

# Critical Needs for Your SMB Server: Software to Run Your Server and Your Business

By Daniel P. Dern

Small to medium sized businesses (30-800 employees), and branch or remote offices of larger companies today need, in addition to the individual desktop and notebook computers used by their employees, a server to centralize and handle tasks including email and central files storage and backup. This article provides an overview of the key software that a small business needs or should consider for its servers, and related advice to ensure reliable, secure operation of this essential business support tool.

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Once an office has more than half a dozen or so "clients"—desktop or notebook—computers being used by employees, it makes sense to have one or more additional computers referred to as SERVERS, to support IT tasks and business activities.

"Most companies want email, messaging, collaboration, a database, some web services, security and some type of systems administration," says Laura DiDio, research fellow in Yankee Group's Enabling Technologies Enterprise group.

**“Automatic defrag and other utilities make server performance more reliable...”**

Some of these server applications and utilities are necessary for each others' operation. Others contribute to efficiency and production; for example, anti-virus/anti-spam software can make email servers more efficient, and automatic disk defragmentation and other utilities can make data backup—and server performance—more effective and reliable.

Small businesses and small/remote offices (typically 5-30 people) can usually be handled by one server. Larger offices, medium to large businesses and enterprises will have more servers.

HealthX, Inc. (healthx.com), for example, a 50-person company providing Software as a Service (SaaS) platforms for the healthcare industry, has five servers for its IT operations—including a dedicated machine for Microsoft Exchange.

This article provides small and medium businesses a look at some of the software that a server should have, including what each is, what each does and why the business needs it.

(Disclaimer: This article was sponsored by Diskeeper Corporation, but any opinions here are either my own or those of the quoted sources.)

## **Operating System: The Heart of a Server**

Every computer starts with an operating system (OS). A server version of an operating system typically includes a number of functions and utilities that a client OS won't, and vice versa—although smaller offices or businesses, e.g. those with five to ten employees, may use a computer running a client OS like Windows XP® or even Windows 98® as their server.

The most commonly found server operating system in small-to-medium businesses is Windows. Microsoft offers several versions of Windows Server OSes, including Windows Server® 2003 for general-purpose servers; two web-oriented versions; Microsoft Windows Small Business Server® 2003 (Standard and Premium) intended, as the name implies, for small businesses; Windows Server® 2003 and 2008 Enterprise Editions for medium-to-large businesses and Microsoft Windows Server® 2008 Datacenter.

Microsoft, HP, IBM, Sun, Red Hat, BSD and other companies offer versions of their operating system(s), plus there are numerous open-source and other alternative operating systems available for free or fee.

## **File and Print Servicing**

Two of the first tasks for your server are file and print servicing. (Both are typically included in server operating systems.)

FILE SERVING software lets one or more central hard drives be shared by users on your network, e.g. from Microsoft® Office on your desktops and notebooks and by applications on your servers. These hard drives may be inside the machine that is acting as the file server; or external storage devices—Direct Attached Storage (DAS) connected to the file server, e.g. by USB. (File servicing may also be provided via a Network-Attached Storage (NAS), which connects directly to the network and includes its own file-servicing software.)

**“Centralizing to file servers improves your storage security...”**

Centralizing files to file servers improves your storage security; makes backups faster, easier and better; and makes it easier and less expensive to provide and add storage for company data.

PRINT SERVING software makes it easier for a number of users to share access to one or more shared printers, and means that a user doesn't have to leave their computer on and connected until a print job is done. Many of today's printers and multi-function printers (MFPs) include an embedded print server. Print servers also make it easier to secure print jobs and reduce driver installation and configuration on user systems.

## IT Applications and Services

Now that you've got users accessing and printing files, you need to manage them and start providing more services and infrastructure that will in turn enable still other capabilities:

### o Directory Services: User Administration/Security

Directory Services let IT create and manage users—e.g. names, passwords, groups, access permissions—and other devices and policies. Popular Directory Service utilities that implement the Lightweight Directory Access Protocol (LDAP) include Microsoft Active Directory®, the Linux® LDAP or Novell's® eDirectory. (Most server OSs will include an LDAP utility.)

**“You need an e-mail server. For most small offices this means Microsoft Exchange.”**

### o Email

Unless your company has outsourced its email server functions as a managed service or you're using a web-based email service like Gmail™ or Hotmail®, you need an email server program. For most small offices and companies, this means Microsoft® Exchange. "Email is typically on its own server, because it's so resource intensive," notes Dan Bent, a member of the Information Services group at Benefit Administrative Systems, LLC.

### o Managing Your Hard Drives, Moving Data

Most operating systems include system administration tools for adding, formatting and partitioning disks. There are also a variety of third-party tools for disk management, and some of your hardware may come with its own software management tools.

You need a way to move files among systems, like FTP (File Transfer Program) and sFTP (Secure FTP) for secure transfers.

### o Intranet/Internet Servers and Services

Even if your company's web presence is elsewhere in a web hosting service or data center (which it should be), you're still likely to want a web server. Web servers power intranets and portals to internal applications, databases and files, including providing front ends to legacy applications.

Most server OSs include a web server. If you need to use features only available in Microsoft's Internet Information Services (IIS) web server, you'll need IIS, which runs only on Windows. Otherwise, you have many web servers to choose from including Apache®, the most popular web server available for Windows, Linux and other platforms.

## **Defragmentation—Taking Care of Your Data and Software Files**

Now that you've got a bunch of software running and are creating and updating data, it's time to start thinking about the health and safety of your files, which are after all, essential to your company's productivity.

It's also important to take proper care of your data files and the hard drives they reside on during normal operation. The ongoing everyday activity of creating and changing files, running software and other activities leads to "file fragmentation"—the condition of files being split into many pieces or "fragments" across the hard drive. The more pieces that a file is split into, and the more those pieces are scattered across the disk, the longer it takes your server to read and write to the file.

With databases or other files that are accessed by multiple users, fragmentation can build up even faster. File fragmentation can slow a hard drive's response time, making backups take longer, anti-virus/spyware scanning and other security processes take longer...and even contribute to system unreliability and premature hard drive failures.

A professional-grade defragmentation tool eliminates file fragmentation. And it often extends the useful life of hardware by an additional one to three years, making it (along with maxing out the RAM) one of the most inexpensive and cost-effective performance upgrades to servers; far less expensive than a full hardware refresh. New automatic defragmentation tools (like Diskeeper® 2008) also ensure that defragmentation is done in the background, using only idle system resources, so it never interferes with business processes.

**“Defrag software is as vital as anti-virus...”**

Automatic defragmentation is now considered by IT as important as anti-virus. In a recent survey of 179 Network Admins/IT Directors asking what software they considered vital to have on their servers, 48% said anti-virus, and 45% said defragmentation.

### **Taking Care of Your Data and Software Files—Backup**

In addition to automatic defragmentation to optimize server performance and response, you want backups of your data—duplicate copies of your files onto a separate device—to ensure that if something happens to data or the hardware it's on, nothing else is lost. Server OSs typically include a back-up tool, but businesses invest in a third-party program. Continuous Data Protection (CDP) backups save data as it is created or saved; additionally, incremental or differential backups supplement full saves.

Ideally, your backup tools can create both LOCAL backups, which are conveniently at hand, and OFF-SITE backups, which are safe in the event that something damages the computers and files at your site or makes a location inaccessible (e.g. a utility outage, flooded roadway, etc.).

## Security That Should Run On Servers

In addition to the security applications running on your network gateway (or gateway-level security appliances), and on client (desktop, notebook) machines—servers, especially those running mission-critical applications, should also be running one or more security applications, e.g.:

- o firewall
- o anti-virus/anti-spam
- o anti-malware
- o application proxies
- o "blended attack" detectors
- o Intrusion Detection/Prevention System (IDS/IPS) to watch for and block network attacks. (Primarily on mission-critical servers.)

## Taking Care of Your Server & Software

Servers, like client systems, need ongoing "care and feeding"—administration and management. Software needs installation and configuration, security updates and general patches need to be installed and checked, IT may want to monitor performance and capacity to check for problems, et cetera. Also, you want to be able to monitor the status of hardware—are any systems down or having problems? Are components overheating? are there power problems? And so on.

### o Management and Administration

Microsoft provides a variety of tools for systems management, including Microsoft Systems Management Server (SMS) 2003 which provides deployment and inventory management; Microsoft Operations Manager (MOM) 2005 which helps IT to monitor and manage the health and availability of the infrastructure and applications and System Center Essentials, Microsoft's unified management solution for mid-sized business.

### o Secure Remote Access for System Administration

System administrators need access to manage applications and the server, and employees maybe access server-based applications. Remote access lets them manage remote often "lights-out" facilities and often resolve problems when they're out of the office, without needing to physically be at the machine.

Popular solutions to establish secure terminal sessions include Windows Terminal Services, remote access solutions like Citrix® GoToMyPC and Symantec® pcAnywhere and for SSL/VPN access, Citrix® Access Gateway.

(To access servers at the BIOS/hardware level, e.g. to power-cycle, you'll need KVM switches/Serial Consoles; these often include terminal session tools.)

Other software tools and utilities to consider include IT hardware and software asset/inventory management programs, VoIP and Fax-VoIP servers and collaboration tools.

## CONCLUSION

Increasingly, software packages available to today's small and medium sized companies are offering much of the power and features previously available only to enterprises—but with the ease of set-up and use, and affordable prices, that small-to-medium companies and smaller offices need.

**“The right software will  
improve productivity  
and reliability.”**

It takes a goodly number of programs to keep an office, its computers and network running productively and securely. But you should be able to get most of what you need through whoever you buy your servers from, along with help setting things up. And the right software will improve company productivity and reliability, and also reduce the amount of IT staff time needed to administer or service the server.

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