

# Intranet Computing Environment

Kenneth R. Rohr

*Abstract*—As the Internet becomes pervasive in business, education, government and healthcare, the standards that make the Internet work are increasingly used within the walls of organizations creating "intranets." The old desktop-centric model, dominated by proprietary static applications running on one or two operating systems, is losing prominence as organizations discover that a computing environment based on an intranet is much more powerful, dramatically more open to innovative enhancements from many vendors and far easier to manage and use. Acordex's products embrace the intranet model.

## I. INTRODUCTION

Our vision at Acordex is to provide customers with products that are a part of the "Full Service Intranet", a computing model so compelling that is quickly becoming the standard. Right now, 90% of the Fortune 200 companies are implementing an intranet.

Marc Andreessen, a founder of Netscape, defines the Full Service Intranet as "Netscape's vision of how companies can use standard Internet technologies to deploy a rich, full-function, ubiquitous environment for information sharing, communication, and applications, built on top of open networking technologies and on an open network-based application platform."<sup>1</sup>

"Simply put, a Full Service Intranet is a TCP/IP network inside a company that links the company's people and information in a way that makes people more productive, information more accessible, and navigation through all the resources and applications of the company's computing environment more seamless than ever before.

"The Full Service Intranet takes advantage of the family of open standards and protocols that have

emerged from the Internet. These open standards make possible applications and services like e-mail, groupware, security, directory, information sharing, database access, and management that are as powerful, and in many cases more powerful, than traditional proprietary systems, such as Lotus Notes or Microsoft BackOffice. Because the Full Service Intranet is built on these open standards, customers reap the benefits of cross-platform and cross-database support, flexibility, and vendor independence; they also gain the ability to leverage the innovation and products created by an entire industry, not just a single vendor."

## II. WHERE IS THIS GOING NEXT

A recent announcement jointly issued by Apple Computer, International Business Machines, Netscape Communications, Oracle and Sun Microsystems defined a common reference platform for powerful, low-cost, easy-to-use network computing devices.<sup>2</sup> Representatives of the five companies disclosed details of an open Network Computer (NC) profile which will combine existing industry specifications to create a reference platform for network computing devices.

This collaboration marks the first time world-leading information technology companies have joined to select specifications for Internet appliances, an idea that has caught fire in less than a year and has demonstrated a future that encompasses the Personal Computer (PC) and a broad range of new devices. The set of guidelines is designed to make multimedia Internet computing as ubiquitous as telephone and television services. It will promote competition in a new class of communications and commerce devices for use in homes, schools, businesses and institutions and will ensure compatibility of models

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<sup>1</sup>On-line paper at <http://home.netscape.com>, Version 1.2, Revised July 16, 1996.

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<sup>2</sup>Press release and conference at San Francisco's Westin St. Francis Hotel, May 20, 1996.

from different manufacturers. The target price for the NC is under \$500.

### III. INTRANET TECHNOLOGY

The intranet model is described in terms of services. These services are provided by the intranet's software environment - which, since intranet software runs across all client and server operating systems and hardware platforms, results in a common network environment that spans even the most heterogeneous networks.

The most visible intranet services are world wide web (www), email and file transfer. These are commonly seen in a URL at the client workstation as http, mailto and ftp. They are all presented to the user via a web browser like Netscape Navigator. The http protocol communicating between a web server and web browser can be enhanced with specific functions provided by Acordex and other software vendors as "Netscape plug-ins." If a needed function is missing, a plug-in can be automatically downloaded by the intranet. These services and plug-ins provide users with a common base for applications such as document processing, workflow, customer service module, accounting and image archive. The user goes to his web browser for announcements and

news, internal and Internet e-mail, database and image access.

This makes life easy for IT managers, since all applications use the same base services. The network is the center of the computing environment. When compared to the old desktop-centric model, the intranet computing environment:

- Embraces existing infrastructure investments, including investments in desktop computers, servers, mainframes, databases, applications, and networks.
- Is a pleasure to implement, unlike most "paradigm shifts," which require you to replace all your existing systems, databases, and applications.
- Provides interoperability at the network level, directly addressing the cost and headaches associated with reconciling multiple incompatible systems.
- Allows developers to author once and run anywhere, even across both client and server platforms, rather than repeatedly porting and customizing applications for different proprietary platforms.
- Can be deployed and managed centrally, from a server, rather than requiring costly updates to static, individual desktops or laptops.
- Has a low overall cost of implementation and

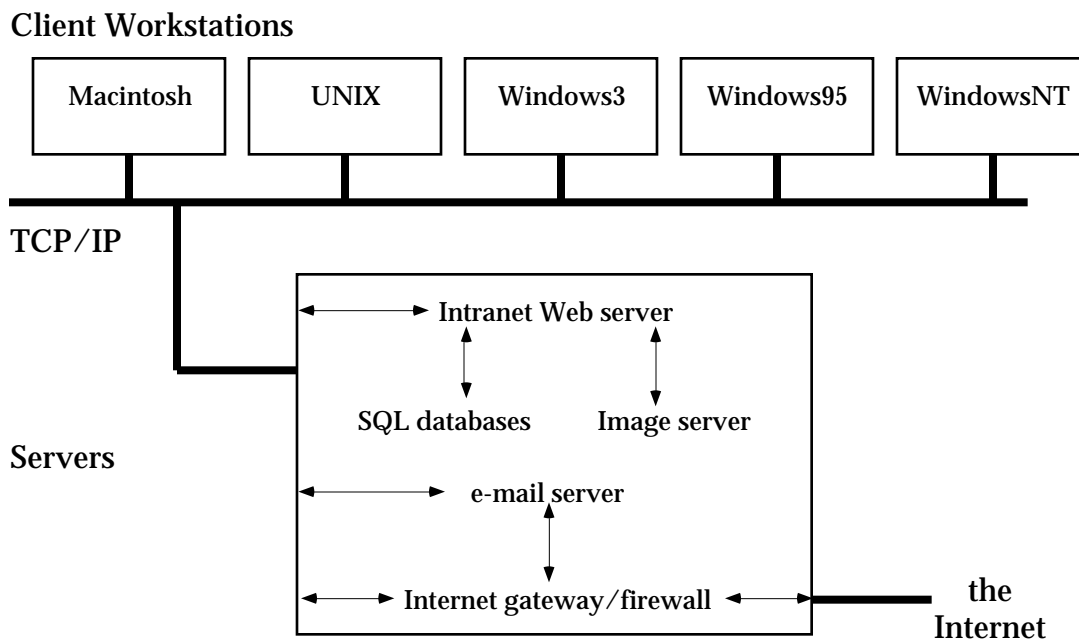


Figure 1. Acordex's Image server fits into the intranet architecture just as other servers do. All information is seamlessly accessed from the client workstation web browser.

ownership, including software, custom applications, hardware, training, and support.

- Is based on open standards, providing flexibility, so companies can select individual components from multiple vendors, today and in the future.
- Is already here and is changing the way companies do business.

IT management can run different services from different machines, and scale any service gracefully without incurring incremental management burdens. Unlike other integrated environments, an intranet does not force you to install and manage components that you don't need. You install components when you need them and they are immediately accessed by users anywhere on the intranet, on any client platform. Because both development and deployment are much faster, the cost savings over the old desktop-centric models are significant. Further, users do not need extensive training. The applications all use the familiar interface provided inside their web browser. The users already know the rules - "point and click!"

#### IV. COST SAVINGS EXAMPLE

Acordex's image viewing software is an excellent example of the cost savings described above. We offer the traditional desktop client software for MacOS and DOS/Windows computers for image viewing. Creating these client programs requires writing support for the local operating system's menu, windows, file system, network connections and interprocess communication. Installing the program on DOS/Windows equipment further requires testing for compatibility with configuration specific hardware like the monitor adapter and printer.

Acordex also offers a Netscape plug-in for image viewing. Creating the plug-in leveraged off of Netscape's management of the menu, windows, file system, network connections and interprocess communication. We just focus on fast handling of the image. The results are dramatic. Our client software offers very competitive price/performance at \$595. Our Netscape plug-in is priced at \$59! Although our dedicated client software does offer

features not in the Netscape plug-in, it is fair to say the plug-in offers 80% of the functionality for 10% of the cost!

#### V. ACORDEX PRODUCTS

Acordex is committed to the intranet computing model, not just as a veneer of gateways or translators layered on top of older products, but directly using the open standards of intranets and the Internet. Our products distribute images and data using web services. The entire scan station and image server back-end is cleanly interfaced through the web server. Image retrieval is viewed by the user as just another web page he can get by clicking inside a web browser screen. Database access is exactly the same. Data from an SQL database is presented as another web page. All of the web browser's navigation tools and menus become a part of the product.

Acordex's custom software projects using HTML and Java are much more economical than similar tasks using older architectures. Each customer has special requirements and the intranet model makes customization more economical.

Phenomenal cost savings result, especially for larger organizations where software deployment costs have become excessive. An intranet can be incrementally implemented using existing hardware and operating systems. And future Network Computers (NC) will drive costs down even further. q

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The author is with Acordex Imaging Systems (978 352-5500), a product development and system integration company specializing in high performance document management systems. <http://www.acordex.com>