Release Notes for the Avnet AT&T IoT Cellular Starter Kit

Release Tag: att_cellular_K64_wnc_14A2A_20170423

WNC Firmware Requirement: CM_MPSS_M14A2A_v11.50.164451

The software for the IoT Kit is a combination of software running on the NXP FRDM-K64F development board and the WNC 14A2A data module. This data module allows users to send data over a cellular network using an LTE data channel.

New Features

This release updates the network interface for the IoT Starter Kit to conform to the ARMmbed v5 architecture and implements the 'easy-connect' class for simplified network connectivity.

The WNC interface continues to use the WNC Controller Library & WncControllerK64F class for controlling the WNC M14A2A data module.

Example Code

To demonstrate the use of the WNC Data Module, a couple of example programs have been implemented and are available on the Avnet Team Site (https://developer.mbed.org/teams/Avnet/):

1. This library is based on the ARMmbed 'easy-connect' library (see https://github.com/armmbed/easy-connect. Support for the WNC14A2A has been added in this version. See: https://developer.mbed.org/teams/Avnet/code/easy-connect-wnc/
2. This example program is based on ARMmbed (https://developer.mbed.org/teams/sandbox/code/mbed-http/). The version referenced here extends the functionality of the original example program by adding an additional example program call main-x.cpp. This new example program performs both unsecure and secure exchanges in a single program utilizing socket reuse and includes an example for receiving chunked data. See: https://developer.mbed.org/teams/Avnet/code/http-example-wnc/
3. This example program implements a demonstration of IoT SMS functionality as provided for by AT&T. The program does not use the easy-connect interface as the example #2 does, instead it directly utilizes the WNC14A2AInterface. Additional information is available in the README.md file. See: https://developer.mbed.org/teams/Avnet/code/SMS_demo/

To implement these examples, you need:

1. An mbed developer account at https://developer.mbed.org
2. The FRDM-K64F platform added to your workspace

To compile the code, you can use the on-line compiler/tools OR the off-line Command Line Interface (The CLI is provided by ARMmbed and available at https://github.com/ARMmbed/mbed-cli).

Library	Description
WncControllerLibrary / WncControllerK64F https://developer.mbed.org/teams/Avnet/code/WncControllerLibrary/ https://developer.mbed.org/teams/Avnet/code/WncControllerK64F/	This library is implemented as an abstract class for basic functionality, and a device specific component for the AT&T IoT kit which uses the FRDM-K64F board.
WNC14A2AInterface https://developer.mbed.org/teams/Avnet/code/WNC14A2AInterface/	This interface class implements the Network, Socket, and SMS API's—conforming with mbed v5.x architecture
Example Programs using the Core Components:	
http-example-wnc https://developer.mbed.org/teams/Avnet/code/http-example-wnc/	Demonstrates basic http socket capabilities of the WNC device including secure sockets.
SMS_demo https://developer.mbed.org/teams/Avnet/code/SMS_demo/ Also see: https://starterkit.att.com/tutorials for instructions on using SMS.	This example demonstrates sending and receiving SMS data within the AT&T network using the AT&T SIM Control Center. The program sends a fixed SMS message to the control center every 30 seconds. From within the Control Center, a user can send a SMS message back to the IoT Kit. When the program first starts, it displays the SMS number to be used with the attached kit.

Bug Fixes

- N/A

Known Issues

- Incoming internet data notifications are not yet implemented.
- Not all Socket API's are currently implemented—not implemented are socket_attach and Socket Host API's.
- The SMS example requires the user to have an AT&T SIM Control Center Account.

Accessing this release

- The libraries and example programs are all provided at:
  https://developer.mbed.org/teams/Avnet/
- Further tutorials are available at: https://starterkit.att.com/tutorials

How to report problems

- It is most effective to post questions and/or problems to the cloudconnectkits.org forum page. This allows others to reference and learn from already discovered issues and their resolution.