*Rapid development and company-wide deployment of mission-critical custom applications has become a major challenge for many corporations—especially those who use technology to gain a competitive edge. While other vendors promise object-oriented technology to address this challenge in years to come, only NeXTSTEP actually delivers on this promise today.*

## A COMPETITIVE ADVANTAGE

Today, many organizations find that the best way to gain a competitive business advantage is to develop mission-critical applications—custom software to solve unique business problems and increase operational productivity.

Developing custom software has always been a significant challenge. That challenge has increased as the software being developed—trading systems, health information systems, customer service systems —has grown more complex. Because these applications are too sophisticated to be easily or efficiently tackled with traditional tools, organizations find it hard to respond quickly to new business opportunities. Once these applications are written, they're hard to modify and maintain, further restricting organizations as they try to adapt to the changing competitive environment.

Recognizing these problems, a number of software vendors promise to solve these problems—*some day*—with object-oriented development tools.

Object-orientation is widely acknowledged as the best way to quickly develop powerful software. It also promises benefits in creating consistent, graphical user interfaces, and in integrating custom software with other applications and information resources.

One development environment—NeXTSTEP—has delivered on the promises of object-oriented programming for more than three years. NeXTSTEP's object-oriented environment makes creating powerful, easy-to-use applications far less time-consuming than any other development tools available today.

## WHAT IS NEXTSTEP?

NeXTSTEP—the only object-oriented system software available today—is a complete platform for

building and using client-server applications. Built on an operating system that's optimized for objects, NeXTSTEP consists of two components: the NeXTSTEP user system and NeXTSTEP Developer.

The NeXTSTEP user system is an easy-to-use graphical workspace built on top of a powerful multitasking computing environment. With mouse and keyboard action that's consistent from application to application, the NeXTSTEP user system reduces user learning time and boosts productivity. NeXTSTEP offers advances like a UNIX.-based multitasking operating system and a unified "what-you-see-is-what-you-get" PostScript imaging model for both display and printing. Built-in support for multiple networking protocols and multiple file systems makes NeXTSTEP the ideal environment for interoperable, interpersonal computing—using a variety of applications and platforms, groups can work together to work more effectively. NeXTSTEP supports advances like interapplication communication, links between documents, and integration of sound and images in documents. Because of these features, NeXTSTEP is the environment in which today's most advanced user applications are being developed.

NeXTSTEP Developer is an innovative development environment that simplifies the creation and deployment of advanced applications. By providing application building blocks, NeXTSTEP Developer improves programmer productivity while dramatically increasing application functionality and quality—basic behavior has been thoroughly tested and used by all NeXTSTEP applications. By offering object-oriented enhancements, including client-server communication and access to industry-standard databases, NeXTSTEP Developer improves the usefulness of custom applications, while reducing deployment time. By freeing programmers to focus on an application's unique features, NeXTSTEP Developer encourages the creation of powerful, productivity-boosting software. By defining the basic features of a consistent graphical user interface, NeXTSTEP Developer makes user-friendly applications easier to program. With NeXTSTEP Developer, it's easy to make applications both friendly and capable.

## CORPORATE DEVELOPERS DESCRIBE THE NEXTSTEP ADVANTAGE

A growing number of corporate developers find that NeXTSTEP helps manage the rising demand for custom applications.

"We have not seen a development environment anywhere that matches the power of NeXTSTEP," says Ingvar Petursson, CIO of McCaw Cellular. "We have already proven this power by delivering applications to our business in a matter of weeks that would have taken months in other environments."

At Swiss Bank—a Chicago-based financial trading company—V.P. Bill Martin is even more specific about the benefits of object-oriented programming with NeXTSTEP: "The real jewel of NeXTSTEP is the Application Kit, which provides a robust set of objects on which to build software. It greatly reduces the amount of code our programmers need to write."

For Northern States Power, the benefits are measured in dollars and cents. According to V.P. Gary Johnson, "...experience has shown us that none of these custom applications would have been within NSP's budget on any other platform."

## WHAT'S THE NEXTSTEP ADVANTAGE?

Put simply, NeXTSTEP lets programmers create easy-to-use, leading-edge applications in a fraction of the time required in other environments. The features supporting this advantage include:

- A fully object-oriented architecture from operating system through development tools and user interface.
- An object-oriented programming model that modularizes data and procedures to make programs easier to write and maintain.
- A small set of core objects that provide the framework required by any application.
- A rich set of support objects that provide advanced functionality such as text editing, file management, and printing.
- Kits of objects that deliver additional powers, including database access, text indexing, 3D graphics, sound, and more.
- An object-oriented graphical development environment that lets you assemble the user interface and other application components in less time than traditional methods.
- An extensible environment that lets you build on the powers of existing objects through your own custom objects—or through custom objects offered by third-party developers.

## A RECOGNIZED ADVANTAGE

Commercial and corporate developers recognize NeXTSTEP as the primary environment for developing breakthrough applications. A growing group of Fortune 500 companies have turned to NeXTSTEP as the most effective way to handle the rising demand for internal applications. A variety of commercial software vendors have chosen NeXTSTEP as the primary platform for their next generation development efforts.

In a recent survey of professional programmers familiar with NeXTSTEP and other development

### CHOICE WORDS ABOUT NEXTSTEP FROM THE PRESS

***Byte Magazine,*** *October, 1992*

"NeXTSTEP is probably the most respected piece of software on the planet. The underlying reason for NeXT's success is objects... The level of applications you can create in the standard environment is much higher on NeXT than anywhere else."

***BusinessWeek,*** *January 25, 1993*

"...NeXTSTEP system software is years ahead of its potential rivals... Embodying a hot technology called object-oriented programming, it lets customers quickly write new programs and mold existing ones."

***CASE Trends,*** *February, 1993*

"...integrated into NeXTSTEP is perhaps the most fully realized and easiest to use object oriented development environment available... Even the most risk averse among corporate computing professionals would be well served by taking a long, hard look at what NeXT is offering with NeXTSTEP."

***Windows Magazine,*** *March, 1993*

"NeXTSTEP does a lot of little things that add up to a whole new level of system performance."

environments, over 82% ranked NeXTSTEP higher than other environments they had used (Sun‰, Macintosh., MS-DOS.) in all major areas—development environment completeness, application quality, application maintainability, and development time. And 100% of the respondents with Sun and NeXTSTEP development experience stated that the ease and speed of software development using NeXTSTEP was better than their experience with Sun workstations.

Along with such endorsements, NeXTSTEP has been honored with the Software Publishers Association's Fluegelman Award for innovative software and Computer Language magazine's Productivity Award for interactive development environments.

## PUTTING THE NEXTSTEP ADVANTAGE TO WORK

If you or your development team needs a new approach to the challenges facing you, consider the NeXTSTEP advantage. In the pages that follow, you'll see how NeXTSTEP works to your advantage, providing both powerful, user-oriented applications and dramatically improved programmer productivity.

## A LOOK AHEAD

This guide offers a technical overview of features of NeXTSTEP Developer. As you read on, you'll find the following:

- A preview of the foundations of NeXTSTEP programming: object-orientation, kits of functionality, and the graphical programming environment.
- A step-by-step demonstration of how a working NeXTSTEP application goes together.
- Several examples of how NeXTSTEP's object-oriented kits simplify the process of adding powerful program enhancements.
- Two technical discussions: The first on object-oriented programming, the second on the framework of all NeXTSTEP applications.
- A catalog of the object kits defined in NeXTSTEP.
- A catalog of the development tools that make up the NeXTSTEP Developer system.
- Fully annotated code listings for the sample applications.
- A glossary of terms introduced in this guide. (Glossary terms are introduced in italics.)