



## **Amicus Attorney Version V: Wide Area Networks (WANs)**

### **Industry trends**

Trends within the legal industry include a growing number of branch or satellite offices, even among very small firms. Legal professionals need to be able to work away from their central office, but have access to the information in that office. This creates the fundamental requirement of offsite users having access to information on a centralized network.

The ability to run with a remote copy of network information on a separate laptop, and then synchronize that information with the main database upon return to the office, is one solution to this need. Amicus Attorney has long had this capability.

An independent remote that is periodically synchronized works well, but is not ideal for all circumstances. It is best suited to the needs of an individual working from home or temporarily away from the office. Where a firm has established a branch office where people routinely work and need to be constantly up to date with the central information, a wide area network (WAN) solution is often more appropriate.

Today's law firms wish to maximize attorney productivity and ensure a high level of customer service. With the implementation of a WAN, attorneys can have all the advantages of a centralized (shared) practice system, while serving their clients from multiple geographic locations. Indeed, the capabilities of practice management software to provide the synergies of collaborative workflow and shared information, independently of an individual's physical location, open up many new possibilities in client service, business development and personal lifestyle.

This paper addresses:

- What is a wide area network?
- How Amicus Attorney supports WANs
- Assessing your WAN needs
- WAN implementation overview
  - Branch offices
  - Remote users
- Tips for setting up satellite offices

## What is a wide area network?

A *wide area network* (WAN) is a technology that allows geographically remote local area networks (or computers) to be connected in a way that permits ongoing real-time (synchronous) data exchange and communications.

A *local area network* (LAN) is a network established in a single geographical location. Typically it is confined to a single building or sometimes several adjacent buildings, and uses special cabling installed in an office solely for communicating between local computers. In contrast, a WAN connection is normally run over communications equipment, usually that provided by telephone companies. WANs may run within a building between floors, between buildings, cities or across continents, depending on the technology.

**Note:** As far as most applications (and the people using them) are concerned, a WAN is exactly the same as a LAN, except that a WAN is slower and sometimes less reliable.

## How Amicus Attorney supports WANs

The Client/Server Edition of Amicus Attorney has been designed to permit law firms to use it across suitable WANs.

**Important:** The Client/Server Edition requires two basic facilities of the network: File access to the server where the database is located and TCP/IP-protocol access to the network. Both of these facilities must exist for the Client/Server product to run.

Once these requirements are established, Amicus Attorney is unaware of the remaining nature of the network. Accordingly, Amicus Attorney should run on any WAN architecture that meets these requirements.

From Amicus Attorney's perspective, the remaining key design criterion in setting up a firm's WAN is performance. The main limitations on Amicus Attorney's performance on a WAN are the bandwidth, switching/routing equipment and reliability of the networking. Other factors affecting performance include the size of the database, the number of users accessing it simultaneously across the WAN, the frequency and nature of their use, and of course their computer hardware. In assessing a WAN, the slowest component has the largest impact. In other words, wherever the WAN has a "bottleneck" the speed through that point is the main limiting factor on performance.

Gavel & Gown Software cannot dictate guidelines as to what is or is not acceptable WAN performance. Users must establish their own requirements based on the above factors and their own expectations. What is acceptable to one firm may be impossible to the next.

The nature of the way in which a firm wants to use Amicus Attorney across a WAN and their expectations for performance is the number one factor to consider. For example, Amicus Attorney can be run on a WAN whose physical connection is through a 28.8K modem. Tests over such a connection on a 50-user team showed launch times of about 5 minutes, and average times to edit or change a new record of about 5 seconds; most browsing activities run at near normal speeds. Only the user can determine whether these times are acceptable for their particular purpose, or whether a faster connection is required.

Note as well the importance of reliability considerations. The more heavily a firm uses the WAN and relies on constant updating of information, the more it is going to want to ensure a stable and reliable connection. Modem connections are inexpensive and convenient, especially for periodic use, but they are far less reliable than dedicated connections.

## Assessing your WAN needs

In assessing your needs, consider each of the following WAN applications:

- *Traditional WAN*—LAN-to-LAN connections for email, data transfer and network applications between multiple business sites
- *Remote LAN access*—Network connections for mobile employees, home offices and travelers

As in the early days of long distance telephone service, the design of a modern WAN solution requires a careful consideration of the present and future locations of your business sites, as well as the distances between locations. This is essential, since not all WAN services are available in all locations. And for most services, the distance between locations is a key factor in determining monthly costs.

To begin, it is useful to create a hierarchical diagram of your business sites. You will also want to start a file for each site, to collect site-specific information about available services, monthly rates and other criteria for your WAN solution. Later, as you further analyze your wide area networking needs and expand your diagram, you will need to think more in terms of the logical data flow of your network. This can be very different from the geographical, political or organizational structure.

## WAN implementation overview

### Branch/satellite offices

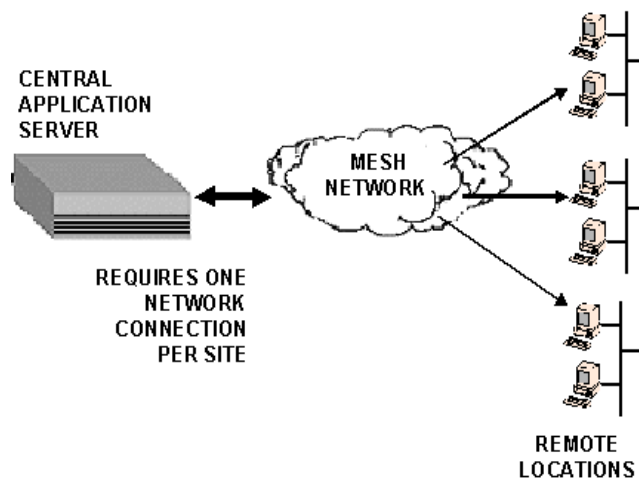
Branch/satellite offices may have multiple users. With multiple users depending on access to centralized applications, a high level of reliability and network response time is required. With this in mind consider the following types of WANs for multiple offices.

## Leased data lines

Leased data lines provide a dedicated point-to-point connection between two sites. The key advantages of a leased line WAN are guaranteed bandwidth and high reliability. However, you cannot connect multiple sites with a single leased line. You need a separate line for each link. Leased lines are also expensive, especially over long distances, since charges depend on transmission distance as well as bandwidth.

## Mesh network (frame relay or ATM)

Mesh networks allow many remote sites using just a single connection (usually a leased line) to the telephone company (telco) or carrier. The carrier routes the data to the destination address according to available bandwidth. Mesh networks are generally less expensive than leased lines, and offer a more flexible solution. Each site can connect to their local telco or carrier using a different bandwidth, depending on traffic demands. Additional sites can also be added easily. The only limitation is in the number of sites that can be defined in the router being used. Because of their flexibility, switched networks are increasingly popular. ATM (asynchronous transfer mode) is a newer technology than frame relay, and supports higher bandwidth traffic.



## Summary

Typically the above-mentioned services are available from telcos (e.g. Bell South) or Metro Area Network (MAN) providers such as cable or electric companies. Implementation costs and expectations need to be considered in choosing the type of WAN that is right for the branch/satellite office.

## Remote online users

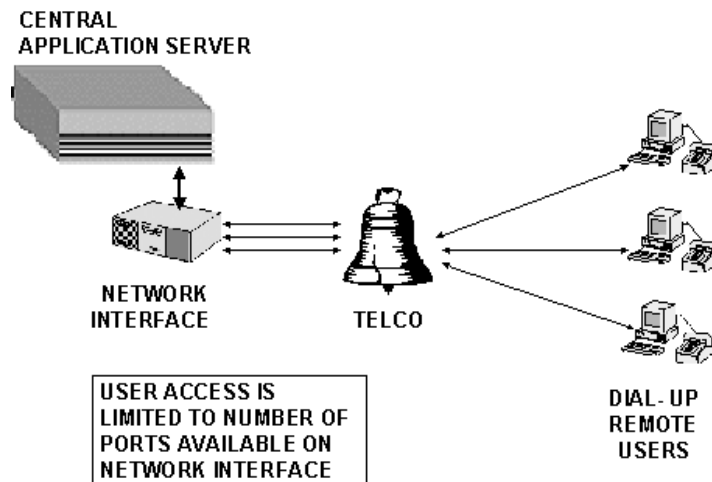
Remote online users are those who manually connect from a remote location for online access to a firm's databases that are located on a central application server. With this in mind consider the following types of WANs for your remote users.

## Internet virtual private network (VPN)

Internet VPNs let you take advantage of the Internet for enormous cost savings when networking business sites over long distances. Since a single Internet connection can be used to link multiple business sites as needed, VPNs combine many of the advantages of PPP, dial-up, and mesh network connections. They also add a layer of abstraction above the level of the WAN service protocol, which makes it easy to integrate traffic of different WAN protocols.

## Dial-up connections

A single dial-up connection supports links to many remote sites. However, for the most common dial-up services, only a maximum of two links can be established at any one time. As a rule of thumb, dial-up connections are cost-effective when communication between sites is limited to four hours or less per day. Additional savings are possible for applications that can be time-controlled, such as daily database updates. It's generally better to have fewer long calls than many short calls, since each call is normally charged per full minute. Analog modem connections travel over standard telephone lines and standard phone rates apply. ISDN comes in two varieties: BRI and PRI. Both are more expensive than analog connections, but offer greater bandwidth with no dial-up time. PRI ISDN is a higher performance alternative suitable for a busy central site. Unlike BRI ISDN, it allows many simultaneous connections.



## Summary

It is recommended that you source a service provider equipped and prepared to provide broadband services to end-users. Broadband communication services have high-bandwidth capabilities (1Mb/sec and up). These services are typically offered to end-users over ADSL or cable modem networks.

## Tips for setting up satellite offices

The fact that technology allows you to set up geographically remote offices and connect them with a WAN is only the beginning. Many firms will still encounter issues as to how to organize themselves so as to take advantage of this capability. Resolving these issues will depend on the particular circumstances and needs of each individual firm. Some general suggestions follow.

Where the remote office has one or more users who always work there, the setup is easy. Each user should have his or her own licensed copy of Amicus Attorney in that location. The LAN at the remote location is connected to the LAN where the main team is located by the WAN technology that best meets the firm's needs.

However, some firms have a remote office where they rotate staff from the main office. For example, a firm in Oakville may have a smaller office in Milton. One assistant works permanently in Milton, but a different lawyer from Oakville works at the Milton office each day of the week. They all work there from the same desk using the same computer when in Milton.

To address this situation, it is suggested that the firm provide a copy of Amicus Attorney for each lawyer or staff member, plus a separate licensed user named perhaps "Satellite Office". The "Satellite Office" user should be configured as a non-timekeeper. That user can be assigned to any of the files that are normally worked on out of the Milton office by any of the lawyers. The Amicus Attorney "Satellite Office" user should be installed on the computer in Milton that is used on a rotational basis by the lawyers.

The result of this configuration is that no matter which lawyer is in the remote office, they have almost all the information they need on the local computer. Because the office is configured as a non-timekeeper, they are prompted each time they do a time entry to assign it to themselves—so five different people working from the same "office" can keep their time entries under their separate names. The calendar they see is the calendar of events for the remote office—which is presumably what they most need to see when working there. Events for that calendar can be scheduled by anyone at either location. In addition, the lawyers can see their own personal calendar at any time through the Group Calendar, by means of which they can keep their own calendar on the screen all day long in parallel to that of the remote office.

The main advantage of using the "Satellite Office" in this way is flexibility. In addition, this setup should optimize speed over slower WANs. In fact, if there was a single user at the remote location, this configuration can be used without a WAN at all, but simply using the Remote Update feature described in a separate white paper (with the exception that the Group Calendar is not available when offline). For information on choosing between a WAN and a Remote Update, see the white paper, "Remote Connections with the Client/Server Edition," on our web site at

<http://www.amicusattorney.com/upgrade/update2.pdf>

Alternatively, with the same configuration but where the speed of the WAN is not a concern, the rotating lawyers in the remote location can use the standard Amicus Attorney feature to “open another office”. Thereby opening and working entirely from their own personal set of information all day long. If used in this way, there is no need to assign the user “Satellite Office” to the files that were to be worked on from there, thus providing greater privacy between members of the firm.

Or the lawyers could use it both ways—working most of the time out of the Satellite Office, but occasionally switching to their own. This approach provides the best of both worlds.

It can be seen that the Amicus Attorney user model of “offices” has great flexibility in being set up to match the way law firms would most prefer to work.

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