Autotune Processing

## Release ? items

Project TFS path: $/Firmware-SVI II AP FF/Firmware/task/control

Bug: 28298 - Project changeset version: 59932

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | m\_n4PositionScaled | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type s32 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  Project\_FFAP/okctlmodes.c | Review Date | Reviewer |
| Function or data | | ctlmodelist | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static array variable of type ctlmodelist\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | m\_Mode\_ | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type ModeData\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | **control\_GetPosition** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for input and return values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static s32 Atomic\_ m\_n4PositionScaled; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | **mode\_IsCompatible** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | const ctlmodelist\_t ctlmodelist[]; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  project\_FFAP/okctlmode.c | Review Date | Reviewer |
| Function or data | | **digsp\_GetData** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for \brief description and parameters and return values | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **STRUCT\_TESTGET (Macro)** | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  project\_FFAP/okctlmode.c | Review Date | Reviewer |
| Function or data | | **mode\_GetEffectiveMode** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameters  Lines 565-567: Remove commented out code. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | const digitalsp\_t \***digsp\_GetData**(digitalsp\_t \*dst) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | **mode\_GetMode** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for return value. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static ModeData\_t m\_Mode\_; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  Project\_FFAP/ftable.c | Review Date | Reviewer |
| Function or data | | faultCatDefaults | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type FaultCategoryMap\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | modeguard | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type modeguard\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  faultcat.c | Review Date | Reviewer |
| Function or data | | **TypeUnsafe\_error\_GetFaultCategoryMap** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **oswrap\_IsOSRunning (Macro)**  **STRUCT\_GET (Macro)** | | |
| Data Required | | const FaultCategoryMap\_t faultCatDefaults | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  faultman.c | Review Date | Reviewer |
| Function or data | | **error\_IsFault** | 7/9/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3  Information from PST\_Processing.docx | | |
| Resolution | |  | | |
| Function Calls | | static attribmask\_t **fsAttrib**(faultcode\_fast\_t fbitnum)  static bool\_t **GetFaultCodeBit**(faultcode\_fast\_t fbitnum) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  faultman.c | Review Date | Reviewer |
| Function or data | | **error\_IsAnyFaultWithAttributes** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3  Information from PST\_Processing.docx | | |
| Resolution | |  | | |
| Function Calls | | **error\_GetFaultCategoryMap (Macro)**  const void \***TypeUnsafe\_error\_GetFaultCategoryMap**  (void \*dst) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | **mode\_GetSubmode** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for return value. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | bool\_t **error\_IsAnyFaultWithAttributes**  (attribmask\_t attrib\_mask)  bool\_t **error\_IsFault**(faultcode\_fast\_t ErrorCode) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | **mode\_SetControlMode** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_ENTER\_CRITICAL (Macro)**  static bool\_t **mode\_IsCompatible**  (devmode\_t mode, devsubmode\_t submode,  ctlmode\_t ctlmode)  devmode\_t **mode\_GetEffectiveMode**(devmode\_t mode)  devmode\_t **mode\_GetMode**(void)  devsubmode\_t **mode\_GetSubmode**(void)  **STRUCT\_CLOSE (Macro)**  **MN\_EXIT\_CRITICAL (Macro)** | | |
| Data Required | | static modeguard\_t modeguard; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  sysiolopwr.c | Review Date | Reviewer |
| Function or data | | m\_n2PWMHighLimit | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type u16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/sysio/  sysio.c | Review Date | Reviewer |
| Function or data | | **sysio\_CtlOut2PWMdomain** | 8/7/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **pwmcomp\_TempComp** | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  sysiolopower.c | Review Date | Reviewer |
| Function or data | | **sysio\_GetPWMHightLimit** | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static u16 m\_n2PWMHighLimit | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  pwm.c | Review Date | Reviewer |
| Function or data | | **pwm\_SetEnableIP** | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  pwm.c | Review Date | Reviewer |
| Function or data | | **bios\_WritePwm** | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static void **pwm\_SetEnableIP**(bool\_t on | | |
| Data Required | |  | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/  timer.c | Review Date | Reviewer |
| Function or data | | tickCounter | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static volatile variable of type u64 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/  timer.c | Review Date | Reviewer |
| Function or data | | **timer\_GetTicks** | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static volatile u64 tickCounter | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/  timer.c | Review Date | Reviewer |
| Function or data | | **timer\_GetTicksSince** | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static volatile u64 tickCounter | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/sysio/  sysio.c | Review Date | Reviewer |
| Function or data | | **sysio\_WritePwm** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_DBG\_ASSERT (Macro)**  u16 **sysio\_GetPWMHightLimit**(void)  s32 **sysio\_CtlOut2PWMdomain**(const s32 ctlOut)  **CLAMP (Macro)**  void **bios\_WritePwm**(u16 value) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  process.c | Review Date | Reviewer |
| Function or data | | **process\_WaitForTimeExt** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Use information from PST\_Process.docx from this point | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | tick\_t **timer\_GetTicksSince**(tick\_t basetime)  static void **process\_MopupSrv**(void)  static tick\_t **ComputeDelay**  (tick\_t nDelay, tick\_t lastContribution)  void **syswd\_TickleWatchdog**(taskid\_t taskid)  void **timer\_WaitTicks**(tick\_t ticks)  tick\_t **timer\_GetTicks**(void)  static u8\_least **process\_CheckCancelProcess**(void) | | |
| Data Required | | static tick\_t Atomic\_ actver\_timestamp;  static tick\_t actver\_runlength  static ProcData\_t procdata | | |

|  |  |  |  |  |
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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  process.c | Review Date | Reviewer |
| Function or data | | **process\_WaitForTime** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | u8\_least **process\_WaitForTimeExt**  (tick\_t nDelay, u8\_least brk\_mask) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | db | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type struct db\_t  {  diagbuf\_t buf[NUM\_DIAG\_BUFFERS];  } | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **buffer\_InitializeXDiagnosticBuffer** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_ENTER\_CRITICAL (Macro)**  **MN\_EXIT\_CRITICAL (Macro)**  **Struct\_Copy (Macro)** | | |
| Data Required | | static MN\_NO\_INIT struct db\_t  {  diagbuf\_t buf[NUM\_DIAG\_BUFFERS];  } db | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/includes/  bufferhandler.h | Review Date | Reviewer |
| Function or data | | **buffer\_InitializeDiagnosticBuffer** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value  Line 253-255, 279-293, 352, 355, 377-396: Remove commented out code.  Line 322: Remove initialized comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | void **buffer\_InitializeXDiagnosticBuffer**(u8\_least bufnum) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | tune\_OutputRampTau | 8/6/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header  Line 1281, 1295, 1304, 1307, 1318, 1322, 1323: Remove initialized comments.  Line 1320: Remove commented out code. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | s16 **control\_GetPosition**(void)  void **mode\_SetControlMode** (ctlmode\_t ctlmode, s32 setpoint)  tick\_t **timer\_GetTicks**(void)  u8 **sysio\_WritePwm**  (const s32 value, const enumPWMNORM\_t enPWMcorr)  static void **pwm\_SetEnableIP**(bool\_t on)  ool\_t **process\_WaitForTime**(tick\_t nDelay)  tick\_t **timer\_GetTicksSince**(tick\_t basetime)  MN\_INLINE void **buffer\_InitializeDiagnosticBuffer**(void)  MIN (Macro)  ABS (Macro) | | |
| Data Required | | static bool\_t bSingleActing; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  lcd.c | Review Date | Reviewer |
| Function or data | | **bios\_LcdWriteNumber** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Use processing of the PST\_Processing.docx | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MIN (Macro)**  void **ut\_bin2asc**(s32 num, p8 \*asc, s32 dec)  **MN\_ENTER\_CRITICAL (Macro)**  **mn\_memcpy (Macro)**  **MN\_EXIT\_CRITICAL (Macro)** | | |
| Data Required | | static lcd\_information\_t LcdInfo; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_ComputePoscomp** | 8/6/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header  Line 611-612: Remove commented out code. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | ABS (Macro)  MAX (Macro) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/interface/ui/  uishow.c | Review Date | Reviewer |
| Function or data | | cstate | 8/9/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable with type ControlState\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/interface/ui/  uishow.c | Review Date | Reviewer |
| Function or data | | **ui\_DebugWriteNumber** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Use processing of the PST\_Processing.docx | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | void **bios\_LcdWriteNumber**(s32 lcd\_number, u8 frac\_digits) | | |
| Data Required | | static ControlState\_t cstate; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | **control\_SetPWM** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for using \brief statement | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | u8 **sysio\_WritePwm**  (const s32 value, const enumPWMNORM\_t enPWMcorr) | | |
| Data Required | | static ControlState\_t cstate; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | tune\_OutputRampSpeed | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  |  | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | tick\_t **timer\_GetTicksSince**(tick\_t basetime)  tick\_t **timer\_GetTicks**(void)  s16 **control\_GetPosition**(void)  ool\_t **process\_WaitForTime**(tick\_t nDelay)  void **control\_SetPWM**(u16\_least PWMValue)  static s16 **tune\_ComputePoscomp**  (pos\_t posdiff, s16\_least biasdiff)  **WRITE\_NUMBER (num, decpoint) (Macro)**  **ui\_DebugWriteNumber**((num), (decpoint)) | | |
| Data Required | | static bool\_t bSingleActing;  static const diag\_t\* m\_pDiagBuffer; | | |