Resolution
REPL	Replication
SCTP	Stream Control Transmission Protocol
SDS	Subscriber Database Server
SIGC	Signaling Compression
SIP	Session Initiation Protocol Interface

Type Name	Type
SL	Selective Logging
SS7	Signaling System 7
SSR	SIP Signaling Router
STK	EXG Stack
SW	Software (generic event type)
TCP	Transmission Control Protocol

Platform Alarms

This section provides information and recovery procedures for Platform alarms

Alarms formatting information

This section of the document provides information to help you understand why an alarm occurred and to provide a recovery procedure to help correct the condition that caused the alarm.

The information provided about each alarm includes:

- Alarm Type: the type of alarm that has occurred. For a list of Event types see *Alarm and event types*.
- Description: describes the reason for the alarm
- Default Severity: the severity of the alarm. This severity may vary, depending on user-defined and specific application settings.
- OID: alarm identifier that appears in SNMP traps
- Alarm ID: alarm identifier used internally to Tekelec
- Recovery: provides any necessary steps for correcting or preventing the alarm

1000000000002000 - 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.

1000000000004000 - 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*.

1000000000008000 - TPD NTP Daemon Not Synchronized Failure

Alarm Type: TPD

This alarm indicates that the server's current time precedes the timestamp of the last known time the servers time was good.

Severity: Critical

OID: 1.3.6.1.4.1.323.5.3.18.3.1.1.16

Alarm ID: 1000000000008000

Recovery:

1. Verify NTP settings and that NTP sources can be reached.
2. If the problem persists, contact the Tekelec *Customer Care Center*.

1000000000010000 - TPD Server's Time Has Gone Backwards

Alarm Type: TPD

This alarm indicates that the server's current time precedes the timestamp of the last known time the servers time was good.

Severity: Critical

OID: 1.3.6.1.4.1.323.5.3.18.3.1.1.17

Alarm ID: 1000000000010000

Recovery:

1. Verify NTP settings and that NTP sources are providing accurate time.
2. If the problem persists, contact the Tekelec *Customer Care Center*.

1000000000020000 - TPD NTP Offset Check Failure

Alarm Type: TPD

This alarm indicates the NTP offset of the server that is currently being synced to is greater than the critical threshold

Severity: Critical

OID: 1.3.6.1.4.1.323.5.3.18.3.1.1.18

Alarm ID: 1000000000020000

Recovery:

1. Run syscheck in verbose mode.
2. Contact the Tekelec *Customer Care Center*.

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 *3000000400000000 - Multipath device access link problem*).).
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 *3000000400000000 - Multipath device access link problem*).).
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).
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).

- If the alarm has been cleared, the problem is solved.
- If the alarm has not been cleared, contact the *Customer Care Center*.

3000000000000080 - 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 eth01 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*.

3000000000000100 - 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 eth01 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*.

3000000000001000 - 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*.

3000000000002000 - 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**
> **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.

3000000000004000 - 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 .
   - 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*.

3000000000008000 – 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*.

3000000000010000 – 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*.

3000000000020000 - 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*.

3000000000040000 - 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*.

3000000000080000 – Device error

This alarm indicates that the offboard storage server had a problem with its disk volume filling up.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.20

Alarm ID: TKSPLATMA20

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 . 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 . 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. The LEDs on the center of the breaker panel (see *Figure 4: Breaker Panel LEDs*) identify whether the fault occurred on the input power or the output power, as follows:

- A power fault on input power (power from site source to the breaker panel) is indicated by one of the LEDs in the PWR BUS A or PWR BUS B group illuminated Red. In general, a fault in the input power means that power has been lost to the input power circuit.

  Note: LEDs in the PWR BUS A or PWR BUS B group that correspond to unused feeds are not illuminated; LEDs in these groups that are not illuminated do not indicate problems.

- A power fault on output power (power from the breaker panel to other frame equipment) is indicated by either BRK FAIL BUS A or BRK FAIL BUS B illuminated RED. This type of fault can

be caused by a surge or some sort of power degradation or spike that causes one of the circuit breakers to trip.
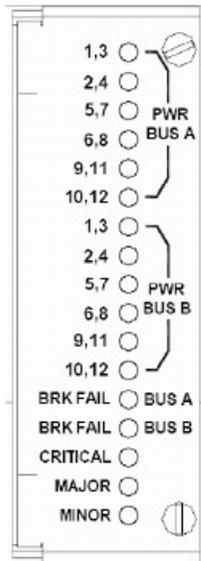
Figure 4: Breaker Panel LEDs

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 serversboth servers (the single breaker panel normally sends alarm information to both 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 both serversmultiple servers, go to the next step.

2. Look at the breaker panel assignments in *Figure 5: Breaker Panel Setting*. For each breaker assignment, and verify that the corresponding LED in the PWR BUS A group and the PWR BUS B group is illuminated Green.
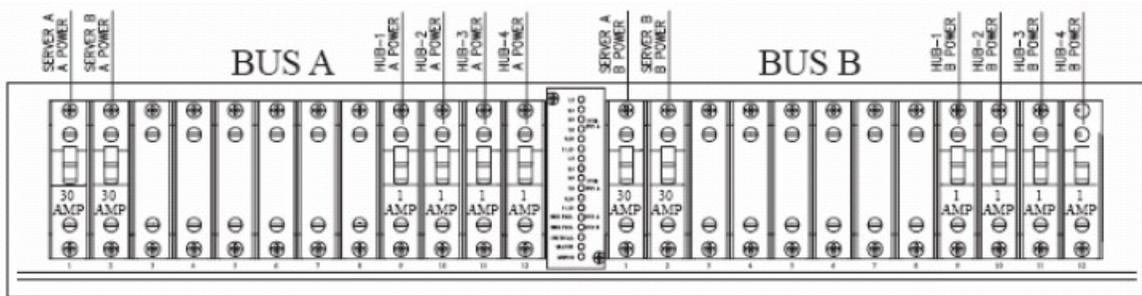
Figure 5: Breaker Panel Setting

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*

a) Verify that the customer provided source for the affected power feed is operational. If the power source is properly functioning, have an electrician remove the plastic cover from the rear of the breaker panel and verify the power source is indeed connected to the input power feed connector on the rear of the breaker panel. Correct any issues found.

b) Check the LEDs in the PWR BUS A group and the PWR BUS B group again.

  • If the LEDs are now illuminated Green, the issue has been resolved.
  • Proceed to *Substep c* to verify that the alarm has been cleared.
  • If the LEDs are still illuminated Red, continue to the next sub-step.

c) Have the electrician verify the integrity of the input power feed. The input voltage should measure nominally -48VDC (that is, between -41VDC and -60VDC). If the supplied voltage is not within the acceptable range, the input power source must be repaired or replaced.

  Note: Be sure the voltmeter is connected properly. The locations of the BAT and RTN connections are in mirror image on either side of the breaker panel.

  If the measured voltage is within the acceptable range, the breaker panel may be malfunctioning. The breaker panel must be replaced.

d) Check the LEDs in the PWR BUS A group and the PWR BUS B group again after the necessary actions have been taken to correct any issues found.

  • If the LEDs are now illuminated Green, the issue has been resolved. Proceed to *Step 3* to verify that the alarm has been cleared.
  • If the LEDs are still illuminated Red, skip to *Step 4*

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 5*

- 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, continue with the next step.
- 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, there is most likely a problem with the serial connection between the server and the breaker panel. This connection is used by the system health check to monitor the breaker panel for failures. Verify that both ends of the labeled serial cables are properly secured. If any issues are discovered with these cable connections, make the necessary corrections and continue to the next step to verify that the alarm has been cleared, otherwise contact the Tekelec *Customer Care Center*

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

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.

3000000008000000 – 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 heartbeart is running (service TKLCha status).

     Note: This step may require command line ability.

4. Contact the Tekelec *Customer Care Center*.

3000000080000000 – 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.

3000000100000000 – 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

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.

3000002000000000 - E5-APP-B Firmware Flash

Alarm Type: TPD

This alarm indicates there was an error while trying to update the firmware flash on the E5-APP-B cards.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.38

Alarm ID: 3000000200000000

Recovery:

Contact the Tekelec *Customer Care Center*.

3000004000000000 - E5-APP-B Serial mezzanine seating

Alarm Type: TPD

This alarm indicates the serial mezzanine board was not properly seated.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.39

Alarm ID: 3000000400000000

Recovery:

Contact the Tekelec *Customer Care Center*.

3000008000000000 - TPD Max Number Of Running Processes Error

Alarm Type: TPD

This alarm indicates that the maximum number of running processes has reached the major threshold.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.40

Alarm ID: 3000000800000000

Recovery:

1. Run syscheck in verbose mode.
2. Contact the Tekelec *Customer Care Center*.

3000010000000000 - TPD NTP Daemon Not Synchronized Error

Alarm Type: TPD

This alarm indicates that the server is not synchronized to an NTP source and has not been synchronized for an extended number of hours and has reached the major threshold.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.41

Alarm ID: 3000010000000000

Recovery:

1. Verify NTP settings and that NTP sources can be reached.
2. Contact the Tekelec *Customer Care Center*.

3000020000000000 - TPD NTP Daemon Never Synchronized Error

Alarm Type: TPD

This alarm indicates that the server is not synchronized to an NTP source and has never been synchronized since the last configuration change.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.42

Alarm ID: 3000020000000000

Recovery:

1. Verify NTP settings and that NTP sources can be reached.
2. Contact the Tekelec *Customer Care Center*.

3000040000000000 - TPD NTP Offset Check Error

Alarm Type: TPD

This alarm indicates the NTP offset of the server that is currently being synced to is greater than the major threshold.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.43

Alarm ID: 3000040000000000

Recovery:

1. Verify NTP settings and that NTP are providing accurate time.
2. Contact the Tekelec *Customer Care Center*.

3000080000000000 - TPD RAID disk problem

Alarm Type: TPD

This alarms indicates that physical disk or logical volume on RAID controller is not in optimal state as reported by syscheck.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.44

Alarm ID: 3000080000000000

Recovery:

1. Run syscheck in verbose mode.
2. Contact the Tekelec *Customer Care Center*.

3000100000000000 - TPD RAID controller problem

Alarm Type: TPD

This alarms indicates that RAID controller needs intervention. State reported by syscheck is not "Normal" and/or BBU (backup battery unit) state is not "Operational".

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.45

Alarm ID: 3000100000000000

Recovery:

1. Run syscheck in verbose mode.
2. Contact the Tekelec *Customer Care Center*.

3000200000000000 - TPD Server Upgrade snapshot(s) invalid

Alarm Type: TPD

This alarm indicates that upgrade snapshot(s) are invalid and backout is no longer possible.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.18.3.1.2.46

Alarm ID: 3000200000000000

Recovery:

1. Run accept to remove invalid snapshot(s) and clear alarms.
2. Contact the Tekelec *Customer Care Center*

4000000000000003 – PM&C backup failed

The PM&C application has a failure that needs to be investigated.

Severity: Major

OID: 1.3.6.1.4.1.323.5.3.17.4.2.4

Alarm ID: pmacBackupError

Attempt a manual backup using the PM&C GUI.

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.

5000000000000008 – Server RAM shortage warning

Alarm Type: TPD

Description: This alarm is generated by the MPS syscheck software package and is not part of the TPD distribution.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.4

Alarm ID: TKSPLATMI4

Recovery

Refer to MPS-specific documentation for information regarding this alarm.

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.

3. Contact the Tekelec *Customer Care Center*.

5000000000000080 – 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.

5000000000000100 – 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

5000000000000200 – 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*.

5000000000000400 – 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*.

5000000000000800 – 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*.

5000000000001000 – 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.

5000000000002000 – 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.

5000000000004000 – 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*.

5000000000008000 – 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*.

5000000000010000 – 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*.

5000000000020000 – 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*.

5000000000040000 – 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*.

5000000000080000 – 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*.

5000000000100000 – 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*.

5000000000200000 – 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.

5000000000400000 – 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.

5000000000800000 – 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*.

5000000008000000 – 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.

5000000010000000 – 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*.

5000000020000000 – 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*.

5000000040000000 – 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*.

5000000080000000– 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.

5000000100000000– Server Upgrade Pending Accept/Reject

This alarm indicates that an upgrade occurred but has not been accepted or rejected yet.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.33

Alarm ID: TKSPLATMI33

Recovery

Follow the steps in the application's upgrade procedure for accepting or rejecting the upgrade.

5000000200000000 - TPD Max Number of Running Processes Warning

Alarm Type: TPD

This alarm indicates that the maximum number of running processes has reached the minor threshold.

Severity: Minor

OID: 1.3.6.1.2.1.323.5.3.18.3.1.3.34

Alarm ID: 5000000200000000

Recovery:

1. Run syscheck in verbose mode.
2. Contact the Tekelec *Customer Care Center*.

5000000400000000 - TPD NTP Source Is Bad Warning

Alarm Type: TPD

This alarm indicates that an NTP source has been rejected by the NTP daemon and is not being considered as a time source.

Severity: Minor

OID: 1.3.6.1.2.1.323.5.3.18.3.1.3.35

Alarm ID: 5000000400000000

Recovery:

1. Verify NTP settings and that NTP sources are providing accurate time.
2. Contact the Tekelec *Customer Care Center*.

5000000800000000 - TPD RAID disk resync

Alarm Type: TPD

This alarm indicates that the RAID logical volume is currently resyncing after a failed/replaced drive, or some other change in the configuration. The output of the message will include the disk that is resyncing. 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 (rebuild of 600G disks without any load takes about 75min).

Severity: Minor

OID: 1.3.6.1.2.1.323.5.3.18.3.1.3.36

Alarm ID: 5000000800000000

Recovery:

1. Run syscheck in verbose mode
2. If this alarm persists for several hours (depending on a load of a server rebuild of array can take multiple hours to finish), contact the Tekelec *Customer Care Center*.

5000001000000000 - TPD Server Upgrade snapshot(s) warning

Alarm Type: TPD

This alarm indicates that upgrade snapshot(s) are above configured threshold and either accept or reject of LVM upgrade has to be run soon, otherwise snapshots will become full and invalid.

Severity: Minor

OID: 1.3.6.1.2.1.323.5.3.18.3.1.3.37

Alarm ID: 5000001000000000

Recovery:

1. Run accept or reject of current LVM upgrade before snapshots become invalid.
2. Contact the Tekelec *Customer Care Center*

6000000000000003 – PM&C backup to remote server failed

The PMAC application has a failure that needs to be investigated.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.17.4.3.4

Alarm ID: pmacRemoteBackupError

1. Verify that the remote server is operational.
2. Verify that the primary PMAC can ping the remote server.
3. Attempt a manual backup to remote server using the PMAC GUI.

Chapter

3

Syscheck Utility

Topics:

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 4: Syscheck Commands Description* for command descriptions and *Figure 6: 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 4: Syscheck Commands Description* for command descriptions and *Figure 6: Syscheck Command Summary* for command syntax.

4. Report the results to the *Customer Care Center*.

Commands

Table 4: Syscheck Commands Description contains a complete list of all supported flags and a description of the appropriate usage. *Figure 6: Syscheck Command Summary* shows a summary of the command syntax provided by syscheck.

Table 4: 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 6: 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 7: 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 7: 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 7: 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