Customer Release Note

Linux QMI SDK 04.00.09

SIERRA WIRELESS®

4134575
01.01
August 21, 2017

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Due to the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e., have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Sierra Wireless modem are used in a normal manner with a well-constructed network, the Sierra Wireless modem should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Sierra Wireless accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sierra Wireless modem, or for failure of the Sierra Wireless modem to transmit or receive such data.

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Document History

Version	Date	Updates
01.00	August 18, 2017	Creation
01.01	August 21, 2017	Add kernel 2.6.32 QMAP support as known issue

Contents

List of Tables

1. Introduction

1.1. Document Scope

This document describes the content of the Linux QMI SDK 04.00.09 release.

1.2. Document Audience

This release note may be distributed to all direct and indirect customers.

1.3. New Features/Enhancements

Table 1. New Features/Enhancements

Feature	Description

Lite APIs	• **New Wrappers**
	  ○ **WDS**
	  ▪ SetMuxID

Multi-PDN QMAP Support	• **New API** ○ GetQmapIsSupported

Miscellaneous	• **New SMS API**
	  ○ SLQSCDMADecodeMTTextMsgExt
	• **Remove deprecated API**
	  ○ GetIMSI
	  ○ UIMSetPINProtection
	  ○ IMUnblockPIN
	  ○ UIMVerifyPIN
	  ○ UIMChangePIN
	  ○ UIMGetControlKeyStatus
	  ○ UIMGetICCID
	  ○ UIMGetPINStatus
	  ○ UIMSetControlKeyProtection
	  ○ UIMUnblockControlKey
	  ○ SLQSUIMGetState

Minor API prototype change	• **In qaGobiApiSwiAvms.h**
	  ○ struct SLQSAVMSSettings
	  ▪ rename pFwAutodownload to pFwPromptdownload
	  ▪ rename pFwAutoUpdate to pFwPromptUpdate
	  ○ struct SLQSAVMSSetSettingsReq
	  ▪ rename pFwAutodownload to pFwPromptdownload
	  ▪ rename pFwAutoUpdate to pFwPromptUpdate
	• **In swiavms.h**
	  ○ struct pack_swiavms_SLQSAVMSSetSettings_t
	  ▪ rename FwAutodownload to FwPromptdownload
	  ▪ rename FwAutoUpdate to FwPromptUpdate

1.4. Removed Features

Table 2. Remove deprecated UIM APIs

UIM APIs removed	Replacement APIs
UIMSetPINProtection	SLQSUIMSetPinProtection
UIMVerifyPIN	SLQSUIMVerifyPin
UIMUnblockPIN	SLQSUIMUnblockPin
UIMChangePIN	SLQSUIMChangePin
UIMGetPINStatus	SLQSUIMGetCardStatus
UIMGetICCID	SLQSUIMReadTransparent
UIMGetControlKeyStatus	SLQSUIMGetConfiguration
UIMSetControlKeyProtection	SLQSUIMDepersonalization
UIMUnblockControlKey	SLQSUIMDepersonalization
GetIMSI	SLQSUIMReadTransparent
SLQSUIMGetState	SLQSUIMGetCardStatus

1.5. Lite APIs Rename

In order to be consistent on naming convention, we have renamed libpack and libsdp to lite-qmi and lite-fw respectively.

Table 3. libSDP to lite-fw Structure name update

libSDP	lite-fw
libSDP_FirmwareInfo	**litefw_FirmwareInfo**

Table 4. libSDP to lite-fw Enum name update

libSDP	lite-fw
LIBSDP_CARRIER_PACKAGE_SKU	**LITEFW_CARRIER_PACKAGE_SKU**

Table 5. libSDP to lite-fw API name update

libSDP	lite-fw
libSDP_getFileType	litefw_getFileType
libSDP_ExtractFirmwareParametersByPath	litefw_ExtractFirmwareParametersByPath
libSDP_GetModelFamily	litefw_GetModelFamily
libSDP_CheckValidFirmwareInfo	litefw_CheckValidFirmwareInfo
libSDP_BuildImagesPreferenceRequest	litefw_BuildImagesPreferenceRequest
libSDP_CalculateImageMask	litefw_CalculateImageMask
libSDP_DownloadFW	litefw_DownloadFW
libsdp_set_log_func	litefw_set_log_func
libsdp_SetReadBlockSize	litefw_SetReadBlockSize

Note: We have added below translations at the end of lite-fw.h header for backward compatibility

```
#define libSDP_GetVersion litefw_GetVersion
#define libSDP_CalculateImageMask litefw_CalculateImageMask

#define libSDP_getFileType litefw_getFileType

#define libSDP_ExtractFirmwareParametersByPath
litefw_ExtractFirmwareParametersByPath

#define libSDP_GetModelFamily litefw_GetModelFamily

#define libSDP_CheckValidFirmwareInfo litefw_CheckValidFirmwareInfo
#define libSDP_BuildImagesPreferenceRequest
litefw_BuildImagesPreferenceRequest

#define libSDP_DownloadFW litefw_DownloadFW
#define libsdp_set_log_func litefw_set_log_func

#define libsdp_SetReadBlockSize litefw_SetReadBlockSize

#define LIBSDP_CARRIER_PACKAGE_SKU LITEFW_CARRIER_PACKAGE_SKU
#define LIBSDP_SKU_STRING_LENGTH LITEFW_SKU_STRING_LENGTH

typedef litefw_FirmwareInfo libSDP_FirmwareInfo;

typedef litefwlogger libsdplogger;
```

2. Abbreviations and Definitions

Table 6. Abbreviations and Definitions

Abbreviation/Acronym	Definitions
MSM	Mobile Station Modem
PRI	Product Release Instructions
QMI	Qualcomm MSM Interface
SLQS	Sierra Linux QMI SDK
WP	Work Package

3. Related Documentation

Table 7. Related Documentation

Ref. #	Doc. #	Document title
[R-1]	4110914	Linux QMI SDK Application Developer's Guide
[R-2]		Linux QMI SDK Sanity Test Report – 04.00.09
[R-3]		Linux QMI SDK Software Validation Test Report – 04.00.09

4. Compatibility

Table 8. Hardware Compatibility

Devices Compatibility List
AR7554/AR7554RD
EM/MC73xx
MC77xx
MC83x5
MC/SL9090
MC/EM74xx
WP8548/7502/7504
WP7601/WP7603

Note: MC77xx devices must operate in "QMI Mode" and not in "Direct-IP" mode.

To switch device into QMI mode of operation, use the following AT commands:

- **AT!UDPID=68A2**
- **AT!RESET**

*Note: MC73xx, set the device using "**AT!UDPID=68C0**".*

The tables below list the hexadecimal values of the Vendor ID (VID) and Product ID (VID) pairs supported by the Linux QMI SDK.

Table 9. Supported Application-Mode VID/PIDs

VID	1199	1199	1199	1199	1199	1199	1199	1199	3F0
PID	68A2	68C0	9011	9013	9015	9019	9041	9071	371D

Table 10. Supported Boot-Mode VID/PIDs

VID	1199	1199	1199	1199	1199	1199	1199	1199	3F0
PID	68A2	68C0	9010	9012	9014	9018	9040	9070	361D

To check your device's VID/PID, issue the **lsusb** command. The output will present a list of USB devices with a column showing each device's manufacturer. The device VID/PID can be read from the row containing the correct device manufacturer. Additionally, on MC77xx devices, you can use the **AT!UDINFO?** command to check VID/PID information. If your VID/PID does not match the any of the entries in the tables above, contact your FAE for support.

The following table enumerates the modems with their corresponding firmware that were tested with Linux QMI SDK 04.00.09.

Table 11. Modem and Firmware tested with the SDK

Modem	Firmware
MC7430	SWI9X30C_02.26.00.00
EM/MC7455	SWI9X30C_02.26.00.00
MC7304	SWI9X15C_05.05.58.00
MC7354	SWI9X15C_05.05.58.00
MC7350	SWI9C15C_05.05.58.01
MC7355	SWI9X15C_05.05.67.00
MC7330	SWI9X15C_05.05.65.00
MC7305	SWI9X15C_05.05.58.00
MC7710	SWI9200X_03.05.29.06
MC9090	SWI6600U_02.04.06.00
EM7355	SWI9X15C_05.05.67.00
EM7330	SWI9X15C_05.05.65.00
EM7305	SWI9X15C_05.05.67.00
WP7502	SWI9X15Y_07.12.09.00
WP7504	SWI9X15Y_07.12.09.00
WP8548	SWI9X15Y_07.12.09.00
WP7603	SWI9X07Y_02.06.02.00
EM7565	SWI9X50C_00.05.03.00

Note: The SDK in general work across all firmware revisions. However, some new API might require a recent firmware.

5. Software Release Description

Table 12. Release Information

Component	Content
SDK version	04.00.09
Date of generation	18/08/2017
Binary archive name	SLQS04.00.09.bin.tar.gz
MD5 checksum	9de0911456a97972d8b392fb769cad50
Binary archive name	SLQS04.00.09-lite.bin.tar.gz
MD5 checksum	c8198c8d21e1256097fb7335b1dbf26d
Source code archive name	SLQS04.00.09.tar.gz
MD5 checksum	3a51ee465309794553e976eec19c3d5b
Processor compatibility	x86, ARM, PowerPC, MIPS
Linux kernel compatibility	2.6.32 to 4.8
USB drivers compatibility	S2.28N2.42

6. Software Changes Description

6.1. Validated Corrections/Improvements

ID	Description
LXQMISDK-953	Add lite-qmi WDS API set MUX ID
LXQMISDK-952	[WP7603/WP7702] Firmware Download never completes
LXQMISDK-949	[Linux QMI SDK] SDK change to support Qmap
LXQMISDK-943	Firmware Download application should be able to select a particular module for firmware upgrade
LXQMISDK-942	lite-fw-download does not set image preference to send FW to slots with WP76
LXQMISDK-941	remove printf from lite libraries and use lite logging functions
LXQMISDK-938	SLQSAVMSSetSettingsReq and pack_swiavms_SLQSAVMSSetSettings_t documentation update needed
LXQMISDK-936	AVMS service APIs do not set TlvPresent properly for optional parameters
LXQMISDK-935	[WP7603] Firmware Download never completes
LXQMISDK-934	SLQSSwiAVMSEventReportCallback and unpack_swiavms_SLQSAVMSEventReportInd do not provide AVMS Notification information
LXQMISDK-933	unpack_swiavms_SLQSAVMSEventReportInd_t documentation is not correct
LXQMISDK-930	Add support for HW variants
LXQMISDK-928	Incoming Long SMS decoding on 3GPP2 network
LXQMISDK-926	Linux SDK FW DL successful -- fwdl app never completes
LXQMISDK-921	FW download times out with SDK Lite
LXQMISDK-918	Default "block size" for SDK LITE FW download should be 4K

ID	Description
LXQMISDK-853	udev rule can be added to avoid modemmanager capturing ttyUSB port
LXQMISDK-652	SDK GetIMSI call deprecated QMI_DMS_UIM_GET_IMSI

6.2. Known Issues

ID	Description
LXQMISDK-951	EM7565 firmware update support
LXQMIDRV-184	QMAP no ping response on kernel 2.6.32

6.3. New API

API	Comment

6.4. Minor API prototype change

Note: when updating SDK, please make sure to pull the latest headers from <SDK_ROOT>/api folder

6.5. Macro Usage

Macro	Usage
AM_API_MUTEX_TIMEOUT_IN_SEC	This is the timeout time (in seconds) for which the mutex is locked when the SDK is compiled with API_TIMEOUT flag.
API_TIMEOUT	This is a compilation flag. If this flag is defined during compilation, SDK will lock the mutex for a particular time. The locking time is defined by AM_API_MUTEX_TIMEOUT_IN_SEC. If this flag is not defined then the mutex is locked indefinitely.