

Introduction popular network operating systems (nos), netware



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IntroductionWhen mainframe and minicomputers provided the backbone of business computing, there were essentially networked environments in the sense that “dumb” terminals shared access to a single processor (the minicomputer or mainframe), printer (or printers) and other peripheral devices. Files could be shared among users because they were stored on the same machine. Electrical and operational connections were available in common and shared applications, and implementation of new hardware, software and users was a simple task so long as a single vendor was used. With the proliferation of microcomputers in the business environment, information became distributed, located on the various hard drives attached to personal computers in an office, and difficult for other users to access.

Today, network systems which connect disparate hardware, software and peripherals are commonplace, but the communication program which makes using these systems has not kept up with the demand for such environments, although a number of companies are now participating in the field. This research considers two of the most popular network operating systems (NOS), NetWare by Novell and Windows NT by Microsoft, and considers which is appropriate for business applications. Network Operating SystemsOperating systems are the interface between individual programs and the user. Through the operating system, the user is able to name files, move them and otherwise manipulate them, and issue commands to the computer as to what the user wants to do. Network operating systems are similar to this, but exist (as the name implies) in the network environment.

Thus a network operating system is used to issue commands to shared devices, and to provide a background against which scarce resources are

divided among competing users. Ideally, the network operating system is transparent to the user, who is only aware of the ability to share information and resources. An efficient NOS can make the difference between a productive and an unproductive office, and between workers who are difficult to replace when they leave and those who are likely to be familiar with the NOS of choice. Despite their importance, network operating systems have faced challenges in the market because of the diverse hardware requirements that they must meet. Because of this, several different operating systems have been developed, some of which run in place of traditional (single-user) operating systems, and some of which run in addition to these systems. OS/2, for example, provides a multi-user environment without requiring a separate operating system. NOS development gained widespread acceptance when companies such as Artisoft (which manufactures Lantastic) introduced client software which worked with a variety of servers.

This made software manufactured by companies such as Novell (which required special client-side networking software) vulnerable, and Microsoft's Windows 95 quickly became the client software of choice in the market (although not always among analysts) when it was introduced since it can interface with a number of different server systems with complete transparency to the user. This is the same concept used to develop OS/2 Warp Connect. Comparison CriteriaBecause of the current state of the market, having 32-bit capability is a requirement in most network environments. The various NOS alternatives need to offer a strong file and print base, since that is how most users access and use the networks.

Application services, which includes the ability to run messaging, database, and other server-based applications efficiently in a client/server network is an essential requirement of most modern networks. Multiprocessor support is an essential component, as is fault tolerance, high-quality development tools, and application support from third-party vendors. Hardware integration is also a key issue since the NOS should be able to run on hardware which is readily available at reasonable rates, and which is likely to continue to be available in the future. Both the type of processor and the ability to use more than one processor are important considerations in this regard. A related issue is the networking infrastructure, which includes the ease of use of the network transfer protocols and how well the server software processes multiple LAN adapters and internal routing. In addition, directory and naming services should be easy to use, and multiple operating systems (such as DOS, Macintosh, Unix, OS/2 and Windows 3. x as well as Windows 95) should be supported given the diversity of most network