DCOM Architecture

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DCOM Architecture

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Introduction

The Microsoft® Distributed Component Object Model (DCOM) extends the Component Object Model (COM) to support communication among objects on different computers—on a local area network (LAN), a wide area network (WAN), or even the Internet. With DCOM, your application can be distributed at locations that make the most sense to your customer and to the application.

Because DCOM is a seamless evolution of COM, the world's leading component technology, you can take advantage of your existing investment in COM-based applications, components, tools, and knowledge to move into the world of standards-based distributed computing. As you
do so, DCOM handles low-level details of network protocols so you can focus on your real business: providing great solutions to your customers.

Why Should I Read This Article?

This article focuses on the inner workings of DCOM—the Transport Control Protocol/Internet Protocol (TCP/IP) of objects. It targets the application developer who wishes to create "state of the art" applications, which scale equally well on the intranet, on the Internet, and beyond. In some areas this paper assumes that you are familiar with the basic concepts of the COM, although some of these concepts are revisited from the perspective of distributed application development.

How Should I Read This Article?

This white paper is part of a series introducing COM and DCOM material. The section "References," at the end of this paper indicates where you can get other papers in the series.

If you are not sure what DCOM is all about, the white paper, "DCOM Technical Overview," will give you a high-level overview of the kinds of problems DCOM helps solve. It also contains references to the necessary COM basics, so you can take full advantage of the technical details in this DCOM Architecture paper. There is a good chance that you will be able to apply many of the ideas in these solutions to your own work. Read this paper from beginning to end, or use it as a reference and pick the areas that are most interesting to you.

Where Can I Get DCOM?

DCOM currently ships with the Microsoft Windows NT® 4.0 operating system. DCOM for the Microsoft Windows® 95 operating system is available for download on the Microsoft COM Web site (http://www.microsoft.com/com/), and will ship with Microsoft Internet Explorer 4.0 and the next version of Windows 95.

DCOM implementations on all major UNIX platforms are available from Software AG (http://www.sagus.com). At publication time, beta versions for Solaris, Linux, and HP/UX were available for download.

The COM and DCOM specifications are managed by the Active Group, a consortium of vendors interested in the future evolution of COM and DCOM. Members of the Active Group are actively using COM and DCOM in their applications and as their infrastructure. A reference implementation of COM and DCOM in source-code form will be available for licensing through The Open Group in 1997.
**DCOM Architecture**

We'll now take you on a guided tour through the inner and outer workings of DCOM to show you how DCOM realizes the promise of easy distributed computing, without compromising flexibility, scalability, and robustness.

DCOM sits right in the middle of the components of your application; it provides the invisible glue that ties things together. Figure 1 shows how it all fits together.