



- 1 By embedding Cyberdog components—such as this web browser—users can integrate live Internet data into any OpenDoc-compatible application, such as ClarisWorks shown above.
- 2 Each of these CyberButtons calls a specific web page, allowing users to quickly view up-to-the-minute information.
- 3 The Notebook feature lets users conveniently store and organize URLs, e-mail addresses, and newsgroups—then access them immediately with a simple double-click.

What are the benefits Cyberdog offers to users?

The conventional Internet model is to “put everything into the browser.” The new Cyberdog model is “put the browser everywhere.” Cyberdog allows users to integrate live Internet data in their desktop applications, by embedding Cyberdog components (such as the web browser) into any OpenDoc-compatible application. For example, ClarisWorks. This brings live links and views of the Internet to any document, whether it's a monthly report, lesson plan, or executive information system.

How does Cyberdog relate to other Internet technologies?

Cyberdog fits in between browsers, such as Netscape Navigator, and HTML authoring tools, like Adobe PageMill. Cyberdog, with its ability to embed live Internet data into OpenDoc documents, allows users to create—and store on the desktop—custom views of the Internet.

Will users choose Cyberdog over Netscape Navigator?

Most users are likely to have both Netscape Navigator and Cyberdog on their systems. Apple believes that users who want to just quickly browse a web site will continue to use Netscape Navigator. Users who want to integrate the Internet into their desktop applications—or create custom Internet solutions—will use Cyberdog.

Does the Netscape plug-in architecture compete with OpenDoc?

OpenDoc is a general-purpose component architecture. It does not compete with the Netscape plug-in architecture, which is a highly specialized mechanism for adding viewers to Netscape Navigator. An OpenDoc component that allows any Netscape plug-in to work with any OpenDoc container application, would demonstrate the complementary nature of the two architectures.

Cyberdog development opportunities

Created entirely with OpenDoc, Cyberdog integrates network services into the Mac OS, bringing live links and views of the Internet to any document. It makes the Internet as easy to use as a Macintosh.

Apple designed Cyberdog to create a ready market for developers. Developers can ship it with their products. And every Cyberdog component can be replaced or enhanced.

Developers can create replacement web or Gopher browsers, Notebooks, Logs, or other Cyberdog components. Or they can choose to offer Cyberdog users totally new functionality. Perhaps a videoconferencing component, or real-time “chat” capabilities. Other opportunities include developing tools to analyze and manipulate raw data from the Internet.

All application developers can realize benefits from Cyberdog. For instance, by simply adding OpenDoc support to your existing applications, you also get Cyberdog. Which gives you Internet connectivity, without re-coding your software.

Find out more about OpenDoc and Cyberdog. Visit our Internet home page: <http://opendoc.apple.com>

Mac OS

OpenDoc



The power to be your best.

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Harnessing component software & the Internet. OpenDoc & Cyberdog.

"With the advent of OpenDoc and Java, there is now a unique opportunity for two very powerful technologies to work together. OpenDoc's component approach and Java's portability make for a powerful combination."

—Joshua D. Wachs, president, Natural Intelligence, Inc.

"Cyberdog allows our users to create personalized living documents that contain live Internet data."

—Roger Bell, president, Digital Harbor, L.C.

There are two powerful forces driving today's worldwide software industry. One force is component software. The other is the Internet. OpenDoc and Cyberdog harness those two forces, providing opportunities and benefits for developers and users alike.

Here is a look at OpenDoc and Cyberdog: how they relate to each other, and to technologies such as Java (from Sun Microsystems) and Netscape Navigator (from Netscape Communications Corporation).

How do OpenDoc and Cyberdog relate to each other?

OpenDoc is an open, multiplatform architecture for component software: self-contained, reusable software modules. It is supported by CI Labs, a nonprofit association of more than 300 industry leaders that includes Apple Computer.

Apple used OpenDoc to create Cyberdog, a new technology that integrates network services into the Mac OS, bringing live links and views of the Internet to any document. And making the Internet as easy to use as a Macintosh computer.

How are OpenDoc and Java similar?

OpenDoc and Java are each based on the premise that, in the future, software will be composed of small modules that can be bound together at run time. The creators of both technologies believe that this will lead to greater innovation in the marketplace, and more customized solutions for users.

How are OpenDoc and Java different?

OpenDoc is a component architecture. Java is an object-oriented programming language. The OpenDoc architecture contains everything necessary for a complete component architecture, including persistent storage. OpenDoc components can be written in any language—including Java.

Do OpenDoc and Java compete with each other?

OpenDoc and Java are, in fact, complementary technologies. Apple intends to ensure that OpenDoc and Java work together. For example, an OpenDoc component can be written to understand how to execute Java applets. In this way, Java applets can be embedded within any OpenDoc container application, not just in an Internet browser. OpenDoc can become the bridge between today's desktop applications and tomorrow's network-based applets.

What will drive a developer's choice of language when writing OpenDoc components?

Developers will choose whether to use C, C++, or Java on a case-by-case basis. If cross-platform development is the primary goal—and performance less of an issue—Apple expects many developers to choose Java. If high performance and tight integration with the operating system are paramount, developers are likely to use C or C++.