



**UEFI SuperServer Automation Assistant
(SAA)
Migration Guide**

Revision 1.0.0

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Overview

SuperServer Automation Assistant (SAA) is a powerful CLI (Command-Line Interface) based utility. It helps IT administrators easily deploy, configure, and update the managed systems from single node to datacenter scale.

This user's guide helps users migrate from UEFI SUM, SMCIPMITOOL, and IPMICFG to UEFI SAA. It provides examples of command output differences between UEFI SUM 2.14.0 and UEFI SAA 1.0.0/1.1.0. Additionally, it offers command usage mapping rules for converting SMCIPMITOOL and IPMICFG commands to UEFI SAA. It also includes a comparison of SMCIPMITOOL and IPMICFG commands to UEFI SAA. It also includes a comparison of SMCIPMITOOL and IPMICFG commands with their SAA equivalents. These references will help users smoothly transition to using SAA in their shell scripts and daily operations.

1. Command Output Change in UEFI SAA

1.1.0

1.1 SAA RHI commands

Status descriptions for checking Redfish connection have been added, and error messages and instructions have been enhanced for cases when the Redfish Host interface is not available.

```
SuperServer Automation Assistant 1.1.0 (2024/08/28) (UEFI_x86_64)
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Checking Redfish connection. Please wait...

*****<<<<<ERROR>>>>>*****
ExitCode                                = 86
Description                             = Required tool does not exist
Program Error Code                      = 9.421
Error message:

    Not able to find available Redfish Host Interface.
    The SMBIOS type 42 interface type is incorrect.

Instruction:

    Try Execute the script/saa_activate_RI script to activate the Redfish
Host Interface.

*****
```

2. Usage Mapping from IPMICFG to UEFI SAA

Feature	Shows IPv4 address and MAC of BMC.
IPMICFG Usage	-m
SAA Usage	BmcLanManage --action GetInfo

Feature	Sets IPv4 address (format: ###.###.###.###).
IPMICFG Usage	-m <ip>
SAA Usage	BmcLanManage --action ChangeMac --bmc_mac <MAC address>

Feature	Sets MAC (format: ##:##:##:##:##:##).
IPMICFG Usage	-a
SAA Usage	BmcLanManage --action Changelp --bmc_ip <IP>

Feature	Shows Subnet Mask.
IPMICFG Usage	-k
SAA Usage	BmcLanManage --action GetInfo

Feature	Sets Subnet Mask (format: ###.###.###.###).
IPMICFG Usage	-k <mask>
SAA Usage	BmcLanManage --action ChangeSubnetMask

Feature	Gets the DHCP status.
IPMICFG Usage	-dhcp
SAA Usage	BmcLanManage --action GetInfo

Feature	Enables/Disables the DHCP.
IPMICFG Usage	-dhcp <on off>
SAA Usage	BmcLanManage --action EnableDHCP DisableDHCP

Feature	Shows a Gateway IP.
IPMICFG Usage	-g
SAA Usage	BmcLanManage --action GetInfo

Feature	Sets a Gateway IP (format: ###.###.###.###).
IPMICFG Usage	-g <gateway>
SAA Usage	BmcLanManage --action Changelp --bmc_gateway <gateway>

Feature	Performs a BMC cold reset. Detects if a BMC reset was successfully performed on the IPMI device, use -d after -r.
IPMICFG Usage	-r
SAA Usage	BmcReset

Feature	Resets to the factory defaults without preserving configurations. option: 1 Preserves User configurations option: 2 Restores to factory default and default password option: 3 Sets user defaults to ADMIN/ADMIN
IPMICFG Usage	-fd <option>
SAA Usage	option 1. LoadDefaultBmcCfg --preserve_user_cfg option 2. LoadDefaultBmcCfg --clear_user_cfg --load_unique_password option 3. LoadDefaultBmcCfg --clear_user_cfg --load_default_password

Feature	Resets IPMI to the factory default. (Clean LAN).
IPMICFG Usage	-fdl
SAA Usage	LoadDefaultBmcCfg --clear_user_cfg --load_unique_password --load_default_lan

Feature	Resets IPMI to the factory default. (Clean FRU & LAN).
IPMICFG Usage	-fde
SAA Usage	LoadDefaultBmcCfg --clear_user_cfg --load_unique_password --load_default_lan --load_default_fru

Feature	Detects if a BMC reset was successfully performed on the IPMI device. Note that this option can be only used after -r, -fd, -fdl or -fde
IPMICFG Usage	-d
SAA Usage	-r -d: BmcReset --boot_check -fd -d:

	option 1. LoadDefaultBmcCfg --preserve_user_cfg --bmc_boot_check option 2. LoadDefaultBmcCfg --clear_user_cfg --load_unique_password --bmc_boot_check option 3. LoadDefaultBmcCfg --clear_user_cfg --load_default_password --bmc_boot_check -fdl -d: LoadDefaultBmcCfg --clear_user_cfg --load_unique_password --load_default_lan --bmc_boot_check -fde -d: LoadDefaultBmcCfg --clear_user_cfg --load_unique_password -load_default_lan --load_default_fru --bmc_boot_check
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Feature	Gets firmware revision.
IPMICFG Usage	-ver
SAA Usage	-c GetBmcInfo

Feature	Checks and reports the basic health status of the BMC.
IPMICFG Usage	-selftest
SAA Usage	CheckSelfTest

Feature	Sends a RAW IPMI request and prints a response. Format: NetFn/LUN Cmd [Data1 ... DataN]
IPMICFG Usage	-raw
SAA Usage	RawCommand --raw '<raw command>'

Feature	Shows all FRU values.
IPMICFG Usage	-fru list

SAA Usage	GetFruInfo
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Feature	Shows chassis type code.
IPMICFG Usage	-fru cthelp
SAA Usage	GetFruInfo -h

Feature	Shows help of FRU Write.
IPMICFG Usage	-fru help
SAA Usage	ChangeFruInfo -h

Feature	Shows FRU field value.
IPMICFG Usage	-fru <field>
SAA Usage	GetFruInfo

Feature	Writes FRU.
IPMICFG Usage	-fru <field> <value>
SAA Usage	ChangeFruInfo --item <item name> --value <assignment value> CT = Chassis Type CP = Chassis Part Number CS = Chassis Serial Number BDT = Board Mfg. Date/Time ("YYYY/MM/DD HH:MM") BM = Board Manufacturer BPN = Board Product Name BS = Board Serial Name BP = Board Part Number

	PM = Product Manufacturer PN = Product Name PPM = Product Part/Model Number PV = Product Version PS = Product Serial Number PAT = Asset Tag
--	--

Feature	Backs up FRU to a file <Binary format>.
IPMICFG Usage	-fru backup <file>
SAA Usage	GetFruInfo --file <file name> --dump

Feature	Restores FRU from a file <Binary format>.
IPMICFG Usage	-fru restore <file>
SAA Usage	RestoreFruInfo --file <file name>

Feature	Shows SEL information.
IPMICFG Usage	-sel info
SAA Usage	GetEventLog --info

Feature	Shows SEL records. -y <n years> Filter event logs within n years -m <n months> Filter event logs within n months -d <n days> Filter event logs within n days
IPMICFG Usage	-sel list [option]

SAA Usage	GetEventLog [--year --month --day] [--file <SEL.log>]
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Feature	Deletes all SEL records.
IPMICFG Usage	-sel del
SAA Usage	ClearEventLog

Feature	Shows SDR records and readings.
IPMICFG Usage	-sdr [full]
SAA Usage	CheckSensorData --action Show

Feature	Deletes the SDR record.
IPMICFG Usage	-sdr del <sdr id>
SAA Usage	CheckSensorData --action Delete --sdr_id

Feature	Gets/Sets the SDR version. (<v1> and <v2> are BCD-format)
IPMICFG Usage	-sdr ver <v1> <v2>
SAA Usage	1. CheckSensorData --action GetVer 2. CheckSensorData --action SetVer --sdr_major_version <major_ver> --sdr_minor_version <minor_ver>

Feature	Displays PMBus health information of power supply.
IPMICFG Usage	-pminfo [full]
SAA Usage	SAA.efi -c getpsuinfo

Feature	Displays FRU health information of power supply.
IPMICFG Usage	-psfruinfo
SAA Usage	-c GetPsFruInfo

Feature	Clears chassis intrusion.
IPMICFG Usage	-clrint
SAA Usage	SAA.efi -c chassisintrusion --action clear

Feature	Gets MCU information.
IPMICFG Usage	-tp info
SAA Usage	TpInfo --action GetInfo

Feature	Gets a node ID.
IPMICFG Usage	-tp nodeid
SAA Usage	TpInfo --action GetInfo --item nodeId

Feature	Gets/Sets a system name.
IPMICFG Usage	-tp systemname [value]
SAA Usage	TpInfo --action GetInfo --item systemName TpInfo --action Set --item systemName --value <value>

Feature	Gets/Sets a system P/N.
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IPMICFG Usage	-tp systempn [value]
SAA Usage	TpInfo --action GetInfo --item systemPN TpInfo --action Set --item systemPN --value <value>

Feature	Gets/Sets a system S/N.
IPMICFG Usage	-tp systemsn [value]
SAA Usage	TpInfo --action GetInfo --item systemSN TpInfo --action Set --item systemSN --value <value>

Feature	Gets/Sets a chassis P/N.
IPMICFG Usage	-tp chassispn [value]
SAA Usage	TpInfo --action GetInfo --item chassisPN TpInfo --action Set --item chassisPN --value <value>

Feature	Gets/Sets a chassis S/N.
IPMICFG Usage	-tp chassisn [value]
SAA Usage	TpInfo --action GetInfo --item chassisSN TpInfo --action Set --item chassisSN --value <value>

Feature	Gets/Sets a backplane P/N.
IPMICFG Usage	-tp backplanepn [value]
SAA Usage	TpInfo --action GetInfo --item backPlanePN TpInfo --action Set --item backPlanePN --value <value>

Feature	Gets/Sets a backplane S/N.
IPMICFG Usage	-tp backplanesn [value]
SAA Usage	TpInfo --action GetInfo --item backPlaneSN TpInfo --action Set --item backPlaneSN --value <value>

Feature	Gets/Sets a chassis location.
IPMICFG Usage	-tp cslocation [value1] [value2] [value3] [value4] [value5]
SAA Usage	TpInfo --action GetInfo --item chassisLocation TpInfo --action Set --item chassisLocation --value <value>

Feature	Gets/Sets a backplane location. (1: Right, 2: Left)
IPMICFG Usage	-tp bplocation [value]
SAA Usage	TpInfo --action GetInfo --item bpLocation TpInfo --action Set --item bpLocation --value <value>

Feature	Gets/Sets a BPN ID.
IPMICFG Usage	-tp bpnid [value]
SAA Usage	TpInfo --action GetInfo --item bpnID TpInfo --action Set --item bpnID --value <value>

Feature	Gets/Sets a BPN revision. (v1 v2 are BCD format)
IPMICFG Usage	-tp bpnrevision [v1] [v2]
SAA Usage	TpInfo --action GetInfo --item bpnRevision

	TpInfo --action Set --item bpnRevision --value <value>
--	--

Feature	Gets/Sets node P/N.
IPMICFG Usage	-tp nodepn [value]
SAA Usage	TpInfo --action GetInfo --item nodePN TpInfo --action Set --item nodePN --value <value>

Feature	Gets/Sets node S/N.
IPMICFG Usage	-tp nodesn [value]
SAA Usage	TpInfo --action GetInfo --item nodeSN TpInfo --action Set --item nodeSN --value <value>

Feature	Gets/Sets a config ID.
IPMICFG Usage	-tp configid [value]
SAA Usage	TpInfo --action GetInfo --item configID TpInfo --action Set --item configID --value <value>

Feature	Displays FW and BIOS information.
IPMICFG Usage	-summary
SAA Usage	-c GetSystemInfo

Feature	Gets/Sets a host name.
IPMICFG Usage	-hostname [value]

SAA Usage	BmcHostName --action GetInfo BmcHostName --action Set --value <value>
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Feature	Shows BMC maintenance event log. -y <n years> Filter event logs within n years -m <n months> Filter event logs within n months -d <n days> Filter event logs within n days
IPMICFG Usage	-mel list [option]
SAA Usage	GetMaintenEventLog

Feature	Downloads a BMC maintenance event log to a file.
IPMICFG Usage	-mel download <file>
SAA Usage	GetMaintenEventLog --file <file>

Feature	Clears a BMC maintenance event log.
IPMICFG Usage	-mel clear
SAA Usage	ClearMaintenEventLog

Feature	Checks the system's lockdown mode.
IPMICFG Usage	-lockdown
SAA Usage	GetLockdownMode

Feature	Gets CPLD version.
IPMICFG Usage	-cpld

SAA Usage	-c GetCpldInfo
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Feature	Clears BMC system event log.
IPMICFG Usage	-clrsyslog
SAA Usage	ClearMaitenEventLog [-gen_log]

3. New Commands

The new commands for UEFI SAA 1.0.0 are listed in the following tables.

SAA 1.0.0	
Command Group	Command
Applications	None
BIOS Management	None
BMC Management	BmcLanManage, BmcReset
CPLD Management	GetSwitchboardCpldInfo, UpdateSwitchboardCpld, GetFanboardCpldInfo, UpdateFanboardCpld, GetBackplaneCpldInfo, UpdateBackplaneCpld
FPGA Management	None
GPU Management	GetGpuInfo, UpdateGpu
Health Management	ChassisIntrusion, CheckSensorData
Multi-Node Management	None
PSU Management	None
Security Management	CpldRotManage
System Event Log	GetFruInfo, ChangeFruInfo
System Management	GetSystemInfo

The new commands for UEFI SAA 1.1.0 are listed in the following tables.

SAA 1.0.0	
Command Group	Command
Applications	None
BIOS Management	None
BMC Management	BmcHostName, LoadDefaultBmcCfg

CPLD Management	GetAomboardCpldInfo, UpdateAomboardCpld
FPGA Management	GetMotherboardFpgaInfo, UpdateMotherboardFpga
GPU Management	None
Health Management	CheckSelfTest
Multi-Node Management	TpInfo
PSU Management	GetPsuInfo
Security Management	GetLockdownMode
System Event Log	GetEventLog, ClearEventLog, GetMaintenEventLog, ClearMaintenEventLog
System Management	RestoreFruInfo, GetPsFruInfo

4. New Command Usage

The changes in command usage for UEFI SAA 1.0.0 are outlined in the following tables.

SAA 1.0.0	
Command	Usage changes
RHI script	Add scripts to activate and deactivate Redfish Host Interface. (1)saa_activate_RHI.bat/saa_activate_RHI.sh to enable RHI (2)saa_deactivate_RHI.bat/saa_deactivate_RHI.sh to disable RHI

The changes in command usage for UEFI SAA 1.1.0 are outlined in the following tables.

SAA 1.1.0	
Command	Usage changes
UpdateBios	Support run time update golden BIOS for UpdateBios command.

5. Basic User Interface Changes

The UI changes related to UEFI SAA 1.0.0 are marked in **RED** in the table.

BIOS Management	
Commands	Long Options
UpdateBios	<p>--file <file name> Updates the BIOS with the given BIOS image file.</p> <p>--reboot (Optional) Forces the managed system to reboot or power up after operation.</p> <p>--individually (Optional) Individually updates each BIOS with its corresponding image file.</p> <p>--flash_smbios (Optional) Overwrites and resets the SMBIOS data. This option is used only for specific purposes. Unless you are familiar with SMBIOS data, do not use this option.</p> <p>--preserve_mer (Optional) Preserves the ME firmware region. This option is used only for specific purposes. Unless you are familiar with ME firmware image, do not use this option. (Not available on X12 and later RoT systems.)</p> <p>--preserve_setting (Optional) Preserves BIOS configurations. This option is used only for specific purposes. Unless you are familiar with BIOS configurations, do not use this option.</p> <p>--erase_OA_key (Optional) Erases OA key.</p> <p>--backup (Optional) Backs up the current BIOS image. (Only supported by the RoT systems.)</p> <p>--forward (Optional)</p>

	<p>Confirms the Rollback ID and upgrades to the next revision.</p> <p>--staged <action> (Optional)</p> <p>Sets action to:</p> <p>1 = update: The update process will start at the next system boot.</p> <p>2 = abort: Aborts the previously staged update task.</p> <p>3 = getinfo: Check whether if there was any pending staged update task.</p> <p>--post_complete (Optional)</p> <p>Waits for the managed system's POST to complete after reboot.</p> <p>--clear_password (Optional)</p> <p>Clears BIOS password.</p> <p>--erase_secure_boot_key (Optional)</p> <p>Erases secure boot key.</p> <p>--reset_boot_option (Optional)</p> <p>Resets BIOS boot configurations.</p> <p>--restore_optimized_default (Optional)</p> <p>Restores the BIOS configurations to optimized default settings.</p> <p>--redfish (Optional)</p> <p>Enables support for pure Redfish.</p>
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