‘sct-next’
SCT for modern platforms

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Agenda

UEFI SCT overview
Why ‘sct-next’?
Steps toward ‘sct-next’
After ‘sct-next’?

www.uefi.org
UEFI SCT Overview

- **Self Certification Test**
- Driven by **UEFI Test Working Group** – [utwg@uefi.org](mailto:utwg@uefi.org)
What is SCT?

• A Test Framework running in UEFI
  … a set of UEFI drivers and applications

• Test if the UEFI firmware complies with the latest UEFI specification
Why ‘sct-next’?
SCT legacy

• Require **EDK Shell** (sometimes named as EFI Shell 1.0)

  “I think EDK shell is not actively maintained now. We should migrate to UEFI shell ASAP.” (answer from one of the owner of EDK Shell)

• Require **EdkCompatibilityPkg**

• **Accumulation** of years of development
Steps toward ‘sct-next’
New Development Process

• From an obscure ZIP file to an ‘open’ Github repository
  • Allow code review, issue tracker
  • Development more transparent to encourage contributions

• How to contribute:
Step 1: Clean the code

- Remove dead code & leftovers
Step 1: Clean the code

• Remove dead code

• Remove duplicated implementation
Step 1: Clean the code

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Step 1: Clean the code

• Remove dead code

• Remove duplicated implementation

• New helper library
Step 2: Run SCT on EFI Shell 2.0

• Abstraction to still be able to run on EDK Shell
Step 3: Disconnect from EdkCompatibilityPkg

- Reduce dependency on the legacy framework
- Avoid to maintain legacy code
Step 4: Performance improvement

• Run SCT faster to run SCT more often

• To not use the excuse of the long SCT execution time to not contribute to SCT…
Step 5: Validation

• Automation
• Regression
• Debugging
Results [1/2]

• Parity between the ‘master’ and ‘sct-next’ branches
• Found & Fix 12 defects in EFI Shell 2.0
• Found limitation in UEFI Shell 2.0 spec
• Tried (and documented) new Github process
• Inconsistencies in UEFI SCT with the UEFI spec
Results [2/2]

• $ git diff master..HEAD --shortstat
  1745 files changed, 66752 insertions(+), 96577 deletions(-)

• Performance improvement … work-in-progress
After ‘sct-next’?
Next official SCT release?

- Need contribution from UEFI members

... what is a contribution?

- Code changes
- Code review
- Documentation
- Test
$ git clone https://github.com/UEFI/UEFI-SCT
Cloning into 'UEFI-SCT'...
Username for 'https://github.com':
$ cd UEFI-SCT
$ git checkout sct-next
Switched to a new branch 'sct-next'
$
Future of ‘sct-next’?

• Do we really need to run SCT from a Shell?
• Remove ALL the dependencies around SctPkg
• More than a UEFI spec conformance test…
  • EFI Shell spec?
  • ACPI spec?
  • Vendor specific test (eg: (ARM) Server Base Specification Architecture)?
Questions ?!? 

Resources:

- How to contribute to SCT?  

- How to debug SCT?  
For more information on the Unified EFI Forum and UEFI Specifications, visit http://www.uefi.org