Release Notes

for S32G2 HSE Firmware 0.2.51.0

1   Getting Started

IMPORTANT NOTES:

This is the Standard Package variant of the HSE Firmware for S32G2.

This release is a Service Release and has RFP (Release For Production) quality in terms of testing and quality documentation. Service Release contains all features and is fully tested on Customer Engineering Samples or Qual Intend Samples. The RFP release is software release that can be used in cars production. RFP release is delivered with complete software documentation and quality package.

1.1 Package content

This package contains the NXP S32G2 HSE Firmware 0.2.51.0:

- HSE Firmware (encrypted binary)
  - Rev 2.1 for **latest version** of the SoC
- HSE Firmware interface files
- HSE Service API RM
- HSE Security Installation Guide
- `HSE_FW_S32G2_0.2.51.0_ReleaseNotes.pdf` – this file
- The `license.txt` EULA file and `ApacheLicense2.0.txt`
- The `uninstall.exe` utility for removing the HSE FW binary

NOTE:

Demo Application is provided separately and contains details on how to provision HSE FW on virgin devices and demonstrates common use cases of its security features.

The following associated documentation can be obtained from the NXP website (https://www.nxp.com), Sign In / Register > My NXP Account > Secure Files:

- HSE Firmware Reference Manual – Rev 2.2

1.2 Installation

Follow the install steps in the demo application.

If targeting the usage of AUTOSAR software stack in the application, it is recommended to install also the RTD crypto driver from the AUTOSAR RTD package for the targeted platform by following its installer steps.

2 Release Details

This is the HSE Firmware 0.2.51.0 release for the S32G2 platform.

The provided example code shows how to set up and use the HSE FW and to perform basic crypto operations (refer to the documentation that comes with the demo application). The examples show how to:

- Boot the demo application (secure mode)
- Load the firmware
- Load the key(s)
- Perform crypto operations

This release was developed and tested using:

- Chip:
  – P32G274AABVUC-1P77B (Rev 2.1)
- Design Board: S32G-VNP-EVB

Standard HSE Firmware package contains the following configuration:

- 20 RAM keys, 40 NVM symmetric keys, 12 NVM asymmetric keys
- 8 SMR entries, 4 CR entries
- Support only for ECC-256bits and CURVE25519 curve (Montgomery and Twisted)
- Maximum key size limitations: HMAC - 512bits, ECC - max 256bits, RSA- max 2048bits
- SHA3, IPSec, Classic DH and Burmester-Desmedt services are not supported
- CURVE448 is not supported (Montgomery and Twisted)

Note:

- The release package provides the firmware image for rev 2.1 of the S32G2XX chip. The image **cannot** be use for the previous chip revision (2.0)
- For the Premium Package variant, the customers would need to purchase "premium S32G2 security parts" (to run Premium Package variant in production).

The x.2.x.x releases (including this release) are not compatible with x.1.0.x releases. Refer to "Appendix 1" from "HSE Firmware Reference Manual" for the unsupported parameters or services in x.1.0.x releases.

Ensure that the latest SoC revision (rev 2.1) and the latest HSE Firmware version are used.

Implemented Errata:

- *ERR051655* erratum - OCOTP: Incorrect data may be read from fuses after software power down and up of the fusebox.

2.1 Supported Derivatives

The software described in this document is intended to be used with the following microcontroller devices of NXP:

- S32G274A
- S32G254A
- S32G233A
- S32G234M

2.2 Device Bricking scenario for HSE Firmware

- **N/A**

2.3 Security Aspects

The current release of HSE Firmware implements countermeasures providing protection against remote and local software attacks.

3   Known issues

- Do not enable the temperature sensor violation in HSE firmware using the hseTempSensVioConfig_t attribute. At random points in time, a false measurement can be reported by the Temperature Monitoring Unit (TMU) and HSE goes into shutdown mode.

4 Change Logs in 0.2.51.0

Added

- Extended the disableOtpRollbackProtect parameter of hseOtpRollback ProtectionPolicy_t attribute to include the HSE_ON_DEMAND_ANTI_RBC_UPDATE option: the rollback protection mechanism is enabled, and the anti-rollback counter can be updated in fuses only on-demand by calling the hseOnDemandAntiRbcUpdateSrv_t service.
- Added the hseOnDemandAntiRbcUpdateSrv_t service that can be used to update on demand the anti-rollback counter in fuse (of SYS-IMF or/and FW IMG). This service can be used only if disableOtpRollbackProtect == HSE_ON_DEMAND_ANTI_RBC_UPDATE (refer to hseOtpRollbackProtectionPolicy_t attribute).
- Added hseFirmwareVerifySrv_t service to verify on demand the blue or pink firmware image (in external flash or SRAM)
- Added the hseAttrOtpBootSeq_t attribute (OTP_BOOT_SEQ) to enforce the BOOT_SEQ flag in IVT not to be changed to 0 in secure boot mode. If IVT_BOOT_SEQ == 1 (secure boot), this attribute can be used to set the in OTP_BOOT_SEQ in fuses. At start-up, HSE verifies the value of OTP_BOOT_SEQ (from fuses) against the value of IVT_BOOT_SEQ as follows: if(LC == OEM_PROD or IN_FIELD) and (OTP_BOOT_SEQ == 1) and (OTP_BOOT_SEQ != IVT_BOOT_SEQ), apply a functional reset; otherwise, continue the boot sequence.
- Added the read-only hseRbCounterInfo_t attribute to provide:
  - the OTP counter for SYS-IMG
  - the OTP counter for FW-IMG
  - the counter from SYS-IMG header (returns 0xff if the SYS-IMG was not loaded)
  - the counter from blue FW header (returns 0xff if the firmware was loaded from the pink FW image).
- Updated `hseKeyVerifySrv_t` service: added support to verify the asymmetric keys inside HSE key store (public key, key pair, or _PUB_EXT keys) providing a SHA256 or CMAC tag. Removed the SHA384 or SHA2_512 options.
- Added `HSE_SRV_RSP_RNG_INIT_IN_PROGRESS` service response: this response status can be received when the Get Random Number service is called and the RNG initialization is in progress. The application can try again later.
- Added the `hseDisablePairWiseConsistencyTest_t` attribute (SET-ONLY-ONCE-ATTR attribute) to disable the pair-wise consistency check when importing an ECC/RSA key pair to increase the key import performance. By default, HSE checks the pair-wise consistency.

Updated

- Enhanced security countermeasures (code hardening).
- For the `hseSignSrv_t` service, if the `bInputIsHashed` parameter is set to TRUE and the `hashAlgo` for the `signScheme` scheme is provided, HSE checks that the `inputLength` is equal to the hash output length.
- NXP ROM provision keys cannot be used to export keys.
- When rollback protection is enabled and status bit `HSE_WA_OTP_FUSE_WRITE_FAILURE_ ON_BOOT` is set, the application should trigger a destructive reset or POR such that the HSE firmware retries programming the fuse.
- Reduced `HSE_MAX_NUM_OF_SGT_ENTRIES` to 16 entries (instead of 32).
- Reduced `MAX_STREAMING_CONTEXT_SIZE` to 372 bytes (instead of 616 bytes).
- Default `HSE_DEFAULT_MIN_FAST_CMAC_TAG_BITLEN` is 32 bits (instead of 64).
- Super User (SU) rights are no longer mandatory for storing the application specific data in persistent memory via `HSE_APP_SPECIFIC_DATA_ATTR_ID` attribute (refer to `hseAppSpecificData_t` structure).
- Improved the HSE Service API Reference Manual.

Fixes

- HSE entered shutdown mode with fatal error GSR= 0x73080001: when the RNG re-initialization is triggered due to a reseed failure (RNG reseeding can fail), it shall not be interrupted by high-priority crypto operation such as AES encryption.
- HSE entered shutdown mode with fatal error GSR=0x33AA0001: Fix the race condition when the watchdog idle/running state changes.
- The host cannot access the shared memory when HSE is in shutdown mode; make HSE-host shared memory accessible by host (even if HSE went to shutdown mode).
- The input length cannot zero for ECDSA
- The second public key of the Burmester-Desmedt HSE service cannot be exported
- Fix the boot sequence when the VDD_EFUSE is grounded and the FW or SYS_IMG are not updated.
- Do not allow monotonic counter read/increment if the counter table loading fails

5 Change Logs in 0.2.22.0 (compared with HSE x.1.0.x releases)

Added

- An ECC private key can be imported without providing the public key. The public is computed internally from the private key.
- Indirect SYS-IMG access: the SYS-IMG pointer from IVT can point to a list of 16 addresses/entries (instead of pointing directly to the SYS-IMG location). An non-empty entry has the address value different from 0xFFFFFFFF. At reset, HSE firmware parse the entry-list (from 0 to 15) to find the lasted non-entry entry, and uses the address found to read-out the SYS-IMG. In this way, the SYS-IMG can be written at multiple flash locations. To enable this indirect access of the SYS-IMG, the IVT must be configured to include a marker at a specific offset in IVT (refer the HSE Firmware reference manual).
- Importing/exporting of Classic DH keys
- Included new service (refer to HSE Firmware and Service API reference manuals):
  - `HSE_SRV_ID_KEY_VERIFY` service – verify a key stored inside HSE providing a CMAC or hash.
  - `HSE_SRV_ID_EXTEND_KEY_CATALOG` service – extend the formatted key catalog with new key groups
  - `HSE_SRV_ID_SMR_ENTRY_ERASE` service – erase an SMR entry
  - `HSE_SRV_ID_CORE_RESET_ENTRY_ERASE` service – erase a CR entry
- Included new attributes (refer to HSE Firmware and Service API reference manuals):
  - `HSE_RESET_SOC_ON_TAMPER_ATTR_ID` attribute – allows HSE to reset the Soc on tamper detection (by default goes to shutdown mode)
  - `HSE_OTP_ROLLBACK_PROTECTION_POLICY_ATTR_ID` attribute – allows to disable the rollback protection for HSE firmware image and SYS-IMG; prevent the firmware from running if it was loading from a Pink FW-IMG
  - `HSE_APP_SPECIFIC_DATA_ATTR_ID` attribute - allows to store application-specific data in the persistent memory
  - `HSE_DISABLE_APP_SPECIFIC_DATA_WRITE_ATTR_ID` attribute - disables writing of application-specific data in SYS-IMG (disable writing of the `HSE_APP_SPECIFIC_DATA_ATTR_ID` attribute).
  - `HSE_FW_BUILD_INFO_ATTR_ID` attribute – provides the firmware build information: a 8-byte unique ID, the date and time of the build.
- Added support for asymmetric ROM public keys (ECC and RSA)

Updated

- Updated the fuse read/write handlers to cover **_ERR051655_** erratum. Additional code hardening was included. **Ensure that the latest HSE Firmware is used.**
- Enhanced security countermeasures (code hardening).
- Update the register address for `HSE_GPR_STATUS_ADDRESS`
- Updated the Publish SYS-IMG service (`HSE_SRV_ID_PUBLISH_SYS_IMAGE`): the `HSE_PUBLISH_UPDATED_DATA_SET` option was removed.
- Allow Lifecycle advancement without Super User Rights.
- Increased the performance for EdDSA signature verification for big data
- Enhanced the Firmware Update service: code hardening and added additional checks
- Improved the HSE Service API Reference Manual (HSE header files comments).
- Increased the plaintext FW image size by 32KB. The size of the image as provided by NXP (pink image) is 389KB.
- Updated the key properties (`hseKeyInfo_t`)
  - Added `aesBlockModeMask` field - restrict the cipher mode for a specific AES key. The application can configure an AES key to be used only with some AES cipher modes
  - `HSE_KF_USAGE_XTS_TWEAK` and `HSE_KF_USAGE_OTFAD_DECRYPT` key flags - restrict the key usage for XTS tweak key and OTFAD keys

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- An encrypted key can be imported only authenticated
- Added options for on-demand SMR verification (`hseSmrVerifySrv_t` service): verification without loading from external flash, reload from external flash with verification
- Updated the OTFAD service: included `otfadInstance` field; updated `hseOtfadCtxStatus_t` attribute
- `hseImportKeySrv_t` and `hseExportKeySrv_t` service: added support ECC key in compressed and uncompressed format (see `keyFormat.eccKeyFormat` field).
- `hseSmrDecrypt_t` service: included `aadLength` and `pAAD` fields – Additional Authenticated Data (AAD) for GCM operation with SMR.
- `hseKeyGenTls12RsaPreMaster_t` service: `rsaPskKeyHandle` parameter was replaced by `protocolVersion` parameter on the latest interface
- `hseSmrEntryInstallSrv_t` service: `pAAD` field - Additional Authenticated Data for GCM operation with SMR
- `hseXtsAesCipherSrv_t` service: include `sgtOption` field (scatter-gather option)
- Added RSA_PSK and DHE_PSK options for TLS1.2 key exchange (`hseKdfTLS12PrfScheme_t`)
- `hseError_t` updates: removed the error flags signaled for the tampers configured by the application.
- `hseCmacWithCounterSrv_t` service: added scatter-gather option (`sgtOption` field)
- Removed MD5
- Key derivation services (KDF functions) cannot be used with SHA1
- `HSE_HOST_PERIPH_CONFIG_DONE` service: the window time for waiting the `HSE_HOST_PERIPH_CONFIG_DONE` event was changed from 100 milliseconds to 5 seconds

Fixed

- The first RSA signature verify costs 6x times than the same service requested after that
- Incorrect AES-GCM tag is computed when IV counter wraps
- A SMR install request from flash with a large SMR size cause HSE to go to shutdown mode

6 List of Limitations Existing in This Release

- The RNG re-initialization is triggered at the first call of the following services:
  `HSE_SRV_ID_GET_RANDOM_NUM`, `HSE_SRV_ID_KEY_GENERATE` or `HSE_SRV_ID_SYS_AUTH_REQ`.
- VDD_EFUSE must be connected to `1.8V` to write the HSE fuse area. If VDD_EFUSE is connected to `GND`, the HSE fuse area can only be read (cannot be written).
  The fuses are written:
  - By the application, through the Set Attribute service (e.g. life cycle, ADKP key, debug authorization method, etc.). In this case, the application must supply power (`1.8V`) to the VDD_EFUSE pin.
  - By HSE FW, at start-up when the blue FW-ING/SYS-IMG is updated and disableOtpRollbackProtect parameter is set to "NO" (refer to hseOtpRollbackProtectionPolicy_t attribute)
- During SD card booting, the first 36KB (`start_address = 0x34000000, length = 0x9000`) from SRAM are used. This memory region can be used by the application after a successful HSE initialization (HSE status shall be `HSE_STATUS_INIT_OK` for `BOOT_SEQ = 0` and `HSE_STATUS_BOOT_OK` for `BOOT_SEQ = 1`).
- Defining SMR entries that are checked periodically may impact the overall HSE FW performance.

7 List of Services Available

NOTE:

All available HSE features/services are also listed in the `hse_h_config.h` file (from HSE Interface). All other features not listed in the table below (or enabled in `hse_h_config.h` file) **are NOT supported**.

Table 1.

Service Class	HSE Service ID	Description/Notes
Administrative	HSE_SRV_ID_SET_ATTR	**Set an HSE attribute**. Attributes related to FUSE memory can be written only once (e.g. Debug Key) or can only be advanced (e.g. Life cycle). **Care must be taken.**
	HSE_SRV_ID_GET_ATTR	**Get an HSE attribute.**
	HSE_SRV_ID_SELF_TEST	Performs a self-test on a specific security block or a full self-test. (HSE FW integrity, RNG, AES, HASH, MAC, CRC, RSA, ECC)
	HSE_SRV_ID_CANCEL	**Cancel a one-pass or streaming service on a specific channel.** An HSE service request can be canceled if it is in the processing queue and NOT passed to the hardware to be executed.
	HSE_SRV_ID_FIRMWARE_UPDATE	**HSE firmware update** (generates the HSE FW blue image)
	HSE_SRV_ID_FIRMWARE_VERIFY	Verifies the blue or pink FW images (in SRAM or external flash)
	HSE_SRV_ID_SYS_AUTH_REQ	**SYS Authorization request** used to be granted with CUST/OEM SuperUser rights
	HSE_SRV_ID_SYS_AUTH_RESP	**SYS Authorization response** (response to SYS Authorization Request)
	HSE_SRV_ID_BOOT_DATA_IMAGE_SIGN	**Generate the signature on IVT, DCD & SELF TEST images**. Also, signs the APP image for Basic Secure Boot (BSB).
	HSE_SRV_ID_BOOT_DATA_IMAGE_VERIFY	**Verify the signature on IVT, DCD & SELF TEST images.** Also, verifies the APP image for Basic Secure Boot (BSB).
	HSE_SRV_ID_IMPORT_EXPORT_STREAM_CTX	**Import and Export service for the crypto streaming context.**
	HSE_SRV_ID_PUBLISH_SYS_IMAGE	**Publish SYS-IMAGE file in System RAM.**
	HSE_SRV_ID_GET_SYS_IMAGE_SIZE	**Get SYS-IMAGE size.**
	HSE_SRV_ID_VERIFY_SYS_IMAGE	**Verify SYS-IMAGE integrity after it is written in the external flash.**
	HSE_SRV_ID_PUBLISH_LOAD_CNT_TBL	**Request to publish/load the NVM container for the Monotonic Counter table**
	HSE_SRV_ID_INSTALL_OTFAD_CTX	Install an On-The-Fly AES Decryption (OTFAD/IEE) context.

Table 1. *...continued*

Service Class	HSE Service ID	Description/Notes
	HSE_SRV_ID_ACTIVATE_OTFAD_CTX	Activate on-demand OTFAD context
	HSE_SRV_ID_GET_OTFAD_CTX	Get OTFAD context information
	HSE_SRV_ID_PREPARE_FOR_STANDBY	Prepare HSE before the system goes to Stand-by mode
	HSE_SRV_ID_CONFIG_COUNTER	Configures the monotonic counters
	HSE_SRV_ON_DEMAND_ANTI_RBC_ UPDATE	Update on demand the anti-rollback counter(s) in fuses for SYS-IMG and/or FW-IMG
Key Management	HSE_SRV_ID_LOAD_ECC_CURVE	**Load the domain parameters for a Weierstrass ECC curve.** This service can be used to support additional Weierstrass ECC curves (which are not supported by default). The loaded ECC curve domain parameters are persistent.
	HSE_SRV_ID_FORMAT_KEY_CATALOGS	**Format key application key catalogs (RAM&NVM).**
	HSE_SRV_ID_ERASE_KEY	**Erase NVM/RAM key(s).** Erase key service depends on authorization rights. One or multiple keys can be erased.
	HSE_SRV_ID_GET_KEY_INFO	**Get key proprieties** (flags).
	HSE_SRV_ID_IMPORT_KEY	**Import a key**. Uses all algorithms supported by HSE firmware: * Plain form or AES / RSA encrypted. * MAC authenticated (refer to supported MAC algorithms) or RSA / ECDSA signed. * Import key restrictions depend on sys authorization rights. The restrictions are described by the service in the interface.
	HSE_SRV_ID_EXPORT_KEY	**Export a key.** Uses all algorithms supported by HSE firmware: * Plain form (only public keys) or AES / RSA encrypted. * MAC authenticated (refer to supported MAC algorithms) or RSA / ECDSA signed. * Export key restrictions depend on authorization rights. The restrictions are described by the service in the interface.
	HSE_SRV_ID_KEY_GENERATE	**Request to generate a symmetric/asymmetric key.** * Random symmetric key generation * RSA and ECC key pair generation
	HSE_SRV_ID_DH_COMPUTE_SHARED_ SECRET	**ECC Diffie-Hellman Compute Key (shared secret)**: * SEC curves: SECP256R1 * Brainpool curves: BRAINPOOLP256R1

Table 1. *...continued*

Service Class	HSE Service ID	Description/Notes
		* Montgomery curve: CURVE25519
		* 3 user-defined ECC curves (see Load ECC curve service)
	HSE_SRV_ID_KEY_DERIVE	**Perform a key derivation function:**
		* NXP Generic KDF, Extract KDF, SP800_56C One Step, SP800_56C Two Step, SP800_108 (Only Counter Mode), ANS_X963, ISO/IEC 18033 KDF2, ISO/IEC 18033 KDF1, PBKDF2HMAC, HKDF, IKEV2, TLS12PRF
	HSE_SRV_ID_KEY_DERIVE_COPY	**Extract a key from the derived key material to a key slot.**
	HSE_SRV_ID_KEY_VERIFY	**Verifies a provided hash/MAC over a symmetric/asymmetric key inside HSE key store.**
	HSE_SRV_ID_EXTEND_KEY_CATALOG	**Update the NVM or RAM key catalogs by appending new key groups.**
	HSE_SRV_ID_SHE_LOAD_KEY	**Load a SHE key** using the SHE memory update protocol.
	HSE_SRV_ID_SHE_LOAD_PLAIN_KEY	**Load the SHE RAM key** as plain text.
	HSE_SRV_ID_SHE_EXPORT_RAM_KEY	**Export the SHE RAM key.**
	HSE_SRV_ID_SHE_GET_ID	**Get UID as per SHE specification.**
	HSE_SRV_ID_SHE_BOOT_OK	The command is used to mark successful boot verification for later stages than CMD_SECURE_BOOT. For more details, see SHE specification
	HSE_SRV_ID_SHE_BOOT_FAILURE	The command will impose the same sanctions as if CMD_SECURE_BOOT would detect a failure but can be used during later stages of the boot process. For more details, see SHE specification.
ROM Keys	N/A	**Support for ROM keys (without RSA)**
Crypto	HSE_SRV_ID_HASH	**Hash service (one-pass and streaming):**
		* SHA1
		* SHA-224, SHA-256, SHA-384, SHA-512, SHA-512/224, SHA-512/256
		* Miyaguchi-Preneel compression function (SHE specification support)
	HSE_SRV_ID_MAC	**Request to generate/verify a Message Authentication Code (MAC):**
		* AES-CMAC, AES-GMAC, AES-XCBC-MAC
		* HMAC_(SHA1, all SHA2)
	HSE_SRV_ID_FAST_CMAC	**Low latency, high-performance CMAC generate/verify the request**
	HSE_SRV_ID_SYM_CIPHER	**Symmetric encryption/decryption (one-pass and streaming):**
		* AES-128/-192/-256: ECB, CBC, CTR, OFB, CFB
	HSE_SRV_ID_AEAD	**AEAD encryption/decryption:**
		* AES-CCM-128/-192/-256 (one-pass, **no streaming support**)

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Table 1. *...continued*

Service Class	HSE Service ID	Description/Notes
		* AES-GCM-128/-192/-256 (one-pass and streaming)
	HSE_SRV_ID_XTS_AES_CIPHER	**XTS AES encryption/decryption**
	HSE_SRV_ID_SIGN	**Request a Digital Signature Generation/Verification (one-pass and streaming):** * RSASAA_PSS (from 1024 up to 2048 bits key) * RSASAA_PKCS1-v1_5 (from 1024 up to 2048 bits key) * ECDSA (all supported ECC curves) * EDDSA (for ED25519 curve)
	HSE_SRV_ID_RSA_CIPHER	**RSA encryption/decryption**: * RSAES-PKCS1-v1_5 (from 1024 up to 2048 bits key) * RSAES-OEAP (from 1024 up to 2048 bits key)
	HSE_SRV_ID_AUTHENC	**Combined Authenticated Encryption service:** *AES_(ECB, CBC, CTR, CFB, OFB) -THEN- HMAC_ (SHA1, SHA2_224, SHA2_256, SHA2_384, SHA2_512) for "Encrypt-then-MAC" *NULL cipher with all MAC algorithms (CMAC, GMAC, XCBC_MAC, HMAC(SHA1, SHA2))
	HSE_SRV_ID_CRC32	**Computes CRC32 checksum.**
	HSE_SRV_ID_SIPHASH	**SipHash** is optimized for fast processing speeds when used to authenticate small messages. (MACs)
	HSE_SRV_ID_CMAC_WITH_COUNTER	Generates/verifies the CMAC of a given input message concatenated with a selected secure counter.
RNG	HSE_SRV_ID_GET_RANDOM_NUM	**Get a random number.** AIS31 and FIPS 140-2 compliant
Counters	HSE_SRV_ID_INCREMENT_COUNTER	**Incrementing volatile counters.** The Counter table can be published and load as an encrypted and authenticated blob using the HSE_SRV_ID_ PUBLISH_LOAD_CNT_TBL service.
	HSE_SRV_ID_READ_COUNTER	**Read volatile counters.**
Advance Secure Booting (SMR/CR)	HSE_SRV_ID_SMR_ENTRY_INSTALL	**Install a Secure Memory Region (SMR) table entry.**
	HSE_SRV_ID_SMR_VERIFY	**Verify (on demand) a Secure Memory Region (SMR) table entry.**
	HSE_SRV_ID_CORE_RESET_ENTRY_ INSTALL	**Install a Core Reset (CR) table entry.**
	HSE_SRV_ID_ON_DEMAND_CORE_RESET	**On-demand release a core from a reset after loading and verification**

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Table 1. *...continued*

Service Class	HSE Service ID	Description/Notes
	HSE_SRV_ID_SMR_ENTRY_ERASE	**Erase an SMR entry**
	HSE_SRV_ID_CORE_RESET_ENTRY_ ERASE	**Erase a CR entry**

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