SCE Tool User Guide

Purpose

This document provides information to use the SCE tool to modify BIOS Settings.

Application Scope

Whitley/CedarIsland & EagleStream & AMD & BirchStream platform Server.

Overview

SCE (Setup Control Environment) is a command line tool which provides you an easy way to update NVRAM variables from within the EFI, DOS, Linux, or Windows based environment. The user can extract variables directly from the BIOS, and also allows the user to change settings using either a text editor or a setup program, and then update the BIOS.

SCE (Setup Control Environment) is supported by the following operating systems:

EFI Shell Environment
Microsoft® Windows® 8
Microsoft® Windows® 8.1
Microsoft® Windows® 10
Microsoft® Windows® 11
Microsoft® Windows® Server 2019
Microsoft® Windows® Server 2022
Microsoft® Windows® PE
Linux

SCELNX_64

SCELNX_64 is applied to Linux 64 bit operating system. SCELNX_64 tool should be run by root user. Following are details about two operation modes.

Classic Mode

1. Copy SCELNX64 package to Linux system.
2. Move to SCELNX directory, as shown in Figure 1.

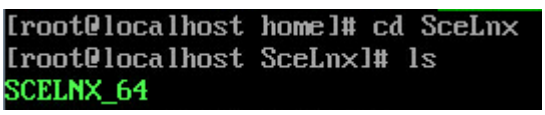


Figure 1

3. The command below export NVRAM setting values for BIOS setup controls to a script file named bios.txt. Prompt 'Script file exported successfully' indicates success, as shown in Figure 2 and Figure 3. Parameters are case insensitive and script file can be named by yourself.
   ./SCELNX_64 /o /s bios.txt

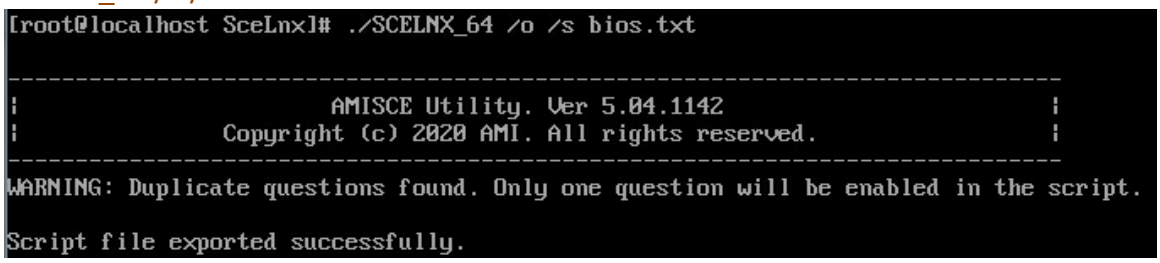


Figure 2



Figure 3

4. Use command vi bios.txt to edit the script file. Command /XXX can be used to search for setting values that need to be changed. Take 'Hyper Threading Technology' for example, type in "/ Hyper Threading Technology "and the result is shown in Figure 4.



Figure 4

5. Type in 'i' to edit the script file. Change "BIOS Default" item and "Options" item can change the default and current value of Hyper Threading Technology. As shown in Figure 5, we change default value to "Disabled" and current value to "Disabled". According to the prompt, move '*' to the desired Option.



Figure 5

Other setting values can be changed as above. After changed, type in "wq" to save and exit.
If Boot Option need to be changed, export the script with /b option, enter the command:
./SCELNX_64 /o /s bios.txt /b
Parameters:
/o --> Indicates generate Setup script file form HII data
/s --> Indicates Setup script file that is to be generated.

[/b] --> Optional CMD line option that enables export of boot order controls in the generated script file.

6. Updating the BIOS settings, as shown in Figure 6, enter the command:
   ./SCELNX_64 /i /s bios.txt /ni
   If Boot Option has been changed, import the script with /b option, enter the command:
   ./SCELNX_64 /i /s bios.txt /b /ni
   If any default value has been changed, import the script with /ds option, enter the command:
   ./SCELNX_64 /i /s bios.txt /ds /ni

   Parameters:
   /i --> Indicates Import modified script file to the NVRAM
   /s --> indicates the NVRAM script file to use to read data
   /ds --> Indicates set "BIOS" defaults from script question value
   /ni --> Optional command line option to create UtilityIndication variable to indicate variable modification by AMISCE.

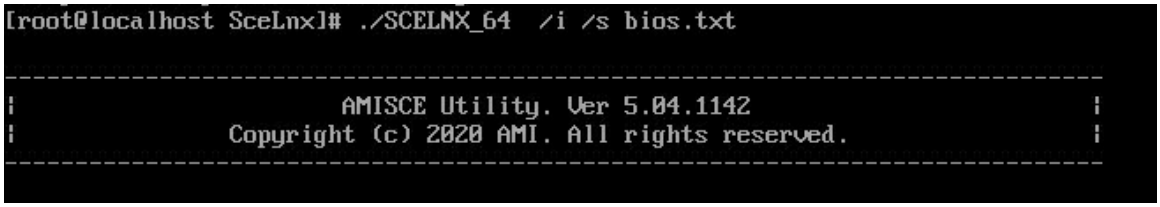


Figure 6

SCELNX may show some non-fatal warning messages which can be ignored. These are the most common:
WARNING: Length of string for control (User Name) not updated as the value/defaults specified in the script file doesn't reach the minimum range (1).
The string given in the script is shorter than the minimum length. The usual cause for this is that the string has an initial empty value.
WARNING: Error in creating variable xxxxxxx to NVRAM
Where "xxxxxxx" is a variable name. This can happen when SCE attempts to create a missing variable from the copy of the variable within the StdDefaults variable. This warning commonly comes with the "SecureBootEnable" variable.

7. After the script file imported successfully, system need to be restarted to have the changes take effect.

Map String Mode

SCE supports changing BIOS Setup settings by Map String Mode from version 5.02.1092.
1. Copy SCELNX package to Linux system.
2. Move to SCELNX directory, as shown in Figure 7.

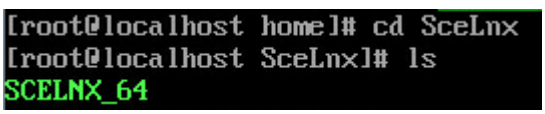


Figure 7

3. The command below export NVRAM setting values for BIOS setup controls to a script file named bios.txt. Prompt 'Script file exported successfully' indicates success, as shown in Figure 8 and Figure 9. Parameters are case insensitive and script file can be named by yourself.
   #./SCELNX_64 /o /s bios.txt /lang /b

   Parameters:
   [/lang] --> Optional CMD line option that enables mapping language mode which will export questions with the specified lang codes. Lang Code indicates the code for a particular languages like for English(en-US), AMI(x-AMI) etc.

```
[root@localhost SceLnx]# ./SCELNX_64 /o /s bios.txt /lang /b

--------------------------------------------------------------------------------
|                      AMISCE Utility. Ver 5.04.1142                           |
|               Copyright (c) 2020 AMI. All rights reserved.                   |
--------------------------------------------------------------------------------
WARNING: Duplicate questions found. Only one question will be enabled in the script.

Script file exported successfully.
```

Figure 8

```
[root@localhost SceLnx]# ls
bios.txt  SCELNX_64
```

Figure 9

4. Take 'VMX' for example, the Map String of 'VMX' is ProcessorVMX, as shown in Figure10.

```
Setup Question  = VMX
Map String      = ProcessorVmx
Help String     = Enables the Vanderpool Technology, takes effect after reboot.
Token    =EC5    // Do NOT change this line
Offset   =02
Width    =01
BIOS Default =[01]Enabled
Options =[00]Disabled   // Move "*" to the desired Option
         *[01]Enabled
```

Figure 10

5. To change this setting's default value to Disabled and current value to Disabled, enter the command:
   ./SCELNX_64 /i /ni /ms ProcessorVMX /qv 0x00 /ds

   Parameters:
   /ms -->Used to specify map string for the particular setup question.
   /qv--> Used to specify the value for the setup question.
   /ni --> Optional command line option to create UtilityIndication variable to indicate variable modification by AMISCE.

   When 'Question value imported successfully' appears which indicates success, as shown in

Figure 11. Restart system to have the changes take effect.

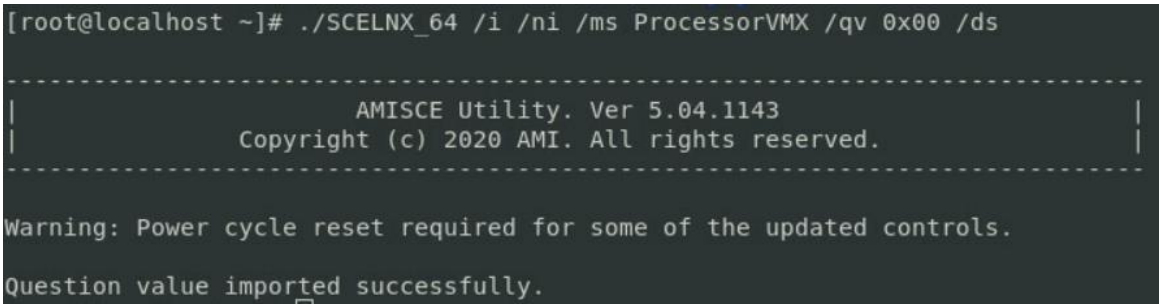


Figure 11

6. The SCELNX tools can support import and export the single options from Version 5.03.1106. The following example shows that how to modify the Boot startup by SCELNX_64.
   Export the boot option command: ./SCELNX_64 /o /ms UefiBootOrder1 /lang x-AMI, as shown in figure 12.
   Modify the boot option command: ./SCELNX_64 /i /ms UefiBootOrder1 /qv 0x03, as shown in figure 12.

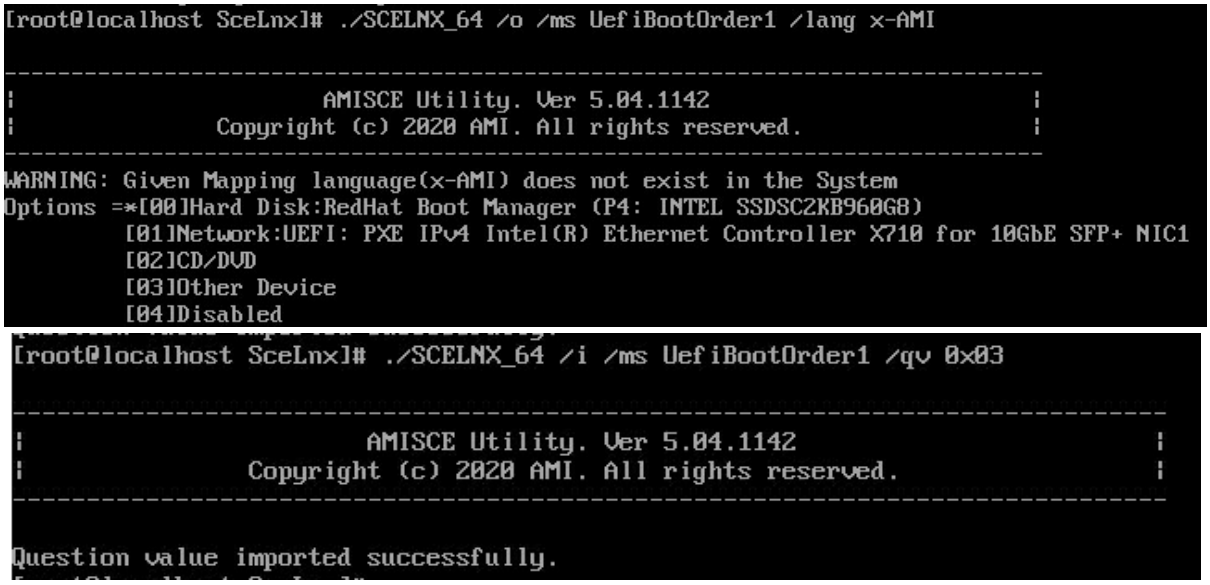


Figure 12

7. Restart the system, and the Boot options have been modified.
   Note: Log in Linux as root.