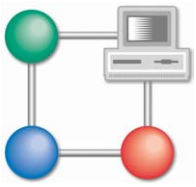


DeviceCOM ODK v1.0 for Windows CE

Distributed Computing for Windows CE

Product Overview

DeviceCOM™ is the first implementation of the DCOM (Distributed Component Object Model) standard for the Microsoft® Windows® CE operating system. DeviceCOM makes it possible for Windows CE developers and system integrators to quickly add DCOM support to standard and embedded Windows CE devices.

The DeviceCOM OEM Developer's Kit (ODK) integrates with the familiar Visual Studio development environment and extends a DCOM compatible framework to Windows CE. The ODK includes the core DeviceCOM run-time environment, development tools, samples, tutorials and configuration tools.

DCOM is a widely deployed object technology framework created by Microsoft to standardize and facilitate the development of distributed systems. However, DCOM will not be inherently supported in Windows CE until release 3.0. Meanwhile, companies who need to incorporate Windows CE in their distributed systems today have two choices.

They can develop their own custom object protocol to tie into existing DCOM frameworks. Or they can take advantage of DeviceCOM, Intrinsyc's off-the-shelf Windows CE DCOM implementation. In addition to object compatibility with DCOM, DeviceCOM provides an underlying structure that is better suited for embedded systems than DCOM (see Features and Benefits).

Windows CE is a natural choice for use in hierarchical systems where lower level embedded Windows CE systems communicate with higher level Windows NT and CE clients and servers. The DeviceCOM ODK empowers OEMs to use Windows CE in a broad range of DCOM-based applications such as industrial automation, information kiosks or point-of-sale sytems.

Features and Benefits

The first and only DCOM-compatible framework for Windows CE – no need to wait until v3.0 to implement a Windows CE distributed application;

Optimized for embedded systems – DeviceCOM does not carry some of the legacy baggage of standard DCOM and as such, can better suited for use in embedded systems in terms of memory size, wire protocol support and connection failure reporting;

COM and DCOM transparency – DeviceCOM implements the familiar COM/DCOM object environment so there is no need to change existing client/server object models or learn a new object model framework;

Small memory footprint - DeviceCOM requires minimal additional memory (<350K) on the target Windows CE device.

Protocol flexibility – DeviceCOM's underlying protocol is extensible to other connection-based or message-based network protocols in addition to standard TCP/IP and UDP.

Broad platform support – DeviceCOM operates on all supported Windows CE 2.0/2.1 platforms, as well as Windows NT 4.0, Windows 95/98.

Multi-threaded and scalable – DeviceCOM takes full advantage of Windows CE's threading support in order to maximize performance. Multiple requests can be processed simultaneously.

Asynchronous notification - Unlike protocols such as HTTP, COM/DCOM makes it easy to set up asynchronous callbacks to the client when the COM server state changes. DeviceCOM is designed to provide this COM/DCOM feature;

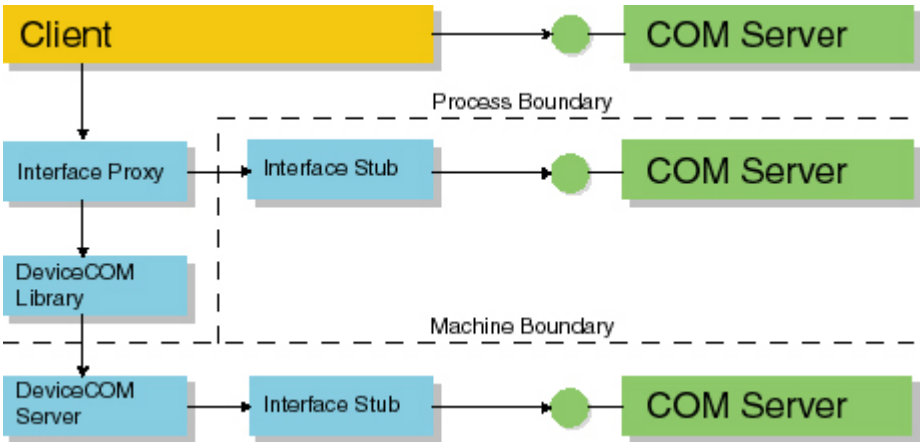
Development and deployment tools – the ODK provides the tools that OEMs need to add DeviceCOM support to their distributed systems. Specifically, the ODK contains Microsoft Visual Studio Add-Ins, a DeviceCOM IDL compiler, tutorials, sample projects and deployment support tools;

Industry-specific kits – in addition to the ODK, DeviceCOM is available in industry-specific kits to help address the distinct requirements of special markets, including OPC (OLE for Process Control) for the factory automation market.

INTRINSYC Software Inc.

Technology Overview

DeviceCOM handles all of the low-level details associated with communication between objects on different computers, so that developers can focus on their particular applications, providing the best value to their end customers.



The DeviceCOM architecture is designed to be completely transparent to COM clients and servers. It emulates the DCOM architecture by providing interface proxies and stubs as well as an Object Oriented RPC (OORPC) mechanism. It differs from the standard DCOM implementation, as it is not built on top of the DCE RPC foundation. While this is mainly `because there was no DCE RPC foundation in Windows CE 2.0 to build upon, the use of a custom OORPC mechanism has also allowed for further code size reduction. This is particularly important in distributed embedded applications.

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Specifications

Development Environment

System Requirements:

- Microsoft Windows NT 4.0.
- Microsoft Windows CE Toolkit for VC++ v5.0.
- Microsoft Windows CE Embedded ToolKit (ETK).
- Microsoft Windows CE 2.0 or 2.1, custom or standard platform (H/PC, Palm-Size PC), with Ethernet Adapter or serial Mobile Services link.

Tools and Utilities included in ODK:

- Visual C++ 5.0 Add-Ins for Proxy/Stub creation.
- DeviceCOM IDL compiler.
- Sample client and server objects with source code included.
- Online Help and Tutorials.
- DeviceCOM Server Registration Utility.

Run-Time Environment

System Requirements:

- Windows CE v2.0 and v2.1 (with Ethernet Adapter or serial Mobile Services link).
- Windows NT 4.0, Windows 95/98.

Supported processors:

- all processors supported in Windows CE 2.0 and 2.1.

Interoperability:

- full COM transparency.
- DCOM/DeviceCOM transparency through bridge functionality.
- TCP/IP and UDP network support.

Typical Windows CE Memory Requirements:

- Average 300K of ROM and 400K of RAM depending on the processor.

Tools/Utilities:

- DeviceCOM Server Registration Utility.