CDE Finds a Comfortable Niche

By Larry Stevens

The Common Desktop Environment is good technology, observers agree, but it seems unlikely to achieve general use across the enterprise.

When the Common Desktop Environment (CDE) was introduced in March 1993, as part of the Common Open Software Environment (COSE) sponsored by Unix system vendors, proponents touted it as a serious challenger to the dominance of Microsoft Windows as a desktop graphical user interface (GUI). Three years later, it is clear that this challenge never developed. With scaled-back expectations, today CDE vendors have recognized desktop niches where the technology is finding a home.

The success of Microsoft Windows and third-party products that enable Unix systems to run Windows applications, either directly or in emulation mode, have produced a de facto standard for the desktop, which Unix vendors have tried to challenge with official standards. For years, through consortia such as X/Open Co., they have been working to develop standards and specifications that might increase the portability of applications written to Unix.

The most ambitious recent efforts are CDE and the Single UNIX Specification, better know by its previous name, UNIX '95. The latter (discussed in the sidebar "A Giant Step Toward Standardization") is a set of specifications that will make it easier for independent software vendors (ISVs) to create cross-platform versions of their products. In 1995 CDE became a stand-alone Unix standard certified by X/Open.

Similarities between Windows (and its predecessor, the Macintosh GUI) and CDE are obvious. It includes the scroll bars, window control and icon actions to which Windows users are accustomed. Its front panel, similar to the Windows control panel, lets you organize and access applications, files and network services. The application manager displays and controls all applications through icons and a point-and-click interface. The file manager displays and controls files. The style manager lets you customize the overall look of the desktop by selecting colors and backgrounds. Finally, it includes a Windows-like help manager, which uses context-sensitive hypertext.

Open Windows

Calling CDE a Windows look-alike is neither an overstatement nor an insult. "It should make the Unix environment comfortable to new users who formerly worked in Windows machines," says Warren Hogg, product manager for the Solaris desktop at SunSoft in Mountain View, CA.

Implicit in this statement is the hope that, at least partly because of CDE, Unix will attract new users, whom Hogg calls "general users," as opposed to the technical people who now occupy most Unix workstations. At the same time current Unix users, who often have to clutter their desks with a second computer—a Windows PC used to access e-mail and productivity software—will be able to combine CDE with products such as Wabi (a SunSoft product that provides support for about 25 Windows applications) to run Windows from their Unix systems.

Although no one doubts CDE's ability to improve the lives of Unix users, new or old, its success depends not so much on its capabilities as on its level of acceptance. The issue raises several key questions. Will Windows users want to move to Unix? Will Unix users want to replace their current interfaces with a Windows-like one? And are there other Unix-based

GUIs which, while not accepted as standard, may be better suited in other ways to Unix users?

David Pensak, principal consultant at chemical manufacturer Du Pont Co.'s advanced computing technology group in Wilmington, DE, reflects the actions of many managers in taking a wait-and-see approach. He agrees that CDE can reduce training time and says that his company has initiated a number of pilot CDE projects. Applications ranging from scientific and technical to business are being developed using CDE. He's also comparing CDE technology, called TED, from TriTeal Corp. of Carlsbad, CA, with CDE bundled with IBM's AIX 4.0. These projects and evaluation efforts have not yet led to conclusions. But in theory, Pensak says, if CDE catches on, it will allow users to move from one application to another, while carrying over their knowledge. "We remain to be convinced that we need CDE for that purpose," he adds.

Pensak points that if all you're looking for is a GUI, you don't have to purchase CDE to get it. Many areas of his corporation have set up configuration files and scripts to provide a graphical interface. "But CDE does make that easier," he says.

The technical community at Du Pont, which represents a major potential market for CDE, isn't excited about it. "They'll try [a technical application with a CDE interface], but only after I've done a lot of screaming and yelling," Pensak says.

Finding the Market

Technical users often are comfortable with character-based interfaces or have developed their own GUIs. Some of them are more vehement about their disinterest. "I don't see any need whatsoever for CDE," says Greg Vesper, technical manager at NASA in Greenbelt, MD. Vesper is quick to mention that this is his opinion and not NASA policy. And he admits, "There will probably be some people here who'll use it." But by and large, he expects the technical community at NASA will find it has no need for another GUI. He points to older products like Sun's Open Look and HP's Vue (both CDE precursors) and home-brewed GUIs as sufficient. Additionally, most people at NASA who need a windowed interface use Windows. "The market share for a GUI-based application [in the technical market] is small to begin with. Add to that the fact that it's fragmented. Where is the need for another standard?" Vesper asks.

If CDE will have difficulty gaining acceptance in the technical market, will it fare much better in the commercial one? Philip Johnson, director of advanced operating environments at International Data Corp. in Mountain View, CA, believes the answer is no. "The technical market is somewhat open, and so CDE's success there is possible at least to some extent, although the outcome is far from clear. The commercial marketplace is locked up by Microsoft Windows," he says. However, he adds that there are small niches in the commercial market, most notably brokerage firms, which combine technical and business functions, that may be attracted to CDE.

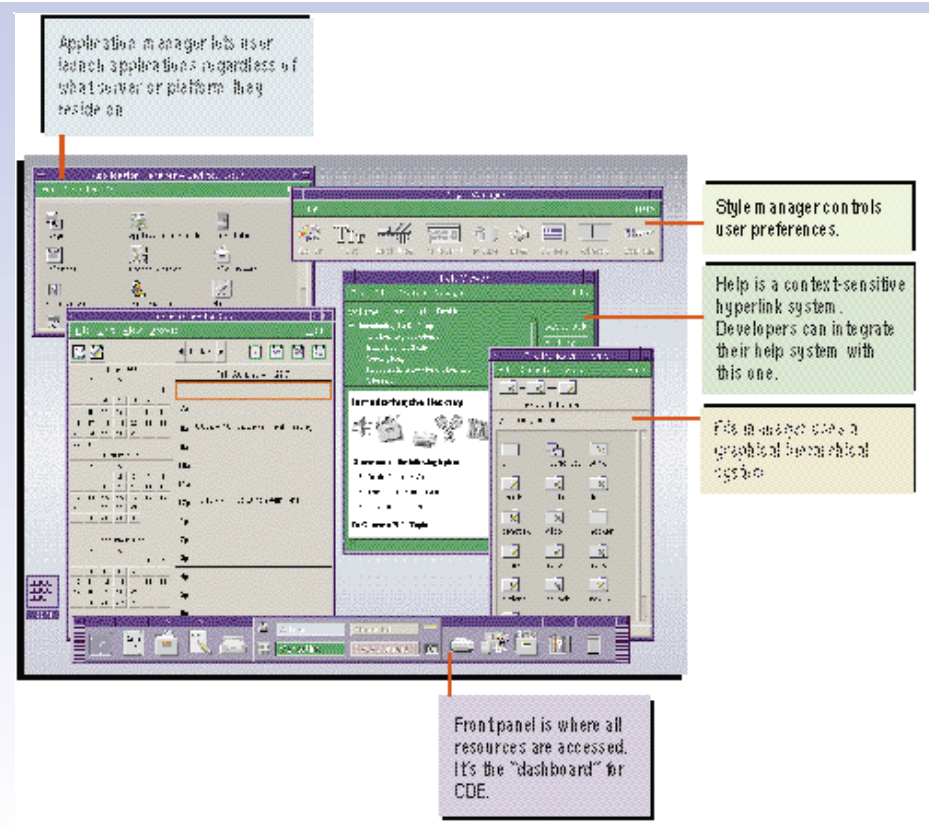
Waverly Deutsch, senior analyst at Forrester Research in Cambridge, MA, agrees that the best CDE boosters can hope for is to take over a niche. "Unix holds about three percent of *Fortune* 1000 desktops. That's virtually the entire potential market for CDE," she says. "You're not going to move people off their PCs. Any opportunity to break open the Microsoft Windows market passed two to three years ago." In fact, Deutsch believes that CDE is more a defensive attempt to stave off the "hemorrhaging of users from Unix to Windows machines" than a serious attack on Windows.

Still, within the market available to it, many expect CDE to play a role. "The market will take it seriously," says Johnson. "But it'll be a gradual step process."

The technical support manager of a retail company, who declined to be named, has a similar opinion on this. "Over 90 percent of our users are on Windows machines or Macs. CDE won't have any effect on them," he says. "The remaining 10 percent are working on various Unix workstations. CDE, if implemented by vendors—and that's a big if, can have an important role in that part of our company."

The Role of ISVs

Given that CDE's mission is to create a bridge across Unix variants, its appeal to independent software vendors is a key test of success. For example, the role of



The CDE desktop has features similar to those found in other popular GUIs.

Source: TriTeal Corp.

The Single UNIX Specification
A Giant Step Toward Standardization

Unlike CDE, the Single UNIX Specification (formerly UNIX '95) doesn't attempt to make all Unix desktops look alike. It does not even allow an application written to one Unix platform to run, without recompiling, on a second platform. Both those attributes, available on Microsoft Windows, are still too ambitious for an industry made up of vendors whose main concern is distinguishing themselves from each other.

The Single UNIX Specification is an application development environment that provides a common foundation of specifications. Software vendors who choose to follow this specification will be in a better position to create portable applications.

What do users get out of the Single UNIX Specification brand?

According to Graham Bird, X/Open director of branding, there are three business reasons for purchasing such a product:

1. **The product is guaranteed to conform to the specs.**
2. **Any revisions or updates will also meet the specs.**
3. **If a customer complains that the specs aren't met in a particular product, X/Open will investigate the charges.**

The Single UNIX Specification is an X/Open-branded product that resulted from cooperation among Hewlett-Packard, IBM, Novell's Unix Systems Group, the Open Software Foundation and SunSoft. It replaces the current XPG4 specification and defines, among other things, terminal communications, network communications and memory functions.

At press time, only DEC, HP and IBM have products branded with the spec, although a number of others, including Sun Microsystems, say they are close to achieving the brand.

Unlike CDE, for which support is lukewarm, the Single UNIX Specification is welcome in almost all quarters. "It's in everyone's interest that this succeed," says Philip Johnson of IDC. He says that, by consolidating the base applications into a consistent implementation, vendors can better focus their resources on features that distinguish their products.

"It will become easier for application developers to provide products that span multiple platforms," says Patrick Smyth, director of marketing for the Unix business segment at Digital Equipment Corp. in Maynard, MA. The result, he expects, will be lower cost and faster availability of applications and new revisions.

Of course, the benefit may not become apparent for a number of years. "We've already incorporated portability into our product. This [standard] will only become useful to us over the years as we bring out new products and revs," says Jim Lofink of Operations Control Systems.

One way that the Single UNIX Specification will help people right now is in specifying requirements when sending out requests for bids. "UNIX '95 is extremely important to our work," says Greg Vesper of NASA. "It greatly reduces the number of things we have to specify."

Still, the Single UNIX Specification leaves a lot for the individual software vendors to embellish, since it doesn't address all system requirements. In some cases, vendors will find that if they stick to the standard, they will be able to offer portability at the expense of performance. "Many applications will have to be fine-tuned to take advantage of the platforms on which they will run," says Smyth. "It's reasonable to want to squeeze out the highest benchmark, but the more they do that, the harder it will be to port the application."

The bottom line is encouraging. Says Smyth, "Over time, the customer will see less and less difference among Unix operating systems. Vendors will be forced to focus more on value added. That has to be good for customers."

ISVs is important to Du Pont's Pensak. "Our company has in-house projects, but we're anxious to see if commercially available CDE-based packages show up on the market," he says.

So far, if ISVs are interested, most are playing their cards close to their chests. None of the major Unix hardware companies, including Digital Equipment Corp., Hewlett-Packard and Sun Microsystems, could supply an ISV contact willing to be interviewed for this article. Even the major CDE supplier, TriTeal, was unable to provide a name.

One reason that ISVs may be dragging their feet is that many already have an interface with which their users are happy. "We have a Windows interface, which we worked hard to develop. We're not about to shift to CDE just because X/Open says it's good," says Jim Lofink, director of marketing for Operations Control Systems, an ISV of Unix scheduling software based in Palo Alto, CA. He says that 99 percent of his customers use Windows machines connected to Unix servers and are comfortable with that arrangement. Therefore, OCS isn't going to ask them to move to a new interface. "Whatever Microsoft does, we follow," Lofink says.

Another problem daunting CDE is that, although the common interface is good, many vendors have developed interfaces that are optimized for particular applications. While users don't have the advantage of commonality of interface, many are used to their systems and unwilling to give them up. "The 'common' in CDE can also be read as 'lowest common denominator.' Many developers will want to distinguish themselves by providing what they consider to be a better interface," says Johnson of IDC.

One example of a product that attempts to distinguish itself is Indigo Magic Desktop, a GUI from Silicon Graphics. Like CDE, Indigo Magic Desktop replaces Unix commands with point-and-click and drag-and-drop actions as well as icons that represent networked computers, files or peripherals. "Indigo Magic is proprietary, but it has features CDE hasn't and has been around longer," says Deutsch of Forrester Research.

For example, Indigo Magic Desktop offers network awareness (if, say, a printer goes down, its icon rumbles) and World Wide Web integration, which CDE doesn't. These features are important to

Ken Grindall, MIS director at Tulip Graphics, a digital multimedia and Web publishing company in San Francisco. "Indigo Magic Desktop is at this point ahead of CDE," he says. His company uses an Indigo machine as a Web server and another as a graphics workstation.

Grindall is not against having a common Unix interface, but he does not see a driving necessity to standardize on one particular product. "We're moving quickly to the point where the interface isn't much of an issue," he says. While there are differences between Mac OS, Windows, Indigo Magic Desktop and CDE, all have a similar foundation that makes transfer of learning from one system to another not much trouble, according to Grindall.

A Common Option

Despite the caveats above, CDE has the core benefit of being widely available on many different platforms. Most of the major Unix hardware vendors are now or shortly will be supplying CDE, either bundled or as an option. Users also can buy it from TriTeal, whose TriTeal Enterprise Desktop (TED) 4.0 is priced at $425. Currently, TED is available on the Unix variants of Digital, HP, IBM, NCR, Novell/SCO, Siemens Nixdorf and Silicon Graphics and on a variety of X terminals.

While TED is 100 percent CDE, it offers a number of features that exceed the standard, such as a series of applications integrated into the desktop. TEDvision is an Internet browser for navigating around the Web, Internet newsgroups or FTP sites. WinTED provides interoperability and concurrent sessions between Unix and Microsoft Windows environments. If you're accessing the Unix system host through PC X software, WinTED displays the TED front panel on the PC and provides access to applications, files and network services. Alternatively, from a Unix-based machine, Windows icons can reside directly on the front panel.

While it's clear that the market for products like TED or generic CDE is limited, it's equally obvious that these products represent a major advance in the Unix user interface. For companies that need a common GUI, either to support Microsoft users moving to Unix platforms or Unix users who yearn for the ease of use of a windowed environment, CDE can save the day. "There's enough goodness in CDE to make it an important standard. Within the admittedly narrow areas of the company which need a common Unix GUI, CDE has a real chance of success," says Johnson. IT

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