FireSite

from ClearWay Technologies

FireSite 2.0 for Macintosh
Setup Guide and Reference Manual

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Part I: What is FireSite™ Web Site Accelerator?

FireSite is a powerful software system that helps you accelerate, optimize, and control your Web sites. There are three versions of FireSite discussed in this manual: FireSite Speed Booster Edition, which is primarily for use with a single standard Web site; FireSite Standard Edition which is designed for hosting a few business-oriented Web sites; and FireSite Multimedia Edition, which is designed for industrial-strength commercial Web hosting of Web sites using Internet multimedia technologies such as Shockwave, QuickTime, and sound.

At the core of FireSite is an extremely powerful Web site accelerator, called the Javelin VT1 Engine that can

- accelerate the speed at which your Web pages are transmitted

- increase the number of visitors your site can have at once

- boost the number of "hits per day" that your site can handle

- dramatically lower the cost of operating a high-speed Web site

Both the Standard and Multimedia Editions include an integrated "virtual domain" system for serving multiple Web sites from a single server. The "FireSite Virtual Domain Manager" can also be used in conjunction with the Speed Booster Edition to add virtual hosting capabilities.

In addition, FireSite Multimedia Edition contains additional systems that can

- accelerate multimedia objects like Shockwave, QuickTime, and sound files

- protect and control the use of your multimedia objects on the Web

- help you manage acceleration and reporting on a file-by-file basis

- give you dynamic, centralized control over the "look" of each Web site

In this manual, the term "FireSite" usually applies to the Speed Booster, Standard and Multimedia Editions. When certain features are specific to one Edition, we'll specify which instructions are for each Edition.

One final comment before we dig in any further: life on the Internet moves pretty fast, and the manual you're reading can't update itself in your hands. We encourage you to visit our Web site for up-to-the-minute information on Web publishing, for FireSite updates and tips, and for ClearWay's other software packages. We're located at **http://www.clearway.com/**

Web Sites and Web Servers

There are some pretty complicated things going on inside FireSite, and it's important for you to read through this section to understand what FireSite does.

A Web Site is not the same thing as a Web Server

A Web Site is something that a visitor experiences: there are pages of text and graphics, there may be multimedia environments, and there may be interactive Forms, Databases, Searches, or Commerce. Luckily for them, the visitors are shielded from knowing how the databases work, what operating system is being used, or what program was used to create the graphics. If you've built a solid Web site, your visitors never have to think about the technology you're using; they are free to focus on the experience of visiting your Web Site.

On the other hand, a **Web Server** is a computer equipped with software (the "Web Server Software") that can accept and respond to requests using the HyperText Transfer Protocol (HTTP...look familiar?) Web Servers can be built using Macintoshes, UNIX workstations, Windows NT computers, or pretty much any other kind of computer that can be connected to a network. The person managing the Web Server must be very familiar with the specific technology they are using because it is their job to keep up a smooth, seamless experience for the visitors.

What Difference Does It Make?

If you separate the concepts of "Web Site" and "Web Server", there are (at least) two interesting things that can happen. FireSite uses both of these techniques together.

Several Web Servers can combine in a single "Distributed" Web Site. This is probably the most important sentence in this manual, and it is at the heart of what FireSite does. Many large Web sites are actually made using of dozens of Web Servers. Once you enter through the home page for a site at "www…", you may click on hyperlinks that take you to other servers with names like "www2…", "www3…", etc. Sometimes one Web Server will be serving all the "pages" for a Web Site, and a second server will handle special processing, such as database access, searching, or other "CGI" applications. Even though there may be many Web Servers running the show, visitors will still see it and use it as a single Web Site.

One Web Server can serve more than one Web Site. This idea is also fairly important; it's what makes a FireSite web site economically viable. Often one large Web Server computer will be serving the pages and graphics for several Web Sites.

Many Internet Service Providers and Web consulting companies run one big Web Server with a very fast Internet connection, and will 'rent space' on their Servers to anyone who would like to have a Web Site. Each Web Site is assigned a separate directory on the Web Server for file storage, and the 'renters' maintain their own pages and graphics into their rented directory. Usually the renters use a file transfer system called "FTP" to manage their files remotely. These large Web Servers can support hundreds of Web Sites, and you can usually rent a 10Mb directory on a shared Web Server for prices starting around US$40 per month.

In addition, FireSite lets you host multiple Web Sites on your single Web server.

Distributed Web Sites: the *How* and *Why*

Before FireSite, if you wanted to run a high-speed interactive Web site, you basically had three choices:

Install a costly, high-speed line for your own Server.

You could install a high-speed digital phone line (usually ISDN or T1) for Internet access so that visitors to your Web Site always get fast access to your Web pages. This is expensive (US$2000+ to set up plus $1000-$2000 each month in communications charges), and it's also fairly complicated.
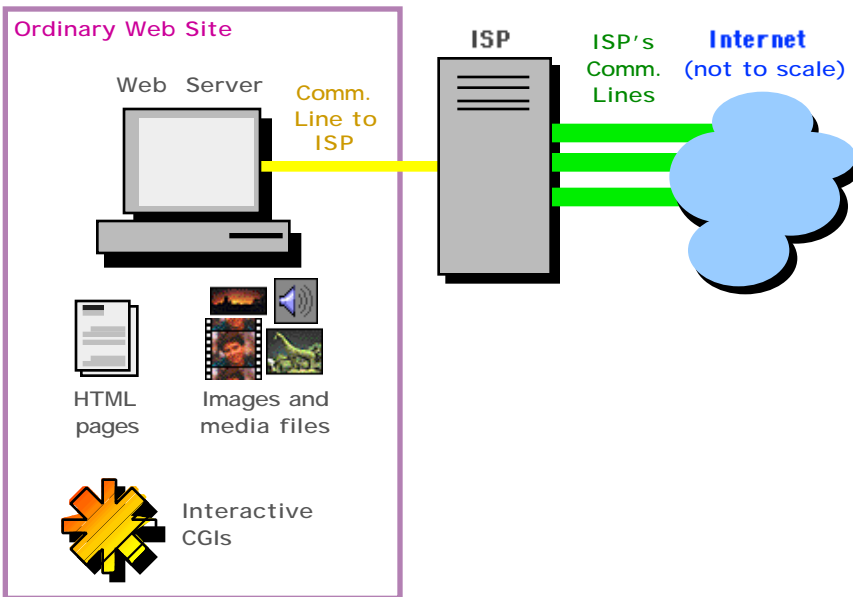
Rent space on someone else's Server

You could rent space for your files on an ISP's large Web Server. This is much less expensive than running your own digital phone lines, but it has two problems: First, you can't put databases, search systems, commerce tools, or other interactive programs on your Web Site without additional charges and substantial complication. Second, you're stuck managing your files through remote "FTP" access, which is slow and difficult.

Run your own *and* Rent space (Create a "Distributed Site")

Distributed Sites can be fast, economical, and interactive. They are also extremely complicated to build and maintain. A few brave and enterprising webmasters have created distributed Web Sites by hand. They've installed a low-speed dedicated line for Internet access, set up their own Web Server, *and* they've also rented space on a better-connected server. Typically, they store their graphics files on the "fast" rented space, but keep their HTML pages on their own Web Server.

Because they're running their own Server, they can set up databases and interaction whenever and however they wanted, and because all the HTML pages are right on their server's hard drive, they can edit them without using "FTP". Their graphics always load directly through the fast Internet link on the rented space. A distributed site sounds like a pretty good setup; it's fast, it's affordable, and it can support any kind of interaction they could want.

A 'distributed' setup is great except for a few little details. **One:** Since the HTML and the graphics are on different Servers, in different places, you can't use most of the good page-editing or site-management programs because they don't understand what you're doing. **Two:** You have to hand-code all your <IMG> tags somehow to point at the right file in the right directory on the remote server. (And testing is a pain.) **Three:** You can never update a page of HTML and its graphics at the same time, because it takes at least three different steps to do it (make new HTML, make new graphics, FTP graphics onto remote server), so some visitors will get "broken" or "stale" images while you're working. **Four:** If the remote server is down for any reason, all your graphics will appear "broken" on every page while the server is down.

As we said, only a few brave and enterprising webmasters have taken this route and built a distributed site by hand. Keeping a distributed Web Site running smoothly is a full time job, and it's not even a very fun or interesting job.

Replication with The Javelin VT1 Engine

Distributed Web Sites are affordable, interactive, and speedy, but they're also hard to build and maintain, and they can be unreliable because the various servers aren't communicating or cooperating with each other. With FireSite, building and maintaining a distributed Web Site is as easy as building a stand-alone site. The Javelin VT1 Engine does all of the tedious work for you, automatically building, maintaining, and monitoring your high-speed interactive distributed Web Site.

Replication and Distribution

Instead of forcing you to maintain your graphics files manually on a remote server, the Javelin Engine lets you just create and manage all your files directly on your Web Server's hard drive. The Javelin Engine will automatically replicate (make exact copies) of your graphics files onto the remote server whenever you create new ones or update existing ones. It uses a realtime relational database to track what it has replicated. Whenever you create a new file or update an old one, the Javelin Engine will notice the changes and synchronize the replication server.
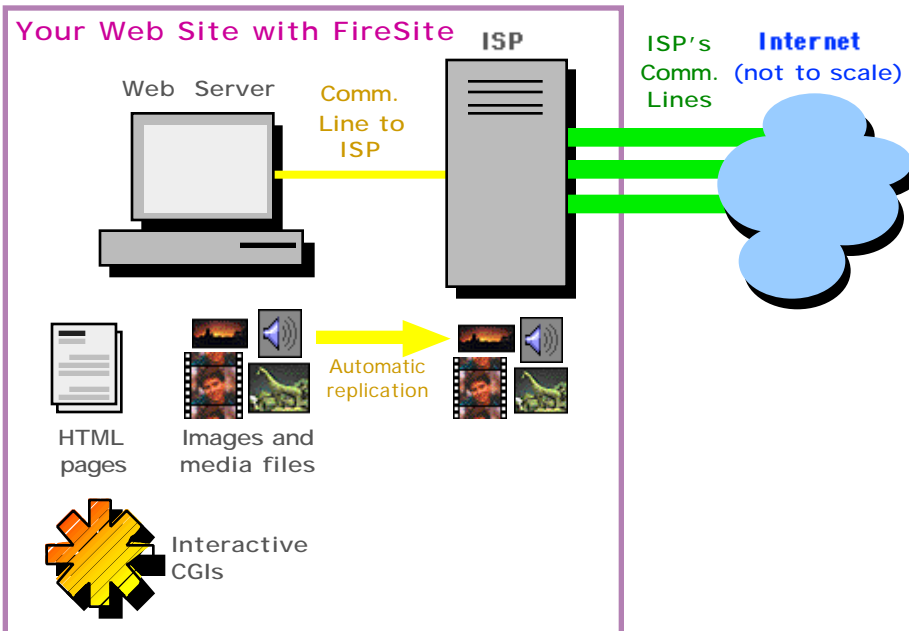
Automatic HTML Tag Updating

But simply copying the graphics files to another Server doesn't mean that they'll be loaded from that server. All the <IMG> tags on all your HTML pages have to be re-coded to point directly at the remote copies of your graphics instead of the originals on your Server's hard drive. Once all the tags have been updated, then the graphics will load directly from the fast server.

The Javelin VT1 Engine actually finds and re-codes **every** tag that needs updating, and makes sure that your graphics are all served directly from the fastest copies available, usually the copies on the high-speed remote Server. The Javelin Engine never actually modifies your HTML files on disk; it makes all the re-coding changes in RAM. It's not only completely automatic, it's also very, very fast. Even on a low-end (66Mhz) Web Server, the Javelin Engine can completely re-code a page of HTML in under a twentieth of a second.

Remote Monitoring

Even though the graphics are always replicated and current, and the HTML tags always point to the 'fastest' copy of each file, none of that does any good if the remote server shuts down or stops working. So the Javelin Engine also monitors your files on the remote server. If for any reason the remote server is not responding, or is serving your files incorrectly, the Javelin Engine instantly switches all your HTML tags back to their original values, and then the graphics are served directly from your Web Server instead of from the remote server. In this way, the Javelin Engine automatically takes full advantage of the remote server whenever it is available, but your Web Site will continue to function normally even if the remote server goes down.

FireSite

FireSite combines the Javelin VT1 Engine with several other modules (such as Intelligent RAM Caching and Image Autodimensioning) that help you create a Web Site that's fast, smooth, inexpensive, and easy to maintain. We've worked very hard building the Javelin VT1 Engine and FireSite. We hope that our work helps you find success and makes the World (Wide Web) a better place to be.

Part II: Step-by-Step Setup Guide (Macintosh)

What You Will Need

A Server, An Internet Link, FireSite, and Some Space

FireSite is designed to help you develop and maintain an affordable, high-speed interactive Web site. As such, FireSite is an important part of your Web presence, but it does require some other components as well.

The simplest way to approach FireSite's requirements is this: you should already have your Web server up and serving pages over the Internet before you install FireSite. Once you have your 'basic' server up and running on the Web, you are ready to begin using FireSite.

You should already have:

- A Macintosh (68030 or better), Power Macintosh, or compatible system. A PowerPC-based computer is highly recommended for commercial Web sites.

- WebSTAR 1.3.2 (or later) or other 100% WSAPI-1.1-compatible Web Server software. WebSTAR 2.0 or later is very strongly recommended.

- A 24-hour-7-day-a-week, always-connected Internet Link at 28.8Kbps or faster

- A "static" IP address for your server, assigned by your Internet Service Provider

- A registered domain name (extremely desirable, but not absolutely required)

- DNS service (provided by you or your ISP) for your domain name

  If you do not yet have your server up and running on the Internet, installing FireSite will not accelerate anything.

To use FireSite, you will need:

- 4-6Mb RAM available on your server for FireSite

- 10-50Mb disk space available on your server for FireSite database

- Access to at least 1Mb (5-10Mb recommended) of 'rented' space on a 'remote' Web Server

- A good understanding of all the charges associated with your 'rented' space: startup, storage, bandwidth

- Access to your rented space through the standard FTP protocol

- Access to your rented space through the standard HTTP (Web) protocol

You **do not** need "a virtual host" or "a virtual domain name" on the remote server. The remote server can be running UNIX, MacOS, or Windows NT, and you will not need to install any FireSite software on the remote server.

You will need to know:

- The FTP "host name", "user name", "password", and "directory" for your space

- The HTTP (Web) "host name" and "directory" for your space

- How much space you have rented (in Kb or Mb)

- The speed of the Internet link that the remote server uses (T1, T3, etc.)

- The speed of *your* full-time Internet link (28K, 56K, 64K, etc.)

You will also want:

- A good, friendly relationship with your ISP

- A good, friendly relationship with your 'space provider', who may also be your ISP

Installing FireSite

First some quick terminology: The '**Primary Web server**' is the Macintosh that you already have up and running on the Internet. The Primary server will always be in control, and will always hold the master versions of all your files. The '**Secondary Web server**' or '**Remote Web server**' is the one where you have access to some FTP/Web space.

FireSite Multimedia Edition allows simultaneous use of multiple Secondary servers. The Multimedia Edition can use multiple secondary servers either as one large contiguous storage pool, or as a Redundant Array of Independent Computers (RAIC) which contains a parallel set of files on each server. In this Setup Guide section, only one secondary server will be configured. More information on multiple secondary servers can be found in Part IV of this manual, the FireSite Reference Guide.

FireSite software is installed only on the Primary server; **no** FireSite software needs to be installed on the Secondary server. If you are using a WSAPI-compatible server program other than WebSTAR, you may have to adjust the installation slightly for your server.

1. Run WebSTAR on the primary server.

2. Create a protected Realm for FireSite Administration, and choose a username/password:
   - Launch WebSTAR Admin.
   - Under the "Configure" menu, choose "Realms…"
   - Enter a Realm Name of "FIRESITE-ADMIN"
   - Enter a Match String of "admin.fire"
   - Click "Add" and then click "Update"
   - Under the "Configure" menu, choose "Add Password…"
   - Select "FIRESITE-ADMIN" from the popup list of Realms.
   - Choose a username and password for the FireSite Administrator (you)
   - Click on "Add"
   - Quit WebSTAR Admin.

3. Quit WebSTAR.

4. In the Finder, select WebSTAR, and choose "Get Info" from the File menu. Increase WebSTAR's Preferred size by 4000 K. Close the Get Info window. (You may be able to reduce this memory setting once FireSite is installed

5. Locate the file "FireSite" that was included in your FireSite distribution. Drag the "FireSite" file into the "Plug-ins" folder located in the WebSTAR folder.

6. Relaunch WebSTAR. The startup may take an extra minute while FireSite sets up its database.

7. You should see a message in the WebSTAR status window that reads "Welcome to FireSite." You may also see a message warning you that no "authorization keys" are installed. This is OK, and you will be entering the authorization key shortly.

8. The rest of the configuration is performed using a Web browser to access virtual "Administration" pages on your Primary server. Start up a Web browser such as Netscape Navigator or Microsoft Internet Explorer (the browser must be able to display tables.)

9. Enter the address of your Primary server into the Web browser, followed by "admin.fire":

   `http://www.yourserver.com/admin.fire`

   You will be prompted for your FIRESITE-ADMIN username and password. Enter both and click OK. You should be presented with the FireSite License Page. Review the terms of the license agreement, and if you find them acceptable, click Accept. If the license terms are not acceptable, return the software and materials immediately.

10. Once you click "Accept", you will see the FireSite Authorization Key page. You will find your FireSite Authorization Key on a colored paper certificate in your FireSite package. Enter the Key carefully into the space provided, and click "Add". If you entered the Key correctly, FireSite is now up and running on your Primary server.

11. Last, you must tell FireSite how fast the link is between your Primary server and the Internet.

12. Click on the "FireSite Setup" button.

13. Locate the pop-up menu labeled "Speed of Primary Internet Link:" and select the correct speed.

14. Click "Apply."

That's it for basic FireSite setup. Next you will configure FireSite for automatic replication.

Configuring FireSite for Replication

FireSite uses the built-in Javelin VT1 Engine to accelerate your Web site by replicating graphics files (and multimedia files, in the Multimedia Edition) onto a remote Secondary server, and updating all HTML tags to reflect the faster configuration.

You will need the following information to configure FireSite for replication:

- the **host name** (or address) of the remote FTP server
- the **user name** needed to access your FTP directory
- the **password** needed to access your FTP directory
- the **location of your directory** on the remote FTP server
- the **storage capacity** of the space you have rented, in kilobytes (1Mb = 1024Kb)
- the **host name** (or address) of the remote HTTP (Web) server
- the **location of your directory** on the remote HTTP (Web) server
- the **speed** of the remote server's Internet connection (T1, T3, etc.)

Often, the host names and/or the directory locations will be the same for both FTP and HTTP. However, not all servers are like this and FireSite allows you to enter each separately.

Typically, the information might look like this (our hypothetical ISP is called "ClearPath, Inc.", and we have rented 5Mb of space under the username "wabrams")

Connection Speed:	`T1`
Storage Capacity:	`5120 Kb (5Mb)`
FTP Host Name:	`ftp.clearpath.com`
FTP User Name:	`wabrams`
FTP Password:	`nonport`
FTP Directory:	`/users/wabrams/`
HTTP Host Name:	`www.clearpath.com`
HTTP Directory:	`/wabrams/`

Our hypothetical ISP in this case has slightly different directory locations for FTP and HTTP access.

To set up your replication configuration, enter the FireSite administration pages through:

```
http://www.yourserver.com/admin.fire
```

Standard Edition users, click on the "Remote Setup" button.

Multimedia Edition users:

1. Click on the "List all Sites on this server" button at the top of the window

2. Click on the "Site Settings..." hyperlink under the "Default Site",

3. Click on the "Remote Server Setup" button at the top of the window, and finally

4. Click on "Remote server settings..." hyperlink for "Secondary"

Enter all the information onto the form provided.

If you are unsure of your "FTP Directory", leave that field completely blank, and FireSite will attempt to determine the correct setting automatically.

Click on the radio button labeled "Use this server for replication"

Click "Apply". FireSite will now begin a diagnostic procedure, testing each part of the network setup that you have specified. **This process may take up to three minutes** as FireSite performs a test-drive of your remote server. If there are any problems with the configuration, you will see an explanation of the problem, and may re-enter any information that you need to.

Once your setup passes the diagnostic tests, FireSite engages the Javelin VT1 Engine for replication.

There are two important things to note about a freshly-installed FireSite setup. First, when your server gets a "hit" on an HTML file for the first time, there will be a 2-3 second pause while FireSite records all the relevant information about the file in its databases Once FireSite "knows" each file on your site, there are no further pauses.

The second thing to remember about a newly-configured FireSite server is that none of your graphics files have been replicated yet! FireSite waits about 20 seconds after a file is hit before it considers replicating it. Once FireSite decides to replicate a file, it can take anywhere from a few seconds to a few minutes to complete the replication process. FireSite uses a built-in "background FTP" program for transferring files "gently" without consuming all the bandwidth of your Internet link. By replicating at a low bandwidth, FireSite lets visitors access your Web site without significant delays, even while replication is going on.

Test Driving Your Fired-Up Server

There are two questions that are probably on your mind by now: "Is it working?" and "How much faster is it?" This section tells you how you can tell if FireSite is working, and how to experience the acceleration for yourself.

Is FireSite working?

The easiest way to tell if FireSite is working is to reload a page from your server, and View the HTML Source that is returned. FireSite makes certain changes to the HTML page that you will be able to see right away. First, FireSite adds a very short HTML comment to the page that looks like this `<!--FireSite-->`. If you see that comment in the HTML source for your page, you know FireSite is active.

You can also check to see if the IMG tags in the HTML source have HEIGHT and WIDTH values specified. FireSite automatically adds these for you! They won't show up in your HTML files on disk (because FireSite never modifies your disk files) but when you serve the HTML file through FireSite, it will add the image dimensions automatically so your pages display faster for your visitors.

Is my Web site really faster?

Yes, it's really faster. You won't be able to tell the true acceleration by browsing your own Web site on the same computer, or over your local network. Remember that most of the visitors to your site can access your graphics without going through your lower-speed link. To really see the acceleration that everyone else sees, you have to find a really fast Internet connection (visit your local university or "cybercafé"). Then point a Web browser at your Web site and see how fast your pages load.

How much faster?

FireSite has a built-in system that tracks how much data is being transmitted and at what speeds. Based on the internal calculations, FireSite produces a brief summary which you can see by accessing the URL "/perf.fire" on your Web site:

```
http://www.yourserver.com/perf.fire
```

(If you don't want people seeing how fast your server is running, you can create another Realm in WebSTAR with a match string of "perf.fire", and lock it with a password.)

The numbers shown on the Performance page are calculated based on the actual traffic on your Site and on the settings you have entered. The performance figures should be used only for comparison and as they say, "your mileage may vary."

Overview of Additional Features in Multimedia Edition

There are five groups of features that are found exclusively in the Multimedia Edition of FireSite. They are described quickly here to give you an idea of some of the things you can do with the Multimedia Edition. To learn more about each feature, consult the Part IV of this manual, the FireSite Reference Guide.

Acceleration of all object types

While the Standard Edition can only accelerate HTML, GIF and JPEG files, FireSite Multimedia Edition can replicate and accelerate any kind of "binary" media file, including Shockwave files, QuickTime movies, MIDI songs, AU, AIFF, and WAV sounds, and almost all "embedded" plug-in media files. The Multimedia Edition also makes sure that your media objects are served correctly from the remote servers.

Multimedia "Themes" for Each Site

One of the fun, media-oriented features of FireSite Multimedia Edition is the ability to set or change the entire color scheme for a Web site from one single place. If you click on the "Color Controls" button in FireSite Multimedia Edition, you will see a page that allows you to set the page background color (or background image), the text color, the hyperlink colors, etc. for the whole site at once. Remember, FireSite's not modifying your disk files, it's just serving your pages with temporary modifications made in RAM. Play around with this one!

Automatic Management of Multiple Replication Servers (RAIC)

If you are running a Web server that experiences very high levels of traffic, you may want to balance the load of "hits" across several Web servers. FireSite Multimedia Edition lets you configure multiple replication servers, and FireSite will automatically replicate your files to each server in parallel, and will automatically distribute the load of "hits" based on the number of bytes served by each server, and the speed of each server's Internet link. No special DNS setup is required.

File-by-File Replication and Reporting Control

FireSite Multimedia Edition allows you to control the replication and reporting settings for your Web files on a file-by-file basis, using easy-to-work-with Finder Labels. FireSite Multimedia Edition supports "FS NoRep" (never replicate this file), "FS ShowHits" (replicate, but log all hits, as for an ad banner), and "FS Live" (this file is "live media" such as a WebCam!)

Anti-Hijacking System and "Welcome Mat"

FireSite Multimedia Edition includes an "Anti-Hijacking" system that prevents unauthorized people from loading your graphics or multimedia files onto their Web pages. You can allow 'friendly' sites to use your media files. When a hijacker tries to use load media files from your FireSite server, FireSite automatically substitutes a different picture. (You can choose your own picture!)

FireSite also includes a "Welcome Mat" system that can override other people's bookmarks and search engines, and will make sure that all your visitors enter through the Home Page. This feature can be turned on and off at any time, so you may only want to use it when you're announcing something special on your Home Page.

That's it! You're Web Site is officially "Fired Up!" Explore the program on your own for a while, and come back to the manual if you want to look up a specific feature. Good work!

Part III: Virtual Domains

FireSite Standard and Multimedia Editions contain an integrated system for serving multiple Web sites from a single Web server. This functionality is not included in FireSite Speed Booster Edition, but can be added separately. The "FireSite Virtual Domain Manager" is a stand-along product that does not include FireSite Web site acceleration. It can be used on its own, or combined with the Speed Booster Edition.

The FireSite virtual domain system is the most advanced single-IP-address virtual domain system ever created. The FireSite virtual domain system is also simple to use: you provide the Internet host names that you will be serving, and designate which folder on your server contains the files for each virtual Web site. From there, everything can be automatic, or you can modify a few optional settings if you wish. When properly configured, FireSite can serve an unlimited number of virtual Web sites to every user on the Internet.

Power
- Serve an unlimited number of virtual domains from a single IP address
- Does not create "messy" URLs in any modern browser
- Compatible with absolutely all "Web crawlers" and Internet search engines
- Provides flawless performance when accessed by any modern Web browser such as Netscape Navigator 2.0 or later, or Microsoft Internet Explorer 2.1 or later
- Even when accessed by "old" browsers such as Mosaic, over 95% of all requests are usually served instantly; others require one extra click
- Automatically makes all other Web server plug-ins and CGIs "virtual-domain-savvy", even custom CGI scripts

Ease of use
- Fully-graphical interface is extremely straightforward to use
- Can be administered locally or over the Internet (password protected)
- Easy to upgrade from older virtual domain systems

Internet Host Names	DNS Lookups	Single IP Address	Web Server	FireSite VDM virtual domains	Web Site Folders

www.clearway.com → 205.136.66.197 → → ~clearway

www.saragraph.com → → ~saragraph

partypix.tr.org → → ~partypix

Getting Ready

In order to set up virtual Web sites on your server, you should be fairly familiar with:

Web (HTTP) Background Concepts. This includes the interaction of Web browsers and Web servers in general. You should have your Web server already set up and running on the Internet with one domain name before you begin to configure multiple 'virtual' domains.

DNS Concepts and Setup. You will need to understand "DNS records", "DNS servers", "IP addresses", the "domain name registration" process. You should understand who runs the domain name servers for your registered domains. It may be someone in your organization, or it may be another party, such as your ISP. You will have to create new DNS entries for each virtual host name that you wish to serve from your server.

Web Server Setup and Configuration. You should be familiar with the operation of your Web server software (WebSTAR or compatible). In particular, you should understand how to configure and administer CGIs and plug-ins; FireSite Virtual Domain Manager is a Web server plug-in.

Three "Rules" to remember

There are three important rules that you must keep in mind when using FireSite Virtual Domains:

1) All host names are created equal. Try to avoid thinking of your server as having one "main" host name and then some other "virtual" names. It may help to think of your existing "main" Web site as simply one of the virtual Web sites you'll be hosting for a client -- in this case, the client is you.

Your server's IP address may have a reverse-DNS record that points to one particular name, but that name is not particularly important.

2) If possible, keep your "main" Web site in a subfolder. You probably already have some Web files in your server's root folder, including your "default home page". To keep the virtual domain setup more consistent, move these "root-level" Web files down into a subfolder (called "~main", for example). This setup will

make it easier to remember item #1 (above), and will make your Web site more readily accessible from old browsers.

3) Although rarely used, the multisite index page (MSIP) is fairly important. FireSite does an outstanding job of "sorting out" requests for each virtual Web site's pages. Typically, around 99.95% of requests can be handled instantly and automatically by FireSite. The other 0.05% of the time, when the request comes from an 'old' Web browser or from a Web-crawler's first visit, FireSite cannot determine what page is being requested. In this case, FireSite serves the "multisite index page." Once an old browser or Web crawler has accessed this page, they can access all your Web sites without further interruption, so its important to make sure this page lists all the virtual Web sites hosted on your server. Setting up the MSIP is covered in detail later on.

Configuring Your Web Server for Virtual Domains

Step 1: DNS Setup

Create entries in your DNS server for each host name that you wish to serve. All of the host names should resolve to the single IP address of your Web server computer. If your ISP provides the primary DNS service for your domains, ask them to create the appropriate DNS records.

We recommend using Address (A) records for each domain name, rather than alias (CNAME) records.

For example if your Web server's IP address is 123.45.67.89, and you are going to run Web sites for FirstCo, SecondCo, and ThirdCo, then the DNS records for "www.firstco.com", "www.secondco.com", and "www.thirdco.com" should all resolve to 123.45.67.89.

Note: Besides having DNS records in your DNS server, each new top-level domain (such as "firstco.com") must be registered with the proper Internet registration authorities, or people browsing the Web will not be able to locate your Web server. Additional registration information can be found at
`http://rs.internic.net/`

Note: You do not need a new top-level domain for each new virtual Web site. For example, if you already are registered for the "grafyx.com" domain, you can freely add new domain names without having to register them, as long as they all end with "grafyx.com". You could create "www.grafyx.com", "portfolio.grafyx.com", and even "firstco.grafyx.com" or "secondco.grafyx.com" simply by adding the correct DNS records. This can be a quick and easy way to get started with virtual domains without the delay or expense of registering a new top-level domain. Ultimately, most Web hosting clients (FirstCo), will want their own domain names, but you can get started with "firstco.grafyx.com" if you wish.

Step 2: Clean up your server root folder

Because "all host names are created equal", all Web sites on your server should also be "equal." Since you probably already have some Web pages, HTML and graphics in your server's root (WebSTAR) folder, you should create a new folder (called "~main") and move your existing "top level" pages and graphics into this folder. There is no need to modify your HTML code.

Step 3: Create a folder for each additional Web site

Create a new folder for each Web site that you will be serving. By convention, we recommend that you name the new "site folders" names that start with a tilde ("~").

For example, you might create "~firstco" and "~secondco" folders to hold two new Web sites.

If you have been using another virtual domain system, and you already have folders set up for your various Web sites, there is no need to rename them. However, FireSite will be able to handle Web crawlers and old browsers best if your sites' folder names are distinct from any other folder names on your server. For example, it's better to have a Web site folder named "firstco-pages" than "firstco", because it's less likely that there will be another subfolder somewhere called "firstco-pages." In most of our examples, we begin Web site folder names with tildes (~).

Step 4: Create a "multisite index page"

The multisite index page (MSIP) will be served only in those (relatively rare) cases when it is impossible for FireSite to determine which Web page a browser is requesting. It will only be served to 'old' browsers and Web crawlers, and even then it will only be served when the requested URL cannot be resolved to one specific file on your server. The multisite index page is never served to 'modern browsers' such as any recent versions Netscape Navigator, or Microsoft Internet Explorer. While the AOL 3.0 browser is 'modern', the previous 2.7 version will sometimes be served the multisite index page.

The multisite index page should be in your Web server's root folder, and not inside any of your virtual site folders, since it's not a part of any one site.

Create a new HTML file called "multisite-index.html". This HTML file should (a) greet the user and (b) offer a list of hyperlinks to the various Web sites on your server. Here is a simple example of a multisite index page:

```
<title> Welcome! </title>

Welcome to Grafyx Web Services!
Please select a Web site to visit:

<p><a href="http://www.firstco.com/">FirstCo Ltd.-fine goods</a>
<p><a href="http://www.secondco.com/">SecondCo Inc.-super  services</a>

<p>To learn more about our own Web services and technologies,
<a href="http://www.grafyx.com/">visit the Grafyx Web site!</a>
```

Notice a few things about this page: it lists the virtual sites each by their own host name-- it does not provide the "folder" information as to where each site is located. FireSite will dynamically adjust these URLs as needed. You should always write URLs as if each site were on a separate Web server.

Also notice what this page doesn't do: it doesn't say "error", and it doesn't accuse the visitor of "using an outdated browser." Keep the tone positive and friendly, and remember that the person using the browser **wants** to visit your site.

Your Web server root folder should look roughly like this:

Window "WWW" — 14 items, 737.2 MB in disk, 31.6 MB

Name

▷ 📁 FireSite Folder
▽ 📁 Plug-ins
    🔴 FireSite
📷 WebSTAR 2.0
📷 WebSTAR Admin 2.0
📠 WebSTAR Settings
▷ 📁 ~firstco
▷ 📁 ~main
▷ 📁 ~secondco
📄 multisite-index.html

All top-level Web pages and graphics moved into new ~main folder.

New folders created for each Web site, each with a unique name.

Multisite index page placed in the top-level Web server folder.
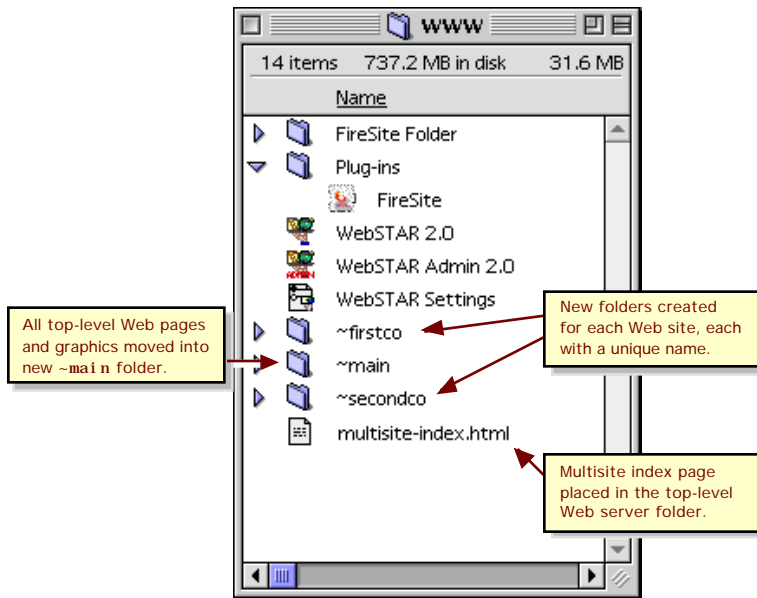
Note that there are no longer any "Web pages" in the server root folder except for the multisite-index.html. All the files that were at this "top level" have been moved into the new "~main" folder.

Configuring the Multisite Index Page (MSIP)

Once you have created the "multisite index page" (MSIP) as described in the previous section, you need to tell FireSite where it is and what you have called it.

Access `http://www.yourserver.com/admin.fire` from your browser and click on "FireSite Setup." You will see the FireSite General Settings page. This page has four sections (possibly more depending on the various FireSite products that you are using together.) One early section will be "Multisite Index Page":

Multi-Site Index Page: [   ]
    This page is served if FireSite cannot determine which virtual Web site a visitor is looking for. This page
    should contain hyperlinks to all of the Web sites on this server.

[Apply]

Enter the name of your multisite index page ("multisite-index.html") and click "Apply."

Configuring a New Virtual Domain

To configure FireSite for a new virtual domain, access
`http://www.yourserver.com/admin.fire` from your Web browser.

Click on "List all 'Sites' on this server". You will see the "Site Index":
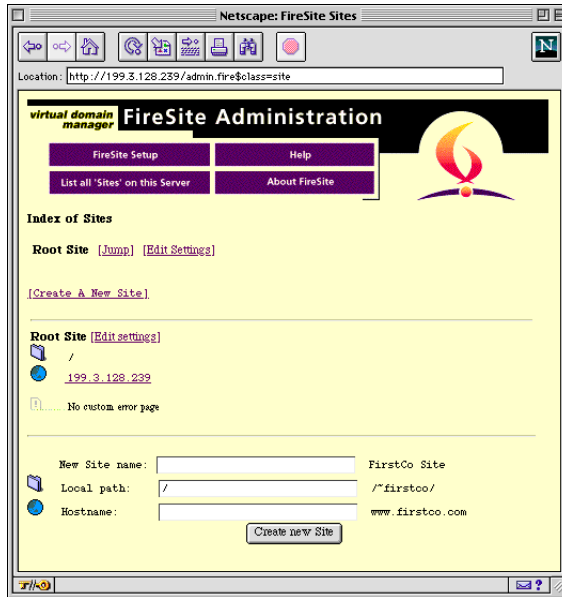
To configure a new virtual Web site, you will need to enter three pieces of
information: a "name" that you want to call the site ("SecondCo Web Site"), the
Internet host name ("`www.secondco.com`") that will be the "preferred" domain
name for this site, and the folder that the Web site's files will be stored in
("~secondco").

Enter the information into the fields provided on the administration page, and click
"Create new Site."

The virtual Web site is now defined and active! Put a few pages in the new Web
site's folder and try accessing them through your Web browser. You should be able

to access the pages using "clean" URLs such as
"`http://www.secondco.com/default.html`" that do not include the
"`/~secondco`" folder name.

You can define as many Web sites as you wish.

In the next section, you'll learn how to configure some of the optional settings for a
virtual site.

Custom Settings for a FireSite Virtual Site

FireSite allows you to control a number of "custom" settings for each virtual site. Each virtual site can have a custom "Error" page, as well as multiple Internet host names.

To configure the custom settings for a virtual Web site, click on "List all 'Sites' on this server", and locate the virtual site you wish to edit. Click on the "[Edit settings]" link next to the site.

You will see the settings page for the virtual site you have selected:

Multiple Host Names for one virtual site

You can assign multiple host names to each Web site. For example, you might want both "www.secondco.com" and the shorter "secondco.com" to both refer to the same Web site.

To define a "host name alias" within FireSite:

1. Enter the host name alias ("secondco.com") into the field on the administration page.

2. Click "Add"

This feature is also useful if you are upgrading to FireSite from Open Door Networks' HomeDoor system. To do this, update all of your virtual sites' DNS records (www.secondco.com **and** www2.secondco.com) to point directly at your server's single IP address. Configure FireSite with the simple "www" name as the main host name for each virtual site, and add the "www2" name as a host alias for each site. This way, all old bookmarks will continue to work as usual, even if they contain "www2..."

Custom Error page for a virtual site

Ordinarily, if a browser requests a Web page that does not exist, WebSTAR responds with a generic error page that is used for the whole server. FireSite lets you design different "error" pages for each virtual site.

To designate a custom Error page for this Web site:

1. Create a custom error page of HTML. Name it something easily recognizable, like "SecondcoError.html".

2. Place the error page file inside the virtual site folder that it is designed for.

3. In the FireSite administration page, enter the name of the file, preceded by a slash ("/SecondcoError.html") into the space provided at the bottom of the page.

4. Click "Apply Error Page Setting."

Once this is configured, any requests for non-existent files will be answered with the site-specific Error page instead of the generic WebSTAR page.

Note: If you are using a plug-in to handle your HTML files (such as Maxum's NetCloak or StarNine's WebSTAR SSI), you should read the "Error/Action Handling" portion of the next section. It tells you how to configure FireSite's custom Error pages to work with NetCloak or SSI.
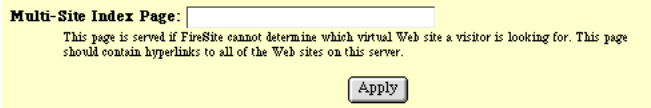
Server-Wide Settings for Virtual Domains

There are a few settings which affect your entire FireSite server. These include how FireSite handles "missing files" handled by an action, the way that FireSite makes all other plug-ins and CGIs virtual-domain savvy, and the "Multisite Index Page" that is sometimes served to old browsers.

To configure FireSite's General Settings, access `http://www.yourserver.com/admin.fire` from your browser and click on "FireSite Setup." You will see the FireSite General Settings page.

The Multisite Index Page

The multisite index page (MSIP) will be served only in those (relatively rare) cases when it is impossible for FireSite to determine which Web page a browser is requesting. It will only be served to 'old' browsers and Web crawlers, and only when the requested URL cannot be resolved to one specific file on your server. The multisite index page is never served to 'modern browsers' such as any recent versions Netscape Navigator, or Microsoft Internet Explorer. While the AOL 3.0 browser is 'modern', the previous 2.7 version will sometimes be served the multisite index page.

The multisite index page should be in your Web server's root folder, and not inside any of your virtual site folders, since it's not a part of any one site.

Multi-Site Index Page: [   ]
This page is served if FireSite cannot determine which virtual Web site a visitor is looking for. This page should contain hyperlinks to all of the Web sites on this server.

[Apply]

Enter the name of your multisite index page ("multisite-index.html") and click "Apply."

You should not leave this field blank; that would prevent FireSite from serving your virtual sites to Web crawling search robots.

Error/Action handling

Most URLs (including HTML, GIF, and JPEG URLs) correspond directly to files on your server's hard disk drive. Here are some examples of file-based URLs:

`http://www.yourserver.com/default.html`	Plain HTML file
`http://www.yourserver.com/logo.gif`	GIF file
`http://www.yourserver.com/product-db.qry`	Tango "Query file"
`http://www.yourserver.com/dynamic.html`	HTML processed by NetCloak

However, some URLs have no 'file' associated with them. Here are a few example of URLs that do not come from disk files:

```
http://www.yourserver.com/RELOAD.nclk          NetCloak reload command
http://www.yourserver.com/homepage.count       CountWWWebula
http://www.yourserver.com/.clear               ClearWay Simple Cache Manager
```

Notice that all these "non-file-based" URLs come from plug-ins or CGIs.

Ordinarily, when FireSite sees a request for a URL that should be processed by a plug-in, such as a Tango query URL like "/product-db.qry", it simply transfers control to the plug-in (Tango) regardless of whether an actual file exists or not, because some 'plug-in' URLs don't need a disk file.

This can result in inconsistent error handling, especially if all your HTML pages are processed by a plug-in such as NetCloak or WebSTAR SSI. However, FireSite can be configured to handle these situations correctly.

Locate the "Error/Action" panel:

Action Error Processing

For a given suffix/action pair, specify whether or not FireSite should serve an error page or let the action handle the request when FireSite can not find a file to satisfy the request.

Action Name	Suffix	If Requested 'File' Is Missing...
CLOAK_PI	.HTML	Serve Error page
CLOAK_PI	.NCLK	Run Action anyway
COUNTWWWEBULA	.COUNT	Run Action anyway
SSI	.SSI	Serve Error page
TANGO	.QRY	Serve Error page

Apply

For each Action/Suffix combination, you can instruct FireSite what to do if a requested URL does not have a disk file. In this example, the file-based actions such as NetCloak for HTML files, Tango (.qry files), and WebSTAR SSI (.ssi files), FireSite has been configured to serve the Error page if the file is not found. For the non-file-based actions (CountWWWebula and NetCloak NCLK commands like "RELOAD.NCLK"), FireSite has been configured to pass the requests directly along to the plug-in.
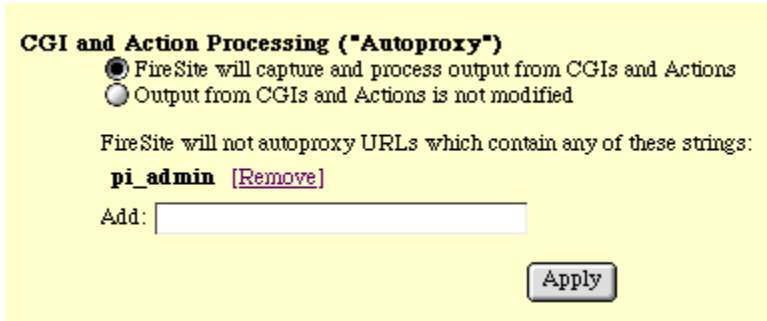
Note that you can have separate settings for separate Action/Suffix combinations, as shown with NetCloak HTML (Error if file missing) and NetCloak NCLK (Run NetCloak even if file missing).

CGI and Action Processing ("Autoproxy")

FireSite re-writes all HTML requested from your Web server as it is being transmitted to the browser. This "on the fly" rewriting allows FireSite to adjust all

the HREF and SRC URLs on your Web pages to make sure they reflect your virtual-domain setup correctly.

FireSite uses an advanced technique called "Autoproxy" to capture the HTML generated from dynamic CGIs and plug-ins. By using the Autoproxy system, FireSite can make any other plug-in "virtual-domain savvy" by adjusting the URLs that it generates. However, you may wish to exclude certain plug-ins, CGIs, or directories. By specifying a an "exclusion string", you can configure FireSite to not use the Autoproxy system for certain URLs:

CGI and Action Processing ("Autoproxy")
- ● FireSite will capture and process output from CGIs and Actions
- ○ Output from CGIs and Actions is not modified

FireSite will not autoproxy URLs which contain any of these strings:

pi_admin [Remove]

Add: [   ]

[Apply]

To exclude a certain CGI or plug-in from the Autoproxy system, type the corresponding "suffix" into the space provided and click "Apply."

Note: There are two kinds of "autoproxy" that FireSite will use. With older plug-ins and with all CGIs, FireSite uses a TCP/IP based autoproxy system to capture output from other server add-ons. This will sometimes cause you to see "extra" hits in your WebSTAR log that appear to come from the server itself. This is a normal consequence of using these older CGIs or plug-ins with FireSite virtual domains.

The newest versions of many popular plug-ins support "PIXO" a much faster, more efficient system for communication between plug-ins. FireSite fully supports PIXO communication with PIXO "Source" plug-ins such as NetCloak 2.5 (NetCloak 2.5d6 and later support PIXO.) All other things being equal, you should choose plug-ins that support PIXO communication; they will make your server run faster and smoother. When communicating with a PIXO-enabled plug-in, no "extra hits" are recorded.
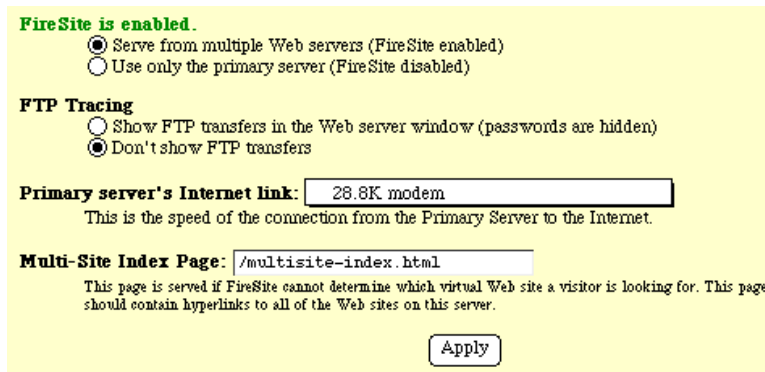
Part IV: FireSite Reference Guide

The FireSite Reference Guide gives a simple "What To Do, and What Not To Do" explanation of each feature of FireSite. Features present only in certain Editions are noted.

General FireSite Controls

FireSite's "General Controls" are settings that take effect for your entire FireSite server. They are accessible by first browsing to

    http://www.yourserver.com/admin.fire

and then clicking on "FireSite Setup." Each option is discussed in detail below.

Enable/Disable FireSite Server-wide

This feature is used to help you test FireSite, and to make easy comparisons between your server with FireSite, and your server without FireSite.

As soon as FireSite is correctly configured, it automatically "activates" itself. You may wish to operate your server without any of the FireSite services active. By selecting "Deactivate FireSite", you put FireSite into a "standby" mode where it will stay until you select "Activate FireSite" again. This allows you to deactivate and re-activate FireSite easily without shutting down your server.

FTP Tracing

This feature is useful for helping you set up the information for your remote servers correctly. FireSite uses the standard "FTP" protocol to replicate files onto the remote servers. FireSite has a built-in FTP program that is designed to transfer files "gently", while still allowing visitors to access your site.

If you wish to watch the progress of FireSite as it transfers files, turn on FTP Tracing. The transcript of the FTP session will appear in the Web Server's status window. Your FTP password will not be displayed.

Speed of this server's Internet Link

To correctly calculate statistical information, and to make the best decisions about what files should be replicated to which remote servers, FireSite needs to know the communications speed of the link between your server and the Internet.

If you use a regular modem and phone line, enter your modem speed.

If you have a digital Internet link (ISDN, 56K, or other), enter the speed of your digital connection.

Multisite Index Page (not present in basic Speed Booster)

The multisite index page (MSIP) will be served only in those (relatively rare) cases when it is impossible for FireSite to determine which Web page a browser is requesting. It will only be served to 'old' browsers and Web crawlers, and only when the requested URL cannot be resolved to one specific file on your server. The multisite index page is never served to 'modern browsers' such as any recent versions Netscape Navigator, or Microsoft Internet Explorer. While the AOL 3.0 browser is 'modern', the previous 2.7 version will sometimes be served the multisite index page.

The multisite index page should be in your Web server's root folder, and not inside any of your virtual site folders, since it's not a part of any one site.

Disk Info Cache Time and
Size of FireSite RAM Cache (Multimedia only)

To accelerate access to local disk files, FireSite does two things. First, instead of checking each requested file on disk every time it is requested to see if the file has changed, FireSite assumes that for a certain period of time it's safe to believe that the file has not changed. FireSite will only check the file for changes as often as you specify here (Multimedia Edition Only).
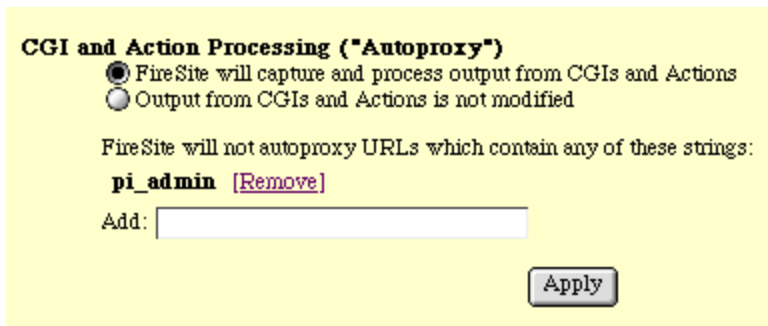
The second thing that FireSite does to accelerate access to local disk files is to use an Intelligent RAM Cache. Unlike the conventional "RAM Cache" that is used by the rest of the operating system, the FireSite RAM cache is tuned specifically for rapidly serving files over a Web connection. In the Multimedia Edition you can control how much RAM FireSite will use for this special cache. The RAM cache is taken from the Web Server's memory partition, so if you increase the size of the RAM cache, you will want to increase the memory partition for the Web Server program. You can do this by selecting the Web Server program icon in the Finder and choosing Get Info from the File menu.

In the other Editions, the Disk Info Cache Time is always 30 seconds, and the Intelligent RAM Cache is always set for 512Kb.

CGI and Action Processing ("Autoproxy") (not in Speed Booster)

FireSite re-writes all HTML requested from your Web server as it is being transmitted to the browser. This "on the fly" rewriting allows FireSite to adjust all the HREF and SRC URLs on your Web pages to make sure they reflect your virtual-domain setup correctly.

FireSite uses an advanced technique called "Autoproxy" to capture the HTML generated from dynamic CGIs and plug-ins. By using the Autoproxy system, FireSite can make any other plug-in "virtual-domain savvy" by adjusting the URLs that it generates. However, you may wish to exclude certain plug-ins, CGIs, or directories. By specifying a an "exclusion string", you can configure FireSite to not use the Autoproxy system for certain URLs:

To exclude a certain CGI or plug-in from the Autoproxy system, type the corresponding "suffix" into the space provided and click "Apply."

Note: There are two kinds of "autoproxy" that FireSite will use. With older plug-ins and with all CGIs, FireSite uses a TCP/IP based autoproxy system to capture output from other server add-ons. This will sometimes cause you to see "extra" hits in your WebSTAR log that appear to come from the server itself. This is a normal consequence of using these older CGIs or plug-ins with FireSite virtual domains.

The newest versions of many popular plug-ins support "PIXO" a much faster, more efficient system for communication between plug-ins. FireSite fully supports PIXO communication with PIXO "Source" plug-ins such as NetCloak 2.5 (NetCloak 2.5d6 and later support PIXO.) All other things being equal, you should choose plug-ins that support PIXO communication; they will make your server run faster and smoother. When communicating with a PIXO-enabled plug-in, no "extra hits" are recorded.

Error/Action handling (not in basic Speed Booster)

Most URLs (including HTML, GIF, and JPEG URLs) correspond directly to files on your server's hard disk drive. Here are some examples of file-based URLs:

`http://www.yourserver.com/default.html`	Plain HTML file
`http://www.yourserver.com/logo.gif`	GIF file
`http://www.yourserver.com/product-db.qry`	Tango "Query file"
`http://www.yourserver.com/dynamic.html`	HTML processed by NetCloak

However, some URLs have no 'file' associated with them. Here are a few example of URLs that do not come from disk files:

`http://www.yourserver.com/RELOAD.nclk`	NetCloak reload command
`http://www.yourserver.com/homepage.count`	CountWWWebula
`http://www.yourserver.com/.clear`	ClearWay Simple Cache Manager

Notice that all these "non-file-based" URLs come from plug-ins or CGIs.

Ordinarily, when FireSite sees a request for a URL that should be processed by a plug-in, such as a Tango query URL like "/product-db.qry", it simply transfers control to the plug-in (Tango) regardless of whether an actual file exists or not, because some 'plug-in' URLs don't need a disk file.

This can result in inconsistent error handling, especially if all your HTML pages are processed by a plug-in such as NetCloak or WebSTAR SSI. However, FireSite can be configured to handle these situations correctly.

Action Error Processing

For a given suffix/action pair, specify whether or not FireSite should serve an error page or let the action handle the request when FireSite can not find a file to satisfy the request.

Action Name	Suffix	If Requested 'File' Is Missing...
CLOAK_PI	.HTML	Serve Error page
CLOAK_PI	.NCLK	Run Action anyway
COUNTWWWEBULA	.COUNT	Run Action anyway
SSI	.SSI	Serve Error page
TANGO	.QRY	Serve Error page

Apply

For each Action/Suffix combination, you can instruct FireSite what to do if a requested URL does not have a disk file. In this example, the file-based actions such as NetCloak for HTML files, Tango (.qry files), and WebSTAR SSI (.ssi files), FireSite has been configured to serve the Error page if the file is not found. For the non-file-based actions (CountWWWebula and NetCloak NCLK commands like "RELOAD.NCLK"), FireSite has been configured to pass the requests directly along to the plug-in.

Note that you can have separate settings for separate Action/Suffix combinations, as shown with NetCloak HTML (Error if file missing) and NetCloak NCLK (Run NetCloak even if file missing).

Gravity Zone for the Main Server (not in Speed Booster)

This lets you control which domains and/or IP subnets will load their graphics from the main FireSite server, instead of a replication server. This is useful for making sure that people browsing your server from inside your LAN always get their graphics 'locally'. There are four ways to define a gravity zone: by domain name, by partial IP match, by subnet match, or by IP/subnet match:

Use *domain.com* for domain name matching,
123.45.67, *123.45* or *123* for partial IP matching,
/255.255.255.192 for subnet matching, or
123.45.67.89/255.255.255.192 for IP/subnet matching.

Subnet matching is the most powerful; you can specify your entire local area network's IP subnet and all computer on your LAN will obtain their graphics directly from your primary FireSite server, rather than "pulling" them in through the Internet link.

Authorization Keys

This area lets you add and remove FireSite Authorization Keys. This area will not be visible on the "FireSite Setup" page unless there is a REALM protecting the page.

You may install more than one key at a time, and the effects are cumulative. For example, you may install a FireSite Speed Booster Edition Key, and also install a FireSite Virtual Domain Manager Key at the same time. to add "virtual domains."

You should remove keys that have expired, just to keep things tidy.

Site Setup (not in basic Speed Booster)

FireSite allows you to define a number of "custom" settings for each virtual site. Each virtual site can have a custom "Error" page, as well as multiple Internet host names.

To configure the custom settings for a virtual Web site, click on "List all 'Sites' on this server", and locate the virtual site you wish to edit. Click on the "[Edit settings]" link next to the site.

Multiple Host Names for one virtual site

You can assign multiple host names to each Web site. For example, you might want both "www.secondco.com" and the shorter "secondco.com" to both refer to the same Web site.

To define a "host name alias" within FireSite:

1. Enter the host name alias ("secondco.com") into the field on the administration page.
2. Click "Add"

This feature is also useful if you are upgrading to FireSite from Open Door Networks' HomeDoor system. To do this, update all of your virtual sites' DNS records (www.secondco.com **and** www2.secondco.com) to point directly at your server's single IP address. Configure FireSite with the simple "www" name as the main host name for each virtual site, and add the "www2" name as a host alias for each site. This way, all old bookmarks will continue to work as usual, even if they contain "www2..."

Custom Error page for a virtual site

Ordinarily, if a browser requests a Web page that does not exist, WebSTAR responds with a generic error page that is used for the whole server. FireSite lets you design different "error" pages for each virtual site.

To designate a custom Error page for this Web site:

1. Create a custom error page of HTML. Name it something easily recognizable, like "SecondcoError.html".

2. Place the error page file inside the virtual site folder that it is designed for.

3. In the FireSite administration page, enter the name of the file, preceded by a slash ("/SecondcoError.html") into the space provided at the bottom of the page.

4. Click "Apply Error Page Setting."

Once this is configured, any requests for non-existent files will be answered with the site-specific Error page instead of the generic WebSTAR page.

REALM anti-replication security

This is provided so that you can control the degree of security on your whole Web site. Ordinarily, FireSite Standard Edition will consider replicating any GIF or JPEG file that it finds on your Web site. However, you may have certain REALM-protected areas that contain graphics that you do not want replicated. As long as the REALM-Aware security feature is turned on, FireSite will never replicate any files that you have protected by a REALM. This is because once the files are replicated onto the remote server, the REALM security cannot be enforced there.

If you would like FireSite to replicate your protected files, even though this has the potential to expose them to unauthorized viewing, you can deactivate this security safeguard.

Note that if files have already been replicated, setting up a REALM and activating the REALM-Aware security will not remove the files from the remote server. To do this, you should first have FireSite delete all the files from the remote server, and then let it re-replicate only those files it is safe to copy.

Multiple Remote Servers (Multimedia Edition Only)

Each Web Site on your FireSite server should have at least one secondary Server to use for replication. FireSite Multimedia Edition allows each Web Site to use several remote servers at once. You can elect to have FireSite treat multiple servers as a single larger 'pool' of storage, which is useful if you have small amounts of replication space available on several different remote servers. You can also easily configure FireSite to treat each remote server as an independent entity. This configuration is usually called a "RAIC", a Redundant Array of Independent Computers. In a RAIC configuration, FireSite will replicate a set of your files onto each remote server. FireSite then operates a sophisticated "load balancing" algorithm that takes into account not only the current load on each remote server, but also the available bandwidth on each remote server's Internet link.

Since FireSite is constantly monitoring the remote servers, a RAIC configuration can be more reliable than a single-remote-server configuration, because even if one remote server shuts down, FireSite will automatically shift the load onto remote servers that are still operating.

Adding a Remote Server

To add a remote server for a Web site, access the FireSite Administration Page at `http://www.yourserver.com/admin.fire`, and click on "List all Sites on this Server" Select the Site your wish to add a remote server to, and click "Site Settings..."

Click on the "Remote Server Setup" button at the top of the browser window.

Enter a name that is useful to you into the "New Server Name" field. It need not be the Internet name of the remote server you are adding.

Click on "Create New Server"

The settings for the new remote server have been added, but they are not yet set up correctly for replication. To configure FireSite for replication onto the new server, click on the new hyperlink for the server you have just added and enter the correct FTP and HTTP information.

"Deleting" a Remote Server

If you wish to stop using a particular Remote Server, go to the Remote Server Setup page for that server, and click on the hyperlink to "Delete the settings for this server". FireSite will immediately 'forget' about any files that is has replicated to that server, and will no longer use it for new replication.

You should manually connect to the FTP server with an FTP program like Anarchie or Fetch and delete any replicated files.

Setting up a RAIC

FireSite Multimedia Edition allows each Web Site to use several remote servers at once. You can easily configure FireSite to treat several parallel remote servers as independent entities. This configuration is usually called a "RAIC", for "Redundant Array of Independent Computers." In a RAIC configuration, FireSite will replicate a parallel set of files onto each remote server. FireSite then operates a sophisticated "load balancing" algorithm that takes into account not only the current load on each remote server, but also the available bandwidth on each remote server's Internet link.

Since FireSite is constantly monitoring the remote servers, a RAIC configuration can be more reliable than a single-remote-server configuration, because even if one remote server shuts down, FireSite will automatically shift the load onto remote servers that are still operating.

Often the "remote" servers in a RAIC are actually in the same room, and on the same Internet link as the master server, so the term "remote server" may be somewhat misleading, but the concepts are all the same.

To configure FireSite as a RAIC Manager, first follow the procedure for Adding A Remote Server (above) once for each remote server to be used in the RAIC.

As soon as you have set up two or more remote servers, a new option will appear at the bottom of the setup window. This new control allows you to tell FireSite whether to use the remote servers as a RAIC or as one contiguous storage area. Choose RAIC, and click Apply.

That's it! FireSite will now replicate parallel copies of your files to each remote server, and will server the files from the remote servers in an automatically load-balanced way. If one server fails, FireSite will detect the failure and remove that server from the load-sharing scheme until it resumes operation.

Using Pooled Storage

If you have a large Web site, but only have access to small amounts of replication space, you may want to use multiple remote servers as a single larger 'pool' of contiguous storage.

To configure FireSite to pool remote storage, first follow the procedure for setting Adding A Remote Server once for each remote server to be used in the storage pool.

As soon as you have set up two or more remote servers, a new option will appear at the bottom of the setup window. This new control allows you to tell FireSite whether to use the remote servers as a RAIC or as one contiguous storage area. Choose one contiguous storage area, and click Apply.

FireSite will now replicate different files to each remote server, and will serve each file from the server where it is located.

Remote Server Setup

These controls are what you use to tell FireSite all about your remote server (or servers, in the Multimedia Edition). The values you enter for "Remote Server Setup" allow FireSite to know: how to FTP files onto the remote server, how to access remote files through the Web (HTTP), how much storage space is available, and how fast the remote server's Internet link is. With this information, FireSite can make informed decisions about which files to replicate, and can perform the replication automatically.

Storage Limit

Specify the maximum amount of space that FireSite should try to use on the remote server, expressed in kilobytes (K). One megabyte is 1024 kilobytes, so if you have access to 5 megabytes of space, enter 5120 K (5 Mb x 1024 = 5120 Kb).

FireSite will never exceed the storage limit you specify. If your Web site contains 7Mb of files, and you have rented 5Mb of remote storage space, FireSite will automatically replicate 5Mb of files from your site to the remote server, concentrating on the most frequently used, most recently used, and largest files. The list of files to replicate are determined by the size of the files, the number of requests in a given period of time, and other related factors.

The exact algorithm that FireSite uses to determine which files are "best" without ever having to stop the whole system, perform lots of calculations, and re-arrange all the files is fairly sophisticated. The problem of how to find exactly the best set of files to replicate is essentially the same problem as an old Computer Science chestnut called The Knapsack Problem. FireSite's built-in approximation of the perfect solution draws in part from artificial intelligence, in part from digital signal processing, and in part from Kepler's Laws of planetary orbital mechanics. Really. Anyway, it's fast and it does an excellent job of adjusting the set of replicated files in realtime.

Internet Link Speed

In order for FireSite to keep accurate statistics about your Web Sites, you need to tell FireSite how fast your Internet link is. Enter the correct value for your configuration.

FTP Information

FireSite needs to know how to copy files to the remote server. You should supply the name of the FTP host, your username and password for the remote server, and the location of the directory where you have permission to store your files.

FireSite stores your password in an encrypted format inside the FireSite database, so it is relatively secure.

If you are not sure of your FTP Directory, leave that field blank, and FireSite will attempt to determine the correct value automatically.

If the values are not correct, or if FireSite cannot connect to the FTP server you specify, FireSite will catch the problem and allow you a chance to adjust the values you have entered.

HTTP (Web) Information

FireSite needs to know how to access your remote storage space through the Web. You will need to tell FireSite the name of the remote Web server, and the directory in which to find your files.

If the remote web server is operating on a port number other than 80, you can specify the port number as part of the host name. For example, you could enter "www.remote.com:8000" into the host name field.

If the values are not correct, or if FireSite cannot retrieve files from the host and directory you have specified, FireSite will catch the problem and allow you a chance to adjust the values you have entered.

Use Server for Replication / Put Server on hold

You can temporarily put a server "on hold" if you do not want FireSite replicate any more files to the server, or if you want FireSite to stop serving files from the remote server.

When you first create Settings for a new remote Server (Multimedia Edition Only), the new server is automatically put "on hold" until you specify all the required information about the server.

Replication Server Gravity Zone (Multimedia Edition Only)

This lets you control which domains and/or IP subnets will load their graphics from each specified replication server, instead of being bandwidth-balanced across all the available servers. There are four ways to define a gravity zone: by domain name, by partial IP match, by subnet match, or by IP/subnet match:

Use *domain.com* for domain name matching,
123.45.67, *123.45* or *123* for partial IP matching,
/255.255.255.192 for subnet matching, or
123.45.67.89/255.255.255.192 for IP/subnet matching.

For example, if you establish one replication server in Tokyo, and one in Los Angeles, you would configure a gravity zone for the Tokyo server that included ".jp" (Japan), and ".au" (Australia). The Los Angeles server would be configured

with ".com", ".gov", "org", ".edu", and ".us". In this way, all browsers from the specified domains are automatically routed to the "closest" replication server. All other client's requests are bandwidth-balanced across both replication servers.

Deleting all remote files

If you wish to stop using a particular Remote Server, go to the Remote Server Setup page for that server, and click on the hyperlink to "Delete the settings for this server". FireSite will immediately 'forget' about any files that is has replicated to that server, and will no longer use it for new replication.

You should manually connect to the FTP server with an FTP program like Anarchie or Fetch and delete any replicated files.

Configure MIME Types (Multimedia Edition Only)

This batch of settings helps FireSite decide what to replicate and how to handle various kinds of files that you serve from your Web site. Here you can tell FireSite which of your files should (or shouldn't) be replicated, and whether to treat each kind as a "Page", an "Image File", "Plug-in Media", a "Downloadable File", or the infamous "Other." Below is a description of what each setting means.

Page	This means that FireSite should treat each file of this type as a new "page" to hyperlink to. Examples of this type include HTML files (which are "pages"), and Acrobat PDF files (which are also "pages").
Image File	FireSite will attempt to read the dimensions of the image from the file, and automatically add HEIGHT and WIDTH values to any IMG tags that reference an Image File. If Anti-Hijacking is enabled, FireSite will protect Image Files. GIF and JPEG files are Image Files.
Plug-in Media	FireSite will protect Plug-in Media files with its Anti-Hijacking system, but it will not attempt to add HEIGHT or WIDTH values because each plug-in media type has a different way of encoding its dimensions. Any Shockwave files, QuickTime movies, or MIDI songs that you EMBED on a page of HTML are Plug-in Media files.
Downloadable File	FireSite will consider replicating Downloadable Files, but will not attempt to protect them from hijacking. (FireSite can only protect files like Images and embedded media that appear on a page of HTML; downloads cannot be protected.) Stuffit Archives and BinHex files are typical Downloadable Files.
Other	This operates exactly the same way as "Downloadable File", but is provided in case you would like a different designation

for some files. FireSite will consider replicating these files, but will not try to protect them with the Anti-Hijacking system.

MIME Type Mapping Report and
Resetting MIME Errors (Multimedia Edition Only)

This part of the FireSite Remote Server Setup helps you work with the administrator for your remote server to correctly configure the remote servers to serve your multimedia files.

While almost all Web servers are set up to serve GIF, JPEG, and HTML files, not every Web server is set up with the correct "MIME Type Mappings" to serve multimedia files. When FireSite is considering whether to replicate a multimedia file onto a remote server, it first tests to see if the remote server has the correct MIME Type Mapping for that kind of file. If the remote server is set up correctly, the file is replicated. If the remote server is not set up to serve that kind of multimedia file, FireSite leaves a message in this area for you.

When you see messages in this area, they will contain detailed information about what kind of file FireSite wanted to replicate, and what MIME type it expected from the remote server. You can pass this information (politely) on to the administrator of the remote server, and ask that they add the correct MIME Type Mapping for you. Once they confirm that they have updated their server's settings, you should "Reset the MIME Type Report." FireSite will re-test the remote server, and hopefully everything will work perfectly. If not, you'll see another message in this area, and you should contact the remote server's administrator again (even more politely) to ask for help.

Reports (not in Speed Booster)

FireSite has three built-in reports. Because the reports are pulled from FireSite's realtime database, they are always current and up-to-the-second.

Top 40 Files By Hits
This report shows you the most frequently requested files on your site.

Top 40 Files By Bytes Transferred
This report shows you the files that account for the largest number of bytes transmitted from your web site.

Replication Report
This report displays a list of all the files from your site that FireSite has replicated onto a remote server.

Multimedia Themes (Multimedia Edition Only)

Recent revisions of the HTML specification allow you to control the colors that a Web page is displayed with. By adding extra attributes to the <BODY…> tag, an HTML author can specify

- the color of the page background

- the color of the text on the page

- the color of hyperlinks that have not yet been activated

- the color of hyperlinks "light up" when they're clicked

- the color of hyperlinks that have already been activated and

- an image to be used as the background texture for the page

You can specify both a background color and a background image. The color will appear immediately, and the background image covers it up as soon as it is completely loaded.

You can also specify a Font and Size to be used as the "base" font for the pages on each site.

In addition, you can specify page margins and an optional background sound (looped or single-play).

FireSite gives you a simple way to set all these settings for an entire Web site at once. You could, for example, use FireSite to set your background image to snowballs in Winter (with quiet sleighbells in the background), and flowers in Spring (complete with twittering birds!)

You can also use these features to enforce a uniform "look" for an entire site without having to monitor and edit each page.

Access the Theme Setup by accessing the FireSite administration page through `http://www.yourserver.com/admin.fire`

Click on "List all Sites on this Server"

Click on "Site Settings…" for the site you with to redecorate

Choose a Theme from the popup menu of defined Themes, and click "Apply". If you wish to define or edit a Theme, click the "Define/Edit Themes" hyperlink, or click on "Color Controls" button at the top of the window.

Override Page Colors

You can set FireSite to leave all page colors as specified on each individual page, or to override the colors specified in each page of HTML, and to use the colors you specify.

You can enter standard HTML color codes (such as #FFFFFF for white and #000000 for black) into any of the controls provided.

If you leave a color control blank, that particular page color will not be overridden. If you wanted to change only the page background, activate "Override Page Colors", but only enter a value for Page Background Color.

Override Background Images

You can override the background image used for each web site. Click on "Override Background Images," and then enter the URL of the image you wish to use.

Enter the URL of the image as you would enter it into the SRC of an IMG tag. You should probably start this URL with a slash, and specify the complete path from the top of the server to the image. For example, you might enter

```
/top-dog/images/sunshine.gif
```

If you really want to kill some time trying to figure out what's going on, you can also experiment with leaving the slash out or not including the complete path. Stick to the full path until you get the hang of it.

Add LOWSRC Image

Netscape Navigator, Microsoft Internet Explorer, and several other browsers support a little-used feature called LOWSRC, which is short for LOW resolution SouRCe. It was intended to be used to load a low-resolution version of an image quickly, and then to load a high-resolution version of the image over the low resolution one. Visitors would see the low resolution image quickly, and it would slowly be replaced with the high-resolution image.

The HTML syntax looks like this

```
<IMG  SRC="regular-picture.gif"
      LOWSRC="low-res-preview.gif">
```

However, since few HTML authors take the time to use LOWSRC for its intended purpose (it basically doubles the amount of work that you have to do to prepare an image), the LOWSRC capability is "underutilized."

FireSite lets you specify a LOWSRC image that will be used with **every** image on your site that does not already have one. Obviously, there is no "universal preview picture", but you can use the LOWSRC capability to display a company logo, a tiny ad, a subliminal message, a swatch of color, stripes, plaids, happy faces, or a wristwatch image that is overwritten as each 'normal' picture loads over it.

Specify the URL of the LOWSRC image you wish to use. Enter the complete path from the top of the server to the image, and make sure you begin with a slash. It takes a little experimentation to get the hang of how to use the LOWSRC feature effectively.

Making "Themes" Dynamic

When used with a "dynamic page language" such as NetCloak or WebSTAR SSI, FireSite can apply different themes to different pages each time they're served, all under the control of NetCloak or SSI.

Whenever FireSite Multimedia Edition encounters this HTML tag:

```
<FIRESITE-PAGE-THEME NAME="...">
```

it dynamically enables that theme for the rest of that page. The tag can occur several times on the page, but only the one that is in effect just before the <BODY> tag has a chance to set the page colors, etc. Used in combination with NetCloak or SSI, this can be programmed to alter the theme on the fly. Here is a NetCloak example:

```
<HTML>
<HEAD><TITLE> Page of Confusion! </TITLE></HEAD>
<FIRESITE-PAGE-THEME NAME="Spring">
<hide>
<SHOW_RANDOM 50>
<FIRESITE-PAGE-THEME NAME="High Tech">
<SHOW>
<BODY> ...
```

This example randomly chooses the page theme based on a random number. More interesting uses include: themes based on Browser type, client domain (.edu vs. .com), time of day ,or season of the year!

Advanced Features (Multimedia Edition Only)

FireSite Multimedia Edition includes two special features that let you have more control how your Web site is used. The first is the Anti-Hijacking System, which prevents unauthorized users from putting your graphics and multimedia onto their web pages. The second is the Welcome Mat, which lets you make sure that visitors always enter your site through the home page.

Access the "Advanced Features" by accessing the FireSite administration page through `http://www.yourserver.com/admin.fire`

Click on "List all Sites on this Server"

Click on "Site Settings…" for the site you with to redecorate

Anti-Hijacking System

The Anti-Hijacking system helps you make sure that only Web pages that you authorize can "include" your graphics, multimedia files, or live WebCam images.

Without FireSite, anyone can "hijack" your files. For example, imagine that you have set up a live WebCam, which saves a new picture every 60 seconds into a file on your Web server called `/webcam/now.jpeg`. The image "normally" appears on your Web page, `/webcam/the-view.html`, which looks like this:

```
<TITLE>Great View!</TITLE>

Here's the view from our 21st-story window!

<IMG SRC="/webcam/now.jpeg">

Thanks for stopping by to enjoy the view.
To learn how you can help protect the environment,
and preserve beautiful views like this one,
<a href="/top-dog/recycling-plan.html"> Click Here! </a>
```

Since everyone loves your view, soon you are getting dozens of new visitors, and some of them even read about your recycling plan. Great!

Unfortunately, anyone who wanted to could create a page on **their** server that looked like this:

```
<TITLE>My WebCam (NOT!)</TITLE>

Look at this cool WebCam I found:

<IMG SRC="http://www.your-server.com/webcam/now.jpeg">
```

The problem is that this other person 1) is using your Internet bandwidth to serve their page, 2) is using your live view to attract people to their site (and possibly

away from your site), and 3) is defeating the whole purpose of your WebCam: to attract visitors and raise awareness of your recycling plan. When people read the other guy's page, they never even know your plan exists!

FireSite can easily fix this, and can keep you in control of your images and multimedia files.

Shutting out Hijackers

To engage the Anti-hijacking system, click on "Allow only these sites to use your graphics and media objects." Then click "Apply."

Alternate "Hijacked Media" Image

Instead of simply refusing hijackers, you can configure FireSite to return an "alternate hijacked image." Fill in the URL of the image you wish to server to hijackers, starting from the top of the web server, and beginning with a slash.

The image might contain a friendly invitation to visit your **real** site. Or you might have a different message you wish to send. Be creative. 'Nuff said.

Allowing 'friends' to use your media files

Your own Web site is always allowed to use its own images and media files. By entering the names of other 'friend' web sites, you can allow selected other sites to also use your images and multimedia, or WebCam.

Enter the name of a new "friend" site and click "Add".

To Remove a site from the "friend" list, click "Remove".

Welcome Mat System

Because of the way people bookmark various sites, the way that web authors create hyperlinks all over the place, and the way that search engines scan your entire site, visitors might enter your site through any page.

FireSite can bring all your visitors in through your home page (or any other page you choose.) So if you're running a special offer for three days only, you might want to make sure that everyone who visited your site saw the special offer.

Bringing Visitors In Through The Home Page

To bring visitors in through a particular page, simply click "Bring visitors in to this site through this page", and fill in the "Welcome" page URL, from the top of the server, and starting with a slash.

Use this feature carefully, because it can be quite annoying if the same person finds themselves brought in through the Welcome page several times.

File-by-file Replication Controls

FireSite Multimedia Edition gives you file-by-file control of replication through the use of Finder labels. If you wish certain individual files never to be replicated (due to size, security, or any other reason), follow these steps:

1. Open the "Labels" control panel in the Finder.
2. Change the name of one of the labels to "FS NoRep"
3. Close the Labels control panel.
4. Locate the files you wish to "never replicate", and highlight them in the Finder.
5. Choose "FS NoRep" from the Labels menu.

That's it. FireSite will now never replicate those files.

If the file is "live media" such as a live WebCam image, follow the same procedure, except use the label "FS Live" instead of "FS NoRep". The FS Live label tells FireSite not to even cache the live file in RAM, but to always retrieve the up-to-the-second version from disk.

Support for Ad Banners

If your Web pages contain Advertising banners, you may need to track exactly how many hits were scored on each banner. If you'd still like the files to be replicated (and served faster), but you'd like to record the Hits for each one, follow the procedure above, except substitute "FS ShowHits" for "FS NoRep"

Then use the Finder to "label" your ad banners as "FS ShowHits." FireSite will now replicate those files, but still "show hits" in the WebSTAR log.
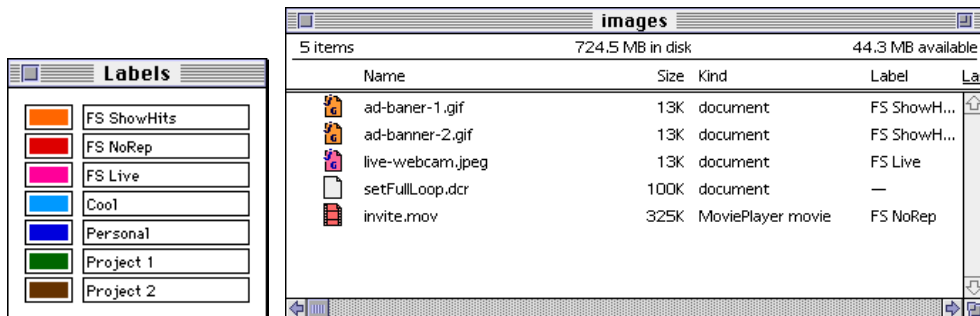
Part V: Support

FireSite is a rich and sophisticated system that can elevate your Web Sites to new levels. However, like all sophisticated systems, you may find that you sometimes would like help with it.

Technical Support From ClearWay Technologies

ClearWay provides free technical support and same-product updates to registered users of FireSite for one year from the date of purchase.

ClearWay maintains a variety of support resources on our Web site at `http://www.clearway.com/`, including the latest updates to FireSite software, a list of Frequently Asked Questions, and other FireSite self-help information.

Registered **FireSite Standard and Speed Booster Edition** users can obtain technical support by sending e-mail to `support@clearway.com`

Registered **FireSite Multimedia Edition** users may write to `support@clearway.com` or may call ClearWay for toll-free telephone support at `+1-888-55CLEAR`. Outside North America, call `+1-617-973-5001`. Telephone support is available from 9 A.M. to 5 P.M. Eastern Time.

Upgrading to a more powerful Edition

We hope that you are pleased with your Edition of FireSite. If you wish to try any of the more advanced feature, or if you would like to upgrade, please contact ClearWay Technologies' at `+1-888-55-CLEAR.`

Something to Think About

FireSite is an innovative product, and we've worked hard to make it the starting point for thousands of new Web ideas. If you have an idea for a feature you'd like to see in FireSite, or if you have an innovative application for FireSite you'd like to discuss, please write to us.

If you suggest a new idea for FireSite, and we build your idea into the product, we'll do two things for you. First, we'll give you a free upgrade to the version of the product that has "your" idea built in. And second, we'll give you credit for you're idea in the software itself.

We look forward to hearing from you!