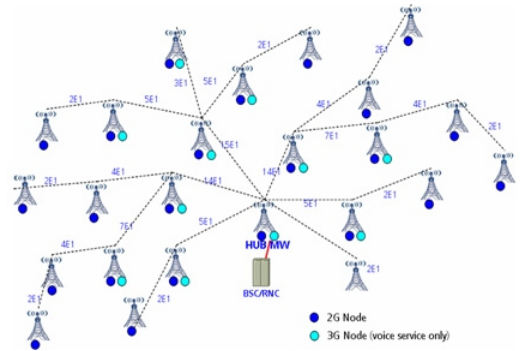


Telecom



Corporate Trainer's Profile

Corporate Trainers are having the experience of 4 to 12 years in development, working with TOP CMM level 5 companies (Project Leader /Project Manager) qualified from NIT/IIT/IIM and work exp in USA and UK.



CMM (Capability Maturity Model) level Project Standard:-

The Capability Maturity Model (CMM) is a method for evaluating the maturity of organizations on a scale of 1 to 5.

Get the Opportunities to work on Client Projects Of US/UK, which follow the all standard of CMM level 5 Company.

Projects



NOKIA

SIEMENS

symbian

ALCATEL

spice



MOTOROLA

Implementation of Bluetooth Connectivity on WinCE

Bluetooth is a wireless communication technology that allows devices, within 10-meter proximity, to communicate with each other. The discovery process enables devices to query other devices about the services they offer. If a device offers more than one service, the user can select the service they want to use from that particular device.

Bluetooth is an emerging technology that is constantly being improved. New Bluetooth based devices with increased functionality become available all the time. To keep pace with these changes, Microsoft® Windows® CE provides you with a flexible stack implementation, so that you can easily add new supports to enhance the base stack functionality of Windows CE. For example, Windows CE provides you with the ability to write a stack extension layer, to which you can easily add your own synchronous connection-oriented (SCO) support.

- Bluetooth Stack Architecture

- COM Port Emulation Facility

- Bluetooth OS Design Development

Provides information about the Bluetooth Protocol Stack and the extension layer, components and modules that implement Bluetooth functionalities, and Sysgen variables that enable these functionalities.

- Bluetooth Application Development

Provides information about creating Bluetooth applications by using Winsock interfaces.

- Winsock Extensions

- Bluetooth HCI Transport Driver

- Bluetooth Transport Layer Driver Samples

- Bluetooth Registry Settings

Provides information about the registry settings that enable and configure Bluetooth functionality in your OS design.

- Bluetooth Security

Describes security and best practices information for Bluetooth functionalities.

- Bluetooth Performance Best Practices

Describes best practices for increasing the performance of the Bluetooth stack.

- Bluetooth Migration

Provides information about the changes in Bluetooth support that you need to know when migrating from one version of Windows CE to another.

- Bluetooth Samples

Describes sample code that provides a base for implementing the Bluetooth technology.

Virtual COM Port Sample Illustrates the use of the Windows CE based Bluetooth stack over the Virtual COM Port interface. Winsock Interface Sample Illustrates the use of the Windows CE based Bluetooth stack over the Winsock interface. Querying and Pairing Sample Performs querying, pairing, and authentication to illustrate the use of the Windows CE based Bluetooth stack and security subsystem. Protocol Extension Sample Illustrates the process of creating a Bluetooth protocol extension for Windows CE. Device Driver Management Sample Enables users to manage Bluetooth device drivers for PCMCIA/CF cards. SDP Search and Record Generator Sample Creates an SDP record or sets up an SDP Service, Attribute, or Service Attribute search. Virtual COM Port Creation Sample Sets up a virtual COM port. Flow Control Sample Illustrates the flow control in the Windows CE based Bluetooth stack. Winsock Options Sample Illustrates the use of the Windows CE based Bluetooth stack Winsock getsockopt and setsockopt programming interfaces. Phone Management Sample Illustrates the use of the client-side Windows CE based Bluetooth port emulator, device discovery and client-side SDP queries for modems. Printer Discovery Sample Illustrates the use of the client-side Windows CE based Bluetooth port emulator, device discovery and client-side SDP queries for printers. SDP Search Sample Demonstrates using the COM routines from sduser.dll to parse an SDP response.

·Bluetooth Reference

Duration: 6 days, 8 hours per day.

Prerequisite: The trainee should be well aware about Bluetooth Protocol stack and its different profiles. Candidate should also have good understanding of WinCE environment and Platform builder.

Understanding Bluetooth Profiles on WinCE
Platform Builder for Microsoft Windows CE 5.0

A Bluetooth profile is a specification that defines the minimum requirements that the Bluetooth device must support in a specific usage scenario. These requirements define the end-user services and the features and procedures that the Bluetooth device must support to enable interoperability with peer devices.

There are two types of profiles: conforming and interoperability. Conforming profiles define the core requirements for Bluetooth devices and are available by default. Interoperability profiles, which are based on the conforming profiles, define the minimum requirements for Bluetooth devices to support specific applications. Bluetooth profiles have implicit and explicit dependencies

on each other.

The following table shows the profiles supported by Microsoft® Windows® CE.

Conforming Profiles

ProfileDescription

Generic Access Profile (GAP) Defines the generic requirements for detecting and establishing a connection to a Bluetooth device.

All other profiles are based on GAP.

Generic Object Exchange Profile (GEOP) Defines procedures for the support of the Object Exchange Protocol (OBEX) usage models. Serial Port Profile (SPP) Defines procedures required for configuring serial cable connections between peer Bluetooth devices using RFCOMM.

Interoperability Profiles

ProfileDescription

Dial-up Networking (DUN) Profile Depends on SPP. Defines procedures to support the use of a wireless modem by a computer for connecting to a dial-up service such as a dial-up Internet service. File Transfer Profile (FTP) Depends on GEOP. Defines procedures to support transferring data and manipulating objects on or with a peer Bluetooth device. Hands-Free Profile (HFP) Depends on SPP. Defines procedures for using a mobile device, such as a cellular phone, in conjunction with a hands-free device over a Bluetooth link, to allow the hands-free device to act as an audio input or output device for the mobile device. Headset Profile (HSP) Depends on SPP. Defines procedures to support interoperability between a headset and a mobile device, such as a cellular phone, that the headset controls through AT commands. Human Interface Device (HID) Profile Defines procedures to support human interface devices such as keyboard and mouse. LAN Access Profile (LAP) Depends on SPP. Defines procedures to support LAN Access using Point-to-Point Protocol (PPP). PPP over RFCOMM. Object Push Profile (OPP) Depends on GEOP. Defines procedures to support the pushing or pulling of small data objects, for example calling card exchange, between Bluetooth devices. Personal Area Networking (PAN) Profile Defines procedures to support standard IP based network services deployed over the Bluetooth transport layer.

Typical usage scenarios include:

- Transferring data between two Bluetooth devices using a point-to-point link.
- Volatile membership in a group, for data sharing or gaming purposes, where users can add and remove their membership.

One of the members of a Pico net that provides a mobile gateway that enables other members to access the Internet or intranet.

Duration: 2 days, 8 hours per day.

Prerequisite: The trainee should be well aware about Bluetooth Protocol stack. He should also have good understanding of WinCE environment and Platform builder.

Component Migration to WinCE 5.0/ WinCE 6.0

·Migrating a Build Environment

To get expertise in migrating build environments from previous versions of Windows CE to Windows CE 5.0.

·Migrating a BSP

To get expertise in migrating board support packages (BSP) from previous versions of Windows CE to Windows CE 5.0.

·Migrating a Device Driver

To get expertise in migrating device drivers from previous versions of Windows CE to Windows CE 5.0.

·Migrating an Application

To get expertise in migrating application drivers from previous versions of Windows CE to Windows CE 5.0.

·Migrating Windows CE OS Functionality

To get expertise in migrating operating system functionality from previous versions of Windows CE to Windows CE 5.0.

·Sysgen Variable Changes

Provides information about new and removed Sysgen variables for Windows CE 5.

Duration: 2 day

Prerequisite: The trainee should be well aware about WinCE O/S and device drivers. He should also have good understanding of WinCE development environment and Platform builder.

Bluetooth Architecture and Profiles

COURSE CONTENT

Overview and Objectives of Bluetooth technology

The Bluetooth system structure, architecture and functionality

The Bluetooth protocol stack layer by layer

o Radio

o Baseband

o Bluetooth Audio

Baseband demonstration

- o Link Controller (including state machines)
- o HCI
- o L2CAP
- o Security and the Security Manager

Profiles

Headset profile demonstration

Implementation Issues

Bluetooth Qualification Program

Complementary Technologies

- o Hiperlan
- o 802.11

Strengths and Weaknesses

- o Applications which are appropriate for Bluetooth
- o Applications better served by other technologies

Example applications

- o Use cases highlighting benefits to end users

Routes to incorporate Bluetooth IPR in a product

- o Module
- o Reference Design
- o FPGA/ASIC

Market Predictions for Bluetooth