Google Summer of Code 2015

End User Flash Tool

Functional tests

TEST CASE TC_01	
Name	Programmer initialization - linux_spi
Hardware info	Raspberry Pi with SOIC clip attached to MX25L1605 chip in Lenovo T60
Preconditions	SOIC clip connected to the chip
Purpose	Verify if programmer is correctly initialized
Test steps	1. Select linux_spi in from programmer combobox 2. Provide dev=/dev/spidev0.0 as argument 3. Click initialize button
Expected result	1. Programmer initialized 2. 'Using device /dev/spidev0.0' visible in log output
Actual result	Same as expected
Status	PASSED

TEST CASE TC_02	
Name	Probing chip
Hardware info	Raspberry Pi with SOIC clip attached to MX25L1605 chip in Lenovo T60
Preconditions	Programmer initialized
Purpose	Verify if application probes for a chip correctly
Test steps	1. Go to 'Flash' tab 2. Click 'Probe' button
Expected result	1. Application founds multiple chips 2. Choose chip dialog is shown 3. Chip chosen in dialog is correctly probed 4. Info popup with 'Success!' message
Actual result	Same as expected
Status	PASSED

TEST CASE TC_03	
Name	Reading chip
Hardware info	Raspberry Pi with SOIC clip attached to MX25L1605 chip in Lenovo T60
Preconditions	1. Programmer initialized 2. Chip probed
Purpose	Verify if chip can be read
Test steps	1. Go to 'Flash' tab 2. Click 'Read' button 3. Select output directory
Expected result	1. File factory_bios.bin is saved in output directory 2. Info popup with 'Success!' message
Actual result	Same as expected
Status	PASSED

TEST CASE TC_04	
Name	Verifying chip
Hardware info	Raspberry Pi with SOIC clip attached to MX25L1605 chip in Lenovo T60
Preconditions	1. Programmer initialized 2. Chip probed
Purpose	Check if verifying is correct
Test steps	1. Go to 'Flash' tab 2. Click 'Verify' button 3. Select rom file which has been previously written to the chip
Expected result	Info popup with 'Success!' message
Actual result	Same as expected
Status	PASSED

TEST CASE TC_05	
Name	Erasing chip
Hardware info	Raspberry Pi with SOIC clip attached to MX25L1605 chip in Lenovo T60
Preconditions	1. Programmer initialized 2. Chip probed
Purpose	Check if erasing is correct

Test steps	1. Go to 'Flash' tab 2. Click ‘Erase’ button
Expected result	Info popup with ‘Success!’ message
Actual result	Same as expected
Status	PASSED

TEST CASE TC_06	
Name	Flashing chip
Hardware info	Raspberry Pi with SOIC clip attached to MX25L1605 chip in Lenovo T60
Preconditions	1. Programmer initialized 2. Chip probed 3. Working BIOS image for target system
Purpose	Check if flashing is correct
Test steps	1. Go to 'Flash' tab 2. Click 'Flash' button 3. Select file to be flashed 4. Run system and check if chip has been correctly flashed
Expected result	1. Info popup with 'Success!' message 2. Chip has been flashed with selected file
Actual result	Same as expected
Status	PASSED

TEST CASE TC_07	
Name	Showing rom content
Hardware info	-
Preconditions	ROM file file with CBFS filesystem
Purpose	Check if showing rom content is correct
Test steps	1. Go to 'ROM options' tab 2. Click 'Select' button 3. Select rom file with CBFS filesystem
Expected result	ROM contents is visible
Actual result	Same as expected
Status	PASSED

TEST CASE TC_08	
Name	Adding rom component
Hardware info	-
Preconditions	ROM file with CBFS file system already loaded
Purpose	Check if adding ROM component is correct
Test steps	1. Go to 'ROM options' tab 2. Click '+' button. 3. Click 'Select' button 4. Select component 5. Type component name 'test_component' 6. Select 'raw' as component type 7. Click 'OK'
Expected result	After refreshing ROM content component 'test_component' of type 'raw' is listed
Actual result	Same as expected
Status	PASSED

TEST CASE TC_09	
Name	Deleting rom component
Hardware info	-
Preconditions	ROM file with CBFS file system is already loaded
Purpose	Check if deleted ROM component is correct
Test steps	1. Go to 'ROM options' tab 2. Click '-' button. 3. Type name of one from listed components 4. Press 'OK'
Expected result	After refreshing ROM content component whose name was previously typed is not listed
Actual result	Same as expected
Status	PASSED

TEST CASE TC_10	
Name	Extracting ROM file
Hardware info	-
Preconditions	ROM file which can be recognized by bios_extract

Purpose	Check if rom extraction is correct
Test steps	1. Go to 'Extract' tab 2. Select ROM file 3. Press 'Extract' button
Expected result	ROM submodules should be extracted to specified output directory
Actual result	Same as expected
Status	PASSED

TEST CASE TC_11	
Name	Creating CBFS image
Hardware info	-
Preconditions	-
Purpose	Check if creating CBFS image is correct
Test steps	1. Go to 'Create ROM' tab 2. Provide 'myrom.rom' name 3. Select 'x86' architecture 4. Provide '2048' as size 5. Press 'Create ROM' button 6. Go to 'ROM options' tab 7. Load created ROM file in 'ROM options' tab 8. Check if ROM file is consistent with specified options
Expected result	ROM file created in application directory Selected ROM options are reflected
Actual result	Same as expected
Status	PASSED

TEST CASE TC_12	
Name	Dumping factory BIOS
Hardware info	Raspberry Pi with SOIC clip attached to MX25L1605 chip in Lenovo T60
Preconditions	1. Programmer initialized 2. Chip probed
Purpose	Check if factory BIOS is correctly dumped
Test steps	1. Go to 'Auto' tab 2. Click 'Get factory BIOS' button. 3. Verify if dump file is the same as chip content (perform TEST CASE TC_01)

Expected result	1. File 'factory_bios.bin' present in hardware_data folder 2. Verfication succeded
Actual result	Same as expected
Status	PASSED

TEST CASE TC_13	
Name	Gathering hardware data
Hardware info	Lenovo T60 Chip: MX1605L Graphics: Intel i845 Display panel:
Preconditions	-
Purpose	Check if hardware data is correctly gathered
Test steps	1. Go to 'Auto' tab 2. Click 'Gather hardware data button' 3. Gather the same data on target system manually 4. Check if data is consistent
Expected result	1. File 'lspci_output.txt' present in hardware_data folder 2. File 'edid-decode_output.txt' present in hardware_data folder 3. File 'dmidecode_output.txt' present in hardware_data folder 4. File 'vgabios_from_mem.bin' present in hardware_data folder 5. All data gathered by application is consistent with data gathered manually
Actual result	Same as expected
Status	PASSED

TEST CASE TC_14	
Name	Building image
Hardware info	Lenovo T60 Board: 1951FDG Graphics: Intel i845 Display panel: LTN141XA-L01
Preconditions	1. Configuration is known to work and specified in 'hardware_info.xml' file 2. Tar file with hardware data gathered on

	running system. 3. Factory BIOS extracted from powered off system 4. Correct coreboot path selected in preferences
Purpose	Check if configuration is recognized and image correctly build
Test steps	1. Go to 'Auto' tab 2. Press 'Build image' button 3. Select appropriate tar file with hardware data
Expected result	1. Configuration has been recognized 2. Coreboot image has been correctly built 3. Info popup with ‘Success!’ message
Actual result	Same as expected
Status	PASSED

TEST CASE TC_15	
Name	Building image with fake test configuration which requires VGABIOS extracted from memory
Hardware info	Fake config Board: TESTBOARD12 Graphics: FamousCompany GX12345P Display panel: TESTPANEL12
Preconditions	1. Fake configuration added to 'hardware_info.xml' file 2. Prepared tar file with fake configuration and fake gathered data 4. Correct coreboot path selected in preferences
Purpose	Check if configuration is recognized and image correctly build
Test steps	1. Go to 'Auto' tab 2. Press 'Build image' button 3. Select appropriate tar file with hardware data
Expected result	1. Configuration has been recognized 2. Coreboot image has been correctly built 3. Info popup with ‘Success!’ message
Actual result	Same as expected
Status	PASSED

TEST CASE TC_16	
Name	Building image with fake test configuration which does not require additional option roms
Hardware info	Fake config Board: FancyBoard-XX5C Graphics: EVGA GTX950
Preconditions	1. Fake configuration added to 'hardware_info.xml' file 2. Prepared tar file with fake configuration and fake gathered data 4. Correct coreboot path selected in preferences
Purpose	Check if configuration is recognized and image correctly build
Test steps	1. Go to 'Auto' tab 2. Press 'Build image' button 3. Select appropriate tar file with hardware data
Expected result	1. Configuration has been recognized 2. Coreboot image has been correctly built 3. Info popup with ‘Success!’ message
Actual result	Same as expected
Status	PASSED

TEST CASE TC_17	
Name	Flashing in 'Auto' tab
Hardware info	Raspberry Pi with SOIC clip attached to MX25L1605 chip in Lenovo T60
Preconditions	1. Programmer initialized 2. Chip probed 3. Coreboot rom successfully built with 'Build image' button
Purpose	Check if factory BIOS is correctly dumped
Test steps	1. Go to ‘Auto’ tab 2. Click 'Flash' button
Expected result	1. Info popup with ‘Success!’ message 2. Chip has been flashed with previously built coreboot rom

Actual result	Same as expected
Status	PASSED