

aries

Small Office Connectivity

Aries Server Appliance Deployment Guide

white paper

Overview

The purpose of this paper is to provide you with information about the installation and deployment of Aries Server Appliance with Celinux version 1.7. You should use this paper as another information source to augment the Quick Installation Guide (located in your product box) and as preparation for some of the information you will find in the Aries Server Appliance User Manual.

Within this paper, you will learn about the various networking situations supported by Aries Server Appliance. These situations include adding more servers, adding 802.11b PCMCIA wireless LAN card, connecting client PCs and Macintosh computers. Additionally, you will find a few tips to help guide you through installation.

Planning

Planning your network is the most critical component of the successful deployment of any computer technology in a business. Large organizations typically spend the majority of time in a given project on the up-front analysis and planning of business requirements and implementation. Large organizations, however, have dedicated information technology (IT) staffs whose job it is to interview users, research technology, and create a detailed implementation plan—a luxury that most small businesses cannot afford.

While this paper is not dedicated to planning, it addresses several issues you should consider before moving your business to a full client/server network based on Aries Server Appliance.

For starters, consider how your plan to implement Aries Server Appliance will change the behavior of your employees. If you think your employees will experience a significant change—for example, if several employees will move from a paper-based environment to electronic forms—you should consider a short-term “pilot project” before a full implementation. A pilot project involves selecting a few employees to change their current behavior to reflect what the future behavior is expected to be. For example, your business might not have e-mail, Internet connectivity, or an electronic accounting package today. You might assign three or four employees or just your accounting department to trying out these new features on a server configured the way you expect the system to be deployed in the entire business. As these few employees learn the system, you will learn how this change in behavior might affect the rest of your employees. Once you're satisfied with the change in behavior and the configuration of the system, you can start adding employees incrementally or over the course of a weekend.

If you plan to go from an entirely non-PC business to a full client/server networked business environment, again you should consider a small pilot project with a few employees to make sure that you will attain many of the efficiency gains you expect and that your employees will be able to handle the change in business practice.

If you plan to migrate from an older client/server or peer-to-peer network, you will want to make sure all your key line-of-business applications work with Aries Server Appliance. Again, you should consider a pilot in which you install your business application on Aries Server Appliance and test the application to ensure it operates as it is expected to. Run this application on both the old and the new platforms for a week or until you are comfortable with making the final switch to the new network.

Another important consideration in the planning phase is to understand the requirements imposed by any line-of-business applications that the small business uses. If you understand the technical requirements of your line-of-business applications, you will be able to determine whether you can move the entire network to Aries Server Appliance or you will need to use the coexistence capabilities of Aries Server Appliance.

Hardware Recommendations

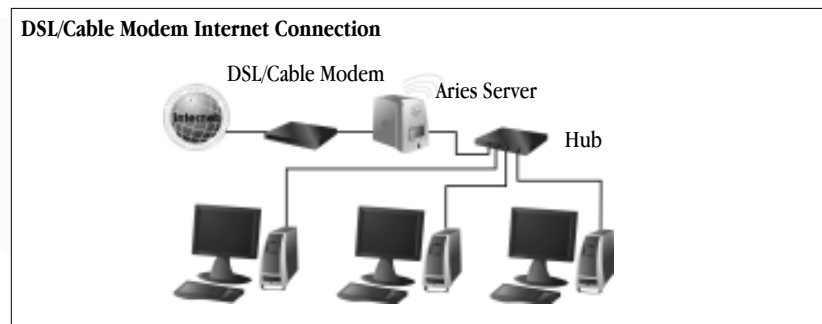
The Aries has a 200-MHz MediaGXm all-in-one processor, 64MB of memory, and 10GB of hard disk. This is sufficient for most small offices with up to 25 users. The server's performance in everyday tasks are generally limited by the speed of input-output components, like the disk drive, modem, and printer, rather than the actual raw CPU clock speed. Aries has optimized operating system drivers and extensive caching to make it perform on par with most desktop servers. The following sections discuss a few considerations you should make before making the final decision on your hardware purchase.

Internet Connection

Aries supports an extensive array of connectivity options. You can use dial-up V.90 or ISDN connection through an external serial modem or the PCMCIA card modem, or over xDSL or cable modem using the second Ethernet port.

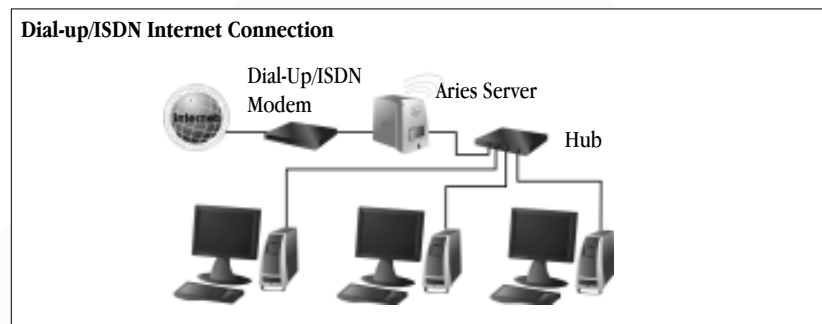
DSL/Cable Modem

Broadband connections are becoming more feasible for small businesses because costs associated with them are becoming more affordable. Most DSL or Cable modems connect to Internet via the Ethernet. When using a full-time/broadband connection to the Internet, you should request for a static IP address (see section: Dynamic IP and dial-up), supplied by your ISP, for your broadband connection on the Secondary Ethernet Port on the Aries. For more details on how to configure Internet connection, please refer to User's Manual - Configuring Internet Connection.



Dial-up Connection - Analog/ISDN Modem

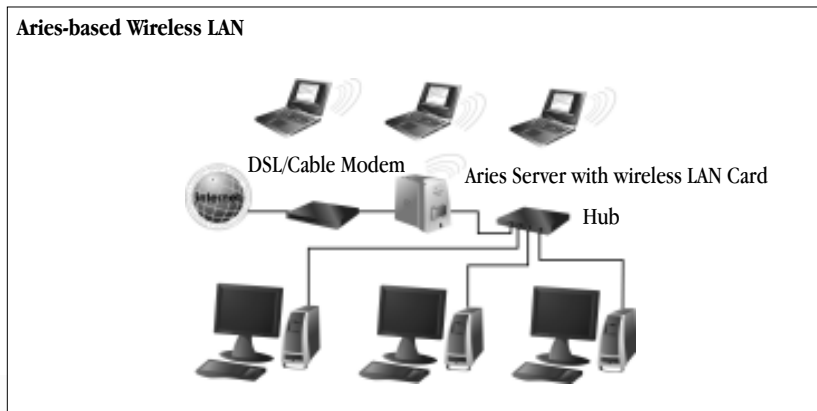
A dial-up connection is established using PPP (Point-to-Point Protocol). The hardware used for a dial-up connection is typically an analog or ISDN modem. These devices must be configured through the Connection page of the Aries Web Administration. They may be connected to Aries Server Appliance through 1.) PCMCIA using a modem PC card or 2.) via serial port using an external modem. The modem must be a serial modem (as opposed to a WinModem) and v.90 compliant.



802.11b Wireless (Apple AirPort Compatible)

A Wireless Local Area Network is a flexible data communications system that can either replace or extend a wired LAN to provide added functionality. Using Radio Frequency (RF) technology, LANs transmit and receive data over the air, through walls, ceilings and even cement structures, without wired cabling. A WLAN provides all the features and benefits of traditional LAN technologies like Ethernet and Token Ring, but without the limitations of being tethered to a cable. This provides greatly increased freedom and flexibility.

With an optional PCMCIA card you can setup an 802.11b high-speed wireless network with Aries Server Appliance.



Additional Hardware

If you count on your server as your mission-critical 24x7 employee, you should also consider some key accessory equipment:

- Uninterruptible power supply (UPS)-A UPS will provide a limited amount (up to 30 minutes) of battery power to your server in the event of a power failure. If a server is improperly shut down or loses power, it can lead to the destruction of hardware and loss of data. A UPS can also be configured to work with Aries Server Appliance to automatically shut itself down in the event of a power loss. A high-quality UPS can cost up to \$200 more than one of lesser quality; however, this is a great insurance policy against the unexpected and is well worth the price.
- Back-up drive-You should consider purchasing a NAS for backup your essential data. Or simply use a PC or Mac with sufficient storage space.

Adding Servers to the Network

Aries Server Appliance was technically designed to run as a single server to support a business with limited connected workstations. One common misconception about Aries Server Appliance is that you can only connect one server to an "Aries Server Appliance-based network". In fact, you can connect any number of Aries Server Appliances, and other servers to the network. However, each server must be given a unique name and IP address. You would also need to manage the services on each server. For example, you should not have 2 DHCP servers running concurrently or at least not providing the same IP range.

Setting Up Aries Server Appliance

The following section provides an overview of the setup procedure. For more detailed information on setting up the server, please go to the Aries Server Appliance Web page, or refer to the User's Manual.

Before You Begin

- If you are connecting Aries to the Internet via Cable or DSL service, make sure you have the IP address, Subnet Mask and Gateway information ready.
- You will need a personal computer (attached to the network) with a Web browser installed (for example, Netscape Navigator, version 4.7 or later, or Microsoft Internet Explorer, version 5.0 or later).
- You will need network parameters if you are connecting Aries to the network, which you can obtain from your system or network administrator; these include the Aries' assigned IP address, the subnet mask of your network and, if communicating with other networks, a gateway or router address.

Setup Roadmap

The Aries setup process is simple and straightforward. Setup consists of the following steps:

- Primary/ Secondary Setup
- System clock setup
- PCMCIA setup (If Wireless PC Card and Modem PC Card are used)
- Services setup:
 - File Server
 - Print Server
 - Mail Server
 - Web Server
 - Internet Proxy
 - DHCP Server

How Long It Will Take

The whole process of connecting the Aries to the Internet and Local Area Network will take about 10 to 15 minutes.

Migrating from Peer Networks

Many growing businesses find that the limits of peer-to-peer networking inhibit their business growth. Peer networks offer a reasonable solution at a low cost for businesses that have fewer than five PCs and that want to share files and a printer. However, as the business grows, issues such as performance, stability, security, and backup can begin to take a toll on business productivity.

Client/server operating systems such as Aries Server Appliance eliminate many of the issues of peer networks in addition to offering features such as local and Internet e-mail; shared Internet connectivity; shared modems and phone lines; shared customer lists and calendars; and the ability to centrally manage users, security, and backups.

To migrate from a peer-to-peer network to an Aries-based client/server network is very easy. Once you have connected all the necessary cables to the Aries, you just need to run a web browser on any PC connected to the network to add new users, set file folders, disk quota, security and etc.

Requirements for migrating from a peer network:

- Your peer network must be running an Ethernet network with a network hub.
- Client machines must be running an OS that supports networking; Windows for Workgroup 3.11, and any version of Windows since then or MacOS 7.5 and above.

Note: A peer “server” refers to a PC that is dedicated to supporting files and printers on a given peer-to-peer network. In your business, you may not have a dedicated PC but rather have a workstation or workstations that people on your peer network use to share files or a printer.

To migrate from a peer-to-peer network:

1. Connect all necessary cables to your Modem/DSL/Cable modem and your local area network.
2. Connect your Windows-based client PC to the same hub or network that is connected to your Aries.
3. On the Windows-Based client PC, run the web browser (Netscape 3.0 or higher or Internet Explorer 3.0 or higher) and access the configuration menu by pointing to the Primary Ethernet IP address that you have set earlier, e.g. `http://aries_IP_address:10000` (Default is 192.168.1.1)
4. A default setting has been preconfigured for you. Click a button to either accept or change the default settings. **NOTE:** Write down the password and store it in a safe place. If you forget or lose the password, you will not have administrator’s rights to the Aries Server Appliance. It must be reset to factory condition and all settings and data will be lost.
 - **Quota**
This is the disk quota allocated to a particular user in MegaBytes. Enter “0” for unlimited usage.
 - **Internet access**
The user will have Internet web access if this box is checked. The restriction is valid only if Aries is used as Web Proxy server.
 - **Administrator**
The user will have administrator access rights.
5. All users created on Aries will have the rights to access the resources offered on the Aries.
The following are not migrated:
 - Shared printer locations on your peer “server”-You will need to attach the printer to your server
 - Shared folder locations-As with printers, you will need to manually create and share folders on the server. By default, there are 3 shared directories.
 - HOME - the user’s home directory, files in this directory are only visible to the user that’s logged in.
 - PUBLIC - This is the default Web directory. Place your files of your website here.
 - FTP - This is the default FTP (File Transfer Protocol) directory. Files here are downloaded via FTP.
 - Local user accounts or permissions on your shared folder and printer locations-For all user accounts and file or folder permissions, you will need to create new accounts on the server.

Connecting Apple Macintosh Clients

Aries makes it possible for Windows-based and Apple Macintosh clients to share files and printers either via Ethernet cable or AirPort. For example, suppose you created a document in Microsoft Word for Windows. A co-worker can access that document, use Word for the Macintosh to modify it, and then place it back on the server so you can see those revisions using Word for Windows. The Aries supports this feature because Aries functions as an AppleTalk router. Macintosh clients need only the Macintosh operating system software (7.5 and above) to function as workstations-no additional software is required. You also have the option to set up the Wireless LAN for your Macintosh PowerBook or PowerPC by installing the AirPort card on each of your Mac computers. Additionally, Macintosh clients can also be set up to send and receive e-mail and to connect to the Internet through the shared connection provided by Aries.

Requirements

- Supports most Macintosh computers that use AppleShare networking software
- Does not support Macintosh XL and Macintosh 128K models
- Version 6.0.8 or later of the Macintosh operating system (System 7.5 is preferred)
- Version 2.0 or later of AFP, the AppleTalk Filing Protocol (version 2.1 is preferred)
- Ethernet or AirPort card in the Macintosh client

Setting Up E-mail on the Macintosh Clients

Please refer to your Macintosh User's Manual for information on setting up e-mail on your Macintosh.

Dynamic IP and Dial-Up

If you using a dial-up (analog or ISDN) or your Cable/DSL provider uses DHCP, you might not be able to host your website, FTP and e-mail on the Aries Server Appliance. However, you can have a MultiDrop e-mail account with an ISP and use the Aries Server Appliance to fetch all the mail for your domain, which it will then redistribute to the different users.

A MultiDrop account will accept mail for an entire domain into a default mailbox, e.g. john@yourdomain.com, john@yourdomain.com etc. will be sent to a default mailbox, yourdomain@yourISP.com. Your Aries Server Appliance will fetch mail from this account and redistribute them to the individual users, Lisa and John.

Some Cable/DSL providers are able to provide static IP upon request. Check with your Service Provider.