



UEFI SCT Introduction

Yuanyuan Xing (Sean)
UEFI Development
Intel

Agenda

- Introduction to the Self Certification Test
- The Test Suite
- UEFI 2.0 Compliance Tests
- Q/A



Objectives

- UEFI SCT is to provide the computing industry with a test suite to verify the implementations in accordance with the UEFI Specification
- This test suite is adapted by the UEFI group and become the requirement for Certifying UEFI implementations on a platform

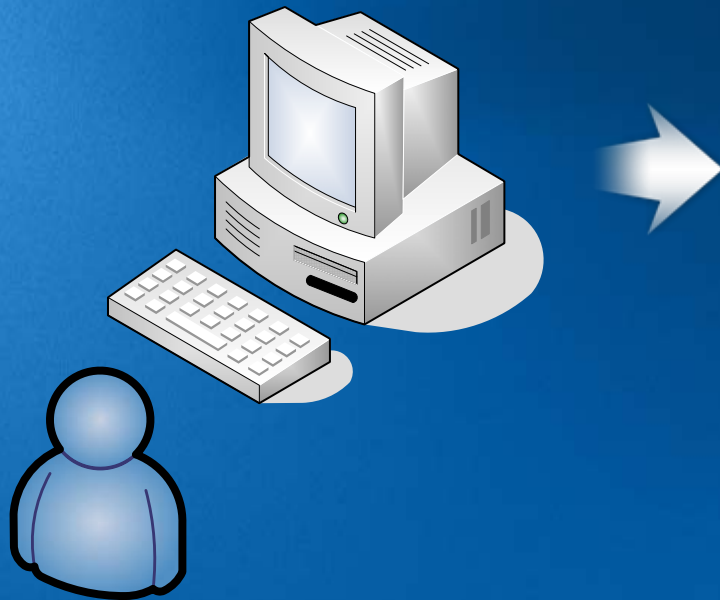


Introduction to the SCT

- SCT is a set of tests used to verify compliance of a UEFI implementation
- SCT is **NOT** a **debug** environment for a UEFI implementation
- SCT is **NOT** a code coverage or performance analysis tool



SCT Test Suite – Native Mode



EFI-based Target Machine
Running SCT in usual mode

EFI Self Certification Test (v 0.1)	
Test Case Management	Description
<ul style="list-style-type: none">[x] Boot Services Test[] Runtime Services Test[] Loaded Image Protocol Test[x] Device Path Protocol Test[] Driver Model Test[] Console Support Test[] Bootable Image Support Test[] PCI Bus Support Test[] SCSI Bus Support Test[] USB Support Test[] Network Support Test[] Debugger Support Test[] Compression Test[] Device IO Protocol Test[] EFI Byte Code Test	
Order: 0 Passes: 1 Failures: 0	
Up/Dn Space	Select Item Change Status
Enter ESC	Select SubMenu Exit
F9	Run

User interface for
local SCT validation



Native - Cases

EFI Self Certification Test (v 0.1)

Test Case Management	Description
<ul style="list-style-type: none">[x] Boot Services Test[] Runtime Services Test[] Loaded Image Protocol Test[X] Device Path Protocol Test[] Driver Model Test[] Console Support Test[] Bootable Image Support Test[] PCI Bus Support Test[] SCSI Bus Support Test[] USB Support Test[] Network Support Test[] Debugger Support Test[] Compression Test[] Device IO Protocol Test[] EFI Byte Code Test	<p>Order: 0 Passes: 1 Failures: 0</p>

Up/Dn
Space

Select Item
Change Status

Enter
ESC

Select SubMenu
Exit

F9

Run



Native - Configuration

EFI Self Certification Test (v 0.1)

Test Environment Configuration			Description
Test Case Max Run Time	[0]	Sets the maximum run time for one test case, in second (0 means unlimited)
Enable Screen Output	[True]	
Bios Id	[EFI 1.10]	
Platform Number	[0]	
Configuration Number	[0]	
Scenario String	[]	
			Value Range: Max: 400 Min: 0

Up/Dn
F3

Select Item
Set to Default

ESC

Save & Exit



Native - Sequence

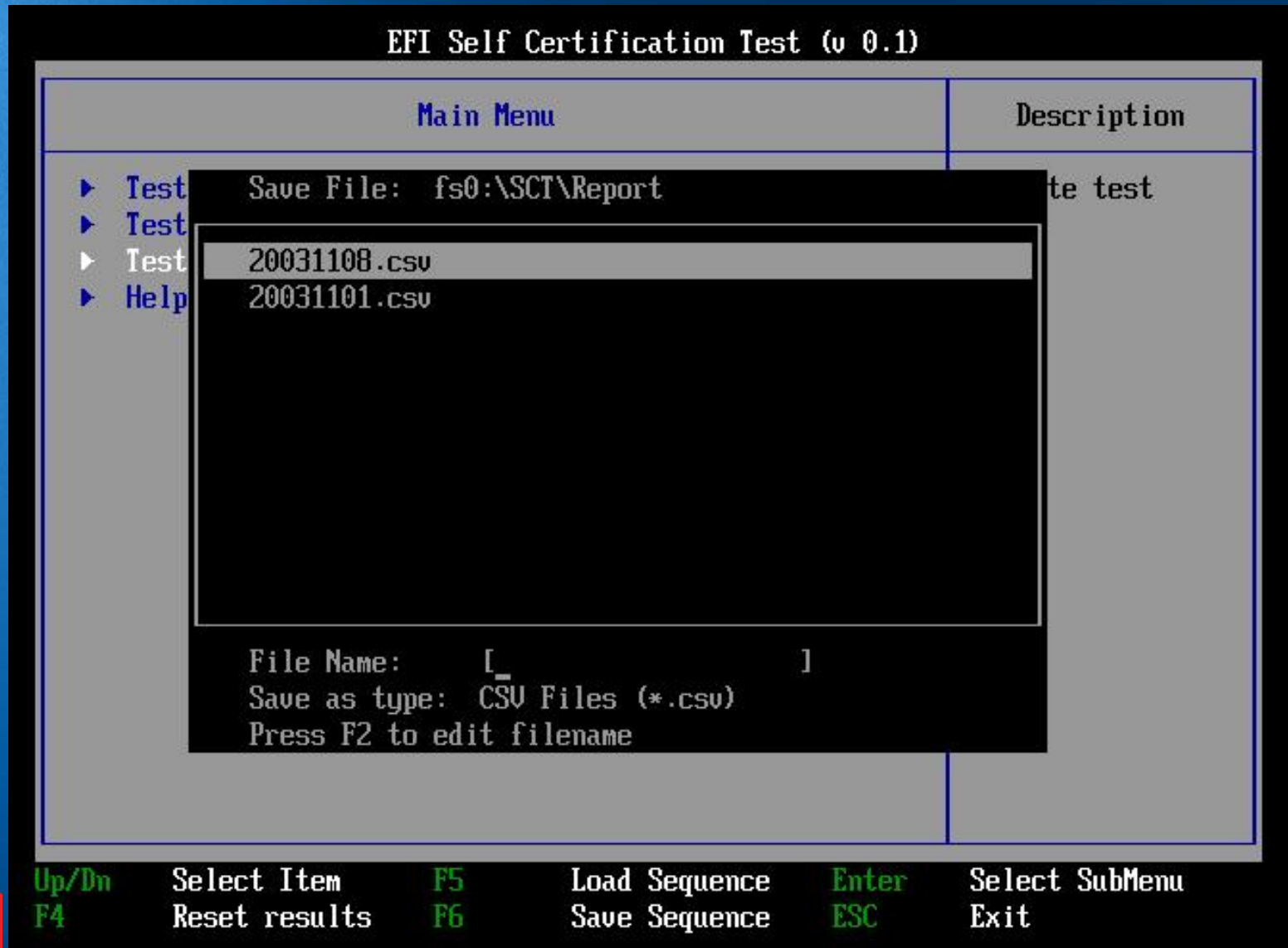
EFI Self Certification Test (v 0.1)

Main Menu		Description
▶ Test	Open File: fs0:\SCT\Sequence	Execute test
▶ Test		
▶ Test	2.seq	
▶ Help	1.seq	
File Name: [2.seq]		
Files of type: Sequence Files (*.seq)		

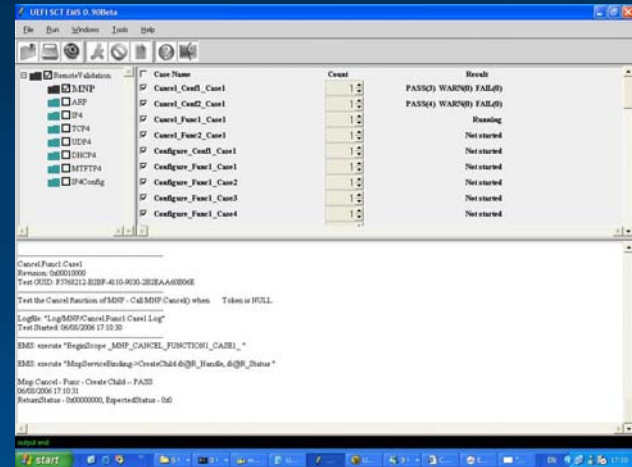
Up/Dn	Select Item	F5	Load Sequence	Enter	Select SubMenu
F4	Reset results	F6	Save Sequence	ESC	Exit



Native - Report



SCT Test Suite – Passive Mode



EFI-based Target Side
Running SCT in passive mode

Communication Channel



OS-based Management Side
User can easily finish validation
job with friendly GUI



UEFI 2.0 Compliance Tests

UEFI SCT EMS 0.90Beta

File Run Windows Tools Help

RemoteExecution

- Generic Test
 - EFI Compliant Test
- Boot Services Test
- Runtime Services Test
 - Loaded Image Protocol Test
- Driver Model Test
 - Platform Driver Override Protocol
 - Bus Specific Driver Override Protocol
 - Component Name Protocol Test
- Console Support Test
- Bootable Image Support Test
 - Simple File System Protocol Test
 - Disk IO Protocol Test
 - Block IO Protocol Test
 - Unicode Collation Protocol Test
- PCI Bus Support Test
- SCSI Bus Support Test
- USB Support Test
- Network Support Test
- Debugger Support Test
- Compression Test
- Device IO Protocol Test
- EFI Byte Code Test
 - EBC Interpreter Protocol Test
- Hash Testing
- Authentication Testing
- TapeIoProtocol Testing

Case Name	Count
CheckEvent_Conf	1
CheckEvent_Func	1
CloseEvent_Func	1
CreateEventEx_Conf	1
CreateEventEx_Func	1
CreateEvent_Conf	1
CreateEvent_Func	1
RaiseTPL_Func	1
RestoreTPL_Func	1
SetTimer_Conf	1
SetTimer_Func	1
SignalEvent_Func	1
WaitForEvent_Conf	1
WaitForEvent_Func	1

UEFI SCT EMS 0.90Beta

File Run Windows Tools Help

RemoteValidation

- MNP
- ARP
- IP4
- TCP4
- UDP4
- DHCP4
- MTFTP4
- IP4Config

Case Name	Count
Cancel_Confl_Case1	1
Cancel_Conf2_Case1	1
Cancel_Func1_Case1	1
Cancel_Func2_Case1	1
Configure_Confl_Case1	1
Configure_Func1_Case1	1
Configure_Func1_Case2	1
Configure_Func1_Case3	1
Configure_Func1_Case4	1
CreateChild_Confl_Case1	1
CreateChild_Confl_Case2	1
DestroyChild_Confl_Case1	1
DestroyChild_Func1_Case1	1
GetModeData_Confl_Case1	1
GetModeData_Func1_Case1	1
GetModeData_Func2_Case1	1
GetModeData_Func2_Case2	1
GetModeData_Func2_Case3	1
Groups_Confl_Case1	1
Groups_Conf2_Case1	1
Groups_Conf2_Case2	1
Groups_Conf3_Case1	1
Groups_Conf4_Case1	1
Groups_Func1_Case1	1



Demo

- Native Mode
- Passive Mode



Materials

- www.uefi.org, including
 - Documents for the UEFI SCT
 - Source Code of the UEFI SCT
 - Executable images on IA32, Intel® 64, and IA-64 platforms



Q/A

UEFI SCT Introduction

**It is a requirement for Certifying
UEFI implementations**

