CPM

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2 Data Structure Index

2.1 Data Structures

Here are the data structures with brief descriptions:

3 File Index

3.1 File List

Here is a list of all documented files with brief descriptions:

4 Data Structure Documentation

4.1 AGESA_DXE_BUFFER_MANAGER Struct Reference

Buffer Manager for Linked List for AGESA HOB Data.

`#include <NDA/CPM/Library/Protocol/AmdBufferManagerProtocol/AmdBufferManagerProtocol`

Data Fields

- UINTN BufferLength
  Length of Buffer.
- UINTN BufferHandle
  Handle of Buffer.
- VOID * BufferPtr
  Buffer LOcation Ptr.
- struct _AGESA_DXE_BUFFER_MANAGER * NextAgesaBufferManagerPtr
  Next Buffer LOcation Ptr.

4.1.1 Detailed Description

Buffer Manager for Linked List for AGESA HOB Data.

4.2 AMD_BOOT_TIME_DATA Struct Reference

Boot Time Data.

`#include <NDA/CPM/Library/Protocol/AmdCpmBootTimeRecordProtocol/AmdCpmBootTimeRecordI`

Data Fields

- UINT64 TscTicks
  Cpu Tsc Ticks.
- UINT32 Version
  Boot Time Record Version.
- UINT64 Description
  Test Points description.

4.2.1 Detailed Description

Boot Time Data. Boot Timing Record Data for DXE stage.

4.2.2 Field Documentation

4.2.2.1 UINT64 AMD_BOOT_TIME_DATA::TscTicks

Cpu Tsc Ticks. CPU TSC timing tick.

4.2.2.2 UINT32 AMD_BOOT_TIME_DATA::Version

Boot Time Record Version. Version number.

4.2.2.3 UINT64 AMD_BOOT_TIME_DATA::Description

Test Points description. Description of test points.

4.3 AMD_BOOT_TIME_PEI_DATA Struct Reference

Boot Timing Record Data for PEI stage.

`#include <NDA/CPM/Library/Protocol/AmdCpmBootTimeRecordProtocol/AmdCpmBootTimeRecordI`

Data Fields

- UINT64 TscTicks
  CPU TSC timing tick.
- UINT32 Version
  Version number.
- UINT64 Description
  Description of test points.

4.3.1 Detailed Description

Boot Timing Record Data for PEI stage.

4.4 AMD_BOOT_TIME_PEI_RECORD Struct Reference

Boot Time Record data holder.

`#include <NDA/CPM/Library/Protocol/AmdCpmBootTimeRecordProtocol/AmdCpmBootTimeRecordI`

Data Fields

- UINT16 IndexToWrite
  Last index wrote.
- AMD_BOOT_TIME_PEI_DATA data [MAXIMUM_RECORDS]
  Boot time record data holder.

4.4.1 Detailed Description

Boot Time Record data holder.

4.5 AMD_BOOT_TIME_RECORD Struct Reference

Boot Time Record data holder.

`#include <NDA/CPM/Library/Protocol/AmdCpmBootTimeRecordProtocol/AmdCpmBootTimeRecordI`

Data Fields

- UINT16 IndexToWrite
  Last Index + 1;.
- AMD_BOOT_TIME_DATA data [MAXIMUM_RECORDS]
  Boot Time Data Holder.
- UINT16 Index
  Number of data.
- AMD_BOOT_TIME_RECORD_ITEM * ItemHead
  Pointer to first data item.

4.5.1 Detailed Description

Boot Time Record data holder. Boot Time Record data structure.

4.6 AMD_BOOT_TIME_RECORD_HOB Struct Reference

Hob to store Boot TimeRecord.

`#include <NDA/CPM/Features/BootTimeRecord/Pei/BootTimeRecordHob.h>`

Data Fields

- AMD_BOOT_TIME_RECORD Record
  a Boot Time Record

4.6.1 Detailed Description

Hob to store Boot TimeRecord.

4.7 AMD_BOOT_TIME_RECORD_ITEM Struct Reference

Linked List of Boot Time Record data.

`#include <NDA/CPM/Library/Protocol/AmdCpmBootTimeRecordProtocol/AmdCpmBootTimeRecordI`

Data Fields

- AMD_BOOT_TIME_DATA data
  Boot Time Record Data.
- struct _AMD_BOOT_TIME_RECORD_ITEM * NextRecord
  Next record.

4.7.1 Detailed Description

Linked List of Boot Time Record data.

4.8 AMD_BOOT_TIME_RECORD_PPI Struct Reference

Boot Time Record PPI.

`#include <NDA/CPM/Library/Ppi/AmdCpmBootTimeRecordPpi/AmdCpmBootTimeRecordPpi.h>`

Data Fields

- AMD_BOOT_TIME_RECORD * Record
  Boot time record for bios post.
- AMD_BOOT_TIME_RECORD * S3Record
  Boot time record for Standby resume.
- AMD_BOOT_TIME_RECORD_PPI_ADD AddRecord
  Function to add record.

4.8.1 Detailed Description

Boot Time Record PPI.

4.9 AMD_BOOT_TIME_RECORD_PROTOCOL Struct Reference

Boot Time Record Protocol.

`#include <NDA/CPM/Library/Protocol/AmdCpmBootTimeRecordProtocol/AmdCpmBootTimeRecordI`

Data Fields

- AMD_BOOT_TIME_PEI_RECORD * S3Record
  < Pointer to fist items in record.
- AMD_BOOT_TIME_RECORD_ADD AddRecord
  < Pointer to fist items in record for Standby.

4.9.1 Detailed Description

Boot Time Record Protocol.

4.9.2 Field Documentation

4.9.2.1 AMD_BOOT_TIME_RECORD_ADD AMD_BOOT_TIME_RECORD_-PROTOCOL::AddRecord

< Pointer to fist items in record for Standby. Function pointers to add record

4.10 AMD_BUFFER_MANAGER_PROTOCOL Struct Reference

AMD Buffer Manager Protocol.

`#include <NDA/CPM/Library/Protocol/AmdBufferManagerProtocol/AmdBufferManagerProtocol`

Data Fields

- AMD_CONFIG_PARAMS StdHeader
  AMD Standard Header.
- AGESA_DXE_BUFFER_MANAGER * DxeBufferManager
  Buffer Manager Pointer.
- AMD_BUFFER_CALLOUT AmdBufferCallout
  Buffer manager callout function.

4.10.1 Detailed Description

AMD Buffer Manager Protocol.

4.11 AMD_CPM_ACPI_THERMAL_FAN_TABLE Struct Reference

ACPI Thermal Fan Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- AMD_CPM_FAN_HW_CONFIG FanHwConfig
  Fan HW Config.
- AMD_CPM_FAN_POLICY FanPolicy

Fan Policy.

4.11.1 Detailed Description

ACPI Thermal Fan Table.

4.12 AMD_CPM_ADAPTIVE_S4_TABLE Struct Reference

Adaptive S4 Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- UINT8 BufferType
  Buffer Type. 5: BIOS RAM. Other: Reserved.
- UINT8 BufferOffset
  Buffer Offset.
- UINT8 BufferSize
  Buffer Size.
- UINT8 EcRamOffset
  Offset of EC RAM.

4.12.1 Detailed Description

Adaptive S4 Table.

4.13 AMD_CPM_ALL_PCI_IO_PROTOCOLS_INSTALLED_PROTOCOL Struct Reference

DXE Protocol Structure.

`#include <NDA/CPM/Library/Protocol/AmdCpmAllPciIoProtocolsInstalled/AmdCpmAllPciIoPr`

Data Fields

- VOID * Buffer
  Pointer to a buffer.

4.13.1 Detailed Description

DXE Protocol Structure.

4.14 AMD_CPM_CHIP_ID Struct Reference

Structure for Chip Id.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 Cpu
  CPU/APU Chip Id.
- UINT8 Sb
  SB Chip Id.

4.14.1 Detailed Description

Structure for Chip Id.

4.15 AMD_CPM_COMMON_FUNCTION Struct Reference

Common Functions for CPM Drivers.

`#include <NDA/CPM/Include/AmdCpmFunction.h>`

Data Fields

- AMD_CPM_IOREAD8_FN IoRead8
  Read IO byte.
- AMD_CPM_IOREAD16_FN IoRead16
  Read IO word.
- AMD_CPM_IOREAD32_FN IoRead32
  Read IO dword.
- AMD_CPM_IOWRITE8_FN IoWrite8
  Write IO byte.
- AMD_CPM_IOWRITE16_FN IoWrite16
  Write IO word.
- AMD_CPM_IOWRITE32_FN IoWrite32
  Write IO dword.

- AMD_CPM_MMIOREAD8_FN MmioRead8

  Read memory/MMIO byte.

- AMD_CPM_MMIOREAD16_FN MmioRead16

  Read memory/MMIO word.

- AMD_CPM_MMIOREAD32_FN MmioRead32

  Read memory/MMIO dword.

- AMD_CPM_MMIOWRITE8_FN MmioWrite8

  Write memory/MMIO byte.

- AMD_CPM_MMIOWRITE16_FN MmioWrite16

  Write memory/MMIO word.

- AMD_CPM_MMIOWRITE32_FN MmioWrite32

  Write memory/MMIO dword.

- AMD_CPM_MMIOAND8_FN MmioAnd8

  Read memory/MMIO byte, perform a bitwise AND and write the result back to memory/MMIO.

- AMD_CPM_MMIOAND16_FN MmioAnd16

  Read memory/MMIO word, perform a bitwise AND and write the result back to memory/MMIO.

- AMD_CPM_MMIOAND32_FN MmioAnd32

  Read memory/MMIO dword, perform a bitwise AND and write the result back to memory/MMIO.

- AMD_CPM_MMIOOR8_FN MmioOr8

  Read memory/MMIO byte, perform a bitwise OR and write the result back to memory/MMIO.

- AMD_CPM_MMIOOR16_FN MmioOr16

  Read memory/MMIO word, perform a bitwise OR and write the result back to memory/MMIO.

- AMD_CPM_MMIOOR32_FN MmioOr32

  Read memory/MMIO dword, perform a bitwise OR and write the result back to memory/MMIO.

- AMD_CPM_MMIOANDTHENOR8_FN MmioAndThenOr8

  Read memory/MMIO byte, perform a bitwise AND followed by a bitwise inclusive OR, and writes the result back to memory/MMIO.

- AMD_CPM_MMIOANDTHENOR16_FN MmioAndThenOr16

  Read memory/MMIO word, perform a bitwise AND followed by a bitwise inclusive OR, and writes the result back to memory/MMIO.

- AMD_CPM_MMIOANDTHENOR32_FN MmioAndThenOr32

  Read memory/MMIO dword, perform a bitwise AND followed by a bitwise inclusive OR, and writes the result back to memory/MMIO.

- AMD_CPM_MSRREAD_FN MsrRead

  Read MSR register.

- AMD_CPM_MSRWRITE_FN MsrWrite

  Write MSR register.

- AMD_CPM_PCIREAD8_FN PciRead8

  Read PCI register byte.

- AMD_CPM_PCIREAD16_FN PciRead16

  Read PCI register word.

- AMD_CPM_PCIREAD32_FN PciRead32

  Read PCI register dword.

- AMD_CPM_PCIWRITE8_FN PciWrite8

  Write PCI register byte.

- AMD_CPM_PCIWRITE16_FN PciWrite16

  Write PCI register word.

- AMD_CPM_PCIWRITE32_FN PciWrite32

  Write PCI register dword.

- AMD_CPM_PCIWRITE8_FN PciAnd8

  Read PCI register byte, perform a bitwise AND and write the result back to PCI register.

- AMD_CPM_PCIWRITE16_FN PciAnd16

  Read PCI register word, perform a bitwise AND and write the result back to PCI register.

- AMD_CPM_PCIWRITE32_FN PciAnd32

  Read PCI register dword, perform a bitwise AND and write the result back to PCI register.

- AMD_CPM_PCIWRITE8_FN PciOr8

  Read PCI register byte, perform a bitwise OR and write the result back to PCI register.

- AMD_CPM_PCIWRITE16_FN PciOr16

  Read PCI register word, perform a bitwise AND and write the result back to PCI register.

- AMD_CPM_PCIWRITE32_FN PciOr32

  Read PCI register dword, perform a bitwise AND and write the result back to PCI register.

- AMD_CPM_PCIANDTHENOR8_FN PciAndThenOr8

  Read PCI register byte, perform a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the PCI register.

- AMD_CPM_PCIANDTHENOR16_FN PciAndThenOr16

  Read PCI register word, perform a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the PCI register.

- AMD_CPM_PCIANDTHENOR32_FN PciAndThenOr32

Read PCI register dword, perform a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the PCI register.

- AMD_CPM_READTSC_FN ReadTsc

  Read TSC.

- AMD_CPM_CPUIDREAD_FN CpuidRead

  Read CPUID.

- AMD_CPM_POSTCODE_FN PostCode

  Output a post code.

- AMD_CPM_CHECKPCIEDEVICE_FN CheckPcieDevice

  Check whether PCI space exists.

- AMD_CPM_DETECTDEVICE_FN DetectDevice

  Detect whether the device exists.

- AMD_CPM_POWERONDEVICE_FN PowerOnDevice

  Power on/off device.

- AMD_CPM_GETDEVICECONFIG_FN GetDeviceConfig

  Get the config of device.

- AMD_CPM_KBCREAD_FN KbcRead

  Read Kbc Register.

- AMD_CPM_KBCWRITE_FN KbcWrite

  Write Kbc Register.

- AMD_CPM_GETRTC_FN GetRtc

  Read RTC register.

- AMD_CPM_SETRTC_FN SetRtc

  Write RTC register.

- AMD_CPM_GETACPI_FN GetAcpi

  Read ACPI register.

- AMD_CPM_SETACPI_FN SetAcpi

  Write ACPI register.

- AMD_CPM_GETGPIO_FN GetGpio

  Get GPIO pin status: 0: Low. 1: High.

- AMD_CPM_SETGPIO_FN SetGpio

  Set GPIO and IO Mux register.

- AMD_CPM_GETGEVENT_FN GetGevent

  Get GEVENT pin status: 0: Low. 1: High.

- AMD_CPM_SETGEVENT_FN SetGevent
  Set GEVENT register.
- AMD_CPM_SETSMICONTROL_FN SetSmiControl
  Set GEVENT SMI Control Register.
- AMD_CPM_SETGEVENTSCITRIG_FN SetGeventSciTrig
  Set SCI trigger method of GEVENT pin.
- AMD_CPM_SETGEVENTSCI_FN SetGeventSci
  Trigger a GEVENT SCI interrupt.
- AMD_CPM_GETSTRAP_FN GetStrap
  Get FCH strap status BIT0: IMC BIT1: FCH Internal Clock BIT2: S5+.
- AMD_CPM_SETCLKREQ_FN SetClkReq
  Set FCH ClkReq register.
- AMD_CPM_STALL_FN Stall
  Delay in the unit of 1us.
- AMD_CPM_SETFANON_FN SetFanOn
  Force FCH FANOUT pin to ON.
- AMD_CPM_SETPROCHOT_FN SetProchot
  Set FCH FANOUT register to emulate PROCHOT.
- AMD_CPM_GETSATAMODE_FN GetSataMode
  Get current mode of SATA controller.
- AMD_CPM_ISFCHDEVICE_FN IsFchDevice
  Is a FCH embedded device.
- AMD_CPM_GETSCIMAP_FN GetSciMap
  Get SciMap value of GEVENT pin.
- AMD_CPM_GETCPUREVISIONID_FN GetCpuRevisionId
  Get CPU revision ID.
- AMD_CPM_GETSBTSIADDR_FN GetSbTsiAddr
  Get the address of SB-TSI register.
- AMD_CPM_ISTHERMALSUPPORT_FN IsThermalSupport
  Is thermal function supported in current CPU or APU.
- AMD_CPM_GETPCIEASLNAME_FN GetPcieAslName
  Get ASL name of PCIE brdige.
- AMD_CPM_GETPCIEASLNAME_FN GetFchPcieAslName

Get ASL name of Fch PCIE brdige.

- AMD_CPM_GETBOOTMODE_FN GetBootMode
  Get Boot Mode: 0 - S0. 1 - S1. 3 - S3. 4 - S4. 5 - S5.
- AMD_CPM_ISRTCWAKEUP_FN IsRtcWakeup
  Is RTC Wakeup.
- AMD_CPM_ISUMI_FN IsUmi
  Is the device for UMI link.
- AMD_CPM_GETTABLEPTR_FN GetTablePtr
  Get CPM Table Pointer.
- AMD_CPM_GETTABLEPTR_FN GetTablePtr2
  Get CPM Table Pointer. The table can be re-writable.
- AMD_CPM_ADDTABLE_FN AddTable
  Add a table in Hob table list.
- AMD_CPM_REMOVETABLE_FN RemoveTable
  Remove a table from Gob table list.
- AMD_CPM_SMBUSREAD_FN ReadSmbus
  Read from a device on SMBUS.
- AMD_CPM_SMBUSWRITE_FN WriteSmbus
  Write to a device on SMBUS.
- AMD_CPM_SMBUSREAD_FN ReadSmbusBlock
  Read from a device on SMBUS in block mode.
- AMD_CPM_SMBUSWRITE_FN WriteSmbusBlock
  Write to a device on SMBUS in block mode.
- AMD_CPM_RESETDEVICE_FN ResetDevice
  Toggle reset pin of a device.
- AMD_CPM_RELOCATETABLE_FN RelocateTable
  Adjust the pointers of CPM table in Hob.
- AMD_CPM_COPYMEM_FN CopyMem
  Copy a memory block.
- AMD_CPM_LOADPREINITTABLE_FN LoadPreInitTable
  Load AMD_CPM_PRE_INIT_TABLE.
- AMD_CPM_ADDSSDTTABLE_FN AddSsdtTable
  Register one SSDT table.

- AMD_CPM_ISAMLOPREGIONOBJECT_FN IsAmlOpRegionObject
  Is AML Op Region Object.
- AMD_CPM_SETSAVECONTEXT_FN SetSaveContext
  Write the data to Save Context Area.
- AMD_CPM_GETSAVECONTEXT_FN GetSaveContext
  Read the data from Save Context Area.

4.15.1 Detailed Description

Common Functions for CPM Drivers.

4.16 AMD_CPM_DEVICE_PATH_ITEM Struct Reference

Device Path Item Definition.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_DISPLAY_FEATURE_SUPPORT FeatureMask
  See AMD_CPM_DISPLAY_FEATURE_SUPPORT.
- UINT8 IsDgpu
  Is Igpu or Dgpu. 0: iGpu; 1: dGpu.
- AMD_CPM_PCI_DEVICE_FUNCTION Bridge
  Device and function number of PCIe Bridge.
- AMD_CPM_PCI_DEVICE_FUNCTION Device
  Device and function number of Display Device.
- UINT8 DeviceId
  Device Id to control GPIO.
- UINT8 Mode
  Power mode.

4.16.1 Detailed Description

Device Path Item Definition.

4.17 AMD_CPM_DEVICE_PATH_TABLE Struct Reference

Device Path Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.

4.17.1 Detailed Description

Device Path Table.

4.18 AMD_CPM_DISPLAY_CONNECTOR_8 Struct Reference

Display Information Structure for ATPX Sub-Function 8.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 Flags
  Flags.
- UINT8 AtifId
  ATIF Id.
- UINT8 AdaptorId
  Adaptor Id.
- UINT16 AcpiId
  ACPI Id.

4.18.1 Detailed Description

Display Information Structure for ATPX Sub-Function 8.

4.19 AMD_CPM_DISPLAY_CONNECTOR_9 Struct Reference

Display Information Structure for ATPX Sub-Function 8.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 AtifId
  ATIF Id.
- UINT8 HpdPortId
  HPD Port Id.

- UINT8 DdcPortId
  DDC Port Id.

4.19.1 Detailed Description

Display Information Structure for ATPX Sub-Function 8.

4.20 AMD_CPM_DISPLAY_FEATURE_CONFIG Union Reference

Display Feature Config.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT32 Raw
  Display feature config value.

- struct {
  UINT32 PowerXpressFixedMode:1
  <
  UINT32 PowerXpressDynamicMode:2
  BIT1-2: PowerXpress Dynamic Mode.
  UINT32 HyperCrossFire:1
  BIT3: HyperCrossFire.
  UINT32 SurroundView:1
  BIT4: SurroundView.
  UINT32 Reserved1:3
  BIT5-7: Reserved.
  UINT32 IsDgpuPrimary:1
  BIT8: IsDgpuPrimary.
  UINT32 IsBrightnessByDriver:1
  BIT9: IsBrightnessControlledByDriver.
  UINT32 DisableDgpuAudioInPX:1
  BIT10: Disable Audio Device in DGPU if PowerXpress Mode is enabled.
  UINT32 DualGraphicsNotSupported:1
  BIT11: Dual Graphics is not supported.
  UINT32 DgpuDisplayOutput:1
  BIT12: Discrete Graphics can drive display outputs.
  UINT32 SpecialPostIgpu:1
  BIT13: Force Special Post for Igpu if Dgpu is primary.
  UINT32 PulseGeneratorSupport:1
  BIT14: Plug-in/unplug interrupts will be generated on every display plug-in/unplug event.
  UINT32 RebrandDualGraphics:1
  BIT15: Rebranding a dual graphics feature by overriding the SSID of dGPU device to the DID of iGPU.
  UINT32 Reserved2:16
  BIT16-31: Reserved.
  } Config

  Display feature config.

4.20.1 Detailed Description

Display Feature Config.

4.20.2 Field Documentation

4.20.2.1 UINT32 AMD_CPM_DISPLAY_FEATURE_CONFIG::PowerXpressFixedMode

< BIT0: PowerXpress Fixed Mode

Referenced by AmdCpmDisplayFeaturePeim(), and CpmDisplayFeatureInitLate().

4.21 AMD_CPM_DISPLAY_FEATURE_PROTOCOL Struct Reference

DXE Protocol Structure.

`#include <NDA/CPM/Library/Protocol/AmdCpmDisplayFeatureProtocol/AmdCpmDisplayFeatureI`

Data Fields

- UINTN Revision
  Protocol Revision.
- AMD_CPM_TABLE_PROTOCOL * TableProtocolPtr
  AMD CPM Table Protocol Instance in Dxe.
- AMD_CPM_TABLE_PROTOCOL * TableProtocolSmmPtr
  AMD CPM Table Protocol Instance in Smm.
- CPM_DISPLAY_FEATURE_PRIVATE DisplayFeatureData
  Private Data for Display Feature.

4.21.1 Detailed Description

DXE Protocol Structure.

4.22 AMD_CPM_DISPLAY_FEATURE_SUPPORT Union Reference

Display Feature Support Mask.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT32 Raw
  Display Feature support value.

- struct {
  UINT32 PowerXpress:1
  <
  UINT32 HyperCrossFire:1
  BIT1: HyperCrossFire.
  UINT32 SurroundView:1
  BIT2: SurroundView.
  UINT32 Reserved1:13
  BIT3-15: Reserved.
  UINT32 Bus:8
  BIT16-23: Reserved.
  UINT32 Reserved2:4
  BIT24-28: Reserved.
  UINT32 Removable:1
  BIT28: Removable in PX mode.
  UINT32 Vga:1
  BIt29: VgaEn.
  UINT32 Exist:1
  BIT30: Exist.
  UINT32 Valid:1
  BIT31: Valid.
  } Mask

  Bit mapping for display feature support.

4.22.1 Detailed Description

Display Feature Support Mask.

4.22.2 Field Documentation

4.22.2.1 UINT32 AMD_CPM_DISPLAY_FEATURE_SUPPORT::PowerXpress

< BIT0: PowerXpress Fixed Mode

Referenced by AmdCpmDisplayFeaturePeim(), CpmDisplayFeatureInitLate(), and DisableDgpuAudioInPXSmm().

4.23 AMD_CPM_DISPLAY_FEATURE_TABLE Struct Reference

Display Feature Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header

  Table header.

- UINT8 FunctionDisableMask

  BIT0: Disable SetSsid. BIT1: Disable AddSsdt.

- UINT8 MxmDeviceId

  Device Id for MXM.

- UINT8 MxmOverTempEvent

  GEVENT pin number for MXM_OVERT#.

- UINT8 MxmOverTempStateId

  Forced Power State Id if MXM_OVERT# is low.

- UINT8 DisplayConnectEvent

  GEVENT pin number for Discrete GPU display connect/disconnect event.

- UINT8 DockingDeviceId

  Bit[0-6]: Device Id for docking detection if Bit7 = 0 Forced docking status if Bit7 = 1.

- UINT8 MuxFlag

  The flag for Mux-Based Power Xpress.

- UINT8 DisplayMuxDeviceId

  Device Id for Display Mux.

- UINT8 AtpxConnector8Number

  Number of reported display connectors in ATPX sub-function 8.

- AMD_CPM_DISPLAY_CONNECTOR_8 AtpxConnector8 [AMD_ATPX_CONNECTOR_8_-SIZE]

  The Connector information for ATPX sub-function 8.

- UINT8 AtpxConnector9Number

  Number of reported display connectors in ATPX sub-function 9.

- AMD_CPM_DISPLAY_CONNECTOR_9 AtpxConnector9 [AMD_ATPX_CONNECTOR_9_-SIZE]

  The Connector information for ATPX sub-function 9.

- UINT32 AtifSupportedNotificationMask

  Supported Notifications Mask in ATIF sub-function 0.

- UINT8 AtifDeviceCombinationNumber

  The number of Display Device Combination.

- UINT8 AtifDeviceCombinationBuffer [AMD_ATIF_DEVICE_COMBINATION_BUFFER_SIZE]

  The data of Display Device Combination.

- UINT8 Atif16Buffer [0x100]

  The data for Query Brightness Transfer Characteristics.

4.23.1 Detailed Description

Display Feature Table.

4.24 AMD_CPM_DXE_PUBLIC_FUNCTION Struct Reference

CPM Public Functions for platform DXE Driver to use.

`#include <NDA/CPM/Include/AmdCpmFunction.h>`

Data Fields

- AMD_CPM_GETPOSTEDVBIOSIMAGE_FN GetPostedVbiosImage
  Get posted VBIOS image.

4.24.1 Detailed Description

CPM Public Functions for platform DXE Driver to use.

4.25 AMD_CPM_EC_CONFIG Union Reference

Definition of CPM EC config.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 Raw
  EC Config Value.

- struct {
  UINT8 AcDcSwitchEn:1
  <
  UINT8 ColdBootCyclingEn:1
  Cold Boot Cycling Enable.
  UINT8 S5PlusEn:1
  S5+ Support.
  UINT8 Reserved:5
  Reserved.
  } Config

  Bitmap of EC Config.

4.25.1 Detailed Description

Definition of CPM EC config.

4.25.2 Field Documentation

4.25.2.1 UINT8 AMD_CPM_EC_CONFIG::AcDcSwitchEn

< AC/DC Switch Enable

4.26 AMD_CPM_EC_INIT_TABLE Struct Reference

EC Init Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- UINT8 AcTimer
  AC Timer in minute.
- UINT8 DcTimer
  DC Timer in minute.
- UINT8 OnTimer
  Power On Timer in second.

4.26.1 Detailed Description

EC Init Table.

4.27 AMD_CPM_EXPRESS_CARD_TABLE Struct Reference

Express Card Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- UINT8 Device
  Device Number of PCIe Bridge.
- UINT8 Function
  Function Number of PCIe Bridge.

- UINT8 EventPin

  GEVENT Pin.

- UINT8 DeviceId

  Device Id.

4.27.1 Detailed Description

Express Card Table.

4.28 AMD_CPM_EXT_CLKGEN_ITEM Struct Reference

External ClkGen Register Setting Item.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 Function

  External ClkGen Setting Item Type 0x00∼0x7F: Initial Sequence Id 0x80∼0x8F: Clock Disable Sequence 0x90∼0x9F: ClkReq Enable Sequence.

- UINT8 Offset

  Register Offset.

- UINT8 AndMask

  AND Mask.

- UINT8 OrMask

  Or Mask.

4.28.1 Detailed Description

External ClkGen Register Setting Item.

4.29 AMD_CPM_EXT_CLKGEN_TABLE Struct Reference

External ClkGen Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header

  Table header.

- UINT8 SmbusSelect

SMBUS Number.

- UINT8 SmbusAddress

  SMBUS Address.

- AMD_CPM_EXT_CLKGEN_ITEM Item [AMD_EXT_CLKGEN_SIZE]

  External ClkGen Register Setting List.

4.29.1 Detailed Description

External ClkGen Table.

4.30 AMD_CPM_FAN_HW_CONFIG Struct Reference

Fan Hardware Config.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 EventPin

  GEVENT Pin.

- UINT8 FanNum

  SB Fan control fields.

4.30.1 Detailed Description

Fan Hardware Config.

4.31 AMD_CPM_FAN_POLICY Struct Reference

The table definition for Acpi Thermal Fan Control.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 CpuCRT

  Critical temperature threshold.

- UINT8 CpuPSV

  Passive temperature threshold.

- UINT8 CpuAC0

  TemperatureThreshold 0.

- UINT8 CpuAC1
  TemperatureThreshold 1.
- UINT8 CpuAC2
  TemperatureThreshold 2.
- UINT8 CpuAC3
  TemperatureThreshold 3.
- UINT8 CpuAL0
  FanSpeedPwmLevel 0.
- UINT8 CpuAL1
  FanSpeedPwmLevel 1.
- UINT8 CpuAL2
  FanSpeedPwmLevel 2.
- UINT8 CpuAL3
  FanSpeedPwmLevel 3.
- UINT8 ThermalSensor
  Thermal Sensor.
- UINT8 HysteresisInfo
  HysteresisInfo for active cooling.
- UINT8 HysteresisInfoPsv
  HysteresisInfo for Passive cooling.

4.31.1 Detailed Description

The table definition for Acpi Thermal Fan Control.

4.32 AMD_CPM_GEVENT_INIT_TABLE Struct Reference

GEVENT init table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- AMD_CPM_GEVENT_ITEM GeventList [AMD_GEVENT_ITEM_SIZE]
  GEVENT setting list.

4.32.1 Detailed Description

GEVENT init table.

4.33 AMD_CPM_GEVENT_ITEM Struct Reference

GEVENT setting item.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT16 Pin
  GEVENT pin number.
- AMD_CPM_GEVENT_SETTING Setting
  GEVENT setting.

4.33.1 Detailed Description

GEVENT setting item.

4.34 AMD_CPM_GEVENT_SETTING Union Reference

The definition of GEVENT setting.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT16 Raw
  GEVENT setting value.
- struct {
  UINT16 EventEnable:1
  <
  UINT16 SciTrig:1
  SciTrig. 0: Falling Edge, 1: Rising Edge.
  UINT16 SciLevl:1
  SciLevl.0 trigger mode. 0: Edge trigger, 1: Level Trigger.
  UINT16 SmiSciEn:1
  SmiSciEn. 0: Not send SMI, 1: Send SMI.
  UINT16 SciS0En:1
  SciS0En. 0: Disable, 1: Enable.
  UINT16 SciMap:5
  SciMap. 0000b->1111b.
  UINT16 SciTrigAuto:1
  SciTrigAuto. 1: Disable. 0: Enable.
  UINT16 SmiTrig:1

SmiTrig. 0: Active Low, 1: Active High.
UINT16 SmiControl:4
SmiControl. 0: Disable, 1: SMI 2: NMI 3: IRQ13.
} Gevent

Bit mapping for GEVENT setting.

- struct {
UINT16 DebounceTmrOut:4
<
UINT16 DebounceTmrOutUnit:1
0: 30.5us (One RtcClk period), 1: 122us (four RtcClk periods)
UINT16 DebounceCntrl:2
00b: No debounce, 01b: Preserve low glitch 10b: Preserve high glitch, 11b: Remove glitch
UINT16 Reserved:1
Reserved.
UINT16 LevelTrig:1
0: Edge trigger, 1: Level trigger
UINT16 ActiveLevel:2
00b: Active High. 01b: Active Low. 10b: Active on both edges if LevelTrig=0
UINT16 InterruptEnable:2
[0]: Enable interrupt status, [1]: Enable interrupt delivery
UINT16 WakeCntrl:3
[0]: Enable wake in S0I3 state, [1]: Enable wake in S3 state, [2]: Enable wake in S4/S5 state
} Gpio

Bit mapping for GPIO interrupt setting.

4.34.1 Detailed Description

The definition of GEVENT setting.

4.34.2 Field Documentation

4.34.2.1 UINT16 AMD_CPM_GEVENT_SETTING::EventEnable

< EventEnable. 0: Disable, 1: Enable

Referenced by CpmSetGevent().

4.34.2.2 UINT16 AMD_CPM_GEVENT_SETTING::DebounceTmrOut

< Specifies the debounce timer out number

4.35 AMD_CPM_GFX_DETECT Struct Reference

Structure for ATIF Device List.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT16 NumDevice
  Device Number.
- UINT16 DeviceStructSize
  Device Structure Size.
- AMD_CPM_GFX_DEVICE Device [3]
  Device List.

4.35.1 Detailed Description

Structure for ATIF Device List.

4.36 AMD_CPM_GFX_DEVICE Struct Reference

Structure for Graphic Device.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT32 Flags
  Flags.
- UINT16 Bus
  Bus Number.
- UINT16 Device
  Device Number.

4.36.1 Detailed Description

Structure for Graphic Device.

4.37 AMD_CPM_GPIO_DEVICE_CONFIG Struct Reference

Configuration of Device which is controlled by GPIO pin.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 DeviceId
  Device Id.

- union {
  UINT8 Raw
  Device Config Value.
  struct {
  UINT8 Enable:2
  Flag of power state. 0: Disable. 1: Enable. 2: Auto Detection.
  UINT8 ResetAssert:1
  Flag to assert reset pin.
  UINT8 ResetDeassert:1
  Flag to de-assert reset pin.
  UINT8 Reserved:4
  Reserved.
  } Setting
  Bit mapping of Device Config.
  } Config

  Device Config.

4.37.1 Detailed Description

Configuration of Device which is controlled by GPIO pin.

4.38 AMD_CPM_GPIO_DEVICE_CONFIG_TABLE Struct Reference

Device config table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.

- AMD_CPM_GPIO_DEVICE_CONFIG DeviceList [AMD_GPIO_DEVICE_SIZE]
  Device config list.

4.38.1 Detailed Description

Device config table.

4.39 AMD_CPM_GPIO_DEVICE_DETECTION Struct Reference

Device detection method.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 DeviceId
  Device Id.
- UINT8 Type
  Detection type. 0: One GPIO pin. 1: Two GPIO pins. 2: Special Pin.
- UINT16 PinNum1
  Pin number of GPIO 1.
- UINT8 Value1
  Value of GPIO 1.
- UINT16 PinNum2
  Pin number of GPIO 2.
- UINT8 Value2
  Value of GPIO 2.
- UINT16 PinNum3
  Pin number of GPIO 3.
- UINT8 Value3
  Value of GPIO 3.

4.39.1 Detailed Description

Device detection method.

4.40 AMD_CPM_GPIO_DEVICE_DETECTION_TABLE Struct Reference

Device Detection Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- AMD_CPM_GPIO_DEVICE_DETECTION DeviceDetectionList [AMD_GPIO_DEVICE_-DETECT_SIZE]
  Device Detection List.

4.40.1 Detailed Description

Device Detection Table.

4.41 AMD_CPM_GPIO_DEVICE_POWER Struct Reference

Item of device power on / off sequence.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 DeviceId
  Device Id.
- UINT8 Mode
  Device Power Mode. 1: Power On. 0: Power Off.
- UINT8 Type
  Device Power Item. 0: Set GPIO. 1: Wait GPIO. 2: Add Delay.
- union {
  UINT32 Stall
  Delay.
  AMD_CPM_GPIO_PIN SetGpio
  Set GPIO pin.
  AMD_CPM_GPIO_PIN WaitGpio
  Wait for GPIO pin to some value.
  } Config

  Dvice Power Item Setting.
- UINT8 InitFlag
  Init flag in post.

4.41.1 Detailed Description

Item of device power on / off sequence.

4.42 AMD_CPM_GPIO_DEVICE_POWER_TABLE Struct Reference

Device Power Sequence Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.

- AMD_CPM_GPIO_DEVICE_POWER DevicePowerList [AMD_GPIO_DEVICE_POWER_SIZE]

  Device power sequence list.

4.42.1 Detailed Description

Device Power Sequence Table.

4.43 AMD_CPM_GPIO_DEVICE_RESET Struct Reference

Device Reset Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 DeviceId

  Device Id.

- UINT8 Mode

  Reset mode 0: Reset Assert.

- UINT8 Type

  Register type 0: GPIO.

- union {
  UINT32 Stall
  Delay.
  AMD_CPM_GPIO_PIN Gpio
  GPIO pin.
  } Config

  Setting.

- UINT8 InitFlag

  Init flag in post.

4.43.1 Detailed Description

Device Reset Table.

4.43.2 Field Documentation

4.43.2.1 UINT8 AMD_CPM_GPIO_DEVICE_RESET::Mode

Reset mode 0: Reset Assert. 1: Reset De-assert 2: Delay between Assert and Deassert

Referenced by CpmGpioDeviceInit(), and CpmResetDevice().

4.43.2.2 UINT8 AMD_CPM_GPIO_DEVICE_RESET::Type

Register type 0: GPIO. 1: Special pin.if Mode = 0 or 1

4.44 AMD_CPM_GPIO_DEVICE_RESET_TABLE Struct Reference

Device Reset Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- AMD_CPM_GPIO_DEVICE_RESET DeviceResetList [AMD_GPIO_DEVICE_RESET_SIZE]
  Device reset list.

4.44.1 Detailed Description

Device Reset Table.

4.45 AMD_CPM_GPIO_INIT_FINISHED_PPI Struct Reference

AMD CPM GPIO Init Finished PPI Definition.

`#include <NDA/CPM/Library/Ppi/AmdCpmGpioInitFinishedPpi/AmdCpmGpioInitFinishedPpi.h>`

Data Fields

- UINTN Revision
  Revision Number.

4.45.1 Detailed Description

AMD CPM GPIO Init Finished PPI Definition.

4.46 AMD_CPM_GPIO_INIT_TABLE Struct Reference

GPIO init table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- AMD_CPM_GPIO_ITEM GpioList [AMD_GPIO_ITEM_SIZE]
  GPIO setting list.

4.46.1 Detailed Description

GPIO init table.

4.47 AMD_CPM_GPIO_ITEM Struct Reference

GPIO setting item.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT16 Pin
  GPIO pin number.
- AMD_CPM_GPIO_SETTING Setting
  GPIO setting.

4.47.1 Detailed Description

GPIO setting item.

4.48 AMD_CPM_GPIO_MEM_VOLTAGE_ITEM Struct Reference

GPIO setting for one memory voltage (VDDIO).

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 Voltage
  DDR3Voltage.
- UINT16 GpioPin1
  GPIO pin 1.
- UINT8 Value1
  Value of GPIO pin 1.

- UINT16 GpioPin2
  GPIO pin 2.
- UINT8 Value2
  Value of GPIO pin 2.

4.48.1 Detailed Description

GPIO setting for one memory voltage (VDDIO).

4.49 AMD_CPM_GPIO_MEM_VOLTAGE_TABLE Struct Reference

Memory voltage table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- AMD_CPM_GPIO_MEM_VOLTAGE_ITEM Item [AMD_GPIO_MEM_VOLTAGE_SIZE]
  GPIO setting list for memory voltage.

4.49.1 Detailed Description

Memory voltage table.

4.50 AMD_CPM_GPIO_PIN Struct Reference

GPIO Pin.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT16 Pin
  GPIO pin number.
- UINT8 Value
  GPIO pin value.

4.50.1 Detailed Description

GPIO Pin.

4.51 AMD_CPM_GPIO_SETTING Union Reference

Defintion of GPIO setting.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT16 Raw
  GPIO setting value.

- struct {
  UINT16 Out:1
  <
  UINT16 OutEnB:1
  Output enable.
  UINT16 PullUpSel:1
  Pull up select: 0: 4K. 1: 8K.
  UINT16 SetEnB:1
  Gate of Out and OutEnB.
  UINT16 Sticky:1
  Sticky enable.
  UINT16 PullUp:1
  Pull up enable.
  UINT16 PullDown:1
  Pull down enable.
  UINT16 PresetEn:1
  Gate of Sticky, PullUp & PullDown.
  UINT16 IoMux:3
  Multi-function IO pin function select of GPIO.
  UINT16 IoMuxEn:1
  Gate of IoMux.
  UINT16 DrvStrengthSel:2
  Drive Strength Select: 0: 4mA. 1: 8mA. 2: 12mA. 3: 16mA.
  UINT16 Reserved2:2
  Reserved.
  } Gpio

  Bit mapping for GPIO setting.

4.51.1 Detailed Description

Defintion of GPIO setting.

4.51.2 Field Documentation

4.51.2.1 UINT16 AMD_CPM_GPIO_SETTING::Out

< Output state

Referenced by CpmFchSetGpio().

4.52 AMD_CPM_GPIO_VDDP_VDDR_VOLTAGE_ITEM Struct Reference

GPIO setting for VDDP/VDDR voltage.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 Voltage
  VDDP/VDDR Voltage.
- UINT16 GpioPin1
  GPIO pin.
- UINT8 Value1
  Value of GPIO pin.

4.52.1 Detailed Description

GPIO setting for VDDP/VDDR voltage.

4.53 AMD_CPM_GPIO_VDDP_VDDR_VOLTAGE_TABLE Struct Reference

VDDP/VDDR voltage table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- AMD_CPM_GPIO_VDDP_VDDR_VOLTAGE_ITEM Item [AMD_GPIO_VDDP_VDDR_-VOLTAGE_SIZE]
  GPIO setting list for memory voltage.

4.53.1 Detailed Description

VDDP/VDDR voltage table.

4.54 AMD_CPM_HOB_HEADER Struct Reference

Header of CPM Hob table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_POINTER HeaderPtr
  Table header.
- AMD_CPM_POINTER MainTablePtr
  Pointer of CPM main table.
- UINT32 Revision
  CPM Revision.
- UINT32 BufferItem
  Available Table Number.
- UINT32 BufferOffset
  Offset of Available Buffer.
- UINT32 BufferSize
  Size of Available Table.

4.54.1 Detailed Description

Header of CPM Hob table.

4.55 AMD_CPM_INIT_FLAG_TABLE Struct Reference

GPIO Device Init Flag Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- UINT8 PowerInitFlag [AMD_GPIO_DEVICE_POWER_SIZE]
  Init Flag for Power Sequence.
- UINT8 ResetInitFlag [AMD_GPIO_DEVICE_RESET_SIZE]
  Init Flag for Reset Sequence.

4.55.1 Detailed Description

GPIO Device Init Flag Table.

4.56 AMD_CPM_LOCAL_SMI_STATUS Struct Reference

Local SMI Status.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 ApicId
  Core apic id.
- UINT32 LocalSmiStatus
  SMMFEC4 Local SMI Status.

4.56.1 Detailed Description

Local SMI Status.

4.57 AMD_CPM_LPC_UART_TABLE Struct Reference

The table definition for LPC UART.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- UINT8 ChipId
  Chip Id. 0: SMSC_1036.
- UINT8 LpcIndex
  Index of LPC register. 0: 2E/2F. 1: 4E/4F.
- UINT16 Address
  Uart base register.
- UINT8 Irq
  IRQ.

4.57.1 Detailed Description

The table definition for LPC UART.

4.58 AMD_CPM_MAIN_TABLE Struct Reference

AMD CPM Main Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- UINT8 PlatformName [32]
  Platform name.
- UINT8 BiosType
  BIOS type.
- UINT16 CurrentPlatformId
  Current Platform Id.
- UINT32 PcieMemIoBaseAddr
  PcieMemIoBaseAddr.
- UINT32 AcpiMemIoBaseAddr
  AcpiMemIoBaseAddr.
- AMD_CPM_POINTER Service
  Reserved for internal use.
- AMD_CPM_POINTER TableInRomList
  Reserved for internal use.
- AMD_CPM_POINTER TableInRamList
  Reserved for internal use.
- AMD_CPM_POINTER TableInHobList
  Reserved for internal use.
- AMD_CPM_POINTER HobTablePtr
  Reserved for internal use.
- AMD_CPM_DISPLAY_FEATURE_CONFIG DisplayFeature
  Display feature config.
- UINT8 ZeroPowerOddEn
  ZeroPowerOdd Config.
- UINT8 AcpiThermalFanEn
  ACPI thermal fan config.

- UINT8 ExtClkGen
  External ClkGen Config. 0x00~0x7F.
- UINT8 UnusedGppClkOffEn
  Config to turn off unused GPP clock.
- UINT8 AdaptiveS4En
  Adaptive S4 Config. 0: Disable. 1: Enable EC Method. 2: Enable RTC Method.
- UINT8 WirelessButtonEn
  Wireless Button Config. 0: Disable. 1: Radio Off. 2: Power Off.
- AMD_CPM_EC_CONFIG Ec
  External EC config.
- UINT8 TdpLimitChangeEn
  TdpLimitChangeEn.
- UINT8 SmiCheckToolEn
  SmiCheckToolEn.
- UINT8 LpcUartEn
  LpcUartEn.
- UINT8 ProchotEn
  ProchotEn.

4.58.1 Detailed Description

AMD CPM Main Table.

4.58.2 Field Documentation

4.58.2.1 UINT8 AMD_CPM_MAIN_TABLE::ZeroPowerOddEn

ZeroPowerOdd Config. BIT0: ZeroPowerOddEn. BIT1: OddHotplugEn. BIT2: SystemBootWithPS0. BIT3: Enable _PRW BIT4: Enable port reset workaround

Referenced by CpmTableOverride(), and InvokeAmdZeroPowerOddInitLate().

4.59 AMD_CPM_NV_DATA_PROTOCOL Struct Reference

DXE Protocol Structure.

`#include <NDA/CPM/Library/Protocol/AmdCpmNvDataProtocol/AmdCpmNvDataProtocol.h>`

Data Fields

- UINTN Revision
  Protocol Revision.
- AMD_CPM_NV_DATA_STRUCT * NvDataPtr
  Pointer to NV Data Buffer.

4.59.1 Detailed Description

DXE Protocol Structure.

4.60 AMD_CPM_NV_DATA_STRUCT Struct Reference

CPM NV Data Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT32 CpmVersion
  CPM Revision.
- UINT32 CpmPcieMmioBaseAddr
  PcieMmioBaseAddress.
- UINT32 CpmAcpiMmioBaseAddr
  AcpiMmioBaseAddress.
- UINT8 CpmSbChipId
  SbChipId.
- UINT8 CpmChipId [3]
  ChipId.
- UINT32 CpmDisplayFeatureConfig
  DisplayFeatureConfig.
- UINT16 CpmiGpuP2pBridgePfa
  iGpuP2pBridgePfa
- UINT16 CpmiGpuP2pDevicePfa
  iGpuP2pDevicePfa
- UINT16 CpmdGpuP2pBridgePfa
  dGpuP2pBridgePfa
- UINT16 CpmdGpuP2pDevicePfa

dGpuP2pDevicePfa

- UINT8 CpmdGpuAspmLxEnable
  dGpuAspmLxEnable
- UINT8 CpmdGpuAudioDisable
  dGpuAudioDisable
- UINT32 CpmAtpxSupportedFunctionMask
  AtpxSupportedFunctionMask.
- UINT32 CpmAtpxFlags
  AtpxFlags.
- UINT32 CpmAtcsSupportedFunctionMask
  AtcsSupportedFunctionMask;.
- UINT32 CpmAtifSupportedNotificationMask
  AtifSupportedNotificationMask.
- UINT32 CpmAtifFunctionBitVector
  AtifFunctionBitVector.
- UINT32 CpmAtifFlags
  AtifFlags.
- UINT8 CpmAtifDeviceListBuffer [28]
  AtifDeviceListBuffer.
- UINT32 CpmAtrmRomSize
  VBIOS image size.
- UINT8 CpmAtrmRomImage [0x10000]
  VBIOS image.
- UINT64 CpmSmiCheckCheckToolData
  Smi Check Tool Data Pointer.
- UINT32 CpmMainTable
  Offset of AMD_CPM_MAIN_TABLE.
- UINT32 CpmDeviceDetectionTable
  Offset of AMD_CPM_GPIO_DEVICE_DETECTION_TABLE.
- UINT32 CpmDeviceResetTable
  Offset of AMD_CPM_GPIO_DEVICE_RESET_TABLE.
- UINT32 CpmDevicePowerTable
  Offset of AMD_CPM_GPIO_DEVICE_POWER_TABLE.

- UINT32 CpmWirelessButtonTable
  Offset of AMD_CPM_WIRELESS_BUTTON_TABLE.
- UINT32 CpmSaveContextTable
  Offset of AMD_CPM_SAVE_CONTEXT_TABLE.
- UINT32 CpmExpressCardTable
  Offset of AMD_CPM_EXPRESS_CARD_TABLE.
- UINT32 CpmDisplayFeatureTable
  Offset of AMD_CPM_DISPLAY_FEATURE_TABLE.
- UINT32 CpmZeroPowerOddTable
  Offset of AMD_CPM_ZERO_POWER_ODD_TABLE.
- UINT32 CpmAdaptiveS4Table
  Offset of AMD_CPM_ADAPTIVE_S4_TABLE.
- UINT32 CpmAcpiThermalFanTable
  Offset of AMD_CPM_ACPI_THERMAL_FAN_TABLE.

4.60.1 Detailed Description

CPM NV Data Table.

4.61 AMD_CPM_OEM_TABLE_PPI Struct Reference

AMD CPM OEM TABLE PPI Definition.

`#include <NDA/CPM/Library/Ppi/AmdCpmOemTablePpi/AmdCpmOemTablePpi.h>`

Data Fields

- UINTN Revision
  Revision Number.
- UINT16 PlatformId
  Current Platform Id.
- VOID * TableList
  The Point of CPM Definition Table List.

4.61.1 Detailed Description

AMD CPM OEM TABLE PPI Definition.

4.62 AMD_CPM_OEM_TABLE_PROTOCOL Struct Reference

DXE Protocol Structure.

`#include <NDA/CPM/Library/Protocol/AmdCpmOemTableProtocol/AmdCpmOemTableProtocol.h>`

Data Fields

- UINTN Revision
  Protocol Revision.
- VOID * TableList
  Pointer to CPM Definition Table list which is defined in AmdCpmOemInitDxe Driver.

4.62.1 Detailed Description

DXE Protocol Structure.

4.62.2 Field Documentation

4.62.2.1 VOID* AMD_CPM_OEM_TABLE_PROTOCOL::TableList

Pointer to CPM Definition Table list which is defined in AmdCpmOemInitDxe Driver.

4.63 AMD_CPM_PCI_DEVICE_FUNCTION Struct Reference

Device and function number of PCI device.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 Device:5
  PCI Device Number.
- UINT8 Function:3
  PCI Function Number.

4.63.1 Detailed Description

Device and function number of PCI device.

4.64 AMD_CPM_PCI_PFA Union Reference

Structure of PCI PFA.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT16 Raw
  PCI Pfa value.
- struct {
  UINT8 Function:3
  <
  UINT8 Device:5
  PCI Device Number.
  UINT8 Bus
  PCI Bus Number.
  } Pfa

  PCI Pfa.

4.64.1 Detailed Description

Structure of PCI PFA.

4.64.2 Field Documentation

4.64.2.1 UINT8 AMD_CPM_PCI_PFA::Function

< PCI Function Number

Referenced by CpmDisplayFeatureInitLate(), and DisableDgpuAudioInPXSmm().

4.65 AMD_CPM_PCIE_CLOCK_ITEM Struct Reference

PCIe Clock Setting.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 ClkId
  FCH PCIe Clock.
- UINT8 ClkReq
  FCH PCIe ClkReq.
- UINT8 ClkIdExt
  External Clock Source.
- UINT8 ClkReqExt
  External ClkReq.

- UINT8 DeviceId
  Device Id. No Device Id if 0xFF.
- UINT8 Device
  Device Number of PCIe bridge.
- UINT8 Function
  Function Number of PCIe bridge.
- UINT8 SlotCheck
  Slot Check Flag.
- UINT32 SpecialFunctionId
  Id of Special Function.

4.65.1 Detailed Description

PCIe Clock Setting.

4.66 AMD_CPM_PCIE_CLOCK_TABLE Struct Reference

PCIe Clock Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- AMD_CPM_PCIE_CLOCK_ITEM Item [AMD_PCIE_CLOCK_SIZE]
  PCIe clock setting list.

4.66.1 Detailed Description

PCIe Clock Table.

4.67 AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM Struct Reference

The override table definition for PCIE Topology.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- union {
  UINT8 Raw
  Value of Flag.
  struct {
  UINT8 EnableOverride:1
  Override Enable field of descriptor.
  UINT8 DdiTypeOverride:1
  Override DDI type.
  UINT8 LaneOverride:1
  Override StartLane and EndLane.
  UINT8 PortPresentOverride:1
  Override PortPresent.
  UINT8 IsDdi:1
  This item is used to override Port or DDI descriptor 0: Port Descriptor 1: DDI Descriptor.
  UINT8 Reserved:2
  Reserved.
  UINT8 Valid:1
  Valid Flag.
  } Config
  Bitmap of Flag.
  } Flag

  Flag of PCIe Topology override item.

- UINT8 Offset

  Offset of Port Descriptor or DDI Dscriptor list.

- UINT8 Enable

  Descriptor Enable.

- UINT8 DdiType

  Ddi Type.

- UINT8 PortPresent

  Port Present.

- UINT8 StartLane

  Start Lane.

- UINT8 EndLane

  End Lane.

4.67.1 Detailed Description

The override table definition for PCIE Topology.

4.68 AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE Struct Reference

PCIE Topoplogy Override Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM Item [AMD_PCIE_TOPOLOGY_-OVERRIDE_SIZE]
  Override Item List.

4.68.1 Detailed Description

PCIE Topoplogy Override Table.

4.69 AMD_CPM_PCIE_TOPOLOGY_TABLE Struct Reference

PCIE Topology Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- UINT32 SocketId
  Socket Id.
- PCIe_PORT_DESCRIPTOR Port [AMD_PCIE_PORT_DESCRIPTOR_SIZE]
  PCIe Port Descriptor List.
- PCIe_DDI_DESCRIPTOR Ddi [AMD_PCIE_DDI_DESCRIPTOR_SIZE]
  PCIe DDI Descriptor List.

4.69.1 Detailed Description

PCIE Topology Table.

4.70 AMD_CPM_PEIM_PUBLIC_FUNCTION Struct Reference

CPM Public Functions for platform PEI Driver to use.

`#include <NDA/CPM/Include/AmdCpmFunction.h>`

Data Fields

- AMD_CPM_SETMEMVOLTAGE_FN SetMemVoltage
  Set memory voltage.
- AMD_CPM_SETVDDPVDDRVOLTAGE_FN SetVddpVddrVoltage
  Set VDDP/VDDR voltage.
- AMD_CPM_PCIERESET_FN PcieReset
  Toggle PCIE reset pin.
- PCIe_COMPLEX_DESCRIPTOR * PcieComplexDescriporPtr
  The pointer of PCIE complex descriptor.

4.70.1 Detailed Description

CPM Public Functions for platform PEI Driver to use.

4.71 AMD_CPM_PLATFORM_ID_CONVERT_ITEM Struct Reference

Platform Id converting item.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 CpuRevisionId
  CPU Revision ID.
- UINT16 OriginalIdMask
  Platform Id mask from platform Id table.
- UINT16 OriginalId
  Platform Id from platform Id table.
- UINT16 ConvertedId
  Platform Id which is used to check whether CPM table supports current platform.

4.71.1 Detailed Description

Platform Id converting item.

4.72 AMD_CPM_PLATFORM_ID_CONVERT_TABLE Struct Reference

Platform Id mapping table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table Header.
- AMD_CPM_PLATFORM_ID_CONVERT_ITEM Item [AMD_PLATFORM_ID_CONVERT_-TABLE_SIZE]
  Platform Id mapping list.

4.72.1 Detailed Description

Platform Id mapping table.

4.73 AMD_CPM_PLATFORM_ID_TABLE Struct Reference

GPIO pin list for platform Id.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- UINT16 GpioPin [AMD_PLATFORM_ID_TABLE_SIZE]
  The array of GPIO pin for platform Id.

4.73.1 Detailed Description

GPIO pin list for platform Id.

4.74 AMD_CPM_POINTER Union Reference

Table pointer.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- VOID * Pointer
  Table pointer.
- UINT64 Raw
  Table pointer value.

4.74.1 Detailed Description

Table pointer.

4.75 AMD_CPM_PRE_INIT_TABLE Struct Reference

Register table to be initialized in the earliest stage.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- AMD_CPM_PRE_SETTING_ITEM Item [AMD_PRE_INIT_SIZE]
  Register setting.

4.75.1 Detailed Description

Register table to be initialized in the earliest stage.

4.76 AMD_CPM_PRE_SETTING_ITEM Struct Reference

The table definition for early initialization.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 Type
  Register type. 0: FCH MMIO. 1: PCI.
- UINT8 Select
  Register sub-type.
- UINT8 Offset
  Register offset.
- UINT8 AndMask
  AND mask.
- UINT8 OrMask
  OR mask.
- UINT8 Stage
  Stage number.

4.76.1 Detailed Description

The table definition for early initialization.

4.77 AMD_CPM_PREDEFINED_SAVE_CONTEXT Struct Reference

Data structure of Pre-defined Save Context Area.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT32 PcieDeviceStatus
  The status of PCIe device on APU.
- UINT32 PcieClockSlotStatus
  The status of PCIe device slot.
- UINT8 WirelessButtonStatus
  The status of wireless button.
- UINT8 BootMode
  Current Boot Mode.

4.77.1 Detailed Description

Data structure of Pre-defined Save Context Area.

4.78 AMD_CPM_PROCHOT_TABLE Struct Reference

The table definition for PROCHOT.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- UINT8 FanNum
  Pin Number of FanOut.
- UINT8 Freq
  Frequency Setting for FanOut.

4.78.1 Detailed Description

The table definition for PROCHOT.

4.79 AMD_CPM_REBRAND_DUAL_GRAPHICS_SSID_ITEM Struct Reference

Rebrand Dual Graphics SSID Item Definition.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT16 VendorId
  Vendor Id.
- UINT16 DeviceId
  Device Id.
- UINT8 IsDgpu
  Is Igpu or Dgpu. 0: iGpu; 1: dGpu.

4.79.1 Detailed Description

Rebrand Dual Graphics SSID Item Definition.

4.80 AMD_CPM_REBRAND_DUAL_GRAPHICS_SSID_TABLE Struct Reference

Rebrand Dual Graphics SSID Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- AMD_CPM_REBRAND_DUAL_GRAPHICS_SSID_ITEM Item [AMD_REBAND_DUAL_GRAPHICS_SSID_DEVICE_SIZE]
  VendorId and Device Id List for Rebrand Dual Graphics SSID.

4.80.1 Detailed Description

Rebrand Dual Graphics SSID Table.

4.81 AMD_CPM_SATA_MODE_MASK Struct Reference

Convert from Device Id of SATA controller to SATA mode mask.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT16 DeviceId
  Device Id of SATA controller.
- UINT8 Mask
  SATA Mode Mask.

4.81.1 Detailed Description

Convert from Device Id of SATA controller to SATA mode mask.

4.82 AMD_CPM_SAVE_CONTEXT_TABLE Struct Reference

Save context definition table to define the area to save CPM context.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- UINT8 BufferType
  Buffer Type. 5: BIOS RAM. Other: Reserved.
- UINT8 BufferOffset
  Buffer Offset.
- UINT8 BufferSize
  Buffer Size.

4.82.1 Detailed Description

Save context definition table to define the area to save CPM context.

4.83 AMD_CPM_SMI_CHECK_TOOL_TABLE Struct Reference

SMI Check Tool Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.

- UINT8 SwSmiId
  Command to trigger SW SMI.
- UINT16 SwSmiRegister
  SW SMI Register.

4.83.1 Detailed Description

SMI Check Tool Table.

4.84 AMD_CPM_SMI_DATA Struct Reference

SMI Data.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT32 Signature
  Signature "$SCK".
- UINT8 SmiCpuCnt
  Total number of cores.
- AMD_CPM_LOCAL_SMI_STATUS SmiSts [AMD_MAX_CPU_CORE_NUMBERS]
  X-Total number of cores. Holds "LocalSMIStatus" structure for each core.

4.84.1 Detailed Description

SMI Data.

4.85 AMD_CPM_SPECIFIC_SSID_ITEM Struct Reference

Speccific SSID Item Definition.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT16 VendorId
  Vendor Id.
- UINT16 DeviceId
  Device Id.

4.85.1 Detailed Description

Speccific SSID Item Definition.

4.86 AMD_CPM_SPECIFIC_SSID_TABLE Struct Reference

Specific SSID Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- AMD_CPM_SPECIFIC_SSID_ITEM Item [AMD_SPECIFIC_SSID_DEVICE_SIZE]
  VendorId and Device Id List for Specific SSID.

4.86.1 Detailed Description

Specific SSID Table.

4.87 AMD_CPM_STRAP_SETTING Struct Reference

Structure for FCH Strap Data.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT32 ImcEnable:1
  Imc status. 0: Disable, 1: Enable.
- UINT32 InternalClock:1
  Internal clock status. 0: 25Mhz crystal clock, 1: 100Mhz PCI-E clock.
- UINT32 S5PlusSupport:1
  S5+ support. 0: not support. 1: support.

4.87.1 Detailed Description

Structure for FCH Strap Data.

4.88 AMD_CPM_TABLE_COMMON_HEADER Struct Reference

CPM table header.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT32 TableSignature
  Signature of CPM table.
- UINT16 TableSize
  Table size.
- UINT8 FormatRevision
  Revision of table format.
- UINT8 ContentRevision
  Revision of table contect.
- UINT32 PlatformMask
  The mask of platform table supports.
- UINT32 Attribute
  Table attribute.

4.88.1 Detailed Description

CPM table header.

4.89 AMD_CPM_TABLE_HOB_PPI Struct Reference

AMD CPM TABLE PPI Definition.

`#include <NDA/CPM/Library/Ppi/AmdCpmTableHobPpi/AmdCpmTableHobPpi.h>`

Data Fields

- UINTN Revision
  Revision Number.

4.89.1 Detailed Description

AMD CPM TABLE PPI Definition.

4.90 AMD_CPM_TABLE_ITEM Struct Reference

Item of CPM table list.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT32 TableId
  Signature of table.
- UINT8 Flag
  Location of table. 0: ROM. 1: RAM.
- AMD_CPM_POINTER SubTable
  Pointer of table.

4.90.1 Detailed Description

Item of CPM table list.

4.91 AMD_CPM_TABLE_LIST Struct Reference

CPM table list.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- UINT32 Number
  Table number to be recorded in the list.
- UINT32 Size
  Table size.
- AMD_CPM_TABLE_ITEM Item [AMD_TABLE_LIST_ITEM_SIZE]
  The array of CPM table.

4.91.1 Detailed Description

CPM table list.

4.92 AMD_CPM_TABLE_PPI Struct Reference

AMD CPM TABLE PPI Definition.

`#include <NDA/CPM/Library/Ppi/AmdCpmTablePpi/AmdCpmTablePpi.h>`

Data Fields

- UINTN Revision
  Revision Number.
- AMD_CPM_MAIN_TABLE * MainTablePtr
  Main Table of CPM.
- AMD_CPM_CHIP_ID ChipId
  Id of SB Chip.
- AMD_CPM_COMMON_FUNCTION CommonFunction
  Private Common Functions.
- AMD_CPM_PEIM_PUBLIC_FUNCTION PeimPublicFunction
  Public Function of PPI.

4.92.1 Detailed Description

AMD CPM TABLE PPI Definition.

4.93 AMD_CPM_TABLE_PROTOCOL Struct Reference

DXE Protocol Structure.

`#include <NDA/CPM/Library/Protocol/AmdCpmTableProtocol/AmdCpmTableProtocol.h>`

Data Fields

- UINTN Revision
  Protocol Revision.
- AMD_CPM_MAIN_TABLE * MainTablePtr
  Pointer to CPM Main Table.
- AMD_CPM_CHIP_ID ChipId
  Id of SB Chip.
- AMD_CPM_COMMON_FUNCTION CommonFunction
  Private Common Functions.
- AMD_CPM_DXE_PUBLIC_FUNCTION DxePublicFunction
  Public Function of Protocol.

4.93.1 Detailed Description

DXE Protocol Structure.

4.94 AMD_CPM_TDP_LIMIT_CHANGE_TABLE Struct Reference

TDP Limit Change Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- UINT8 SwSciBit
  Soft Sci Bit.
- UINT8 SwSmiId
  Command to trigger SW SMI.
- UINT16 SwSmiRegister
  SW SMI Register.

4.94.1 Detailed Description

TDP Limit Change Table.

4.95 AMD_CPM_WIRELESS_BUTTON_TABLE Struct Reference

Wireless Button Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- AMD_CPM_PCI_DEVICE_FUNCTION Bridge [4]
  Device & Function Number of PCIe Bridge.
- UINT8 EventPin
  GEVENT Pin.
- UINT8 DeviceIdRadio
  Device Id to control radio.
- UINT8 DeviceIdPower
  Device Id to control power.
- UINT8 DeviceIdOther
  Device Id to control other device.

4.95.1 Detailed Description

Wireless Button Table.

4.96 AMD_CPM_ZERO_POWER_ODD_TABLE Struct Reference

Zero Power Odd Table.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- AMD_CPM_TABLE_COMMON_HEADER Header
  Table header.
- UINT8 DeviceId
  Device Id.
- UINT8 EventPin1
  Event Pin Number for FCH_ODD_DA.
- UINT8 EventPin2
  Event Pin Number for ODD_PLUGIN#.
- UINT8 EventPin3
  Dummy Event.
- UINT8 SataModeSupportMask
  Mask of SATA mode to support BIT0: IDE Mode BIT1: AHCI Mode BIT2: RAID Mode BIT3: AMD AHCI Mode.
- UINT8 SataPortId
  Sata Port Number for Odd.

4.96.1 Detailed Description

Zero Power Odd Table.

4.97 CPM_DISPLAY_FEATURE_PRIVATE Struct Reference

Structure for Display Feature Private Data.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- VOID * DisplayFeatureTablePtr
  Pointer of Display Feature Table.

- VOID * DevicePathTablePtr
  Pointer of Device Path Table.
- VOID * SpecificSsidTablePtr
  Pointer of Specific SSID Table.
- VOID * RebrandDualGraphicsSsidTablePtr
  Pointer of Rebrand Dual Graphics SSID Table.
- AMD_CPM_DISPLAY_FEATURE_SUPPORT CurrentFeature
  Current Display Feature Support.
- AMD_CPM_PCI_PFA GfxBridgePfa [3]
  GfxBridgePfa. [0]: iGpu Pfa. [1]: dGpu Pfa [2]: dGpu Pfa.
- AMD_CPM_PCI_PFA GfxDevicePfa [3]
  GfxDevicePfa. [0]: iGpu Pfa. [1]: dGpu Pfa [2]: dGpu Pfa.
- UINT32 VBiosImage
  VBIOS Image Address.
- UINT32 VBiosImageSize
  VBIOS Image Size.
- BOOLEAN VBiosFlag
  VBIOS Flag. [1]: dGPU VBIOS Rom.
- UINT32 Ssid
  SSID for GPU.
- UINT32 Ssid2
  SSID for DGPU in when rebrand dual graphics is enabled.

4.97.1 Detailed Description

Structure for Display Feature Private Data.

4.98 CPM_OEM_SETUP_OPTION Struct Reference

Structure for Variables to be used for CPM.

`#include <NDA/CPM/Addendum/Oem/Bantry/Pei/AmdCpmOemInitPeim.h>`

Data Fields

- UINT8 SpecialVgaFeature

  Special Feature 0: Disabled 3: PowerXpress.

- UINT8 PowerExpressDynamicMode

  PX Dynamic Mode 0: Disabled 1: dGPU Power Down 2: PX ULPS mode.

- UINT8 PrimaryVideoAdaptor

  Primary Video Adaptor 0: Auto 1: Int Graphics (IGD).

- UINT8 DisplayOutput

  Display Output 0: FCH 1: MXM.

- UINT8 BrightnessControlMethod

  Brightness Control Method 0: Video BIOS 1: VGA driver.

- UINT8 BlueToothEn

  BlurTooth Device 0: Auto 1: Disabled.

- UINT8 ZeroPowerOddEn

  AMD ODD Zero Power 0: Disabled 1: Enabled.

- UINT8 SystemBootWithPS0

  System Boot with PS0 0: Yes 1: No.

- UINT8 UnusedGppClkOff

  Unused GPP Clocks Off 0: Disabled 1: Enabled.

- UINT8 ClockRequest

  Clock Request 0: Disable 1: Enable.

- UINT8 AcpiThermalFanEn

  ACPI Thermal Fan Control 0: Disabled 1: Enabled.

- UINT8 AdaptiveS4En

  Adaptive S4 Control 0: Disabled 1: Enabled with EC Method 2: Enabled with RTC Method.

- UINT8 SpreadSpectrumSwitch

  External Spread Spectrum Control 0: Disabled 1: Enabled.

- UINT8 WirelessSwitch

  Wireless Switch 0: Radio Off 1: Power down.

- UINT8 PX56Support

  PowerXpress 5.6 support 0: Disable 1: Enable.

- UINT8 GfxLinkCfg

  GFX link configuration 0: 1 x16 PCIe GFX slot 1: 2 x8 PCIe GFX slots.

- UINT8 OnboardLanSwitch

  On Board Lan control 0: Disabled 1: Enabled.

- UINT8 MiniPcieSlotEnable

  Mini PCIe slot control 0: Disabled 1: Enabled.

- UINT8 WirelessLanRfEnable

  Wireless Lan RF control 0: Disabled 1: Enabled.

- UINT8 PcieDdiDetection

  DDI port detection 0: Disabled 1: Enabled.

4.98.1 Detailed Description

Structure for Variables to be used for CPM.

4.99 CPU_REVISION_ITEM Struct Reference

Structure for CPU revision.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT32 Mask

  CPU Id Mask.

- UINT32 Value

  Value.

- UINT8 CpuRevision

  Cpu Revision.

- UINT8 PcieRevision

  PCIe bridge revision.

4.99.1 Detailed Description

Structure for CPU revision.

4.100 PCIE_BRIDGE_NAME Struct Reference

Convert from PCIe device and function number to ASL name.

`#include <NDA/CPM/Include/AmdCpmCommon.h>`

Data Fields

- UINT8 PcieRevision
  PCIe bridge revision.
- UINT8 Device
  Device number of PCIe bridge.
- UINT8 Function
  Function number of PCIe bridge.
- UINT8 NameId
  ASL name id of PCIe bridge.
- UINT32 Name
  ASL name of PCIe bridge.

4.100.1 Detailed Description

Convert from PCIe device and function number to ASL name.

5 File Documentation

5.1 NDA/CPM/Addendum/Oem/Ballina/AmdCpmPlatform.h File Reference

AMD CPM OEM API, and related functions.

5.1.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the definition for platform.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.2 NDA/CPM/Addendum/Oem/Bantry/AmdCpmPlatform.h File Reference

AMD CPM OEM API, and related functions.

5.2.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the definition for platform.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.3 NDA/CPM/Include/AmdCpmPlatform.h File Reference

AMD CPM structures and definitions.

5.3.1 Detailed Description

AMD CPM structures and definitions. Contains AMD CPM Platform Interface

File Content Label

project: CPM *sub-project*: Include *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.4 NDA/CPM/Addendum/Oem/Ballina/Pei/AmdCpmOem.h File Reference

AMD CPM OEM API, and related functions.

5.4.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the definition for setup option.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.5 NDA/CPM/Addendum/Oem/Bantry/Pei/AmdCpmOem.h File Reference

AMD CPM OEM API, and related functions.

5.5.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the definition for setup option.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.6 NDA/CPM/Addendum/Oem/Ballina/Pei/AmdCpmOemInitPeim.c File Reference

AMD CPM OEM API, and related functions. `#include <AmdCpmPei.h>`

```
#include "AmdCpmOemInitPeim.h"
#include "GnbPcieTopologyTable.h"
```

Functions

- EFI_STATUS EFIAPI CpmTableOverride (IN EFI_PEI_SERVICES **PeiServices)

  CPM Override Function After AMD CPM Table PPI.

- EFI_STATUS EFIAPI CpmOverrideTableNotifyCallback (IN EFI_PEI_SERVICES **PeiServices, IN EFI_PEI_NOTIFY_DESCRIPTOR *NotifyDescriptor, IN VOID *Ppi)

  Callback Function to Override CPM OEM Definition Tables.

- EFI_STATUS EFIAPI AmdCpmOemInitPeimEntryPoint (IN CPM_PEI_FILE_HANDLE FileHandle, IN CPM_PEI_SERVICES **PeiServices)

  Entry point of the AMD CPM OEM Init PEIM driver.

5.6.1 Detailed Description

AMD CPM OEM API, and related functions. Contains OEM code that defined CPM tables before CPM init.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 285127 $ *$Date:* 2014-02-18 10:33:07 -0600 (Tue, 18 Feb 2014) $

5.6.2 Function Documentation

5.6.2.1 EFI_STATUS EFIAPI CpmTableOverride (IN EFI_PEI_SERVICES ** *PeiServices*)

CPM Override Function After AMD CPM Table PPI. This function updates CPM OEM Tables according to setup options or the value to be detected on run time after AMD CPM Table PPI is installed.

Parameters:

← ***PeiServices*** Pointer to Pei Services

Return values:

EFI_SUCCESS Function initialized successfully

EFI_ERROR Function failed (see error for more details)

Referenced by CpmOverrideTableNotifyCallback().

5.6.2.2 EFI_STATUS EFIAPI CpmOverrideTableNotifyCallback (IN EFI_PEI_SERVICES ** *PeiServices*, IN EFI_PEI_NOTIFY_DESCRIPTOR * *NotifyDescriptor*, IN VOID * *Ppi*)

Callback Function to Override CPM OEM Definition Tables.

Parameters:

← ***PeiServices*** The PEI core services table.

← ***NotifyDescriptor*** The descriptor for the notification event.

← ***Ppi*** Pointer to the PPI in question

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References CpmTableOverride().

5.6.2.3 EFI_STATUS EFIAPI AmdCpmOemInitPeimEntryPoint (IN CPM_PEI_FILE_HANDLE *FileHandle*, IN CPM_PEI_SERVICES ** *PeiServices*)

Entry point of the AMD CPM OEM Init PEIM driver. This function defines CPM OEM definition tables and installs AmdCpmOemTablePpi. It also defines callback function to update these definition table on run time.

Parameters:

← ***FileHandle*** Pointer to the firmware file system header

← ***PeiServices*** Pointer to Pei Services

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AMD_CPM_OEM_TABLE_PPI::PlatformId, AMD_CPM_OEM_TABLE_PPI::Revision, and AMD_CPM_OEM_TABLE_PPI::TableList.

5.7 NDA/CPM/Addendum/Oem/Bantry/Pei/AmdCpmOemInitPeim.c File Reference

AMD CPM OEM API, and related functions. `#include <AmdCpmPei.h>`

`#include "AmdCpmOemInitPeim.h"`

`#include "GnbPcieTopologyTable.h"`

Functions

- EFI_STATUS EFIAPI CpmTableOverride (IN EFI_PEI_SERVICES **PeiServices)

  CPM Override Function After AMD CPM Table PPI.

- EFI_STATUS EFIAPI CpmOverrideTableNotifyCallback (IN EFI_PEI_SERVICES **PeiServices, IN EFI_PEI_NOTIFY_DESCRIPTOR *NotifyDescriptor, IN VOID *Ppi)

  Callback Function to Override CPM OEM Definition Tables.

- EFI_STATUS EFIAPI AmdCpmOemInitPeimEntryPoint (IN CPM_PEI_FILE_HANDLE FileHandle, IN CPM_PEI_SERVICES **PeiServices)

  Entry point of the AMD CPM OEM Init PEIM driver.

5.7.1 Detailed Description

AMD CPM OEM API, and related functions. Contains OEM code that defined CPM tables before CPM init.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.7.2 Function Documentation

5.7.2.1 EFI_STATUS EFIAPI CpmTableOverride (IN EFI_PEI_SERVICES ** *PeiServices*)

CPM Override Function After AMD CPM Table PPI. This function updates CPM OEM Tables according to setup options or the value to be detected on run time after AMD CPM Table PPI is installed.

Parameters:

← ***PeiServices*** Pointer to Pei Services

Return values:

EFI_SUCCESS Function initialized successfully

EFI_ERROR Function failed (see error for more details)

References CPM_OEM_SETUP_OPTION::AcpiThermalFanEn, AMD_CPM_MAIN_TABLE::AcpiThermalFanEn, CPM_OEM_SETUP_OPTION::AdaptiveS4En, AMD_CPM_MAIN_TABLE::AdaptiveS4En, CPM_OEM_SETUP_OPTION::BlueToothEn, CPM_OEM_SETUP_OPTION::BrightnessControlMethod, CLK_DISABLE, CLK_ENABLE, AMD_CPM_PCIE_CLOCK_ITEM::ClkId, AMD_CPM_PCIE_CLOCK_ITEM::ClkReq, AMD_CPM_PCIE_CLOCK_ITEM::ClkReqExt, CPM_OEM_SETUP_OPTION::ClockRequest, AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_EC_CONFIG::Config, CPM_SIGNATURE_DISPLAY_FEATURE, CPM_SIGNATURE_GPIO_DEVICE_CONFIG, CPM_SIGNATURE_PCIE_CLOCK, CPM_SIGNATURE_PCIE_TOPOLOGY, CPM_SIGNATURE_PCIE_TOPOLOGY_OVERRIDE, CpmOemSetupOption(), DetectPcieDevices(), DEVICE_ID_BT, DEVICE_ID_GFX_LINK_CFG, DEVICE_ID_LAN, DEVICE_ID_MPCIE, DEVICE_ID_VGAMUXSEL, DEVICE_ID_WLAN_RF, DFC_DGPU_PRIMARY, DFC_HYPER_CROSS_FIRE, DFC_SURROUND_VIEW, AMD_CPM_MAIN_TABLE::DisplayFeature, CPM_OEM_SETUP_OPTION::DisplayOutput, AMD_CPM_MAIN_TABLE::Ec, AMD_CPM_MAIN_TABLE::ExtClkGen, AMD_CPM_DISPLAY_FEATURE_TABLE::FunctionDisableMask, AMD_CPM_COMMON_FUNCTION::GetTablePtr, CPM_OEM_SETUP_OPTION::GfxLinkCfg, AMD_CPM_PCIE_CLOCK_TABLE::Item, AMD_CPM_TABLE_PPI::MainTablePtr, CPM_OEM_SETUP_OPTION::MiniPcieSlotEnable, CPM_OEM_SETUP_OPTION::OnboardLanSwitch, CPM_OEM_SETUP_OPTION::PowerExpressDynamicMode, CPM_OEM_SETUP_OPTION::PrimaryVideoAdaptor, CPM_OEM_SETUP_OPTION::PX56Support, AMD_CPM_DISPLAY_FEATURE_CONFIG::Raw, AMD_CPM_EC_CONFIG::S5PlusEn, SetDevice(), CPM_OEM_SETUP_OPTION::SpecialVgaFeature, CPM_OEM_SETUP_OPTION::SpreadSpectrumSwitch, CPM_OEM_SETUP_OPTION::SystemBootWithPS0, CPM_OEM_SETUP_OPTION::UnusedGppClkOff, AMD_CPM_MAIN_TABLE::UnusedGppClkOffEn, AMD_CPM_MAIN_TABLE::WirelessButtonEn, CPM_OEM_SETUP_OPTION::WirelessLanRfEnable, CPM_OEM_SETUP_OPTION::WirelessSwitch, CPM_OEM_SETUP_OPTION::ZeroPowerOddEn, and AMD_CPM_MAIN_TABLE::ZeroPowerOddEn.

5.7.2.2 EFI_STATUS EFIAPI CpmOverrideTableNotifyCallback (IN EFI_PEI_SERVICES ** *PeiServices*, IN EFI_PEI_NOTIFY_DESCRIPTOR * *NotifyDescriptor*, IN VOID * *Ppi*)

Callback Function to Override CPM OEM Definition Tables.

Parameters:

← ***PeiServices*** The PEI core services table.

← ***NotifyDescriptor*** The descriptor for the notification event.

← ***Ppi*** Pointer to the PPI in question

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References CpmTableOverride().

5.7.2.3 EFI_STATUS EFIAPI AmdCpmOemInitPeimEntryPoint (IN CPM_PEI_FILE_HANDLE *FileHandle*, IN CPM_PEI_SERVICES ** *PeiServices*)

Entry point of the AMD CPM OEM Init PEIM driver. This function defines CPM OEM definition tables and installs AmdCpmOemTablePpi. It also defines callback function to update these definition table on run time.

Parameters:

← ***FileHandle*** Pointer to the firmware file system header

← ***PeiServices*** Pointer to Pei Services

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AMD_CPM_OEM_TABLE_PPI::PlatformId, AMD_CPM_OEM_TABLE_PPI::Revision, and AMD_CPM_OEM_TABLE_PPI::TableList.

5.8 NDA/CPM/Addendum/Oem/Ballina/Pei/AmdCpmOemInitPeim.h File Reference

AMD CPM OEM API, and related functions.

Data Structures

- struct CPM_OEM_SETUP_OPTION

  Structure for Variables to be used for CPM.

Enumerations

- enum CPM_GPIO_DEVICE_ID {

  DEVICE_ID_ODD = 0x01, DEVICE_ID_DMC = 0x02, DEVICE_ID_MPCIE1 = 0x03, DEVICE_ID_MPCIE2 = 0x04,

  DEVICE_ID_MXM = 0x05, DEVICE_ID_DT = 0x06, DEVICE_ID_LAN = 0x07, DEVICE_ID_DDI3 = 0x08,

  DEVICE_ID_EXPRESSCARD = 0x09, DEVICE_ID_HDD0 = 0x0A, DEVICE_ID_HDD2 = 0x0B, DEVICE_ID_BT = 0x0C,

  DEVICE_ID_WIRELESS = 0x0D, DEVICE_ID_RADIO = 0x0E, DEVICE_ID_SWINGMODE = 0x10, DEVICE_ID_POWERLEVEL = 0x11,

  DEVICE_ID_VGAMUXSEL = 0x12, DEVICE_ID_APU_SB_UMI = 0x13, DEVICE_ID_GFX0 = 0x01, DEVICE_ID_GFX1,

  DEVICE_ID_APU_GPP, DEVICE_ID_SB_GPP0, DEVICE_ID_SB_GPP1, DEVICE_ID_SB_GPP2,

  DEVICE_ID_SB_GPP3, DEVICE_ID_DP1_HP, DEVICE_ID_MPCIE, DEVICE_ID_LAN,

  DEVICE_ID_FRONT_AUDIO, DEVICE_ID_WLAN_RF, DEVICE_ID_PCIE_CARD, DEVICE_ID_DDI,

  DEVICE_ID_DUNGLE_DP2, DEVICE_ID_DUNGLE_DP3, DEVICE_ID_DUNGLE_DP4, DEVICE_ID_DUNGLE_DP5,

  DEVICE_ID_VGAMUXSEL, DEVICE_ID_GFX_LINK_CFG, DEVICE_ID_DAP, DEVICE_ID_APU_SB_UMI }

  Physical or virtual on-board device Id.

- enum CPM_GPP_CLK {

  GPP_CLK0 = 0x00, GPP_CLK1, GPP_CLK2, GPP_CLK3,

  GPP_CLK4, GPP_CLK5, GPP_CLK6, GPP_CLK7,

  GPP_CLK8, GPP_CLK9, GPP_CLK0 = 0x00, GPP_CLK1,

  GPP_CLK2, GPP_CLK3, GPP_CLK4, GPP_CLK5,

  GPP_CLK6, GPP_CLK7, GPP_CLK8, GPP_CLK9 }

  Configuration values for GppClk in Fch.

- enum CPM_SRC_CLK {

  SRC_CLK0 = 0x00, SRC_CLK1, SRC_CLK2, SRC_CLK3,

  SRC_CLK4, SRC_CLK5, SRC_CLK6, SRC_CLK7,

  SRC_CLK8, SRC_CLK9, SRC_SKIP = 0xFE, SRC_CLK0 = 0x00,

  SRC_CLK1, SRC_CLK2, SRC_CLK3, SRC_CLK4,

  SRC_CLK5, SRC_CLK6, SRC_CLK7, SRC_CLK8,

  SRC_CLK9 }

  Configuration values for SrcClk in ClkGen.

- enum CPM_CLK_REQ {

  CLK_DISABLE = 0x00, CLK_REQ0, CLK_REQ1, CLK_REQ2,

  CLK_REQ3, CLK_REQ4, CLK_REQ5, CLK_REQ6,

  CLK_REQ7, CLK_REQ8, CLK_REQGFX, CLK_ENABLE = 0xFF,

CLK_DISABLE = 0x00, CLK_REQ0, CLK_REQ1, CLK_REQ2,
CLK_REQ3, CLK_REQ4, CLK_REQ5, CLK_REQ6,
CLK_REQ7, CLK_REQ8, CLK_REQGFX, CLK_ENABLE = 0xFF }

Configuration values for ClkReq.

- enum CPM_SLOT_CHECK { NON_SLOT_CHECK = 0x00, SLOT_CHECK, NON_SLOT_CHECK = 0x00, SLOT_CHECK }

  Configuration values for Slot Check.

- enum CPM_DISPLAY_FEATURE_CONFIG_OFFSET {
  DFC_PX_FIXED_MODE = 0, DFC_PX_DYNAMIC_MODE = 1, DFC_HYPER_CROSS_FIRE = 3, DFC_SURROUND_VIEW = 4,
  DFC_DGPU_PRIMARY = 8, DFC_BRIGHNESS_BY_DRIVER = 9, DFC_DISABLE_DGPU_AUDIO_IN_PX = 10, DFC_PX_FIXED_MODE = 0,
  DFC_PX_DYNAMIC_MODE = 1, DFC_HYPER_CROSS_FIRE = 3, DFC_SURROUND_VIEW = 4, DFC_DGPU_PRIMARY = 8,
  DFC_BRIGHNESS_BY_DRIVER = 9, DFC_DISABLE_DGPU_AUDIO_IN_PX = 10 }

  Offset of Display Feature Config.

Functions

- EFI_STATUS EFIAPI CpmOemSetupOption (IN EFI_PEI_SERVICES **PeiServices, IN CPM_OEM_SETUP_OPTION *SetupOption)

  Update Setup Options.

5.8.1 Detailed Description

AMD CPM OEM API, and related functions. Contains OEM code that defined CPM tables before CPM init.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 290554 $ *$Date:* 2014-04-23 10:58:35 -0500 (Wed, 23 Apr 2014) $

5.8.2 Enumeration Type Documentation

5.8.2.1 enum CPM_GPIO_DEVICE_ID

Physical or virtual on-board device Id.

Enumerator:

DEVICE_ID_ODD Device Id for ODD.

DEVICE_ID_DMC Device Id for DMC.

DEVICE_ID_MPCIE1 Device Id for Mini PCIE 1.

DEVICE_ID_MPCIE2 Device Id for Mini PCIE 2.

DEVICE_ID_MXM Device Id for MXM.

DEVICE_ID_DT Device Id for DT MPCIE.

DEVICE_ID_LAN Device Id for On-board LAN.

DEVICE_ID_DDI3 Device Id for DDI3.

DEVICE_ID_EXPRESSCARD Device Id for Express Card.

DEVICE_ID_HDD0 Device Id for HDD0.

DEVICE_ID_HDD2 Device Id for HDD2.

DEVICE_ID_BT Device Id for BlueTooth.

DEVICE_ID_WIRELESS Device Id for WLAN, WWAN, Mini PCIE on DMC slot.

DEVICE_ID_RADIO Device Id for Radio of WLAN, WWAN, Mini PCIE on DMC slot.

DEVICE_ID_SWINGMODE Device Id for virtual device to switch PEX_STD_SW#.

DEVICE_ID_POWERLEVEL Device Id for virtual device to switch FCH_PWR_LV.

DEVICE_ID_VGAMUXSEL Device Id for virtual device to switch VGA_MUX_SEL.

DEVICE_ID_APU_SB_UMI Device Id for SB UMI.

DEVICE_ID_GFX0 Device Id for GFX0.

DEVICE_ID_GFX1 Device Id for GFX1.

DEVICE_ID_APU_GPP Device Id for APU GPP.

DEVICE_ID_SB_GPP0 Device Id for SB GPP0.

DEVICE_ID_SB_GPP1 Device Id for SB GPP1.

DEVICE_ID_SB_GPP2 Device Id for SB GPP2.

DEVICE_ID_SB_GPP3 Device Id for SB GPP3.

DEVICE_ID_DP1_HP Device Id for DP1 hot plug detect.

DEVICE_ID_MPCIE Device Id for Mini PCIE.

DEVICE_ID_LAN Device Id for On Board LAN.

DEVICE_ID_FRONT_AUDIO Device Id for Front Audio.

DEVICE_ID_WLAN_RF Device Id for WLAN.

DEVICE_ID_PCIE_CARD Device Id for PCIE card.

DEVICE_ID_DDI Device Id for DDI card.

DEVICE_ID_DUNGLE_DP2 Device Id for DP2 attached device.

DEVICE_ID_DUNGLE_DP3 Device Id for DP3 attached device.

DEVICE_ID_DUNGLE_DP4 Device Id for DP4 attached device.

DEVICE_ID_DUNGLE_DP5 Device Id for DP5 attached device.

DEVICE_ID_VGAMUXSEL Device Id for VGA MUX.

DEVICE_ID_GFX_LINK_CFG Device Id for GFX link configuration.

DEVICE_ID_DAP Device Id for Bantry DAP board.

DEVICE_ID_APU_SB_UMI Device Id for APU GPP.

5.8.2.2 enum CPM_GPP_CLK

Configuration values for GppClk in Fch.

Enumerator:

GPP_CLK0 GPP_CLK0.
GPP_CLK1 GPP_CLK1.
GPP_CLK2 GPP_CLK2.
GPP_CLK3 GPP_CLK3.
GPP_CLK4 GPP_CLK4.
GPP_CLK5 GPP_CLK5.
GPP_CLK6 GPP_CLK6.
GPP_CLK7 GPP_CLK7.
GPP_CLK8 GPP_CLK8.
GPP_CLK9 GFX_CLK.
GPP_CLK0 GPP_CLK0.
GPP_CLK1 GPP_CLK1.
GPP_CLK2 GPP_CLK2.
GPP_CLK3 GPP_CLK3.
GPP_CLK4 GPP_CLK4.
GPP_CLK5 GPP_CLK5.
GPP_CLK6 GPP_CLK6.
GPP_CLK7 GPP_CLK7.
GPP_CLK8 GPP_CLK8.
GPP_CLK9 GFX_CLK.

5.8.2.3 enum CPM_SRC_CLK

Configuration values for SrcClk in ClkGen.

Enumerator:

SRC_CLK0 SRC0.
SRC_CLK1 SRC1.
SRC_CLK2 SRC2.
SRC_CLK3 SRC3.
SRC_CLK4 SRC4.
SRC_CLK5 SRC5.
SRC_CLK6 SRC6.
SRC_CLK7 SRC7.
SRC_CLK8 SRC8.

SRC_CLK9 SRC9.
SRC_SKIP SKIP.
SRC_CLK0 SRC0.
SRC_CLK1 SRC1.
SRC_CLK2 SRC2.
SRC_CLK3 SRC3.
SRC_CLK4 SRC4.
SRC_CLK5 SRC5.
SRC_CLK6 SRC6.
SRC_CLK7 SRC7.
SRC_CLK8 SRC8.
SRC_CLK9 SRC9.

5.8.2.4 enum CPM_CLK_REQ

Configuration values for ClkReq.

Enumerator:

CLK_DISABLE CLK_DISABLE.
CLK_REQ0 CLK_REQ0.
CLK_REQ1 CLK_REQ1.
CLK_REQ2 CLK_REQ2.
CLK_REQ3 CLK_REQ3.
CLK_REQ4 CLK_REQ4.
CLK_REQ5 CLK_REQ5.
CLK_REQ6 CLK_REQ6.
CLK_REQ7 CLK_REQ7.
CLK_REQ8 CLK_REQ8.
CLK_REQGFX CLK_REQG.
CLK_ENABLE CLK_ENABLE.
CLK_DISABLE CLK_DISABLE.
CLK_REQ0 CLK_REQ0.
CLK_REQ1 CLK_REQ1.
CLK_REQ2 CLK_REQ2.
CLK_REQ3 CLK_REQ3.
CLK_REQ4 CLK_REQ4.
CLK_REQ5 CLK_REQ5.
CLK_REQ6 CLK_REQ6.
CLK_REQ7 CLK_REQ7.
CLK_REQ8 CLK_REQ8.
CLK_REQGFX CLK_REQG.
CLK_ENABLE CLK_ENABLE.

5.8.2.5 enum CPM_SLOT_CHECK

Configuration values for Slot Check.

Enumerator:

NON_SLOT_CHECK Do not check the device on slot.

SLOT_CHECK Check PCI space of the device on slot.

NON_SLOT_CHECK Do not check the device on slot.

SLOT_CHECK Check PCI space of the device on slot.

5.8.2.6 enum CPM_DISPLAY_FEATURE_CONFIG_OFFSET

Offset of Display Feature Config.

Enumerator:

DFC_PX_FIXED_MODE PowerXpress Fixed Mode.

DFC_PX_DYNAMIC_MODE PowerXpress Dynamic Mode.

DFC_HYPER_CROSS_FIRE Hyper Cross Fire.

DFC_SURROUND_VIEW Surround View.

DFC_DGPU_PRIMARY Primary Display.

DFC_BRIGHNESS_BY_DRIVER Brightness Controlled by Driver.

DFC_DISABLE_DGPU_AUDIO_IN_PX Disable dGPU Audio in PowerXpress.

DFC_PX_FIXED_MODE PowerXpress Fixed Mode.

DFC_PX_DYNAMIC_MODE PowerXpress Dynamic Mode.

DFC_HYPER_CROSS_FIRE Hyper Cross Fire.

DFC_SURROUND_VIEW Surround View.

DFC_DGPU_PRIMARY Primary Display.

DFC_BRIGHNESS_BY_DRIVER Brightness Controlled by Driver.

DFC_DISABLE_DGPU_AUDIO_IN_PX Disable dGPU Audio in PowerXpress.

5.8.3 Function Documentation

5.8.3.1 EFI_STATUS EFIAPI CpmOemSetupOption (IN EFI_PEI_SERVICES ∗∗ *PeiServices*, IN CPM_OEM_SETUP_OPTION ∗ *SetupOption*)

Update Setup Options. This function reads setup options from ReadOnlyVariable and fills in the data structure of CPM OEM Setup Option.

Parameters:

← ***PeiServices*** Pointer to Pei Services

← ***SetupOption*** Pointer to CPM Setup Option Data

Return values:

EFI_SUCCESS Function initialized successfully

EFI_ERROR Function failed (see error for more details)

Referenced by CpmTableOverride().

5.9 NDA/CPM/Addendum/Oem/Bantry/Pei/AmdCpmOemInitPeim.h File Reference

AMD CPM OEM API, and related functions.

Data Structures

- struct CPM_OEM_SETUP_OPTION

  Structure for Variables to be used for CPM.

Enumerations

- enum CPM_GPIO_DEVICE_ID {

  DEVICE_ID_ODD = 0x01, DEVICE_ID_DMC = 0x02, DEVICE_ID_MPCIE1 = 0x03, DEVICE_ID_MPCIE2 = 0x04,

  DEVICE_ID_MXM = 0x05, DEVICE_ID_DT = 0x06, DEVICE_ID_LAN = 0x07, DEVICE_ID_DDI3 = 0x08,

  DEVICE_ID_EXPRESSCARD = 0x09, DEVICE_ID_HDD0 = 0x0A, DEVICE_ID_HDD2 = 0x0B, DEVICE_ID_BT = 0x0C,

  DEVICE_ID_WIRELESS = 0x0D, DEVICE_ID_RADIO = 0x0E, DEVICE_ID_SWINGMODE = 0x10, DEVICE_ID_POWERLEVEL = 0x11,

  DEVICE_ID_VGAMUXSEL = 0x12, DEVICE_ID_APU_SB_UMI = 0x13, DEVICE_ID_GFX0 = 0x01, DEVICE_ID_GFX1,

  DEVICE_ID_APU_GPP, DEVICE_ID_SB_GPP0, DEVICE_ID_SB_GPP1, DEVICE_ID_SB_GPP2,

  DEVICE_ID_SB_GPP3, DEVICE_ID_DP1_HP, DEVICE_ID_MPCIE, DEVICE_ID_LAN,

  DEVICE_ID_FRONT_AUDIO, DEVICE_ID_WLAN_RF, DEVICE_ID_PCIE_CARD, DEVICE_ID_DDI,

  DEVICE_ID_DUNGLE_DP2, DEVICE_ID_DUNGLE_DP3, DEVICE_ID_DUNGLE_DP4, DEVICE_ID_DUNGLE_DP5,

  DEVICE_ID_VGAMUXSEL, DEVICE_ID_GFX_LINK_CFG, DEVICE_ID_DAP, DEVICE_ID_APU_SB_UMI }

  Physical or virtual on-board device Id.

- enum CPM_GPP_CLK {

  GPP_CLK0 = 0x00, GPP_CLK1, GPP_CLK2, GPP_CLK3,

  GPP_CLK4, GPP_CLK5, GPP_CLK6, GPP_CLK7,

GPP_CLK8, GPP_CLK9, GPP_CLK0 = 0x00, GPP_CLK1,
GPP_CLK2, GPP_CLK3, GPP_CLK4, GPP_CLK5,
GPP_CLK6, GPP_CLK7, GPP_CLK8, GPP_CLK9 }

Configuration values for GppClk in Fch.

- enum CPM_SRC_CLK {
  SRC_CLK0 = 0x00, SRC_CLK1, SRC_CLK2, SRC_CLK3,
  SRC_CLK4, SRC_CLK5, SRC_CLK6, SRC_CLK7,
  SRC_CLK8, SRC_CLK9, SRC_SKIP = 0xFE, SRC_CLK0 = 0x00,
  SRC_CLK1, SRC_CLK2, SRC_CLK3, SRC_CLK4,
  SRC_CLK5, SRC_CLK6, SRC_CLK7, SRC_CLK8,
  SRC_CLK9 }

  Configuration values for SrcClk in ClkGen.

- enum CPM_CLK_REQ {
  CLK_DISABLE = 0x00, CLK_REQ0, CLK_REQ1, CLK_REQ2,
  CLK_REQ3, CLK_REQ4, CLK_REQ5, CLK_REQ6,
  CLK_REQ7, CLK_REQ8, CLK_REQGFX, CLK_ENABLE = 0xFF,
  CLK_DISABLE = 0x00, CLK_REQ0, CLK_REQ1, CLK_REQ2,
  CLK_REQ3, CLK_REQ4, CLK_REQ5, CLK_REQ6,
  CLK_REQ7, CLK_REQ8, CLK_REQGFX, CLK_ENABLE = 0xFF }

  Configuration values for ClkReq.

- enum CPM_SLOT_CHECK { NON_SLOT_CHECK = 0x00, SLOT_CHECK, NON_SLOT_-CHECK = 0x00, SLOT_CHECK }

  Configuration values for Slot Check.

- enum CPM_REGISTER_ACCESS_TYPE { SB_MMIO_ACCESS, PCI_REG_ACCESS, EXT_-PCI_REG_ACCESS }

  Registers' access type.

- enum CPM_PCIE_PORT_DESCRIPRTO_OFFSET {
  PCIE_PORT_GFX0_OFFSET = 0, PCIE_PORT_GFX1_OFFSET, PCIE_PORT_GPP0_OFFSET,
  PCIE_PORT_GPP1_OFFSET,
  PCIE_PORT_GPP2_OFFSET, PCIE_PORT_GPP3_OFFSET }

  The offset in PCIe Port Descriptor List.

- enum CPM_PCIE_DDI_DESCRIPTOR_OFFSET {
  PCIE_DDI_PORT0_OFFSET = 0, PCIE_DDI_PORT1_OFFSET, PCIE_DDI_PORT2_OFFSET,
  PCIE_DDI_PORT3_OFFSET,
  PCIE_GFX_DDI_PORT0_OFFSET, PCIE_GFX_DDI_PORT1_OFFSET, PCIE_GFX_DDI_-PORT2_OFFSET, PCIE_GFX_DDI_PORT3_OFFSET }

  The offset in PCIe DDI Descriptor List.

- enum CPM_DISPLAY_FEATURE_CONFIG_OFFSET {
  DFC_PX_FIXED_MODE = 0, DFC_PX_DYNAMIC_MODE = 1, DFC_HYPER_CROSS_FIRE = 3, DFC_SURROUND_VIEW = 4,
  DFC_DGPU_PRIMARY = 8, DFC_BRIGHNESS_BY_DRIVER = 9, DFC_DISABLE_DGPU_AUDIO_IN_PX = 10, DFC_PX_FIXED_MODE = 0,
  DFC_PX_DYNAMIC_MODE = 1, DFC_HYPER_CROSS_FIRE = 3, DFC_SURROUND_VIEW = 4, DFC_DGPU_PRIMARY = 8,
  DFC_BRIGHNESS_BY_DRIVER = 9, DFC_DISABLE_DGPU_AUDIO_IN_PX = 10 }
  Offset of Display Feature Config.

Functions

- EFI_STATUS EFIAPI CpmOemSetupOption (IN EFI_PEI_SERVICES **PeiServices, IN CPM_OEM_SETUP_OPTION *SetupOption)
  Update Setup Options.

5.9.1 Detailed Description

AMD CPM OEM API, and related functions. Contains OEM code that defined CPM tables before CPM init.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 290554 $ *$Date:* 2014-04-23 10:58:35 -0500 (Wed, 23 Apr 2014) $

5.9.2 Enumeration Type Documentation

5.9.2.1 enum CPM_GPIO_DEVICE_ID

Physical or virtual on-board device Id.

Enumerator:

DEVICE_ID_ODD Device Id for ODD.

DEVICE_ID_DMC Device Id for DMC.

DEVICE_ID_MPCIE1 Device Id for Mini PCIE 1.

DEVICE_ID_MPCIE2 Device Id for Mini PCIE 2.

DEVICE_ID_MXM Device Id for MXM.

DEVICE_ID_DT Device Id for DT MPCIE.

DEVICE_ID_LAN Device Id for On-board LAN.

DEVICE_ID_DDI3 Device Id for DDI3.

DEVICE_ID_EXPRESSCARD Device Id for Express Card.

DEVICE_ID_HDD0 Device Id for HDD0.

DEVICE_ID_HDD2 Device Id for HDD2.

DEVICE_ID_BT Device Id for BlueTooth.
DEVICE_ID_WIRELESS Device Id for WLAN, WWAN, Mini PCIE on DMC slot.
DEVICE_ID_RADIO Device Id for Radio of WLAN, WWAN, Mini PCIE on DMC slot.
DEVICE_ID_SWINGMODE Device Id for virtual device to switch PEX_STD_SW#.
DEVICE_ID_POWERLEVEL Device Id for virtual device to switch FCH_PWR_LV.
DEVICE_ID_VGAMUXSEL Device Id for virtual device to switch VGA_MUX_SEL.
DEVICE_ID_APU_SB_UMI Device Id for SB UMI.
DEVICE_ID_GFX0 Device Id for GFX0.
DEVICE_ID_GFX1 Device Id for GFX1.
DEVICE_ID_APU_GPP Device Id for APU GPP.
DEVICE_ID_SB_GPP0 Device Id for SB GPP0.
DEVICE_ID_SB_GPP1 Device Id for SB GPP1.
DEVICE_ID_SB_GPP2 Device Id for SB GPP2.
DEVICE_ID_SB_GPP3 Device Id for SB GPP3.
DEVICE_ID_DP1_HP Device Id for DP1 hot plug detect.
DEVICE_ID_MPCIE Device Id for Mini PCIE.
DEVICE_ID_LAN Device Id for On Board LAN.
DEVICE_ID_FRONT_AUDIO Device Id for Front Audio.
DEVICE_ID_WLAN_RF Device Id for WLAN.
DEVICE_ID_PCIE_CARD Device Id for PCIE card.
DEVICE_ID_DDI Device Id for DDI card.
DEVICE_ID_DUNGLE_DP2 Device Id for DP2 attached device.
DEVICE_ID_DUNGLE_DP3 Device Id for DP3 attached device.
DEVICE_ID_DUNGLE_DP4 Device Id for DP4 attached device.
DEVICE_ID_DUNGLE_DP5 Device Id for DP5 attached device.
DEVICE_ID_VGAMUXSEL Device Id for VGA MUX.
DEVICE_ID_GFX_LINK_CFG Device Id for GFX link configuration.
DEVICE_ID_DAP Device Id for Bantry DAP board.
DEVICE_ID_APU_SB_UMI Device Id for APU GPP.

5.9.2.2 enum CPM_GPP_CLK

Configuration values for GppClk in Fch.

Enumerator:

GPP_CLK0 GPP_CLK0.
GPP_CLK1 GPP_CLK1.
GPP_CLK2 GPP_CLK2.
GPP_CLK3 GPP_CLK3.
GPP_CLK4 GPP_CLK4.

GPP_CLK5 GPP_CLK5.
GPP_CLK6 GPP_CLK6.
GPP_CLK7 GPP_CLK7.
GPP_CLK8 GPP_CLK8.
GPP_CLK9 GFX_CLK.
GPP_CLK0 GPP_CLK0.
GPP_CLK1 GPP_CLK1.
GPP_CLK2 GPP_CLK2.
GPP_CLK3 GPP_CLK3.
GPP_CLK4 GPP_CLK4.
GPP_CLK5 GPP_CLK5.
GPP_CLK6 GPP_CLK6.
GPP_CLK7 GPP_CLK7.
GPP_CLK8 GPP_CLK8.
GPP_CLK9 GFX_CLK.

5.9.2.3 enum CPM_SRC_CLK

Configuration values for SrcClk in ClkGen.

Enumerator:

SRC_CLK0 SRC0.
SRC_CLK1 SRC1.
SRC_CLK2 SRC2.
SRC_CLK3 SRC3.
SRC_CLK4 SRC4.
SRC_CLK5 SRC5.
SRC_CLK6 SRC6.
SRC_CLK7 SRC7.
SRC_CLK8 SRC8.
SRC_CLK9 SRC9.
SRC_SKIP SKIP.
SRC_CLK0 SRC0.
SRC_CLK1 SRC1.
SRC_CLK2 SRC2.
SRC_CLK3 SRC3.
SRC_CLK4 SRC4.
SRC_CLK5 SRC5.
SRC_CLK6 SRC6.
SRC_CLK7 SRC7.
SRC_CLK8 SRC8.
SRC_CLK9 SRC9.

5.9.2.4 enum CPM_CLK_REQ

Configuration values for ClkReq.

Enumerator:

CLK_DISABLE CLK_DISABLE.
CLK_REQ0 CLK_REQ0.
CLK_REQ1 CLK_REQ1.
CLK_REQ2 CLK_REQ2.
CLK_REQ3 CLK_REQ3.
CLK_REQ4 CLK_REQ4.
CLK_REQ5 CLK_REQ5.
CLK_REQ6 CLK_REQ6.
CLK_REQ7 CLK_REQ7.
CLK_REQ8 CLK_REQ8.
CLK_REQGFX CLK_REQG.
CLK_ENABLE CLK_ENABLE.
CLK_DISABLE CLK_DISABLE.
CLK_REQ0 CLK_REQ0.
CLK_REQ1 CLK_REQ1.
CLK_REQ2 CLK_REQ2.
CLK_REQ3 CLK_REQ3.
CLK_REQ4 CLK_REQ4.
CLK_REQ5 CLK_REQ5.
CLK_REQ6 CLK_REQ6.
CLK_REQ7 CLK_REQ7.
CLK_REQ8 CLK_REQ8.
CLK_REQGFX CLK_REQG.
CLK_ENABLE CLK_ENABLE.

5.9.2.5 enum CPM_SLOT_CHECK

Configuration values for Slot Check.

Enumerator:

NON_SLOT_CHECK Do not check the device on slot.
SLOT_CHECK Check PCI space of the device on slot.
NON_SLOT_CHECK Do not check the device on slot.
SLOT_CHECK Check PCI space of the device on slot.

5.9.2.6 enum CPM_REGISTER_ACCESS_TYPE

Registers' access type.

Enumerator:

SB_MMIO_ACCESS FCH MMIO register.
PCI_REG_ACCESS PCI register offset 0x00 $\sim$ 0xFF.
EXT_PCI_REG_ACCESS PCI register offset over 0x100.

5.9.2.7 enum CPM_PCIE_PORT_DESCRIPRTO_OFFSET

The offset in PCIe Port Descriptor List.

Enumerator:

PCIE_PORT_GFX0_OFFSET Offset of GFX0 port.
PCIE_PORT_GFX1_OFFSET Offset of GFX1 port.
PCIE_PORT_GPP0_OFFSET Offset of GPP0 port.
PCIE_PORT_GPP1_OFFSET Offset of GPP1 port.
PCIE_PORT_GPP2_OFFSET Offset of GPP2 port.
PCIE_PORT_GPP3_OFFSET Offset of GPP3 port.

5.9.2.8 enum CPM_PCIE_DDI_DESCRIPTOR_OFFSET

The offset in PCIe DDI Descriptor List.

Enumerator:

PCIE_DDI_PORT0_OFFSET DP0.
PCIE_DDI_PORT1_OFFSET DP1.
PCIE_DDI_PORT2_OFFSET DP2.
PCIE_DDI_PORT3_OFFSET DP3 for DL_DVI.
PCIE_GFX_DDI_PORT0_OFFSET DP4 (via GFX[15:12].
PCIE_GFX_DDI_PORT1_OFFSET DP5 (via GFX[11:8]).
PCIE_GFX_DDI_PORT2_OFFSET DP6 (via GFX[7:4]).
PCIE_GFX_DDI_PORT3_OFFSET N/A (via GFX[3:0]).

5.9.2.9 enum CPM_DISPLAY_FEATURE_CONFIG_OFFSET

Offset of Display Feature Config.

Enumerator:

DFC_PX_FIXED_MODE PowerXpress Fixed Mode.

DFC_PX_DYNAMIC_MODE PowerXpress Dynamic Mode.

DFC_HYPER_CROSS_FIRE Hyper Cross Fire.

DFC_SURROUND_VIEW Surround View.

DFC_DGPU_PRIMARY Primary Display.

DFC_BRIGHNESS_BY_DRIVER Brightness Controlled by Driver.

DFC_DISABLE_DGPU_AUDIO_IN_PX Disable dGPU Audio in PowerXpress.

DFC_PX_FIXED_MODE PowerXpress Fixed Mode.

DFC_PX_DYNAMIC_MODE PowerXpress Dynamic Mode.

DFC_HYPER_CROSS_FIRE Hyper Cross Fire.

DFC_SURROUND_VIEW Surround View.

DFC_DGPU_PRIMARY Primary Display.

DFC_BRIGHNESS_BY_DRIVER Brightness Controlled by Driver.

DFC_DISABLE_DGPU_AUDIO_IN_PX Disable dGPU Audio in PowerXpress.

5.9.3 Function Documentation

5.9.3.1 EFI_STATUS EFIAPI CpmOemSetupOption (IN EFI_PEI_SERVICES ∗∗ *PeiServices*, IN CPM_OEM_SETUP_OPTION ∗ *SetupOption*)

Update Setup Options. This function reads setup options from ReadOnlyVariable and fills in the data structure of CPM OEM Setup Option.

Parameters:

← ***PeiServices*** Pointer to Pei Services

← ***SetupOption*** Pointer to CPM Setup Option Data

Return values:

EFI_SUCCESS Function initialized successfully

EFI_ERROR Function failed (see error for more details)

5.10 NDA/CPM/Addendum/Oem/Ballina/Pei/AmdCpmOemSetup.c File Reference

AMD CPM OEM Function to Get Setup Options. `#include <AmdCpmPei.h>`

`#include <AmdCpmOem.h>`

`#include "AmdCpmOemInitPeim.h"`

Functions

- EFI_STATUS EFIAPI CpmOemSetupOption (IN EFI_PEI_SERVICES **PeiServices, IN CPM_OEM_SETUP_OPTION *SetupOption)

  Update Setup Options.

5.10.1 Detailed Description

AMD CPM OEM Function to Get Setup Options.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 284517 $ *$Date:* 2014-02-11 15:57:17 -0600 (Tue, 11 Feb 2014) $

5.10.2 Function Documentation

5.10.2.1 EFI_STATUS EFIAPI CpmOemSetupOption (IN EFI_PEI_SERVICES ** *PeiServices*, IN CPM_OEM_SETUP_OPTION * *SetupOption*)

Update Setup Options. This function reads setup options from ReadOnlyVariable and fills in the data structure of CPM OEM Setup Option.

Parameters:

← ***PeiServices*** Pointer to Pei Services

← ***SetupOption*** Pointer to CPM Setup Option Data

Return values:

EFI_SUCCESS Function initialized successfully

EFI_ERROR Function failed (see error for more details)

5.11 NDA/CPM/Addendum/Oem/Bantry/Pei/AmdCpmOemSetup.c File Reference

AMD CPM OEM Function to Get Setup Options. `#include <AmdCpmPei.h>`

`#include <AmdCpmOem.h>`

`#include "AmdCpmOemInitPeim.h"`

Functions

- EFI_STATUS EFIAPI CpmOemSetupOption (IN EFI_PEI_SERVICES **PeiServices, IN CPM_OEM_SETUP_OPTION *SetupOption)

  Update Setup Options.

5.11.1 Detailed Description

AMD CPM OEM Function to Get Setup Options.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 284517 $ *$Date:* 2014-02-11 15:57:17 -0600 (Tue, 11 Feb 2014) $

5.11.2 Function Documentation

5.11.2.1 EFI_STATUS EFIAPI CpmOemSetupOption (IN EFI_PEI_SERVICES ** *PeiServices*, IN CPM_OEM_SETUP_OPTION * *SetupOption*)

Update Setup Options. This function reads setup options from ReadOnlyVariable and fills in the data structure of CPM OEM Setup Option.

Parameters:

← ***PeiServices*** Pointer to Pei Services

← ***SetupOption*** Pointer to CPM Setup Option Data

Return values:

EFI_SUCCESS Function initialized successfully

EFI_ERROR Function failed (see error for more details)

Referenced by CpmTableOverride().

5.12 NDA/CPM/Addendum/Oem/Ballina/Pei/AmdCpmOemTable.c File Reference

AMD CPM OEM tables, and callback function. `#include <AmdCpmPei.h>`

`#include <AmdCpmOem.h>`

`#include "AmdCpmOemInitPeim.h"`

Functions

- UINT8 GetDdiCardId (IN AMD_CPM_TABLE_PPI *This, IN UINT8 Smbus, IN UINT8 Address)

  Get DDI Card Id.

- VOID DetectPcieDevices (IN AMD_CPM_TABLE_PPI *AmdCpmTablePpi, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE *PcieTopologyOverrideTablePtr, IN AMD_CPM_PCIE_TOPOLOGY_TABLE *PcieTopologyTablePtr)

  Detect PCIe Devices Automatically.

- VOID SetDevice (IN AMD_CPM_GPIO_DEVICE_CONFIG_TABLE *GpioDeviceConfigTablePtr, IN UINT8 DeviceId, IN UINT8 Mode)

Update GPIO Device Config Table.

- EFI_STATUS EFIAPI CpmTableOverride (IN EFI_PEI_SERVICES **PeiServices)
  CPM Override Function After AMD CPM Table PPI.

5.12.1 Detailed Description

AMD CPM OEM tables, and callback function. Contains code that defines OEM tables and callback function to override OEM table on run time.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 289766 $ *$Date:* 2014-04-15 09:44:01 -0500 (Tue, 15 Apr 2014) $

5.12.2 Function Documentation

5.12.2.1 UINT8 GetDdiCardId (IN AMD_CPM_TABLE_PPI * *This*, IN UINT8 *Smbus*, IN UINT8 *Address*)

Get DDI Card Id. This function reads register value of SMBUS device on DDI card and converts it to pre-defined DDI Card Id.

Parameters:

← ***This*** Pointer to AMD CPM Table PPI

← ***Smbus*** Smbus Select. 0: Smbus0. 1: Smbus1.

← ***Address*** Smbus Address

Return values:

DDI Card Id

Referenced by DetectPcieDevices().

5.12.2.2 VOID DetectPcieDevices (IN AMD_CPM_TABLE_PPI * *AmdCpmTablePpi*, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE * *PcieTopologyOverrideTablePtr*, IN AMD_CPM_PCIE_TOPOLOGY_TABLE * *PcieTopologyTablePtr*)

Detect PCIe Devices Automatically. This function patches PCIe Topology Override Table by detecting PCIe devices automatically.

Parameters:

← ***AmdCpmTablePpi*** Pointer to AMD CPM Table PPI

← ***PcieTopologyOverrideTablePtr*** Pointer to PCIe Topology Override Table

← ***PcieTopologyTablePtr*** Pointer to PCIe Topology Table

References AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::Config, CPM_CPU_REVISION_-ID_KV, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::DdiType, DEVICE_ID_DMC, DEVICE_ID_MXM, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::Enable, AMD_CPM_-PCIE_TOPOLOGY_OVERRIDE_ITEM::EndLane, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_-ITEM::Flag, GetDdiCardId(), AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::Offset, AMD_-CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::Raw, and AMD_CPM_PCIE_TOPOLOGY_-OVERRIDE_ITEM::StartLane.

Referenced by CpmTableOverride().

5.12.2.3 VOID SetDevice (IN AMD_CPM_GPIO_DEVICE_CONFIG_TABLE * *GpioDeviceConfigTablePtr*, IN UINT8 *DeviceId*, IN UINT8 *Mode*)

Update GPIO Device Config Table.

Parameters:

← ***GpioDeviceConfigTablePtr*** Pointer to GPIO Device Config Table

← ***DeviceId*** Device Id to update

← ***Mode*** Value. 0: Disable. 1: Enable

Referenced by CpmTableOverride(), and DetectPcieDevices().

5.12.2.4 EFI_STATUS EFIAPI CpmTableOverride (IN EFI_PEI_SERVICES ** *PeiServices*)

CPM Override Function After AMD CPM Table PPI. This function updates CPM OEM Tables according to setup options or the value to be detected on run time after AMD CPM Table PPI is installed.

Parameters:

← ***PeiServices*** Pointer to Pei Services

Return values:

EFI_SUCCESS Function initialized successfully

EFI_ERROR Function failed (see error for more details)

5.13 NDA/CPM/Addendum/Oem/Bantry/Pei/AmdCpmOemTable.c File Reference

AMD CPM OEM tables, and callback function. `#include <AmdCpmPei.h>`

```
#include <AmdCpmOem.h>
#include "AmdCpmOemInitPeim.h"
#include "GpioSettingsTable.h"
#include "SsidTable.h"
#include "GeventSettingsTable.h"
#include "MemoryVoltageSettings.h"
```

```
#include "GpioDevicesTable.h"
#include "PcieClocksTable.h"
#include "DisplayFeaturesTable.h"
#include "ThermalFanControlTable.h"
#include "AdaptiveS4.h"
```

Functions

- VOID ConfigureDdiTo4444 (IN AMD_CPM_TABLE_PPI *This, IN AMD_CPM_PCIE_TOPOLOGY_TABLE *PcieTopologyTablePtr, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE *PcieTopologyOverrideTablePtr, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM *ItemPtr, IN UINT8 *DdiConnectorType, IN UINT8 *DdiPortPresent, IN UINT8 CardType, IN UINT8 GfxLinkCfg)

  ConfigureDdiTo4444.

- VOID ConfigureDdiTo88 (IN AMD_CPM_TABLE_PPI *This, IN AMD_CPM_PCIE_TOPOLOGY_TABLE *PcieTopologyTablePtr, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE *PcieTopologyOverrideTablePtr, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM *ItemPtr, IN UINT8 *DdiConnectorType, IN UINT8 *DdiPortPresent, IN UINT8 CardType, IN UINT8 GfxLinkCfg)

  ConfigureDdiTo88.

- VOID ConfigureDdiTo448 (IN AMD_CPM_TABLE_PPI *This, IN AMD_CPM_PCIE_TOPOLOGY_TABLE *PcieTopologyTablePtr, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE *PcieTopologyOverrideTablePtr, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM *ItemPtr, IN UINT8 *DdiConnectorType, IN UINT8 *DdiPortPresent, IN UINT8 CardType, IN UINT8 GfxLinkCfg)

  ConfigureDdiTo448.

- VOID ConfigureDdiTo844 (IN AMD_CPM_TABLE_PPI *This, IN AMD_CPM_PCIE_TOPOLOGY_TABLE *PcieTopologyTablePtr, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE *PcieTopologyOverrideTablePtr, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM *ItemPtr, IN UINT8 *DdiConnectorType, IN UINT8 *DdiPortPresent, IN UINT8 CardType, IN UINT8 GfxLinkCfg)

  ConfigureDdiTo844.

- VOID ConfigureDdiToC527 (IN AMD_CPM_TABLE_PPI *This, IN AMD_CPM_PCIE_TOPOLOGY_TABLE *PcieTopologyTablePtr, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE *PcieTopologyOverrideTablePtr, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM *ItemPtr, IN UINT8 *DdiConnectorType, IN UINT8 *DdiPortPresent, IN UINT8 CardType, IN UINT8 GfxLinkCfg)

  ConfigureDdiToC527.

- UINT8 GetDdiCardId (IN AMD_CPM_TABLE_PPI *This, IN UINT8 Smbus, IN UINT8 Address)

  Get DDI Card Id.

- VOID SetDevice (IN AMD_CPM_GPIO_DEVICE_CONFIG_TABLE *GpioDeviceConfigTablePtr, IN UINT8 DeviceId, IN UINT8 Mode)

  Update GPIO Device Config Table.

- VOID DetectPcieDevices (IN AMD_CPM_TABLE_PPI *AmdCpmTablePpi, IN AMD_CPM_PCIE_TOPOLOGY_TABLE *PcieTopologyTablePtr, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE *PcieTopologyOverrideTablePtr, IN AMD_CPM_GPIO_DEVICE_CONFIG_TABLE *GpioDeviceConfigTablePtr, IN CPM_OEM_SETUP_OPTION *OemSetupOption)

  Detect PCIe Devices Automatically.

- EFI_STATUS EFIAPI CpmTableOverride (IN EFI_PEI_SERVICES **PeiServices)

  CPM Override Function After AMD CPM Table PPI.

5.13.1 Detailed Description

AMD CPM OEM tables, and callback function. Contains code that defines OEM tables and callback function to override OEM table on run time.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 284517 $ *$Date:* 2014-02-11 15:57:17 -0600 (Tue, 11 Feb 2014) $

5.13.2 Function Documentation

5.13.2.1 VOID ConfigureDdiTo4444 (IN AMD_CPM_TABLE_PPI * *This*, IN AMD_CPM_PCIE_TOPOLOGY_TABLE * *PcieTopologyTablePtr*, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE * *PcieTopologyOverrideTablePtr*, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM * *ItemPtr*, IN UINT8 * *DdiConnectorType*, IN UINT8 * *DdiPortPresent*, IN UINT8 *CardType*, IN UINT8 *GfxLinkCfg*)

ConfigureDdiTo4444. Description: This function is used to configure PCIE 1x16 to 4x4 PCIe: DP_0: GFX[15:12] <-> Aux3, Hdp3, GPIO192 - 1:DP, 0:HDMI DP_1: GFX[11:8] <-> Aux4, Hdp4, GPIO197 - 1:DP, 0:HDMI DP_2: GFX[7:4] <-> Aux5, Hdp5, GPIO198 - 1:DP, 0:HDMI DP_3: GFX[3:0] <-> Not available Parameters:

Parameters:

← ***This*** Pointer to AMD CPM Table PPI

← ***PcieTopologyTablePtr*** Pointer to PCIe Topology Table

← ***PcieTopologyOverrideTablePtr*** Pointer to PCIe Topology Override Table

← ***ItemPtr*** pointer to AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM

← ***DdiConnectorType*** pointer to DDI display port connector type

← ***DdiPortPresent*** pointer to DDI display port present

← ***CardType*** card type

← ***GfxLinkCfg*** GFX Link Confioguration

Return values:

VOID

References PCIE_GFX_DDI_PORT0_OFFSET, PCIE_PORT_GFX0_OFFSET, and PCIE_PORT_-GFX1_OFFSET.

Referenced by DetectPcieDevices().

5.13.2.2 VOID ConfigureDdiTo88 (IN AMD_CPM_TABLE_PPI * *This*, IN AMD_CPM_PCIE_TOPOLOGY_TABLE * *PcieTopologyTablePtr*, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE * *PcieTopologyOverrideTablePtr*, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM * *ItemPtr*, IN UINT8 * *DdiConnectorType*, IN UINT8 * *DdiPortPresent*, IN UINT8 *CardType*, IN UINT8 *GfxLinkCfg*)

ConfigureDdiTo88. Description: This function is used to configure PCIE 1x16 to 2x8 PCIe: DP_0: GFX[15:12] <-> Aux3, Hdp3, GPIO192 - 1:DP, 0:HDMI DP_1: GFX[11:8] <-> Aux4, Hdp4, GPIO197 - 1:DP, 0:HDMI DP_2: GFX[7:4] <-> Aux5, Hdp5, GPIO198 - 1:DP, 0:HDMI DP_3: GFX[3:0] <-> Not available Parameters:

Parameters:

← ***This*** Pointer to AMD CPM Table PPI

← ***PcieTopologyTablePtr*** Pointer to PCIe Topology Table

← ***PcieTopologyOverrideTablePtr*** Pointer to PCIe Topology Override Table

← ***ItemPtr*** pointer to AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM

← ***DdiConnectorType*** pointer to DDI display port connector type

← ***DdiPortPresent*** pointer to DDI display port present

← ***CardType*** card type

← ***GfxLinkCfg*** GFX Link Confioguration

Return values:

VOID

References PCIE_GFX_DDI_PORT0_OFFSET, PCIE_PORT_GFX0_OFFSET, and PCIE_PORT_-GFX1_OFFSET.

Referenced by DetectPcieDevices().

5.13.2.3 VOID ConfigureDdiTo448 (IN AMD_CPM_TABLE_PPI * *This*, IN AMD_CPM_PCIE_TOPOLOGY_TABLE * *PcieTopologyTablePtr*, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE * *PcieTopologyOverrideTablePtr*, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM * *ItemPtr*, IN UINT8 * *DdiConnectorType*, IN UINT8 * *DdiPortPresent*, IN UINT8 *CardType*, IN UINT8 *GfxLinkCfg*)

ConfigureDdiTo448. Description: This function is used to configure PCIE 1x16 to upper x8 PCIe + 2x4 PCIe: DP_0: GFX[15:12] <-> Aux3, Hdp3, GPIO192 - 1:DP, 0:HDMI DP_1: GFX[11:8] <-> Aux4, Hdp4, GPIO197 - 1:DP, 0:HDMI DP_2: GFX[7:4] <-> Aux5, Hdp5, GPIO198 - 1:DP, 0:HDMI DP_3: GFX[3:0] <-> Not available Parameters:

Parameters:

← ***This*** Pointer to AMD CPM Table PPI

← ***PcieTopologyTablePtr*** Pointer to PCIe Topology Table

← ***PcieTopologyOverrideTablePtr*** Pointer to PCIe Topology Override Table

← ***ItemPtr*** pointer to AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM

← ***DdiConnectorType*** pointer to DDI display port connector type

← ***DdiPortPresent*** pointer to DDI display port present

← ***CardType*** card type

← ***GfxLinkCfg*** GFX Link Confioguration

Return values:

VOID

References PCIE_GFX_DDI_PORT0_OFFSET, PCIE_PORT_GFX0_OFFSET, and PCIE_PORT_-GFX1_OFFSET.

Referenced by DetectPcieDevices().

5.13.2.4 VOID ConfigureDdiTo844 (IN AMD_CPM_TABLE_PPI * *This*, IN AMD_CPM_PCIE_TOPOLOGY_TABLE * *PcieTopologyTablePtr*, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE * *PcieTopologyOverrideTablePtr*, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM * *ItemPtr*, IN UINT8 * *DdiConnectorType*, IN UINT8 * *DdiPortPresent*, IN UINT8 *CardType*, IN UINT8 *GfxLinkCfg*)

ConfigureDdiTo844. Description: This function is used to configure PCIE 1x16 to lower x8 PCIe + 2x4 PCIe: DP_0: GFX[15:12] <-> Aux3, Hdp3, GPIO192 - 1:DP, 0:HDMI DP_1: GFX[11:8] <-> Aux4, Hdp4, GPIO197 - 1:DP, 0:HDMI DP_2: GFX[7:4] <-> Aux5, Hdp5, GPIO198 - 1:DP, 0:HDMI DP_3: GFX[3:0] <-> Not available Parameters:

Parameters:

← ***This*** Pointer to AMD CPM Table PPI

← ***PcieTopologyTablePtr*** Pointer to PCIe Topology Override Table

← ***PcieTopologyOverrideTablePtr*** Pointer to PCIe Topology Override Table

← ***ItemPtr*** pointer to AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM

← ***DdiConnectorType*** pointer to DDI display port connector type

← ***DdiPortPresent*** pointer to DDI display port present

← ***CardType*** card type

← ***GfxLinkCfg*** GFX Link Confioguration

Return values:

VOID

References PCIE_GFX_DDI_PORT0_OFFSET, PCIE_PORT_GFX0_OFFSET, and PCIE_PORT_-GFX1_OFFSET.

Referenced by DetectPcieDevices().

5.13.2.5 VOID ConfigureDdiToC527 (IN AMD_CPM_TABLE_PPI * *This*, IN AMD_CPM_PCIE_TOPOLOGY_TABLE * *PcieTopologyTablePtr*, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE * *PcieTopologyOverrideTablePtr*, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM * *ItemPtr*, IN UINT8 * *DdiConnectorType*, IN UINT8 * *DdiPortPresent*, IN UINT8 *CardType*, IN UINT8 *GfxLinkCfg*)

ConfigureDdiToC527. Description: This function is used to configure PCIE 1x16 to 2x8 PCIe: DP_3: GFX[15:12] <-> Aux3, Hdp3 DP_2: GFX[11:8] <-> Not available DP_1: GFX[7:4] <-> Aux5, Hdp5 DP_0: GFX[3:0] <-> Not available Parameters:

Parameters:

← ***This*** Pointer to AMD CPM Table PPI

← ***PcieTopologyTablePtr*** Pointer to PCIe Topology Table

← ***PcieTopologyOverrideTablePtr*** Pointer to PCIe Topology Override Table

← ***ItemPtr*** pointer to AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM

← ***DdiConnectorType*** pointer to DDI display port connector type

← ***DdiPortPresent*** pointer to DDI display port present

← ***CardType*** card type

← ***GfxLinkCfg*** GFX Link Confioguration

Return values:

VOID

References PCIE_GFX_DDI_PORT0_OFFSET, PCIE_PORT_GFX0_OFFSET, and PCIE_PORT_-GFX1_OFFSET.

Referenced by DetectPcieDevices().

5.13.2.6 UINT8 GetDdiCardId (IN AMD_CPM_TABLE_PPI * *This*, IN UINT8 *Smbus*, IN UINT8 *Address*)

Get DDI Card Id. This function reads register value of SMBUS device on DDI card and converts it to pre-defined DDI Card Id.

Parameters:

← ***This*** Pointer to AMD CPM Table PPI

← ***Smbus*** Smbus Select. 0: Smbus0. 1: Smbus1.

← ***Address*** Smbus Address

Return values:

DDI Card Id

5.13.2.7 VOID SetDevice (IN AMD_CPM_GPIO_DEVICE_CONFIG_TABLE * *GpioDeviceConfigTablePtr*, IN UINT8 *DeviceId*, IN UINT8 *Mode*)

Update GPIO Device Config Table.

Parameters:

← ***GpioDeviceConfigTablePtr*** Pointer to GPIO Device Config Table

← ***DeviceId*** Device Id to update

← ***Mode*** Value. 0: Disable. 1: Enable

5.13.2.8 VOID DetectPcieDevices (IN AMD_CPM_TABLE_PPI * *AmdCpmTablePpi*, IN AMD_CPM_PCIE_TOPOLOGY_TABLE * *PcieTopologyTablePtr*, IN AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE * *PcieTopologyOverrideTablePtr*, IN AMD_CPM_GPIO_DEVICE_CONFIG_TABLE * *GpioDeviceConfigTablePtr*, IN CPM_OEM_SETUP_OPTION * *OemSetupOption*)

Detect PCIe Devices Automatically. This function patches PCIe Topology Override Table by detecting PCIe devices automatically.

Parameters:

← ***AmdCpmTablePpi*** Pointer to AMD CPM Table PPI

← ***PcieTopologyTablePtr*** Pointer to PCIe Topology Table

← ***PcieTopologyOverrideTablePtr*** Pointer to PCIe Topology Override Table

← ***GpioDeviceConfigTablePtr*** Pointer to GPIO Device Config Table

← ***OemSetupOption*** pointer to CPM_OEM_SETUP_OPTION

References ConfigureDdiTo4444(), ConfigureDdiTo448(), ConfigureDdiTo844(), ConfigureDdiTo88(), ConfigureDdiToC527(), AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::DdiType, DEVICE_ID_DAP, DEVICE_ID_DDI, DEVICE_ID_PCIE_CARD, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::Enable, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::EndLane, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::Flag, GetDdiCardId(), AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::Offset, PCIE_DDI_PORT1_OFFSET, PCIE_DDI_PORT2_OFFSET, PCIE_DDI_PORT3_OFFSET, PCIE_GFX_DDI_PORT0_OFFSET, PCIE_GFX_DDI_PORT1_OFFSET, PCIE_GFX_DDI_PORT2_OFFSET, PCIE_PORT_GFX0_OFFSET, PCIE_PORT_GFX1_OFFSET, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::PortPresent, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::Raw, SetDevice(), and AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::StartLane.

5.13.2.9 EFI_STATUS EFIAPI CpmTableOverride (IN EFI_PEI_SERVICES ** *PeiServices*)

CPM Override Function After AMD CPM Table PPI. This function updates CPM OEM Tables according to setup options or the value to be detected on run time after AMD CPM Table PPI is installed.

Parameters:

← ***PeiServices*** Pointer to Pei Services

Return values:

EFI_SUCCESS Function initialized successfully

EFI_ERROR Function failed (see error for more details)

References CPM_OEM_SETUP_OPTION::AcpiThermalFanEn, AMD_CPM_MAIN_-TABLE::AcpiThermalFanEn, CPM_OEM_SETUP_OPTION::AdaptiveS4En, AMD_CPM_-MAIN_TABLE::AdaptiveS4En, CPM_OEM_SETUP_OPTION::BlueToothEn, CPM_OEM_-SETUP_OPTION::BrightnessControlMethod, CLK_DISABLE, CLK_ENABLE, AMD_CPM_-PCIE_CLOCK_ITEM::ClkId, AMD_CPM_PCIE_CLOCK_ITEM::ClkReq, AMD_CPM_PCIE_-CLOCK_ITEM::ClkReqExt, CPM_OEM_SETUP_OPTION::ClockRequest, AMD_CPM_TABLE_-PPI::CommonFunction, AMD_CPM_EC_CONFIG::Config, CPM_SIGNATURE_DISPLAY_-FEATURE, CPM_SIGNATURE_GPIO_DEVICE_CONFIG, CPM_SIGNATURE_PCIE_CLOCK, CPM_SIGNATURE_PCIE_TOPOLOGY, CPM_SIGNATURE_PCIE_TOPOLOGY_OVERRIDE, CpmOemSetupOption(), DetectPcieDevices(), DEVICE_ID_BT, DEVICE_ID_GFX_LINK_CFG, DEVICE_ID_LAN, DEVICE_ID_MPCIE, DEVICE_ID_VGAMUXSEL, DEVICE_ID_WLAN_-RF, DFC_DGPU_PRIMARY, DFC_HYPER_CROSS_FIRE, DFC_SURROUND_VIEW, AMD_-CPM_MAIN_TABLE::DisplayFeature, CPM_OEM_SETUP_OPTION::DisplayOutput, AMD_-CPM_MAIN_TABLE::Ec, AMD_CPM_MAIN_TABLE::ExtClkGen, AMD_CPM_DISPLAY_-FEATURE_TABLE::FunctionDisableMask, AMD_CPM_COMMON_FUNCTION::GetTablePtr, CPM_OEM_SETUP_OPTION::GfxLinkCfg, AMD_CPM_PCIE_CLOCK_TABLE::Item, AMD_-CPM_TABLE_PPI::MainTablePtr, CPM_OEM_SETUP_OPTION::MiniPcieSlotEnable, CPM_OEM_-SETUP_OPTION::OnboardLanSwitch, CPM_OEM_SETUP_OPTION::PowerExpressDynamicMode, CPM_OEM_SETUP_OPTION::PrimaryVideoAdaptor, CPM_OEM_SETUP_OPTION::PX56Support, AMD_CPM_DISPLAY_FEATURE_CONFIG::Raw, AMD_CPM_EC_CONFIG::S5PlusEn, SetDevice(), CPM_OEM_SETUP_OPTION::SpecialVgaFeature, CPM_OEM_SETUP_-OPTION::SpreadSpectrumSwitch, CPM_OEM_SETUP_OPTION::SystemBootWithPS0, CPM_-OEM_SETUP_OPTION::UnusedGppClkOff, AMD_CPM_MAIN_TABLE::UnusedGppClkOffEn, AMD_CPM_MAIN_TABLE::WirelessButtonEn, CPM_OEM_SETUP_OPTION::WirelessLanRfEnable, CPM_OEM_SETUP_OPTION::WirelessSwitch, CPM_OEM_SETUP_OPTION::ZeroPowerOddEn, and AMD_CPM_MAIN_TABLE::ZeroPowerOddEn.

Referenced by CpmOverrideTableNotifyCallback().

5.14 NDA/CPM/Addendum/Oem/Ballina/Pei/GnbInternalPcieTopologyTable.h File Reference

AMD CPM OEM API, and related functions.

5.14.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the table definition for Pcie.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

/**********

5.15 NDA/CPM/Addendum/Oem/Bantry/Pei/GnbInternalPcieTopologyTable.h File Reference

AMD CPM OEM API, and related functions.

5.15.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the table definition for Pcie.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

/***

5.16 NDA/CPM/Addendum/Oem/Ballina/Pei/GnbPcieTopologyTable.h File Reference

AMD CPM OEM API, and related functions.

5.16.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the table definition for Pcie.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

/**********

5.17 NDA/CPM/Addendum/Oem/Bantry/Pei/GnbPcieTopologyTable.h File Reference

AMD CPM OEM API, and related functions.

5.17.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the table definition for Pcie.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

/***

5.18 NDA/CPM/Addendum/Oem/Bantry/Pei/AdaptiveS4.h File Reference

AMD CPM OEM API, and related functions.

5.18.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the table definition for Adaptive S4.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

/***

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5.19 NDA/CPM/Addendum/Oem/Bantry/Pei/DisplayFeaturesTable.h File Reference

AMD CPM OEM API, and related functions.

5.19.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the table definition for display feature.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

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5.20 NDA/CPM/Addendum/Oem/Bantry/Pei/GeventSettingsTable.h File Reference

AMD CPM OEM API, and related functions.

5.20.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the table definition for GEVENT.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

/**********

5.21 NDA/CPM/Addendum/Oem/Bantry/Pei/GpioDevicesTable.h File Reference

AMD CPM OEM API, and related functions.

5.21.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the table definition for GPIO Device.

File Content Label

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5.22 NDA/CPM/Addendum/Oem/Bantry/Pei/GpioSettingsTable.h File Reference

AMD CPM OEM API, and related functions.

5.22.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the table definition for GPIO.

File Content Label

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5.23 NDA/CPM/Addendum/Oem/Bantry/Pei/MemoryVoltageSettings.h File Reference

AMD CPM OEM API, and related functions.

5.23.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the table definition for memory voltage.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

/**********

5.24 NDA/CPM/Addendum/Oem/Bantry/Pei/PcieClocksTable.h File Reference

AMD CPM OEM API, and related functions.

5.24.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the table definition for Pcie Clock.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.25 NDA/CPM/Addendum/Oem/Bantry/Pei/SsidTable.h File Reference

AMD CPM OEM API, and related functions.

5.25.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the table definition for SSID.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.26 NDA/CPM/Addendum/Oem/Bantry/Pei/ThermalFanControlTable.h File Reference

AMD CPM OEM API, and related functions.

5.26.1 Detailed Description

AMD CPM OEM API, and related functions. Contains the table definition for thermal fan control.

File Content Label

project: CPM *sub-project*: OEM *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

/**********

5.27 NDA/CPM/Features/AcpiThermalFan/Dxe/AmdCpmAcpiThermalFanDxe.c File Reference

AMD CPM ACPI Thermal Fan Initialization. `#include <AmdCpmDxe.h>`

Functions

- VOID EFIAPI InvokeAmdThermalFanInitLate (IN EFI_EVENT Event, IN VOID *Context)

  The function to load AMD CPM ACPI Thermal Fan SSDT table.

- EFI_STATUS EFIAPI AmdCpmAcpiThermalFanDxeEntryPoint (IN EFI_HANDLE ImageHandle, IN EFI_SYSTEM_TABLE *SystemTable)

  Entry point of the AMD CPM ACPI Thermal Fan DXE driver.

- BOOLEAN EFIAPI CpmAcpiThermalFanSsdtCallBack (IN VOID *This, IN VOID *AmlObjPtr, IN VOID *Context)

  Callback function to override ACPI Thermal Fan SSDT Table.

5.27.1 Detailed Description

AMD CPM ACPI Thermal Fan Initialization. Contains CPM code to perform ACPI Thermal Fan initialization under DXE

File Content Label

project: CPM *sub-project*: AcpiThermalFan *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.27.2 Function Documentation

5.27.2.1 VOID EFIAPI InvokeAmdThermalFanInitLate (IN EFI_EVENT *Event*, IN VOID * *Context*)

The function to load AMD CPM ACPI Thermal Fan SSDT table. This function gets called each time the EFI_EVENT_SIGNAL_READY_TO_BOOT gets signaled.

Parameters:

← ***Event*** EFI_EVENT

← ***Context*** The Parameter Buffer

References AMD_CPM_COMMON_FUNCTION::AddSsdtTable, AMD_CPM_TABLE_PROTOCOL::CommonFunction, CPM_SIGNATURE_ACPI_THERMAL_FAN, CpmAcpiThermalFanSsdtCallBack(), AMD_CPM_FAN_HW_CONFIG::EventPin, AMD_CPM_ACPI_THERMAL_FAN_TABLE::FanHwConfig, AMD_CPM_COMMON_FUNCTION::GetSbTsiAddr, AMD_CPM_COMMON_FUNCTION::GetSciMap, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_TABLE_PROTOCOL::MainTablePtr, and AMD_CPM_COMMON_FUNCTION::PostCode.

Referenced by AmdCpmAcpiThermalFanDxeEntryPoint().

5.27.2.2 EFI_STATUS EFIAPI AmdCpmAcpiThermalFanDxeEntryPoint (IN EFI_HANDLE *ImageHandle*, IN EFI_SYSTEM_TABLE * *SystemTable*)

Entry point of the AMD CPM ACPI Thermal Fan DXE driver. This function stores Thermal Fan Policy and other hardware information in NV Data. It also loads, updates and installs ACPI Thermal Fan SSDT Table.

Parameters:

← ***ImageHandle*** Pointer to the firmware file system header

← ***SystemTable*** Pointer to System table

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AMD_CPM_MAIN_TABLE::AcpiThermalFanEn, AMD_CPM_TABLE_-PROTOCOL::CommonFunction, CPM_SIGNATURE_ACPI_THERMAL_FAN, AMD_CPM_-COMMON_FUNCTION::GetStrap, AMD_CPM_COMMON_FUNCTION::GetTablePtr, In-vokeAmdThermalFanInitLate(), AMD_CPM_COMMON_FUNCTION::IsThermalSupport, AMD_-CPM_TABLE_PROTOCOL::MainTablePtr, and AMD_CPM_COMMON_FUNCTION::PostCode.

5.27.2.3 BOOLEAN EFIAPI CpmAcpiThermalFanSsdtCallBack (IN VOID * *This*, IN VOID * *AmlObjPtr*, IN VOID * *Context*)

Callback function to override ACPI Thermal Fan SSDT Table. This function is used to update the offset of SBI Address Register, GPE number and device name under _PR.

Parameters:

← ***This*** Pointer to Protocol

← ***AmlObjPtr*** The AML Object Buffer

← ***Context*** The Parameter Buffer

Return values:

TRUE SSDT Table has been updated completely

FALSE SSDT Table has not been updated completely

References AMD_CPM_TABLE_PROTOCOL::CommonFunction, and AMD_CPM_COMMON_-FUNCTION::IsAmlOpRegionObject.

Referenced by InvokeAmdThermalFanInitLate().

5.28 NDA/CPM/Features/AcpiThermalFan/Pei/AmdCpmAcpiThermalFanPeim.c File Reference

AMD CPM ACPI Thermal Fan Initialization. `#include <AmdCpmPei.h>`

Functions

- EFI_STATUS EFIAPI AmdCpmAcpiThermalFanPeim (IN EFI_PEI_SERVICES **PeiServices, IN EFI_PEI_NOTIFY_DESCRIPTOR *NotifyDescriptor, IN VOID *Ppi)

  ACPI Thermal Fan Init Function.

- EFI_STATUS EFIAPI AmdCpmAcpiThermalFanPeimEntryPoint (IN CPM_PEI_FILE_HANDLE FileHandle, IN CPM_PEI_SERVICES **PeiServices)

  Entry point of the AMD CPM ACPI Thermal Fan PEIM driver.

5.28.1 Detailed Description

AMD CPM ACPI Thermal Fan Initialization. Contains code that initialized ACPI Thermal Fan before memory init.

File Content Label

project: CPM *sub-project*: AcpiThermalFan *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.28.2 Function Documentation

5.28.2.1 EFI_STATUS EFIAPI AmdCpmAcpiThermalFanPeim (IN EFI_PEI_SERVICES ** *PeiServices*, IN EFI_PEI_NOTIFY_DESCRIPTOR * *NotifyDescriptor*, IN VOID * *Ppi*)

ACPI Thermal Fan Init Function. This function forces Thermal Fan on after AMD CPM GPIO INIT FINISHED PPI is installed.

Parameters:

← ***PeiServices*** Pointer to Pei Services

← ***NotifyDescriptor*** The descriptor for the notification event

← ***Ppi*** Pointer to the PPI in question.

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AMD_CPM_TABLE_PPI::CommonFunction, CPM_SIGNATURE_ACPI_THERMAL_FAN, AMD_CPM_ACPI_THERMAL_FAN_TABLE::FanHwConfig, AMD_CPM_FAN_HW_CONFIG::FanNum, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_COMMON_FUNCTION::PostCode, and AMD_CPM_COMMON_FUNCTION::SetFanOn.

5.28.2.2 EFI_STATUS EFIAPI AmdCpmAcpiThermalFanPeimEntryPoint (IN CPM_PEI_FILE_HANDLE *FileHandle*, IN CPM_PEI_SERVICES ** *PeiServices*)

Entry point of the AMD CPM ACPI Thermal Fan PEIM driver. This function registers a callback function to force Thermal Fan on after AMD CPM GPIO INIT FINISHED PPI is installed..

Parameters:

← ***FileHandle*** Pointer to the firmware file system header

← ***PeiServices*** Pointer to Pei Services

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

5.29 NDA/CPM/Features/AdaptiveS4/Dxe/AmdCpmAdaptiveS4Dxe.c File Reference

AMD CPM Adaptive S4 Initialization. `#include <AmdCpmDxe.h>`

Functions

- VOID EFIAPI InvokeAmdAdaptiveS4InitMid (IN EFI_EVENT Event, IN VOID *Context)

  The function to turn off display in Adaptive S4.

- VOID EFIAPI InvokeAmdAdaptiveS4InitLate (IN EFI_EVENT Event, IN VOID *Context)

  The function to load AMD CPM Adaptive S4 SSDT table.

- EFI_STATUS EFIAPI AmdCpmAdaptiveS4DxeEntryPoint (IN EFI_HANDLE ImageHandle, IN EFI_SYSTEM_TABLE *SystemTable)

  Entry point of the AMD CPM Adaptive S4 DXE driver.

5.29.1 Detailed Description

AMD CPM Adaptive S4 Initialization. Contains CPM code to perform Adaptive S4 initialization under DXE

File Content Label

project: CPM *sub-project*: AdaptiveS4 *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.29.2 Function Documentation

5.29.2.1 VOID EFIAPI InvokeAmdAdaptiveS4InitMid (IN EFI_EVENT *Event*, IN VOID * *Context*)

The function to turn off display in Adaptive S4.

Parameters:

← ***Event*** EFI_EVENT

← ***Context*** The Parameter Buffer

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, AMD_CPM_MAIN_TABLE::AdaptiveS4En, AMD_CPM_DEVICE_PATH_ITEM::Bridge, AMD_CPM_ADAPTIVE_S4_TABLE::BufferOffset, AMD_CPM_ADAPTIVE_S4_TABLE::BufferType, AMD_CPM_TABLE_PROTOCOL::CommonFunction, CPM_BOOT_MODE_S4, CPM_SIGNATURE_ADAPTIVE_S4, CPM_SIGNATURE_DEVICE_PATH, CPM_SIGNATURE_SAVE_CONTEXT, AMD_CPM_DEVICE_PATH_ITEM::Device, AMD_CPM_PCI_DEVICE_FUNCTION::Device, AMD_CPM_ADAPTIVE_S4_TABLE::EcRamOffset, AMD_CPM_DEVICE_PATH_ITEM::FeatureMask, AMD_CPM_PCI_DEVICE_FUNCTION::Function, AMD_CPM_COMMON_FUNCTION::GetSaveContext, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_COMMON_FUNCTION::IoRead32, AMD_CPM_COMMON_FUNCTION::IoWrite32, AMD_CPM_COMMON_FUNCTION::KbcRead, AMD_CPM_TABLE_PROTOCOL::MainTablePtr, AMD_CPM_DISPLAY_FEATURE_SUPPORT::Mask, AMD_CPM_COMMON_FUNCTION::MmioRead8, AMD_CPM_COMMON_FUNCTION::PciRead16, AMD_CPM_COMMON_FUNCTION::PciRead8, AMD_CPM_COMMON_FUNCTION::PostCode, and AMD_CPM_DISPLAY_FEATURE_SUPPORT::Valid.

Referenced by AmdCpmAdaptiveS4DxeEntryPoint().

5.29.2.2 VOID EFIAPI InvokeAmdAdaptiveS4InitLate (IN EFI_EVENT *Event*, IN VOID * *Context*)

The function to load AMD CPM Adaptive S4 SSDT table. This function gets called each time the EFI_-EVENT_SIGNAL_READY_TO_BOOT gets signaled.

Parameters:

← ***Event*** EFI_EVENT

← ***Context*** The Parameter Buffer

References AMD_CPM_MAIN_TABLE::AdaptiveS4En, AMD_CPM_COMMON_-FUNCTION::AddSsdtTable, AMD_CPM_TABLE_PROTOCOL::CommonFunction, CPM_-SIGNATURE_ADAPTIVE_S4, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_-TABLE_PROTOCOL::MainTablePtr, and AMD_CPM_COMMON_FUNCTION::PostCode.

Referenced by AmdCpmAdaptiveS4DxeEntryPoint().

5.29.2.3 EFI_STATUS EFIAPI AmdCpmAdaptiveS4DxeEntryPoint (IN EFI_HANDLE *ImageHandle*, IN EFI_SYSTEM_TABLE * *SystemTable*)

Entry point of the AMD CPM Adaptive S4 DXE driver. This function stores the setting of Adaptive S4 in NV Data and installs Adaptive S4 SSDT Table.

Parameters:

← ***ImageHandle*** Pointer to the firmware file system header

← ***SystemTable*** Pointer to System table

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References InvokeAmdAdaptiveS4InitLate(), and InvokeAmdAdaptiveS4InitMid().

5.30 NDA/CPM/Features/AdaptiveS4/Pei/AmdCpmAdaptiveS4Peim.c File Reference

AMD CPM Adaptive S4 Initialization. `#include <AmdCpmPei.h>`

Functions

- EFI_STATUS EFIAPI AmdCpmAdaptiveS4PeimEntryPoint (IN CPM_PEI_FILE_HANDLE File-Handle, IN CPM_PEI_SERVICES **PeiServices)

  Entry point of the AMD CPM Adaptive S4 PEIM driver.

5.30.1 Detailed Description

AMD CPM Adaptive S4 Initialization. Contains code that initialized Adaptive S4 before memory init.

File Content Label

project: CPM *sub-project*: AdaptiveS4 *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.30.2 Function Documentation

5.30.2.1 EFI_STATUS EFIAPI AmdCpmAdaptiveS4PeimEntryPoint (IN CPM_PEI_FILE_HANDLE *FileHandle*, IN CPM_PEI_SERVICES ** *PeiServices*)

Entry point of the AMD CPM Adaptive S4 PEIM driver. This function will set the flag if the system wakes up from Adaptive S4 and RTC method is used.

Parameters:

← ***FileHandle*** Pointer to the firmware file system header

← ***PeiServices*** Pointer to Pei Services

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, AMD_CPM_MAIN_TABLE::AdaptiveS4En, AMD_CPM_ADAPTIVE_S4_TABLE::BufferOffset, AMD_CPM_ADAPTIVE_S4_TABLE::BufferType, AMD_CPM_TABLE_PPI::CommonFunction, CPM_BOOT_MODE_S4, CPM_SIGNATURE_ADAPTIVE_S4, AMD_CPM_COMMON_FUNCTION::GetBootMode, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_COMMON_FUNCTION::IsRtcWakeup, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioAnd8, AMD_CPM_COMMON_FUNCTION::MmioOr8, AMD_CPM_COMMON_FUNCTION::MmioRead8, AMD_CPM_COMMON_FUNCTION::MmioWrite8, and AMD_CPM_COMMON_FUNCTION::PostCode.

5.31 NDA/CPM/Features/AdaptiveS4/Smm/AmdCpmAdaptiveS4Smm.c File Reference

AMD CPM Adaptive S4 Initialization. `#include <AmdCpmSmm.h>`

Functions

- EFI_STATUS EFIAPI CPM_DEFINE_CALLBACK (IN CPM_CALLBACK_NAME AdaptiveS4Callback, IN CPM_CALLBACK_VAR_TYPE EFI_HANDLE, IN CPM_CALLBACK_VAR_NAME DispatchHandle, IN CPM_CALLBACK_VAR_TYPE CPM_SMM_SX_DISPATCH_CONTEXT, IN CPM_CALLBACK_VAR_NAME *DispatchContext)

  S4 SMI Handler for Adaptive S4.

- EFI_STATUS AmdCpmAdaptiveS4SmmEntryPoint (IN EFI_HANDLE ImageHandle, IN EFI_SYSTEM_TABLE *SystemTable)

  Entry point of the AMD CPM Adaptive S4 SMM driver.

5.31.1 Detailed Description

AMD CPM Adaptive S4 Initialization. Contains CPM code to perform Adaptive S4 initialization in SMM

File Content Label

project: CPM *sub-project*: AdaptiveS4 *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.31.2 Function Documentation

5.31.2.1 EFI_STATUS EFIAPI CPM_DEFINE_CALLBACK (IN CPM_CALLBACK_NAME *GpioInitS3RestoreCallback*, IN CPM_CALLBACK_VAR_TYPE *EFI_HANDLE*, IN CPM_CALLBACK_VAR_NAME *DispatchHandle*, IN CPM_CALLBACK_VAR_TYPE *CPM_SMM_SW_DISPATCH_CONTEXT*, IN CPM_CALLBACK_VAR_NAME * *DispatchContext*)

S4 SMI Handler for Adaptive S4. SMI Handler to set internal PCIe clock.

This function programs RTC alarm registers if the OS will go to Adaptive S4 RTC mode and RTC alarm register is not set by OS.

This function restores internal PCIe clock when resume from S3.

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, AMD_CPM_MAIN_TABLE::AdaptiveS4En, AMD_CPM_ADAPTIVE_S4_TABLE::BufferOffset, AMD_CPM_ADAPTIVE_S4_TABLE::BufferType, AMD_CPM_TABLE_PROTOCOL::CommonFunction, CPM_SIGNATURE_ADAPTIVE_S4, AMD_CPM_COMMON_FUNCTION::GetAcpi, AMD_CPM_COMMON_FUNCTION::GetRtc, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_TABLE_PROTOCOL::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioAnd8, AMD_CPM_COMMON_FUNCTION::MmioRead8, AMD_CPM_COMMON_FUNCTION::MmioWrite8, AMD_CPM_COMMON_FUNCTION::PostCode, AMD_CPM_COMMON_FUNCTION::SetAcpi, and AMD_CPM_COMMON_FUNCTION::SetRtc.

5.31.2.2 EFI_STATUS AmdCpmAdaptiveS4SmmEntryPoint (IN EFI_HANDLE *ImageHandle*, IN EFI_SYSTEM_TABLE * *SystemTable*)

Entry point of the AMD CPM Adaptive S4 SMM driver. This function registers the callback function before go to S4.

Parameters:

← ***ImageHandle*** Pointer to the firmware file system header

← ***SystemTable*** Pointer to System table

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AMD_CPM_TABLE_PROTOCOL::CommonFunction, and AMD_CPM_COMMON_-FUNCTION::PostCode.

5.32 NDA/CPM/Features/BootTimeRecord/Dxe/BootTimeRecordDxe.c File Reference

AMD Boot Time Record DXE Iniatial. `#include "BootTimeRecordDxe.h"`

5.32.1 Detailed Description

AMD Boot Time Record DXE Iniatial. Contains CPM code to perform Boot Time Record initialization under DXE

File Content Label

project: Common Platform Modules *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.33 NDA/CPM/Features/BootTimeRecord/Dxe/BootTimeRecordDxe.h File Reference

AMD Boot Time Record DXE Iniatial. `#include <AmdCpmDxe.h>`

`#include <AmdCpmBaseIo.h>`

5.33.1 Detailed Description

AMD Boot Time Record DXE Iniatial. Contains CPM code to perform Boot Time Record initialization under DXE

File Content Label

project: Common Platform Modules *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.34 NDA/CPM/Features/BootTimeRecord/Pei/BootTimeRecordHob.c File Reference

AMD Boot Time Record Hob, and related functions. `#include <BootTimeRecordHob.h>`

`#include <AmdCpmBaseIo.h>`

`#include <AmdCpmTable.h>`

5.34.1 Detailed Description

AMD Boot Time Record Hob, and related functions.

File Content Label

project: Common Platform Modules *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.35 NDA/CPM/Features/BootTimeRecord/Pei/BootTimeRecordHob.h File Reference

AMD Boot Time Record Hob, and related functions. `#include <AmdCpmPei.h>`

Data Structures

- struct AMD_BOOT_TIME_RECORD_HOB

  Hob to store Boot TimeRecord.

5.35.1 Detailed Description

AMD Boot Time Record Hob, and related functions.

File Content Label

project: Common Platform Modules *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.36 NDA/CPM/Features/BootTimeRecord/Pei/BootTimeRecordPei.c File Reference

AMD Boot Time Record Hob, and related functions. `#include <BootTimeRecordPei.h>`

`#include <BootTimeRecordHob.h>`

`#include <AmdCpmBaseIo.h>`

5.36.1 Detailed Description

AMD Boot Time Record Hob, and related functions.

File Content Label

project: Common Platform Modules *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.37 NDA/CPM/Features/BootTimeRecord/Pei/BootTimeRecordPei.h File Reference

AMD Boot Time Record API, and related functions. `#include <AmdCpmPei.h>`

5.37.1 Detailed Description

AMD Boot Time Record API, and related functions.

File Content Label

project: Common Platform Modules *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.38 NDA/CPM/Features/DisplayFeature/Dxe/AmdCpmDisplayFeatureDxe.c File Reference

AMD CPM Display Feature Initialization. `#include <AmdCpmDxe.h>`

Functions

- VOID EFIAPI AmdCpmDisplayFeatureInitMid (IN EFI_EVENT Event, IN VOID *Context)
  AmdCpmDisplayFeatureInitMid.
- VOID EFIAPI AmdCpmDisplayFeatureInitLate (IN EFI_EVENT Event, IN VOID *Context)
  AmdCpmDisplayFeatureInitLate.
- EFI_STATUS EFIAPI AmdCpmDisplayFeatureDxeEntryPoint (IN EFI_HANDLE ImageHandle, IN EFI_SYSTEM_TABLE *SystemTable)
  Entry point of the AMD CPM Display Feature DXE driver.

5.38.1 Detailed Description

AMD CPM Display Feature Initialization. Contains CPM code to perform GPIO Init under DXE

File Content Label

project: CPM *sub-project*: DisplayFeature *$Revision:* 285127 $ *$Date:* 2014-02-18 10:33:07 -0600 (Tue, 18 Feb 2014) $

5.38.2 Function Documentation

5.38.2.1 VOID EFIAPI AmdCpmDisplayFeatureInitMid (IN EFI_EVENT *Event*, IN VOID * *Context*)

AmdCpmDisplayFeatureInitMid. This function is called as part of CPM DXE Driver Initialization. It gets called each time the AMD CPM ALL PCI IO PROTOCOLS INSTALLED PROTOCOL is installed.

Parameters:

← ***Event*** EFI_EVENT

← ***Context*** The Parameter Buffer

Referenced by AmdCpmDisplayFeatureDxeEntryPoint().

5.38.2.2 VOID EFIAPI AmdCpmDisplayFeatureInitLate (IN EFI_EVENT *Event*, IN VOID * *Context*)

AmdCpmDisplayFeatureInitLate. This function is called as part of CPM DXE Driver Initialization. It gets called each time the EFI_EVENT_SIGNAL_READY_TO_BOOT gets signaled.

Parameters:

← ***Event*** EFI_EVENT

← ***Context*** The Parameter Buffer

References CpmDisplayFeatureInitLate().

Referenced by AmdCpmDisplayFeatureDxeEntryPoint().

5.38.2.3 EFI_STATUS EFIAPI AmdCpmDisplayFeatureDxeEntryPoint (IN EFI_HANDLE *ImageHandle*, IN EFI_SYSTEM_TABLE * *SystemTable*)

Entry point of the AMD CPM Display Feature DXE driver. This function installs AMD CPM DISPLAY FEATURE PROTOCOL and initialize display features.

Parameters:

← ***ImageHandle*** Pointer to the firmware file system header

← ***SystemTable*** Pointer to System table

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AmdCpmDisplayFeatureInitLate(), AmdCpmDisplayFeatureInitMid(), AMD_CPM_TABLE_PROTOCOL::CommonFunction, CPM_SIGNATURE_DEVICE_PATH, CPM_SIGNATURE_DISPLAY_FEATURE, CPM_SIGNATURE_REBRAND_DUAL_GRAPHICS_SSID, CPM_SIGNATURE_SPECIFIC_SSID, CPM_DISPLAY_FEATURE_PRIVATE::DevicePathTablePtr, AMD_CPM_DISPLAY_FEATURE_PROTOCOL::DisplayFeatureData, CPM_DISPLAY_FEATURE_PRIVATE::DisplayFeatureTablePtr, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_COMMON_FUNCTION::PostCode, CPM_DISPLAY_FEATURE_PRIVATE::RebrandDualGraphicsSsidTablePtr, AMD_CPM_DISPLAY_FEATURE_PROTOCOL::Revision, CPM_DISPLAY_FEATURE_PRIVATE::SpecificSsidTablePtr, AMD_CPM_DISPLAY_FEATURE_PROTOCOL::TableProtocolPtr, CPM_DISPLAY_FEATURE_PRIVATE::VBiosImage, and CPM_DISPLAY_FEATURE_PRIVATE::VBiosImageSize.

5.39 NDA/CPM/Features/DisplayFeature/Dxe/AmdCpmDisplayFeatureInitLate.c File Reference

AMD CPM Display Feature Initialization. `#include <AmdCpmDxe.h>`

Functions

- VOID CpmDisplayFeatureInitLate (IN AMD_CPM_DISPLAY_FEATURE_PROTOCOL *CpmDisplayFeatureProtocolPtr)

  The function to set Sub-System Id on iGPU and dGPU, update NV Data for Display Feature and install Display Feature SSDT tables for iGPU and dGPU.

- BOOLEAN EFIAPI CpmIGpuSsdtCallBack (IN AMD_CPM_TABLE_PROTOCOL *This, IN VOID *AmlObjPtr, IN VOID *Context)

  Callback function to update Display Feature SSDT table for iGPU.

- BOOLEAN EFIAPI CpmDGpuSsdtCallBack (IN AMD_CPM_TABLE_PROTOCOL *This, IN VOID *AmlObjPtr, IN VOID *Context)

  Callback function to update Display Feature SSDT table for dGPU.

- BOOLEAN EFIAPI CpmMxmOverTSsdtCallBack (IN AMD_CPM_TABLE_PROTOCOL *This, IN VOID *AmlObjPtr, IN VOID *Context)

  Callback function to update Display Feature SSDT table for MXM_OVERT.

- BOOLEAN EFIAPI CpmDisplayConnectEventSsdtCallBack (IN AMD_CPM_TABLE_-PROTOCOL *This, IN VOID *AmlObjPtr, IN VOID *Context)

  Callback function to update Display Feature SSDT table for Discrete GPU connect/disconnect event.

- VOID EFIAPI AmdCpmDisplayFeatureInitLate (IN EFI_EVENT Event, IN VOID *Context)

  AmdCpmDisplayFeatureInitLate.

5.39.1 Detailed Description

AMD CPM Display Feature Initialization. Contains CPM code to perform GPIO Init under DXE

File Content Label

project: CPM *sub-project*: DisplayFeature *$Revision:* 285127 $ *$Date:* 2014-02-18 10:33:07 -0600 (Tue, 18 Feb 2014) $

5.39.2 Function Documentation

5.39.2.1 VOID CpmDisplayFeatureInitLate (IN AMD_CPM_DISPLAY_FEATURE_PROTOCOL * *CpmDisplayFeatureProtocolPtr*)

The function to set Sub-System Id on iGPU and dGPU, update NV Data for Display Feature and install Display Feature SSDT tables for iGPU and dGPU.

Parameters:

← ***CpmDisplayFeatureProtocolPtr*** Pointer to AMD CPM Display Feature Protocol

References AMD_CPM_COMMON_FUNCTION::AddSsdtTable, AMD_CPM_DISPLAY_FEATURE_-TABLE::AtifSupportedNotificationMask, AMD_CPM_DEVICE_PATH_ITEM::Bridge, AMD_CPM_-PCI_PFA::Bus, AMD_CPM_GFX_DEVICE::Bus, AMD_CPM_DISPLAY_FEATURE_SUPPORT::Bus,

AMD_CPM_TABLE_PROTOCOL::CommonFunction, AMD_CPM_DISPLAY_FEATURE_-CONFIG::Config, AMD_CPM_COMMON_FUNCTION::CopyMem, CPM_SIGNATURE_PCIE_-TOPOLOGY, AMD_CPM_NV_DATA_STRUCT::CpmAtcsSupportedFunctionMask, AMD_CPM_-NV_DATA_STRUCT::CpmAtifDeviceListBuffer, AMD_CPM_NV_DATA_STRUCT::CpmAtifFlags, AMD_CPM_NV_DATA_STRUCT::CpmAtifFunctionBitVector, AMD_CPM_NV_DATA_-STRUCT::CpmAtifSupportedNotificationMask, AMD_CPM_NV_DATA_STRUCT::CpmAtpxFlags, AMD_CPM_NV_DATA_STRUCT::CpmAtpxSupportedFunctionMask, AMD_CPM_NV_-DATA_STRUCT::CpmAtrmRomImage, AMD_CPM_NV_DATA_STRUCT::CpmAtrmRomSize, AMD_CPM_NV_DATA_STRUCT::CpmdGpuAspmLxEnable, AMD_CPM_NV_DATA_-STRUCT::CpmdGpuAudioDisable, AMD_CPM_NV_DATA_STRUCT::CpmdGpuP2pBridgePfa, AMD_CPM_NV_DATA_STRUCT::CpmdGpuP2pDevicePfa, CpmDGpuSsdtCallBack(), CpmDisplayConnectEventSsdtCallBack(), AMD_CPM_NV_DATA_STRUCT::CpmDisplayFeatureConfig, AMD_CPM_NV_DATA_STRUCT::CpmiGpuP2pBridgePfa, AMD_CPM_NV_DATA_-STRUCT::CpmiGpuP2pDevicePfa, CpmIGpuSsdtCallBack(), CpmMxmOverTSsdtCallBack(), CPM_DISPLAY_FEATURE_PRIVATE::CurrentFeature, AMD_CPM_PCI_PFA::Device, AMD_-CPM_GFX_DEVICE::Device, AMD_CPM_GFX_DETECT::Device, AMD_CPM_PCI_-DEVICE_FUNCTION::Device, AMD_CPM_DEVICE_PATH_ITEM::Device, AMD_CPM_-REBRAND_DUAL_GRAPHICS_SSID_ITEM::DeviceId, AMD_CPM_SPECIFIC_SSID_-ITEM::DeviceId, CPM_DISPLAY_FEATURE_PRIVATE::DevicePathTablePtr, AMD_CPM_GFX_-DETECT::DeviceStructSize, AMD_CPM_DISPLAY_FEATURE_CONFIG::DgpuDisplayOutput, AMD_CPM_DISPLAY_FEATURE_CONFIG::DisableDgpuAudioInPX, AMD_CPM_DISPLAY_-FEATURE_TABLE::DisplayConnectEvent, AMD_CPM_MAIN_TABLE::DisplayFeature, CPM_-DISPLAY_FEATURE_PRIVATE::DisplayFeatureTablePtr, AMD_CPM_DISPLAY_FEATURE_-CONFIG::DualGraphicsNotSupported, AMD_CPM_DISPLAY_FEATURE_SUPPORT::Exist, AMD_-CPM_DEVICE_PATH_ITEM::FeatureMask, AMD_CPM_GFX_DEVICE::Flags, AMD_CPM_-PCI_PFA::Function, AMD_CPM_PCI_DEVICE_FUNCTION::Function, AMD_CPM_DISPLAY_-FEATURE_TABLE::FunctionDisableMask, AMD_CPM_COMMON_FUNCTION::GetPcieAslName, AMD_CPM_COMMON_FUNCTION::GetSciMap, AMD_CPM_COMMON_FUNCTION::GetTablePtr, CPM_DISPLAY_FEATURE_PRIVATE::GfxBridgePfa, CPM_DISPLAY_FEATURE_-PRIVATE::GfxDevicePfa, AMD_CPM_DISPLAY_FEATURE_SUPPORT::HyperCrossFire, AMD_CPM_DISPLAY_FEATURE_CONFIG::HyperCrossFire, AMD_CPM_DISPLAY_-FEATURE_CONFIG::IsBrightnessByDriver, AMD_CPM_REBRAND_DUAL_GRAPHICS_SSID_-ITEM::IsDgpu, AMD_CPM_DEVICE_PATH_ITEM::IsDgpu, AMD_CPM_DISPLAY_FEATURE_-CONFIG::IsDgpuPrimary, AMD_CPM_REBRAND_DUAL_GRAPHICS_SSID_TABLE::Item, AMD_CPM_SPECIFIC_SSID_TABLE::Item, AMD_CPM_TABLE_PROTOCOL::MainTablePtr, AMD_CPM_DISPLAY_FEATURE_SUPPORT::Mask, AMD_CPM_DISPLAY_FEATURE_-TABLE::MuxFlag, AMD_CPM_DISPLAY_FEATURE_TABLE::MxmOverTempEvent, AMD_-CPM_GFX_DETECT::NumDevice, AMD_CPM_NV_DATA_PROTOCOL::NvDataPtr, AMD_CPM_-COMMON_FUNCTION::PciRead16, AMD_CPM_COMMON_FUNCTION::PciRead8, AMD_CPM_-COMMON_FUNCTION::PciWrite32, AMD_CPM_PCI_PFA::Pfa, AMD_CPM_PCIE_TOPOLOGY_-TABLE::Port, AMD_CPM_COMMON_FUNCTION::PostCode, AMD_CPM_DISPLAY_FEATURE_-SUPPORT::PowerXpress, AMD_CPM_DISPLAY_FEATURE_CONFIG::PowerXpressDynamicMode, AMD_CPM_DISPLAY_FEATURE_CONFIG::PowerXpressFixedMode, AMD_CPM_DISPLAY_-FEATURE_CONFIG::PulseGeneratorSupport, AMD_CPM_PCI_PFA::Raw, AMD_CPM_-DISPLAY_FEATURE_CONFIG::Raw, AMD_CPM_DISPLAY_FEATURE_SUPPORT::Raw, AMD_CPM_DISPLAY_FEATURE_CONFIG::RebrandDualGraphics, CPM_DISPLAY_-FEATURE_PRIVATE::RebrandDualGraphicsSsidTablePtr, AMD_CPM_DISPLAY_FEATURE_-SUPPORT::Removable, CPM_DISPLAY_FEATURE_PRIVATE::SpecificSsidTablePtr, CPM_-DISPLAY_FEATURE_PRIVATE::Ssid, CPM_DISPLAY_FEATURE_PRIVATE::Ssid2, AMD_-CPM_DISPLAY_FEATURE_SUPPORT::Valid, CPM_DISPLAY_FEATURE_PRIVATE::VBiosFlag, CPM_DISPLAY_FEATURE_PRIVATE::VBiosImage, AMD_CPM_REBRAND_DUAL_GRAPHICS_-SSID_ITEM::VendorId, AMD_CPM_SPECIFIC_SSID_ITEM::VendorId, and AMD_CPM_DISPLAY_-FEATURE_SUPPORT::Vga.

Referenced by AmdCpmDisplayFeatureInitLate().

5.39.2.2 BOOLEAN EFIAPI CpmIGpuSsdtCallBack (IN AMD_CPM_TABLE_PROTOCOL * *This*, IN VOID * *AmlObjPtr*, IN VOID * *Context*)

Callback function to update Display Feature SSDT table for iGPU. This function is used to update the name of PCIe bridge for dGPU in ASL and renames XTRM to ATRM if PowerXpress is enabled.

Parameters:

← ***This*** Pointer to Protocol

← ***AmlObjPtr*** The AML Object Buffer

← ***Context*** The Parameter Buffer

Return values:

TRUE SSDT Table has been updated completely

FALSE SSDT Table has not been updated completely

Referenced by CpmDisplayFeatureInitLate().

5.39.2.3 BOOLEAN EFIAPI CpmDGpuSsdtCallBack (IN AMD_CPM_TABLE_PROTOCOL * *This*, IN VOID * *AmlObjPtr*, IN VOID * *Context*)

Callback function to update Display Feature SSDT table for dGPU. This function is used to update the name of PCIe bridge for dGPU in ASL

Parameters:

← ***This*** Pointer to Protocol

← ***AmlObjPtr*** The AML Object Buffer

← ***Context*** The Parameter Buffer

Return values:

TRUE SSDT Table has been updated completely

FALSE SSDT Table has not been updated completely

Referenced by CpmDisplayFeatureInitLate().

5.39.2.4 BOOLEAN EFIAPI CpmMxmOverTSsdtCallBack (IN AMD_CPM_-TABLE_PROTOCOL * *This*, IN VOID * *AmlObjPtr*, IN VOID * *Context*)

Callback function to update Display Feature SSDT table for MXM_OVERT. This function is used to update the name of GPE method in ASL

Parameters:

← ***This*** Pointer to Protocol

← ***AmlObjPtr*** The AML Object Buffer

← ***Context*** The Parameter Buffer

Return values:

TRUE SSDT Table has been updated completely

FALSE SSDT Table has not been updated completely

Referenced by CpmDisplayFeatureInitLate().

5.39.2.5 BOOLEAN EFIAPI CpmDisplayConnectEventSsdtCallBack (IN AMD_CPM_TABLE_PROTOCOL * *This*, IN VOID * *AmlObjPtr*, IN VOID * *Context*)

Callback function to update Display Feature SSDT table for Discrete GPU connect/disconnect event. This function is used to update the name of GPE method in ASL

Parameters:

← ***This*** Pointer to Protocol

← ***AmlObjPtr*** The AML Object Buffer

← ***Context*** The Parameter Buffer

Return values:

TRUE SSDT Table has been updated completely

FALSE SSDT Table has not been updated completely

Referenced by CpmDisplayFeatureInitLate().

5.39.2.6 VOID EFIAPI AmdCpmDisplayFeatureInitLate (IN EFI_EVENT *Event*, IN VOID * *Context*)

AmdCpmDisplayFeatureInitLate. This function is called as part of CPM DXE Driver Initialization. It gets called each time the EFI_EVENT_SIGNAL_READY_TO_BOOT gets signaled.

Parameters:

← ***Event*** EFI_EVENT

← ***Context*** The Parameter Buffer

References CpmDisplayFeatureInitLate().

Referenced by AmdCpmDisplayFeatureDxeEntryPoint().

5.40 NDA/CPM/Features/DisplayFeature/Dxe/AmdCpmDisplayFeatureInitMid.c File Reference

AMD CPM Display Feature Initialization. `#include <AmdCpmDxe.h>`

Functions

- VOID EFIAPI AmdCpmDisplayFeatureInitMid (IN EFI_EVENT Event, IN VOID *Context)

  AmdCpmDisplayFeatureInitMid.

5.40.1 Detailed Description

AMD CPM Display Feature Initialization. Contains CPM code to perform GPIO Init under DXE

File Content Label

project: CPM *sub-project*: DisplayFeature *$Revision:* 287560 $ *$Date:* 2014-03-18 13:52:46 -0500 (Tue, 18 Mar 2014) $

5.40.2 Function Documentation

5.40.2.1 VOID EFIAPI AmdCpmDisplayFeatureInitMid (IN EFI_EVENT *Event*, IN VOID * *Context*)

AmdCpmDisplayFeatureInitMid. This function is called as part of CPM DXE Driver Initialization. It gets called each time the AMD CPM ALL PCI IO PROTOCOLS INSTALLED PROTOCOL is installed.

Parameters:

← ***Event*** EFI_EVENT

← ***Context*** The Parameter Buffer

Referenced by AmdCpmDisplayFeatureDxeEntryPoint().

5.41 NDA/CPM/Features/DisplayFeature/Pei/AmdCpmDisplayFeaturePeim.c File Reference

AMD CPM Display Feature Initialization. `#include <AmdCpmPei.h>`

Functions

- EFI_STATUS EFIAPI AmdCpmDisplayFeaturePeim (IN EFI_PEI_SERVICES **PeiServices, IN EFI_PEI_NOTIFY_DESCRIPTOR *NotifyDescriptor, IN VOID *Ppi)

  The function to set HotPlug attribute in PCIe Topology Table if Express Card supports after AMD CPM GPIO INIT FINISHED PPI is installed.

- EFI_STATUS EFIAPI AmdCpmDisplayFeaturePeimEntryPoint (IN CPM_PEI_FILE_HANDLE FileHandle, IN CPM_PEI_SERVICES **PeiServices)

  Entry point of the AMD CPM Display Feature PEIM driver.

5.41.1 Detailed Description

AMD CPM Display Feature Initialization. Contains code that initialized Display Feature before memory init.

File Content Label

project: CPM *sub-project*: DisplayFeature *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.41.2 Function Documentation

5.41.2.1 EFI_STATUS EFIAPI AmdCpmDisplayFeaturePeim (IN EFI_PEI_SERVICES ** *PeiServices*, IN EFI_PEI_NOTIFY_DESCRIPTOR * *NotifyDescriptor*, IN VOID * *Ppi*)

The function to set HotPlug attribute in PCIe Topology Table if Express Card supports after AMD CPM GPIO INIT FINISHED PPI is installed.

Parameters:

← ***PeiServices*** Pointer to Pei Services

← ***NotifyDescriptor*** The descriptor for the notification event

← ***Ppi*** Pointer to the PPI in question.

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AMD_CPM_DEVICE_PATH_ITEM::Bridge, AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_DISPLAY_FEATURE_CONFIG::Config, CPM_SIGNATURE_DEVICE_PATH, CPM_SIGNATURE_PCIE_TOPOLOGY, AMD_CPM_PCI_DEVICE_FUNCTION::Device, AMD_CPM_MAIN_TABLE::DisplayFeature, AMD_CPM_DEVICE_PATH_ITEM::FeatureMask, AMD_CPM_PCI_DEVICE_FUNCTION::Function, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_COMMON_FUNCTION::GetTablePtr2, AMD_CPM_DEVICE_PATH_ITEM::IsDgpu, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_DISPLAY_FEATURE_SUPPORT::Mask, AMD_CPM_PCIE_TOPOLOGY_TABLE::Port, AMD_CPM_COMMON_FUNCTION::PostCode, AMD_CPM_DISPLAY_FEATURE_SUPPORT::PowerXpress, AMD_CPM_DISPLAY_FEATURE_CONFIG::PowerXpressDynamicMode, AMD_CPM_DISPLAY_FEATURE_CONFIG::PowerXpressFixedMode, and AMD_CPM_DISPLAY_FEATURE_SUPPORT::Valid.

5.41.2.2 EFI_STATUS EFIAPI AmdCpmDisplayFeaturePeimEntryPoint (IN CPM_PEI_FILE_HANDLE *FileHandle*, IN CPM_PEI_SERVICES ** *PeiServices*)

Entry point of the AMD CPM Display Feature PEIM driver. This function registers the functions to set HotPlug attribute in PCIe Topology Table if Express Card supports.

Parameters:

← ***FileHandle*** Pointer to the firmware file system header

← ***PeiServices*** Pointer to Pei Services

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

5.42 NDA/CPM/Features/DisplayFeature/Smm/AmdCpmDisplayFeatureSmm.c File Reference

AMD CPM Display Feature Initialization. `#include <AmdCpmSmm.h>`

Functions

- EFI_STATUS AmdCpmDisplayFeatureSmmRegistrationCenter (VOID)

  AMD CPM Display Feature SMM Register Center.

- EFI_STATUS AmdCpmDisplayFeatureSmmEntryPoint (IN EFI_HANDLE ImageHandle, IN EFI_SYSTEM_TABLE *SystemTable)

  Entry point of the AMD CPM Display Feature SMM driver.

5.42.1 Detailed Description

AMD CPM Display Feature Initialization. Contains CPM code to perform Display Feature initialization in SMM

File Content Label

project: CPM *sub-project*: DisplayFeature *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.42.2 Function Documentation

5.42.2.1 EFI_STATUS AmdCpmDisplayFeatureSmmRegistrationCenter (VOID)

AMD CPM Display Feature SMM Register Center. This function registers the SMI handler to disable audio in dGPU when PowerXpress is enabled and set SSID when resume from S3.

Return values:

EFI_SUCCESS Function initialized successfully

EFI_ERROR Initialization failed (see error for more details)

Referenced by AmdCpmDisplayFeatureSmmEntryPoint().

5.42.2.2 EFI_STATUS AmdCpmDisplayFeatureSmmEntryPoint (IN EFI_HANDLE *ImageHandle*, IN EFI_SYSTEM_TABLE * *SystemTable*)

Entry point of the AMD CPM Display Feature SMM driver. This function registers the SMI handler to disable audio in dGPU when PowerXpress is enabled and set SSID when resume from S3.

Parameters:

← ***ImageHandle*** Pointer to the firmware file system header

← ***SystemTable*** Pointer to System table

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AmdCpmDisplayFeatureSmmRegistrationCenter(), AMD_CPM_TABLE_-PROTOCOL::CommonFunction, AMD_CPM_COMMON_FUNCTION::PostCode, and AMD_CPM_-DISPLAY_FEATURE_PROTOCOL::TableProtocolSmmPtr.

5.43 NDA/CPM/Features/DisplayFeature/Smm/DisplayFeatureSmiRegistration.c File Reference

AMD CPM Display Feature Initialization. `#include <AmdCpmSmm.h>`

Functions

- EFI_STATUS EFIAPI DisableDgpuAudioInPXSmm (IN EFI_HANDLE DispatchHandle, IN CPM_SMM_SW_DISPATCH_CONTEXT *DispatchContext)

  The function to disable audio in dGPU when PowerXpress is enabled and sets SSID.

- EFI_STATUS EFIAPI SetGpuSsidSmm (IN EFI_HANDLE DispatchHandle, IN CPM_SMM_SW_-DISPATCH_CONTEXT *DispatchContext)

  The function to set Sub-System ID.

- EFI_STATUS EFIAPI SetGpuDisplayOutputSmm (IN EFI_HANDLE DispatchHandle, IN CPM_-SMM_SW_DISPATCH_CONTEXT *DispatchContext)

  The function to set GPIO for display output.

- EFI_STATUS EFIAPI CPM_DEFINE_CALLBACK (IN CPM_CALLBACK_NAME AmdCp-mDisplayFeatureRestoreSmm, IN CPM_CALLBACK_VAR_TYPE EFI_HANDLE, IN CPM_-CALLBACK_VAR_NAME DispatchHandle, IN CPM_CALLBACK_VAR_TYPE CPM_SMM_-SW_DISPATCH_CONTEXT, IN CPM_CALLBACK_VAR_NAME *DispatchContext)

  SMI Handler to restore display feature.

- EFI_STATUS AmdCpmDisplayFeatureSmmRegistrationCenter (VOID)

  AMD CPM Display Feature SMM Register Center.

5.43.1 Detailed Description

AMD CPM Display Feature Initialization. Contains CPM code to perform Display Feature initialization in SMM

File Content Label

project: CPM *sub-project*: DisplayFeature *$Revision:* 285127 $ *$Date:* 2014-02-18 10:33:07 -0600 (Tue, 18 Feb 2014) $

5.43.2 Function Documentation

5.43.2.1 EFI_STATUS EFIAPI DisableDgpuAudioInPXSmm (IN EFI_HANDLE *DispatchHandle*, IN CPM_SMM_SW_DISPATCH_CONTEXT * *DispatchContext*)

The function to disable audio in dGPU when PowerXpress is enabled and sets SSID.

Parameters:

← ***DispatchHandle*** The handle of this callback, obtained when registering

← ***DispatchContext*** Pointer to the EFI_SMM_SW_DISPATCH_CONTEXT

Return values:

EFI_SUCCESS Callback function successfully

EFI_ERROR Callback function failed (see error for more details)

References AMD_CPM_PCI_PFA::Bus, AMD_CPM_TABLE_PROTOCOL::CommonFunction, AMD_CPM_DISPLAY_FEATURE_CONFIG::Config, CPM_DISPLAY_FEATURE_PRIVATE::CurrentFeature, AMD_CPM_PCI_PFA::Device, AMD_CPM_DISPLAY_FEATURE_CONFIG::DgpuDisplayOutput, AMD_CPM_DISPLAY_FEATURE_CONFIG::DisableDgpuAudioInPX, AMD_CPM_MAIN_TABLE::DisplayFeature, AMD_CPM_DISPLAY_FEATURE_PROTOCOL::DisplayFeatureData, AMD_CPM_PCI_PFA::Function, CPM_DISPLAY_FEATURE_PRIVATE::GfxBridgePfa, CPM_DISPLAY_FEATURE_PRIVATE::GfxDevicePfa, AMD_CPM_TABLE_PROTOCOL::MainTablePtr, AMD_CPM_DISPLAY_FEATURE_SUPPORT::Mask, AMD_CPM_COMMON_FUNCTION::MmioAnd32, AMD_CPM_COMMON_FUNCTION::PciOr8, AMD_CPM_COMMON_FUNCTION::PciRead32, AMD_CPM_COMMON_FUNCTION::PciWrite32, AMD_CPM_PCI_PFA::Pfa, AMD_CPM_DISPLAY_FEATURE_SUPPORT::PowerXpress, AMD_CPM_PCI_PFA::Raw, and AMD_CPM_DISPLAY_FEATURE_PROTOCOL::TableProtocolSmmPtr.

Referenced by CPM_DEFINE_CALLBACK().

5.43.2.2 EFI_STATUS EFIAPI SetGpuSsidSmm (IN EFI_HANDLE *DispatchHandle*, IN CPM_SMM_SW_DISPATCH_CONTEXT * *DispatchContext*)

The function to set Sub-System ID.

Parameters:

← ***DispatchHandle*** The handle of this callback, obtained when registering

← ***DispatchContext*** Pointer to the EFI_SMM_SW_DISPATCH_CONTEXT

Return values:

EFI_SUCCESS Callback function successfully

EFI_ERROR Callback function failed (see error for more details)

References AMD_CPM_DISPLAY_FEATURE_SUPPORT::Bus, AMD_CPM_TABLE_-PROTOCOL::CommonFunction, AMD_CPM_DISPLAY_FEATURE_CONFIG::Config, AMD_-CPM_PCI_DEVICE_FUNCTION::Device, AMD_CPM_DEVICE_PATH_ITEM::Device, AMD_-CPM_REBRAND_DUAL_GRAPHICS_SSID_ITEM::DeviceId, AMD_CPM_SPECIFIC_SSID_-ITEM::DeviceId, CPM_DISPLAY_FEATURE_PRIVATE::DevicePathTablePtr, AMD_CPM_MAIN_-TABLE::DisplayFeature, AMD_CPM_DISPLAY_FEATURE_PROTOCOL::DisplayFeatureData, CPM_DISPLAY_FEATURE_PRIVATE::DisplayFeatureTablePtr, AMD_CPM_DISPLAY_FEATURE_-SUPPORT::Exist, AMD_CPM_DEVICE_PATH_ITEM::FeatureMask, AMD_CPM_PCI_DEVICE_-FUNCTION::Function, AMD_CPM_DISPLAY_FEATURE_TABLE::FunctionDisableMask, AMD_-CPM_REBRAND_DUAL_GRAPHICS_SSID_ITEM::IsDgpu, AMD_CPM_DEVICE_PATH_-ITEM::IsDgpu, AMD_CPM_REBRAND_DUAL_GRAPHICS_SSID_TABLE::Item, AMD_-CPM_SPECIFIC_SSID_TABLE::Item, AMD_CPM_TABLE_PROTOCOL::MainTablePtr, AMD_-CPM_DISPLAY_FEATURE_SUPPORT::Mask, AMD_CPM_COMMON_FUNCTION::PciRead16, AMD_CPM_COMMON_FUNCTION::PciWrite32, AMD_CPM_DISPLAY_FEATURE_-SUPPORT::Raw, AMD_CPM_DISPLAY_FEATURE_CONFIG::RebrandDualGraphics, CPM_-DISPLAY_FEATURE_PRIVATE::RebrandDualGraphicsSsidTablePtr, CPM_DISPLAY_FEATURE_-PRIVATE::SpecificSsidTablePtr, CPM_DISPLAY_FEATURE_PRIVATE::Ssid, CPM_DISPLAY_-FEATURE_PRIVATE::Ssid2, AMD_CPM_DISPLAY_FEATURE_PROTOCOL::TableProtocolSmmPtr, AMD_CPM_DISPLAY_FEATURE_SUPPORT::Valid, AMD_CPM_REBRAND_DUAL_GRAPHICS_-SSID_ITEM::VendorId, and AMD_CPM_SPECIFIC_SSID_ITEM::VendorId.

Referenced by CPM_DEFINE_CALLBACK().

5.43.2.3 EFI_STATUS EFIAPI SetGpuDisplayOutputSmm (IN EFI_HANDLE *DispatchHandle*, IN CPM_SMM_SW_DISPATCH_CONTEXT * *DispatchContext*)

The function to set GPIO for display output.

Parameters:

← ***DispatchHandle*** The handle of this callback, obtained when registering

← ***DispatchContext*** Pointer to the EFI_SMM_SW_DISPATCH_CONTEXT

Return values:

EFI_SUCCESS Callback function successfully

EFI_ERROR Callback function failed (see error for more details)

References AMD_CPM_TABLE_PROTOCOL::CommonFunction, AMD_CPM_GPIO_DEVICE_-POWER::Config, AMD_CPM_DISPLAY_FEATURE_CONFIG::Config, CPM_SIGNATURE_-GPIO_DEVICE_POWER, AMD_CPM_GPIO_DEVICE_POWER::DeviceId, AMD_CPM_DEVICE_-PATH_ITEM::DeviceId, CPM_DISPLAY_FEATURE_PRIVATE::DevicePathTablePtr, AMD_CPM_-GPIO_DEVICE_POWER_TABLE::DevicePowerList, AMD_CPM_MAIN_TABLE::DisplayFeature, AMD_CPM_DISPLAY_FEATURE_PROTOCOL::DisplayFeatureData, AMD_CPM_DISPLAY_-FEATURE_SUPPORT::Exist, AMD_CPM_DEVICE_PATH_ITEM::FeatureMask, AMD_CPM_-COMMON_FUNCTION::GetTablePtr, AMD_CPM_DEVICE_PATH_ITEM::IsDgpu, AMD_CPM_-DISPLAY_FEATURE_CONFIG::IsDgpuPrimary, AMD_CPM_TABLE_PROTOCOL::MainTablePtr,

AMD_CPM_DISPLAY_FEATURE_SUPPORT::Mask, AMD_CPM_GPIO_DEVICE_POWER::Mode, AMD_CPM_DEVICE_PATH_ITEM::Mode, AMD_CPM_GPIO_PIN::Pin, AMD_CPM_GPIO_-DEVICE_POWER::SetGpio, AMD_CPM_COMMON_FUNCTION::SetGpio, AMD_CPM_DISPLAY_-FEATURE_PROTOCOL::TableProtocolSmmPtr, AMD_CPM_GPIO_DEVICE_POWER::Type, AMD_-CPM_DISPLAY_FEATURE_SUPPORT::Valid, and AMD_CPM_GPIO_PIN::Value.

Referenced by CPM_DEFINE_CALLBACK().

5.43.2.4 EFI_STATUS EFIAPI CPM_DEFINE_CALLBACK (IN CPM_CALLBACK_NAME *AmdCpmDisplayFeatureRestoreSmm*, IN CPM_CALLBACK_VAR_TYPE *EFI_HANDLE*, IN CPM_CALLBACK_VAR_NAME *DispatchHandle*, IN CPM_CALLBACK_VAR_TYPE *CPM_SMM_SW_DISPATCH_CONTEXT*, IN CPM_CALLBACK_VAR_NAME * *DispatchContext*)

SMI Handler to restore display feature. This function disables audio in dGPU when PowerXpress is enabled and sets SSID when resume from S3.

References DisableDgpuAudioInPXSmm(), SetGpuDisplayOutputSmm(), and SetGpuSsidSmm().

5.43.2.5 EFI_STATUS AmdCpmDisplayFeatureSmmRegistrationCenter (VOID)

AMD CPM Display Feature SMM Register Center. This function registers the SMI handler to disable audio in dGPU when PowerXpress is enabled and set SSID when resume from S3.

Return values:

EFI_SUCCESS Function initialized successfully

EFI_ERROR Initialization failed (see error for more details)

Referenced by AmdCpmDisplayFeatureSmmEntryPoint().

5.44 NDA/CPM/Features/GpioInit/Dxe/AmdCpmGpioInitDxe.c File Reference

AMD CPM GPIO Initialization. `#include <AmdCpmDxe.h>`

Functions

- VOID EFIAPI AmdCpmGpioInitMid (IN VOID *Context)

  Init GEVENT pins.

- VOID EFIAPI AmdCpmGpioInitMidNotifyEvent (IN EFI_EVENT Event, IN VOID *Context)

  Init GEVENT pins.

- VOID EFIAPI AmdCpmGpioInitLate (IN EFI_EVENT Event, IN VOID *Context)

  Init internal PCIe clock.

- VOID CpmPcieClockInit (IN AMD_CPM_TABLE_PROTOCOL *CpmTableProtocolPtr)

  The function to initialize internal PCIe clock.

- VOID CpmGeventInit (IN AMD_CPM_TABLE_PROTOCOL *CpmTableProtocolPtr)
  The function to initialize GEVENT pins.
- VOID CpmGeventSmiControlInit (IN AMD_CPM_TABLE_PROTOCOL *CpmTableProtocolPtr)
  The function to initialize SMI Control for GEVENT pins.
- EFI_STATUS EFIAPI AmdCpmGpioInitDxeEntryPoint (IN EFI_HANDLE ImageHandle, IN EFI_SYSTEM_TABLE *SystemTable)
  Entry point of the AMD CPM GPIO Init DXE driver.

5.44.1 Detailed Description

AMD CPM GPIO Initialization. Contains CPM code to perform GPIO Init under DXE

File Content Label

project: CPM *sub-project*: GpioInit *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.44.2 Function Documentation

5.44.2.1 VOID EFIAPI AmdCpmGpioInitMid (IN VOID * *Context*)

Init GEVENT pins. This function gets called each time the EFI_EVENT_SIGNAL_READY_TO_BOOT gets signaled.

Parameters:

← ***Context*** The Parameter Buffer

References CpmGeventInit().

Referenced by AmdCpmGpioInitDxeEntryPoint(), and AmdCpmGpioInitMidNotifyEvent().

5.44.2.2 VOID EFIAPI AmdCpmGpioInitMidNotifyEvent (IN EFI_EVENT *Event*, IN VOID * *Context*)

Init GEVENT pins. This function gets called each time the EFI_EVENT_SIGNAL_READY_TO_BOOT gets signaled.

Parameters:

← ***Event*** EFI_EVENT

← ***Context*** The Parameter Buffer

References AmdCpmGpioInitMid().

Referenced by AmdCpmGpioInitDxeEntryPoint().

5.44.2.3 VOID EFIAPI AmdCpmGpioInitLate (IN EFI_EVENT *Event*, IN VOID * *Context*)

Init internal PCIe clock. This function gets called each time the EFI_EVENT_SIGNAL_READY_TO_-BOOT gets signaled.

Parameters:

← ***Event*** EFI_EVENT

← ***Context*** The Parameter Buffer

References CpmGeventSmiControlInit(), and CpmPcieClockInit().

Referenced by AmdCpmGpioInitDxeEntryPoint().

5.44.2.4 VOID CpmPcieClockInit (IN AMD_CPM_TABLE_PROTOCOL * *CpmTableProtocolPtr*)

The function to initialize internal PCIe clock.

Parameters:

← ***CpmTableProtocolPtr*** Pointer to AMD CPM Table Protocol

References AMD_CPM_EXT_CLKGEN_ITEM::AndMask, AMD_CPM_PCIE_CLOCK_ITEM::ClkId, AMD_CPM_PCIE_CLOCK_ITEM::ClkIdExt, AMD_CPM_PCIE_CLOCK_ITEM::ClkReq, AMD_-CPM_PCIE_CLOCK_ITEM::ClkReqExt, CPM_BOOT_MODE_S0, CPM_SIGNATURE_EXT_-CLKGEN, CPM_SIGNATURE_PCIE_CLOCK, CPM_SIGNATURE_SAVE_CONTEXT, AMD_-CPM_PCIE_CLOCK_ITEM::Device, AMD_CPM_PCIE_CLOCK_ITEM::DeviceId, AMD_CPM_-PCIE_CLOCK_ITEM::Function, AMD_CPM_PCIE_CLOCK_TABLE::Item, AMD_CPM_EXT_-CLKGEN_ITEM::Offset, AMD_CPM_PCIE_CLOCK_ITEM::SlotCheck, AMD_CPM_EXT_-CLKGEN_TABLE::SmbusAddress, and AMD_CPM_EXT_CLKGEN_TABLE::SmbusSelect.

Referenced by AmdCpmGpioInitLate(), and CPM_DEFINE_CALLBACK().

5.44.2.5 VOID CpmGeventInit (IN AMD_CPM_TABLE_PROTOCOL * *CpmTableProtocolPtr*)

The function to initialize GEVENT pins.

Parameters:

← ***CpmTableProtocolPtr*** Pointer to AMD CPM Table Protocol

References CPM_SIGNATURE_GEVENT_INIT, CPM_SIGNATURE_PCIE_EXPRESS_CARD, CPM_SIGNATURE_ZERO_POWER_ODD, AMD_CPM_EXPRESS_CARD_TABLE::EventPin, AMD_CPM_ZERO_POWER_ODD_TABLE::EventPin1, AMD_CPM_ZERO_POWER_ODD_-TABLE::EventPin2, AMD_CPM_GEVENT_INIT_TABLE::GeventList, AMD_CPM_GEVENT_-ITEM::Pin, AMD_CPM_GEVENT_SETTING::Raw, and AMD_CPM_GEVENT_ITEM::Setting.

Referenced by AmdCpmGpioInitMid(), and AmdCpmGpioInitPeim().

5.44.2.6 VOID CpmGeventSmiControlInit (IN AMD_CPM_TABLE_PROTOCOL * *CpmTableProtocolPtr*)

The function to initialize SMI Control for GEVENT pins.

Parameters:

← ***CpmTableProtocolPtr*** Pointer to AMD CPM Table Protocol

References CPM_SIGNATURE_GEVENT_INIT, AMD_CPM_GEVENT_INIT_TABLE::GeventList, AMD_CPM_GEVENT_ITEM::Pin, AMD_CPM_GEVENT_SETTING::Raw, and AMD_CPM_-GEVENT_ITEM::Setting.

Referenced by AmdCpmGpioInitLate().

5.44.2.7 EFI_STATUS EFIAPI AmdCpmGpioInitDxeEntryPoint (IN EFI_HANDLE *ImageHandle*, IN EFI_SYSTEM_TABLE * *SystemTable*)

Entry point of the AMD CPM GPIO Init DXE driver. This function sets GEVENT pins and internal PCIe clock.

Parameters:

← ***ImageHandle*** Pointer to the firmware file system header

← ***SystemTable*** Pointer to System table

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AmdCpmGpioInitLate(), AmdCpmGpioInitMid(), AmdCpmGpioInitMidNotifyEvent(), AMD_CPM_TABLE_PROTOCOL::CommonFunction, and AMD_CPM_COMMON_-FUNCTION::PostCode.

5.45 NDA/CPM/Features/GpioInit/Pei/AmdCpmGpioInitPeim.c File Reference

AMD CPM GPIO Initialization. `#include <AmdCpmPei.h>`

Functions

- VOID CpmGpioDeviceInit (IN AMD_CPM_TABLE_PPI *CpmTablePpiPtr, IN UINT8 InitFlag)

  The Function to init on-board device.

- EFI_STATUS CpmGpioDeviceInitStage2 (IN EFI_PEI_SERVICES **PeiServices, IN EFI_PEI_-NOTIFY_DESCRIPTOR *NotifyDesc, IN VOID *InvokePpi)

  CPM GPIO Device Init Stage 2.

- EFI_STATUS EFIAPI AmdCpmGpioInitPeim (IN EFI_PEI_SERVICES **PeiServices, IN EFI_-PEI_NOTIFY_DESCRIPTOR *NotifyDescriptor, IN VOID *Ppi)

CPM GPIO Device Init.

- VOID CpmGpioInit (IN AMD_CPM_TABLE_PPI *CpmTablePpiPtr)

  The Function to init GPIO pins.

- VOID CpmGeventInit (IN AMD_CPM_TABLE_PPI *CpmTablePpiPtr)

  The Function to init GEVENT pins.

- UINT32 CpmGpioDevicePreInit (IN AMD_CPM_TABLE_PPI *CpmTablePpiPtr, IN AMD_CPM_GPIO_DEVICE_CONFIG_TABLE *ConfigTablePtr, IN AMD_CPM_GPIO_DEVICE_POWER_TABLE *PowerTablePtr, IN AMD_CPM_GPIO_DEVICE_DETECTION_TABLE *DetectionTablePtr, IN AMD_CPM_GPIO_DEVICE_RESET_TABLE *ResetTablePtr, IN AMD_CPM_INIT_FLAG_TABLE *InitFlagTablePtr, IN UINT8 InitFlag)

  The Function to pre-process GPIO Device tables.

- VOID CpmGpioDeviceReset (IN AMD_CPM_TABLE_PPI *CpmTablePpiPtr, IN AMD_CPM_GPIO_DEVICE_RESET *ResetItemPtr)

  The Function to toggle one GPIO pin to reset the device.

- VOID CpmResetDevice (IN VOID *This, IN UINT8 ResetId, IN UINT8 ResetControl)

  The Function to reset on-board device.

- VOID CpmSetMemVoltage (IN VOID *This, IN UINT8 Voltage)

  Set Memory Voltage.

- VOID CpmSetVddpVddrVoltage (IN VOID *This, IN VDDP_VDDR_VOLTAGE VddpVddrVoltage)

  Set VDDP/VDDR Voltage.

- VOID CpmExtClkGenInit (IN AMD_CPM_TABLE_PPI *CpmTablePpiPtr)

  CPM External ClkGen Init.

- VOID CpmPcieExtClockInit (IN AMD_CPM_TABLE_PPI *CpmTablePpiPtr)

  CPM External PCIe Clock Init.

- EFI_STATUS EFIAPI AmdCpmGpioInitPeimEntryPoint (IN CPM_PEI_FILE_HANDLE FileHandle, IN CPM_PEI_SERVICES **PeiServices)

  Entry point of the AMD CPM GPIO Init PEIM driver.

5.45.1 Detailed Description

AMD CPM GPIO Initialization. Contains code that initialized GPIO Init before memory init.

File Content Label

project: CPM *sub-project*: GpioInit *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.45.2 Function Documentation

5.45.2.1 VOID CpmGpioDeviceInit (IN AMD_CPM_TABLE_PPI * *CpmTablePpiPtr*, IN UINT8 *InitFlag*)

The Function to init on-board device.

Parameters:

← ***CpmTablePpiPtr*** Pointer to AMD CPM Table Ppi

← ***InitFlag*** Init flag. 1: In stage1 2. In Stage2

References AMD_CPM_GPIO_DEVICE_POWER::Config, CPM_SIGNATURE_GPIO_DEVICE_CONFIG, CPM_SIGNATURE_GPIO_DEVICE_DETECTION, CPM_SIGNATURE_GPIO_DEVICE_POWER, CPM_SIGNATURE_GPIO_DEVICE_RESET, CPM_SIGNATURE_INIT_FLAG, CpmGpioDevicePreInit(), CpmGpioDeviceReset(), AMD_CPM_GPIO_DEVICE_POWER::DeviceId, AMD_CPM_GPIO_DEVICE_RESET::DeviceId, AMD_CPM_GPIO_DEVICE_POWER_TABLE::DevicePowerList, AMD_CPM_GPIO_DEVICE_RESET_TABLE::DeviceResetList, GPIO_DEVICE_INIT_STAGE_1, AMD_CPM_GPIO_DEVICE_RESET::Mode, AMD_CPM_GPIO_PIN::Pin, AMD_CPM_INIT_FLAG_TABLE::PowerInitFlag, AMD_CPM_INIT_FLAG_TABLE::ResetInitFlag, AMD_CPM_GPIO_DEVICE_POWER::SetGpio, AMD_CPM_GPIO_DEVICE_POWER::Stall, AMD_CPM_GPIO_DEVICE_POWER::Type, AMD_CPM_GPIO_PIN::Value, and AMD_CPM_GPIO_DEVICE_POWER::WaitGpio.

Referenced by AmdCpmGpioInitPeim(), and CpmGpioDeviceInitStage2().

5.45.2.2 EFI_STATUS CpmGpioDeviceInitStage2 (IN EFI_PEI_SERVICES ** *PeiServices*, IN EFI_PEI_NOTIFY_DESCRIPTOR * *NotifyDesc*, IN VOID * *InvokePpi*)

CPM GPIO Device Init Stage 2. This function initializes GPIO Device in stage 2 after AGESA MEM PPI is installed.

Parameters:

← ***PeiServices*** Pointer to Pei Services

← ***NotifyDesc*** The descriptor for the notification event

← ***InvokePpi*** Pointer to the PPI in question.

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References CpmGpioDeviceInit(), and GPIO_DEVICE_INIT_STAGE_2.

5.45.2.3 EFI_STATUS EFIAPI AmdCpmGpioInitPeim (IN EFI_PEI_SERVICES ** *PeiServices*, IN EFI_PEI_NOTIFY_DESCRIPTOR * *NotifyDescriptor*, IN VOID * *Ppi*)

CPM GPIO Device Init. This function registers the public functions which will be used outside of CPM, initializes GPIO Device stage 1 after AMD PEI INIT RESET PPI is installed.

Parameters:

← ***PeiServices*** Pointer to Pei Services

← ***NotifyDescriptor*** The descriptor for the notification event

← ***Ppi*** Pointer to the PPI in question.

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AMD_CPM_PCIE_CLOCK_ITEM::ClkId, AMD_CPM_PCIE_CLOCK_ITEM::ClkReq, AMD_CPM_PCIE_CLOCK_ITEM::ClkReqExt, AMD_CPM_TABLE_PPI::CommonFunction, CPM_BOOT_MODE_S3, CPM_BOOT_MODE_S4, CPM_PRE_INIT_STAGE_1, CPM_SIGNATURE_PCIE_CLOCK, CPM_SIGNATURE_SAVE_CONTEXT, CPM_SIGNATURE_WIRELESS_BUTTON, CpmExtClkGenInit(), CpmGeventInit(), CpmGpioDeviceInit(), CpmGpioInit(), CpmPcieExtClockInit(), CpmResetDevice(), CpmSetMemVoltage(), CpmSetVddpVddrVoltage(), AMD_CPM_WIRELESS_BUTTON_TABLE::DeviceIdOther, AMD_CPM_WIRELESS_BUTTON_TABLE::DeviceIdPower, AMD_CPM_WIRELESS_BUTTON_TABLE::DeviceIdRadio, AMD_CPM_COMMON_FUNCTION::GetBootMode, AMD_CPM_COMMON_FUNCTION::GetDeviceConfig, AMD_CPM_COMMON_FUNCTION::GetSaveContext, AMD_CPM_COMMON_FUNCTION::GetStrap, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_COMMON_FUNCTION::GetTablePtr2, GPIO_DEVICE_INIT_STAGE_1, AMD_CPM_PCIE_CLOCK_TABLE::Item, AMD_CPM_COMMON_FUNCTION::LoadPreInitTable, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_TABLE_PPI::PeimPublicFunction, AMD_CPM_COMMON_FUNCTION::PostCode, AMD_CPM_COMMON_FUNCTION::PowerOnDevice, AMD_CPM_COMMON_FUNCTION::ResetDevice, AMD_CPM_COMMON_FUNCTION::SetClkReq, AMD_CPM_PEIM_PUBLIC_FUNCTION::SetMemVoltage, AMD_CPM_COMMON_FUNCTION::SetSaveContext, AMD_CPM_PEIM_PUBLIC_FUNCTION::SetVddpVddrVoltage, AMD_CPM_PCIE_CLOCK_ITEM::SlotCheck, and AMD_CPM_MAIN_TABLE::WirelessButtonEn.

5.45.2.4 VOID CpmGpioInit (IN AMD_CPM_TABLE_PPI * *CpmTablePpiPtr*)

The Function to init GPIO pins.

Parameters:

← ***CpmTablePpiPtr*** Pointer to AMD CPM Table Ppi

References CPM_SIGNATURE_GPIO_INIT, AMD_CPM_GPIO_INIT_TABLE::GpioList, AMD_CPM_GPIO_ITEM::Pin, AMD_CPM_GPIO_SETTING::Raw, and AMD_CPM_GPIO_ITEM::Setting.

Referenced by AmdCpmGpioInitPeim().

5.45.2.5 VOID CpmGeventInit (IN AMD_CPM_TABLE_PPI * *CpmTablePpiPtr*)

The Function to init GEVENT pins.

Parameters:

← ***CpmTablePpiPtr*** Pointer to AMD CPM Table Ppi

References CPM_SIGNATURE_GEVENT_INIT, AMD_CPM_GEVENT_INIT_TABLE::GeventList, AMD_CPM_GEVENT_ITEM::Pin, AMD_CPM_GEVENT_SETTING::Raw, and AMD_CPM_-GEVENT_ITEM::Setting.

5.45.2.6 UINT32 CpmGpioDevicePreInit (IN AMD_CPM_TABLE_PPI * *CpmTablePpiPtr*, IN AMD_CPM_GPIO_DEVICE_CONFIG_TABLE * *ConfigTablePtr*, IN AMD_CPM_GPIO_DEVICE_POWER_TABLE * *PowerTablePtr*, IN AMD_CPM_GPIO_DEVICE_DETECTION_TABLE * *DetectionTablePtr*, IN AMD_CPM_GPIO_DEVICE_RESET_TABLE * *ResetTablePtr*, IN AMD_CPM_INIT_FLAG_TABLE * *InitFlagTablePtr*, IN UINT8 *InitFlag*)

The Function to pre-process GPIO Device tables.

Parameters:

← ***CpmTablePpiPtr*** Pointer to AMD CPM Table Ppi

← ***ConfigTablePtr*** Pointer to AMD CPM GPIO Device Config Table

← ***PowerTablePtr*** Pointer to AMD CPM GPIO Device Power Table

← ***DetectionTablePtr*** Pointer to AMD CPM GPIO Device Detection Table

← ***ResetTablePtr*** Pointer to AMD CPM GPIO Device Reset Table

← ***InitFlagTablePtr*** Pointer to AMD CPM Init Flag Table

← ***InitFlag*** Init Flag

References AMD_CPM_GPIO_DEVICE_CONFIG::Config, AMD_CPM_GPIO_DEVICE_-CONFIG::DeviceId, GPIO_DEVICE_INIT_STAGE_1, and AMD_CPM_GPIO_DEVICE_-CONFIG::Setting.

Referenced by CpmGpioDeviceInit().

5.45.2.7 VOID CpmGpioDeviceReset (IN AMD_CPM_TABLE_PPI * *CpmTablePpiPtr*, IN AMD_CPM_GPIO_DEVICE_RESET * *ResetItemPtr*)

The Function to toggle one GPIO pin to reset the device.

Parameters:

← ***CpmTablePpiPtr*** Pointer to AMD CPM Table Ppi

← ***ResetItemPtr*** Pointer to AMD CPM GPIO Device Reset item.

Referenced by CpmGpioDeviceInit(), and CpmResetDevice().

5.45.2.8 VOID CpmResetDevice (IN VOID * *This*, IN UINT8 *ResetId*, IN UINT8 *ResetControl*)

The Function to reset on-board device.

Parameters:

← ***This*** Pointer to AMD CPM Table Ppi

← ***ResetId*** Device Id of on-board device

← ***ResetControl*** Reset Control Flag. 0: Reset assert. 1: Reset deassert

References AMD_CPM_TABLE_PPI::CommonFunction, CPM_SIGNATURE_GPIO_DEVICE_-RESET, CPM_SIGNATURE_MAIN_TABLE, CpmGpioDeviceReset(), AMD_CPM_GPIO_-DEVICE_RESET::DeviceId, AMD_CPM_GPIO_DEVICE_RESET_TABLE::DeviceResetList, AMD_-CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_MAIN_TABLE::Header, AMD_CPM_-TABLE_PPI::MainTablePtr, AMD_CPM_GPIO_DEVICE_RESET::Mode, AMD_CPM_COMMON_-FUNCTION::PostCode, and AMD_CPM_TABLE_COMMON_HEADER::TableSignature.

Referenced by AmdCpmGpioInitPeim().

5.45.2.9 VOID CpmSetMemVoltage (IN VOID * *This*, IN UINT8 *Voltage*)

Set Memory Voltage. This function sets GPIO pins to control memory volatge according to memory modules to be plugged in.

Parameters:

← ***This*** Pointer to AMD CPM Table Ppi

← ***Voltage*** Memory voltage to be set. 1: 1.5 Volt. 2: 1.35 Volt. 3: 1.25 Volt

References AMD_CPM_TABLE_PPI::CommonFunction, CPM_SIGNATURE_SET_MEM_VOLTAGE, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_GPIO_MEM_VOLTAGE_-ITEM::GpioPin1, AMD_CPM_GPIO_MEM_VOLTAGE_ITEM::GpioPin2, AMD_CPM_GPIO_MEM_-VOLTAGE_TABLE::Item, AMD_CPM_COMMON_FUNCTION::PostCode, AMD_CPM_COMMON_-FUNCTION::SetGpio, AMD_CPM_GPIO_MEM_VOLTAGE_ITEM::Value1, AMD_CPM_GPIO_-MEM_VOLTAGE_ITEM::Value2, and AMD_CPM_GPIO_MEM_VOLTAGE_ITEM::Voltage.

Referenced by AmdCpmGpioInitPeim().

5.45.2.10 VOID CpmSetVddpVddrVoltage (IN VOID * *This*, IN VDDP_VDDR_VOLTAGE *VddpVddrVoltage*)

Set VDDP/VDDR Voltage. This function sets GPIO pins to control VDDP/VDDR volatge according to the fuse value

Parameters:

← ***This*** Pointer to AMD CPM Table Ppi

← ***VddpVddrVoltage*** VDDP/VDDR voltage to be set. 0: 0.95 Volt. 1: 1.05 Volt.

References AMD_CPM_TABLE_PPI::CommonFunction, CPM_SIGNATURE_SET_VDDP_VDDR_-VOLTAGE, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_GPIO_VDDP_VDDR_-VOLTAGE_ITEM::GpioPin1, AMD_CPM_GPIO_VDDP_VDDR_VOLTAGE_TABLE::Item, AMD_-CPM_COMMON_FUNCTION::PostCode, AMD_CPM_COMMON_FUNCTION::SetGpio, AMD_-CPM_GPIO_VDDP_VDDR_VOLTAGE_ITEM::Value1, and AMD_CPM_GPIO_VDDP_VDDR_-VOLTAGE_ITEM::Voltage.

Referenced by AmdCpmGpioInitPeim().

5.45.2.11 VOID CpmExtClkGenInit (IN AMD_CPM_TABLE_PPI * *CpmTablePpiPtr*)

CPM External ClkGen Init. This function initializes external Clock Generator in early post

Parameters:

← ***CpmTablePpiPtr*** Pointer to AMD CPM Table Ppi

References AMD_CPM_EXT_CLKGEN_ITEM::AndMask, CPM_SIGNATURE_EXT_CLKGEN, AMD_CPM_EXT_CLKGEN_ITEM::Function, AMD_CPM_EXT_CLKGEN_TABLE::Item, AMD_CPM_EXT_CLKGEN_ITEM::Offset, AMD_CPM_EXT_CLKGEN_ITEM::OrMask, AMD_CPM_EXT_CLKGEN_TABLE::SmbusAddress, and AMD_CPM_EXT_CLKGEN_TABLE::SmbusSelect.

Referenced by AmdCpmGpioInitPeim().

5.45.2.12 VOID CpmPcieExtClockInit (IN AMD_CPM_TABLE_PPI * *CpmTablePpiPtr*)

CPM External PCIe Clock Init. This function initializes external Clock Generator for PCIe clock.

Parameters:

← ***CpmTablePpiPtr*** Pointer to AMD CPM Table Ppi

References AMD_CPM_EXT_CLKGEN_ITEM::AndMask, AMD_CPM_PCIE_CLOCK_ITEM::ClkId, AMD_CPM_PCIE_CLOCK_ITEM::ClkIdExt, AMD_CPM_PCIE_CLOCK_ITEM::ClkReqExt, CPM_BOOT_MODE_S3, CPM_SIGNATURE_EXT_CLKGEN, CPM_SIGNATURE_PCIE_CLOCK, CPM_SIGNATURE_SAVE_CONTEXT, AMD_CPM_PCIE_CLOCK_ITEM::DeviceId, AMD_CPM_PCIE_CLOCK_TABLE::Item, AMD_CPM_EXT_CLKGEN_ITEM::Offset, AMD_CPM_PCIE_CLOCK_ITEM::SlotCheck, AMD_CPM_EXT_CLKGEN_TABLE::SmbusAddress, and AMD_CPM_EXT_CLKGEN_TABLE::SmbusSelect.

Referenced by AmdCpmGpioInitPeim().

5.45.2.13 EFI_STATUS EFIAPI AmdCpmGpioInitPeimEntryPoint (IN CPM_PEI_FILE_HANDLE *FileHandle*, IN CPM_PEI_SERVICES ** *PeiServices*)

Entry point of the AMD CPM GPIO Init PEIM driver. This function registers the functions to initialize GPIO pins, GEVENT pins, PCIe reference clock and on-board devices.

Parameters:

← ***FileHandle*** Pointer to the firmware file system header

← ***PeiServices*** Pointer to Pei Services

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

5.46 NDA/CPM/Features/GpioInit/Smm/AmdCpmGpioInitSmm.c File Reference

AMD CPM GPIO Initialization. `#include <AmdCpmSmm.h>`

Functions

- EFI_STATUS EFIAPI CPM_DEFINE_CALLBACK (IN CPM_CALLBACK_NAME GpioInitS3RestoreCallback, IN CPM_CALLBACK_VAR_TYPE EFI_HANDLE, IN CPM_CALLBACK_VAR_NAME DispatchHandle, IN CPM_CALLBACK_VAR_TYPE CPM_SMM_SW_DISPATCH_CONTEXT, IN CPM_CALLBACK_VAR_NAME *DispatchContext)

  SMI Handler to set internal PCIe clock.

- EFI_STATUS AmdCpmGpioInitSmmEntryPoint (IN EFI_HANDLE ImageHandle, IN EFI_SYSTEM_TABLE *SystemTable)

  Entry point of the AMD CPM GPIO Init SMM driver.

- VOID CpmPcieClockInit (IN AMD_CPM_TABLE_PROTOCOL *CpmTableProtocolPtr)

  PCIE Clock Init.

5.46.1 Detailed Description

AMD CPM GPIO Initialization. Contains CPM code to perform GPIO Init in SMM

File Content Label

project: CPM *sub-project*: GpioInit *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.46.2 Function Documentation

5.46.2.1 EFI_STATUS EFIAPI CPM_DEFINE_CALLBACK (IN CPM_CALLBACK_NAME *GpioInitS3RestoreCallback*, IN CPM_CALLBACK_VAR_TYPE *EFI_HANDLE*, IN CPM_CALLBACK_VAR_NAME *DispatchHandle*, IN CPM_CALLBACK_VAR_TYPE *CPM_SMM_SW_DISPATCH_CONTEXT*, IN CPM_CALLBACK_VAR_NAME * *DispatchContext*)

SMI Handler to set internal PCIe clock. This function restores internal PCIe clock when resume from S3.

References CpmPcieClockInit().

5.46.2.2 EFI_STATUS AmdCpmGpioInitSmmEntryPoint (IN EFI_HANDLE *ImageHandle*, IN EFI_SYSTEM_TABLE * *SystemTable*)

Entry point of the AMD CPM GPIO Init SMM driver. This function registers the SMI handlers to set internal PCIe clock when resume from S3.

Parameters:

← ***ImageHandle*** Pointer to the firmware file system header

← ***SystemTable*** Pointer to System table

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AMD_CPM_TABLE_PROTOCOL::CommonFunction, and AMD_CPM_COMMON_-FUNCTION::PostCode.

5.46.2.3 VOID CpmPcieClockInit (IN AMD_CPM_TABLE_PROTOCOL * *CpmTableProtocolPtr*)

PCIE Clock Init. This function sets internal PCIe clock.

Parameters:

← ***CpmTableProtocolPtr*** Pointer to AMD CPM Table Protocol

References AMD_CPM_PCIE_CLOCK_ITEM::ClkId, AMD_CPM_PCIE_CLOCK_ITEM::ClkReq, AMD_CPM_PCIE_CLOCK_ITEM::ClkReqExt, CPM_SIGNATURE_PCIE_CLOCK, CPM_-SIGNATURE_PCIE_EXPRESS_CARD, CPM_SIGNATURE_SAVE_CONTEXT, CPM_SIGNATURE_-ZERO_POWER_ODD, AMD_CPM_PCIE_CLOCK_ITEM::DeviceId, AMD_CPM_EXPRESS_-CARD_TABLE::EventPin, AMD_CPM_ZERO_POWER_ODD_TABLE::EventPin1, AMD_CPM_-ZERO_POWER_ODD_TABLE::EventPin2, AMD_CPM_PCIE_CLOCK_TABLE::Item, and AMD_-CPM_PCIE_CLOCK_ITEM::SlotCheck.

5.47 NDA/CPM/Features/PcieInit/Dxe/AmdCpmPcieInitDxe.c File Reference

AMD CPM PCIE Initialization. `#include <AmdCpmDxe.h>`

Functions

- VOID EFIAPI InvokeAmdExpressCardInitLate (IN EFI_EVENT Event, IN VOID *Context)
  The function to load, override and install AMD CPM Express Card SSDT table.
- EFI_STATUS EFIAPI AmdCpmPcieInitDxeEntryPoint (IN EFI_HANDLE ImageHandle, IN EFI_-SYSTEM_TABLE *SystemTable)
  Entry point of the AMD CPM PCIE Init DXE driver.
- BOOLEAN EFIAPI CpmExpressCardSsdtCallBack (IN AMD_CPM_TABLE_PROTOCOL *This, IN VOID *AmlObjPtr, IN VOID *Context)
  Callback function to update Express Card SSDT table.

5.47.1 Detailed Description

AMD CPM PCIE Initialization. Contains CPM code to perform PCIE initialization under DXE

File Content Label

project: CPM *sub-project*: PcieInit *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.47.2 Function Documentation

5.47.2.1 VOID EFIAPI InvokeAmdExpressCardInitLate (IN EFI_EVENT *Event*, IN VOID * *Context*)

The function to load, override and install AMD CPM Express Card SSDT table. This function gets called each time the EFI_EVENT_SIGNAL_READY_TO_BOOT gets signaled.

Parameters:

← ***Event*** EFI_EVENT

← ***Context*** The Parameter Buffer

References AMD_CPM_COMMON_FUNCTION::AddSsdtTable, AMD_CPM_WIRELESS_BUTTON_TABLE::Bridge, AMD_CPM_TABLE_PROTOCOL::CommonFunction, CPM_SIGNATURE_PCIE_EXPRESS_CARD, CPM_SIGNATURE_PCIE_TOPOLOGY, CPM_SIGNATURE_SAVE_CONTEXT, CPM_SIGNATURE_WIRELESS_BUTTON, CpmExpressCardSsdtCallBack(), AMD_CPM_PCI_DEVICE_FUNCTION::Device, AMD_CPM_EXPRESS_CARD_TABLE::Device, AMD_CPM_WIRELESS_BUTTON_TABLE::EventPin, AMD_CPM_EXPRESS_CARD_TABLE::EventPin, AMD_CPM_PCI_DEVICE_FUNCTION::Function, AMD_CPM_EXPRESS_CARD_TABLE::Function, AMD_CPM_COMMON_FUNCTION::GetFchPcieAslName, AMD_CPM_COMMON_FUNCTION::GetPcieAslName, AMD_CPM_COMMON_FUNCTION::GetSaveContext, AMD_CPM_COMMON_FUNCTION::GetSciMap, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_COMMON_FUNCTION::IsFchDevice, AMD_CPM_COMMON_FUNCTION::IsUmi, AMD_CPM_TABLE_PROTOCOL::MainTablePtr, AMD_CPM_COMMON_FUNCTION::PciRead32, AMD_CPM_PCIE_TOPOLOGY_TABLE::Port, AMD_CPM_COMMON_FUNCTION::PostCode, AMD_CPM_COMMON_FUNCTION::SetSaveContext, and AMD_CPM_MAIN_TABLE::WirelessButtonEn.

Referenced by AmdCpmPcieInitDxeEntryPoint().

5.47.2.2 EFI_STATUS EFIAPI AmdCpmPcieInitDxeEntryPoint (IN EFI_HANDLE *ImageHandle*, IN EFI_SYSTEM_TABLE * *SystemTable*)

Entry point of the AMD CPM PCIE Init DXE driver. This function loads, overrides and installs Express Card SSDT table.

Parameters:

← ***ImageHandle*** Pointer to the firmware file system header

← ***SystemTable*** Pointer to System table

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References InvokeAmdExpressCardInitLate().

5.47.2.3 BOOLEAN EFIAPI CpmExpressCardSsdtCallBack (IN AMD_CPM_TABLE_PROTOCOL * *This*, IN VOID * *AmlObjPtr*, IN VOID * *Context*)

Callback function to update Express Card SSDT table. This function is used to update GPE number and PCIE Bridge Name

Parameters:

← ***This*** Pointer to Protocol

← ***AmlObjPtr*** The AML Object Buffer

← ***Context*** The Parameter Buffer

Return values:

TRUE SSDT Table has been updated completely

FALSE SSDT Table has not been updated completely

Referenced by InvokeAmdExpressCardInitLate().

5.48 NDA/CPM/Features/PcieInit/Pei/AmdCpmPcieInitPeim.c File Reference

AMD CPM PCIE Initialization. `#include <AmdCpmPei.h>`

Functions

- EFI_STATUS EFIAPI AmdCpmPcieInitPeim (IN EFI_PEI_SERVICES **PeiServices, IN EFI_PEI_NOTIFY_DESCRIPTOR *NotifyDescriptor, IN VOID *Ppi)

  Generate Pcie Complex Descriptor table for AGESA and set the trigger level of GEVENT pin for Express Card.

- VOID EFIAPI CpmPcieReset (IN VOID *This, IN UINT8 ResetId, IN UINT8 ResetControl)

  The Function to reset PCIe device.

- EFI_STATUS EFIAPI AmdCpmPcieInitPeimEntryPoint (IN CPM_PEI_FILE_HANDLE FileHandle, IN CPM_PEI_SERVICES **PeiServices)

  Entry point of the AMD CPM PCIE Init PEIM driver.

5.48.1 Detailed Description

AMD CPM PCIE Initialization. Contains code that initialized PCIE before memory init.

File Content Label

project: CPM *sub-project*: PcieInit *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.48.2 Function Documentation

5.48.2.1 EFI_STATUS EFIAPI AmdCpmPcieInitPeim (IN EFI_PEI_SERVICES ** *PeiServices*, IN EFI_PEI_NOTIFY_DESCRIPTOR * *NotifyDescriptor*, IN VOID * *Ppi*)

Generate Pcie Complex Descriptor table for AGESA and set the trigger level of GEVENT pin for Express Card.

Parameters:

← ***PeiServices*** Pointer to Pei Services

← ***NotifyDescriptor*** The descriptor for the notification event

← ***Ppi*** Pointer to the PPI in question.

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AMD_CPM_WIRELESS_BUTTON_TABLE::Bridge, AMD_CPM_PCIE_CLOCK_ITEM::ClkReq, AMD_CPM_PCIE_CLOCK_ITEM::ClkReqExt, AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::Config, CPM_BOOT_MODE_S3, CPM_SIGNATURE_PCIE_CLOCK, CPM_SIGNATURE_PCIE_EXPRESS_CARD, CPM_SIGNATURE_PCIE_TOPOLOGY, CPM_SIGNATURE_PCIE_TOPOLOGY_OVERRIDE, CPM_SIGNATURE_SAVE_CONTEXT, CPM_SIGNATURE_WIRELESS_BUTTON, CpmPcieReset(), AMD_CPM_PCIE_TOPOLOGY_TABLE::Ddi, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::DdiType, AMD_CPM_PCIE_CLOCK_ITEM::Device, AMD_CPM_PCI_DEVICE_FUNCTION::Device, AMD_CPM_EXPRESS_CARD_TABLE::Device, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::Enable, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::EndLane, AMD_CPM_EXPRESS_CARD_TABLE::EventPin, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::Flag, AMD_CPM_PCIE_CLOCK_ITEM::Function, AMD_CPM_PCI_DEVICE_FUNCTION::Function, AMD_CPM_EXPRESS_CARD_TABLE::Function, AMD_CPM_COMMON_FUNCTION::GetBootMode, AMD_CPM_COMMON_FUNCTION::GetGevent, AMD_CPM_COMMON_FUNCTION::GetSaveContext, AMD_CPM_COMMON_FUNCTION::GetStrap, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_COMMON_FUNCTION::GetTablePtr2, AMD_CPM_PCIE_CLOCK_TABLE::Item, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE::Item, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::Offset, AMD_CPM_PEIM_PUBLIC_FUNCTION::PcieComplexDescriporPtr, AMD_CPM_PEIM_PUBLIC_FUNCTION::PcieReset, AMD_CPM_TABLE_PPI::PeimPublicFunction, AMD_CPM_PCIE_TOPOLOGY_TABLE::Port, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::PortPresent, AMD_CPM_COMMON_FUNCTION::PostCode, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::Raw, AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM::StartLane, and AMD_CPM_MAIN_TABLE::WirelessButtonEn.

5.48.2.2 VOID EFIAPI CpmPcieReset (IN VOID * *This*, IN UINT8 *ResetId*, IN UINT8 *ResetControl*)

The Function to reset PCIe device.

Parameters:

← ***This*** Pointer to AMD CPM Table Ppi

← ***ResetId*** Pcie Device Id which is defined in Pcie Complex Descriptor table

← ***ResetControl*** Reset Control Flag. 0: Reset assert. 1: Reset deassert

Return values:

EFI_SUCCESS Function initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AMD_CPM_TABLE_PPI::CommonFunction, and AMD_CPM_COMMON_-FUNCTION::ResetDevice.

Referenced by AmdCpmPcieInitPeim().

5.48.2.3 EFI_STATUS EFIAPI AmdCpmPcieInitPeimEntryPoint (IN CPM_PEI_FILE_HANDLE *FileHandle*, IN CPM_PEI_SERVICES ** *PeiServices*)

Entry point of the AMD CPM PCIE Init PEIM driver. This function registers the function to update PCIe topology table according to AMD CPM PCIE TOPOLOGY OVERRIDE table and set GEVENT trigger level for Express Card if AMD CPM Express Card Table exists.

Parameters:

← ***FileHandle*** Pointer to the firmware file system header

← ***PeiServices*** Pointer to Pei Services

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

5.49 NDA/CPM/Features/ZeroPowerOdd/Dxe/AmdCpmZeroPowerOddDxe.c File Reference

AMD CPM Zero Power Odd Initialization. `#include <AmdCpmDxe.h>`

Functions

- VOID EFIAPI InvokeAmdZeroPowerOddInitLate (IN EFI_EVENT Event, IN VOID *Context)

  The function to load AMD CPM Zero Power Odd SSDT table.

- BOOLEAN EFIAPI CpmZeroPowerOddCallBack (IN AMD_CPM_TABLE_PROTOCOL *This, IN VOID *AmlObjPtr, IN VOID *Context)

  Callback function to override Zero Power Odd SSDT Table.

- EFI_STATUS EFIAPI AmdCpmZeroPowerOddDxeEntryPoint (IN EFI_HANDLE ImageHandle, IN EFI_SYSTEM_TABLE *SystemTable)

  Entry point of the AMD CPM Zero Power Oddd DXE driver.

5.49.1 Detailed Description

AMD CPM Zero Power Odd Initialization. Contains CPM code to perform Zero Power Odd initialization under DXE

File Content Label

project: CPM *sub-project*: ZeroPowerOdd *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.49.2 Function Documentation

5.49.2.1 VOID EFIAPI InvokeAmdZeroPowerOddInitLate (IN EFI_EVENT *Event*, IN VOID * *Context*)

The function to load AMD CPM Zero Power Odd SSDT table. This function gets called each time the EFI_EVENT_SIGNAL_READY_TO_BOOT gets signaled.

Parameters:

← ***Event*** EFI_EVENT

← ***Context*** The Parameter Buffer

References AMD_CPM_COMMON_FUNCTION::AddSsdtTable, AMD_CPM_TABLE_PROTOCOL::CommonFunction, CPM_SIGNATURE_GPIO_DEVICE_POWER, CPM_SIGNATURE_ZERO_POWER_ODD, CpmZeroPowerOddCallBack(), AMD_CPM_ZERO_POWER_ODD_TABLE::EventPin1, AMD_CPM_ZERO_POWER_ODD_TABLE::EventPin2, AMD_CPM_COMMON_FUNCTION::GetSataMode, AMD_CPM_COMMON_FUNCTION::GetSciMap, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_TABLE_PROTOCOL::MainTablePtr, AMD_CPM_COMMON_FUNCTION::PostCode, AMD_CPM_ZERO_POWER_ODD_TABLE::SataModeSupportMask, AMD_CPM_ZERO_POWER_ODD_TABLE::SataPortId, and AMD_CPM_MAIN_TABLE::ZeroPowerOddEn.

Referenced by AmdCpmZeroPowerOddDxeEntryPoint().

5.49.2.2 BOOLEAN EFIAPI CpmZeroPowerOddCallBack (IN AMD_CPM_TABLE_PROTOCOL * *This*, IN VOID * *AmlObjPtr*, IN VOID * *Context*)

Callback function to override Zero Power Odd SSDT Table. This function is used to update GPE numbers and SATA port number.

Parameters:

← ***This*** Pointer to Protocol

← ***AmlObjPtr*** The AML Object Buffer

← ***Context*** The Parameter Buffer

Return values:

TRUE SSDT Table has been updated completely

FALSE SSDT Table has not been updated completely

Referenced by InvokeAmdZeroPowerOddInitLate().

5.49.2.3 EFI_STATUS EFIAPI AmdCpmZeroPowerOddDxeEntryPoint (IN EFI_HANDLE *ImageHandle*, IN EFI_SYSTEM_TABLE * *SystemTable*)

Entry point of the AMD CPM Zero Power Oddd DXE driver. This function stores the setting of Zero Power Odd in NV Data and loads, updates and installs Zero Power Odd SSDT Table.

Parameters:

← ***ImageHandle*** Pointer to the firmware file system header

← ***SystemTable*** Pointer to System table

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References InvokeAmdZeroPowerOddInitLate().

5.50 NDA/CPM/Features/ZeroPowerOdd/Pei/AmdCpmZeroPowerOddPeim.c File Reference

AMD CPM Zero Power Odd Initialization. `#include <AmdCpmPei.h>`

Functions

- EFI_STATUS EFIAPI AmdCpmZeroPowerOddPeim (IN EFI_PEI_SERVICES **PeiServices, IN EFI_PEI_NOTIFY_DESCRIPTOR *NotifyDescriptor, IN VOID *Ppi)

  Set the trigger level of GEVENT pin.

- EFI_STATUS EFIAPI AmdCpmZeroPowerOddPeimEntryPoint (IN CPM_PEI_FILE_HANDLE FileHandle, IN CPM_PEI_SERVICES **PeiServices)

  Entry point of the AMD CPM Zero Power Odd PEIM driver.

5.50.1 Detailed Description

AMD CPM Zero Power Odd Initialization. Contains code that initialized Zero Power Odd before memory init.

File Content Label

project: CPM *sub-project*: ZeroPowerOdd *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.50.2 Function Documentation

5.50.2.1 EFI_STATUS EFIAPI AmdCpmZeroPowerOddPeim (IN EFI_PEI_SERVICES ** *PeiServices*, IN EFI_PEI_NOTIFY_DESCRIPTOR * *NotifyDescriptor*, IN VOID * *Ppi*)

Set the trigger level of GEVENT pin.

Parameters:

← ***PeiServices*** Pointer to Pei Services

← ***NotifyDescriptor*** The descriptor for the notification event

← ***Ppi*** Pointer to the PPI in question.

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AMD_CPM_TABLE_PPI::CommonFunction, CPM_SIGNATURE_ZERO_POWER_-ODD, AMD_CPM_ZERO_POWER_ODD_TABLE::EventPin1, AMD_CPM_ZERO_POWER_ODD_-TABLE::EventPin2, AMD_CPM_COMMON_FUNCTION::GetGevent, AMD_CPM_COMMON_-FUNCTION::GetTablePtr, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_COMMON_-FUNCTION::PostCode, and AMD_CPM_COMMON_FUNCTION::SetGeventSciTrig.

5.50.2.2 EFI_STATUS EFIAPI AmdCpmZeroPowerOddPeimEntryPoint (IN CPM_PEI_FILE_HANDLE *FileHandle*, IN CPM_PEI_SERVICES ** *PeiServices*)

Entry point of the AMD CPM Zero Power Odd PEIM driver. This function registers the function to set the trigger level of GEVENT pin.

Parameters:

← ***FileHandle*** Pointer to the firmware file system header

← ***PeiServices*** Pointer to Pei Services

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

5.51 NDA/CPM/Include/AmdCpmBase.h File Reference

AMD CPM structures and definitions. `#include <AmdCpmPreDefine.h>`

`#include <Tiano.h>`

`#include <AmdCpmCommon.h>`

5.51.1 Detailed Description

AMD CPM structures and definitions. Contains AMD CPM Platform Interface

File Content Label

project: CPM *sub-project*: Include *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.52 NDA/CPM/Include/AmdCpmBootTimeRecordDescription.h File Reference

AMD Boot Time Record Data points Header File.

Enumerations

- enum BOOT_TIME_RECORD_TP_DESCRIPTION {

  AtStartRecording = 0x01, AtBeforeBootToOS = 0x02, AtAsmTransferControl = 0x03, AtInitializeAmdProcessorInitPeim = 0x04,

  AtAgesaDxeDriverEntryPoint = 0x05, AtDiscoverMemory = 0x06, AtPlatformBdsInit = 0x07, AtVBIOSInitial = 0x08,

  AtExitBootServices = 0x09, BeginCRBPEIInit = 0x10, EndCRBPEIInit = 0x11, BeginCpuPeiEntry = 0x12,

  EndCpuPeiEntry = 0x13, BeginSbInterfaceInit = 0x14, EndSbInterfaceInit = 0x15, BeginAmdSbInterface = 0x16,

  EndAmdSbInterface = 0x17, BeginAmdSbPeiInit = 0x18, EndAmdSbPeiInit = 0x19, BeginSmBusPei = 0x1A,

  EndSmBusPei = 0x1B, BeginInstallSpdPpiInit = 0x1C, EndInstallSpdPpiInit = 0x1D, BeginSr5690PeiInit = 0x1E,

  EndSr5690PeiInit = 0x1F, BeginAodPeiInit = 0x20, EndAodPeiInit = 0x21, DXEIPLStart = 0xFF,

  BeginInitializeAmdProcessorInitPeim = 0x700, EndInitializeAmdProcessorInitPeim = 0x701, BeginAmdCpuInitialize = 0x702, EndAmdCpuInitialize = 0x703,

  BeginAmdInitReset = 0x704, EndAmdInitReset = 0x705, BeginAmdInitEarly = 0x706, EndAmdInitEarly = 0x707,

  BeginDiscoverMemory = 0x708, EndDiscoverMemory = 0x709, BeginInitializeMemory = 0x70A, EndInitializeMemory = 0x70B,

  BeginAmdInitPost = 0x70C, EndAmdInitPost = 0x70D, BeginBuildHobInfo = 0x70E, EndBuildHobInfo = 0x70F,

  BeginInvokeAmdInitResume = 0x710, EndInvokeAmdInitResume = 0x711, BeginAmdInitResume = 0x712, EndAmdInitResume = 0x713,

  BeginInvokeAmdInitS3LateRestore = 0x714, EndInvokeAmdInitS3LateRestore = 0x715, BeginAmdS3LateRestore = 0x716, EndAmdS3LateRestore = 0x717,

  BeginAgesaDxeDriverEntryPoint = 0x718, EndAgesaDxeDriverEntryPoint = 0x719, BeginAmdCpuCreateProcessorTables = 0x71A, EndAmdCpuCreateProcessorTables = 0x71B,

  BeginInvokeAmdInitMid = 0x71C, EndInvokeAmdInitMid = 0x71D, BeginInvokeAmdInitLate = 0x71E, EndInvokeAmdInitLate = 0x71F,

  BeginAgesaS3Save = 0x720, EndAgesaS3Save = 0x721, BeginRebuildHeap = 0x723, EndRebuildHeap = 0x724,

BeginAmdInitEnv = 0x725, EndAmdInitEnv = 0x726, BeginAmdInitMid = 0x727, EndAmdInitMid = 0x728,

BeginAmdInitLate = 0x729, EndAmdInitLate = 0x72A, BeginAmdS3Save = 0x72B, EndAmdS3Save = 0x72C,

BeginFchPeiInit = 0x730, EndFchPeiInit = 0x731, BeginFchUpdateBootMode = 0x732, EndFchUpdateBootMode = 0x733,

BeginFchPeiAux = 0x734, EndFchPeiAux = 0x735, BeginLibFchPeiAuxInitialization = 0x736, EndLibFchPeiAuxInitialization = 0x737,

BeginFchPeiBootTimer = 0x738, EndFchPeiBootTimer = 0x739, BeginFchPeiDisUsbPort = 0x73A, EndFchPeiDisUsbPort = 0x73B,

BeginFchPeiAuxGpio = 0x73C, EndFchPeiAuxGpio = 0x73D, BeginFchPeiGpioRead = 0x73E, EndFchPeiGpioRead = 0x73F,

BeginFchPeiOscOutClockSel = 0x740, EndFchPeiOscOutClockSel = 0x741, BeginFchDxeInit = 0x742, EndFchDxeInit = 0x743,

BeginFchDxeAuxInit = 0x744, EndFchDxeAuxInit = 0x745, BeginFchDxeAuxGpio = 0x746, EndFchDxeAuxGpio = 0x747,

BeginFchDxeAuxGpioRead = 0x748, EndFchDxeAuxGpioRead = 0x749, BeginFchDxeEsataPortSet = 0x74A, EndFchDxeEsataPortSet = 0x74B }

Boot Time Record Test Points.

5.52.1 Detailed Description

AMD Boot Time Record Data points Header File. This file is placed in the user's platform directory and contains the build option selections desired for that platform.

File Content Label

project: Common Platform Modules *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.52.2 Enumeration Type Documentation

5.52.2.1 enum BOOT_TIME_RECORD_TP_DESCRIPTION

Boot Time Record Test Points.

Enumerator:

AtStartRecording Start Recording.

AtBeforeBootToOS INT19.

AtAsmTransferControl AtAsmTransferControl.

AtInitializeAmdProcessorInitPeim AtInitializeAmdProcessorInitPeim.

AtAgesaDxeDriverEntryPoint AtAgesaDxeDriverEntryPoint.

AtDiscoverMemory AtDiscoverMemory.

AtPlatformBdsInit AtPlatformBdsInit.

AtVBIOSInitial AtVBIOSInitial.

AtExitBootServices AtExitBootServices.
BeginCRBPEIInit BeginCRBPEIInit.
EndCRBPEIInit EndCRBPEIInit.
BeginCpuPeiEntry BeginCpuPeiEntry.
EndCpuPeiEntry EndCpuPeiEntry.
BeginSbInterfaceInit BeginSbInterfaceInit.
EndSbInterfaceInit EndSbInterfaceInit.
BeginAmdSbInterface BeginAmdSbInterface.
EndAmdSbInterface EndAmdSbInterface.
BeginAmdSbPeiInit BeginAmdSbPeiInit.
EndAmdSbPeiInit EndAmdSbPeiInit.
BeginSmBusPei BeginSmBusPei.
EndSmBusPei EndSmBusPei.
BeginInstallSpdPpiInit BeginInstallSpdPpiInit.
EndInstallSpdPpiInit EndInstallSpdPpiInit.
BeginSr5690PeiInit BeginSr5690PeiInit.
EndSr5690PeiInit EndSr5690PeiInit.
BeginAodPeiInit BeginAodPeiInit.
EndAodPeiInit EndAodPeiInit.
DXEIPLStart DXEIPLStart.
BeginInitializeAmdProcessorInitPeim BeginInitializeAmdProcessorInitPeim.
EndInitializeAmdProcessorInitPeim EndInitializeAmdProcessorInitPeim.
BeginAmdCpuInitialize BeginAmdCpuInitialize.
EndAmdCpuInitialize EndAmdCpuInitialize.
BeginAmdInitReset BeginAmdInitReset.
EndAmdInitReset EndAmdInitReset.
BeginAmdInitEarly BeginAmdInitEarly.
EndAmdInitEarly EndAmdInitEarly.
BeginDiscoverMemory BeginDiscoverMemory.
EndDiscoverMemory EndDiscoverMemory.
BeginInitializeMemory BeginInitializeMemory.
EndInitializeMemory EndInitializeMemory.
BeginAmdInitPost BeginAmdInitPost.
EndAmdInitPost EndAmdInitPost.
BeginBuildHobInfo BeginBuildHobInfo.
EndBuildHobInfo EndBuildHobInfo.
BeginInvokeAmdInitResume BeginInvokeAmdInitResume.
EndInvokeAmdInitResume EndInvokeAmdInitResume.
BeginAmdInitResume BeginAmdInitResume.
EndAmdInitResume EndAmdInitResume.
BeginInvokeAmdInitS3LateRestore BeginInvokeAmdInitS3LateRestore.

EndInvokeAmdInitS3LateRestore EndInvokeAmdInitS3LateRestore.

BeginAmdS3LateRestore BeginAmdS3LateRestore.

EndAmdS3LateRestore EndAmdS3LateRestore.

BeginAgesaDxeDriverEntryPoint BeginAgesaDxeDriverEntryPoint.

EndAgesaDxeDriverEntryPoint EndAgesaDxeDriverEntryPoint.

BeginAmdCpuCreateProcessorTables BeginAmdCpuCreateProcessorTables.

EndAmdCpuCreateProcessorTables EndAmdCpuCreateProcessorTables.

BeginInvokeAmdInitMid BeginInvokeAmdInitMid.

EndInvokeAmdInitMid EndInvokeAmdInitMid.

BeginInvokeAmdInitLate BeginInvokeAmdInitLate.

EndInvokeAmdInitLate EndInvokeAmdInitLate.

BeginAgesaS3Save BeginAgesaS3Save.

EndAgesaS3Save EndAgesaS3Save.

BeginRebuildHeap BeginRebuildHeap.

EndRebuildHeap EndRebuildHeap.

BeginAmdInitEnv BeginAmdInitEnv.

EndAmdInitEnv EndAmdInitEnv.

BeginAmdInitMid BeginAmdInitMid.

EndAmdInitMid EndAmdInitMid.

BeginAmdInitLate BeginAmdInitLate.

EndAmdInitLate EndAmdInitLate.

BeginAmdS3Save BeginAmdS3Save.

EndAmdS3Save EndAmdS3Save.

BeginFchPeiInit BeginFchPeiInit.

EndFchPeiInit EndFchPeiInit.

BeginFchUpdateBootMode BeginFchUpdateBootMode.

EndFchUpdateBootMode EndFchUpdateBootMode.

BeginFchPeiAux BeginFchPeiAux.

EndFchPeiAux EndFchPeiAux.

BeginLibFchPeiAuxInitialization BeginLibFchPeiAuxInitialization.

EndLibFchPeiAuxInitialization EndLibFchPeiAuxInitialization.

BeginFchPeiBootTimer BeginFchPeiBootTimer.

EndFchPeiBootTimer EndFchPeiBootTimer.

BeginFchPeiDisUsbPort BeginFchPeiDisUsbPort.

EndFchPeiDisUsbPort EndFchPeiDisUsbPort.

BeginFchPeiAuxGpio BeginFchPeiAuxGpio.

EndFchPeiAuxGpio EndFchPeiAuxGpio.

BeginFchPeiGpioRead BeginFchPeiGpioRead.

EndFchPeiGpioRead EndFchPeiGpioRead.

BeginFchPeiOscOutClockSel BeginFchPeiOscOutClockSel.

EndFchPeiOscOutClockSel EndFchPeiOscOutClockSel.

BeginFchDxeInit BeginFchDxeInit.
EndFchDxeInit EndFchDxeInit.
BeginFchDxeAuxInit BeginFchDxeAuxInit.
EndFchDxeAuxInit EndFchDxeAuxInit.
BeginFchDxeAuxGpio BeginFchDxeAuxGpio.
EndFchDxeAuxGpio EndFchDxeAuxGpio.
BeginFchDxeAuxGpioRead BeginFchDxeAuxGpioRead.
EndFchDxeAuxGpioRead EndFchDxeAuxGpioRead.
BeginFchDxeEsataPortSet BeginFchDxeEsataPortSet.
EndFchDxeEsataPortSet EndFchDxeEsataPortSet.

5.53 NDA/CPM/Include/AmdCpmCommon.h File Reference

AMD CPM structures and definitions. `#include <AGESA.h>`

`#include <AmdCpmPlatform.h>`

`#include <AmdCpmDefine.h>`

`#include <AmdCpmFunction.h>`

`#include <AmdCpmBootTimeRecordDescription.h>`

Data Structures

- struct AMD_CPM_TABLE_COMMON_HEADER
  CPM table header.
- union AMD_CPM_POINTER
  Table pointer.
- struct AMD_CPM_PCI_DEVICE_FUNCTION
  Device and function number of PCI device.
- struct AMD_CPM_TABLE_ITEM
  Item of CPM table list.
- struct AMD_CPM_TABLE_LIST
  CPM table list.
- struct AMD_CPM_PLATFORM_ID_TABLE
  GPIO pin list for platform Id.
- struct AMD_CPM_PLATFORM_ID_CONVERT_ITEM
  Platform Id converting item.
- struct AMD_CPM_PLATFORM_ID_CONVERT_TABLE
  Platform Id mapping table.
- struct AMD_CPM_PRE_SETTING_ITEM

The table definition for early initialization.

- struct AMD_CPM_PRE_INIT_TABLE

  Register table to be initialized in the earliest stage.

- struct AMD_CPM_SAVE_CONTEXT_TABLE

  Save context definition table to define the area to save CPM context.

- struct AMD_CPM_PREDEFINED_SAVE_CONTEXT

  Data structure of Pre-defined Save Context Area.

- struct AMD_CPM_GPIO_PIN

  GPIO Pin.

- union AMD_CPM_GPIO_SETTING

  Defintion of GPIO setting.

- struct AMD_CPM_GPIO_ITEM

  GPIO setting item.

- struct AMD_CPM_GPIO_INIT_TABLE

  GPIO init table.

- union AMD_CPM_GEVENT_SETTING

  The definition of GEVENT setting.

- struct AMD_CPM_GEVENT_ITEM

  GEVENT setting item.

- struct AMD_CPM_GEVENT_INIT_TABLE

  GEVENT init table.

- struct AMD_CPM_GPIO_DEVICE_CONFIG

  Configuration of Device which is controlled by GPIO pin.

- struct AMD_CPM_GPIO_DEVICE_CONFIG_TABLE

  Device config table.

- struct AMD_CPM_GPIO_DEVICE_DETECTION

  Device detection method.

- struct AMD_CPM_GPIO_DEVICE_DETECTION_TABLE

  Device Detection Table.

- struct AMD_CPM_GPIO_DEVICE_RESET

  Device Reset Table.

- struct AMD_CPM_GPIO_DEVICE_RESET_TABLE

  Device Reset Table.

- struct AMD_CPM_GPIO_DEVICE_POWER
  Item of device power on / off sequence.
- struct AMD_CPM_INIT_FLAG_TABLE
  GPIO Device Init Flag Table.
- struct AMD_CPM_GPIO_DEVICE_POWER_TABLE
  Device Power Sequence Table.
- struct AMD_CPM_GPIO_MEM_VOLTAGE_ITEM
  GPIO setting for one memory voltage (VDDIO).
- struct AMD_CPM_GPIO_MEM_VOLTAGE_TABLE
  Memory voltage table.
- struct AMD_CPM_GPIO_VDDP_VDDR_VOLTAGE_ITEM
  GPIO setting for VDDP/VDDR voltage.
- struct AMD_CPM_GPIO_VDDP_VDDR_VOLTAGE_TABLE
  VDDP/VDDR voltage table.
- struct AMD_CPM_PCIE_CLOCK_ITEM
  PCIe Clock Setting.
- struct AMD_CPM_PCIE_CLOCK_TABLE
  PCIe Clock Table.
- struct AMD_CPM_EXT_CLKGEN_ITEM
  External ClkGen Register Setting Item.
- struct AMD_CPM_EXT_CLKGEN_TABLE
  External ClkGen Table.
- struct AMD_CPM_PCIE_TOPOLOGY_TABLE
  PCIE Topology Table.
- struct AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_ITEM
  The override table definition for PCIE Topology.
- struct AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE
  PCIE Topoplogy Override Table.
- struct AMD_CPM_EXPRESS_CARD_TABLE
  Express Card Table.
- struct AMD_CPM_WIRELESS_BUTTON_TABLE
  Wireless Button Table.
- struct AMD_CPM_FAN_POLICY
  The table definition for Acpi Thermal Fan Control.

- struct AMD_CPM_FAN_HW_CONFIG
  Fan Hardware Config.
- struct AMD_CPM_ACPI_THERMAL_FAN_TABLE
  ACPI Thermal Fan Table.
- struct AMD_CPM_SATA_MODE_MASK
  Convert from Device Id of SATA controller to SATA mode mask.
- struct AMD_CPM_ZERO_POWER_ODD_TABLE
  Zero Power Odd Table.
- struct AMD_CPM_LPC_UART_TABLE
  The table definition for LPC UART.
- struct AMD_CPM_PROCHOT_TABLE
  The table definition for PROCHOT.
- union AMD_CPM_DISPLAY_FEATURE_CONFIG
  Display Feature Config.
- union AMD_CPM_DISPLAY_FEATURE_SUPPORT
  Display Feature Support Mask.
- struct AMD_CPM_DEVICE_PATH_ITEM
  Device Path Item Definition.
- struct AMD_CPM_DEVICE_PATH_TABLE
  Device Path Table.
- struct AMD_CPM_SPECIFIC_SSID_ITEM
  Speccific SSID Item Definition.
- struct AMD_CPM_SPECIFIC_SSID_TABLE
  Specific SSID Table.
- struct AMD_CPM_REBRAND_DUAL_GRAPHICS_SSID_ITEM
  Rebrand Dual Graphics SSID Item Definition.
- struct AMD_CPM_REBRAND_DUAL_GRAPHICS_SSID_TABLE
  Rebrand Dual Graphics SSID Table.
- struct AMD_CPM_DISPLAY_CONNECTOR_8
  Display Information Structure for ATPX Sub-Function 8.
- struct AMD_CPM_DISPLAY_CONNECTOR_9
  Display Information Structure for ATPX Sub-Function 8.
- struct AMD_CPM_GFX_DEVICE

Structure for Graphic Device.

- struct AMD_CPM_GFX_DETECT
  Structure for ATIF Device List.
- struct AMD_CPM_DISPLAY_FEATURE_TABLE
  Display Feature Table.
- union AMD_CPM_EC_CONFIG
  Definition of CPM EC config.
- struct AMD_CPM_EC_INIT_TABLE
  EC Init Table.
- struct AMD_CPM_TDP_LIMIT_CHANGE_TABLE
  TDP Limit Change Table.
- struct AMD_CPM_SMI_CHECK_TOOL_TABLE
  SMI Check Tool Table.
- struct AMD_CPM_LOCAL_SMI_STATUS
  Local SMI Status.
- struct AMD_CPM_SMI_DATA
  SMI Data.
- struct AMD_CPM_ADAPTIVE_S4_TABLE
  Adaptive S4 Table.
- struct AMD_CPM_MAIN_TABLE
  AMD CPM Main Table.
- struct AMD_CPM_HOB_HEADER
  Header of CPM Hob table.
- union AMD_CPM_PCI_PFA
  Structure of PCI PFA.
- struct AMD_CPM_NV_DATA_STRUCT
  CPM NV Data Table.
- struct CPM_DISPLAY_FEATURE_PRIVATE
  Structure for Display Feature Private Data.
- struct AMD_CPM_STRAP_SETTING
  Structure for FCH Strap Data.
- struct PCIE_BRIDGE_NAME
  Convert from PCIe device and function number to ASL name.

- struct CPU_REVISION_ITEM

  Structure for CPU revision.

- struct AMD_CPM_CHIP_ID

  Structure for Chip Id.

Enumerations

- enum AMD_CPM_TABLE_SIGNATURE {

  CPM_SIGNATURE_MAIN_TABLE = 'MPC$', CPM_SIGNATURE_GET_PLATFORM_ID = '00A$', CPM_SIGNATURE_GET_PLATFORM_ID_CONVERT = '10A$', CPM_SIGNATURE_PRE_INIT = '20A$',

  CPM_SIGNATURE_SAVE_CONTEXT = '30A$', CPM_SIGNATURE_INIT_FLAG = '40A$', CPM_SIGNATURE_GPIO_INIT = '01A$', CPM_SIGNATURE_GEVENT_INIT = '11A$',

  CPM_SIGNATURE_GPIO_DEVICE_CONFIG = '21A$', CPM_SIGNATURE_GPIO_DEVICE_POWER = '31A$', CPM_SIGNATURE_GPIO_DEVICE_DETECTION = '41A$', CPM_SIGNATURE_GPIO_DEVICE_RESET = '51A$',

  CPM_SIGNATURE_SET_MEM_VOLTAGE = '61A$', CPM_SIGNATURE_PCIE_CLOCK = '71A$', CPM_SIGNATURE_EXT_CLKGEN = '81A$', CPM_SIGNATURE_GPIO_PRE_INIT = '91A$',

  CPM_SIGNATURE_PCIE_TOPOLOGY = '02A$', CPM_SIGNATURE_PCIE_TOPOLOGY_OVERRIDE = '12A$', CPM_SIGNATURE_PCIE_EXPRESS_CARD = '22A$', CPM_SIGNATURE_WIRELESS_BUTTON = '32A$',

  CPM_SIGNATURE_SET_VDDP_VDDR_VOLTAGE = '42A$', CPM_SIGNATURE_EC_INIT = '03A$', CPM_SIGNATURE_ACPI_THERMAL_FAN = '04A$', CPM_SIGNATURE_ZERO_POWER_ODD = '05A$',

  CPM_SIGNATURE_LPC_UART = '06A$', CPM_SIGNATURE_PROCHOT = '07A$', CPM_SIGNATURE_DISPLAY_FEATURE = '08A$', CPM_SIGNATURE_DEVICE_PATH = '18A$',

  CPM_SIGNATURE_SPECIFIC_SSID = '28A$', CPM_SIGNATURE_REBRAND_DUAL_GRAPHICS_SSID = '38A$', CPM_SIGNATURE_TDP_LIMIT_CHANGE = '09A$', CPM_SIGNATURE_SMI_CHECK_TOOL = '0AA$',

  CPM_SIGNATURE_ADAPTIVE_S4 = '0BA$' }

  The signatures of CPM table.

- enum AMD_CPM_CLOCK_ID {

  CPM_CLKID_APU_CLK = 0x80, CPM_CLKID_DISP2_CLK = 0x81, CPM_CLKID_PCIE_RCLK_OUTPUT = 0x82, CPM_CLKID_DISP_CLK = 0x83,

  CPM_CLKID_PCIE_RCLK = 0x84, CPM_CLKID_CLOCK_BUFFER_BIAS = 0x85, CPM_CLKID_OSCOUT2_OUTOFF = 0x86 }

  The value of special clock id.

- enum AMD_CPM_BOOT_MODE {

  CPM_BOOT_MODE_S0 = 0x00, CPM_BOOT_MODE_S1 = 0x01, CPM_BOOT_MODE_S3 = 0x03, CPM_BOOT_MODE_S4 = 0x04,

  CPM_BOOT_MODE_S5 = 0x05 }

  The value of Boot Mode.

- enum AMD_CPM_CPU_REVISION_ID {
  CPM_CPU_REVISION_ID_TN = 0x00, CPM_CPU_REVISION_ID_ON, CPM_CPU_-REVISION_ID_KV, CPM_CPU_REVISION_ID_KB,
  CPM_CPU_REVISION_ID_ML, CPM_CPU_REVISION_ID_CZ }
  The value of CPU Revision ID.
- enum AMD_CPM_PCIE_REVISION_ID {
  CPM_PCIE_REVISION_ID_TN = 0x00, CPM_PCIE_REVISION_ID_ON, CPM_PCIE_-REVISION_ID_KV, CPM_PCIE_REVISION_ID_KB,
  CPM_PCIE_REVISION_ID_ML, CPM_PCIE_REVISION_ID_CZ }
  The value of PCIE Revision ID.
- enum AMD_CPM_FCH_REVISION_ID { CPM_FCH_REVISION_ID_DEFAULT = 0x00, CPM_-FCH_REVISION_ID_KB = 0x01, CPM_FCH_REVISION_ID_ML = 0x02, CPM_FCH_-REVISION_ID_CZ = 0x03 }
  The value of CPU Revision ID.
- enum AMD_CPM_PRE_INIT_STAGE { CPM_PRE_INIT_STAGE_0 = 0, CPM_PRE_INIT_-STAGE_1 = 1 }
  The value of the stage to load AMD CPM Pre Init Table.
- enum AMD_CPM_TABLE_ATTRIBUTE { CPM_PEI = BIT0, CPM_DXE = BIT1, CPM_SMM = BIT2, CPM_OVERRIDE = BIT3 }
  Configuration values for CPM table attribute.
- enum AMD_CPM_GPIO_DEVICE_INIT_FLAG { GPIO_DEVICE_INIT_DISABLE = 0, GPIO_-DEVICE_INIT_STAGE_1 = 1, GPIO_DEVICE_INIT_STAGE_2 = 2, GPIO_DEVICE_INIT_-STAGE_DUMMY = 3 }
  Configuration values for CPM GPIO Device Init Flag.

5.53.1 Detailed Description

AMD CPM structures and definitions. Contains AMD CPM Common Interface

File Content Label

project: CPM *sub-project*: Include *$Revision:* 289766 $ *$Date:* 2014-04-15 09:44:01 -0500 (Tue, 15 Apr 2014) $

5.53.2 Enumeration Type Documentation

5.53.2.1 enum AMD_CPM_TABLE_SIGNATURE

The signatures of CPM table.

Enumerator:

CPM_SIGNATURE_MAIN_TABLE The signature of AMD_CPM_MAIN_TABLE.

CPM_SIGNATURE_GET_PLATFORM_ID The signature of AMD_CPM_PLATFORM_ID_TABLE.

CPM_SIGNATURE_GET_PLATFORM_ID_CONVERT The signature of AMD_CPM_PLATFORM_ID_CONVERT_TABLE.

CPM_SIGNATURE_PRE_INIT The signature of AMD_CPM_PRE_INIT_TABLE.

CPM_SIGNATURE_SAVE_CONTEXT The signature of AMD_CPM_SAVE_CONTEXT_TABLE.

CPM_SIGNATURE_INIT_FLAG The signature of AMD_CPM_INIT_FLAG_TABLE.

CPM_SIGNATURE_GPIO_INIT The signature of AMD_CPM_GPIO_INIT_TABLE.

CPM_SIGNATURE_GEVENT_INIT The signature of AMD_CPM_GEVENT_INIT_TABLE.

CPM_SIGNATURE_GPIO_DEVICE_CONFIG The signature of AMD_CPM_GPIO_DEVICE_CONFIG_TABLE.

CPM_SIGNATURE_GPIO_DEVICE_POWER The signature of AMD_CPM_GPIO_DEVICE_POWER_TABLE.

CPM_SIGNATURE_GPIO_DEVICE_DETECTION The signature of AMD_CPM_GPIO_DEVICE_DETECTION_TABLE.

CPM_SIGNATURE_GPIO_DEVICE_RESET The signature of AMD_CPM_GPIO_DEVICE_RESET_TABLE.

CPM_SIGNATURE_SET_MEM_VOLTAGE The signature of AMD_CPM_GPIO_MEM_VOLTAGE_TABLE.

CPM_SIGNATURE_PCIE_CLOCK The signature of AMD_CPM_PCIE_CLOCK_TABLE.

CPM_SIGNATURE_EXT_CLKGEN The signature of AMD_CPM_EXT_CLKGEN_TABLE.

CPM_SIGNATURE_GPIO_PRE_INIT The signature of AMD_CPM_GPIO_PRE_INIT_TABLE.

CPM_SIGNATURE_PCIE_TOPOLOGY The signature of AMD_CPM_PCIE_TOPOLOGY_TABLE.

CPM_SIGNATURE_PCIE_TOPOLOGY_OVERRIDE The signature of AMD_CPM_PCIE_TOPOLOGY_OVERRIDE_TABLE.

CPM_SIGNATURE_PCIE_EXPRESS_CARD The signature of AMD_CPM_EXPRESS_CARD_TABLE.

CPM_SIGNATURE_WIRELESS_BUTTON The signature of AMD_CPM_WIRELESS_BUTTON_TABLE.

CPM_SIGNATURE_SET_VDDP_VDDR_VOLTAGE The signature of AMD_CPM_GPIO_VDDP_VDDR_VOLTAGE_TABLE.

CPM_SIGNATURE_EC_INIT The signature of AMD_CPM_EC_INIT_TABLE.

CPM_SIGNATURE_ACPI_THERMAL_FAN The signature of AMD_CPM_ACPI_THERMAL_FAN_TABLE.

CPM_SIGNATURE_ZERO_POWER_ODD The signature of AMD_CPM_ZERO_POWER_ODD_TABLE.

CPM_SIGNATURE_LPC_UART The signature of AMD_CPM_LPC_UART_TABLE.

CPM_SIGNATURE_PROCHOT The signature of AMD_CPM_PROCHOT_TABLE.

CPM_SIGNATURE_DISPLAY_FEATURE The signature of AMD_CPM_DISPLAY_FEATURE_TABLE.

CPM_SIGNATURE_DEVICE_PATH The signature of AMD_CPM_DEVICE_PATH_TABLE.

CPM_SIGNATURE_SPECIFIC_SSID The signature of AMD_CPM_SPECIFIC_SSID_TABLE.

CPM_SIGNATURE_REBRAND_DUAL_GRAPHICS_SSID The signature of AMD_CPM_REBRAND_DUAL_GRAPHICS_SSID_TABLE.

CPM_SIGNATURE_TDP_LIMIT_CHANGE The signature of AMD_CPM_TDP_LIMIT_CHANGE_TABLE.

CPM_SIGNATURE_SMI_CHECK_TOOL The signature of AMD_CPM_SMI_CHECK_TOOL_TABLE.

CPM_SIGNATURE_ADAPTIVE_S4 The signature of AMD_CPM_ADAPTIVE_S4_TABLE.

5.53.2.2 enum AMD_CPM_CLOCK_ID

The value of special clock id.

Enumerator:

CPM_CLKID_APU_CLK APU_CLK Power Down Enable.

CPM_CLKID_DISP2_CLK DISP2_CLK Power Down Enable.

CPM_CLKID_PCIE_RCLK_OUTPUT PCIE_RCLK_Output Power Down Enable.

CPM_CLKID_DISP_CLK DISP_CLK Power Down Enable.

CPM_CLKID_PCIE_RCLK PCIE_RCLK Power Down Enable.

CPM_CLKID_CLOCK_BUFFER_BIAS Clock Buffer Bias Power Down Enable.

CPM_CLKID_OSCOUT2_OUTOFF OSCOUT2 Power Down Enable.

5.53.2.3 enum AMD_CPM_BOOT_MODE

The value of Boot Mode.

Enumerator:

CPM_BOOT_MODE_S0 BOOT ON S0.

CPM_BOOT_MODE_S1 BOOT ON S1 RESUME.

CPM_BOOT_MODE_S3 BOOT ON S3 RESUME.

CPM_BOOT_MODE_S4 BOOT ON S4 RESUME.

CPM_BOOT_MODE_S5 BOOT ON S5 RESUME.

5.53.2.4 enum AMD_CPM_CPU_REVISION_ID

The value of CPU Revision ID.

Enumerator:

CPM_CPU_REVISION_ID_TN CPU Revision ID for TN.

CPM_CPU_REVISION_ID_ON CPU Revision ID for ON.

CPM_CPU_REVISION_ID_KV CPU Revision ID for KV.

CPM_CPU_REVISION_ID_KB CPU Revision ID for KB.

CPM_CPU_REVISION_ID_ML CPU Revision ID for ML.

CPM_CPU_REVISION_ID_CZ CPU Revision ID for CZ.

5.53.2.5 enum AMD_CPM_PCIE_REVISION_ID

The value of PCIE Revision ID.

Enumerator:

CPM_PCIE_REVISION_ID_TN PCIE Revision ID for TN.
CPM_PCIE_REVISION_ID_ON PCIE Revision ID for ON.
CPM_PCIE_REVISION_ID_KV PCIE Revision ID for KV.
CPM_PCIE_REVISION_ID_KB PCIE Revision ID for KB.
CPM_PCIE_REVISION_ID_ML PCIE Revision ID for ML.
CPM_PCIE_REVISION_ID_CZ PCIE Revision ID for CZ.

5.53.2.6 enum AMD_CPM_FCH_REVISION_ID

The value of CPU Revision ID.

Enumerator:

CPM_FCH_REVISION_ID_DEFAULT FCH Revision ID for Default.
CPM_FCH_REVISION_ID_KB FCH Revision ID for KB.
CPM_FCH_REVISION_ID_ML FCH Revision ID for ML.
CPM_FCH_REVISION_ID_CZ FCH Revision ID for CZ.

5.53.2.7 enum AMD_CPM_PRE_INIT_STAGE

The value of the stage to load AMD CPM Pre Init Table.

Enumerator:

CPM_PRE_INIT_STAGE_0 Stage 0 to load Pre Init Table.
CPM_PRE_INIT_STAGE_1 Stage 1 to load Pre Init Table.

5.53.2.8 enum AMD_CPM_TABLE_ATTRIBUTE

Configuration values for CPM table attribute.

Enumerator:

CPM_PEI Used by CPM PEI driver.
CPM_DXE Used by CPM DXE driver.
CPM_SMM Used by CPM SMM driver.
CPM_OVERRIDE Modified by CPM driver.

5.53.2.9 enum AMD_CPM_GPIO_DEVICE_INIT_FLAG

Configuration values for CPM GPIO Device Init Flag.

Enumerator:

GPIO_DEVICE_INIT_DISABLE GPIO Device does not need to be initialized or is controlled by GPIO Device COnfig.

GPIO_DEVICE_INIT_STAGE_1 GPIO Device needs to be initialized on stage 1.

GPIO_DEVICE_INIT_STAGE_2 GPIO Device needs to be initialized on stage 2.

GPIO_DEVICE_INIT_STAGE_DUMMY GPIO Device does not need to be initialized in BIOS post.

5.54 NDA/CPM/Include/AmdCpmDefine.h File Reference

AMD CPM structures and definitions.

5.54.1 Detailed Description

AMD CPM structures and definitions. Contains AMD CPM Default Definitions

File Content Label

project: CPM *sub-project*: Include *$Revision:* 289766 $ *$Date:* 2014-04-15 09:44:01 -0500 (Tue, 15 Apr 2014) $

5.55 NDA/CPM/Include/AmdCpmDxe.h File Reference

AMD CPM structures and definitions. `#include <AmdCpmBase.h>`

`#include <EfiDriverLib.h>`

`#include <EfiHobLib.h>`

`#include <AcpiCommon.h>`

`#include <pci22.h>`

5.55.1 Detailed Description

AMD CPM structures and definitions. Contains AMD CPM Platform Interface

File Content Label

project: CPM *sub-project*: Include *$Revision:* 287560 $ *$Date:* 2014-03-18 13:52:46 -0500 (Tue, 18 Mar 2014) $

5.56 NDA/CPM/Include/AmdCpmFunction.h File Reference

AMD CPM structures and definitions.

Data Structures

- struct AMD_CPM_COMMON_FUNCTION

  Common Functions for CPM Drivers.

- struct AMD_CPM_PEIM_PUBLIC_FUNCTION

  CPM Public Functions for platform PEI Driver to use.

- struct AMD_CPM_DXE_PUBLIC_FUNCTION

  CPM Public Functions for platform DXE Driver to use.

5.56.1 Detailed Description

AMD CPM structures and definitions. Contains AMD CPM Common Function Interface

File Content Label

project: CPM *sub-project*: Include *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.57 NDA/CPM/Include/AmdCpmPei.h File Reference

AMD CPM structures and definitions. `#include <AmdCpmBase.h>`

`#include <Pei.h>`

`#include <PeiLib.h>`

5.57.1 Detailed Description

AMD CPM structures and definitions. Contains AMD CPM Platform Interface

File Content Label

project: CPM *sub-project*: Include *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.58 NDA/CPM/Include/AmdCpmPreDefine.h File Reference

AMD CPM structures and definitions. `#include <AmdCpmRevision.h>`

`#include <AmdCpmPlatform.h>`

`#include <AmdCpmDefine.h>`

5.58.1 Detailed Description

AMD CPM structures and definitions. Contains AMD CPM Platform Interface

File Content Label

project: CPM *sub-project*: Include *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.59 NDA/CPM/Include/AmdCpmRevision.h File Reference

AMD CPM structures and definitions.

5.59.1 Detailed Description

AMD CPM structures and definitions. Contains AMD CPM Platform Interface

File Content Label

project: CPM *sub-project*: Include *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.60 NDA/CPM/Include/EDKII/AmdCpmRevision.h File Reference

AMD CPM structures and definitions.

5.60.1 Detailed Description

AMD CPM structures and definitions. Contains AMD CPM Platform Interface

File Content Label

project: CPM *sub-project*: Include *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.61 NDA/CPM/Include/AmdCpmSmm.h File Reference

AMD CPM structures and definitions. `#include <AmdCpmBase.h>`

`#include <EfiSmmDriverLib.h>`

`#include <EdkIIGlueDevicePathLib.h>`

5.61.1 Detailed Description

AMD CPM structures and definitions. Contains AMD CPM Platform Interface

File Content Label

project: CPM *sub-project*: Include *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.62 NDA/CPM/Include/OptionCpuInstall.h File Reference

AMD CPM structures and definitions.

5.62.1 Detailed Description

AMD CPM structures and definitions. Contains AMD CPM CPU/APU Option Definitions

File Content Label

project: CPM *sub-project*: Include *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.63 NDA/CPM/Kernel/Dxe/AmdCpmInitDxe.c File Reference

AMD CPM Initialization. `#include <AmdCpmDxe.h>`

```
#include <AmdCpmBaseIo.h>
#include <AmdCpmCpu.h>
#include <AmdCpmFch.h>
#include <AmdCpmTable.h>
```

Functions

- VOID EFIAPI CpmRegisterKernel (IN VOID *This)

  Register Common Kenerl functions at the AmdCpmInitDxe entry point.

- VOID EFIAPI CpmInitLate (IN EFI_EVENT Event, IN VOID *Context)

  The function to load Common SSDT table.

- EFI_STATUS EFIAPI CpmAddSsdtTable (IN VOID *This, IN VOID *EfiGuid, IN UINT64 *OemTableId, IN AMD_CPM_ADDSSDTCALLBACK_FN Function, IN VOID *Context)

  Kernal Common function to load SSDT table.

- EFI_STATUS EFIAPI AmdCpmInitDxeEntryPoint (IN EFI_HANDLE ImageHandle, IN EFI_SYSTEM_TABLE *SystemTable)

  Entry point of the AMD CPM Init DXE driver.

- EFI_STATUS CpmSmbusGetByte (IN VOID *This, IN UINT8 Select, IN UINT8 Address, IN UINT8 Offset, IN UINTN Length, OUT UINT8 *Value)

  Kernal Common function to read the register of Smbus Device.

- EFI_STATUS CpmSmbusSetByte (IN VOID *This, IN UINT8 Select, IN UINT8 Address, IN UINT8 Offset, IN UINTN Length, IN UINT8 *Value)

  Kernal Common function to set the register of Smbus device.

- EFI_STATUS CpmSmbusGetBlock (IN VOID *This, IN UINT8 Select, IN UINT8 Address, IN UINT8 Offset, IN UINTN Length, OUT UINT8 *Value)

  Kernal Common function to read the register of Smbus Device in block mode.

- EFI_STATUS CpmSmbusSetBlock (IN VOID *This, IN UINT8 Select, IN UINT8 Address, IN UINT8 Offset, IN UINTN Length, IN UINT8 *Value)

  Kernal Common function to set the register of Smbus device in block mode.

- BOOLEAN IsAmlOpRegionObject (IN UINT8 *TablePtr)

  Common kernel function to check ACPI object.

- BOOLEAN EFIAPI CpmCommonSsdtCallBack (IN VOID *This, IN VOID *AmlObjPtr, IN VOID *Context)

  Callback function to update Common SSDT table.

5.63.1 Detailed Description

AMD CPM Initialization. Contains CPM code to perform CPM initialization under DXE

File Content Label

project: CPM *sub-project*: Kernel *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.63.2 Function Documentation

5.63.2.1 VOID EFIAPI CpmRegisterKernel (IN VOID * *This*)

Register Common Kenerl functions at the AmdCpmInitDxe entry point. Register Common Kenerl functions at the AmdCpmInitSmm entry point.

Register Common Kenerl functions at the AmdCpmInitPeim entry point.

This function registers CPM common kernel functions in AmdCpmTableProtocol at AmdCpmInitDxe.

Parameters:

← ***This*** Pointer to Protocol.

This function registers CPM common kernel functions in AmdCpmTablePpi at AmdCpmInitPeim.

Parameters:

← ***This*** Pointer to Ppi.

This function registers CPM common kernel functions in AmdCpmTableSmmProtocol at AmdCpmInitSmm.

Parameters:

← ***This*** Pointer to Protocol.

References AMD_CPM_COMMON_FUNCTION::AddSsdtTable, AMD_CPM_COMMON_FUNCTION::AddTable, AMD_CPM_TABLE_PROTOCOL::CommonFunction, AMD_CPM_COMMON_FUNCTION::CopyMem, CpmAddSsdtTable(), CpmAddTable(), CpmCopyMem(), CpmGetTablePtr(), CpmGetTablePtr2(), CpmRelocateTableList(), CpmRemoveTable(), CpmSmbusGetBlock(), CpmSmbusGetByte(), CpmSmbusSetBlock(), CpmSmbusSetByte(), AMD_CPM_TABLE_PROTOCOL::DxePublicFunction, AMD_CPM_DXE_PUBLIC_FUNCTION::GetPostedVbiosImage, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_COMMON_FUNCTION::GetTablePtr2, IsAmlOpRegionObject(), AMD_CPM_COMMON_FUNCTION::IsAmlOpRegionObject, AMD_CPM_COMMON_FUNCTION::ReadSmbus, AMD_CPM_COMMON_FUNCTION::ReadSmbusBlock, AMD_CPM_COMMON_FUNCTION::RelocateTable, AMD_CPM_COMMON_FUNCTION::RemoveTable, AMD_CPM_COMMON_FUNCTION::WriteSmbus, and AMD_CPM_COMMON_FUNCTION::WriteSmbusBlock.

Referenced by AmdCpmInitDxeEntryPoint(), AmdCpmInitPeimEntryPoint(), and AmdCpmInitSmmEntryPoint().

5.63.2.2 VOID EFIAPI CpmInitLate (IN EFI_EVENT *Event*, IN VOID * *Context*)

The function to load Common SSDT table. This function gets called each time the EFI_EVENT_SIGNAL_READY_TO_BOOT gets signaled.

Parameters:

← ***Event*** EFI_EVENT

← ***Context*** The Parameter Buffer

References CpmAddSsdtTable(), CpmCommonSsdtCallBack(), and AMD_CPM_NV_DATA_PROTOCOL::NvDataPtr.

Referenced by AmdCpmInitDxeEntryPoint().

5.63.2.3 EFI_STATUS EFIAPI CpmAddSsdtTable (IN VOID * *This*, IN VOID * *EfiGuid*, IN UINT64 * *OemTableId*, IN AMD_CPM_ADDSSDTCALLBACK_FN *Function*, IN VOID * *Context*)

Kernal Common function to load SSDT table. This function searchs ACPI storage file and finds the matched SSDT table. The table will be updated and registered in ACPI area.

Parameters:

← ***This*** Point to Protocol

← ***EfiGuid*** The GUID of ACPI storage file of SSDT table

← ***OemTableId*** OEM Table Id of SSDT table

← ***Function*** Callback Function

← ***Context*** The Parameters for callback function

Return values:

EFI_SUCCESS SSDT table initialized successfully

EFI_ERROR Initialization failed

Referenced by CpmInitLate(), and CpmRegisterKernel().

5.63.2.4 EFI_STATUS EFIAPI AmdCpmInitDxeEntryPoint (IN EFI_HANDLE *ImageHandle*, IN EFI_SYSTEM_TABLE * *SystemTable*)

Entry point of the AMD CPM Init DXE driver. This function installs AmdCpmTableProtocol, AmdCpmNvDataProtocol and CPM Common SSDT Table and registers CPM common functions at AmdCpmInitDxe.

Parameters:

← ***ImageHandle*** Pointer to the firmware file system header

← ***SystemTable*** Pointer to System table

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, AMD_CPM_TABLE_-PROTOCOL::ChipId, AMD_CPM_TABLE_PROTOCOL::CommonFunction, CPM_SIGNATURE_-ACPI_THERMAL_FAN, CPM_SIGNATURE_ADAPTIVE_S4, CPM_SIGNATURE_DISPLAY_-FEATURE, CPM_SIGNATURE_GPIO_DEVICE_DETECTION, CPM_SIGNATURE_GPIO_-DEVICE_POWER, CPM_SIGNATURE_GPIO_DEVICE_RESET, CPM_SIGNATURE_-MAIN_TABLE, CPM_SIGNATURE_PCIE_EXPRESS_CARD, CPM_SIGNATURE_SAVE_-CONTEXT, CPM_SIGNATURE_WIRELESS_BUTTON, CPM_SIGNATURE_ZERO_POWER_-ODD, AMD_CPM_NV_DATA_STRUCT::CpmAcpiMmioBaseAddr, AMD_CPM_NV_DATA_-STRUCT::CpmAcpiThermalFanTable, AMD_CPM_NV_DATA_STRUCT::CpmAdaptiveS4Table, CpmAdjustTableList(), CpmCopyTableListToMemory(), AMD_CPM_NV_DATA_-STRUCT::CpmDeviceDetectionTable, AMD_CPM_NV_DATA_STRUCT::CpmDevicePowerTable, AMD_CPM_NV_DATA_STRUCT::CpmDeviceResetTable, AMD_CPM_NV_DATA_-STRUCT::CpmDisplayFeatureTable, AMD_CPM_NV_DATA_STRUCT::CpmExpressCardTable, CpmInitLate(), AMD_CPM_NV_DATA_STRUCT::CpmMainTable, AMD_CPM_NV_DATA_-STRUCT::CpmPcieMmioBaseAddr, CpmRegisterBaseIo(), CpmRegisterCpu(), CpmRegisterFch(), Cpm-RegisterKernel(), CpmRelocateTableList(), AMD_CPM_NV_DATA_STRUCT::CpmSaveContextTable, AMD_CPM_NV_DATA_STRUCT::CpmSbChipId, AMD_CPM_NV_DATA_STRUCT::CpmVersion, AMD_CPM_NV_DATA_STRUCT::CpmWirelessButtonTable, AMD_CPM_NV_DATA_-STRUCT::CpmZeroPowerOddTable, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_-CPM_TABLE_PROTOCOL::MainTablePtr, AMD_CPM_NV_DATA_PROTOCOL::NvDataPtr, AMD_-CPM_MAIN_TABLE::PcieMemIoBaseAddr, AMD_CPM_TABLE_PROTOCOL::Revision, AMD_-CPM_CHIP_ID::Sb, and AMD_CPM_TABLE_LIST::Size.

5.63.2.5 EFI_STATUS CpmSmbusGetByte (IN VOID * *This*, IN UINT8 *Select*, IN UINT8 *Address*, IN UINT8 *Offset*, IN UINTN *Length*, OUT UINT8 * *Value*)

Kernal Common function to read the register of Smbus Device.

Parameters:

← ***This*** Point to Protocol

← ***Select*** The Smbus number.

← ***Address*** The address of Smbus device

← ***Offset*** The Offset of Smbus register

← ***Length*** The register size in BYTE

→ ***Value*** Data Pointer to save register value

Return values:

EFI_SUCCESS SSDT table initialized successfully

EFI_ERROR Initialization failed

Referenced by CpmRegisterKernel().

5.63.2.6 EFI_STATUS CpmSmbusSetByte (IN VOID * *This*, IN UINT8 *Select*, IN UINT8 *Address*, IN UINT8 *Offset*, IN UINTN *Length*, IN UINT8 * *Value*)

Kernal Common function to set the register of Smbus device.

Parameters:

← ***This*** Point to Protocol

← ***Select*** The Smbus number.

← ***Address*** The address of Smbus device

← ***Offset*** The Offset of Smbus register

← ***Length*** The register size in BYTE

← ***Value*** Data Pointer to register value

Return values:

EFI_SUCCESS SSDT table initialized successfully

EFI_ERROR Initialization failed

Referenced by CpmRegisterKernel().

5.63.2.7 EFI_STATUS CpmSmbusGetBlock (IN VOID * *This*, IN UINT8 *Select*, IN UINT8 *Address*, IN UINT8 *Offset*, IN UINTN *Length*, OUT UINT8 * *Value*)

Kernal Common function to read the register of Smbus Device in block mode.

Parameters:

← ***This*** Point to Protocol

← ***Select*** The Smbus number.

← ***Address*** The address of Smbus device

← ***Offset*** The Offset of Smbus register

← ***Length*** The register size in BYTE

→ ***Value*** Data Pointer to save register value

Return values:

EFI_SUCCESS SSDT table initialized successfully

EFI_ERROR Initialization failed

Referenced by CpmRegisterKernel().

5.63.2.8 EFI_STATUS CpmSmbusSetBlock (IN VOID * *This*, IN UINT8 *Select*, IN UINT8 *Address*, IN UINT8 *Offset*, IN UINTN *Length*, IN UINT8 * *Value*)

Kernal Common function to set the register of Smbus device in block mode.

Parameters:

← ***This*** Point to Protocol
← ***Select*** The Smbus number.
← ***Address*** The address of Smbus device
← ***Offset*** The Offset of Smbus register
← ***Length*** The register size in BYTE
← ***Value*** Data Pointer to register value

Return values:

EFI_SUCCESS SSDT table initialized successfully
EFI_ERROR Initialization failed

Referenced by CpmRegisterKernel().

5.63.2.9 BOOLEAN IsAmlOpRegionObject (IN UINT8 * *TablePtr*)

Common kernel function to check ACPI object. This function is used to check whether it is an AML Op Region Object in the table.

Parameters:

← ***TablePtr*** Pointer to the AML table

Return values:

TRUE Is AML Op Region Object
FALSE Is not AML Op Region Object

Referenced by CpmRegisterKernel().

5.63.2.10 BOOLEAN EFIAPI CpmCommonSsdtCallBack (IN VOID * *This*, IN VOID * *AmlObjPtr*, IN VOID * *Context*)

Callback function to update Common SSDT table. This function is used to update the base address and size of the region object: CPNV.

Parameters:

← ***This*** Pointer to Protocol
← ***AmlObjPtr*** The AML Object Buffer
← ***Context*** The Parameter Buffer

Return values:

TRUE SSDT Table has been updated completely
FALSE SSDT Table has not been updated completely

References AMD_CPM_TABLE_PROTOCOL::CommonFunction, and AMD_CPM_COMMON_-FUNCTION::IsAmlOpRegionObject.

Referenced by CpmInitLate().

5.64 NDA/CPM/Kernel/Pei/AmdCpmInitPeim.c File Reference

AMD CPM POST API, and related functions. `#include <AmdCpmPei.h>`

`#include <AmdCpmTable.h>`

`#include <AmdCpmBaseIo.h>`

`#include <AmdCpmCpu.h>`

`#include <AmdCpmFch.h>`

Functions

- VOID EFIAPI CpmLoadPreInitTable (IN VOID *This, IN UINT8 Stage)

  The function to load Pre Init Table.

- VOID EFIAPI CpmPlatformIdInit (IN AMD_CPM_TABLE_PPI *CpmTablePpiPtr)

  Initialize Current Platform Id.

- VOID EFIAPI CpmRegisterKernel (IN VOID *This)

  Register Common Kenerl functions at the AmdCpmInitPeim entry point.

- EFI_STATUS AmdCpmInitBeforeS3LateRestore (IN EFI_PEI_SERVICES **PeiServices, IN EFI_PEI_NOTIFY_DESCRIPTOR *NotifyDesc, IN VOID *InvokePpi)

  CPM Init Function Before S3 Late Restore.

- EFI_STATUS EFIAPI AmdCpmInitPeimEntryPoint (IN CPM_PEI_FILE_HANDLE FileHandle, IN CPM_PEI_SERVICES **PeiServices)

  Entry point of the AMD CPM Init PEIM driver.

- EFI_STATUS CpmSmbusGetByte (IN VOID *This, IN UINT8 Select, IN UINT8 Address, IN UINT8 Offset, IN UINTN Length, OUT UINT8 *Value)

  Kernal Common function to read the register of Smbus Device.

- EFI_STATUS CpmSmbusSetByte (IN VOID *This, IN UINT8 Select, IN UINT8 Address, IN UINT8 Offset, IN UINTN Length, IN UINT8 *Value)

  Kernal Common function to set the register of Smbus device.

- EFI_STATUS CpmSmbusGetBlock (IN VOID *This, IN UINT8 Select, IN UINT8 Address, IN UINT8 Offset, IN UINTN Length, OUT UINT8 *Value)

  Kernal Common function to read the register of Smbus Device in block mode.

- EFI_STATUS CpmSmbusSetBlock (IN VOID *This, IN UINT8 Select, IN UINT8 Address, IN UINT8 Offset, IN UINTN Length, IN UINT8 *Value)

  Kernal Common function to set the register of Smbus device in block mode.

5.64.1 Detailed Description

AMD CPM POST API, and related functions. Contains code that initialized the CPM before memory init.

File Content Label

project: CPM *sub-project*: Kernel *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.64.2 Function Documentation

5.64.2.1 VOID EFIAPI CpmLoadPreInitTable (IN VOID * *This*, IN UINT8 *Stage*)

The function to load Pre Init Table.

Parameters:

← ***This*** Pointer to AMD CPM TABLE Ppi

← ***Stage*** Stage number to initialize the registers

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, AMD_CPM_PRE_SETTING_ITEM::AndMask, AMD_CPM_TABLE_PPI::CommonFunction, CPM_SIGNATURE_GPIO_PRE_INIT, CPM_SIGNATURE_PRE_INIT, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_GPIO_INIT_TABLE::GpioList, AMD_CPM_PRE_INIT_TABLE::Item, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioAndThenOr8, AMD_CPM_PRE_SETTING_ITEM::Offset, AMD_CPM_PRE_SETTING_ITEM::OrMask, AMD_CPM_COMMON_FUNCTION::PciAndThenOr8, AMD_CPM_GPIO_ITEM::Pin, AMD_CPM_GPIO_SETTING::Raw, AMD_CPM_PRE_SETTING_ITEM::Select, AMD_CPM_COMMON_FUNCTION::SetGpio, AMD_CPM_GPIO_ITEM::Setting, AMD_CPM_PRE_SETTING_ITEM::Stage, and AMD_CPM_PRE_SETTING_ITEM::Type.

Referenced by AmdCpmInitPeimEntryPoint(), and CpmRegisterKernel().

5.64.2.2 VOID EFIAPI CpmPlatformIdInit (IN AMD_CPM_TABLE_PPI * *CpmTablePpiPtr*)

Initialize Current Platform Id.

Parameters:

← ***CpmTablePpiPtr*** Point to Ppi

References AMD_CPM_PLATFORM_ID_CONVERT_ITEM::ConvertedId, CPM_SIGNATURE_GET_PLATFORM_ID, CPM_SIGNATURE_GET_PLATFORM_ID_CONVERT, AMD_CPM_PLATFORM_ID_CONVERT_ITEM::CpuRevisionId, AMD_CPM_PLATFORM_ID_TABLE::GpioPin, AMD_CPM_PLATFORM_ID_CONVERT_TABLE::Item, AMD_CPM_PLATFORM_ID_CONVERT_ITEM::OriginalId, and AMD_CPM_PLATFORM_ID_CONVERT_ITEM::OriginalIdMask.

Referenced by AmdCpmInitPeimEntryPoint().

5.64.2.3 VOID EFIAPI CpmRegisterKernel (IN VOID * *This*)

Register Common Kenerl functions at the AmdCpmInitPeim entry point. This function registers CPM common kernel functions in AmdCpmTablePpi at AmdCpmInitPeim.

Parameters:

← ***This*** Pointer to Ppi.

References AMD_CPM_COMMON_FUNCTION::AddTable, AMD_CPM_COMMON_-FUNCTION::CopyMem, CpmAddTable(), CpmCopyMem(), CpmGetTablePtr(), CpmGetTablePtr2(), CpmLoadPreInitTable(), CpmRelocateTableList(), CpmRemoveTable(), CpmSmbusGetBlock(), CpmSmbusGetByte(), CpmSmbusSetBlock(), CpmSmbusSetByte(), AMD_CPM_COMMON_-FUNCTION::GetTablePtr, AMD_CPM_COMMON_FUNCTION::GetTablePtr2, AMD_CPM_-COMMON_FUNCTION::LoadPreInitTable, AMD_CPM_COMMON_FUNCTION::ReadSmbus, AMD_CPM_COMMON_FUNCTION::ReadSmbusBlock, AMD_CPM_COMMON_-FUNCTION::RelocateTable, AMD_CPM_COMMON_FUNCTION::RemoveTable, AMD_CPM_-COMMON_FUNCTION::WriteSmbus, and AMD_CPM_COMMON_FUNCTION::WriteSmbusBlock.

5.64.2.4 EFI_STATUS AmdCpmInitBeforeS3LateRestore (IN EFI_PEI_SERVICES ∗∗ *PeiServices*, IN EFI_PEI_NOTIFY_DESCRIPTOR ∗ *NotifyDesc*, IN VOID ∗ *InvokePpi*)

CPM Init Function Before S3 Late Restore. This function updates CPM Main Table Pointer in AMD_-CPM_TABLE_PPI Data Structure after PEI MEMORY DISCOVERED PPI is installed.

Parameters:

← ***PeiServices*** Pointer to Pei Services

← ***NotifyDesc*** The descriptor for the notification event

← ***InvokePpi*** Pointer to the PPI in question.

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_PPI::MainTablePtr, and AMD_CPM_COMMON_FUNCTION::RelocateTable.

5.64.2.5 EFI_STATUS EFIAPI AmdCpmInitPeimEntryPoint (IN CPM_PEI_FILE_HANDLE *FileHandle*, IN CPM_PEI_SERVICES ∗∗ *PeiServices*)

Entry point of the AMD CPM Init PEIM driver. This function gets CPM definition tables from AmdCp-mOemTablePpi, reorgnizes the tables and installs AmdCpmTablePpi. It also initializes the registers by load Pre Init Table and update Current Platform Id at AmdCpmInitPeim.

Parameters:

← ***FileHandle*** Pointer to the firmware file system header

← ***PeiServices*** Pointer to Pei Services

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References AMD_CPM_SAVE_CONTEXT_TABLE::BufferSize, AMD_CPM_TABLE_-PPI::CommonFunction, CPM_BOOT_MODE_S3, CPM_PRE_INIT_STAGE_0, CPM_SIGNATURE_-SAVE_CONTEXT, CpmCopyTableListToMemory(), CpmGenerateTableList(), CpmGetBoot-Mode(), CpmLoadPreInitTable(), CpmPlatformIdInit(), CpmRegisterBaseIo(), CpmRegister-Cpu(), CpmRegisterFch(), CpmRegisterKernel(), AMD_CPM_MAIN_TABLE::CurrentPlatformId, AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_OEM_TABLE_PPI::PlatformId, AMD_CPM_POINTER::Pointer, AMD_CPM_-COMMON_FUNCTION::RemoveTable, AMD_CPM_OEM_TABLE_PPI::Revision, AMD_-CPM_TABLE_PPI::Revision, AMD_CPM_MAIN_TABLE::Service, AMD_CPM_COMMON_-FUNCTION::SetSaveContext, AMD_CPM_TABLE_LIST::Size, and AMD_CPM_OEM_TABLE_-PPI::TableList.

5.64.2.6 EFI_STATUS CpmSmbusGetByte (IN VOID * *This*, IN UINT8 *Select*, IN UINT8 *Address*, IN UINT8 *Offset*, IN UINTN *Length*, OUT UINT8 * *Value*)

Kernal Common function to read the register of Smbus Device.

Parameters:

← ***This*** Point to Ppi
← ***Select*** The Smbus number.
← ***Address*** The address of Smbus device
← ***Offset*** The Offset of Smbus register
← ***Length*** The register size in BYTE
→ ***Value*** Data Pointer to save register value

Return values:

EFI_SUCCESS SSDT table initialized successfully
EFI_ERROR Initialization failed

5.64.2.7 EFI_STATUS CpmSmbusSetByte (IN VOID * *This*, IN UINT8 *Select*, IN UINT8 *Address*, IN UINT8 *Offset*, IN UINTN *Length*, IN UINT8 * *Value*)

Kernal Common function to set the register of Smbus device.

Parameters:

← ***This*** Point to Ppi
← ***Select*** The Smbus number.
← ***Address*** The address of Smbus device
← ***Offset*** The Offset of Smbus register
← ***Length*** The register size in BYTE
← ***Value*** Data Pointer to register value

Return values:

EFI_SUCCESS SSDT table initialized successfully
EFI_ERROR Initialization failed

5.64.2.8 EFI_STATUS CpmSmbusGetBlock (IN VOID * *This*, IN UINT8 *Select*, IN UINT8 *Address*, IN UINT8 *Offset*, IN UINTN *Length*, OUT UINT8 * *Value*)

Kernal Common function to read the register of Smbus Device in block mode.

Parameters:

← ***This*** Point to Ppi

← ***Select*** The Smbus number.

← ***Address*** The address of Smbus device

← ***Offset*** The Offset of Smbus register

← ***Length*** The register size in BYTE

→ ***Value*** Data Pointer to save register value

Return values:

EFI_SUCCESS SSDT table initialized successfully

EFI_ERROR Initialization failed

5.64.2.9 EFI_STATUS CpmSmbusSetBlock (IN VOID * *This*, IN UINT8 *Select*, IN UINT8 *Address*, IN UINT8 *Offset*, IN UINTN *Length*, IN UINT8 * *Value*)

Kernal Common function to set the register of Smbus device in block mode.

Parameters:

← ***This*** Point to Ppi

← ***Select*** The Smbus number.

← ***Address*** The address of Smbus device

← ***Offset*** The Offset of Smbus register

← ***Length*** The register size in BYTE

← ***Value*** Data Pointer to register value

Return values:

EFI_SUCCESS SSDT table initialized successfully

EFI_ERROR Initialization failed

5.65 NDA/CPM/Kernel/Smm/AmdCpmInitSmm.c File Reference

AMD CPM Initialization. `#include <AmdCpmSmm.h>`

`#include <AmdCpmBaseIo.h>`

`#include <AmdCpmCpu.h>`

`#include <AmdCpmFch.h>`

`#include <AmdCpmTable.h>`

Functions

- VOID EFIAPI CpmRegisterKernel (IN VOID *This)

  Register Common Kenerl functions at the AmdCpmInitSmm entry point.

- EFI_STATUS AmdCpmInitSmmEntryPoint (IN EFI_HANDLE ImageHandle, IN EFI_SYSTEM_TABLE *SystemTable)

  Entry point of the AMD CPM Init SMM driver.

5.65.1 Detailed Description

AMD CPM Initialization. Contains CPM code to perform CPM initialization in SMM

File Content Label

project: CPM *sub-project* Kernel *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.65.2 Function Documentation

5.65.2.1 VOID EFIAPI CpmRegisterKernel (IN VOID * *This*)

Register Common Kenerl functions at the AmdCpmInitSmm entry point. This function registers CPM common kernel functions in AmdCpmTableSmmProtocol at AmdCpmInitSmm.

Parameters:

← ***This*** Pointer to Protocol.

References AMD_CPM_TABLE_PROTOCOL::CommonFunction, AMD_CPM_COMMON_FUNCTION::CopyMem, CpmCopyMem(), CpmGetTablePtr(), CpmGetTablePtr2(), CpmRelocateTableList(), AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_COMMON_FUNCTION::GetTablePtr2, AMD_CPM_COMMON_FUNCTION::ReadSmbus, AMD_CPM_COMMON_FUNCTION::ReadSmbusBlock, AMD_CPM_COMMON_FUNCTION::RelocateTable, AMD_CPM_COMMON_FUNCTION::WriteSmbus, and AMD_CPM_COMMON_FUNCTION::WriteSmbusBlock.

5.65.2.2 EFI_STATUS AmdCpmInitSmmEntryPoint (IN EFI_HANDLE *ImageHandle*, IN EFI_SYSTEM_TABLE * *SystemTable*)

Entry point of the AMD CPM Init SMM driver. This function installs AmdCpmTableSmmProtocol and registers CPM common functions at AmdCpmInitSmm.

Parameters:

← ***ImageHandle*** Pointer to the firmware file system header

← ***SystemTable*** Pointer to System table

Return values:

EFI_SUCCESS Module initialized successfully

EFI_ERROR Initialization failed (see error for more details)

References CpmRegisterBaseIo(), CpmRegisterCpu(), CpmRegisterFch(), CpmRegisterKernel(), AMD_CPM_TABLE_PROTOCOL::MainTablePtr, and AMD_CPM_TABLE_PROTOCOL::Revision.

5.66 NDA/CPM/Library/Guid/AmdCpmBootTimeRecordHob/AmdCpmBootTimeRecordHob.c File Reference

Amd Boot Time Record Hob GUID. `#include <AmdCpmBase.h>`

5.66.1 Detailed Description

Amd Boot Time Record Hob GUID. Contains GUID Declaration for Amd Boot Time Record Hob

File Content Label

project: Common Platform Module *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.67 NDA/CPM/Library/Guid/AmdCpmBootTimeRecordHob/AmdCpmBootTimeRecordHob.h File Reference

Amd Boot Time Record Hob GUID. `#include <AmdCpmBase.h>`

5.67.1 Detailed Description

Amd Boot Time Record Hob GUID. Contains GUID Declaration for Heap Hob

File Content Label

project: Common Platform Module *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.68 NDA/CPM/Library/Guid/AmdCpmTableHob/AmdCpmTableHob.c File Reference

AMD CPM Table Hob GUID. `#include <AmdCpmBase.h>`

5.68.1 Detailed Description

AMD CPM Table Hob GUID. Contains GUID Declaration for AMD CPM Table Hob

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.69 NDA/CPM/Library/Guid/AmdCpmTableHob/AmdCpmTableHob.h File Reference

AMD CPM Table Hob GUID.

5.69.1 Detailed Description

AMD CPM Table Hob GUID. Contains GUID Declaration for AMD CPM Table Hob

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.70 NDA/CPM/Library/Ppi/AmdCpmBootTimeRecordPpi/AmdCpmBootTimeRecordPpi.c File Reference

AMD Boot Time Record PPI, and related functions. `#include <AmdCpmPei.h>`

5.70.1 Detailed Description

AMD Boot Time Record PPI, and related functions. Contains code that initializes the AMD Boot Time Record PPI.

File Content Label

project: Common Platform Module *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.71 NDA/CPM/Library/Ppi/AmdCpmBootTimeRecordPpi/AmdCpmBootTimeRecordPpi.h File Reference

AMD Boot Time Record PPI, and related functions. `#include <AmdCpmBase.h>`

Data Structures

- struct AMD_BOOT_TIME_DATA

  Boot Time Data.

- struct AMD_BOOT_TIME_RECORD

  Boot Time Record data holder.

- struct AMD_BOOT_TIME_RECORD_PPI

  Boot Time Record PPI.

5.71.1 Detailed Description

AMD Boot Time Record PPI, and related functions. Contains code that initializes the AMD Boot Time Record PPI.

File Content Label

project: Common Platform Module *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.72 NDA/CPM/Library/Ppi/AmdCpmGpioInitFinishedPpi/AmdCpmGpioInitFinishedPpi.c File Reference

AMD CPM GPIO Init Finished PPI, and related functions. `#include <AmdCpmPei.h>`

5.72.1 Detailed Description

AMD CPM GPIO Init Finished PPI, and related functions. Contains code that initializes the CPM GPIO Init Finished PPI.

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.73 NDA/CPM/Library/Ppi/AmdCpmGpioInitFinishedPpi/AmdCpmGpioInitFinishedPpi.h File Reference

AMD CPM GPIO Init Finished PPI, and related functions. `#include <AmdCpmBase.h>`

Data Structures

- struct AMD_CPM_GPIO_INIT_FINISHED_PPI

  AMD CPM GPIO Init Finished PPI Definition.

5.73.1 Detailed Description

AMD CPM GPIO Init Finished PPI, and related functions. Contains code that initializes the CPM GPIO Init Finished PPI.

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.74 NDA/CPM/Library/Ppi/AmdCpmOemTablePpi/AmdCpmOemTablePpi.c File Reference

AMD CPM OEM Table PPI, and related functions. `#include <AmdCpmPei.h>`

5.74.1 Detailed Description

AMD CPM OEM Table PPI, and related functions. Contains code that initializes the CPM OEM TABLE PPI.

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.75 NDA/CPM/Library/Ppi/AmdCpmOemTablePpi/AmdCpmOemTablePpi.h File Reference

AMD CPM OEM Table PPI, and related functions. `#include <AmdCpmBase.h>`

Data Structures

- struct AMD_CPM_OEM_TABLE_PPI

  AMD CPM OEM TABLE PPI Definition.

5.75.1 Detailed Description

AMD CPM OEM Table PPI, and related functions. Contains code that initializes the CPM OEM TABLE PPI.

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.76 NDA/CPM/Library/Ppi/AmdCpmTableHobPpi/AmdCpmTableHobPpi.c File Reference

AMD CPM Table Hob PPI, and related functions. `#include <AmdCpmPei.h>`

5.76.1 Detailed Description

AMD CPM Table Hob PPI, and related functions. Contains code that initializes the CPM TABLE HOB PPI.

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.77 NDA/CPM/Library/Ppi/AmdCpmTableHobPpi/AmdCpmTableHobPpi.h File Reference

AMD CPM Table Hob PPI, and related functions. `#include <AmdCpmBase.h>`

Data Structures

- struct AMD_CPM_TABLE_HOB_PPI

  AMD CPM TABLE PPI Definition.

5.77.1 Detailed Description

AMD CPM Table Hob PPI, and related functions. Contains code that initializes the CPM TABLE HOB PPI.

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.78 NDA/CPM/Library/Ppi/AmdCpmTablePpi/AmdCpmTablePpi.c File Reference

AMD CPM Table PPI, and related functions. `#include <AmdCpmPei.h>`

5.78.1 Detailed Description

AMD CPM Table PPI, and related functions. Contains code that initializes the CPM TABLE PPI.

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.79 NDA/CPM/Library/Ppi/AmdCpmTablePpi/AmdCpmTablePpi.h File Reference

AMD CPM Table PPI, and related functions. `#include <AmdCpmBase.h>`

Data Structures

- struct AMD_CPM_TABLE_PPI

  AMD CPM TABLE PPI Definition.

5.79.1 Detailed Description

AMD CPM Table PPI, and related functions. Contains code that initializes the CPM TABLE PPI.

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.80 NDA/CPM/Library/Proc/Base/AmdCpmBaseIo.c File Reference

AMD CPM Library for IO Access. `#include <AmdCpmBase.h>`

`#include <AmdCpmBaseIo.h>`

Functions

- UINT8 EFIAPI CpmMmioRead8 (IN UINTN Address)

  Read an 8-bit MMIO register.

- UINT8 EFIAPI CpmMmioWrite8 (IN UINTN Address, IN UINT8 Value)

  Write an 8-bit MMIO register.

- UINT16 EFIAPI CpmMmioRead16 (IN UINTN Address)

  Read a 16-bit MMIO register.

- UINT16 EFIAPI CpmMmioWrite16 (IN UINTN Address, IN UINT16 Value)

  Write a 16-bit MMIO register.

- UINT32 EFIAPI CpmMmioRead32 (IN UINTN Address)

  Read a 32-bit MMIO register.

- UINT32 EFIAPI CpmMmioWrite32 (IN UINTN Address, IN UINT32 Value)

  Write a 32-bit MMIO register.

- UINT64 EFIAPI CpmMmioRead64 (IN UINTN Address)

  Read a 64-bit MMIO register.

- UINT64 EFIAPI CpmMmioWrite64 (IN UINTN Address, IN UINT64 Value)

  Write a 64-bit MMIO register.

- UINT8 EFIAPI CpmMmioOr8 (IN UINTN Address, IN UINT8 OrData)

  Reads an 8-bit MMIO register, performs a bitwise inclusive OR, and writes the result back to the 8-bit MMIO register.

- UINT8 EFIAPI CpmMmioAnd8 (IN UINTN Address, IN UINT8 AndData)

  Reads an 8-bit MMIO register, performs a bitwise AND, and writes the result back to the 16-bit MMIO register.

- UINT8 EFIAPI CpmMmioAndThenOr8 (IN UINTN Address, IN UINT8 AndData, IN UINT8 OrData)

  Reads a 16-bit MMIO register, performs a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the 16-bit MMIO register.

- UINT16 EFIAPI CpmMmioOr16 (IN UINTN Address, IN UINT16 OrData)

  Reads a 16-bit MMIO register, performs a bitwise inclusive OR, and writes the result back to the 16-bit MMIO register.

- UINT16 EFIAPI CpmMmioAnd16 (IN UINTN Address, IN UINT16 AndData)

Reads a 16-bit MMIO register, performs a bitwise AND, and writes the result back to the 16-bit MMIO register.

- UINT16 EFIAPI CpmMmioAndThenOr16 (IN UINTN Address, IN UINT16 AndData, IN UINT16 OrData)

  Reads a 16-bit MMIO register, performs a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the 16-bit MMIO register.

- UINT32 EFIAPI CpmMmioOr32 (IN UINTN Address, IN UINT32 OrData)

  Reads a 32-bit MMIO register, performs a bitwise inclusive OR, and writes the result back to the 32-bit MMIO register.

- UINT32 EFIAPI CpmMmioAnd32 (IN UINTN Address, IN UINT32 AndData)

  Reads a 32-bit MMIO register, performs a bitwise AND, and writes the result back to the 32-bit MMIO register.

- UINT32 EFIAPI CpmMmioAndThenOr32 (IN UINTN Address, IN UINT32 AndData, IN UINT32 OrData)

  Reads a 32-bit MMIO register, performs a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the 32-bit MMIO register.

- UINT64 EFIAPI CpmMmioOr64 (IN UINTN Address, IN UINT64 OrData)

  Reads a 64-bit MMIO register, performs a bitwise inclusive OR, and writes the result back to the 64-bit MMIO register.

- UINT64 EFIAPI CpmMmioAnd64 (IN UINTN Address, IN UINT64 AndData)

  Reads a 64-bit MMIO register, performs a bitwise AND, and writes the result back to the 64-bit MMIO register.

- UINT64 EFIAPI CpmMmioAndThenOr64 (IN UINTN Address, IN UINT64 AndData, IN UINT64 OrData)

  Reads a 64-bit MMIO register, performs a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the 64-bit MMIO register.

- VOID EFIAPI CpmPostCode (IN UINT32 Postcode)

  Output a post code.

- UINT8 EFIAPI CpmPciRead8 (IN VOID *This, IN UINT8 Bus, IN UINT8 Device, IN UINT8 Function, IN UINT16 Offset)

  Read an 8-bit PCI register.

- UINT16 EFIAPI CpmPciRead16 (IN VOID *This, IN UINT8 Bus, IN UINT8 Device, IN UINT8 Function, IN UINT16 Offset)

  Read a 16-bit PCI register.

- UINT32 EFIAPI CpmPciRead32 (IN VOID *This, IN UINT8 Bus, IN UINT8 Device, IN UINT8 Function, IN UINT16 Offset)

  Read a 32-bit PCI register.

- VOID EFIAPI CpmPciWrite8 (IN VOID *This, IN UINT8 Bus, IN UINT8 Device, IN UINT8 Function, IN UINT16 Offset, IN UINT8 Data)

  Write an 8-bit PCI register.

- VOID EFIAPI CpmPciWrite16 (IN VOID *This, IN UINT8 Bus, IN UINT8 Device, IN UINT8 Function, IN UINT16 Offset, IN UINT16 Data)

  Write a 16-bit PCI register.

- VOID EFIAPI CpmPciWrite32 (IN VOID *This, IN UINT8 Bus, IN UINT8 Device, IN UINT8 Function, IN UINT16 Offset, IN UINT32 Data)

  Write a 32-bit PCI register.

- VOID EFIAPI CpmPciAnd8 (IN VOID *This, IN UINT8 Bus, IN UINT8 Device, IN UINT8 Function, IN UINT16 Offset, IN UINT8 AndData)

  Reads an 8-bit PCI register, performs a bitwise AND and writes the result back to the 8-bit PCI register.

- VOID EFIAPI CpmPciAnd16 (IN VOID *This, IN UINT8 Bus, IN UINT8 Device, IN UINT8 Function, IN UINT16 Offset, IN UINT16 AndData)

  Reads a 16-bit PCI register, performs a bitwise AND and writes the result back to the 16-bit PCI register.

- VOID EFIAPI CpmPciAnd32 (IN VOID *This, IN UINT8 Bus, IN UINT8 Device, IN UINT8 Function, IN UINT16 Offset, IN UINT32 AndData)

  Reads a 32-bit PCI register, performs a bitwise AND and writes the result back to the 32-bit PCI register.

- VOID EFIAPI CpmPciOr8 (IN VOID *This, IN UINT8 Bus, IN UINT8 Device, IN UINT8 Function, IN UINT16 Offset, IN UINT8 OrData)

  Reads an 8-bit PCI register, performs a bitwise OR and writes the result back to the 8-bit PCI register.

- VOID EFIAPI CpmPciOr16 (IN VOID *This, IN UINT8 Bus, IN UINT8 Device, IN UINT8 Function, IN UINT16 Offset, IN UINT16 OrData)

  Reads a 16-bit PCI register, performs a bitwise OR and writes the result back to the 16-bit PCI register.

- VOID EFIAPI CpmPciOr32 (IN VOID *This, IN UINT8 Bus, IN UINT8 Device, IN UINT8 Function, IN UINT16 Offset, IN UINT32 OrData)

  Reads a 32-bit PCI register, performs a bitwise OR and writes the result back to the 32-bit PCI register.

- VOID EFIAPI CpmPciAndThenOr8 (IN VOID *This, IN UINT8 Bus, IN UINT8 Device, IN UINT8 Function, IN UINT16 Offset, IN UINT8 AndData, IN UINT8 OrData)

  Reads an 8-bit PCI register, performs a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the 8-bit PCI register.

- VOID EFIAPI CpmPciAndThenOr16 (IN VOID *This, IN UINT8 Bus, IN UINT8 Device, IN UINT8 Function, IN UINT16 Offset, IN UINT16 AndData, IN UINT16 OrData)

  Reads a 16-bit PCI register, performs a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the 16-bit PCI register.

- VOID EFIAPI CpmPciAndThenOr32 (IN VOID *This, IN UINT8 Bus, IN UINT8 Device, IN UINT8 Function, IN UINT16 Offset, IN UINT32 AndData, IN UINT32 OrData)

  Reads a 32-bit PCI register, performs a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the 32-bit PCI register.

- UINT8 EFIAPI CpmCheckPcieDevice (IN VOID *This, IN UINT8 Device, IN UINT8 Function)

  Check Whether there is a PCIE device under a bridge.

- BOOLEAN EFIAPI CpmDetectDevice (IN VOID *This, IN UINT8 DeviceId, OUT UINT8 *Status)

  Detect the device.

- VOID EFIAPI CpmPowerOnDevice (IN VOID *This, IN UINT8 DeviceId, IN UINT8 State)

  Power On/Off the device.

- UINT8 EFIAPI CpmGetDeviceConfig (IN VOID *This, IN UINT8 DeviceId)

  Get the config setting of the device.

- EFI_STATUS EFIAPI CpmKbcWaitInputBufferEmpty (IN UINT8 BaseAddr)

  Wait KBC Input Buffer Empty.

- EFI_STATUS EFIAPI CpmKbcWaitOutputBufferFull (IN UINT8 BaseAddr)

  Wait KBC Output Buffer Full.

- EFI_STATUS EFIAPI CpmKbcWaitOutputBufferEmpty (IN UINT8 BaseAddr)

  Wait KBC Output Buffer Empty.

- EFI_STATUS EFIAPI CpmKbcRead (IN UINT8 BaseAddr, IN UINT8 Command, IN UINT8 *Data, OUT UINT8 *Value)

  Read KBC register.

- EFI_STATUS EFIAPI CpmKbcWrite (IN UINT8 BaseAddr, IN UINT8 Command, IN UINT8 *Data)

  Write KBC register.

- VOID EFIAPI CpmRegisterBaseIo (IN VOID *This)

  Register CPM base functions.

5.80.1 Detailed Description

AMD CPM Library for IO Access. Contains interface to the AMD CPM library

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.80.2 Function Documentation

5.80.2.1 UINT8 EFIAPI CpmMmioRead8 (IN UINTN *Address*)

Read an 8-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

Return values:

Register value

Referenced by CpmMmioAnd8(), CpmMmioAndThenOr8(), CpmMmioOr8(), and CpmRegisterBaseIo().

5.80.2.2 UINT8 EFIAPI CpmMmioWrite8 (IN UINTN *Address*, IN UINT8 *Value*)

Write an 8-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

← ***Value*** The value to write to the MMIO register

Referenced by CpmMmioAnd8(), CpmMmioAndThenOr8(), CpmMmioOr8(), and CpmRegisterBaseIo().

5.80.2.3 UINT16 EFIAPI CpmMmioRead16 (IN UINTN *Address*)

Read a 16-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

Return values:

Register value

Referenced by CpmMmioAnd16(), CpmMmioAndThenOr16(), CpmMmioOr16(), and CpmRegisterBaseIo().

5.80.2.4 UINT16 EFIAPI CpmMmioWrite16 (IN UINTN *Address*, IN UINT16 *Value*)

Write a 16-bit MMIO register.

Parameters:

← ***Address*** The MMIO register to read

← ***Value*** The value to write to the MMIO register

Referenced by CpmMmioAnd16(), CpmMmioAndThenOr16(), CpmMmioOr16(), and CpmRegisterBaseIo().

5.80.2.5 UINT32 EFIAPI CpmMmioRead32 (IN UINTN *Address*)

Read a 32-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

Return values:

Register value

Referenced by CpmMmioAnd32(), CpmMmioAndThenOr32(), CpmMmioOr32(), and CpmRegisterBaseIo().

5.80.2.6 UINT32 EFIAPI CpmMmioWrite32 (IN UINTN *Address*, IN UINT32 *Value*)

Write a 32-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

← ***Value*** The value to write to the MMIO register

Referenced by CpmMmioAnd32(), CpmMmioAndThenOr32(), CpmMmioOr32(), and CpmRegisterBaseIo().

5.80.2.7 UINT64 EFIAPI CpmMmioRead64 (IN UINTN *Address*)

Read a 64-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

Return values:

Register value

Referenced by CpmMmioAnd64(), CpmMmioAndThenOr64(), and CpmMmioOr64().

5.80.2.8 UINT64 EFIAPI CpmMmioWrite64 (IN UINTN *Address*, IN UINT64 *Value*)

Write a 64-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

← ***Value*** The value to write to the MMIO register

Referenced by CpmMmioAnd64(), CpmMmioAndThenOr64(), and CpmMmioOr64().

5.80.2.9 UINT8 EFIAPI CpmMmioOr8 (IN UINTN *Address*, IN UINT8 *OrData*)

Reads an 8-bit MMIO register, performs a bitwise inclusive OR, and writes the result back to the 8-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

← ***OrData*** The value to OR with the read value from the MMIO register.

References CpmMmioRead8(), and CpmMmioWrite8().

Referenced by CpmRegisterBaseIo().

5.80.2.10 UINT8 EFIAPI CpmMmioAnd8 (IN UINTN *Address*, IN UINT8 *AndData*)

Reads an 8-bit MMIO register, performs a bitwise AND, and writes the result back to the 16-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

← ***AndData*** The value to AND with the read value from the MMIO register.

References CpmMmioRead8(), and CpmMmioWrite8().

Referenced by CpmRegisterBaseIo().

5.80.2.11 UINT8 EFIAPI CpmMmioAndThenOr8 (IN UINTN *Address*, IN UINT8 *AndData*, IN UINT8 *OrData*)

Reads a 16-bit MMIO register, performs a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the 16-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

← ***AndData*** The value to AND with the read value from the MMIO register.

← ***OrData*** The value to OR with the read value from the MMIO register.

References CpmMmioRead8(), and CpmMmioWrite8().

Referenced by CpmRegisterBaseIo().

5.80.2.12 UINT16 EFIAPI CpmMmioOr16 (IN UINTN *Address*, IN UINT16 *OrData*)

Reads a 16-bit MMIO register, performs a bitwise inclusive OR, and writes the result back to the 16-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

← ***OrData*** The value to OR with the read value from the MMIO register.

References CpmMmioRead16(), and CpmMmioWrite16().

Referenced by CpmRegisterBaseIo().

5.80.2.13 UINT16 EFIAPI CpmMmioAnd16 (IN UINTN *Address*, IN UINT16 *AndData*)

Reads a 16-bit MMIO register, performs a bitwise AND, and writes the result back to the 16-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

← ***AndData*** The value to AND with the read value from the MMIO register.

References CpmMmioRead16(), and CpmMmioWrite16().

Referenced by CpmRegisterBaseIo().

5.80.2.14 UINT16 EFIAPI CpmMmioAndThenOr16 (IN UINTN *Address*, IN UINT16 *AndData*, IN UINT16 *OrData*)

Reads a 16-bit MMIO register, performs a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the 16-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

← ***AndData*** The value to AND with the read value from the MMIO register.

← ***OrData*** The value to OR with the read value from the MMIO register.

References CpmMmioRead16(), and CpmMmioWrite16().

Referenced by CpmRegisterBaseIo().

5.80.2.15 UINT32 EFIAPI CpmMmioOr32 (IN UINTN *Address*, IN UINT32 *OrData*)

Reads a 32-bit MMIO register, performs a bitwise inclusive OR, and writes the result back to the 32-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

← ***OrData*** The value to OR with the read value from the MMIO register.

References CpmMmioRead32(), and CpmMmioWrite32().

Referenced by CpmRegisterBaseIo().

5.80.2.16 UINT32 EFIAPI CpmMmioAnd32 (IN UINTN *Address*, IN UINT32 *AndData*)

Reads a 32-bit MMIO register, performs a bitwise AND, and writes the result back to the 32-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

← ***AndData*** The value to AND with the read value from the MMIO register.

References CpmMmioRead32(), and CpmMmioWrite32().

Referenced by CpmRegisterBaseIo().

5.80.2.17 UINT32 EFIAPI CpmMmioAndThenOr32 (IN UINTN *Address*, IN UINT32 *AndData*, IN UINT32 *OrData*)

Reads a 32-bit MMIO register, performs a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the 32-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

← ***AndData*** The value to AND with the read value from the MMIO register.

← ***OrData*** The value to OR with the read value from the MMIO register.

References CpmMmioRead32(), and CpmMmioWrite32().

Referenced by CpmRegisterBaseIo().

5.80.2.18 UINT64 EFIAPI CpmMmioOr64 (IN UINTN *Address*, IN UINT64 *OrData*)

Reads a 64-bit MMIO register, performs a bitwise inclusive OR, and writes the result back to the 64-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

← ***OrData*** The value to OR with the read value from the MMIO register.

References CpmMmioRead64(), and CpmMmioWrite64().

5.80.2.19 UINT64 EFIAPI CpmMmioAnd64 (IN UINTN *Address*, IN UINT64 *AndData*)

Reads a 64-bit MMIO register, performs a bitwise AND, and writes the result back to the 64-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

← ***AndData*** The value to AND with the read value from the MMIO register.

References CpmMmioRead64(), and CpmMmioWrite64().

5.80.2.20 UINT64 EFIAPI CpmMmioAndThenOr64 (IN UINTN *Address*, IN UINT64 *AndData*, IN UINT64 *OrData*)

Reads a 64-bit MMIO register, performs a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the 64-bit MMIO register.

Parameters:

← ***Address*** The MMIO register address

← ***AndData*** The value to AND with the read value from the MMIO register.

← ***OrData*** The value to OR with the read value from the MMIO register.

References CpmMmioRead64(), and CpmMmioWrite64().

5.80.2.21 VOID EFIAPI CpmPostCode (IN UINT32 *Postcode*)

Output a post code.

Parameters:

← ***Postcode*** The post code to write

Referenced by CpmAddTable(), CpmAdjustTableList(), CpmGenerateTableList(), CpmRegisterBaseIo(), and CpmSearchAndUpdateTable().

5.80.2.22 UINT8 EFIAPI CpmPciRead8 (IN VOID * *This*, IN UINT8 *Bus*, IN UINT8 *Device*, IN UINT8 *Function*, IN UINT16 *Offset*)

Read an 8-bit PCI register.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***Bus*** The bus number of PCI device

← ***Device*** The device number of PCI device

← ***Function*** The function number of PCI device

← ***Offset*** The offset of PCI register

Return values:

PCI register value

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_-PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioRead8, and AMD_CPM_MAIN_-TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.23 UINT16 EFIAPI CpmPciRead16 (IN VOID * *This*, IN UINT8 *Bus*, IN UINT8 *Device*, IN UINT8 *Function*, IN UINT16 *Offset*)

Read a 16-bit PCI register.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***Bus*** The bus number of PCI device

← ***Device*** The device number of PCI device

← ***Function*** The function number of PCI device

← ***Offset*** The offset of PCI register

Return values:

PCI register value

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_-PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioRead16, and AMD_CPM_MAIN_-TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.24 UINT32 EFIAPI CpmPciRead32 (IN VOID * *This*, IN UINT8 *Bus*, IN UINT8 *Device*, IN UINT8 *Function*, IN UINT16 *Offset*)

Read a 32-bit PCI register.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***Bus*** The bus number of PCI device

← ***Device*** The device number of PCI device

← ***Function*** The function number of PCI device

← ***Offset*** The offset of PCI register

Return values:

PCI register value

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_-PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioRead32, and AMD_CPM_MAIN_-TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.25 VOID EFIAPI CpmPciWrite8 (IN VOID * *This*, IN UINT8 *Bus*, IN UINT8 *Device*, IN UINT8 *Function*, IN UINT16 *Offset*, IN UINT8 *Data*)

Write an 8-bit PCI register.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***Bus*** The bus number of PCI device

← ***Device*** The device number of PCI device

← ***Function*** The function number of PCI device

← ***Offset*** The offset of PCI register

← ***Data*** The value to write

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioWrite8, and AMD_CPM_MAIN_TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.26 VOID EFIAPI CpmPciWrite16 (IN VOID * *This*, IN UINT8 *Bus*, IN UINT8 *Device*, IN UINT8 *Function*, IN UINT16 *Offset*, IN UINT16 *Data*)

Write a 16-bit PCI register.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***Bus*** The bus number of PCI device

← ***Device*** The device number of PCI device

← ***Function*** The function number of PCI device

← ***Offset*** The offset of PCI register

← ***Data*** The value to write

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioWrite16, and AMD_CPM_MAIN_TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.27 VOID EFIAPI CpmPciWrite32 (IN VOID * *This*, IN UINT8 *Bus*, IN UINT8 *Device*, IN UINT8 *Function*, IN UINT16 *Offset*, IN UINT32 *Data*)

Write a 32-bit PCI register.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***Bus*** The bus number of PCI device
← ***Device*** The device number of PCI device
← ***Function*** The function number of PCI device
← ***Offset*** The offset of PCI register
← ***Data*** The value to write

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioWrite32, and AMD_CPM_MAIN_TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.28 VOID EFIAPI CpmPciAnd8 (IN VOID * *This*, IN UINT8 *Bus*, IN UINT8 *Device*, IN UINT8 *Function*, IN UINT16 *Offset*, IN UINT8 *AndData*)

Reads an 8-bit PCI register, performs a bitwise AND and writes the result back to the 8-bit PCI register.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol
← ***Bus*** The bus number of PCI device
← ***Device*** The device number of PCI device
← ***Function*** The function number of PCI device
← ***Offset*** The offset of PCI register
← ***AndData*** The value to AND with the read value from the PCI register.

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioAnd8, and AMD_CPM_MAIN_TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.29 VOID EFIAPI CpmPciAnd16 (IN VOID * *This*, IN UINT8 *Bus*, IN UINT8 *Device*, IN UINT8 *Function*, IN UINT16 *Offset*, IN UINT16 *AndData*)

Reads a 16-bit PCI register, performs a bitwise AND and writes the result back to the 16-bit PCI register.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol
← ***Bus*** The bus number of PCI device
← ***Device*** The device number of PCI device
← ***Function*** The function number of PCI device
← ***Offset*** The offset of PCI register
← ***AndData*** The value to AND with the read value from the PCI register.

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioAnd16, and AMD_CPM_MAIN_TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.30 VOID EFIAPI CpmPciAnd32 (IN VOID * *This*, IN UINT8 *Bus*, IN UINT8 *Device*, IN UINT8 *Function*, IN UINT16 *Offset*, IN UINT32 *AndData*)

Reads a 32-bit PCI register, performs a bitwise AND and writes the result back to the 32-bit PCI register.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***Bus*** The bus number of PCI device

← ***Device*** The device number of PCI device

← ***Function*** The function number of PCI device

← ***Offset*** The offset of PCI register

← ***AndData*** The value to AND with the read value from the PCI register.

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioAnd32, and AMD_CPM_MAIN_TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.31 VOID EFIAPI CpmPciOr8 (IN VOID * *This*, IN UINT8 *Bus*, IN UINT8 *Device*, IN UINT8 *Function*, IN UINT16 *Offset*, IN UINT8 *OrData*)

Reads an 8-bit PCI register, performs a bitwise OR and writes the result back to the 8-bit PCI register.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***Bus*** The bus number of PCI device

← ***Device*** The device number of PCI device

← ***Function*** The function number of PCI device

← ***Offset*** The offset of PCI register

← ***OrData*** The value to OR with the read value from the PCI register.

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioOr8, and AMD_CPM_MAIN_TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.32 VOID EFIAPI CpmPciOr16 (IN VOID * *This*, IN UINT8 *Bus*, IN UINT8 *Device*, IN UINT8 *Function*, IN UINT16 *Offset*, IN UINT16 *OrData*)

Reads a 16-bit PCI register, performs a bitwise OR and writes the result back to the 16-bit PCI register.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***Bus*** The bus number of PCI device

← ***Device*** The device number of PCI device

← ***Function*** The function number of PCI device

← ***Offset*** The offset of PCI register

← ***OrData*** The value to OR with the read value from the PCI register.

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_-PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioOr16, and AMD_CPM_MAIN_-TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.33 VOID EFIAPI CpmPciOr32 (IN VOID * *This*, IN UINT8 *Bus*, IN UINT8 *Device*, IN UINT8 *Function*, IN UINT16 *Offset*, IN UINT32 *OrData*)

Reads a 32-bit PCI register, performs a bitwise OR and writes the result back to the 32-bit PCI register.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***Bus*** The bus number of PCI device

← ***Device*** The device number of PCI device

← ***Function*** The function number of PCI device

← ***Offset*** The offset of PCI register

← ***OrData*** The value to OR with the read value from the PCI register.

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_-PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioOr32, and AMD_CPM_MAIN_-TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.34 VOID EFIAPI CpmPciAndThenOr8 (IN VOID * *This*, IN UINT8 *Bus*, IN UINT8 *Device*, IN UINT8 *Function*, IN UINT16 *Offset*, IN UINT8 *AndData*, IN UINT8 *OrData*)

Reads an 8-bit PCI register, performs a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the 8-bit PCI register.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***Bus*** The bus number of PCI device

← ***Device*** The device number of PCI device

← ***Function*** The function number of PCI device

← ***Offset*** The offset of PCI register

← ***AndData*** The value to AND with the read value from the PCI register.

← ***OrData*** The value to OR with the read value from the PCI register.

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioAndThenOr8, and AMD_CPM_MAIN_TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.35 VOID EFIAPI CpmPciAndThenOr16 (IN VOID * *This*, IN UINT8 *Bus*, IN UINT8 *Device*, IN UINT8 *Function*, IN UINT16 *Offset*, IN UINT16 *AndData*, IN UINT16 *OrData*)

Reads a 16-bit PCI register, performs a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the 16-bit PCI register.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***Bus*** The bus number of PCI device

← ***Device*** The device number of PCI device

← ***Function*** The function number of PCI device

← ***Offset*** The offset of PCI register

← ***AndData*** The value to AND with the read value from the PCI register.

← ***OrData*** The value to OR with the read value from the PCI register.

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioAndThenOr16, and AMD_CPM_MAIN_TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.36 VOID EFIAPI CpmPciAndThenOr32 (IN VOID * *This*, IN UINT8 *Bus*, IN UINT8 *Device*, IN UINT8 *Function*, IN UINT16 *Offset*, IN UINT32 *AndData*, IN UINT32 *OrData*)

Reads a 32-bit PCI register, performs a bitwise AND followed by a bitwise inclusive OR, and writes the result back to the 32-bit PCI register.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***Bus*** The bus number of PCI device

← ***Device*** The device number of PCI device

← ***Function*** The function number of PCI device

← ***Offset*** The offset of PCI register

← ***AndData*** The value to AND with the read value from the PCI register.

← ***OrData*** The value to OR with the read value from the PCI register.

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioAndThenOr32, and AMD_CPM_MAIN_TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.37 UINT8 EFIAPI CpmCheckPcieDevice (IN VOID * *This*, IN UINT8 *Device*, IN UINT8 *Function*)

Check Whether there is a PCIE device under a bridge.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***Device*** The device number of PCIe bridge

← ***Function*** The function number of PCIe bridge

Return values:

1 There is PCI device under the bridge

2 There is PCI device under the bridge and Clock power managment support is not enabled

3 There is PCI device under the bridge and no Clock power managment capability support

0 There is no PCI device under the bridge

References AMD_CPM_TABLE_PPI::CommonFunction, AMD_CPM_TABLE_PPI::MainTablePtr, AMD_CPM_COMMON_FUNCTION::MmioRead32, AMD_CPM_COMMON_FUNCTION::MmioRead8, AMD_CPM_COMMON_FUNCTION::MmioWrite8, and AMD_CPM_MAIN_TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterBaseIo().

5.80.2.38 BOOLEAN EFIAPI CpmDetectDevice (IN VOID * *This*, IN UINT8 *DeviceId*, OUT UINT8 * *Status*)

Detect the device.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***DeviceId*** The device Id

→ ***Status*** The status of detection bits

Return values:

TRUE Device is found

FALSE Device is not found

References AMD_CPM_TABLE_PPI::CommonFunction, CPM_SIGNATURE_GPIO_DEVICE_DETECTION, AMD_CPM_GPIO_DEVICE_DETECTION_TABLE::DeviceDetectionList, AMD_CPM_GPIO_DEVICE_DETECTION::DeviceId, AMD_CPM_COMMON_FUNCTION::GetGpio,

AMD_CPM_COMMON_FUNCTION::GetTablePtr, AMD_CPM_GPIO_DEVICE_-DETECTION::PinNum1, AMD_CPM_GPIO_DEVICE_DETECTION::PinNum2, AMD_CPM_-GPIO_DEVICE_DETECTION::PinNum3, AMD_CPM_GPIO_DEVICE_DETECTION::Type, AMD_-CPM_GPIO_DEVICE_DETECTION::Value1, AMD_CPM_GPIO_DEVICE_DETECTION::Value2, and AMD_CPM_GPIO_DEVICE_DETECTION::Value3.

Referenced by CpmRegisterBaseIo().

5.80.2.39 VOID EFIAPI CpmPowerOnDevice (IN VOID * *This*, IN UINT8 *DeviceId*, IN UINT8 *State*)

Power On/Off the device.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***DeviceId*** The device Id

← ***State*** 0: Power Off. 1: Power On

References AMD_CPM_GPIO_DEVICE_POWER::Config, CPM_SIGNATURE_GPIO_DEVICE_-POWER, AMD_CPM_GPIO_DEVICE_POWER::DeviceId, AMD_CPM_GPIO_DEVICE_POWER_-TABLE::DevicePowerList, AMD_CPM_GPIO_DEVICE_POWER::Mode, AMD_CPM_GPIO_PIN::Pin, AMD_CPM_GPIO_DEVICE_POWER::SetGpio, AMD_CPM_GPIO_DEVICE_POWER::Stall, AMD_-CPM_GPIO_DEVICE_POWER::Type, AMD_CPM_GPIO_PIN::Value, and AMD_CPM_GPIO_-DEVICE_POWER::WaitGpio.

Referenced by CpmRegisterBaseIo().

5.80.2.40 UINT8 EFIAPI CpmGetDeviceConfig (IN VOID * *This*, IN UINT8 *DeviceId*)

Get the config setting of the device.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

← ***DeviceId*** The device Id

Return values:

0 Device off

1 Device on

References AMD_CPM_GPIO_DEVICE_CONFIG::Config, CPM_SIGNATURE_GPIO_DEVICE_-CONFIG, AMD_CPM_GPIO_DEVICE_CONFIG::DeviceId, AMD_CPM_GPIO_DEVICE_CONFIG_-TABLE::DeviceList, and AMD_CPM_GPIO_DEVICE_CONFIG::Setting.

Referenced by CpmRegisterBaseIo().

5.80.2.41 EFI_STATUS EFIAPI CpmKbcWaitInputBufferEmpty (IN UINT8 *BaseAddr*)

Wait KBC Input Buffer Empty.

Parameters:

← ***BaseAddr*** Base address of KBC or EC register

Return values:

EFI_SUCCESS Input buffer has been empty successfully

EFI_ERROR Empty input buffer failed (see error for more details)

Referenced by CpmKbcRead(), and CpmKbcWrite().

5.80.2.42 EFI_STATUS EFIAPI CpmKbcWaitOutputBufferFull (IN UINT8 *BaseAddr*)

Wait KBC Output Buffer Full.

Parameters:

← ***BaseAddr*** Base address of KBC or EC register

Return values:

EFI_SUCCESS Output Buffer has been fulled successfully

EFI_ERROR Full Output Buffer failed (see error for more details)

Referenced by CpmKbcRead().

5.80.2.43 EFI_STATUS EFIAPI CpmKbcWaitOutputBufferEmpty (IN UINT8 *BaseAddr*)

Wait KBC Output Buffer Empty.

Parameters:

← ***BaseAddr*** Base address of KBC or EC register

Return values:

EFI_SUCCESS Output Buffer has been Empty successfully

EFI_ERROR Empty Output Buffer failed (see error for more details)

5.80.2.44 EFI_STATUS EFIAPI CpmKbcRead (IN UINT8 *BaseAddr*, IN UINT8 *Command*, IN UINT8 * *Data*, OUT UINT8 * *Value*)

Read KBC register.

Parameters:

← ***BaseAddr*** Base address of KBC or EC register

← ***Command*** Command to send to KBC controller

← ***Data*** Data to send to KBC controller

← ***Value*** Value to read from KBC controller

Return values:

EFI_SUCCESS Read KBC data successfully

EFI_ERROR Read KBC data failed (see error for more details)

References CpmKbcWaitInputBufferEmpty(), and CpmKbcWaitOutputBufferFull().

Referenced by CpmRegisterBaseIo().

5.80.2.45 EFI_STATUS EFIAPI CpmKbcWrite (IN UINT8 *BaseAddr*, IN UINT8 *Command*, IN UINT8 * *Data*)

Write KBC register.

Parameters:

← ***BaseAddr*** Base address of KBC or EC register

← ***Command*** Command to send to KBC controller

← ***Data*** Data to send to KBC controller

Return values:

EFI_SUCCESS Write KBC controller successfully

EFI_ERROR Write KBC controller failed (see error for more details)

References CpmKbcWaitInputBufferEmpty().

Referenced by CpmRegisterBaseIo().

5.80.2.46 VOID EFIAPI CpmRegisterBaseIo (IN VOID * *This*)

Register CPM base functions.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

References AMD_CPM_COMMON_FUNCTION::CheckPcieDevice, CpmCheckPcieDevice(), CpmDetectDevice(), CpmGetDeviceConfig(), CpmKbcRead(), CpmKbcWrite(), CpmMmioAnd16(), CpmMmioAnd32(), CpmMmioAnd8(), CpmMmioAndThenOr16(), CpmMmioAndThenOr32(), CpmMmioAndThenOr8(), CpmMmioOr16(), CpmMmioOr32(), CpmMmioOr8(), CpmMmioRead16(), CpmMmioRead32(), CpmMmioRead8(), CpmMmioWrite16(), CpmMmioWrite32(), CpmMmioWrite8(), CpmPciAnd16(), CpmPciAnd32(), CpmPciAnd8(), CpmPciAndThenOr16(), CpmPciAndThenOr32(), CpmPciAndThenOr8(), CpmPciOr16(), CpmPciOr32(), CpmPciOr8(), CpmPciRead16(), CpmPciRead32(), CpmPciRead8(), CpmPciWrite16(), CpmPciWrite32(), CpmPciWrite8(), CpmPostCode(), CpmPowerOnDevice(), AMD_CPM_COMMON_FUNCTION::CpuidRead, AMD_CPM_COMMON_FUNCTION::DetectDevice,

AMD_CPM_COMMON_FUNCTION::GetDeviceConfig, AMD_CPM_COMMON_-FUNCTION::IoRead16, AMD_CPM_COMMON_FUNCTION::IoRead32, AMD_CPM_COMMON_-FUNCTION::IoRead8, AMD_CPM_COMMON_FUNCTION::IoWrite16, AMD_CPM_COMMON_-FUNCTION::IoWrite32, AMD_CPM_COMMON_FUNCTION::IoWrite8, AMD_CPM_COMMON_-FUNCTION::KbcRead, AMD_CPM_COMMON_FUNCTION::KbcWrite, AMD_CPM_COMMON_-FUNCTION::MmioAnd16, AMD_CPM_COMMON_FUNCTION::MmioAnd32, AMD_CPM_-COMMON_FUNCTION::MmioAnd8, AMD_CPM_COMMON_FUNCTION::MmioAndThenOr16, AMD_CPM_COMMON_FUNCTION::MmioAndThenOr32, AMD_CPM_COMMON_-FUNCTION::MmioAndThenOr8, AMD_CPM_COMMON_FUNCTION::MmioOr16, AMD_CPM_-COMMON_FUNCTION::MmioOr32, AMD_CPM_COMMON_FUNCTION::MmioOr8, AMD_CPM_-COMMON_FUNCTION::MmioRead16, AMD_CPM_COMMON_FUNCTION::MmioRead32, AMD_-CPM_COMMON_FUNCTION::MmioRead8, AMD_CPM_COMMON_FUNCTION::MmioWrite16, AMD_CPM_COMMON_FUNCTION::MmioWrite32, AMD_CPM_COMMON_-FUNCTION::MmioWrite8, AMD_CPM_COMMON_FUNCTION::MsrRead, AMD_CPM_-COMMON_FUNCTION::MsrWrite, AMD_CPM_COMMON_FUNCTION::PciAnd16, AMD_-CPM_COMMON_FUNCTION::PciAnd32, AMD_CPM_COMMON_FUNCTION::PciAnd8, AMD_CPM_COMMON_FUNCTION::PciAndThenOr16, AMD_CPM_COMMON_-FUNCTION::PciAndThenOr32, AMD_CPM_COMMON_FUNCTION::PciAndThenOr8, AMD_CPM_-COMMON_FUNCTION::PciOr16, AMD_CPM_COMMON_FUNCTION::PciOr32, AMD_CPM_-COMMON_FUNCTION::PciOr8, AMD_CPM_COMMON_FUNCTION::PciRead16, AMD_CPM_-COMMON_FUNCTION::PciRead32, AMD_CPM_COMMON_FUNCTION::PciRead8, AMD_CPM_-COMMON_FUNCTION::PciWrite16, AMD_CPM_COMMON_FUNCTION::PciWrite32, AMD_-CPM_COMMON_FUNCTION::PciWrite8, AMD_CPM_COMMON_FUNCTION::PostCode, AMD_-CPM_COMMON_FUNCTION::PowerOnDevice, and AMD_CPM_COMMON_FUNCTION::ReadTsc.

Referenced by AmdCpmInitDxeEntryPoint(), AmdCpmInitPeimEntryPoint(), and AmdCpmInitSmmEntryPoint().

5.81 NDA/CPM/Library/Proc/Base/AmdCpmBaseIo.h File Reference

AMD CPM Library for IO Access.

Functions

- EFI_STATUS EFIAPI CpmKbcRead (IN UINT8 BaseAddr, IN UINT8 Command, IN UINT8 *Data, OUT UINT8 *Value)

  Read KBC register.

- EFI_STATUS EFIAPI CpmKbcWrite (IN UINT8 BaseAddr, IN UINT8 Command, IN UINT8 *Data)

  Write KBC register.

- VOID EFIAPI CpmRegisterBaseIo (IN VOID *This)

  Register CPM base functions.

5.81.1 Detailed Description

AMD CPM Library for IO Access. Contains interface to the AMD CPM library

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.81.2 Function Documentation

5.81.2.1 EFI_STATUS EFIAPI CpmKbcRead (IN UINT8 *BaseAddr*, IN UINT8 *Command*, IN UINT8 * *Data*, OUT UINT8 * *Value*)

Read KBC register.

Parameters:

← ***BaseAddr*** Base address of KBC or EC register

← ***Command*** Command to send to KBC controller

← ***Data*** Data to send to KBC controller

← ***Value*** Value to read from KBC controller

Return values:

EFI_SUCCESS Read KBC data successfully

EFI_ERROR Read KBC data failed (see error for more details)

References CpmKbcWaitInputBufferEmpty(), and CpmKbcWaitOutputBufferFull().

Referenced by CpmRegisterBaseIo().

5.81.2.2 EFI_STATUS EFIAPI CpmKbcWrite (IN UINT8 *BaseAddr*, IN UINT8 *Command*, IN UINT8 * *Data*)

Write KBC register.

Parameters:

← ***BaseAddr*** Base address of KBC or EC register

← ***Command*** Command to send to KBC controller

← ***Data*** Data to send to KBC controller

Return values:

EFI_SUCCESS Write KBC controller successfully

EFI_ERROR Write KBC controller failed (see error for more details)

References CpmKbcWaitInputBufferEmpty().

Referenced by CpmRegisterBaseIo().

5.81.2.3 VOID EFIAPI CpmRegisterBaseIo (IN VOID * *This*)

Register CPM base functions.

Parameters:

← ***This*** The pointer of CPM Table Ppi or Protocol

References AMD_CPM_COMMON_FUNCTION::CheckPcieDevice, CpmCheckPcieDevice(), CpmDetectDevice(), CpmGetDeviceConfig(), CpmKbcRead(), CpmKbcWrite(), CpmMmioAnd16(), CpmMmioAnd32(), CpmMmioAnd8(), CpmMmioAndThenOr16(), CpmMmioAndThenOr32(), CpmMmioAndThenOr8(), CpmMmioOr16(), CpmMmioOr32(), CpmMmioOr8(), CpmMmioRead16(), CpmMmioRead32(), CpmMmioRead8(), CpmMmioWrite16(), CpmMmioWrite32(), CpmMmioWrite8(), CpmPciAnd16(), CpmPciAnd32(), CpmPciAnd8(), CpmPciAndThenOr16(), CpmPciAndThenOr32(), CpmPciAndThenOr8(), CpmPciOr16(), CpmPciOr32(), CpmPciOr8(), CpmPciRead16(), CpmPciRead32(), CpmPciRead8(), CpmPciWrite16(), CpmPciWrite32(), CpmPciWrite8(), CpmPostCode(), CpmPowerOnDevice(), AMD_CPM_COMMON_FUNCTION::CpuidRead, AMD_CPM_COMMON_FUNCTION::DetectDevice, AMD_CPM_COMMON_FUNCTION::GetDeviceConfig, AMD_CPM_COMMON_FUNCTION::IoRead16, AMD_CPM_COMMON_FUNCTION::IoRead32, AMD_CPM_COMMON_FUNCTION::IoRead8, AMD_CPM_COMMON_FUNCTION::IoWrite16, AMD_CPM_COMMON_FUNCTION::IoWrite32, AMD_CPM_COMMON_FUNCTION::IoWrite8, AMD_CPM_COMMON_FUNCTION::KbcRead, AMD_CPM_COMMON_FUNCTION::KbcWrite, AMD_CPM_COMMON_FUNCTION::MmioAnd16, AMD_CPM_COMMON_FUNCTION::MmioAnd32, AMD_CPM_COMMON_FUNCTION::MmioAnd8, AMD_CPM_COMMON_FUNCTION::MmioAndThenOr16, AMD_CPM_COMMON_FUNCTION::MmioAndThenOr32, AMD_CPM_COMMON_FUNCTION::MmioAndThenOr8, AMD_CPM_COMMON_FUNCTION::MmioOr16, AMD_CPM_COMMON_FUNCTION::MmioOr32, AMD_CPM_COMMON_FUNCTION::MmioOr8, AMD_CPM_COMMON_FUNCTION::MmioRead16, AMD_CPM_COMMON_FUNCTION::MmioRead32, AMD_CPM_COMMON_FUNCTION::MmioRead8, AMD_CPM_COMMON_FUNCTION::MmioWrite16, AMD_CPM_COMMON_FUNCTION::MmioWrite32, AMD_CPM_COMMON_FUNCTION::MmioWrite8, AMD_CPM_COMMON_FUNCTION::MsrRead, AMD_CPM_COMMON_FUNCTION::MsrWrite, AMD_CPM_COMMON_FUNCTION::PciAnd16, AMD_CPM_COMMON_FUNCTION::PciAnd32, AMD_CPM_COMMON_FUNCTION::PciAnd8, AMD_CPM_COMMON_FUNCTION::PciAndThenOr16, AMD_CPM_COMMON_FUNCTION::PciAndThenOr32, AMD_CPM_COMMON_FUNCTION::PciAndThenOr8, AMD_CPM_COMMON_FUNCTION::PciOr16, AMD_CPM_COMMON_FUNCTION::PciOr32, AMD_CPM_COMMON_FUNCTION::PciOr8, AMD_CPM_COMMON_FUNCTION::PciRead16, AMD_CPM_COMMON_FUNCTION::PciRead32, AMD_CPM_COMMON_FUNCTION::PciRead8, AMD_CPM_COMMON_FUNCTION::PciWrite16, AMD_CPM_COMMON_FUNCTION::PciWrite32, AMD_CPM_COMMON_FUNCTION::PciWrite8, AMD_CPM_COMMON_FUNCTION::PostCode, AMD_CPM_COMMON_FUNCTION::PowerOnDevice, and AMD_CPM_COMMON_FUNCTION::ReadTsc.

Referenced by AmdCpmInitDxeEntryPoint(), AmdCpmInitPeimEntryPoint(), and AmdCpmInitSmmEntryPoint().

5.82 NDA/CPM/Library/Proc/Base/AmdCpmBtrDxe.c File Reference

AMD Boot Time Record Protocol Declaration. `#include <AmdCpmBase.h>`

5.82.1 Detailed Description

AMD Boot Time Record Protocol Declaration. Contains code to initialize GUID for Boot Time Record Protocol

File Content Label

project: Common Platform Module *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.83 NDA/CPM/Library/Proc/Base/AmdCpmBtrPei.c File Reference

AMD Boot Time Record PPI, and related functions. `#include <AmdCpmPei.h>`

5.83.1 Detailed Description

AMD Boot Time Record PPI, and related functions. Contains code that initializes the AMD Boot Time Record PPI.

File Content Label

project: Common Platform Module *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.84 NDA/CPM/Library/Proc/Base/AmdCpmBtrSmm.c File Reference

AMD Boot Time Record Protocol Declaration. `#include <AmdCpmBase.h>`

5.84.1 Detailed Description

AMD Boot Time Record Protocol Declaration. Contains code to initialize GUID for Boot Time Record Protocol

File Content Label

project: Common Platform Module *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.85 NDA/CPM/Library/Proc/Base/AmdCpmTable.c File Reference

AMD CPM Library for CPM Table Access. `#include <AmdCpmBase.h>`

`#include <AmdCpmTable.h>`

Functions

- VOID *EFIAPI CpmGetTablePtr (IN VOID *This, IN UINT32 TableId)

  Get the pointer of AMD CPM Table with the required signature.

- VOID *EFIAPI CpmGetTablePtr2 (IN VOID *This, IN UINT32 TableId)

  Get the pointer of AMD CPM Table with the required signature.

- VOID ∗EFIAPI CpmSearchAndUpdateTable (IN VOID ∗This, IN UINT32 TableId, IN UINT8 Flag)

  Get the pointer of AMD CPM Table with the required signature and update the status in the table list.

- UINT16 EFIAPI CpmGetTableSize (IN VOID ∗TablePtr)

  Get the table size.

- VOID EFIAPI CpmGenerateTableList (IN VOID ∗TableListPtr, IN UINT16 PlatformId, IN OUT AMD_CPM_TABLE_LIST ∗TableInHobListPtr)

  Generate CPM Table lists according to which driver to use.

- VOID EFIAPI CpmCopyMem (IN OUT VOID ∗destination, IN VOID ∗source, IN UINTN size)

  Copy a memory block between two buffers.

- VOID ∗EFIAPI CpmCopyTableListToMemory (IN AMD_CPM_TABLE_LIST ∗TableInHobListPtr, IN OUT VOID ∗HobTablePtr)

  Copy CPM table and table list to memory area and return the Main Table Pointer if found.

- AMD_CPM_TABLE_LIST ∗EFIAPI CpmAdjustTableList (IN VOID ∗HobTablePtr)

  Recalculate the size of CPM table.

- VOID EFIAPI CpmRelocateTableList (IN OUT VOID ∗TablePtr)

  Adjust the pointer in CPM tables after it is copied to new area.

- VOID ∗EFIAPI CpmAddTable (IN VOID ∗This, IN VOID ∗TablePtr)

  If there is no CPM table with the same signature to exist, add a new table.

- VOID ∗EFIAPI CpmRemoveTable (IN VOID ∗This, IN VOID ∗TablePtr)

  Disable CPM table with the same signature to be found.

5.85.1 Detailed Description

AMD CPM Library for CPM Table Access. Contains interface to the AMD CPM library

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.85.2 Function Documentation

5.85.2.1 VOID∗ EFIAPI CpmGetTablePtr (IN VOID ∗ *This*, IN UINT32 *TableId*)

Get the pointer of AMD CPM Table with the required signature.

Parameters:

← ***This*** The Pointer of CPM Table Ppi or Protocol

← ***TableId*** CPM Table Signature

Return values:

The pointer of CPM table

References CpmSearchAndUpdateTable().

Referenced by CpmRegisterKernel().

5.85.2.2 VOID* EFIAPI CpmGetTablePtr2 (IN VOID * *This*, IN UINT32 *TableId*)

Get the pointer of AMD CPM Table with the required signature. The table can be rewritable.

Parameters:

← ***This*** The Pointer of CPM Table Ppi or Protocol

← ***TableId*** CPM Table Signature

Return values:

The pointer of CPM table

References CpmSearchAndUpdateTable().

Referenced by CpmRegisterKernel().

5.85.2.3 VOID* EFIAPI CpmSearchAndUpdateTable (IN VOID * *This*, IN UINT32 *TableId*, IN UINT8 *Flag*)

Get the pointer of AMD CPM Table with the required signature and update the status in the table list.

Parameters:

← ***This*** The Pointer of CPM Table Ppi or Protocol

← ***TableId*** CPM Table Signature

← ***Flag*** Table Status to be updated 0: Keep original status 1: Enable the table 2: Disable the table 3: Make the table to re-writable 4: Enable and Make the table to re-writable

Return values:

The pointer of CPM table

References AMD_CPM_HOB_HEADER::BufferItem, AMD_CPM_HOB_HEADER::BufferOffset, AMD_CPM_HOB_HEADER::BufferSize, CpmCopyMem(), CpmPostCode(), AMD_CPM_MAIN_TABLE::CurrentPlatformId, AMD_CPM_TABLE_ITEM::Flag, AMD_CPM_MAIN_TABLE::HobTablePtr, AMD_CPM_TABLE_LIST::Item, AMD_CPM_TABLE_LIST::Number, AMD_CPM_TABLE_COMMON_HEADER::PlatformMask, AMD_CPM_POINTER::Pointer, AMD_CPM_POINTER::Raw, AMD_CPM_TABLE_LIST::Size, AMD_CPM_TABLE_ITEM::SubTable, AMD_CPM_TABLE_ITEM::TableId, AMD_CPM_MAIN_TABLE::TableInHobList, and AMD_CPM_TABLE_COMMON_HEADER::TableSize.

Referenced by CpmAddTable(), CpmGetTablePtr(), CpmGetTablePtr2(), and CpmRemoveTable().

5.85.2.4 UINT16 EFIAPI CpmGetTableSize (IN VOID * *TablePtr*)

Get the table size.

Parameters:

← ***TablePtr*** The Pointer of CPM Table

Return values:

The size of CPM table

Referenced by CpmAdjustTableList(), CpmCopyTableListToMemory(), and CpmGenerateTableList().

5.85.2.5 VOID EFIAPI CpmGenerateTableList (IN VOID * *TableListPtr*, IN UINT16 *PlatformId*, IN OUT AMD_CPM_TABLE_LIST * *TableInHobListPtr*)

Generate CPM Table lists according to which driver to use.

Parameters:

← ***TableListPtr*** CPM table list pointer from CPM OEM driver

← ***PlatformId*** Current Platform Id

← ***TableInHobListPtr*** The Pointer of AMD CPM Table List for the table in HOB

References CPM_OVERRIDE, CPM_PEI, CpmGetTableSize(), CpmPostCode(), and AMD_CPM_-TABLE_COMMON_HEADER::TableSignature.

Referenced by AmdCpmInitPeimEntryPoint().

5.85.2.6 VOID EFIAPI CpmCopyMem (IN OUT VOID * *destination*, IN VOID * *source*, IN UINTN *size*)

Copy a memory block between two buffers.

Parameters:

← ***destination*** The destination buffer address

← ***source*** The source buffer address

← ***size*** The memory size to copy

Referenced by CpmAddTable(), CpmCopyTableListToMemory(), CpmRegisterKernel(), and Cpm-SearchAndUpdateTable().

5.85.2.7 VOID* EFIAPI CpmCopyTableListToMemory (IN AMD_CPM_TABLE_LIST * *TableInHobListPtr*, IN OUT VOID * *HobTablePtr*)

Copy CPM table and table list to memory area and return the Main Table Pointer if found.

Parameters:

← ***TableInHobListPtr*** The Pointer of AMD CPM Table List for the table in HOB

← ***HobTablePtr*** HOB buffer to store CPM table

Return values:

CPM Main Table Pointer if non-zero

References CPM_SIGNATURE_MAIN_TABLE, CpmCopyMem(), and CpmGetTableSize().

Referenced by AmdCpmInitDxeEntryPoint(), and AmdCpmInitPeimEntryPoint().

5.85.2.8 AMD_CPM_TABLE_LIST* EFIAPI CpmAdjustTableList (IN VOID * *HobTablePtr*)

Recalculate the size of CPM table.

Parameters:

← ***HobTablePtr*** HOB buffer to store CPM table

Return values:

Table List Pointer if non-zero

References CpmGetTableSize(), CpmPostCode(), AMD_CPM_MAIN_TABLE::CurrentPlatformId, AMD_CPM_TABLE_ITEM::Flag, AMD_CPM_TABLE_LIST::Header, AMD_CPM_TABLE_LIST::Item, AMD_CPM_HOB_HEADER::MainTablePtr, AMD_CPM_TABLE_LIST::Number, AMD_CPM_TABLE_COMMON_HEADER::PlatformMask, AMD_CPM_POINTER::Pointer, AMD_CPM_POINTER::Raw, AMD_CPM_TABLE_LIST::Size, AMD_CPM_TABLE_ITEM::SubTable, AMD_CPM_TABLE_ITEM::TableId, AMD_CPM_MAIN_TABLE::TableInHobList, and AMD_CPM_TABLE_COMMON_HEADER::TableSize.

Referenced by AmdCpmInitDxeEntryPoint().

5.85.2.9 VOID EFIAPI CpmRelocateTableList (IN OUT VOID * *TablePtr*)

Adjust the pointer in CPM tables after it is copied to new area.

Parameters:

← ***TablePtr*** The Pointer of buffer to store CPM table lists and CPM Table

References AMD_CPM_TABLE_ITEM::Flag, AMD_CPM_HOB_HEADER::HeaderPtr, AMD_CPM_MAIN_TABLE::HobTablePtr, AMD_CPM_TABLE_LIST::Item, AMD_CPM_HOB_HEADER::MainTablePtr, AMD_CPM_TABLE_LIST::Number, AMD_CPM_POINTER::Pointer, AMD_CPM_TABLE_ITEM::SubTable, and AMD_CPM_MAIN_TABLE::TableInHobList.

Referenced by AmdCpmInitDxeEntryPoint(), and CpmRegisterKernel().

5.85.2.10 VOID* EFIAPI CpmAddTable (IN VOID * *This*, IN VOID * *TablePtr*)

If there is no CPM table with the same signature to exist, add a new table. Otherwise, use the new table to replace the orignal one.

Parameters:

← ***This*** The Pointer of CPM Table Ppi or Protocol

← ***TablePtr*** CPM Table to add

Return values:

Original CPM Table with same signature

References AMD_CPM_HOB_HEADER::BufferItem, AMD_CPM_HOB_HEADER::BufferOffset, AMD_CPM_HOB_HEADER::BufferSize, CpmCopyMem(), CpmPostCode(), CpmSearchAndUpdateTable(), AMD_CPM_TABLE_ITEM::Flag, AMD_CPM_MAIN_TABLE::HobTablePtr, AMD_CPM_TABLE_LIST::Item, AMD_CPM_TABLE_LIST::Number, AMD_CPM_POINTER::Pointer, AMD_CPM_POINTER::Raw, AMD_CPM_TABLE_LIST::Size, AMD_CPM_TABLE_ITEM::SubTable, AMD_CPM_TABLE_ITEM::TableId, AMD_CPM_MAIN_TABLE::TableInHobList, AMD_CPM_TABLE_COMMON_HEADER::TableSignature, and AMD_CPM_TABLE_COMMON_HEADER::TableSize.

Referenced by CpmRegisterKernel().

5.85.2.11 VOID* EFIAPI CpmRemoveTable (IN VOID * *This*, IN VOID * *TablePtr*)

Disable CPM table with the same signature to be found.

Parameters:

← ***This*** The Pointer of CPM Table Ppi or Protocol

← ***TablePtr*** CPM Table to add

Return values:

Original CPM Table with same signature

References CpmSearchAndUpdateTable(), and AMD_CPM_TABLE_COMMON_HEADER::TableSignature.

Referenced by CpmRegisterKernel().

5.86 NDA/CPM/Library/Proc/Base/AmdCpmTable.h File Reference

AMD CPM Library for CPM Table Access.

Functions

- VOID *EFIAPI CpmAddTable (IN VOID *This, IN VOID *TablePtr)
  If there is no CPM table with the same signature to exist, add a new table.
- VOID *EFIAPI CpmRemoveTable (IN VOID *This, IN VOID *TablePtr)
  Disable CPM table with the same signature to be found.

- VOID ∗EFIAPI CpmGetTablePtr (IN VOID ∗This, IN UINT32 TableId)
  Get the pointer of AMD CPM Table with the required signature.
- VOID ∗EFIAPI CpmGetTablePtr2 (IN VOID ∗This, IN UINT32 TableId)
  Get the pointer of AMD CPM Table with the required signature.
- UINT16 EFIAPI CpmGetTableSize (IN VOID ∗TablePtr)
  Get the table size.
- VOID EFIAPI CpmCopyMem (IN OUT VOID ∗destination, IN VOID ∗source, IN UINTN size)
  Copy a memory block between two buffers.
- VOID EFIAPI CpmGenerateTableList (IN VOID ∗TableListPtr, IN UINT16 PlatformId, IN OUT AMD_CPM_TABLE_LIST ∗TableInHobListPtr)
  Generate CPM Table lists according to which driver to use.
- VOID ∗EFIAPI CpmCopyTableListToMemory (IN AMD_CPM_TABLE_LIST ∗TableInHobListPtr, IN OUT VOID ∗HobTablePtr)
  Copy CPM table and table list to memory area and return the Main Table Pointer if found.
- VOID EFIAPI CpmRelocateTableList (IN OUT VOID ∗TablePtr)
  Adjust the pointer in CPM tables after it is copied to new area.
- VOID ∗EFIAPI CpmSearchAndUpdateTable (IN VOID ∗This, IN UINT32 TableId, IN UINT8 Flag)
  Get the pointer of AMD CPM Table with the required signature and update the status in the table list.
- VOID EFIAPI CpmPostCode (IN UINT32 Postcode)
  Output a post code.
- AMD_CPM_TABLE_LIST ∗EFIAPI CpmAdjustTableList (IN VOID ∗HobTablePtr)
  Recalculate the size of CPM table.

5.86.1 Detailed Description

AMD CPM Library for CPM Table Access. Contains interface to the AMD CPM library

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.86.2 Function Documentation

5.86.2.1 VOID∗ EFIAPI CpmAddTable (IN VOID ∗ *This*, IN VOID ∗ *TablePtr*)

If there is no CPM table with the same signature to exist, add a new table. Otherwise, use the new table to replace the orignal one.

Parameters:

← ***This*** The Pointer of CPM Table Ppi or Protocol

← ***TablePtr*** CPM Table to add

Return values:

Original CPM Table with same signature

References AMD_CPM_HOB_HEADER::BufferItem, AMD_CPM_HOB_HEADER::BufferOffset, AMD_CPM_HOB_HEADER::BufferSize, CpmCopyMem(), CpmPostCode(), CpmSearchAndUpdateTable(), AMD_CPM_TABLE_ITEM::Flag, AMD_CPM_MAIN_TABLE::HobTablePtr, AMD_CPM_TABLE_LIST::Item, AMD_CPM_TABLE_LIST::Number, AMD_CPM_POINTER::Pointer, AMD_CPM_POINTER::Raw, AMD_CPM_TABLE_LIST::Size, AMD_CPM_TABLE_ITEM::SubTable, AMD_CPM_TABLE_ITEM::TableId, AMD_CPM_MAIN_TABLE::TableInHobList, AMD_CPM_TABLE_COMMON_HEADER::TableSignature, and AMD_CPM_TABLE_COMMON_HEADER::TableSize.

Referenced by CpmRegisterKernel().

5.86.2.2 VOID* EFIAPI CpmRemoveTable (IN VOID * *This*, IN VOID * *TablePtr*)

Disable CPM table with the same signature to be found.

Parameters:

← ***This*** The Pointer of CPM Table Ppi or Protocol

← ***TablePtr*** CPM Table to add

Return values:

Original CPM Table with same signature

References CpmSearchAndUpdateTable(), and AMD_CPM_TABLE_COMMON_HEADER::TableSignature.

Referenced by CpmRegisterKernel().

5.86.2.3 VOID* EFIAPI CpmGetTablePtr (IN VOID * *This*, IN UINT32 *TableId*)

Get the pointer of AMD CPM Table with the required signature.

Parameters:

← ***This*** The Pointer of CPM Table Ppi or Protocol

← ***TableId*** CPM Table Signature

Return values:

The pointer of CPM table

References CpmSearchAndUpdateTable().

Referenced by CpmRegisterKernel().

5.86.2.4 VOID* EFIAPI CpmGetTablePtr2 (IN VOID * *This*, IN UINT32 *TableId*)

Get the pointer of AMD CPM Table with the required signature. The table can be rewritable.

Parameters:

← ***This*** The Pointer of CPM Table Ppi or Protocol

← ***TableId*** CPM Table Signature

Return values:

The pointer of CPM table

References CpmSearchAndUpdateTable().

Referenced by CpmRegisterKernel().

5.86.2.5 UINT16 EFIAPI CpmGetTableSize (IN VOID * *TablePtr*)

Get the table size.

Parameters:

← ***TablePtr*** The Pointer of CPM Table

Return values:

The size of CPM table

Referenced by CpmAdjustTableList(), CpmCopyTableListToMemory(), and CpmGenerateTableList().

5.86.2.6 VOID EFIAPI CpmCopyMem (IN OUT VOID * *destination*, IN VOID * *source*, IN UINTN *size*)

Copy a memory block between two buffers.

Parameters:

← ***destination*** The destination buffer address

← ***source*** The source buffer address

← ***size*** The memory size to copy

Referenced by CpmAddTable(), CpmCopyTableListToMemory(), CpmRegisterKernel(), and CpmSearchAndUpdateTable().

5.86.2.7 VOID EFIAPI CpmGenerateTableList (IN VOID * *TableListPtr*, IN UINT16 *PlatformId*, IN OUT AMD_CPM_TABLE_LIST * *TableInHobListPtr*)

Generate CPM Table lists according to which driver to use.

Parameters:

← ***TableListPtr*** CPM table list pointer from CPM OEM driver

← ***PlatformId*** Current Platform Id

← ***TableInHobListPtr*** The Pointer of AMD CPM Table List for the table in HOB

References CPM_OVERRIDE, CPM_PEI, CpmGetTableSize(), CpmPostCode(), and AMD_CPM_-TABLE_COMMON_HEADER::TableSignature.

Referenced by AmdCpmInitPeimEntryPoint().

5.86.2.8 VOID* EFIAPI CpmCopyTableListToMemory (IN AMD_CPM_TABLE_LIST * *TableInHobListPtr*, IN OUT VOID * *HobTablePtr*)

Copy CPM table and table list to memory area and return the Main Table Pointer if found.

Parameters:

← ***TableInHobListPtr*** The Pointer of AMD CPM Table List for the table in HOB

← ***HobTablePtr*** HOB buffer to store CPM table

Return values:

CPM Main Table Pointer if non-zero

References CPM_SIGNATURE_MAIN_TABLE, CpmCopyMem(), and CpmGetTableSize().

Referenced by AmdCpmInitDxeEntryPoint(), and AmdCpmInitPeimEntryPoint().

5.86.2.9 VOID EFIAPI CpmRelocateTableList (IN OUT VOID * *TablePtr*)

Adjust the pointer in CPM tables after it is copied to new area.

Parameters:

← ***TablePtr*** The Pointer of buffer to store CPM table lists and CPM Table

References AMD_CPM_TABLE_ITEM::Flag, AMD_CPM_HOB_HEADER::HeaderPtr, AMD_-CPM_MAIN_TABLE::HobTablePtr, AMD_CPM_TABLE_LIST::Item, AMD_CPM_HOB_-HEADER::MainTablePtr, AMD_CPM_TABLE_LIST::Number, AMD_CPM_POINTER::Pointer, AMD_CPM_TABLE_ITEM::SubTable, and AMD_CPM_MAIN_TABLE::TableInHobList.

Referenced by AmdCpmInitDxeEntryPoint(), and CpmRegisterKernel().

5.86.2.10 VOID* EFIAPI CpmSearchAndUpdateTable (IN VOID * *This*, IN UINT32 *TableId*, IN UINT8 *Flag*)

Get the pointer of AMD CPM Table with the required signature and update the status in the table list.

Parameters:

← ***This*** The Pointer of CPM Table Ppi or Protocol

← ***TableId*** CPM Table Signature

← ***Flag*** Table Status to be updated 0: Keep original status 1: Enable the table 2: Disable the table 3: Make the table to re-writable 4: Enable and Make the table to re-writable

Return values:

The pointer of CPM table

References AMD_CPM_HOB_HEADER::BufferItem, AMD_CPM_HOB_HEADER::BufferOffset, AMD_CPM_HOB_HEADER::BufferSize, CpmCopyMem(), CpmPostCode(), AMD_CPM_MAIN_TABLE::CurrentPlatformId, AMD_CPM_TABLE_ITEM::Flag, AMD_CPM_MAIN_TABLE::HobTablePtr, AMD_CPM_TABLE_LIST::Item, AMD_CPM_TABLE_LIST::Number, AMD_CPM_TABLE_COMMON_HEADER::PlatformMask, AMD_CPM_POINTER::Pointer, AMD_CPM_POINTER::Raw, AMD_CPM_TABLE_LIST::Size, AMD_CPM_TABLE_ITEM::SubTable, AMD_CPM_TABLE_ITEM::TableId, AMD_CPM_MAIN_TABLE::TableInHobList, and AMD_CPM_TABLE_COMMON_HEADER::TableSize.

Referenced by CpmAddTable(), CpmGetTablePtr(), CpmGetTablePtr2(), and CpmRemoveTable().

5.86.2.11 VOID EFIAPI CpmPostCode (IN UINT32 *Postcode*)

Output a post code.

Parameters:

← ***Postcode*** The post code to write

Referenced by CpmAddTable(), CpmAdjustTableList(), CpmGenerateTableList(), CpmRegisterBaseIo(), and CpmSearchAndUpdateTable().

5.86.2.12 AMD_CPM_TABLE_LIST* EFIAPI CpmAdjustTableList (IN VOID * *HobTablePtr*)

Recalculate the size of CPM table.

Parameters:

← ***HobTablePtr*** HOB buffer to store CPM table

Return values:

Table List Pointer if non-zero

References CpmGetTableSize(), CpmPostCode(), AMD_CPM_MAIN_TABLE::CurrentPlatformId, AMD_CPM_TABLE_ITEM::Flag, AMD_CPM_TABLE_LIST::Header, AMD_CPM_TABLE_LIST::Item, AMD_CPM_HOB_HEADER::MainTablePtr, AMD_CPM_TABLE_LIST::Number, AMD_CPM_TABLE_COMMON_HEADER::PlatformMask, AMD_CPM_POINTER::Pointer, AMD_CPM_POINTER::Raw, AMD_CPM_TABLE_LIST::Size, AMD_CPM_TABLE_ITEM::SubTable, AMD_CPM_TABLE_ITEM::TableId, AMD_CPM_MAIN_TABLE::TableInHobList, and AMD_CPM_TABLE_COMMON_HEADER::TableSize.

Referenced by AmdCpmInitDxeEntryPoint().

5.87 NDA/CPM/Library/Proc/Cpu/AmdCpmCpu.c File Reference

AMD CPM Library for Common CPU/APU Function. `#include <AmdCpmBase.h>`

`#include <OptionCpuInstall.h>`

Functions

- UINT32 CpmGetSbTsiAddr (IN VOID *This)
  Get SBI (Sideband Interface) Address in PCI MMIO Base.
- BOOLEAN CpmIsThermalSupport (IN VOID *This)
  Check whether thermal function is enabled in current CPU or APU.
- CPU_REVISION_ITEM * CpmGetCpuRevisionItem (IN VOID *This)
  Check whether thermal function is enabled in current CPU or APU.
- PCIE_BRIDGE_NAME * CpmGetPcieBridgeNameTable (IN VOID *This)
  Get Current PCIe Bridge Name Table.
- UINT32 CpmGetPcieAslName (IN VOID *This, IN UINT8 Device, IN UINT8 Function)
  Get PCIe Bridge Name in ASL code.
- UINT8 CpmGetCpuRevisionId (IN VOID *This)
  Get CPU Revision Id.
- BOOLEAN CpmIsUmi (IN VOID *This, IN UINT8 Device, IN UINT8 Function)
  Is the device for UMI link.
- VOID EFIAPI CpmRegisterCpu (IN VOID *This)
  Register CPM Common CPU Function.

5.87.1 Detailed Description

AMD CPM Library for Common CPU/APU Function. Contains interface to the AMD CPM library

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.87.2 Function Documentation

5.87.2.1 UINT32 CpmGetSbTsiAddr (IN VOID * *This*)

Get SBI (Sideband Interface) Address in PCI MMIO Base.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

Return values:

SBI Address

References AMD_CPM_MAIN_TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterCpu().

5.87.2.2 BOOLEAN CpmIsThermalSupport (IN VOID * *This*)

Check whether thermal function is enabled in current CPU or APU.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

Return values:

TRUE Both of ThermtpEn and HtcCapable are enabled FALSE Either of ThermtpEn or HtcCapable is not enabled

References AMD_CPM_TABLE_PPI::CommonFunction, and AMD_CPM_COMMON_-FUNCTION::PciRead32.

Referenced by CpmRegisterCpu().

5.87.2.3 CPU_REVISION_ITEM* CpmGetCpuRevisionItem (IN VOID * *This*)

Check whether thermal function is enabled in current CPU or APU.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

Return values:

The CPU Revision Item for current platform

References AMD_CPM_COMMON_FUNCTION::CpuidRead, CPU_REVISION_ITEM::CpuRevision, CPU_REVISION_ITEM::Mask, and CPU_REVISION_ITEM::Value.

Referenced by CpmGetCpuRevisionId(), and CpmGetPcieBridgeNameTable().

5.87.2.4 PCIE_BRIDGE_NAME* CpmGetPcieBridgeNameTable (IN VOID * *This*)

Get Current PCIe Bridge Name Table.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

Return values:

The PCIe Bridge Name Table

References CpmGetCpuRevisionItem(), and CPU_REVISION_ITEM::PcieRevision.

Referenced by CpmGetPcieAslName().

5.87.2.5 UINT32 CpmGetPcieAslName (IN VOID * *This*, IN UINT8 *Device*, IN UINT8 *Function*)

Get PCIe Bridge Name in ASL code.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Device*** The PCI Device Number of PCIe Bridge

← ***Function*** The PCI Function Number of PCIe Bridge

Return values:

The PCIe Bridge Name in ASL code

References CpmGetPcieBridgeNameTable(), PCIE_BRIDGE_NAME::Device, PCIE_BRIDGE_NAME::Function, PCIE_BRIDGE_NAME::Name, and PCIE_BRIDGE_NAME::NameId.

Referenced by CpmRegisterCpu().

5.87.2.6 UINT8 CpmGetCpuRevisionId (IN VOID * *This*)

Get CPU Revision Id.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

Return values:

The CPU Revision Id

References CpmGetCpuRevisionItem(), and CPU_REVISION_ITEM::CpuRevision.

Referenced by CpmIsUmi(), and CpmRegisterCpu().

5.87.2.7 BOOLEAN CpmIsUmi (IN VOID * *This*, IN UINT8 *Device*, IN UINT8 *Function*)

Is the device for UMI link.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Device*** The PCI Device Number of PCIe Bridge

← ***Function*** The PCI Function Number of PCIe Bridge

Return values:

TRUE Is the device for UMI link FALSE Is not the device for UMI link

References CPM_CPU_REVISION_ID_CZ, and CpmGetCpuRevisionId().

Referenced by CpmRegisterCpu().

5.87.2.8 VOID EFIAPI CpmRegisterCpu (IN VOID * *This*)

Register CPM Common CPU Function.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

References CpmGetCpuRevisionId(), CpmGetPcieAslName(), CpmGetSbTsiAddr(), CpmIsThermalSupport(), CpmIsUmi(), AMD_CPM_COMMON_FUNCTION::GetCpuRevisionId, AMD_CPM_COMMON_FUNCTION::GetPcieAslName, AMD_CPM_COMMON_FUNCTION::GetSbTsiAddr, AMD_CPM_COMMON_FUNCTION::IsThermalSupport, AMD_CPM_COMMON_FUNCTION::IsUmi, AMD_CPM_COMMON_FUNCTION::MsrRead, and AMD_CPM_MAIN_TABLE::PcieMemIoBaseAddr.

Referenced by AmdCpmInitDxeEntryPoint(), AmdCpmInitPeimEntryPoint(), and AmdCpmInitSmmEntryPoint().

5.88 NDA/CPM/Library/Proc/Cpu/AmdCpmCpu.h File Reference

AMD CPM Library for Common CPU/APU Function.

Functions

- UINT32 CpmGetSbTsiAddr (IN VOID *This)
  Get SBI (Sideband Interface) Address in PCI MMIO Base.
- VOID EFIAPI CpmRegisterCpu (IN VOID *This)
  Register CPM Common CPU Function.

5.88.1 Detailed Description

AMD CPM Library for Common CPU/APU Function. Contains interface to the AMD CPM library

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.88.2 Function Documentation

5.88.2.1 UINT32 CpmGetSbTsiAddr (IN VOID * *This*)

Get SBI (Sideband Interface) Address in PCI MMIO Base.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

Return values:

SBI Address

References AMD_CPM_MAIN_TABLE::PcieMemIoBaseAddr.

Referenced by CpmRegisterCpu().

5.88.2.2 VOID EFIAPI CpmRegisterCpu (IN VOID * *This*)

Register CPM Common CPU Function.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

References CpmGetCpuRevisionId(), CpmGetPcieAslName(), CpmGetSbTsiAddr(), CpmIsThermalSupport(), CpmIsUmi(), AMD_CPM_COMMON_FUNCTION::GetCpuRevisionId, AMD_CPM_COMMON_FUNCTION::GetPcieAslName, AMD_CPM_COMMON_FUNCTION::GetSbTsiAddr, AMD_CPM_COMMON_FUNCTION::IsThermalSupport, AMD_CPM_COMMON_FUNCTION::IsUmi, AMD_CPM_COMMON_FUNCTION::MsrRead, and AMD_CPM_MAIN_TABLE::PcieMemIoBaseAddr.

Referenced by AmdCpmInitDxeEntryPoint(), AmdCpmInitPeimEntryPoint(), and AmdCpmInitSmmEntryPoint().

5.89 NDA/CPM/Library/Proc/Fch/AmdCpmFch.c File Reference

AMD CPM Library for Common FCH Function. `#include <AmdCpmBase.h>`

`#include <AmdCpmBaseIo.h>`

Functions

- UINT8 CpmFchGetGpio (IN VOID *This, IN UINT16 Pin)

  Get the State of FCH GPIO Pin.

- UINT8 CpmKbcGetGpio (IN VOID *This, IN UINT16 Pin)

  Get the State of KBC GPIO Pin on reference board.

- UINT8 CpmGetGpio (IN VOID *This, IN UINT16 Pin)

Get the State of GPIO Pin.

- VOID CpmFchSetGpio (IN VOID *This, IN UINT16 Pin, IN UINT16 Value)
  Set FCH GPIO Pin.
- VOID CpmKbcSetGpio (IN VOID *This, IN UINT16 Pin, IN UINT16 Value)
  Set KBC GPIO Pin on Reference Board.
- VOID CpmSetGpio (IN VOID *This, IN UINT16 Pin, IN UINT16 Value)
  Set GPIO Pin.
- UINT8 CpmGetGevent (IN VOID *This, IN UINT8 Pin)
  Get the State of GEVENT Pin.
- VOID CpmSetGevent (IN VOID *This, IN UINT16 Pin, IN UINT16 Value)
  Set the State of GEVENT Pin.
- VOID CpmSetSmiControl (IN VOID *This, IN UINT8 Pin, IN UINT16 Value)
  Set SMI Control for GEVENT Pin.
- VOID CpmSetGeventSciTrig (IN VOID *This, IN UINT8 Pin, IN UINT8 Value)
  Set the way to set corresponding bit in Event Status.
- VOID CpmSetGeventSci (IN VOID *This, IN UINT8 Pin)
  Trigger a GEVENT SCI interrupt.
- UINT8 CpmGetFchRevisionId (IN VOID *This)
  Get FCH Revision Id.
- UINT32 CpmGetStrap (IN VOID *This)
  Get FCH Strap Setting.
- VOID CpmSetClkReq (IN VOID *This, IN UINT8 ClkId, IN UINT8 ClkReq)
  Set FCH ClkReq.
- VOID CpmStall (IN VOID *This, IN UINT32 Delay)
  Add some delay in 1us/unit.
- VOID CpmSetFanOn (IN VOID *This, IN UINT8 Fan)
  Set Fan On.
- VOID CpmSetProchot (IN VOID *This, IN UINT8 Enable, IN UINT8 Fan, IN UINT8 Freq)
  Set ProcHot.
- UINT8 CpmGetSataMode (IN VOID *This)
  Get Current SATA Mode.
- BOOLEAN EFIAPI CpmIsFchDevice (IN VOID *This, IN UINT8 Device, IN UINT8 Function)
  Check whether the device is in FCH.

- UINT32 CpmGetFchPcieAslName (IN VOID *This, IN UINT8 Device, IN UINT8 Function)
  Get FCH PCIe Bridge Name in ASL Code.
- UINT8 CpmGetSciMap (IN VOID *This, IN UINT8 GeventPin)
  Get the Mapping Bit Number of GEVENT pin in Event Status.
- UINT8 CpmGetBootMode ()
  Get Current Boot Mode.
- BOOLEAN EFIAPI CpmIsRtcWakeup (IN VOID *This)
  Check whether it is a RTC wake up.
- UINT8 EFIAPI CpmGetRtc (IN VOID *This, IN UINT8 Index)
  Read RTC register.
- VOID EFIAPI CpmSetRtc (IN VOID *This, IN UINT8 Index, IN UINT8 Value)
  Write RTC register.
- UINT8 EFIAPI CpmGetAcpi (IN VOID *This, IN UINT8 Index)
  Read ACPI register.
- VOID EFIAPI CpmSetAcpi (IN VOID *This, IN UINT8 Index, IN UINT8 Value)
  Write ACPI register.
- UINT8 EFIAPI CpmGetSaveContext (IN VOID *This, IN UINT8 Offset)
  Read the data from Save Context Area.
- VOID EFIAPI CpmSetSaveContext (IN VOID *This, IN UINT8 Offset, IN UINT8 Data)
  Write the data to Save Context Area.
- VOID EFIAPI CpmRegisterFch (IN VOID *This)
  Register CPM Common FCH Function.

5.89.1 Detailed Description

AMD CPM Library for Common FCH Function. Contains interface to the AMD CPM library

File Content Label

project: CPM *sub-project*: Library *$Revision:* 289766 $ *$Date:* 2014-04-15 09:44:01 -0500 (Tue, 15 Apr 2014) $

5.89.2 Function Documentation

5.89.2.1 UINT8 CpmFchGetGpio (IN VOID * *This*, IN UINT16 *Pin*)

Get the State of FCH GPIO Pin.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Pin*** The GPIO Pin Number

Return values:

The State of GPIO Pin

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, CPM_FCH_REVISION_ID_CZ, CPM_FCH_REVISION_ID_DEFAULT, CPM_FCH_REVISION_ID_KB, CPM_FCH_REVISION_ID_-ML, and AMD_CPM_COMMON_FUNCTION::MmioRead8.

Referenced by CpmGetGpio().

5.89.2.2 UINT8 CpmKbcGetGpio (IN VOID * *This*, IN UINT16 *Pin*)

Get the State of KBC GPIO Pin on reference board.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Pin*** The GPIO Pin Number

Return values:

The State of GPIO Pin

References AMD_CPM_COMMON_FUNCTION::KbcRead.

Referenced by CpmGetGpio().

5.89.2.3 UINT8 CpmGetGpio (IN VOID * *This*, IN UINT16 *Pin*)

Get the State of GPIO Pin.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Pin*** The GPIO Pin Number. [0x0000: 0x00FF]: FCH GPIO Pin [0x0100: 0x01FF]: KBC GPIO Pin on Reference Board [0x0200: 0x0FFF]: Reserved

Return values:

The State of GPIO Pin

References CpmFchGetGpio(), and CpmKbcGetGpio().

Referenced by CpmGetGevent(), and CpmRegisterFch().

5.89.2.4 VOID CpmFchSetGpio (IN VOID * *This*, IN UINT16 *Pin*, IN UINT16 *Value*)

Set FCH GPIO Pin.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Pin*** The GPIO Pin Number.

← ***Value*** The Setting of GPIO Pin. See Definition of AMD_CPM_GPIO_SETTING

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, CPM_FCH_REVISION_ID_CZ, CPM_FCH_REVISION_ID_DEFAULT, CPM_FCH_REVISION_ID_KB, CPM_FCH_REVISION_ID_ML, AMD_CPM_GPIO_SETTING::Gpio, AMD_CPM_GPIO_SETTING::IoMux, AMD_CPM_GPIO_SETTING::IoMuxEn, AMD_CPM_COMMON_FUNCTION::MmioRead8, AMD_CPM_COMMON_FUNCTION::MmioWrite8, AMD_CPM_GPIO_SETTING::Out, AMD_CPM_GPIO_SETTING::OutEnB, AMD_CPM_GPIO_SETTING::PresetEn, AMD_CPM_GPIO_SETTING::PullDown, AMD_CPM_GPIO_SETTING::PullUp, AMD_CPM_GPIO_SETTING::PullUpSel, AMD_CPM_GPIO_SETTING::Raw, AMD_CPM_GPIO_SETTING::SetEnB, and AMD_CPM_GPIO_SETTING::Sticky.

Referenced by CpmSetGpio().

5.89.2.5 VOID CpmKbcSetGpio (IN VOID * *This*, IN UINT16 *Pin*, IN UINT16 *Value*)

Set KBC GPIO Pin on Reference Board.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Pin*** The GPIO Pin Number.

← ***Value*** The Setting of GPIO Pin. 0: Low. 1: High

References AMD_CPM_COMMON_FUNCTION::KbcWrite.

Referenced by CpmSetGpio().

5.89.2.6 VOID CpmSetGpio (IN VOID * *This*, IN UINT16 *Pin*, IN UINT16 *Value*)

Set GPIO Pin.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Pin*** The GPIO Pin Number. [0x0000: 0x00FF]: FCH GPIO Pin [0x0100: 0x01FF]: KBC GPIO Pin on Reference Board [0x0200: 0x0FFF]: Reserved

← ***Value*** The Setting of GPIO Pin.

References CpmFchSetGpio(), and CpmKbcSetGpio().

Referenced by CpmRegisterFch().

5.89.2.7 UINT8 CpmGetGevent (IN VOID * *This*, IN UINT8 *Pin*)

Get the State of GEVENT Pin.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Pin*** The GEVENT Pin Number.

Return values:

The State of GEVENT Pin

References CPM_FCH_REVISION_ID_CZ, CPM_FCH_REVISION_ID_DEFAULT, CPM_FCH_-REVISION_ID_KB, CPM_FCH_REVISION_ID_ML, and CpmGetGpio().

Referenced by CpmRegisterFch().

5.89.2.8 VOID CpmSetGevent (IN VOID * *This*, IN UINT16 *Pin*, IN UINT16 *Value*)

Set the State of GEVENT Pin.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Pin*** The GEVENT Pin Number.

← ***Value*** The Setting of GEVENT Pin. See Definition of AMD_CPM_GEVENT_SETTING

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, AMD_CPM_GEVENT_-SETTING::EventEnable, AMD_CPM_COMMON_FUNCTION::GetGevent, AMD_CPM_GEVENT_-SETTING::Gevent, AMD_CPM_COMMON_FUNCTION::MmioAndThenOr32, AMD_CPM_-COMMON_FUNCTION::MmioAndThenOr8, AMD_CPM_COMMON_FUNCTION::MmioWrite16, AMD_CPM_GEVENT_SETTING::Raw, AMD_CPM_GEVENT_SETTING::SciLevl, AMD_CPM_-GEVENT_SETTING::SciMap, AMD_CPM_GEVENT_SETTING::SciS0En, AMD_CPM_GEVENT_-SETTING::SciTrig, AMD_CPM_GEVENT_SETTING::SciTrigAuto, AMD_CPM_GEVENT_-SETTING::SmiControl, AMD_CPM_GEVENT_SETTING::SmiSciEn, and AMD_CPM_GEVENT_-SETTING::SmiTrig.

Referenced by CpmRegisterFch().

5.89.2.9 VOID CpmSetSmiControl (IN VOID * *This*, IN UINT8 *Pin*, IN UINT16 *Value*)

Set SMI Control for GEVENT Pin.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Pin*** The GEVENT Pin Number.

← ***Value*** The Setting of GEVENT Pin. See Definition of AMD_CPM_GEVENT_SETTING

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, AMD_CPM_GEVENT_-SETTING::Gevent, AMD_CPM_COMMON_FUNCTION::MmioAndThenOr32, AMD_CPM_-GEVENT_SETTING::Raw, AMD_CPM_GEVENT_SETTING::SciMap, and AMD_CPM_GEVENT_-SETTING::SmiControl.

Referenced by CpmRegisterFch().

5.89.2.10 VOID CpmSetGeventSciTrig (IN VOID * *This*, IN UINT8 *Pin*, IN UINT8 *Value*)

Set the way to set corresponding bit in Event Status.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Pin*** The GEVENT Pin Number.

← ***Value*** The bit controls the way to set Event Status. 0: Active Low. 1: Active High

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, AMD_CPM_COMMON_-FUNCTION::GetSciMap, and AMD_CPM_COMMON_FUNCTION::MmioAndThenOr32.

Referenced by CpmRegisterFch().

5.89.2.11 VOID CpmSetGeventSci (IN VOID * *This*, IN UINT8 *Pin*)

Trigger a GEVENT SCI interrupt.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Pin*** The GEVENT Pin Number.

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, AMD_CPM_COMMON_-FUNCTION::GetSciMap, AMD_CPM_COMMON_FUNCTION::MmioOr32, and AMD_CPM_-COMMON_FUNCTION::MmioWrite32.

Referenced by CpmRegisterFch().

5.89.2.12 UINT8 CpmGetFchRevisionId (IN VOID * *This*)

Get FCH Revision Id.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

Return values:

The FCH Revision Id

References CPM_CPU_REVISION_ID_CZ, CPM_CPU_REVISION_ID_KB, CPM_CPU_-REVISION_ID_ML, CPM_FCH_REVISION_ID_CZ, CPM_FCH_REVISION_ID_DEFAULT, CPM_FCH_REVISION_ID_KB, CPM_FCH_REVISION_ID_ML, AMD_CPM_COMMON_-FUNCTION::CpuidRead, and AMD_CPM_COMMON_FUNCTION::GetCpuRevisionId.

Referenced by CpmRegisterFch().

5.89.2.13 UINT32 CpmGetStrap (IN VOID * *This*)

Get FCH Strap Setting.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

Return values:

The State of FCH Strap Pin BIT0: ImcEnableStrap: 0: Disable. 1: Enable BIT1: ClkGenStrap: 0: External. 1: Internal BIT2: S5+ Support: 0: Disable. 1: Enable

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, CPM_FCH_REVISION_ID_CZ, CPM_FCH_REVISION_ID_DEFAULT, CPM_FCH_REVISION_ID_KB, CPM_FCH_REVISION_ID_-ML, and AMD_CPM_COMMON_FUNCTION::MmioRead8.

Referenced by CpmRegisterFch().

5.89.2.14 VOID CpmSetClkReq (IN VOID * *This*, IN UINT8 *ClkId*, IN UINT8 *ClkReq*)

Set FCH ClkReq.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***ClkId*** PCIE Clock Pin Number

← ***ClkReq*** ClkReq Mapping

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, CPM_CLKID_APU_CLK, CPM_-CLKID_CLOCK_BUFFER_BIAS, CPM_CLKID_DISP2_CLK, CPM_CLKID_DISP_CLK, CPM_-CLKID_OSCOUT2_OUTOFF, CPM_CLKID_PCIE_RCLK, CPM_CLKID_PCIE_RCLK_OUTPUT, CPM_FCH_REVISION_ID_CZ, CPM_FCH_REVISION_ID_DEFAULT, CPM_FCH_REVISION_ID_-KB, CPM_FCH_REVISION_ID_ML, and AMD_CPM_COMMON_FUNCTION::MmioAndThenOr8.

Referenced by CpmRegisterFch().

5.89.2.15 VOID CpmStall (IN VOID * *This*, IN UINT32 *Delay*)

Add some delay in 1us/unit.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Delay*** Delay in 1us/unit

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, AMD_CPM_COMMON_-FUNCTION::IoRead32, AMD_CPM_COMMON_FUNCTION::IoRead8, and AMD_CPM_-COMMON_FUNCTION::MmioRead16.

Referenced by CpmRegisterFch().

5.89.2.16 VOID CpmSetFanOn (IN VOID * *This*, IN UINT8 *Fan*)

Set Fan On.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Fan*** Fan Number

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, and AMD_CPM_COMMON_-FUNCTION::MmioWrite8.

Referenced by CpmRegisterFch().

5.89.2.17 VOID CpmSetProchot (IN VOID * *This*, IN UINT8 *Enable*, IN UINT8 *Fan*, IN UINT8 *Freq*)

Set ProcHot.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Enable*** Prochot Enable: 0: Disable. 1: Enable

← ***Fan*** FanOut Pin Number

← ***Freq*** Frequency for FanOut Pin

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, AMD_CPM_COMMON_-FUNCTION::MmioAndThenOr8, AMD_CPM_COMMON_FUNCTION::MmioOr8, and AMD_-CPM_COMMON_FUNCTION::MmioWrite8.

Referenced by CpmRegisterFch().

5.89.2.18 UINT8 CpmGetSataMode (IN VOID * *This*)

Get Current SATA Mode.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

Return values:

The SATA Mode BIT0: IDE Mode BIT1: AHCI Mode BIT2: RAID Mode BIT3: AMD AHCI Mode

References AMD_CPM_SATA_MODE_MASK::DeviceId, AMD_CPM_SATA_MODE_MASK::Mask, and AMD_CPM_COMMON_FUNCTION::PciRead16.

Referenced by CpmRegisterFch().

5.89.2.19 BOOLEAN EFIAPI CpmIsFchDevice (IN VOID * *This*, IN UINT8 *Device*, IN UINT8 *Function*)

Check whether the device is in FCH.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Device*** The PCI Device Number

← ***Function*** The PCI Function Number

Return values:

TRUE The Device is in FCH FALSE The Device is not in FCH

Referenced by CpmRegisterFch().

5.89.2.20 UINT32 CpmGetFchPcieAslName (IN VOID * *This*, IN UINT8 *Device*, IN UINT8 *Function*)

Get FCH PCIe Bridge Name in ASL Code.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Device*** The PCI Device Number

← ***Function*** The PCI Function Number

Return values:

PCIe Bridge Name in ASL code

References PCIE_BRIDGE_NAME::Device, PCIE_BRIDGE_NAME::Function, PCIE_BRIDGE_-NAME::Name, and PCIE_BRIDGE_NAME::NameId.

Referenced by CpmRegisterFch().

5.89.2.21 UINT8 CpmGetSciMap (IN VOID * *This*, IN UINT8 *GeventPin*)

Get the Mapping Bit Number of GEVENT pin in Event Status.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***GeventPin*** GEVENT Pin Number

Return values:

SCI Mapping Bit Number

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, and AMD_CPM_COMMON_-FUNCTION::MmioRead8.

Referenced by CpmRegisterFch().

5.89.2.22 UINT8 CpmGetBootMode ()

Get Current Boot Mode.

Return values:

Boot Mode

Referenced by AmdCpmInitPeimEntryPoint(), and CpmRegisterFch().

5.89.2.23 BOOLEAN EFIAPI CpmIsRtcWakeup (IN VOID * *This*)

Check whether it is a RTC wake up.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

Return values:

TRUE RTC wake up FALSE Not RTC wake up

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, and AMD_CPM_COMMON_-FUNCTION::MmioRead8.

Referenced by CpmRegisterFch().

5.89.2.24 UINT8 EFIAPI CpmGetRtc (IN VOID * *This*, IN UINT8 *Index*)

Read RTC register.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Index*** The index of RTC register

Return values:

RTC register value

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, and AMD_CPM_COMMON_-FUNCTION::MmioRead8.

Referenced by CpmRegisterFch().

5.89.2.25 VOID EFIAPI CpmSetRtc (IN VOID * *This*, IN UINT8 *Index*, IN UINT8 *Value*)

Write RTC register.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Index*** The index of RTC register

← ***Value*** The value of RTC register

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, and AMD_CPM_COMMON_-FUNCTION::MmioWrite8.

Referenced by CpmRegisterFch().

5.89.2.26 UINT8 EFIAPI CpmGetAcpi (IN VOID * *This*, IN UINT8 *Index*)

Read ACPI register.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Index*** The index of ACPI register

Return values:

RTC register value

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, and AMD_CPM_COMMON_-FUNCTION::MmioRead8.

Referenced by CpmRegisterFch().

5.89.2.27 VOID EFIAPI CpmSetAcpi (IN VOID * *This*, IN UINT8 *Index*, IN UINT8 *Value*)

Write ACPI register.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Index*** The index of ACPI register

← ***Value*** The value of ACPI register

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, and AMD_CPM_COMMON_-FUNCTION::MmioWrite8.

Referenced by CpmRegisterFch().

5.89.2.28 UINT8 EFIAPI CpmGetSaveContext (IN VOID * *This*, IN UINT8 *Offset*)

Read the data from Save Context Area.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Offset*** The offset of data to read

Return values:

RTC register value

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, AMD_CPM_SAVE_CONTEXT_-TABLE::BufferOffset, AMD_CPM_SAVE_CONTEXT_TABLE::BufferType, CPM_SIGNATURE_-SAVE_CONTEXT, AMD_CPM_COMMON_FUNCTION::GetTablePtr, and AMD_CPM_COMMON_-FUNCTION::MmioRead8.

Referenced by CpmRegisterFch().

5.89.2.29 VOID EFIAPI CpmSetSaveContext (IN VOID * *This*, IN UINT8 *Offset*, IN UINT8 *Data*)

Write the data to Save Context Area.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Offset*** The offset of data to read

← ***Data*** The data to write

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, AMD_CPM_SAVE_CONTEXT_-TABLE::BufferOffset, AMD_CPM_SAVE_CONTEXT_TABLE::BufferType, CPM_SIGNATURE_-SAVE_CONTEXT, AMD_CPM_COMMON_FUNCTION::GetTablePtr, and AMD_CPM_COMMON_-FUNCTION::MmioWrite8.

Referenced by CpmRegisterFch().

5.89.2.30 VOID EFIAPI CpmRegisterFch (IN VOID * *This*)

Register CPM Common FCH Function.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, CPM_FCH_REVISION_ID_CZ, CPM_FCH_REVISION_ID_DEFAULT, CPM_FCH_REVISION_ID_KB, CPM_FCH_REVISION_-ID_ML, CpmGetAcpi(), CpmGetBootMode(), CpmGetFchPcieAslName(), CpmGetFchRevisionId(),

CpmGetGevent(), CpmGetGpio(), CpmGetRtc(), CpmGetSataMode(), CpmGetSaveContext(), CpmGetSciMap(), CpmGetStrap(), CpmIsFchDevice(), CpmIsRtcWakeup(), CpmSetAcpi(), CpmSetClkReq(), CpmSetFanOn(), CpmSetGevent(), CpmSetGeventSci(), CpmSetGeventSciTrig(), CpmSetGpio(), CpmSetProchot(), CpmSetRtc(), CpmSetSaveContext(), CpmSetSmiControl(), CpmStall(), AMD_CPM_COMMON_FUNCTION::GetAcpi, AMD_CPM_COMMON_FUNCTION::GetBootMode, AMD_CPM_COMMON_FUNCTION::GetFchPcieAslName, AMD_CPM_COMMON_FUNCTION::GetGevent, AMD_CPM_COMMON_FUNCTION::GetGpio, AMD_CPM_COMMON_FUNCTION::GetRtc, AMD_CPM_COMMON_FUNCTION::GetSataMode, AMD_CPM_COMMON_FUNCTION::GetSaveContext, AMD_CPM_COMMON_FUNCTION::GetSciMap, AMD_CPM_COMMON_FUNCTION::GetStrap, AMD_CPM_COMMON_FUNCTION::IoRead8, AMD_CPM_COMMON_FUNCTION::IoWrite8, AMD_CPM_COMMON_FUNCTION::IsFchDevice, AMD_CPM_COMMON_FUNCTION::IsRtcWakeup, AMD_CPM_COMMON_FUNCTION::SetAcpi, AMD_CPM_COMMON_FUNCTION::SetClkReq, AMD_CPM_COMMON_FUNCTION::SetFanOn, AMD_CPM_COMMON_FUNCTION::SetGevent, AMD_CPM_COMMON_FUNCTION::SetGeventSci, AMD_CPM_COMMON_FUNCTION::SetGeventSciTrig, AMD_CPM_COMMON_FUNCTION::SetGpio, AMD_CPM_COMMON_FUNCTION::SetProchot, AMD_CPM_COMMON_FUNCTION::SetRtc, AMD_CPM_COMMON_FUNCTION::SetSaveContext, AMD_CPM_COMMON_FUNCTION::SetSmiControl, and AMD_CPM_COMMON_FUNCTION::Stall.

Referenced by AmdCpmInitDxeEntryPoint(), AmdCpmInitPeimEntryPoint(), and AmdCpmInitSmmEntryPoint().

5.90 NDA/CPM/Library/Proc/Fch/AmdCpmFch.h File Reference

AMD CPM Library for Common FCH Function.

Functions

- UINT8 CpmGetGpio (IN VOID *This, IN UINT16 Pin)

  Get the State of GPIO Pin.

- VOID CpmSetGpio (IN VOID *This, IN UINT16 Pin, IN UINT16 Value)

  Set GPIO Pin.

- VOID CpmSetGevent (IN VOID *This, IN UINT16 Pin, IN UINT16 Value)

  Set the State of GEVENT Pin.

- UINT32 CpmGetStrap (IN VOID *This)

  Get FCH Strap Setting.

- VOID CpmSetClkReq (IN VOID *This, IN UINT8 ClkId, IN UINT8 ClkReq)

  Set FCH ClkReq.

- VOID CpmStall (IN VOID *This, IN UINT32 Delay)

  Add some delay in 1us/unit.

- VOID CpmSetFanOn (IN VOID *This, IN UINT8 Fan)

  Set Fan On.

- VOID EFIAPI CpmRegisterFch (IN VOID *This)

  Register CPM Common FCH Function.

- UINT8 CpmGetBootMode ()

  Get Current Boot Mode.

5.90.1 Detailed Description

AMD CPM Library for Common FCH Function. Contains interface to the AMD CPM library

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.90.2 Function Documentation

5.90.2.1 UINT8 CpmGetGpio (IN VOID * *This*, IN UINT16 *Pin*)

Get the State of GPIO Pin.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Pin*** The GPIO Pin Number. [0x0000: 0x00FF]: FCH GPIO Pin [0x0100: 0x01FF]: KBC GPIO Pin on Reference Board [0x0200: 0x0FFF]: Reserved

Return values:

The State of GPIO Pin

References CpmFchGetGpio(), and CpmKbcGetGpio().

Referenced by CpmGetGevent(), and CpmRegisterFch().

5.90.2.2 VOID CpmSetGpio (IN VOID * *This*, IN UINT16 *Pin*, IN UINT16 *Value*)

Set GPIO Pin.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Pin*** The GPIO Pin Number. [0x0000: 0x00FF]: FCH GPIO Pin [0x0100: 0x01FF]: KBC GPIO Pin on Reference Board [0x0200: 0x0FFF]: Reserved

← ***Value*** The Setting of GPIO Pin.

References CpmFchSetGpio(), and CpmKbcSetGpio().

Referenced by CpmRegisterFch().

5.90.2.3 VOID CpmSetGevent (IN VOID * *This*, IN UINT16 *Pin*, IN UINT16 *Value*)

Set the State of GEVENT Pin.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Pin*** The GEVENT Pin Number.

← ***Value*** The Setting of GEVENT Pin. See Definition of AMD_CPM_GEVENT_SETTING

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, AMD_CPM_GEVENT_-SETTING::EventEnable, AMD_CPM_COMMON_FUNCTION::GetGevent, AMD_CPM_GEVENT_-SETTING::Gevent, AMD_CPM_COMMON_FUNCTION::MmioAndThenOr32, AMD_CPM_-COMMON_FUNCTION::MmioAndThenOr8, AMD_CPM_COMMON_FUNCTION::MmioWrite16, AMD_CPM_GEVENT_SETTING::Raw, AMD_CPM_GEVENT_SETTING::SciLevl, AMD_CPM_-GEVENT_SETTING::SciMap, AMD_CPM_GEVENT_SETTING::SciS0En, AMD_CPM_GEVENT_-SETTING::SciTrig, AMD_CPM_GEVENT_SETTING::SciTrigAuto, AMD_CPM_GEVENT_-SETTING::SmiControl, AMD_CPM_GEVENT_SETTING::SmiSciEn, and AMD_CPM_GEVENT_-SETTING::SmiTrig.

Referenced by CpmRegisterFch().

5.90.2.4 UINT32 CpmGetStrap (IN VOID * *This*)

Get FCH Strap Setting.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

Return values:

The State of FCH Strap Pin BIT0: ImcEnableStrap: 0: Disable. 1: Enable BIT1: ClkGenStrap: 0: External. 1: Internal BIT2: S5+ Support: 0: Disable. 1: Enable

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, CPM_FCH_REVISION_ID_CZ, CPM_FCH_REVISION_ID_DEFAULT, CPM_FCH_REVISION_ID_KB, CPM_FCH_REVISION_ID_-ML, and AMD_CPM_COMMON_FUNCTION::MmioRead8.

Referenced by CpmRegisterFch().

5.90.2.5 VOID CpmSetClkReq (IN VOID * *This*, IN UINT8 *ClkId*, IN UINT8 *ClkReq*)

Set FCH ClkReq.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***ClkId*** PCIE Clock Pin Number

← ***ClkReq*** ClkReq Mapping

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, CPM_CLKID_APU_CLK, CPM_-CLKID_CLOCK_BUFFER_BIAS, CPM_CLKID_DISP2_CLK, CPM_CLKID_DISP_CLK, CPM_-CLKID_OSCOUT2_OUTOFF, CPM_CLKID_PCIE_RCLK, CPM_CLKID_PCIE_RCLK_OUTPUT, CPM_FCH_REVISION_ID_CZ, CPM_FCH_REVISION_ID_DEFAULT, CPM_FCH_REVISION_ID_-KB, CPM_FCH_REVISION_ID_ML, and AMD_CPM_COMMON_FUNCTION::MmioAndThenOr8.

Referenced by CpmRegisterFch().

5.90.2.6 VOID CpmStall (IN VOID * *This*, IN UINT32 *Delay*)

Add some delay in 1us/unit.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Delay*** Delay in 1us/unit

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, AMD_CPM_COMMON_-FUNCTION::IoRead32, AMD_CPM_COMMON_FUNCTION::IoRead8, and AMD_CPM_-COMMON_FUNCTION::MmioRead16.

Referenced by CpmRegisterFch().

5.90.2.7 VOID CpmSetFanOn (IN VOID * *This*, IN UINT8 *Fan*)

Set Fan On.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

← ***Fan*** Fan Number

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, and AMD_CPM_COMMON_-FUNCTION::MmioWrite8.

Referenced by CpmRegisterFch().

5.90.2.8 VOID EFIAPI CpmRegisterFch (IN VOID * *This*)

Register CPM Common FCH Function.

Parameters:

← ***This*** The pointer of AMD CPM Table Ppi or Protocol

References AMD_CPM_MAIN_TABLE::AcpiMemIoBaseAddr, CPM_FCH_REVISION_ID_CZ, CPM_FCH_REVISION_ID_DEFAULT, CPM_FCH_REVISION_ID_KB, CPM_FCH_REVISION_-ID_ML, CpmGetAcpi(), CpmGetBootMode(), CpmGetFchPcieAslName(), CpmGetFchRevisionId(),

CpmGetGevent(), CpmGetGpio(), CpmGetRtc(), CpmGetSataMode(), CpmGetSaveContext(), CpmGetSciMap(), CpmGetStrap(), CpmIsFchDevice(), CpmIsRtcWakeup(), CpmSetAcpi(), CpmSetClkReq(), CpmSetFanOn(), CpmSetGevent(), CpmSetGeventSci(), CpmSetGeventSciTrig(), CpmSetGpio(), CpmSetProchot(), CpmSetRtc(), CpmSetSaveContext(), CpmSetSmiControl(), CpmStall(), AMD_CPM_COMMON_FUNCTION::GetAcpi, AMD_CPM_COMMON_FUNCTION::GetBootMode, AMD_CPM_COMMON_FUNCTION::GetFchPcieAslName, AMD_CPM_COMMON_FUNCTION::GetGevent, AMD_CPM_COMMON_FUNCTION::GetGpio, AMD_CPM_COMMON_FUNCTION::GetRtc, AMD_CPM_COMMON_FUNCTION::GetSataMode, AMD_CPM_COMMON_FUNCTION::GetSaveContext, AMD_CPM_COMMON_FUNCTION::GetSciMap, AMD_CPM_COMMON_FUNCTION::GetStrap, AMD_CPM_COMMON_FUNCTION::IoRead8, AMD_CPM_COMMON_FUNCTION::IoWrite8, AMD_CPM_COMMON_FUNCTION::IsFchDevice, AMD_CPM_COMMON_FUNCTION::IsRtcWakeup, AMD_CPM_COMMON_FUNCTION::SetAcpi, AMD_CPM_COMMON_FUNCTION::SetClkReq, AMD_CPM_COMMON_FUNCTION::SetFanOn, AMD_CPM_COMMON_FUNCTION::SetGevent, AMD_CPM_COMMON_FUNCTION::SetGeventSci, AMD_CPM_COMMON_FUNCTION::SetGeventSciTrig, AMD_CPM_COMMON_FUNCTION::SetGpio, AMD_CPM_COMMON_FUNCTION::SetProchot, AMD_CPM_COMMON_FUNCTION::SetRtc, AMD_CPM_COMMON_FUNCTION::SetSaveContext, AMD_CPM_COMMON_FUNCTION::SetSmiControl, and AMD_CPM_COMMON_FUNCTION::Stall.

Referenced by AmdCpmInitDxeEntryPoint(), AmdCpmInitPeimEntryPoint(), and AmdCpmInitSmmEntryPoint().

5.90.2.9 UINT8 CpmGetBootMode ()

Get Current Boot Mode.

Return values:

Boot Mode

Referenced by AmdCpmInitPeimEntryPoint(), and CpmRegisterFch().

5.91 NDA/CPM/Library/Protocol/AmdBufferManagerProtocol/AmdBufferManagerProtocol.c File Reference

AMD Protocol Declaration for Heap Buffer Management. `#include <AmdCpmBase.h>`

5.91.1 Detailed Description

AMD Protocol Declaration for Heap Buffer Management. Contains C initialization code to Initialize AMD_BUFFER_MANAGER_PROTOCOL

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.92 NDA/CPM/Library/Protocol/AmdBufferManagerProtocol/AmdBufferManagerProtocol.h File Reference

AMD Protocol Declaration for Heap Buffer Management. `#include <AGESA.h>`

Data Structures

- struct AGESA_DXE_BUFFER_MANAGER
  Buffer Manager for Linked List for AGESA HOB Data.
- struct AMD_BUFFER_MANAGER_PROTOCOL
  AMD Buffer Manager Protocol.

Typedefs

- typedef IN UINTN Fcn2Data
  < Table Type'
- typedef IN UINTN IN OUT VOID * ConfigPtr
  < Buffer Length

Functions

- typedef EFI_STATUS (EFIAPI *AMD_BUFFER_CALLOUT)(IN UINT32 Fcn1Data
  Function prototype.

5.92.1 Detailed Description

AMD Protocol Declaration for Heap Buffer Management. Contains declaration for AMD_BUFFER_MANAGER_PROTOCOL

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.92.2 Typedef Documentation

5.92.2.1 typedef IN UINTN Fcn2Data

< Table Type' Table Type'

5.93 NDA/CPM/Library/Protocol/AmdCpmAllPciIoProtocolsInstalled/AmdCpmAllPciIoProtocol File Reference

AMD CPM All PCI Io Protocols Installed Protocol Initialization. `#include <AmdCpmBase.h>`

5.93.1 Detailed Description

AMD CPM All PCI Io Protocols Installed Protocol Initialization. Contains code to initialize GUID for AMD_CPM_ALL_PCI_IO_PROTOCOLS_INSTALLED_PROTOCOL

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.94 NDA/CPM/Library/Protocol/AmdCpmAllPciIoProtocolsInstalled/AmdCpmAllPciIoProtocol File Reference

AMD CPM All PCI Io Protocols Installed Protocol Declaration.

Data Structures

- struct AMD_CPM_ALL_PCI_IO_PROTOCOLS_INSTALLED_PROTOCOL
  DXE Protocol Structure.

5.94.1 Detailed Description

AMD CPM All PCI Io Protocols Installed Protocol Declaration. Contains code to initialize GUID for AMD_CPM_ALL_PCI_IO_PROTOCOLS_INSTALLED_PROTOCOL

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.95 NDA/CPM/Library/Protocol/AmdCpmBootTimeRecordProtocol/AmdCpmBootTimeRecord File Reference

AMD Boot Time Record Protocol Declaration. `#include <AmdCpmBase.h>`

5.95.1 Detailed Description

AMD Boot Time Record Protocol Declaration. Contains code to initialize GUID for Boot Time Record Protocol

File Content Label

project: Common Platform Module *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.96 NDA/CPM/Library/Protocol/AmdCpmBootTimeRecordProtocol/AmdCpmBootTimeRecord File Reference

AMD Boot Time Record Protocol Declaration. `#include <AmdCpmBase.h>`

Data Structures

- struct AMD_BOOT_TIME_PEI_DATA
  Boot Timing Record Data for PEI stage.
- struct AMD_BOOT_TIME_PEI_RECORD
  Boot Time Record data holder.
- struct AMD_BOOT_TIME_DATA
  Boot Time Data.
- struct AMD_BOOT_TIME_RECORD_ITEM
  Linked List of Boot Time Record data.
- struct AMD_BOOT_TIME_RECORD
  Boot Time Record data holder.
- struct AMD_BOOT_TIME_RECORD_PROTOCOL
  Boot Time Record Protocol.

Functions

- typedef EFI_STATUS (EFIAPI *AMD_BOOT_TIME_RECORD_ADD)(IN UINT64 desc)
  Function prototype.

5.96.1 Detailed Description

AMD Boot Time Record Protocol Declaration. Contains code to initialize GUID for AMD Boot Time Record Protocol

File Content Label

project: Common Platform Module *sub-project*: Boot Time Record *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.97 NDA/CPM/Library/Protocol/AmdCpmDisplayFeatureProtocol/AmdCpmDisplayFeaturePro File Reference

AMD CPM Display Feature Protocol Initialization. `#include <AmdCpmBase.h>`

5.97.1 Detailed Description

AMD CPM Display Feature Protocol Initialization. Contains code to initialize GUID for AMD_CPM_-DISPLAY_FEATURE_PROTOCOL

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.98 NDA/CPM/Library/Protocol/AmdCpmDisplayFeatureProtocol/AmdCpmDisplayFeatureProt File Reference

AMD CPM Display Feature Protocol Declaration. `#include <AmdCpmBase.h>`

Data Structures

- struct AMD_CPM_DISPLAY_FEATURE_PROTOCOL

  DXE Protocol Structure.

5.98.1 Detailed Description

AMD CPM Display Feature Protocol Declaration. Contains code to initialize GUID for AMD_CPM_-DISPLAY_FEATURE_PROTOCOL

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.99 NDA/CPM/Library/Protocol/AmdCpmNvDataProtocol/AmdCpmNvDataProtocol.c File Reference

AMD CPM NV Data Protocol Initialization. `#include <AmdCpmBase.h>`

5.99.1 Detailed Description

AMD CPM NV Data Protocol Initialization. Contains code to initialize GUID for AMD_CPM_NV_-DATA_PROTOCOL

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.100 NDA/CPM/Library/Protocol/AmdCpmNvDataProtocol/AmdCpmNvDataProtocol.h File Reference

AMD CPM NV Data Protocol Declaration. `#include <AmdCpmBase.h>`

Data Structures

- struct AMD_CPM_NV_DATA_PROTOCOL

  DXE Protocol Structure.

5.100.1 Detailed Description

AMD CPM NV Data Protocol Declaration. Contains code to initialize GUID for AMD_CPM_NV_-DATA_PROTOCOL

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.101 NDA/CPM/Library/Protocol/AmdCpmOemTableProtocol/AmdCpmOemTableProtocol.c File Reference

AMD CPM OEM Table Protocol Initialization. `#include <AmdCpmBase.h>`

5.101.1 Detailed Description

AMD CPM OEM Table Protocol Initialization. Contains code to initialize GUID for AMD_CPM_OEM_-TABLE_PROTOCOL

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.102 NDA/CPM/Library/Protocol/AmdCpmOemTableProtocol/AmdCpmOemTableProtocol.h File Reference

AMD CPM OEM Table Protocol Declaration. `#include <AmdCpmBase.h>`

Data Structures

- struct AMD_CPM_OEM_TABLE_PROTOCOL

  DXE Protocol Structure.

5.102.1 Detailed Description

AMD CPM OEM Table Protocol Declaration. Contains code to initialize GUID for AMD_CPM_OEM_-TABLE_PROTOCOL

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.103 NDA/CPM/Library/Protocol/AmdCpmTableProtocol/AmdCpmTableProtocol.c File Reference

AMD CPM Table Protocol Initialization. `#include <AmdCpmBase.h>`

5.103.1 Detailed Description

AMD CPM Table Protocol Initialization. Contains code to initialize GUID for AMD_CPM_TABLE_-PROTOCOL

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

5.104 NDA/CPM/Library/Protocol/AmdCpmTableProtocol/AmdCpmTableProtocol.h File Reference

AMD CPM Table Protocol Declaration. `#include <AmdCpmBase.h>`

Data Structures

- struct AMD_CPM_TABLE_PROTOCOL

  DXE Protocol Structure.

5.104.1 Detailed Description

AMD CPM Table Protocol Declaration. Contains code to initialize GUID for AMD_CPM_TABLE_-PROTOCOL

File Content Label

project: CPM *sub-project*: Library *$Revision:* 281158 $ *$Date:* 2013-12-17 20:36:04 -0600 (Tue, 17 Dec 2013) $

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