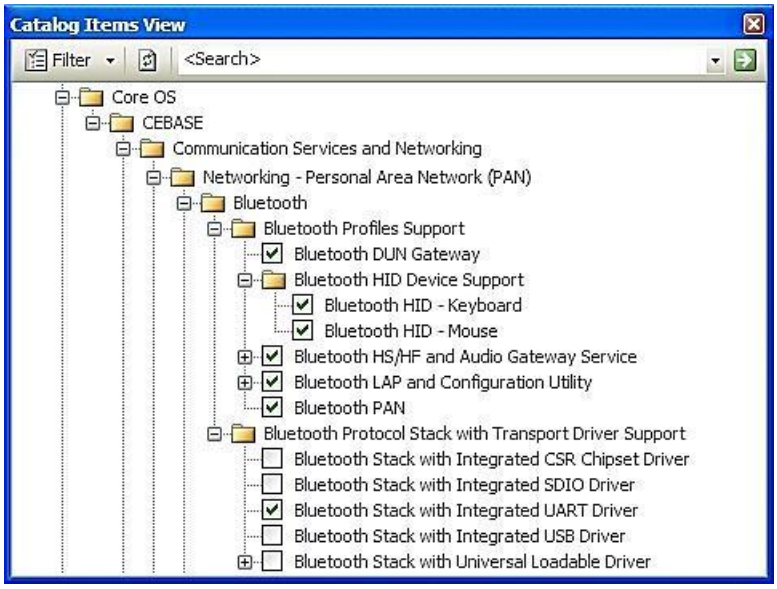
Bluetooth OS Design Development

(Windows Embedded CE 6.0)

The following is a guide in the development of an OS Design that functions with the Summit Bluetooth radio (40NBT series) using the Microsoft Bluetooth Stack

To build in Microsoft's Bluetooth solution you must specify a transport driver and select the desired Bluetooth profiles from the catalog. Microsoft provides catalog items for selecting the most common Bluetooth profiles.



Note: Do ***not*** select more than one Bluetooth transport driver.

The Summit Bluetooth radio on the 40NBT series has a UART (COM Port) interface. Therefore, there are only two valid transport options in the *Bluetooth Protocol Stack with Transport Driver Support* group of the catalog:

- Bluetooth Stack with Integrated UART Driver
- Bluetooth Stack with Universal Loadable Driver

The only reason to use the Universal Loadable Transport Driver is to support removable Bluetooth radios. If your platform has the Summit Bluetooth radio built into it (and you deliberately do not want your platform to support having more Bluetooth radios than the one that is built in), then choose the Integrated UART Driver rather than the Universal Loadable Transport Driver.

Note: In either case, you must change the "name" registry entry (highlighted below) to match the COM port used for the Bluetooth radio interface on your platform.

1. SYSGEN_BTH_UART_ONLY (Bluetooth Stack with Integrated UART Driver)

Note: SYSGEN_BTH_UART_ONLY (Bluetooth Stack with Integrated UART Driver) is the recommended method of integration.

This is the default entry made in **C:\WINCE600\PUBLIC\COMMON\OAK\FILES\common.reg**:

```
; @CESYSGEN IF BTD_UART
[HKEY_LOCAL_MACHINE\Software\Microsoft\Bluetooth\HCI]
    "flags"=dword:0
    "name"="COM2:"
    "baud"=dword:1c200
; @CESYSGEN ENDIF
```

Note: If the default entry (default COM port) is correct, nothing else is required except to select the desired Bluetooth profiles to support and build the OS.

There are several methods for adding the COM port entry; the most common technique is to add it to your Platform BSP's **platform.reg** file.

Because platforms get 'SYSGEN-ed' when being built, you can start with a copy of the default entry (with the CESYSGEN conditionals) to ensure that the registry entry is not made if this catalog item is not selected.

This is the recommended method of integration.

2. SYSGEN_BTH (Bluetooth Stack with Universal Loadable Driver)

This is the default entry made in **C:\WINCE600\PUBLIC\COMMON\OAK\FILES\common.reg**:

```
; @CESYSGEN IF CE_MODULES_BTHUART
IF BSP_BLUETOOTH_BUILTIN_UART
[HKEY_LOCAL_MACHINE\Software\Microsoft\Bluetooth\Transports\BuiltIn\1]
    "driver"="bthuart.dll"
    "flags"=dword:4
    "name"="COM2:"
    "baud"=dword:1c200
    "resetdelay"=dword:1388
ENDIF
; @CESYSGEN ENDIF
```

Note: If the default entry (default COM port) is correct, nothing else is required except to select the desired Bluetooth profiles to support and build the OS; and note the conditional BSP_BLUETOOTH_BUILTIN_UART in the default entry.

Be sure to add the environment variable BSP_BLUETOOTH_BUILTIN_UART=1 in one of two places:

- In the Platform BSP's BAT file. For example: **C:\WINCE600\PLATFORM\SMDK6410\SMDK6410.bat**
- In the OS Design's **Properties > Configuration Properties > Environment > All Configurations** (to allow the default entry to be made for you)

There are several methods for adding the COM port entry; the most common technique is to add it to your Platform BSP's **platform.reg** file.

Because platforms get 'SYSGEN-ed' when being built, you can start with a copy of the default entry (with the CESYSGEN conditionals) to ensure that the registry entry is not made if this catalog item is not selected.