Flash test

Project TFS path: $/Firmware-SVI II AP FF/FIRMWARE; $/Firmware-SVI II AP FF/FD-SW

Project changeset version: 46797

Starting point: Fault detection

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | FD-SW/target/appl/fdev/src/mn\_flash\_selftest.c | Review Date | Reviewer |
|  | | | | |
| Function or data | | OSTaskIdleHook | 15-05-13 | AK |
| TFS wit |  | Missing a call to mn\_ExpireAssert | | |
| Impact | | ~~Traps in FFP never expire~~ | | |
| Resolution | | We have a call to mn\_ExpireAssertEx; it’s best moved to OSTaskIdleHook though | | |
|  | | | | |
| Function or data | | FAULT\_TMOUT\_FLASH\_TEST | 15-05-13 | AK |
| TFS wit |  | It is mapped to FFP\_FLASH\_TEST\_BLOCKED which brings RB block error BLK\_ERR\_DEV\_NEEDS\_MAINT\_NOW. This is \*way\* too severe to shut down the positioner: The test hasn’t completed on time, so it deserves an alert but not more | | |
| Impact | | Usability | | |
| Resolution | | It is compiled out. But an alert will be VERY nice to have. | | |
|  | | | | |
| Function or data | | FAULT\_FW\_CHECKSUM | 15-05-13 | AK |
| TFS wit | 24464 | It is mapped to FFPFLASH\_TEST\_FAIL which defers the action until Appl\_background\_RESB (which reprograms the UART) and Background\_RESB (which sets BLK\_ERR\_MEMORY\_FAILURE but not BLK\_ERR\_DEV\_NEEDS\_MAINT\_NOW. | | |
| Impact | | Unsafe operation possible. The action of reprogramming the UART shall be immediate, in *both* ffpflash\_testDone *and* ffpflash\_FailHook | | |
| Additional | | 1. Default ffpflash\_ClrStatus in ffpflash\_testDone needs explanation; I believe it is wrong. 2. Disabling IPC with HART\_set\_active in Background\_RESB must be investigated: If we re-enable it with HART-over-FF command 255, will it still be disabled by reprogrammed UART? 3. If all actions are performed in-place, there is no need in **b\_ffpFlashOK** | | |
| Resolution | |  | | |
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| Function or data | | b\_ffpFlashOK | 15-05-13 | AK |
| TFS wit | 24464 | It is probably not needed (see above). If it is demonstrably needed, it must be protected with a checksum | | |
| Impact | | Unsafe operation possible. Data corruption is more likely if ROM is corrupted! | | |
| Resolution | |  | | |
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| Function or data | | ffpflash\_ClrStatus | 15-05-13 | AK |
| TFS wit |  | The purpose of it is unclear.  Anyway, a single assignment to an atomic type doesn’t need a critical section | | |
| Impact | | ? | | |
| Resolution | |  | | |

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| Containing file | | FD-SW/target/sys/osif\_emb/osif/osif\_tsk.c | Review Date | Reviewer |
|  | | | | |
| Function or data | | OSTaskIdleHook (wiring) | 15-05-13 | AK |
| TFS wit |  | NO FINDINGS | | |
| Impact | |  | | |
| Resolution | |  | | |

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| --- | --- | --- | --- | --- |
| Containing file | | FIRMWARE/interface/hart/hart\_ipc.c  FIRMWARE/includes/ipcdefs.h | Review Date | Reviewer |
|  | | | | |
| Function or data | | IPC\_IpcMonitor (additional review: see Local UI Improvements review) | 15-05-13 | AK |
| TFS wit |  | Ternary operator ?: is not allowed in a runtime expression | | |
| Impact | | Coding standard | | |
| Resolution | |  | | |
| TFS wit |  | VerString[0].date\_str[0] check: Introducing an intermediate variable could code that follows | | |
| Impact | | Coding style | | |
| Resolution | |  | | |

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| --- | --- | --- | --- | --- |
| Containing file | | FIRMWARE/interface/ui/glue/ui\_ffcustomvar.c  FIRMWARE/interface/ui/glue/ui\_ffcustomvar.h  FIRMWARE/interface/ui/glue/ui\_ffcustomvar.inc | Review Date | Reviewer |
|  | | | | |
| Function or data | | Wiring to local UI: ui\_ffGetParamBadDefault | 15-05-13 | AK |
| TFS wit |  | NO FINDINGS | | |
| Impact | |  | | |
| Resolution | |  | | |

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| --- | --- | --- | --- | --- |
| Containing file | | FIRMWARE/tasks/proctable.c  FIRMWARE/interface/ui/glue/ui\_ffinfo.c | Review Date | Reviewer |
|  | | | | |
| Function or data | | Location of monitoring | 15-05-13 | AK |
| TFS wit |  | NO FINDINGS | | |
| Impact | |  | | |
| Resolution | |  | | |

Project TFS path: $/Firmware-SVI II AP FF/FIRMWARE; $/Firmware-SVI II AP FF/FD-SW

Project changeset version: 46996

Starting point: Fault detection

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| --- | --- | --- | --- | --- |
| Containing file | | FD-SW/base/appl/ffbl/src/ffbl\_res.c | Review Date | Reviewer |
|  | | | | |
| Function or data | | Background\_RESB | 15-05-20 | AK |
| TFS wit |  | Non-Boolean in Boolean context (in new/modified code) | | |
| Impact | | Coding standard, MISRA | | |
| Resolution | |  | | |

Project TFS path: $/Firmware-SVI II AP FF/FIRMWARE; $/Firmware-SVI II AP FF/FD-SW

Project changeset version: 47206

Starting point: Fault detection

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | FD-SW/target/appl/fdev/src/appl\_res.c | Review Date | Reviewer |
|  | | | | |
| Function or data | | Appl\_background\_RESB | 15-05-20 | AK |
| TFS wit | 24464 | Action on FFPFLASH\_TEST\_FAIL is delayed incorrectly; must be inline with detection | | |
| Impact | | Safety | | |
| Resolution | |  | | |