Release Notes

BTW 6.1.0.1502 SDK

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Proprietary Information

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Compatibility

This section discusses the compatibility of applications produced using the SDK when deployed against Broadcom's various WIDCOMM BTW Bluetooth software products. BTW refers to Broadcom's WIDCOMM Bluetooth software products for Windows PCs. Currently, there are two major BTW products - Broadcom's Bluetooth Software for Windows, and Broadcom's Vista Profile Pack. The latest SDK release is compatible with both BTW products.

Broadcom's Bluetooth Software for Windows refers to all versions of the Broadcom/WIDCOMM Bluetooth Stack software. Previous releases are identified by version as BTW 1.x, 3.x, and 4.x. Current versions are referred to as BTW 5, and are identified by version as 5.x.x.x. Broadcom's Vista Profile Pack is a version of the Broadcom/WIDCOMM Bluetooth software that runs on the Microsoft Bluetooth stack. It is referred to as BTW 6, and is identifiable by version as 6.x.x.x.

Additionally, there is Broadcom's Vista Audio Pack. This product is identified by version as 5.2.x.x. SDK compatibility with BTW versions 5.2.x.x is limited, as this product supports audio profiles only. Contact Broadcom Technical Support directly at http://www.broadcom.com/products/bluetooth_support.php for information on SDK and Vista Audio Pack compatibility.

Compatibility with BTW 5, Bluetooth Software for Windows

BTW and SDK software versions are designed to be forward- and backward-compatible with all combinations of SDK and BTW 5 software, where both components are version 1.4.2.10 SP5 or greater. However, changes in BTW 5 stack software have created some limitations to compatibility.

Specifically, the following compatibility limitations exist on BTW 5 deployments:

- SCO/eSCO audio connections can be established, but the audio device is never enabled on the system and so the audio stream is not available. This impacts BTW 5 deployments on 5.1 versions 5.1.0.3400 and greater, and all 5.5 versions. This issue is fixed in this 6.1.0.1502 SDK release, see BLTH00115974 in the Resolved Issues section below.
- SDK applications built from SDK releases prior to version 6.1.0.1501 cannot read Service Discovery Records on all BTW 5.5 versions. This issue was resolved in SDK release 6.1.0.1501

For these reasons, Broadcom cannot guarantee full forward compatibility for applications built with previous versions of the SDK. Broadcom recommends recompiling applications with the 6.1.0.1502 version of the SDK to ensure forward and backward compatibility with all BTW 5 stack versions.

All of the SDK APIs and classes are fully supported in Bluetooth Software for Windows deployments, subject to documented deprecations and with the exceptions described below in "Compatibility and New Features".

Compatibility with BTW 6, Vista Profile Pack

SDK version 6.1.0.1502 is fully forward and backward compatible with all versions of Vista Profile Pack (BTW 6). BTW 6 compatibility was first introduced in SDK version 6.1.0.1501. Applications built with SDK versions prior to 6.1.0.1501 are only compatible with BTW versions prior to BTW 6, whereas applications built with SDK version 6.1.0.1501 or greater are forward and backward compatible with all supported BTW versions, including BTW 6.

Vista Profile Pack runs on Microsoft's Bluetooth stack. As a result, some SDK features, APIs, and classes may not be fully supported in a particular BTW 6 version. See the "BTW 6 Vista Profile Pack Limitations" section in this document, and consult the latest SDK Release Notes for up to date SDK and BTW 6 API and class support details, available at http://www.broadcom.com/products/bluetooth_support.php.

Compatibility and Visual Studio 2005 Support

If an SDK application is built using Microsoft Visual Studio 2005, the application must be prepared to redistribute the Broadcom and the Microsoft runtime and interface library files to target platforms when

appropriate. See the SDK Programmer's Guide, Section 3 – "Build Environments" for information on redistribution requirements.

Compatibility and New Features

When compatible BTW and SDK versions (as discussed earlier) are used together, the following apply:

- Applications built using an SDK version older than the BTW software version on which the application runs will run properly but may not be able to take advantage of newer features added in the more recent BTW software version.

- Applications built using an SDK version newer than the BTW software version on which the application runs will not run properly if it depends on newer features added in the more recent SDK version.

Changes in the SDK software generally consist of additions, such as new functions or new codes appended to enumerated constant lists. Such changes are documented in the SDK Release Notes for the version to which the change applies. In addition, concise comments in the affected SDK header file identify changes and specify the BTW and SDK versions in which the change(s) occur.

Changes from 6.1.0.1501

These Release Notes document the changes in the SDK from the previous SDK release, version 6.1.0.1501. For information on possible porting requirements from SDK versions previous to 6.1.0.1501, refer to the Release Notes for those versions, available at http://www.broadcom.com/products/bluetooth_support.php. There were significant changes in the 6.1.0.1501 SDK release that may impact developers, particularly the new CSdpService::Commit() method requirement, documented in that version of the Release Notes.

The 6.1.0.1502 release is intended primarily as a maintenance release to address bugs and incompatibilities. As such, for applications created using the 6.1.0.1501 version of the SDK, there are no developer changes required in order to compile the application with the new SDK version.

However, due to a problem discovered in the Microsoft stack implementation of L2CapIf::AssignPsmValue(), a new version has been added, AssignPsmValueEx, which requires specification of the desired client/server role for the PSM. The original method is now deprecated, and if still used, its behavior now assumes client/server role based on if psm = 0 (client assumed) or non-zero (server assumed), for BTW 6 deployments

New in this version:

APIs:

`CL2CapIf::AssignPsmEx()`	- Developer Impact – new function (see above)
`CL2CapIf::AssignPsm()`	- Developer Impact – deprecated

BTW 6 Vista Profile Pack Limitations:

Limitations apply to the 6.1.0.1502 SDK release when applications are deployed against Vista Profile Pack BTW 6 target systems (systems running Microsoft Bluetooth stacks). Some classes and APIs are either currently not supported or are only supported with limited functionality under those deployments. Some of the limitations vary depending on the BTW 6 major version number, 6.0.x.x, 6.1.x.x, or 6.2.x.x currently.

This list of limitations may change as more functionality becomes available through the stack and SDK for these deployments. Check http://www.broadcom.com/products/bluetooth_support.php for updates to these Release Notes.

Classes:

- CL2CapConn and CL2CapIF are not supported in 6.0, but are supported in 6.1 and greater.
- CDunClient, CLapClient, CSppClient, and CSppServer are not supported in any 6.x version.

Sample apps:

- BlueComChat will not work on any 6.x version.
- BluePrint HCRP print profile will not work on 6.0 PP, but will work on 6.1 and greater.
- BlueTime will not work on 6.0, but will work on 6.1 and greater.
- BlueAudio only works for SCO on 6.0. 6.1 and 6.2 support both SCO and eSCO.

APIs:

- CRfCommPort::OnEventReceived only reports a limited subset of events in all 6.x versions: RXFLAG, TXEMPTY, TXCHAR, CONNECTED_RFCOMM, CONNECT_ERR
- GetConnectionStats (all classes where present) do not support the RSSI data field in 6.x versions.
- SetEScoMode (all classes where present) supported in 6.1 and greater, not supported in 6.0.
- The following APIs are not supported on any 6.x version:
    - SetLinkSupervisionTimeout (all classes where present)
    - ReadEScoLinkData, ChangeEScoLinkParms, EScoConnRsp (all classes where present)
    - CL2CapConn:

- Reconfigure
- OnConnectPendingReceived
- OnCongestionStatus

o CBtIf:

- ReadLinkMode
- SendVendorSpecificHcicmd
- SetSniffMode
- CancelSniffMode
- IsRemoteDevicePresent
- GetLocalServiceName
- GetNextLocalServiceName
- CreateCOMPortAssociation
- RemoveCOMPortAssociation
- ReadCOMPortAssociation

o CRfCommPort:

- SetFlowEnabled
- SetModemSignal
- GetModemStatus
- SendError
- Purge

Resolved Issues

BLTH00087690
SDK StartInquiry returns device names as "NoName"

Release Note:
This is by design, we want to report the devices in timely fashion as they are received by the stack. However, the stack will continue to fire the OnDeviceResponded callback multiple times for a device when the device name is finally discovered. So applications can choose to continue to listen for resolved names, rather than canceling inquiry on first report - subsequent callbacks will find the name if the name could be resolved before the inquiry cycle completes. In the case where that happens, a second inquiry can be performed to retrieve any names that were not resolved in the first inquiry.

The SDK Sample Application Bluetime has been updated to reflect waiting for name resolution in additional callbacks in the case where an initial "NoName" callback has been received.

BLTH000115974
Audio SDK applications are unable to get audio stream, device not present

Release Note:
Audio device is now installed on SCO creation

BLTH000117040
No device name and status available by Broadcom API "StartInquiry()"

Release Note:
Resolved with BLTH00087690

BLTH000119190
Unable to Register client L2CAP SDK object on Profile Pack if server registration for GUID/PSM already exists

Release Note:
Changed logic to only require server L2CAP sessions to register PSM with MSFT stack, and added new method AssignPsmValueEx with parameter to specify role.

BLTH000122944
BIP/OPP/OBEX race condition can cause crash

Release Note:
Added thread protection to OBEX and OPP callbacks to prevent crash.

BLTH000122946
Send To: Send To from MS Outlook Freezes at the Copying Window during Send To Operation after the Bluetooth Device is disabled then re-enabled via Device manager

Release Note:
Fixed a problem that Send To dialog was not closed when BT is disabled.

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BLTH000122947
For Blueheadphone, BlueComchat and BlueObex, clients need couple tries to find expected servers

Release Note:
Added registry setting for Samples to filter received Inquiry results by BD_ADDR.

BLTH000122969
SDP crashes found in testing with CR 106539

Release Note:
Check pointer before dereference.

BLTH000122973
Large number of handles used.

Release Note:
Fixed a problem that in socket code that creates large number of RFCOMM handles.

BLTH000122974
Bond()ing problem under Vista 64 using 32bit DK application

Release Note:
Fixed registry access for 32 bit on 64 bit.

BLTH000123094
Suspend/resume failure with BTW on Vista

Release Note:
Ported fix from 6.1 baseline

BLTH000123119
Audio Gateway service overwrites Headset service callbacks

Release Note:
Fix the problem when Headset connection did not work after Headset AG connection to the same device.

BLTH000125171
SDP DB too small in SDK to handle large number of records from remote, especially on 64 bit

Release Note:
Doubled size of SDK SDP DB, all records easily retrieved on 64 bit now.

Known Issues

BLTH000122944
BIP/OPP/OBEX race condition can cause crash

Release Note:
Added thread protection to OBEX and OPP callbacks to prevent crash.

BLTH000

Release Note:

BLTH00051402
OBEX header manipulation results in memory leaks. SDK applications experiencing memory leaks if the application performs operations on a CObexHeaders object received via a callback.

BLTH00052086
CL2CapConn::Reconfigure only affects MTU (BTW).

BLTH00052416
Sample apps demonstrate CBtIf object usage badly. Only 1 CBtIf object should be instantiated.

BLTH00071273
With BlueAudio, users cannot read the eSCO parameters correctly after adjustment.

BLTH00077280
BlueObex fails with new app param overflow logic

BLTH00087672
SDK CPrintClient uses internal CBtIf, conflicts with app object if exists

BLTH00087685
SPP print sessions from SDK leave some printers in bad state.

BLTH00087689
CHeadphoneClient GetConnectionStatistics only returns bConnected properly, no statistics.

BLTH00093909
BlueHeadphone and BlueAudio must pair with headset before able to connect on Vista.

BLTH00094318
CBtIf::Role_Switch always returns TRUE even if Role Switch fails.

BLTH00096952
BlueObex connection disconnect automatically after 3 minutes.

BLTH00097320
BlueObex application starts unexpected second inquiry on stop session.

BLTH00115574
SDK classes need more thread protection. L2CAP, RFCOMM, and CBtIf classes can cause crashes if objects deleted while callbacks firing.

BLTH00126896
Can not read esco Param on Client or Server

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BLTH00127221
SDK Sample apps should cleanly do successive client and server sessions without requiring app restart

BLTH00127395
Blue Headphone returns no services found if already connected.

BLTH00129615
BlueTime: Selecting OK before service is detected on the client hangs the sample app.

BLTH00127218
SDK Sample apps do not always clean up service records on exit

BLTH00136479
SDK Service Discovery performed twice unnecessarily on BTW 6

BLTH00127774
SDK fixed PIN Bond will not work as expected with Secure Simple Pairing. Various results may occur depending on SSP support on both entities. But Bond will at least start the native stack pairing process, though the PIN supplied by the SDK app may be ignored.