Release Notes: JN-AN-1216

ZigBee 3.0 IoT Control Bridge

These release notes provide information on the SDK compatibility, memory usage and change history for the JN-AN-1216 ZigBee 3.0 IoT Control Bridge Application Note

1 Public v1005 (05-Apr-2017)

Updated for new features and bug fixes.

1.1 Public v1005: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions.

Product Type	Part Number	Version	Supported Chips
JN516x Evaluation Kits	JN516x-EK004 JN516x-EK001	- -	JN516x JN516x
Beyond Studio for NXP -Toolchain	JN-SW-4141	v1308	JN516x
JN516x ZigBee 3.0 - SDK	JN-SW-4170	v1518	JN516x
LPCXpresso -Toolchain	7.9.2	493	JN517x
JN517x ZigBee 3.0 - SDK	JN-SW-4270	v1520	JN517x

1.2 Public v1005: Memory Usage

The applications of this Application Note have the following memory footprints on the JN5169 device, when using the JN5169 ZigBee 3.0 SDK [JN-SW-4170].

Application	Text Size (Bytes)	Data Size (Bytes)	BSS Size (Bytes)
ZigbeeNodeControlBridge_JN5168_COORDINATOR_1000000.bin	176609	1768	28325
ZigbeeNodeControlBridge_JN5168_COORDINATOR_115200.bin	176609	1768	28325
ZigbeeNodeControlBridge_JN5168_FULL_FUNC_DEVICE_1000000.bin	176609	1768	28325
ZigbeeNodeControlBridge_JN5168_FULL_FUNC_DEVICE_115200.bin	176609	1768	28325
ZigbeeNodeControlBridge_JN5169_COORDINATOR_1000000.bin	177045	1760	28337
ZigbeeNodeControlBridge_JN5169_COORDINATOR_115200.bin	177045	1760	28337
ZigbeeNodeControlBridge_JN5169_FULL_FUNC_DEVICE_1000000.bin	177045	1760	28337
ZigbeeNodeControlBridge_JN5169_FULL_FUNC_DEVICE_115200.bin	177045	1760	28337

The applications of this Application Note have the following memory footprints on the JN5179 device, when using the JN5179 ZigBee 3.0 SDK [JN-SW-4270].

Application	Text Size (Bytes)	Data Size (Bytes)	BSS Size (Bytes)
ZigbeeNodeControlBridge_JN5179_COORDINATOR_1000000	163296	2173	27989
ZigbeeNodeControlBridge_JN5179_COORDINATOR_115200	163296	2173	27989
ZigbeeNodeControlBridge_JN5179_FULL_FUNC_DEVICE_1000000	163296	2173	27989
ZigbeeNodeControlBridge_JN5179_FULL_FUNC_DEVICE_115200	163296	2173	27989

1.3 Public v1005: New Features

OOB Commissioning Data Request and Response (lpsw8102)

Added support for Out of Band Commissioning Data Request and Response.

OOB Commissioning Data Command Update (lpsw8146)

Updated Out of Band Commissioning Data command to include Device ID and Short Address.

1.4 Public v1005: Bug Fixes

ZGWUI Field Clearing Issue (lpsw7713)

Previously, the ZGWUI would delete any text in a field upon mouse click. This was used to get rid of the flavour text describing what to input to that field. However, it would also delete user input data which could be frustrating for the user.

Now, once user data has been entered, fields are no longer cleared upon mouse click.

Update All Tooltips (lpsw7860)

Tooltips have now been added to all fields.

Enabled SimpleDescResp, IdentifyClientServer and ResetToFactory Default Command (lpsw7908)

Updated the following for Control Bridge Pre-Certification:

- Enable SimpleDescResp (make it discoverable)

- Enable Identify Server (update in zcl_options.h)

- Enable handling of Basic Cluster command RTFD (update in zcl_options.h for E_CLD_BASIC_CMD_RESET_TO_FACTORY_DEFAULTS)

ZGWUI About Button Issue (lpsw8233)

Corrected location of VERSION.txt so 'About' button so the ZGWUI is now functional.

1.5 Public v1005: Known Issues

None

2 Public v1004 (25-Nov-2016)

Updated for new features and bug fixes.

2.1 Public v1004: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions.

Product Type	Part Number	Version	Supported Chips
JN516x Evaluation Kits	JN516x-EK004 JN516x-EK001	- -	JN516x JN516x
Beyond Studio for NXP -Toolchain	JN-SW-4141	v1308	JN516x
JN516x ZigBee 3.0 - SDK	JN-SW-4170	v1518	JN516x
LPCXpresso -Toolchain	7.9.2	493	JN517x
JN517x ZigBee 3.0 - SDK	JN-SW-4270	v1520	JN517x

2.2 Public v1004: Memory Usage

The applications of this Application Note have the following memory footprints on the JN5169 device, when using the JN5169 ZigBee 3.0 SDK [JN-SW-4170].

Application	Text Size (Bytes)	Data Size (Bytes)	BSS Size (Bytes)
ZigbeeNodeControlBridge_JN5168_COORDINATOR_1000000.bin	175692	1768	28325
ZigbeeNodeControlBridge_JN5168_COORDINATOR_115200.bin	175692	1768	28325
ZigbeeNodeControlBridge_JN5168_FULL_FUNC_DEVICE_1000000.bin	175692	1768	28325
ZigbeeNodeControlBridge_JN5168_FULL_FUNC_DEVICE_115200.bin	175692	1768	28325
ZigbeeNodeControlBridge_JN5169_COORDINATOR_1000000.bin	176181	1768	28333
ZigbeeNodeControlBridge_JN5169_COORDINATOR_115200.bin	176181	1768	28333
ZigbeeNodeControlBridge_JN5169_FULL_FUNC_DEVICE_1000000.bin	176181	1768	28333
ZigbeeNodeControlBridge_JN5169_FULL_FUNC_DEVICE_115200.bin	176181	1768	28333

The applications of this Application Note have the following memory footprints on the JN5179 device, when using the JN5179 ZigBee 3.0 SDK [JN-SW-4270].

Application	Text Size (Bytes)	Data Size (Bytes)	BSS Size (Bytes)
ZigbeeNodeControlBridge_JN5179_COORDINATOR_1000000	163556	2173	28005
ZigbeeNodeControlBridge_JN5179_COORDINATOR_115200	163556	2173	28005
ZigbeeNodeControlBridge_JN5179_FULL_FUNC_DEVICE_1000000	163556	2173	28005
ZigbeeNodeControlBridge_JN5179_FULL_FUNC_DEVICE_115200	163556	2173	28005

2.3 Public v1004: New Features

Move to Saturation Command (lpsw7862)

Added Move to Saturation command to the ZLL Colour Cluster tab on the ZGWUI.

Tx Power Command (lpsw7924)

Added Tx Power command to the ZGWUI

2.4 Public v1004: Bug Fixes

View Scene Command Issue (lpsw7910)

The Control Bridge would hang after sending a View Scene command. Now fixed.

General Updates and Changes for v1004 (lpsw7970)

- Updated Eclipse build configurations

- Sending with APS Acks is now mandatory

- Fixed the problem of not sending Simple Descriptor Response.

2.5 Public v1004: Known Issues

None

3 Public v1003 (04-Oct-2016)

Updated for new features and bug fixes.

3.1 Public v1003: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions.

Product Type	Part Number	Version	Supported Chips
JN516x Evaluation Kits	JN516x-EK004 JN516x-EK001	- -	JN516x JN516x
Beyond Studio for NXP -Toolchain	JN-SW-4141	v1308	JN516x
JN516x ZigBee 3.0 - SDK	JN-SW-4170	v1396	JN516x
LPCXpresso -Toolchain	7.9.2	493	JN517x
JN517x ZigBee 3.0 - SDK	JN-SW-4270	v1483	JN517x

3.2 Public v1003: Memory Usage

The applications of this Application Note have the following memory footprints on the JN5169 device, when using the JN5169 ZigBee 3.0 SDK [JN-SW-4170].

Application	Text Size (Bytes)	Data Size (Bytes)	BSS Size (Bytes)
ZigbeeNodeControlBridge_JN5168_COORDINATOR_1000000.bin	172039	1752	28029
ZigbeeNodeControlBridge_JN5168_COORDINATOR_115200.bin	172039	1752	28029
ZigbeeNodeControlBridge_JN5168_FULL_FUNC_DEVICE_1000000.bin	172039	1752	28029
ZigbeeNodeControlBridge_JN5168_FULL_FUNC_DEVICE_115200.bin	172039	1752	28029
ZigbeeNodeControlBridge_JN5169_COORDINATOR_1000000.bin	172523	1760	28057
ZigbeeNodeControlBridge_JN5169_COORDINATOR_115200.bin	172523	1760	28057
ZigbeeNodeControlBridge_JN5169_FULL_FUNC_DEVICE_1000000.bin	172523	1760	28057
ZigbeeNodeControlBridge_JN5169_FULL_FUNC_DEVICE_115200.bin	172523	1760	28057

The applications of this Application Note have the following memory footprints on the JN5179 device, when using the JN5179 ZigBee 3.0 SDK [JN-SW-4270].

Application	Text Size (Bytes)	Data Size (Bytes)	BSS Size (Bytes)
ZigbeeNodeControlBridge_JN5179_COORDINATOR_1000000	163272	2173	27989
ZigbeeNodeControlBridge_JN5179_COORDINATOR_115200	163272	2173	27989
ZigbeeNodeControlBridge_JN5179_FULL_FUNC_DEVICE_1000000	177748	2357	22829
ZigbeeNodeControlBridge_JN5179_FULL_FUNC_DEVICE_115200	177748	2357	22829

3.3 Public v1003: New Features

Erase PD Reset (lpsw7476)

Erase PD now automatically performs a reset too.

Enable Default Response (lpsw7696)

Default Response is now enabled by default.

3.4 Public v1003: Bug Fixes

Get Version Command Return (lpsw6812)

The Get Version command now returns the version number of the application note.

Return Status After a Failed Start Network (lpsw6856)

Following a failed Start Network, Return Status is now sent back to the host.

Version Number Parsing (lpsw7239)

The ZGWUI now parses the version number correctly.

Report String Parsing (lpsw7242)

Control Bridge now parses string correctly for reports.

Debug Output on UART (lpsw7325)

Debug output on UART now fixed.

JN517x Image (lpsw7433)

ZGWUI now recognizes JN517x image accurately.

NFC Commissioning Issue (lpsw7451)

Fixed NFC Commissioning Issue on JN5179.

OTA Upgrade After Touchlink (lpsw7543)

Fixed issue where an exception would occur during OTA upgrade after Touchlink.

Bind Request Issue (lpsw7683)

Bind Request now checks for Group and IEEE address and only accepts those two.

Write Attribute Request Attribute Issue(lpsw7687)

Fixed issue where Write Attribute Request would send an extra attribute.

Raw Data Request (lpsw7692)

Fixed Raw Data Request command.

Send Identify Request Issue (lpsw7695)

Fixed issue where Send Identify Request would send incorrect data.

Error Message on Joining Network (lpsw7705)

Fixed issue where an error message would be displayed on a device joining the network.

Group Membership Wrong Group ID (lpsw7708)

Fixed issue with wrong Group ID when getting Group Membership.

Endianness Issue (lpsw7782)

Fixed endianness issue in serial protocol for attribute report.

JTAG Debug (lpsw7801)

Fixed JTAG debug with the LPC link2 probe.

3.5 Public v1003: Known Issues

None

4 Public v1002 (28-Sep-2016)

Updated for new JN-SW-4170 and JN-SW-4270 SDK releases.

4.1 Public v1002: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions.

Product Type	Part Number	Version	Supported Chips
JN516x Evaluation Kits	JN516x-EK004	-	JN516x
	JN516x-EK001	-	JN516x
Beyond Studio for NXP -Toolchain	JN-SW-4141	v1308	JN516x
JN516x ZigBee 3.0 - SDK	JN-SW-4170	v1385	JN516x
LPCXpresso -Toolchain	7.9.2	493	JN517x
JN517x ZigBee 3.0 - SDK	JN-SW-4270	v1474	JN517x

4.2 Public v1002: New Features

None.

4.3 Public v1002: Bug Fixes

None.

4.4 Public v1002: Known Issues

None

5 Public v1001 (23-Apr-2016)

Updated to add JN517x devices.

5.1 Public v1001: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions.

Product Type	Part Number	Version	Supported Chips
JN516x Evaluation Kits	JN516x-EK004 JN516x-EK001	- -	JN516x JN516x
Beyond Studio for NXP -Toolchain	JN-SW-4141	v1308	JN516x
JN516x ZigBee 3.0 - SDK	JN-SW-4170	v1385	JN516x
LPCXpresso -Toolchain	7.9.2	493	JN517x
JN517x ZigBee 3.0 - SDK	JN-SW-4270	v1474	JN517x

5.2 Public v1001: New Features

Updated Binaries (lpsw6811)

Binaries generated now contain the baud rate they support, and users can now build 1000000 and 115200 baud rate binaries.

Complex Descriptor Request and Response (lpsw6842)

Implemented Complex Descriptor Request and Response messages.

Remove Authenticated Device (lpsw6876)

Added a command for Remove Authenticated Device.

Support for User Descriptor Set Request and User Descriptor Request (lpsw6936/7)

Added support for both of the above to the ZGWUI and Control Bridge.

5.3 Public v1001: Bug Fixes

Transport Key Decider Function (lpsw6797)

Transport Key Decider Function now matches the callback prototype.

Channel Mask on Air (lpsw6822)

Channel Mask on air now matches the channel mask entered into the ZGWUI.

Device Type Default (lpsw6855)

Device now defaults to Coordinator Device Type.

Group Addressing Table Size Issue (lpsw6857)

Fixed.

E_ZCL_CBET_DISCOVER_INDIVIDUAL_ATTRIBUTE_RESPONSE handler (lpsw6858)

Handler is now implemented to report back each attribute.

Transaction Time Size (lpsw6880)

Control Bridge now passes transaction time as a uint16.

5.4 Public v1001: Known Issues

None

6 Public v1000 (07-Apr-2016)

First JN516x public release.

6.1 Public v1000: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions.

Product Type	Part Number	Version	Supported Chips
JN516x Evaluation Kits	JN516x-EK004 JN516x-EK001	- -	JN516x JN516x
Beyond Studio for NXP -Toolchain	JN-SW-4141	v1308	JN516x
JN516x ZigBee 3.0 - SDK	JN-SW-4170	v1385	JN516x

6.2 Public v1000: New Features

None (first release)

6.3 Public v1000: Bug Fixes

None (first release)

6.4 Public v1000: Known Issues

None (first release)

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