Explore Network Operating Systems

It’s easier to understand what a network operating system is if you’ve seen one or two in action. For each of the NOSs listed previously (Windows Server 2019, Ubuntu Server, and Red Hat Enterprise Linux), use your favorite search engine to complete the following steps:

1. **Search for information about the NOS and write down a short description based on your findings. Include a few features and advantages and identify who develops and publishes each NOS.**

A Network Operating System (NOS) is a type of software tailored to support networked environments—typically LANs—by enabling devices like PCs, file servers, and printers to communicate and share resources. NOS provides centralized management of network services

Key Features & Advantages

Centralized control — Administrators manage users, permissions, and shared resources (e.g., files, printers) from a single interface, improving governance and reducing manual overhead.

Multi-user support with session isolation — Multiple users can work in parallel without interfering with each other

Robust security — Includes features like user authentication, access control lists (ACLs), firewalls, encryption (e.g., SSL/TLS), and integration with security monitoring tools.

Efficient resource sharing & load balancing — Manages shared devices and network traffic smoothly, preventing bottlenecks,

Scalable & reliable architecture — Designed for growth and high availability through redundancy, fault tolerance, automated backup, disaster recovery, and performance monitoring,

Interoperability with hybrid environments — Works across on-premises and cloud resources, supporting APIs, SSO, and federation (e.g., Active Directory, LDAP).

Automation & remote management — Supports scripting, templates, and remote configuration for more efficient administration

Developers & Publishers

NOS isn’t tied to a single developer—it’s a category. Prominent examples include:

Microsoft Windows Server — Well-known enterprise NOS published by Microsoft

Unix — Originally developed at Bell Labs by AT&T; often used in network server roles

Novell NetWare, LANtastic, Windows NT — Historically significant NOS variants

Linux-based NOS options are popular in education and SMBs for their flexibility and cost-effectivenes

Summary Table

NOS Type	Description	Features & Advantages	Developer/Publisher
General Network Operating System (LAN-focused)	Software layer managing multiple networked devices	Centralized control, security, resource sharing, scalability, hybrid/cloud support	Microsoft, AT&T (Unix), Novell, various others
CDC NOS (historic mainframe OS)	Mainframe OS from 1975 with time-sharing for CDC machines	Time-sharing, terminal UI, batch processing	Control Data Corporation (CDC)
CDC NOS/VE (mainframe, historic)	Virtual memory variant of CDC NOS	Virtual memory, improved performance	Control Data Corporation (CDC)

2. **Search for images of screenshots for the NOS. What are some major elements that you notice on these screens? How are these NOSs managed?**

They are way different between then and their user interface is built for different type uses.

3. **Find one or two introductory videos for each NOS and watch the videos. What are some similarities between each NOS? What are some of the differences?**