

Oracle® Communications
EAGLE Element Management System
System Health Check Guide
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Oracle Communications EAGLE Element Management System System Health Check Guide, Release 46.5

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CAUTION: Use only the guide downloaded from the Oracle Technology Network (OTN) (<http://www.oracle.com/technetwork/indexes/documentation/oracle-comms-tekelec-2136003.html>). **Before upgrading your system, access the My Oracle Support web portal (<https://support.oracle.com>) and review any Knowledge Alerts that may be related to the System Health Check or the Upgrade.**

Before beginning this procedure, contact My Oracle Support and inform them of your upgrade plans.

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1 Introduction

1.1 Purpose and Scope

This document describes the Oracle recommended methods and procedures to evaluate the health of the setup. This document is intended for use for system running OCEEMS release 46.5. This document describes a procedure for analyzing system health before and after upgrade to release 46.5. A comparison can also be established between the system health before and after upgrade. As an example, the upgrade analysis from release 46.2 to 46.5 is documented here. However, this document is not release specific. Heath of system can also be analyzed while upgrade from 46.3 to 46.5.

This document is intended for EAGLE® engineering, integration, documentation, technical services, and any craft person who is familiar with OCEEMS interface.

The document is written to support all customer configurations. All of the commands specified in the procedures should be executed unless explicitly stated otherwise in the individual procedure. Not doing so may result in a delay in the analysis performed by Oracle support.

1.2 Acronyms

This section lists terms and acronyms specific to this document.

Table 1. Acronyms

Acronym/Term	Definition
OCEEMS	Oracle Communications Eagle Element Management System

1.3 Terminology

Multiple servers may be involved with the procedures in this manual. Therefore, most steps in the written procedures begin with the name or type of server to which the step applies. For example:

Each step has a checkbox 1A for every command within the step that the technician should check to keep track of the progress of the procedure

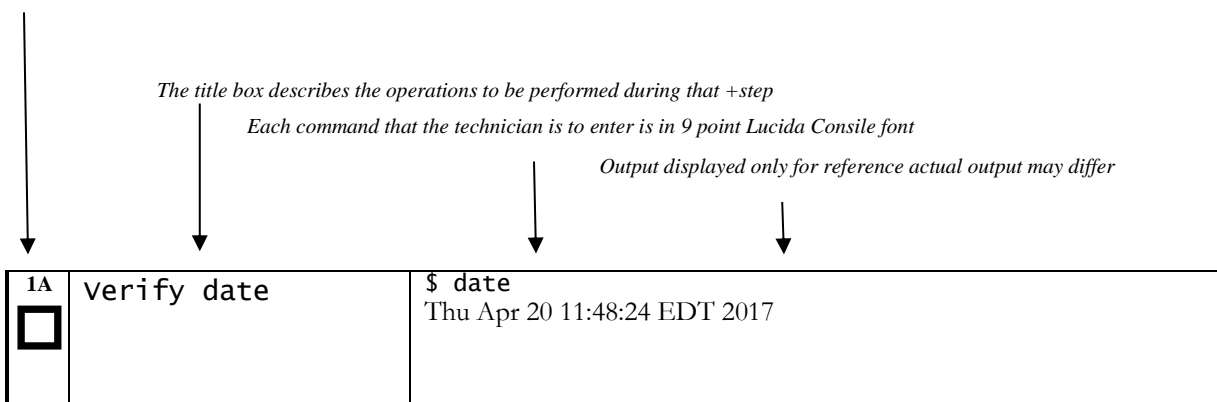


Figure 1. Example of a step that indicates the Server on which it needs to be executed

2 Health Check Overview

2.1.1 Configuration I: Health Check on Failover OCEEMS Server

An OCEEMS system is a pair of Linux Servers (Primary and Secondary). Current deployments of OCEEMS support two geographically separated OCEEMS failover systems, meaning they communicate and replicate MySQL information. When the primary server is up and running, the standby server monitors the primary server. Once the primary server is down, the standby server detects a shutdown and takes over as primary.

This document describes the health check of the OCEEMS failover setup, system consisting of two servers (primary and standby).

2.1.2 Configuration II: Health Check on Standalone OCEEMS Server

OCEEMS also provides a Standalone OCEEMS system. Only one Linux server is required for this configuration. There is no other system to cater any failure in system.

This document describes the health check of the OCEEMS standalone server, system consisting of only one server.

Note: Most of the steps to perform health check are common for both configurations except a few steps which will be exclusively highlighted to run on particular configuration.

3 Pre-Health Check Requirements

- User shall have the access to the server on which health check is to be performed.
- User shall have access to OCEEMS client.
- User shall have the terminal capture enabled to allow review of the output.
- User shall have the passwords for the following users as mentioned in table below:

User	Password
root	
emsadmuser	

4 OCEEMS Health Check

4.1 System Status

These steps can be performed on any of the OCEEMS configuration mentioned in section 2. **For failover setup commands should be run on both the servers.** Note that upgrade from release 46.2 to 46.5 is given as example here. If the user wants to perform health check of current running OCEEMS system, then the steps to upgrade the system can be skipped and rest all configurations can be recorded.

S T E P #	Steps To Be Completed	Expected output/command to be executed
1. <input type="checkbox"/>	Login as root	<pre>login: root password: <root_password></pre>
2. <input type="checkbox"/>	Record the OS Version	<pre># cat /etc/redhat-release Red Hat Enterprise Linux Server release 7.2 (Maipo)</pre>
3. <input type="checkbox"/>	Record the current date and time on the system.	<pre># date Thu May 18 07:40:55 IST 2017 # clock Thu 18 May 2017 07:40:52 PM IST -0.906329 seconds</pre>
4. <input type="checkbox"/>	Record the last reboot occurred	<pre># uptime 16:32:58 up 118 days, 18:36, 4 users, load average: 0.53, 0.32, 0.20</pre>
5. <input type="checkbox"/>	Record the OCEEMS release number from rpm query.	<pre># rpm -qi E5-MS Name : E5-MS Version : 46.2.0.0.1 Release : 462.16.0 Architecture: x86_64 Install Date: Thu 18 May 2017 10:23:39 AM IST Group : Applications/System Size : 1190516288 License : Restricted Signature : (none) Source RPM : E5-MS-46.2.0.0.1-462.16.0.src.rpm Build Date : wed 30 Mar 2016 02:07:48 AM IST</pre>

		<pre>Build Host : diablo-7 Relocations : (not relocatable) Packager : Surendra Vendor : Oracle URL : http://www.oracle.com/ Summary : E5-MS RPM Description : Tekelec E5-MS RPM</pre>
<p>6. <input type="checkbox"/></p>	<p>Verify the attributes of volume groups</p> <p>If the output does not contain the “logical volume” sections, contact Oracle Support so that corrective procedures can be scheduled to be performed.</p>	<pre># vgdisplay -v Using volume group(s) on command line. --- Volume group --- VG Name o1 System ID Format lvm2 Metadata Areas 1 Metadata Sequence No 4 VG Access read/write VG Status resizable MAX LV 0 Cur LV 3 Open LV 3 Max PV 0 Cur PV 1 Act PV 1 VG Size 465.27 GiB PE Size 4.00 MiB Total PE 119109 Alloc PE / Size 119108 / 465.27 GiB Free PE / Size 1 / 4.00 MiB VG UUID ajkUn0-gJ0G-qvTx-4Jpt-1nfE-Lvmc- Mx9azb --- Logical volume --- LV Path /dev/o1/root LV Name root</pre>

		<pre> VG Name o1 LV UUID 0bR1jk-asnS-vQ2v-t9IO-ZEhn-jen2- eYtHnM LV Write Access read/write LV Creation host, time localhost, 2016-11-19 00:18:38 +0530 LV Status available # open 1 LV Size 432.06 GiB Current LE 110608 Segments 1 Allocation inherit Read ahead sectors auto - currently set to 8192 Block device 252:0 --- Logical volume --- LV Path /dev/o1/home LV Name home VG Name o1 LV UUID IwiL42-Mr1x-b8B1-vikm-FQc8-UoAd- J1E13n LV Write Access read/write LV Creation host, time localhost, 2016-11-19 00:18:40 +0530 LV Status available # open 1 LV Size 25.33 GiB Current LE 6484 Segments 1 Allocation inherit Read ahead sectors auto - currently set to 8192 Block device 252:2 --- Logical volume --- LV Path /dev/o1/swap </pre>
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		<pre> LV Name swap VG Name ol LV UUID tmuuOV-2ICl-Jgu9-K7PN-D26D-wSrP- g74Kag LV Write Access read/write LV Creation host, time localhost, 2016-11-19 00:18:41 +0530 LV Status available # open 2 LV Size 7.88 GiB Current LE 2016 Segments 1 Allocation inherit Read ahead sectors auto - currently set to 8192 Block device 252:1 --- Physical volumes --- PV Name /dev/sda2 PV UUID bdkClf-rSR0-f6p0-7SHg-EtKX-z54M- AQNshy PV Status allocatable Total PE / Free PE 119109 / 1 </pre>
<p>7. <input type="checkbox"/></p>	<p>Record the total amount of free and used physical and swap memory in the system before starting the OCEEMS server.</p>	<pre> # service e5msService status OCEEMS server is not started! # free total used free shared buff/cache available Mem: 7871188 2390700 2196952 213360 3283536 5132481 Swap: 8257532 7520 8250012 </pre>
<p>8.</p>	<p>Record the output of 'top' command to see current CPU utilization.</p> <p>Note: Press 'q' to exit.</p>	<pre> # top top - 19:26:15 up 118 days, 21:29, 4 users, load average: 0.15, 0.20, 0.13 Tasks: 167 total, 1 running, 166 sleeping, 0 stopped, 0 zombie </pre>

		<pre> %cpu(s): 0.1 us, 0.1 sy, 0.0 ni, 99.8 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st KiB Mem : 7871188 total, 2202416 free, 2390928 used, 3277844 buff/cache KiB Swap: 8257532 total, 8250012 free, 7520 used. 5133397 avail Mem PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND 20521 root 20 0 6271816 703816 42608 S 1.0 8.9 31:22.37 java 17462 root 20 0 0 0 0 S 0.3 0.0 1:02.54 kworker/2:1 35713 root 20 0 146136 2120 1416 R 0.3 0.0 0:00.04 top 1 root 20 0 208228 22664 2164 S 0.0 0.3 5:57.49 systemd 2 root 20 0 0 0 0 S 0.0 0.0 0:02.82 kthreadd 3 root 20 0 0 0 0 S 0.0 0.0 0:16.57 ksoftirqd/0 5 root 0 -20 0 0 0 S 0.0 0.0 0:00.00 kworker/0:0H 7 root 0 -20 0 0 0 S 0.0 0.0 0:00.00 kworker/u:0H 8 root rt 0 0 0 0 S 0.0 0.0 0:07.52 migration/0 9 root 20 0 0 0 0 S 0.0 0.0 0:00.00 rcu_bh </pre>
9.	Record the output of netstat command to see what all ports are occupied on the system.	<pre> # netstat -tulpn Active Internet connections (only servers) Proto Recv-Q Send-Q Local Address Foreign Address PID/Program name tcp 0 0 127.0.0.1:199 0.0.0.0:* LISTEN 44727/snmpd tcp 0 0 192.168.122.1:53 0.0.0.0:* LISTEN 2693/dnsmasq tcp 0 0 0.0.0.0:22 0.0.0.0:* LISTEN 1316/sshd </pre>

		<pre> tcp 0 0 127.0.0.1:631 0.0.0.0:* LISTEN 1320/cupsd tcp6 0 0 :::22 :::* LISTEN 1316/sshd tcp6 0 0 :::1:631 :::* LISTEN 1320/cupsd udp 0 0 0.0.0.0:55230 0.0.0.0:* 724/avahi-daemon: r udp 0 0 192.168.122.1:53 0.0.0.0:* 2693/dnsmasq udp 0 0 0.0.0.0:67 0.0.0.0:* 2693/dnsmasq udp 0 0 0.0.0.0:161 0.0.0.0:* 44727/snmpd udp 0 0 0.0.0.0:5353 0.0.0.0:* 724/avahi-daemon: r </pre>
<p>10.</p>	<p>Start OCEEMS server and record the total amount of free and used physical and swap memory in the system.</p>	<pre> # service e5msService start Starting OCEEMS server... Starting mysql / 170518 17:05:08 mysqld_safe Logging to '/Tekelec/webNMS/mysql/data/e5ms9.err'. 170518 17:05:08 mysqld_safe Starting mysqld daemon with databases from /Tekelec/webNMS/mysql/data Warning: Using a password on the command line interface can be insecure. 170518 17:05:15 mysqld_safe mysqld from pid file /Tekelec/webNMS/mysql/data/e5ms9.pid ended / Oracle Corporation. Starting Oracle Communications EAGLE Element Management System "Primary" Server Modules, please wait This edition of Oracle Communications EAGLE Element Management System with release 46.2.0.0.1 is a registered version in name of EMS in company Aricent. </pre>

		Process : NmsAuthenticationManager [Started]
		Process : ParseMeasReports [Started]
		Process : CheckReplication [Started]
		Process : MeasurementScheduler [Started]
		Process : TL1CustomViewsMgr [Started]
		Process : NmsConfigurationServer [Started]
		Process : CommunicationBEProcess [Started]
		Process : webNMSAgentApp [Started]
		Process : SnmpAgentProcess [Started]
		Process : StartProvModule [Started]
		Process : NmsTftpServer [Started]
		Process : webNMSMgmtBEProcess [Started]
		Process : UtilizationScheduler [Started]
		Process : TL1DiscProcess [Started]
		Process : NMSTAServer [Started]
		Process : StorageServer [Started]
		Process : EMSInitializationProcess [Started]
		Process : UserConfigProcess [Started]
		Process : E5msSchedulerProcess [Started]

	Process : webNMSBackup]	[Started
	Process : RunJSPModule]	[Started
	Process : MapServerBE]	[Started
	Process : ProcessTest]	[Started
	Process : CLIFactoryBinder]	[Started
	Process : RunRmiRegistry]	[Started
	Process : EventMgr]	[Started
	Process : DBServer]	[Started
	Process : StartTelnetClient]	[Started
	Process : NmsPolicyMgr]	[Started
	Process : NMSMServer]	[Started
	Process : NbiProcess]	[Started
	Process : TL1EventProcess]	[Started
	Process : Collector]	[Started
	Process : TL1GatewayProcess]	[Started
	Process : CMISchedulerInitiator]	[Started
	Process : ParsingScheduler]	[Started
	Process : AdminModuleInit]	[Started
	Process : DataMgmtRPI]	[Started
	Process : NMSSAServer]	[Started

		Process : NmsAuthManager]	[Started
		Process : NmsMainFE]	[Started
		Process : TAServerFE]	[Started
		Process : SAServerFE]	[Started
		Process : AuthenticationManagerFE]	[Started
		Process : NmsSAServerFE]	[Started
		Process : EventFE]	[Started
		Process : MapFE]	[Started
		Process : PolicyFE]	[Started
		Process : AlertFE]	[Started
		Process : UserConfigProcessFE]	[Started
		Process : ConfigFE]	[Started
		Process : StorageServerFE]	[Started
		Process : AuthorizationManagerFE]	[Started
		Process : StartTelnetClientFE]	[Started
		Process : PollFE]	[Started
		Process : ExampleFE]	[Started
		Process : TopoFE]	[Started
		Process : MServerFE]	[Started
		Process : ProvisioningFE]	[Started

		<pre> Process : CommunicationFEProcess [Started] Process : webNMSMgmtFEProcess [Started] Verifying connection with web server ... verified OCEEMS Server modules started successfully at May 18,2017 05:05:31 PM Please connect your client to the web server on port: 8443 # free total used free shared buff/cache available Mem: 7871188 2947748 1122236 213416 3801204 4574333 Swap: 8257532 7484 8250048 </pre>
<p>11.</p>	<p>Record the output of 'top' command to see CPU utilization after server startup.</p> <p>Note: Press 'q' to exit.</p>	<pre> # top top - 10:29:03 up 119 days, 29 min, 5 users, load average: 0.29, 0.34, 0.23 Tasks: 174 total, 1 running, 173 sleeping, 0 stopped, 0 zombie %Cpu(s): 0.5 us, 0.3 sy, 0.0 ni, 99.2 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st KiB Mem : 7871188 total, 1121396 free, 2949052 used, 3800740 buff/cache KiB Swap: 8257532 total, 8250048 free, 7484 used. 4573445 avail Mem PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND 62792 root 20 0 9594524 426584 15936 S 3.3 5.4 0:32.57 java 17462 root 20 0 0 0 0 S 0.3 0.0 1:13.98 kworker/2:1 </pre>

		<pre> 63035 mysql 20 0 7193564 798476 8992 s 0.3 10.1 0:01.73 mysqld 1 root 20 0 208228 22692 2164 s 0.0 0.3 5:58.01 systemd 2 root 20 0 0 0 0 s 0.0 0.0 0:02.82 kthreadd 3 root 20 0 0 0 0 s 0.0 0.0 0:16.61 ksoftirqd/0 5 root 0 -20 0 0 0 s 0.0 0.0 0:00.00 kworker/0:0H 7 root 0 -20 0 0 0 s 0.0 0.0 0:00.00 kworker/u:0H 8 root rt 0 0 0 0 s 0.0 0.0 0:07.53 migration/0 9 root 20 0 0 0 0 s 0.0 0.0 0:00.00 rcu_bh 10 root 20 0 0 0 0 s 0.0 0.0 10:52.88 rcu_sched 11 root rt 0 0 0 0 s 0.0 0.0 0:31.00 watchdog/0 12 root rt 0 0 0 0 s 0.0 0.0 0:30.74 watchdog/1 13 root 20 0 0 0 0 s 0.0 0.0 0:15.95 ksoftirqd/1 </pre>
<p>12. <input type="checkbox"/></p>	<p>Record the total amount of free and used disk space on the server.</p>	<pre> # df -kh Filesystem Size Used Avail Use% Mounted on /dev/mapper/ol-root 432G 50G 383G 12% / devtmpfs 3.8G 0 3.8G 0% /dev tmpfs 3.8G 84K 3.8G 1% /dev/shm tmpfs 3.8G 210M 3.6G 6% /run tmpfs 3.8G 0 3.8G 0% /sys/fs/cgroup /dev/sda1 497M 196M 301M 40% /boot /dev/mapper/ol-home 26G 33M 26G 1% /home tmpfs 769M 16K 769M 1% /run/user/42 tmpfs 769M 4.0K 769M 1% /run/user/0 tmpfs 769M 0 769M 0% /run/user/986 </pre>

<p>13.</p>	<p>Record the output of netstat command to see occupied ports. The difference in the output before and after starting server will give the ports used by OCEEMS.</p>	<pre># netstat -tulpn Active Internet connections (only servers) Proto Recv-Q Send-Q Local Address Foreign Address State PID/Program name tcp 0 0 127.0.0.1:199 0.0.0.0:* LISTEN 44727/snmpd tcp 0 0 192.168.122.1:53 0.0.0.0:* LISTEN 2693/dnsmasq tcp 0 0 0.0.0.0:22 0.0.0.0:* LISTEN 1316/sshd tcp 0 0 127.0.0.1:631 0.0.0.0:* LISTEN 1320/cupsd tcp6 0 0 :::36001 :::* LISTEN 63806/java tcp6 0 0 10.248.21.70:36003 :::* LISTEN 63806/java tcp6 0 0 127.0.0.1:8005 :::* LISTEN 63806/java tcp6 0 0 :::3306 :::* LISTEN 64049/mysqld tcp6 0 0 10.248.21.70:1099 :::* LISTEN 63806/java tcp6 0 0 :::2000 :::* LISTEN 63806/java tcp6 0 0 :::6000 :::* LISTEN 63806/java tcp6 0 0 :::22 :::* LISTEN 1316/sshd tcp6 0 0 :::4567 :::* LISTEN 63806/java tcp6 0 0 :::1:631 :::* LISTEN 1320/cupsd tcp6 0 0 :::3000 :::* LISTEN 63806/java tcp6 0 0 :::8443 :::* LISTEN 63806/java tcp6 0 0 :::2300 :::* LISTEN 63806/java udp 0 0 0.0.0.0:55230 0.0.0.0:* 724/avahi- daemon: r udp 0 0 192.168.122.1:53 0.0.0.0:* 2693/dnsmasq udp 0 0 0.0.0.0:67 0.0.0.0:* 2693/dnsmasq udp 0 0 0.0.0.0:161 0.0.0.0:* 44727/snmpd udp 0 0 0.0.0.0:5353 0.0.0.0:* 724/avahi- daemon: r udp6 0 0 :::55542 :::* 63806/java</pre>
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		<pre> udp6 0 0 :::44358 :::* 63806/java udp6 0 0 :::8001 :::* 63806/java udp6 0 0 10.248.21.70:8002 :::* 63806/java udp6 0 0 :::69 :::* 63806/java udp6 0 0 10.248.21.70:16500 :::* 63806/java udp6 0 0 :::162 :::* 63806/java udp6 0 0 :::1234 :::* 63806/java udp6 0 0 :::55153 :::* 63806/java </pre>
<p>14.</p>	<p>Record the MySQL configurations.</p>	<pre> # cd /Tekelec/WebNMS/mysql/bin/ [root@e5ms9 bin]# ./mysql -uroot -p<password> WebNmsDB Warning: Using a password on the command line interface can be insecure. Reading table information for completion of table and column names You can turn off this feature to get a quicker startup with -A Welcome to the MySQL monitor. Commands end with ; or \g. Your MySQL connection id is 6819 Server version: 5.6.31-enterprise-commercial-advanced-log MySQL Enterprise Server - Advanced Edition (Commercial) Copyright (c) 2000, 2016, Oracle and/or its affiliates. All rights reserved. Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Type 'help;' or '\h' for help. Type '\c' to clear the current input statement. mysql> SHOW VARIABLES; +-----+-----+ Variable_name Value +-----+-----+ </pre>

	auto_increment_increment	1
	auto_increment_offset	1
	autocommit	ON
	automatic_sp_privileges	ON
	avoid_temporal_upgrade	OFF
	back_log	80
	basedir	/Tekelec/WebNMS/mysql
	big_tables	OFF
	bind_address	*
	binlog_cache_size	32768
	binlog_checksum	CRC32
	binlog_direct_non_transactional_updates	OFF
	binlog_error_action	IGNORE_ERROR
	binlog_format	MIXED
	binlog_gtid_simple_recovery	OFF
	binlog_max_flush_queue_time	0
	binlog_order_commits	ON
	binlog_row_image	FULL

	binlog_rows_query_log_events	OFF
	binlog_stmt_cache_size	32768
	binlogging_impossible_mode	IGNORE_ERROR
	block_encryption_mode	aes-128-ecb
	bulk_insert_buffer_size	8388608
	character_set_client	utf8
	character_set_connection	utf8
	character_set_database	latin1
	character_set_filesystem	binary
	character_set_results	utf8
	character_set_server	latin1
	character_set_system	utf8
	character_sets_dir	
	/Tekelec/WebNMS/mysql/share/charsets/	
	collation_connection	utf8_general_ci
	collation_database	latin1_swedish_ci
	collation_server	latin1_swedish_ci
	completion_type	NO_CHAIN
	concurrent_insert	AUTO
	connect_timeout	10

	core_file	OFF
	datadir	/Tekelec/WebNMS/mysql/data/
	date_format	%Y-%m-%d
	datetime_format	%Y-%m-%d %H:%i:%s
	default_storage_engine	InnoDB
	default_tmp_storage_engine	InnoDB
	default_week_format	0
	delay_key_write	ON
	delayed_insert_limit	100
	delayed_insert_timeout	300
	delayed_queue_size	1000
	disconnect_on_expired_password	ON
	div_precision_increment	4
	end_markers_in_json	OFF
	enforce_gtid_consistency	OFF
	eq_range_index_dive_limit	10
	error_count	0
	event_scheduler	OFF
	expire_logs_days	0
	explicit_defaults_for_timestamp	OFF

	external_user
	flush OFF
	flush_time 0
	foreign_key_checks ON
	ft_boolean_syntax + -><()~*:"'&
	ft_max_word_len 84
	ft_min_word_len 4
	ft_query_expansion_limit 20
	ft_stopword_file (built-in)
	general_log OFF
	general_log_file
	/Tekelec/WebNMS/mysql/data/e5ms9.log
	group_concat_max_len 1024
	gtid_executed
	gtid_mode OFF
	gtid_next AUTOMATIC
	gtid_owned
	gtid_purged
	have_compress YES
	have_crypt YES

	have_dynamic_loading	YES
	have_geometry	YES
	have_openssl	DISABLED
	have_profiling	YES
	have_query_cache	YES
	have_rtree_keys	YES
	have_ssl	DISABLED
	have_symlink	YES
	host_cache_size	279
	hostname	e5ms9
	identity	0
	ignore_builtin_innodb	OFF
	ignore_db_dirs	
	init_connect	
	init_file	
	init_slave	
	innodb_adaptive_flushing	ON
	innodb_adaptive_flushing_lwm	10
	innodb_adaptive_hash_index	ON
	innodb_adaptive_max_sleep_delay	150000

	innodb_additional_mem_pool_size	8388608
	innodb_api_bk_commit_interval	5
	innodb_api_disable_rowlock	OFF
	innodb_api_enable_binlog	OFF
	innodb_api_enable_mdl	OFF
	innodb_api_trx_level	0
	innodb_autoextend_increment	64
	innodb_autoinc_lock_mode	1
	innodb_buffer_pool_dump_at_shutdown	OFF
	innodb_buffer_pool_dump_now	OFF
	innodb_buffer_pool_filename	ib_buffer_pool
	innodb_buffer_pool_instances	8
	innodb_buffer_pool_load_abort	OFF
	innodb_buffer_pool_load_at_startup	OFF
	innodb_buffer_pool_load_now	OFF
	innodb_buffer_pool_size	4294967296
	innodb_change_buffer_max_size	25
	innodb_change_buffering	all
	innodb_checksum_algorithm	innodb
	innodb_checksums	ON

	innodb_cmp_per_index_enabled	OFF
	innodb_commit_concurrency	0
	innodb_compression_failure_threshold_pct	5
	innodb_compression_level	6
	innodb_compression_pad_pct_max	50
	innodb_concurrency_tickets	5000
	innodb_data_file_path	ibdata1:12M:autoextend
	innodb_data_home_dir	
	innodb_disable_sort_file_cache	OFF
	innodb_doublewrite	ON
	innodb_fast_shutdown	1
	innodb_file_format	Antelope
	innodb_file_format_check	ON
	innodb_file_format_max	Antelope
	innodb_file_per_table	ON
	innodb_flush_log_at_timeout	1
	innodb_flush_log_at_trx_commit	1
	innodb_flush_method	
	innodb_flush_neighbors	1
	innodb_flushing_avg_loops	30

	innodb_force_load_corrupted	OFF
	innodb_force_recovery	0
	innodb_ft_aux_table	
	innodb_ft_cache_size	8000000
	innodb_ft_enable_diag_print	OFF
	innodb_ft_enable_stopword	ON
	innodb_ft_max_token_size	84
	innodb_ft_min_token_size	3
	innodb_ft_num_word_optimize	2000
	innodb_ft_result_cache_limit	2000000000
	innodb_ft_server_stopword_table	
	innodb_ft_sort_pll_degree	2
	innodb_ft_total_cache_size	640000000
	innodb_ft_user_stopword_table	
	innodb_io_capacity	200
	innodb_io_capacity_max	2000
	innodb_large_prefix	OFF
	innodb_lock_wait_timeout	50
	innodb_locks_unsafe_for_binlog	OFF
	innodb_log_buffer_size	8388608

	innodb_log_compressed_pages	ON
	innodb_log_file_size	50331648
	innodb_log_files_in_group	2
	innodb_log_group_home_dir	./
	innodb_lru_scan_depth	1024
	innodb_max_dirty_pages_pct	75
	innodb_max_dirty_pages_pct_lwm	0
	innodb_max_purge_lag	0
	innodb_max_purge_lag_delay	0
	innodb_mirrored_log_groups	1
	innodb_monitor_disable	
	innodb_monitor_enable	
	innodb_monitor_reset	
	innodb_monitor_reset_all	
	innodb_old_blocks_pct	37
	innodb_old_blocks_time	1000
	innodb_online_alter_log_max_size	134217728
	innodb_open_files	2000
	innodb_optimize_fulltext_only	OFF
	innodb_page_size	16384

	innodb_print_all_deadlocks	OFF
	innodb_purge_batch_size	300
	innodb_purge_threads	1
	innodb_random_read_ahead	OFF
	innodb_read_ahead_threshold	56
	innodb_read_io_threads	4
	innodb_read_only	OFF
	innodb_replication_delay	0
	innodb_rollback_on_timeout	OFF
	innodb_rollback_segments	128
	innodb_sort_buffer_size	1048576
	innodb_spin_wait_delay	6
	innodb_stats_auto_recalc	ON
	innodb_stats_method	nulls_equal
	innodb_stats_on_metadata	OFF
	innodb_stats_persistent	ON
	innodb_stats_persistent_sample_pages	20
	innodb_stats_sample_pages	8
	innodb_stats_transient_sample_pages	8
	innodb_status_output	OFF

	innodb_status_output_locks	OFF
	innodb_strict_mode	OFF
	innodb_support_xa	ON
	innodb_sync_array_size	1
	innodb_sync_spin_loops	30
	innodb_table_locks	ON
	innodb_thread_concurrency	0
	innodb_thread_sleep_delay	10000
	innodb_tmpdir	
	innodb_undo_directory	.
	innodb_undo_logs	128
	innodb_undo_tablespaces	0
	innodb_use_native_aio	ON
	innodb_use_sys_malloc	ON
	innodb_version	5.6.31
	innodb_write_io_threads	4
	insert_id	0
	interactive_timeout	28800
	join_buffer_size	262144
	keep_files_on_create	OFF

	key_buffer_size	8388608
	key_cache_age_threshold	300
	key_cache_block_size	1024
	key_cache_division_limit	100
	large_files_support	ON
	large_page_size	0
	large_pages	OFF
	last_insert_id	0
	lc_messages	en_US
	lc_messages_dir	
	/Tekelec/WebNMS/mysql/share/	
	lc_time_names	en_US
	license	Commercial
	local_infile	ON
	lock_wait_timeout	31536000
	locked_in_memory	OFF
	log_bin	ON
	log_bin_basename	
	/Tekelec/WebNMS/mysql/data/log-bin	
	log_bin_index	
	/Tekelec/WebNMS/mysql/data/log-bin.index	

	log_bin_trust_function_creators	OFF
	log_bin_use_v1_row_events	OFF
	log_error	
	/Tekelec/WebNMS/mysql/data/e5ms9.err	
	log_output	FILE
	log_queries_not_using_indexes	OFF
	log_slave_updates	ON
	log_slow_admin_statements	OFF
	log_slow_slave_statements	OFF
	log_throttle_queries_not_using_indexes	0
	log_warnings	1
	long_query_time	10.000000
	low_priority_updates	OFF
	lower_case_file_system	OFF
	lower_case_table_names	0
	master_info_repository	FILE
	master_verify_checksum	OFF
	max_allowed_packet	4194304
	max_binlog_cache_size	18446744073709547520
	max_binlog_size	1073741824

	max_binlog_stmt_cache_size 18446744073709547520	
	max_connect_errors	100
	max_connections	151
	max_delayed_threads	20
	max_digest_length	1024
	max_error_count	64
	max_heap_table_size	16777216
	max_insert_delayed_threads	20
	max_join_size	18446744073709551615
	max_length_for_sort_data	1024
	max_prepared_stmt_count	16382
	max_relay_log_size	0
	max_seeks_for_key	18446744073709551615
	max_sort_length	1024
	max_sp_recursion_depth	0
	max_tmp_tables	32
	max_user_connections	0
	max_write_lock_count	18446744073709551615
	metadata_locks_cache_size	1024

	metadata_locks_hash_instances	8
	min_examined_row_limit	0
	multi_range_count	256
	myisam_data_pointer_size	6
	myisam_max_sort_file_size	9223372036853727232
	myisam_mmap_size	18446744073709551615
	myisam_recover_options	OFF
	myisam_repair_threads	1
	myisam_sort_buffer_size	8388608
	myisam_stats_method	nulls_unequal
	myisam_use_mmap	OFF
	net_buffer_length	16384
	net_read_timeout	30
	net_retry_count	10
	net_write_timeout	60
	new	OFF
	old	OFF
	old_alter_table	OFF
	old_passwords	0
	open_files_limit	5000

	<pre> optimizer_prune_level 1 optimizer_search_depth 62 optimizer_switch index_merge=on,index_merge_union=on,index_merge_sort_union=on, index_merge_intersection=on,engine_condition_pushdown=on, index_condition_pushdown=on,mrr=on,mrr_cost_based=on, block_nested_loop=on,batched_key_access=off,materialization=on, semijoin=on,loosescan=on,firstmatch=on, subquery_materialization_cost_based=on,use_index_extensions=on optimizer_trace enabled=off,one_line=off optimizer_trace_features greedy_search=on,range_optimizer=on,dynamic_range=on, repeated_subselect=on optimizer_trace_limit 1 optimizer_trace_max_mem_size 16384 optimizer_trace_offset -1 performance_schema ON performance_schema_accounts_size 100 performance_schema_digests_size 10000 performance_schema_events_stages_history_long_size 10000 performance_schema_events_stages_history_size 10 performance_schema_events_statements_history_long_size 10000 performance_schema_events_statements_history_size 10 performance_schema_events_waits_history_long_size 10000 performance_schema_events_waits_history_size 10 </pre>
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	performance_schema_hosts_size	100
	performance_schema_max_cond_classes	80
	performance_schema_max_cond_instances	3504
	performance_schema_max_digest_length	1024
	performance_schema_max_file_classes	50
	performance_schema_max_file_handles	32768
	performance_schema_max_file_instances	7693
	performance_schema_max_mutex_classes	200
	performance_schema_max_mutex_instances	15906
	performance_schema_max_rwlock_classes	40
	performance_schema_max_rwlock_instances	9102
	performance_schema_max_socket_classes	10
	performance_schema_max_socket_instances	322
	performance_schema_max_stage_classes	150
	performance_schema_max_statement_classes	168
	performance_schema_max_table_handles	4000
	performance_schema_max_table_instances	12500
	performance_schema_max_thread_classes	50
	performance_schema_max_thread_instances	402
	performance_schema_session_connect_attrs_size	512

	performance_schema_setup_actors_size	100
	performance_schema_setup_objects_size	100
	performance_schema_users_size	100
	pid_file	
	/Tekelec/WebNMS/mysql/data/e5ms9.pid	
	plugin_dir	
	/Tekelec/WebNMS/mysql/lib/plugin/	
	port	3306
	preload_buffer_size	32768
	profiling	OFF
	profiling_history_size	15
	protocol_version	10
	proxy_user	
	pseudo_slave_mode	OFF
	pseudo_thread_id	6819
	query_alloc_block_size	8192
	query_cache_limit	1048576
	query_cache_min_res_unit	4096
	query_cache_size	1048576
	query_cache_type	OFF
	query_cache_wlock_invalidate	OFF

	query_prealloc_size	8192
	rand_seed1	0
	rand_seed2	0
	range_alloc_block_size	4096
	read_buffer_size	131072
	read_only	OFF
	read_rnd_buffer_size	262144
	relay_log	
	/Tekelec/WebNMS/mysql/data/relay-bin	
	relay_log_basename	
	/Tekelec/WebNMS/mysql/data/relay-bin	
	relay_log_index	
	/Tekelec/WebNMS/mysql/data/relay-bin.index	
	relay_log_info_file	relay-log.info
	relay_log_info_repository	FILE
	relay_log_purge	ON
	relay_log_recovery	OFF
	relay_log_space_limit	0
	report_host	
	report_password	
	report_port	3306

	report_user	
	rpl_stop_slave_timeout	31536000
	secure_auth	ON
	secure_file_priv	
	server_id	1
	server_id_bits	32
	server_uuid	cd82c312-3b87-11e7-9c61-
	00151a6e04d8	
	sha256_password_private_key_path	private_key.pem
	sha256_password_public_key_path	public_key.pem
	show_old_temporals	OFF
	simplified_binlog_gtid_recovery	OFF
	skip_external_locking	ON
	skip_name_resolve	OFF
	skip_networking	OFF
	skip_show_database	OFF
	slave_allow_batching	OFF
	slave_checkpoint_group	512
	slave_checkpoint_period	300
	slave_compressed_protocol	OFF

	slave_exec_mode	STRICT
	slave_load_tmpdir	/tmp
	slave_max_allowed_packet	1073741824
	slave_net_timeout	3600
	slave_parallel_workers	0
	slave_pending_jobs_size_max	16777216
	slave_rows_search_algorithms	
	TABLE_SCAN,INDEX_SCAN	
	slave_skip_errors	
	1032,1050,1054,1060,1061,1062,1065,1146,1396	
	slave_sql_verify_checksum	ON
	slave_transaction_retries	10
	slave_type_conversions	
	slow_launch_time	2
	slow_query_log	OFF
	slow_query_log_file	
	/Tekelec/WebNMS/mysql/data/e5ms9-slow.log	
	socket	/tmp/mysql.sock
	sort_buffer_size	262144
	sql_auto_is_null	OFF
	sql_big_selects	ON

	sql_buffer_result	OFF
	sql_log_bin	ON
	sql_log_off	OFF
	sql_mode	
	NO_ENGINE_SUBSTITUTION	
	sql_notes	ON
	sql_quote_show_create	ON
	sql_safe_updates	OFF
	sql_select_limit	18446744073709551615
	sql_slave_skip_counter	0
	sql_warnings	OFF
	ssl_ca	
	ssl_capath	
	ssl_cert	
	ssl_cipher	
	ssl_crl	
	ssl_crlpath	
	ssl_key	
	storage_engine	InnoDB
	stored_program_cache	256

	sync_binlog	0
	sync_frm	ON
	sync_master_info	10000
	sync_relay_log	10000
	sync_relay_log_info	10000
	system_time_zone	IST
	table_definition_cache	1400
	table_open_cache	2000
	table_open_cache_instances	1
	thread_cache_size	9
	thread_concurrency	10
	thread_handling	one-thread-per-connection
	thread_stack	262144
	time_format	%H:%i:%s
	time_zone	SYSTEM
	timed_mutexes	OFF
	timestamp	1495149911.103216
	tmp_table_size	16777216
	tmpdir	/tmp
	transaction_alloc_block_size	8192

		<pre> transaction_allow_batching OFF transaction_prealloc_size 4096 tx_isolation REPEATABLE-READ tx_read_only OFF unique_checks ON updatable_views_with_limit YES version 5.6.31-enterprise-commercial- advanced-log version_comment MySQL Enterprise Server - Advanced Edition (Commercial) version_compile_machine x86_64 version_compile_os linux-glibc2.5 wait_timeout 28800 warning_count 0 +-----+ ----- ----- ----- -----+ </pre>
15.	Record CPU information (number of CPUs, core etc.)	<pre> # cat /proc/cpuinfo processor : 0 vendor_id : GenuineIntel cpu family : 6 model : 42 model name : Intel(R) Xeon(R) CPU E31220 @ 3.10GHz stepping : 7 microcode : 0x29 </pre>

	<pre> cpu MHz : 3092.962 cache size : 8192 KB physical id : 0 siblings : 4 core id : 0 cpu cores : 4 apicid : 0 initial apicid : 0 fpu : yes fpu_exception : yes cpuid level : 13 wp : yes flags : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx rdtscp lm constant_tsc arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc aperfmperf eagerfpu pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 cx16 xtpr pdcm pcid sse4_1 sse4_2 x2apic popcnt tsc_deadline_timer aes xsave avx lahf_lm ida arat xsaveopt pln pts dtherm tpr_shadow vnmi flexpriority ept vpid bogomips : 6185.92 clflush size : 64 cache_alignment : 64 address sizes : 36 bits physical, 48 bits virtual power management: processor : 1 vendor_id : GenuineIntel cpu family : 6 model : 42 model name : Intel(R) Xeon(R) CPU E31220 @ 3.10GHz stepping : 7 microcode : 0x29 cpu MHz : 3092.962 cache size : 8192 KB physical id : 0 </pre>
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	<pre> siblings : 4 core id : 1 cpu cores : 4 apicid : 2 initial apicid : 2 fpu : yes fpu_exception : yes cpuid level : 13 wp : yes flags : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx rdtscp lm constant_tsc arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc aperfmperf eagerfpu pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 cx16 xtpr pdcm pcid sse4_1 sse4_2 x2apic popcnt tsc_deadline_timer aes xsave avx lahf_lm ida arat xsaveopt pln pts dtherm tpr_shadow vnmi flexpriority ept vpid bogomips : 6185.92 clflush size : 64 cache_alignment : 64 address sizes : 36 bits physical, 48 bits virtual power management: processor : 2 vendor_id : GenuineIntel cpu family : 6 model : 42 model name : Intel(R) Xeon(R) CPU E31220 @ 3.10GHz stepping : 7 microcode : 0x29 cpu MHz : 3092.962 cache size : 8192 KB physical id : 0 siblings : 4 core id : 2 cpu cores : 4 </pre>
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	<pre> apicid : 4 initial apicid : 4 fpu : yes fpu_exception : yes cpuid level : 13 wp : yes flags : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx rdtscp lm constant_tsc arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc aperfmperf eagerfpu pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 cx16 xtpr pdcm pcid sse4_1 sse4_2 x2apic popcnt tsc_deadline_timer aes xsave avx lahf_lm ida arat xsaveopt pln pts dtherm tpr_shadow vnmi flexpriority ept vpid bogomips : 6185.92 clflush size : 64 cache_alignment : 64 address sizes : 36 bits physical, 48 bits virtual power management: processor : 3 vendor_id : GenuineIntel cpu family : 6 model : 42 model name : Intel(R) Xeon(R) CPU E31220 @ 3.10GHz stepping : 7 microcode : 0x29 cpu MHz : 3092.962 cache size : 8192 KB physical id : 0 siblings : 4 core id : 3 cpu cores : 4 apicid : 6 initial apicid : 6 fpu : yes </pre>
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		<pre>fpu_exception : yes cpuid level : 13 wp : yes flags : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx rdtscp lm constant_tsc arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc aperfmperf eagerfpu pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 cx16 xtpr pdcm pcid sse4_1 sse4_2 x2apic popcnt tsc_deadline_timer aes xsave avx lahf_lm ida arat xsaveopt pln pts dtherm tpr_shadow vnmi flexpriority ept vpid bogomips : 6185.92 clflush size : 64 cache_alignment : 64 address sizes : 36 bits physical, 48 bits virtual power management:</pre>
<p>16. <input type="checkbox"/></p>	<p>Record the hard drive and partition size</p>	<pre># fdisk -l /dev/sd[a-z] Disk /dev/sda: 500.1 GB, 500107862016 bytes, 976773168 sectors Units = sectors of 1 * 512 = 512 bytes Sector size (logical/physical): 512 bytes / 512 bytes I/O size (minimum/optimal): 512 bytes / 512 bytes Disk label type: dos Disk identifier: 0x00015701 Device Boot Start End Blocks Id System /dev/sda1 * 2048 1026047 512000 83 Linux /dev/sda2 1026048 976773119 487873536 8e Linux LVM</pre>
<p>17. <input type="checkbox"/></p>	<p>Verify smartctl output</p>	<pre># smartctl -A -l error /dev/sda smartctl 6.2 2013-07-26 r3841 [x86_64-linux-3.8.13- 98.7.1.e17uek.x86_64] (local build) Copyright (C) 2002-13, Bruce Allen, Christian Franke, www.smartmontools.org === START OF READ SMART DATA SECTION === SMART Attributes Data Structure revision number: 16 Vendor Specific SMART Attributes with Thresholds:</pre>

ID#	ATTRIBUTE_NAME	FLAG	VALUE	WORST	THRESH
TYPE	UPDATED	WHEN_FAILED	RAW_VALUE		
1	Raw_Read_Error_Rate	0x002f	200	198	051
Pre-fail	Always	-	121		
3	Spin_Up_Time	0x0027	173	171	021
Pre-fail	Always	-	2333		
4	Start_Stop_Count	0x0032	100	100	000
Old_age	Always	-	75		
5	Reallocated_Sector_Ct	0x0033	199	199	140
Pre-fail	Always	-	25		
7	Seek_Error_Rate	0x002f	200	200	051
Pre-fail	Always	-	0		
9	Power_On_Hours	0x0032	086	086	000
Old_age	Always	-	10948		
10	Spin_Retry_Count	0x0033	100	253	051
Pre-fail	Always	-	0		
11	Calibration_Retry_Count	0x0033	100	253	051
Pre-fail	Always	-	0		
12	Power_Cycle_Count	0x0032	100	100	000
Old_age	Always	-	74		
180	Unknown_HDD_Attribute	0x002f	200	200	100
Pre-fail	Always	-	0		
184	End-to-End_Error	0x0033	100	100	097
Pre-fail	Always	-	0		
187	Reported_Uncorrect	0x0032	100	001	000
Old_age	Always	-	126		
188	Command_Timeout	0x0032	100	069	000
Old_age	Always	-	31		
190	Airflow_Temperature_Cel	0x0022	070	056	045
Old_age	Always	-	30		
192	Power-Off_Retract_Count	0x0032	200	200	000
Old_age	Always	-	67		
193	Load_Cycle_Count	0x0032	200	200	000
Old_age	Always	-	7		
194	Temperature_Celsius	0x0022	113	099	000
Old_age	Always	-	30		
195	Hardware_ECC_Recovered	0x0036	200	200	000
Old_age	Always	-	0		
196	Reallocated_Event_Count	0x0032	178	178	000
Old_age	Always	-	22		

		<pre> 197 Current_Pending_Sector 0x0032 200 200 000 Old_age Always - 0 198 offline_Uncorrectable 0x0030 200 200 000 Old_age Offline - 0 199 UDMA_CRC_Error_Count 0x0032 200 200 000 Old_age Always - 0 200 Multi_Zone_Error_Rate 0x0008 200 200 000 Old_age Offline - 2 SMART Error Log Version: 1 No Errors Logged </pre>
<p>18. <input type="checkbox"/></p>	<p>Start Disk Integrity Check</p>	<pre> # smartctl -t short /dev/sda smartctl 6.2 2013-07-26 r3841 [x86_64-linux-3.8.13- 98.7.1.el7uek.x86_64] (local build) Copyright (C) 2002-13, Bruce Allen, Christian Franke, www.smartmontools.org === START OF OFFLINE IMMEDIATE AND SELF-TEST SECTION === Sending command: "Execute SMART Short self-test routine immediately in off-line mode". Drive command "Execute SMART Short self-test routine immediately in off-line mode" successful. Testing has begun. Please wait 2 minutes for test to complete. Test will complete after Thu May 18 17:21:04 2017 Use smartctl -x to abort test. </pre>

19. <input type="checkbox"/>	Verify and record Disk Integrity Check results	<pre># sleep 100; smartctl -l selftest /dev/sda smartctl 6.2 2013-07-26 r3841 [x86_64-linux-3.8.13-98.7.1.e17uek.x86_64] (local build) Copyright (C) 2002-13, Bruce Allen, Christian Franke, www.smartmontools.org === START OF READ SMART DATA SECTION === SMART self-test log structure revision number 1 Num Test_Description Status Remaining LifeTime(hours) LBA_of_first_error # 1 Short offline Completed without error 00% 10948 - Note: Record if any error is reported and contact Oracle Support.</pre>
20. <input type="checkbox"/>	Record any hard disk sector error	<pre># smartctl -a /dev/sda grep -i LBA Num Test_Description Status Remaining LifeTime(hours) LBA_of_first_error SPAN MIN_LBA MAX_LBA CURRENT_TEST_STATUS Note: No error should be observed in case any error is observed output will be like as mentioned below, record the output and contact Oracle Support 40 51 a0 11 8e 57 e0 Error: UNC 160 sectors at LBA = 0x00578e11 = 538001 40 51 a8 11 8e 57 e0 Error: UNC 168 sectors at LBA = 0x00578e11 = 538001 Num Test_Description Status Remaining LifeTime(hours) LBA_of_first_error If UNC errors are found, execute following command: \$ smartctl -a /dev/sda</pre>
21. <input type="checkbox"/>	Repeat the procedure for standby server	Repeat steps from 1 to 27 on standby server if it is a failover configuration.

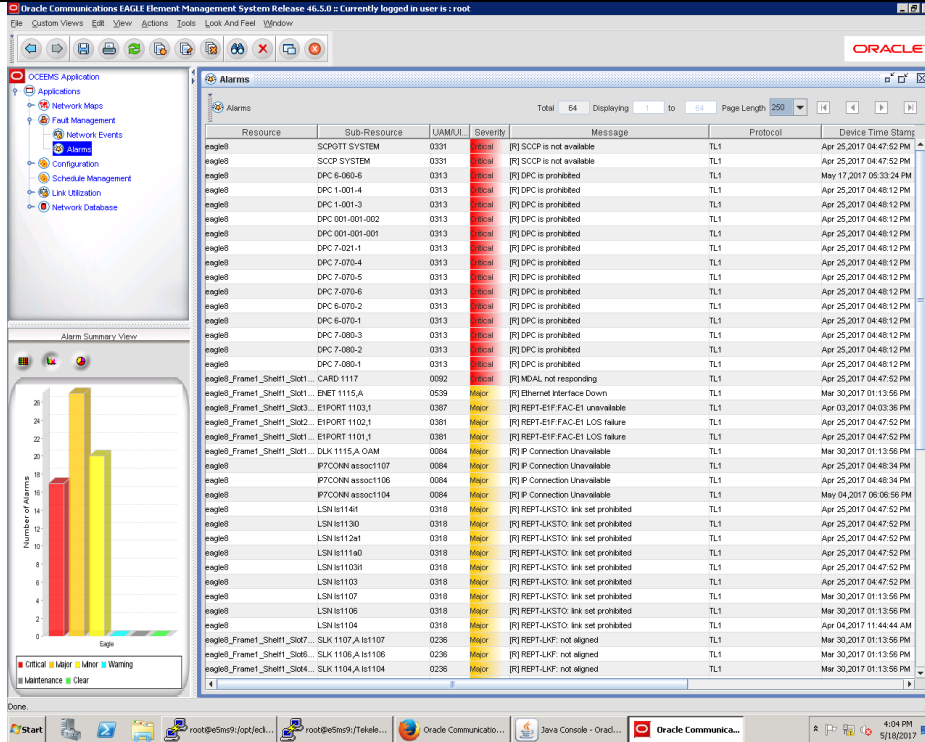
4.2 System Configuration

These steps can be performed on any of the OCEEMS configuration as mentioned in section 2. For failover setup commands should be run on both the servers.

S T E P #	Steps To Be Completed	Expected output/command to be executed
1. <input type="checkbox"/>	Login as root or non-root user(if non-root user is configured for OCEEMS operations)	Login: root/emsadmuser password: <root/emsadmuser password>
2. <input type="checkbox"/>	Record /etc/hosts configuration	<pre>\$ cat /etc/hosts # # Do not modify this file by hand. Refer to Oracle Configuration # documentation. # # The order of the aliases in this file is significant # to the installation process. # 127.0.0.1 localhost 10.248.9.3 e5ms3 10.248.10.21 e5ms7 10.248.10.25 e5ms10 10.248.21.74 e5ms1 10.248.21.70 e5ms9 10.248.21.76 e5ms12 10.248.9.5 e5ms8 10.248.10.25 e5ms10</pre>
3. <input type="checkbox"/>	Verify and Record IPs configured on each interface	<pre># ifconfig eno1: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500 ether a0:b3:cc:e7:41:35 txqueuelen 1000 (Ethernet) RX packets 0 bytes 0 (0.0 B) RX errors 0 dropped 0 overruns 0 frame 0 TX packets 0 bytes 0 (0.0 B) TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0 device interrupt 17 memory 0xfbee0000-fbf00000 enp2s0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500 ether a0:b3:cc:e7:41:34 txqueuelen 1000 (Ethernet) RX packets 0 bytes 0 (0.0 B) RX errors 0 dropped 0 overruns 0 frame 0 TX packets 0 bytes 0 (0.0 B) TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0 device interrupt 16 memory 0xfbde0000-fbe00000 ens2f0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500 inet 10.248.21.70 netmask 255.255.255.0 broadcast 10.248.21.255 inet6 fe80::215:1aff:fe6e:4d8 prefixlen 64 scopeid 0x20<link> ether 00:15:1a:6e:04:d8 txqueuelen 1000 (Ethernet) RX packets 73620479 bytes 42456180136 (39.5 GiB) RX errors 0 dropped 0 overruns 0 frame 0 TX packets 74825240 bytes 50525619210 (47.0 GiB) TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0 device interrupt 16 memory 0xfbfef0000-fc000000</pre>

		<pre> ens2f1: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500 ether 00:15:1a:6e:04:d9 txqueuelen 1000 (Ethernet) RX packets 0 bytes 0 (0.0 B) RX errors 0 dropped 0 overruns 0 frame 0 TX packets 0 bytes 0 (0.0 B) TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0 device interrupt 17 memory 0xfbfa0000-fbfc0000 lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536 inet 127.0.0.1 netmask 255.0.0.0 inet6 ::1 prefixlen 128 scopeid 0x10<host> loop txqueuelen 0 (Local Loopback) RX packets 183376340 bytes 127904309653 (119.1 GiB) RX errors 0 dropped 0 overruns 0 frame 0 TX packets 183376340 bytes 127904309653 (119.1 GiB) TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0 virbr0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500 inet 192.168.122.1 netmask 255.255.255.0 broadcast 192.168.122.255 ether 52:54:00:be:9a:cf txqueuelen 0 (Ethernet) RX packets 0 bytes 0 (0.0 B) RX errors 0 dropped 0 overruns 0 frame 0 TX packets 5 bytes 1203 (1.1 KiB) TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0 </pre>
<p>4. <input type="checkbox"/></p>	<p>Verify and record the output of Netstat (Network Statistic) command</p>	<pre> # netstat -r Kernel IP routing table Destination Gateway Genmask Flags MSS Window irtt Iface default 10.248.21.1 0.0.0.0 UG 0 0 0 ens2f0 10.248.21.0 0.0.0.0 255.255.255.0 U 0 0 0 ens2f0 192.168.122.0 0.0.0.0 255.255.255.0 U 0 0 0 virbr0 </pre>
<p>5. <input type="checkbox"/></p>	<p>Verify operational status of OCEEMS Server</p>	<pre> # service e5msService status OCEEMS server is running. </pre>
<p>6. <input type="checkbox"/></p>	<p>Check the iptables service if non-root user is being used for OCEEMS operations.</p>	<pre> # service iptables status Redirecting to /bin/systemctl status iptables.service iptables.service - IPv4 firewall with iptables Loaded: loaded (/usr/lib/systemd/system/iptables.service; disabled) Active: active (exited) since Thu 2016-12-22 22:16:27 IST; 3 months 22 days ago Main PID: 11509 (code=exited, status=0/SUCCESS) CGroup: /system.slice/iptables.service Dec 22 22:16:27 e5ms1 iptables.init[11509]: iptables: Applying firewall rules: [OK] Dec 22 22:16:27 e5ms1 systemd[1]: Started IPv4 firewall with iptables. </pre>
<p>7.</p>	<p>Check the status of snmpd service for SNMP related operations.</p>	<pre> # service snmpd status Redirecting to /bin/systemctl status snmpd.service snmpd.service - Simple Network Management Protocol (SNMP) Daemon. Loaded: loaded (/usr/lib/systemd/system/snmpd.service; disabled) Active: active (running) since Sat 2017-04-15 21:21:17 IST; 2s ago Main PID: 39248 (snmpd) CGroup: /system.slice/snmpd.service └─39248 /usr/sbin/snmpd -LSO-6d -f Apr 15 21:21:17 e5ms1 snmpd[39248]: NET-SNMP version 5.7.2 Apr 15 21:21:17 e5ms1 systemd[1]: Started Simple Network Management Protocol (SNMP) Daemon.. </pre>

8. <input type="checkbox"/>	Record /etc/passwd file	<pre> # cat /etc/passwd root:x:0:0:root:/root:/bin/bash bin:x:1:1:bin:/bin:/sbin/nologin daemon:x:2:2:daemon:/sbin:/sbin/nologin adm:x:3:4:adm:/var/adm:/sbin/nologin lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin sync:x:5:0:sync:/sbin:/bin/sync shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown halt:x:7:0:halt:/sbin:/sbin/halt mail:x:8:12:mail:/var/spool/mail:/sbin/nologin operator:x:11:0:operator:/root:/sbin/nologin games:x:12:100:games:/usr/games:/sbin/nologin ftp:x:14:50:FTP User:/var/ftp:/sbin/nologin nobody:x:99:99:Nobody:./:/sbin/nologin dbus:x:81:81:System message bus:./:/sbin/nologin polkitd:x:999:999:User for polkitd:./:/sbin/nologin usbmuxd:x:113:113:usbmuxd user:./:/sbin/nologin ntp:x:38:38:./etc/ntp:/sbin/nologin pegasus:x:66:65:tog-pegasus OpenPegasus WBEM/CIM services:/var/lib/Pegasus:/sbin/nologin named:x:25:25:Named:/var/named:/sbin/nologin saslauth:x:998:76:"saslauthd user"/run/saslauthd:/sbin/nologin libstoragemgmt:x:997:996:daemon account for libstoragemgmt:/var/run/lsm:/sbin/nologin avahi:x:70:70:Avahi mDNS/DNS-SD Stack:/var/run/avahi- daemon:/sbin/nologin avahi-autoipd:x:170:170:Avahi IPv4LL Stack:/var/lib/avahi- autoipd:/sbin/nologin rtkit:x:172:172:RealtimeKit:/proc:/sbin/nologin memcached:x:996:995:Memcached daemon:/run/memcached:/sbin/nologin rpc:x:32:32:Rpcbind Daemon:/var/lib/rpcbind:/sbin/nologin chrony:x:995:994:./var/lib/chrony:/sbin/nologin radvd:x:75:75:radvd user:./:/sbin/nologin unbound:x:994:993:Unbound DNS resolver:/etc/unbound:/sbin/nologin colord:x:993:992:User for colord:/var/lib/colord:/sbin/nologin amandabackup:x:33:6:Amanda user:/var/lib/amanda:/bin/bash qemu:x:107:107:qemu user:./:/sbin/nologin apache:x:48:48:Apache:/usr/share/httpd:/sbin/nologin rpcuser:x:29:29:RPC Service User:/var/lib/nfs:/sbin/nologin nfsnobody:x:65534:65534:Anonymous NFS User:/var/lib/nfs:/sbin/nologin abrt:x:173:173:./etc/abrt:/sbin/nologin pulse:x:171:171:PulseAudio System Daemon:/var/run/pulse:/sbin/nologin hsqldb:x:96:96:./var/lib/hsqldb:/sbin/nologin tomcat:x:91:91:Apache Tomcat:/usr/share/tomcat:/sbin/nologin gdm:x:42:42:./var/lib/gdm:/sbin/nologin gnome-initial-setup:/sbin/nologin pcp:x:991:989:Performance Co-Pilot:/var/lib/pcp:/sbin/nologin sshd:x:74:74:Privilege-separated SSH:/var/empty/sshd:/sbin/nologin postgres:x:26:26:PostgreSQL Server:/var/lib/pgsql:/bin/bash postfix:x:89:89:./var/spool/postfix:/sbin/nologin dovecot:x:97:97:Dovecot IMAP server:/usr/libexec/dovecot:/sbin/nologin dovenuil:x:990:988:Dovecot's unauthorized user:/usr/libexec/dovecot:/sbin/nologin oprofile:x:16:16:Special user account to be used by OProfile:/var/lib/oprofile:/sbin/nologin tcpdump:x:72:72:./:/sbin/nologin deepak:x:1000:1000:deepak:/home/deepak:/bin/bash emsuser:x:1001:1001:./home/emsuser:/bin/bash ems:x:1003:1004:./home/ems:/bin/bash emsadmuser:x:1007:1007:./home/emsadmuser:/bin/bash emsuser10:x:1009:1009:./home/emsuser10:/bin/bash yogesh:x:1011:1011:./home/yogesh:/bin/bash mysql:x:1012:1017:./home/mysql:/bin/bash </pre>
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<p>9. <input type="checkbox"/></p>	<p>Take backup of the OCEEMS database and configuration files.</p>	<pre># cd /Tekelec/webNMS/bin/backup # sh BackupDB.sh -d /tmp/backup/ Please wait! OCEEMS Backup is in progress..- OCEEMS database backup file "E5MS_Database_BackUp.sql" successfully created. \ Backup of directories successfully created. OCEEMS Backup is completed.</pre>
<p>10. <input type="checkbox"/></p>	<p>Verify backups are being taken properly</p>	<pre># ls -l -rt /tmp/backup/ total 1232 -rw-r--r--. 1 root root 1252531 May 18 08:15 E5MS_Database_Backup.sql drwxr-xr-x. 4 root root 29 May 18 08:15 users drwxr-xr-x. 2 root root 66 May 18 08:15 linkUtilizationScripts drwxr-xr-x. 7 root root 67 May 18 08:15 commandManagersScripts drwxr-xr-x. 2 root root 4096 May 18 08:15 reportingStudio drwxr-xr-x. 2 root root 34 May 18 08:15 defaultconf drwxr-xr-x. 3 root root 19 May 18 08:15 classes drwxr-xr-x. 2 root root 31 May 18 08:15 htm\ drwxr-xr-x. 3 root root 4096 May 18 08:15 conf</pre>
<p>11. <input type="checkbox"/></p>	<p>Gather application log files</p>	<pre># tar -cvf Application_logs.tar /var/E5-MS</pre>
<p>12. <input type="checkbox"/></p>	<p>Gather system log files</p>	<pre># tar -cvf NMS_logs.tar /Tekelec/webNMS/logs</pre>
<p>13. <input type="checkbox"/></p>	<p>Record alarms on the system from the OCEEMS client</p>	

14.	Gather the configuration files of OCEEMS setup.	<pre># ls -ltr /Tekelec/WebNMS/conf/tekelec/ -rw-r--r--. 1 root root 493 May 17 21:19 tekmeas.conf -rw-r--r--. 1 root root 2625 May 17 21:19 server_conf.properties -rw-r--r--. 1 root root 1980 May 17 21:19 security.properties -rw-r--r--. 1 root root 577 May 17 21:19 reporting.properties -rw-r--r--. 1 root root 694 May 17 21:19 NbiParameters.conf -rw-r--r--. 1 root root 994 May 17 21:19 ModulesConf.xml -rw-r--r--. 1 root root 929 May 17 21:19 lui_template_script.txt -rw-r--r--. 1 root root 572 May 17 21:19 lui.properties -rw-r--r--. 1 root root 420 May 17 21:19 InventoryCommands.txt -rw-r--r--. 1 root root 3392 May 17 21:19 fault.properties -rw-r--r--. 1 root root 18399 May 17 21:19 EagleCardNameNumMap.xml -rw-r--r--. 1 root root 12451 May 17 21:19 ContinentZonalMap.xml -rw-r--r--. 1 root root 2656 May 17 21:19 common.config -rw-r--r--. 1 root root 1688 May 17 21:19 CmiParameters.conf</pre>
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5 My Oracle Support

CAUTION: Use only the guide downloaded from the Oracle Technology Network (OTN) (<http://www.oracle.com/technetwork/indexes/documentation/oracle-comms-tekelec-2136003.html>).

Before upgrading your system, access the **My Oracle Support** web portal (<https://support.oracle.com>) and review any Knowledge Alerts that may be related to the System Health Check or the Upgrade.

Before beginning this procedure, contact My Oracle Support and inform them of your upgrade plans. If installing for an Oracle customer on a customer site, obtain the customer's Support Identifier (SI) before requesting assistance.

Web portal (preferred option): My Oracle Support (MOS) (<https://support.oracle.com/>)

Phone: Contact your local Oracle Global Customer Support Center (<http://www.oracle.com/support/contact.html>)

Make the following selections on the Support telephone menu:

1. Select '2' for New Service Request
2. Select '3' for Hardware, Networking and Solaris Operating System Support
3. Select '1' for Technical Issues and when talking to the agent, please indicate that you are an existing Tekelec customer