signatures in ftl critical data structures.

summary.

Descibe signatures of ftl critical data structures. test code can use these signatures to check the data integrity of VS command VS_GET_FTL_CRITICAL_DATA_STRUCTURES.

See Boreas Vendor Specific for Test for definition of VS command.

Signature of gHdpNandRequestContext.

gHdpNandRequestContext.nandParams contains the configuration information of NAND chips. like planes_per_lun, pages_per_block, these values are fixed for a specific NAND.

Signature of gFtlContext.

no signature.

1. flush state <= FTL_FLUSH_STATE_STAGE_2
2. ioWriteReq == ioWriteResp
3. ioWriteFuaReq == ioWriteFusResp ?? need confirm

Signature of gFtlBITMgr.

almost all fields are pointers. no signature.

pointer =!= NULL, pointer != INVALID_8F

Purpose of this interface is to load content of *sBIT and *vtc

Signature of gTableDumpMgr.

dumpAllL2Cnt/dumpAllL1Cnt/dumpAllL0Cnt should be less than L2_PAGE_NUM/L1_PAGE_NUM/LO_PAGE_NUM.

tableGc.state <= FTL_TABLE_GC_DONE

Signature of gVBandMgr.

bitDumpState should only be either FTL_VBAND_BIT_DUMP_STATE_START, or FTL_VBAND_BIT_DUMP_STATE_ONGOING, or FTL_VBAND_BIT_DUMP_STATE_DONE.

allocWriteLocState <= FTL_ALLOC_WRITE_LOC_STATE_END

prepareNewSBlock   0|1

Signature of gFtlJournalCtx.

no signature.

1. free/close/current   <= FTL_JOURNAL_BUFF_CNT
2. journalBufferBase > context_mems.ddr | DDRSTART_FTL
3. forceDumpStatus < JOURNAL_FORCE_DUMP_MAX

signature of gFtlP2LCtx.

no signature.

1. p2lBufferBase > context_mems.ddr | DDRSTART_FTL
2. p2lBmSlotCnt == 3
3. bandMgr[i]. head/tail/flush == 0xff, or <= FTL_P2L_BUFF_CNT

signature of gFtlP2LWriteBufMgr.

1. Entry.p2lLba should be a p2l Lba, test code can check this field to see if it's a p2l lba. p2lLba double check with flushNandAddr
2. check all pointer 0xff or < FTL_P2L_BUFF_CNT
3. offset < 1024
4. PageTuCnt/finishTuCnt <= 1024

signature of gFtlReconstructContext.

rebuildStage and systemRebuildStage are enumeration type. the value should never be greater than the FTL_REBUILD_STAGE_DONE and FTL_REBUILD_SYSTEM_DONE.

signature of gFtlVTCArray.

it's an array, no signature.

next stage task

signature of gDefectMap.

it's a pointer, no signature.

signature == 0xA11D00E