FirstClass 7 Internet Services Administrator's Guide

Technical support

Telephone technical support is available to registered administrators at the following numbers:

Toll free in North America: 1-800-346-9108

Toronto: 905-762-6060

International: +353-61-725-2000

Online support questions may be directed to support@centrinity.com.

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Introduction

Overview

Internet Services is a module that connects your FirstClass server to the Internet and supports a wide variety of Internet protocols. For an explanation of how Internet Services works and the different Internet protocols supported, see Chapter 3, "Internet Services concepts".

Internet Services plays a key role in the FirstClass architecture, as it is the module that acts as the gateway connecting the core server (which is at the center of the FirstClass system) to the Internet. For detailed information on the different protocols and services Internet Services is responsible for, see Chapter 3, "Internet Services concepts".
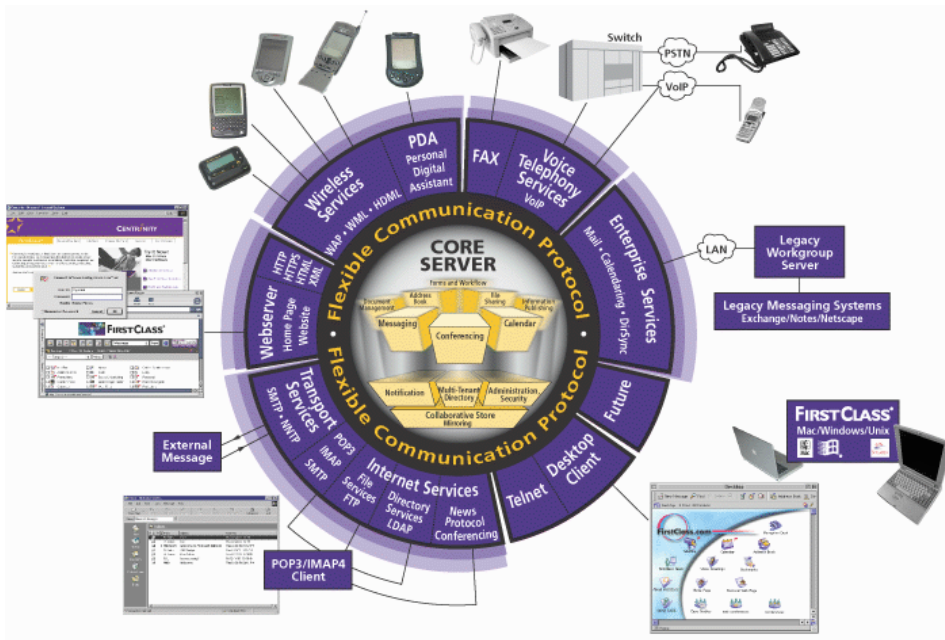
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About this book

This document describes the responsibilities and activities of an Internet Services administrator, including:

* performing basic and advanced setup

* understanding Internet Services works and Internet Services concepts

* clustering Internet Services

* creating web sites and supporting different languages

* customizing web sites

* serving out FirstClass content to the web

* filtering mail

* enabling FTP, Java, CGI, and security certificates.

This book is partitioned into the following five sections:

* Introduction

   This section provides conceptual information about Internet Services and the administrator's role. This section also provides requirements and instructions for installing Internet Services components and forms and configuring and customizing them to suit your needs.

* Planning your Internet Services environment

   This section provides information on features that help you plan your Internet Services system, including browser steering and clustering.

* Creating your Internet Services environment

   This section provides information for creating items on and customizing your Internet Services system, including web sites, CGIs, MIME types, and web content.

* Maintaining your Internet Services environment

   This section provides information for daily maintenance of Internet Services, including understanding the Internet Services console, Internet Services monitor, filters, and security certificates.

You might find it useful to follow along with the examples provided. Keep in mind, the examples used are for illustrative purposes only. While it should help you understand some of the principles involved in setting up an Internet Services system, it will not provide you with a fully developed system.

For information on setting up a FirstClass server on your system, see *FirstClass 7 Administrator's Guide*. For detailed how-to descriptions of features and forms, see our online help.

Who should read this book

This book is meant for FirstClass administrators responsible for supporting Internet Services on either Mac® OS or Windows® platforms.

What you should already know

You should be familiar with the capabilities and terminology of your:

- FirstClass server

- FirstClass administrator's Desktop

- FirstClass client software

- Mac OS or Windows operating system

- a general understanding of Internet protocols and Domain Name System (DNS) servers.

You should also be familiar with basic Internet concepts. For information on the Internet, it is recommended that you read relevant materials.

Documentation conventions

We use certain documentation conventions for menu items and variables in this guide.

Menu items

Each level of menu items is separated by >. For example, the Clear item under the Edit menu is shown as Edit > Clear.

Variables

Text in *italics* indicates arguments, variables, or other information for which you must type your own value.

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New in this release

- resolving inbound HTML messages into the body of a FirstClass message preventing auto opening of attachments

  You can set one of three choices for this feature on the Text Style tab on the Advanced Mail form (see "Advanced Mail" on page 45 in Chapter 5, "Configuring Internet Services").

- Organizational Unit (OU) support

  The impact of OU support in Internet Services is that it lets you have two different domains for mail instead of having to use a separate gateway. OUs are set on group forms in the Groups folder on the administrator's Desktop. For a discussion of Organizational Units, how they work, and how to configure them, see *FirstClass 7 Administrator's Guide*.

- enhanced Internet Services clustering

  This feature lets you specify different Internet Services cluster for outgoing SMTP mail (see Chapter 8, "Clustering Internet Services to plan your system").

- self-serve pop sucking

  This feature allows users to configure up to five Internet mail accounts from the Messaging tab on their Preferences form, see *FirstClass 7 Administrator's Guide*. Self-serve pop sucking provides users with:

  - immediate updates to Internet mail account changes

  - ability to choose a unique icon to identify the source of the messages

- new web authentication scheme

  The new web authentication scheme provides:

  - better security

  - less chance of proxy caching

  - improved logout functionality.

- improved standard templates

  The improved standard web templates provide:

- web users with a better interface and more functionality similar to the FirstClass client, for example, sorting and calendaring

- greater support for all web browsers.

For information on customizing web templates, see Chapter 13, "Creating custom templates" and our online help.

- improved mobile templates for handheld users

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New in this release

Administrator tasks

As the FirstClass administrator for your organization, you are responsible for many tasks. For server administrator tasks, see *FirstClass 7 Administrator's Guide*. In this chapter, we outline your responsibilities and categorize them by stages. In subsequent chapters, we expand on these responsibilities.

Your responsibilities as Internet Services administrator

The icons on the administrator's Desktop represent most of the functions you will perform in your FirstClass system. However, there are other responsibilities not represented by those icons. As the Internet Services administrator, your ongoing responsibilities fall into these categories:

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- installing and configuring Internet Services and its required components
- planning your Internet Services environment
- creating your Internet Services environment
- maintaining your Internet Services environment.

Installing and configuring your environment

Installing and configuring Internet Services involves:

- installing the FirstClass Internet Services module, as described in Chapter 4, "Installing Internet Services"
- configuring FirstClass Internet Services, as described in Chapter 5, "Configuring Internet Services".

At this point, you should have Internet Services installed on your system and be able to log in.

Planning your environment

Planning is the most important stage before creating your FirstClass environment. Equally, before creating your Internet Services environment, you should establish the setup that you want to achieve. When planning, remember that although Internet Services is a separate module in the FirstClass architecture, it does not act independently. FirstClass Server and Internet Services are strongly interdependent, so what you create in Internet Services may have an impact on the FirstClass server. The same holds true in the reverse situation. For information on planning and creating your FirstClass Server environment, see *FirstClass 7 Administrator's Guide*.

Planning your Internet Services environment involves these main tasks:

- planning your users' FirstClass web site experience, as described in Chapter 7, "Planning your system"

- coding the HeaderMatch document to steer different users to your site(s), as described in Chapter 7, "Using the HeaderMatch document to plan your system"

- clustering Internet Services to separate protocols and domains, as described in Chapter 8, "Clustering Internet Services to plan your system".

Creating your environment

After planning your Internet Services environment, the next step is to create it. Creating your Internet Services environment involves these tasks:

- creating single or multiple web sites on your FirstClass system, as described in Chapter 10, "Creating your web sites"

- understanding and configuring the Multiple Sites and Languages form, as described in Chapter 9, "Using the Multiple Sites & Languages form"

- customizing your web user interface, as described in Chapter 11, "Customizing your web user's interface"

- publishing web site content, as described in Chapter 12, "Publishing content to the web"

- customizing templates, as described in Chapter 13, "Creating custom templates"

- configuring the Aliases document, as described in Chapter 15, "Creating and editing the Aliases document"

- creating CGI applications for your system, as described in Chapter 14, "Creating CGIs"

- working with the Java and FTP folders, as described in Chapter 17, "Using the Java and FTP folders".

Maintaining your environment

After you have planned and created your Internet Services environment, you need to maintain your system and provide some level of security. Maintaining and securing your Internet Services environment involves these tasks:

- understanding the Internet Services console and available pull down menus, as described in Chapter 18, "Understanding the Internet Services console"

- reading the information contained on the Internet Monitor, as described in Chapter 18, "Monitoring your system"

- managing your Internet Services system security, as described in Chapter 19, "Managing system security".

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Internet Services concepts

Before you can begin working as an Internet Services administrator, there are certain concepts you must understand. In this chapter, we discuss:

* Internet Services and FirstClass server interaction

* Internet Services protocols

* domains and Internet Protocol (IP) addresses

* gateways.

Understanding how Internet Services and FirstClass server work together

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Internet Services converts data from FirstClass format, FirstClass protocol (FCP), into the appropriate Internet format and sends it out to the Internet. In turn, Internet Services takes incoming information from the Internet and converts it back into FCP. All FirstClass content can be sent out to the Internet including messages, conferences, documents, server-parsed files, and web pages. FCP is the language the FirstClass server speaks and is used to access the core services of FirstClass. FCP can be thought of as the glue that connects FirstClass clients, gateways, and core servers together.

Internet Services bi-directionally translates FirstClass formatted data from the server into the appropriate protocol for the Internet and back again. The diagram below shows this relationship:
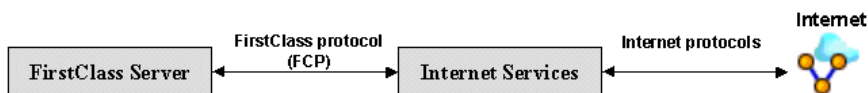
Let's use an analogy to explain the role of Internet Services. You can think of a FirstClass system as a United Nations (UN), meeting, where Internet Services acts as a team of UN translators. The FirstClass server represents the UN speaker standing on a podium giving a speech in one language to delegates speaking different languages. This speech must be translated into several different languages that each delegate can understand. In turn, if the delegates respond, their respective languages must be translated back to the speaker into the one language he understands. This is handled by Internet Services. The graphic below shows this interaction.

Internet Services Protocol handling
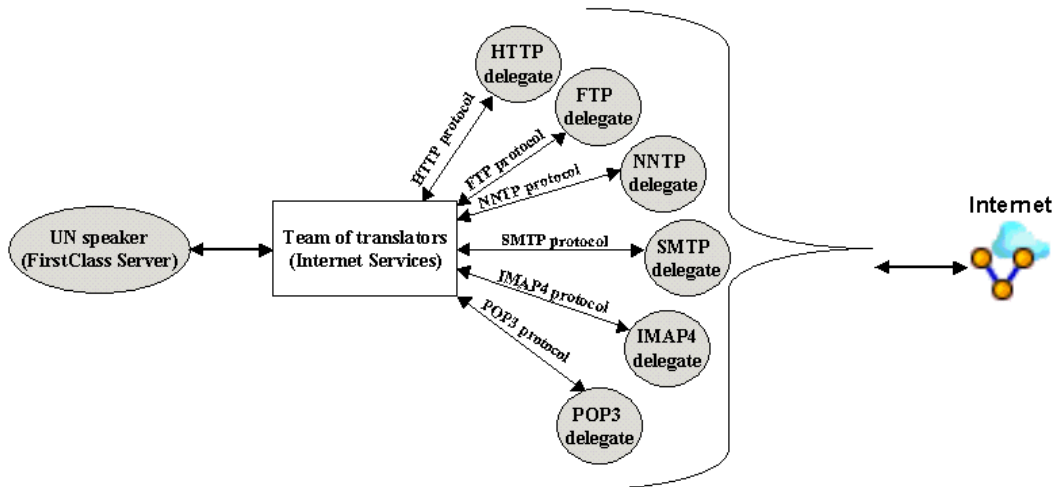
Just as the team of translators must make sure languages are translated between the UN speaker and the delegates, so must Internet Services make sure data is translated between the Internet and the FirstClass server.

You can think of the multiple languages as different Internet protocols. For information on Internet protocols, see Chapter 3, "Internet Services concepts". These protocols must be translated into the one language the server understands (FCP). Internet Services must then translate FCP back into Internet-friendly protocols. The traffic moves in both directions simultaneously, and many conversations can occur at once. There is no place to

store missed conversation, so it is important for everything to get translated on the fly. The translation must happen quickly, accurately, and without fail.

Understanding Internet Services protocols

Although Internet Services is implemented as a single protocol module, it is actually comprised of a series of protocol services: gateway, client, and Directory.

Gateway services

Gateway services moves bulk content in and out of FirstClass using:

- Simple Mail Transfer Protocol (SMTP)
- Network News Transfer Protocol (NNTP)
- Internet Mail Application Protocol (IMAP4)
- Post Office Protocol 3 (POP3) importer
- Hyper Text Transfer Protocol (HTTP) for web servers.

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Client services

Client services renders post office content to alternative clients using:

- HTTP
- File Transfer Protocol (FTP)
- POP3 client
- Internet Mail Application Protocol (IMAP4).

Directory services

Directory services renders Directory content to alternate clients using:

- Finger
- Lightweight Directory Access Protocol (LDAP).

Using Gateway, Client, and Directory services, Internet Services expands the server's functionality to encompass popular Internet protocols.

Protocol definitions

- HTTP

  HTTP is the underlying protocol used by the World Wide Web (WWW). HTTP defines how messages are formatted and transmitted, and what actions web servers and browsers should take in response to various commands. For example, when you enter a URL in your browser, this actually sends an HTTP command to the web server directing it to fetch and transmit the requested web page.

- SMTP

  SMTP is a protocol for sending email messages between servers. Most email systems that send mail over the Internet use SMTP to send messages from one server to another; the messages can then be retrieved with an email client, such as FirstClass, POP3 or IMAP4. In addition, SMTP is generally used to send messages from a mail client to a mail server. This is why you need to specify both the POP or IMAP server and the SMTP server when you configure your email application.

- POP3

  POP is a protocol used to retrieve email from a mail server. Most email applications use the POP protocol.

- IMAP4

  IMAP is a protocol used for retrieving email messages. The latest version, IMAP4, is similar to POP3 but supports some additional features. For example, with IMAP4, you can search through your email messages for keywords while the messages are still on the mail server. You can then choose which messages to download to your machine.

- FTP

  FTP is a protocol used on the Internet for sending files. Many organizations have a designated FTP server used only for uploading and downloading files for their users.

- Lightweight Directory Access Protocol (LDAP)

  LDAP is a set of protocols for accessing information directories and supports TCP/IP, which is necessary for any type of Internet access.

- Finger

  Finger is a UNIX program that takes an email address as input and returns information about the user who owns that email address. On some systems, finger only reports whether the user is currently logged on. Other systems return additional information, such as the user's full name, address, and telephone number, which the user must first enter.

Understanding domain names and IP addresses

You can think of domain names as the user-friendly form of an IP address. Users find it easier to remember addresses such as, www.huskyplanes.com as opposed to numbers, such as 192.166.0.0. A domain name identifies one or more IP addresses. An IP address is a unique number that identifies any machine, for example, your mail server, web server, FTP server (if any), and end user computers.

If you are using Windows, you can define multiple IP addresses (that is, you can define multiple servers) on your network interface card (NIC). If you choose not to define multiple IP addresses, you should list the IP address on the Multiple Sites & Languages form for your default domain only and leave IP address blank on the other rows (see Chapter 9, "Using the Multiple Sites & Languages form"). You can also register multiple domain names and point them to one IP address (see Chapter 10, "Creating your web sites").

Domain names are used in both URLs and email addresses to identify particular web pages and email recipients respectively. For example, the Husky Planes web site address is www.huskyplanes.com. The whole domain name in this address is huskyplanes.com and represents one IP address, 192.166.0.0. Roy Allen's email address on Husky Planes is roy_allen@huskyplanes.com. Again the domain name is huskyplanes.com. In the case of the email address, roy_allen signifies the recipient's unique name.

> **Note** Each name in an email address must be unique to each user on your system. Otherwise, you may find

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your server unable to distinguish between two recipients and, thus, unable to properly deliver mail.

Every domain name has a suffix that indicates which top level domain (TLD) it belongs to. There are only a limited number of such domains. For example:

- gov – Government agencies
- edu – Educational institutions
- org – Organizations (nonprofit)

and others.

Understanding the role of the DNS server

Because the web servers work with IP addresses and not domain names, every system requires a separate Domain Name System (DNS) server. This server tells a web or mail server where to deliver messages by translating domain addresses into IP addresses and verifying that both are the same.

Generally, when a FirstClass user sends an email message to a recipient (either inside or outside of a FirstClass system), Internet Services sends it out using the SMTP protocol. This message then finds its way to the recipient's machine through the recipient's mail server, where the recipient's system performs its own DNS server verification on the email address and then delivers it to the recipient. DNS servers keep a list of all registered domain names and corresponding IP addresses worldwide.

Let's take a look at the path of an email sent by Husky Planes employee Roy Allen:

DNS server role

```
┌──────────────────┐      ┌──────────────────┐  Internet  ┌──────────────────┐      ┌──────────────────┐
│  Husky Planes    │ ───→ │  Husky Planes    │  Step 3    │  Avalon Academy  │ ───→ │  Avalon Academy  │
│ FirstClass server│      │ Internet services│ ─────────→ │ Internet services│      │ FirstClass server│
└──────────────────┘      └──────────────────┘            └──────────────────┘      └──────────────────┘
        ↑                  Step 2 ↙                         Step 4 ↙                          │
  Step 1 │ message      ┌──────────────────┐            ┌──────────────────┐          message │ Step 5
        │               │  Husky Planes    │            │  Avalon Academy  │                  ↓
┌──────────────────┐    │   DNS server     │            │   DNS server     │        ┌──────────────────┐
│  Roy Allen's     │    └──────────────────┘            └──────────────────┘        │  Ann Jones'      │
│  client machine  │                                                                │  client machine  │
└──────────────────┘                                                                └──────────────────┘
```
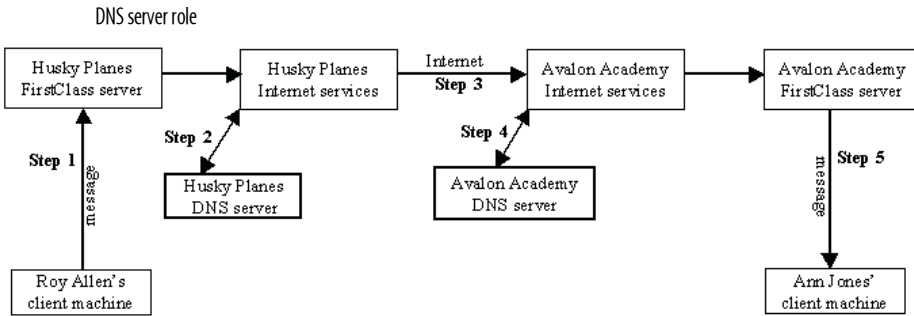
Note All of the steps in the above diagram may not always occur, depending on how your server and network are configured to handle mail. For example, you may not have reverse DNS enabled for your system.

In this example, Roy Allen sends an email message from his client machine to his friend Ann Jones at Avalon Academy. In Step 1, this message goes to the FirstClass server, where it is then handed over to Internet Services.

In Step 2, Internet Services queries Husky Plane's DNS server as to which outside server it must send the message (DNS lookup). The DNS server then matches the domain name in the email address (avalon.com) to the IP address of the recipient's server. If an IP address is correctly matched with the domain name of the email address, this information is sent back to Internet Services, which then promptly sends out the message (this is Step 3).

The message, now on its way to Ann Jones at Avalon Academy, will have to go through a similar process but in reverse. In Step 4, Avalon Academy's Internet Services queries its DNS server as to which server the message came from. Avalon Academy's server then sends the message to Ann Jones' client machine.

The same process occurs when a user enters a web site address (for example, www.huskyplanes.com).

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Understanding gateways

Gateways are a bridge between your system and other devices or systems. There are two major types of gateways: server-to-server and third-party. The purpose of either gateway is to transfer mail, conference content, and Directory information to another messaging server. Server-to-server gateways connect two FirstClass systems directly, while third-party gateways allow FirstClass servers to exchange mail and synchronize directories with foreign mail systems. For a complete explanation of gateways and creating gateways, see *FirstClass 7 Administrator's Guide*.

Installing Internet Services

This chapter describes the system requirements and installation procedures for Internet Services.

Windows

You can install Internet Services on Microsoft® Windows 95, 98, NT, and Windows® 2000.

> **Note** Although Internet Services can be run on Microsoft Windows 95 and 98, we do not recommend it. Microsoft Windows NT and Windows® 2000 is preferable, especially for systems with large Internet Services traffic.

System requirements For Internet Services system requirements for Windows, see *FirstClass 7 Administrator's Guide*.

Installing FirstClass Internet Services For Internet Services installation instructions for Windows, see *FirstClass 7 Administrator's Guide*.

Mac OS

You can install Internet Services on Mac OS 8.x and 9.x.

System requirements For Internet Services system requirements for Mac OS, see *FirstClass 7 Administrator's Guide*.

Installing FirstClass Internet Services For Internet Services installation instructions for Mac OS, see *FirstClass 7 Administrator's Guide*.

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Configuring Internet Services

As a FirstClass administrator, you must configure several forms before you can properly run Internet Services. In this chapter, we will discuss how to enter information in:

- Basic Internet Setup forms

- Internet Services account form schedule

- advanced forms (if required).

> **Note** All form fields and tabs may not be described. For descriptions of all the fields on these and other forms, see our online help.

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Basic Internet setup

Most administrators with standard running sites only configure the Basic Internet Setup form.

Basic Internet Setup forms

You must complete the Basic Internet Setup form to enable the various Internet protocols. The form may seem large, but you only have to complete those sections that are important to you. For instance, if you don't intend to poll for newsgroups, you need not complete the News tab. In this section, we'll walk through the Husky Planes setup. For a complete description of all fields on the Basic Internet Setup form, see our online help.

Basic Internet Setup – General
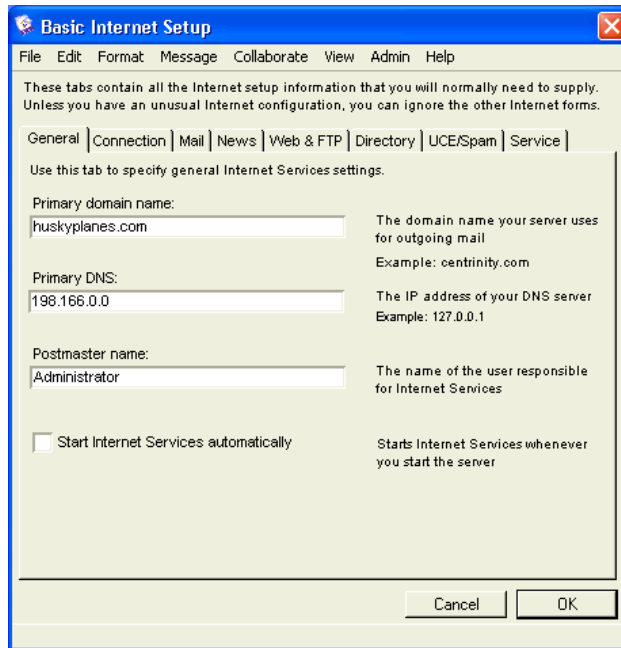
On this tab, we provide some general information:

Primary domain name
huskyplanes.com. This is the address for our company. When we send Internet mail to people, our address will be in the format user@huskyplanes.com.

Primary DNS
198.166.0.0. Husky Planes maintains its own DNS machine and we enter its IP address in this field. If you use your ISP's DNS, you'll need to get this address from them. If you have more than one DNS machine available, you will need to add those addresses on the Advanced DNS form.

Postmaster name	webadmin. We want all email directed to postmaster@huskyplanes.com to go to an account we have created for user webadmin. We've done this rather than using administrator because we want to separate Internet and server administration duties.
Start Internet Services automatically	We've selected this because we always want Internet Services running and we have installed it on the same machine as FirstClass server.
	If the server and Internet Services are installed on separate machines, you cannot select this feature. This is because the FirstClass server cannot control another machine.
	Also, if you run FirstClass server as a Windows NT service, it will not automatically start Internet Services.
	For details about running FirstClass server as a Windows NT service, see *FirstClass 7 Administrator's Guide*.

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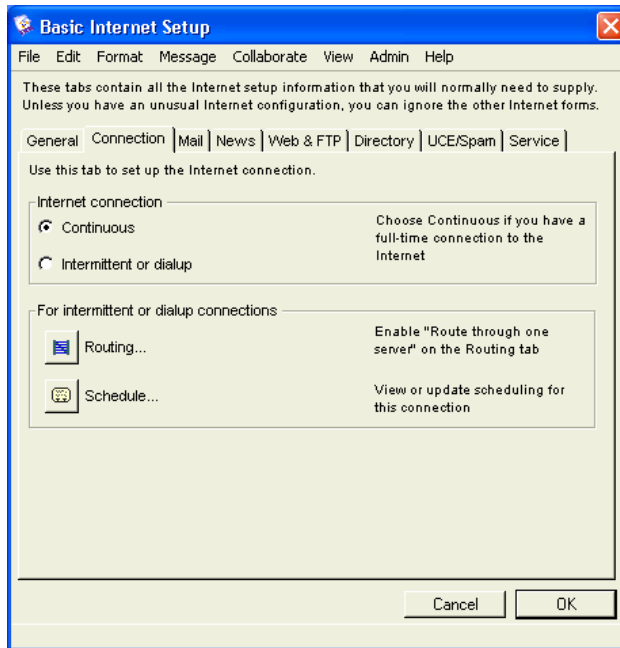
On this tab, we indicate how we connect to the Internet. Husky Planes has a continuous Internet connection, so all we need to do is select Continuous. We will need to set some scheduling information, but we'll deal with that in "Setting the Internet Services connection schedule" on page 40. We'll discuss dial-up connections in "Configuring a dialup connection" on page 43.

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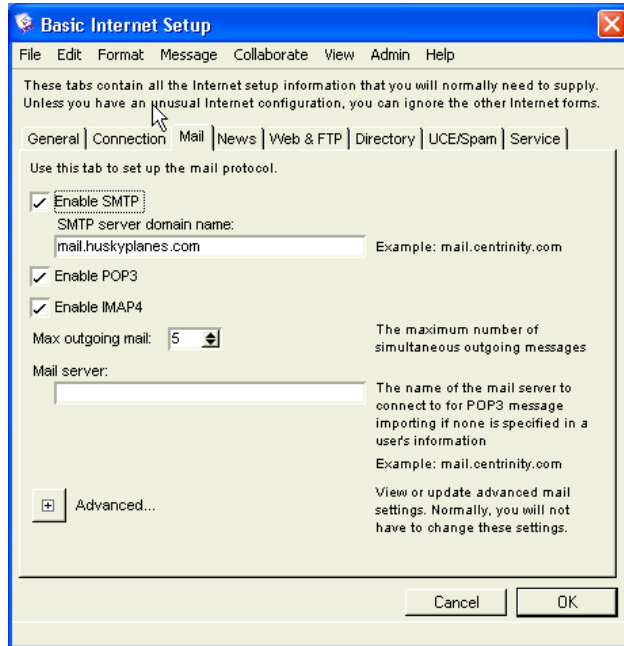
On this tab, we set basic Internet email settings. You only have to do this if you want Internet email.

Enable SMTP	Yes, we want to send email using this protocol. Mail will be delivered using the SMTP delivery protocol.
SMTP server domain name	mail.huskyplanes.com. This name resolves to the IP address of the computer that Internet Services is installed on. We have registered it in the DNS.
Enable POP3	Yes, we want to allow users to retrieve email using this protocol. This means our users will be able to log in using a POP3 mail client, like Eudora, and retrieve their email.

Enable IMAP4   Yes, we want to allow users to retrieve email and access their Desktops using this protocol. This means our users will be able to log in using an IMAP4 client, like Outlook Express, and retrieve their email. For more information about logging in with an IMAP4 client, see our online help.

Max outgoing mail   10. We picked this number as being large enough to maintain significant mail flow but not so large as to cause memory problems. You may want to adjust this number if you notice mail overflow or low memory problems on your system. You can monitor your mail status on the Internet Monitor. For a full description, see Chapter 18, "Monitoring your system".

Mail server   mail.isp.com. Internet Services can import mail from user Mailboxes on other systems using POP3. This field sets the default mail host to contact for this purpose.

You would configure this field if all of your users had email accounts with an outside mail server. This way, you don't have to enter the mail host in Mail server on the Mailbox import form for each user. For a description of our Mailbox import form, see our online help.

Basic Internet Setup – News

Basic Internet Setup

File   Edit   Format   Message   Collaborate   View   Admin   Help

These tabs contain all the Internet setup information that you will normally need to supply. Unless you have an unusual Internet configuration, you can ignore the other Internet forms.

General | Connection | Mail | News | Web & FTP | Directory | UCE/Spam | Service

Use this tab to set up the news protocol.

☑ Enable NNTP

NNTP server domain name:

news.huskyplanes.com   Example: news.centrinity.com

NNTP feed server:

news.isp.com   The name of the server that provides your news feed

⊞ | Advanced...   View or update advanced news settings. Normally, you will not have to change these settings.

Cancel   OK

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On this tab, we set basic Internet news settings. You should only do this if you want to receive newsgroups.

Enable NNTP	Yes, we want to receive newsgroups.
NNTP server domain name	This name resolves to the IP address of the computer Internet Services is installed on. We have registered it in the DNS.
NNTP feed server	news.isp.com. This is the name of the news server your Internet Service Provider (ISP) owns. If you don't maintain your own news server, you will need to arrange with your ISP which newsgroups they send to you.
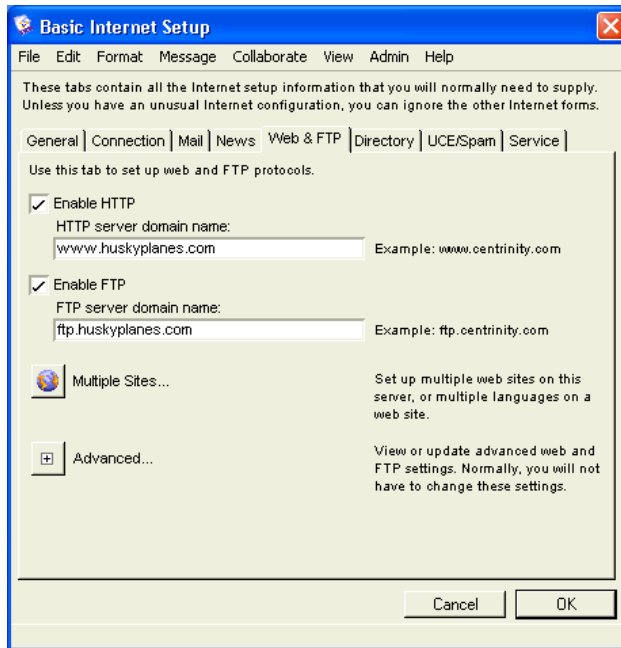
On this tab, we set up the HTTP protocol (allowing people to access our web site with their web browsers) and the FTP protocol (allowing people to download files from our web site).

Enable HTTP	Selected. Yes, we want to create a web site and have people access it.
HTTP server domain name	www.huskyplanes.com. This name resolves to the IP address of the computer Internet Services is installed on. We have registered it in the DNS.
Enable FTP	Yes, we want users to be able to download files using an FTP client. For information on the FTP folder, see Chapter 17, "Using the Java and FTP folders".

FTP server domain name	ftp.huskyplanes.com. This name resolves to the IP address of the computer Internet Services is installed on. We have registered it in the DNS.
Multiple sites	Click the form where you set up and enable multiple sites on your web server. See Chapter 9, "Using the Multiple Sites & Languages form".

Basic Internet Setup – Directory
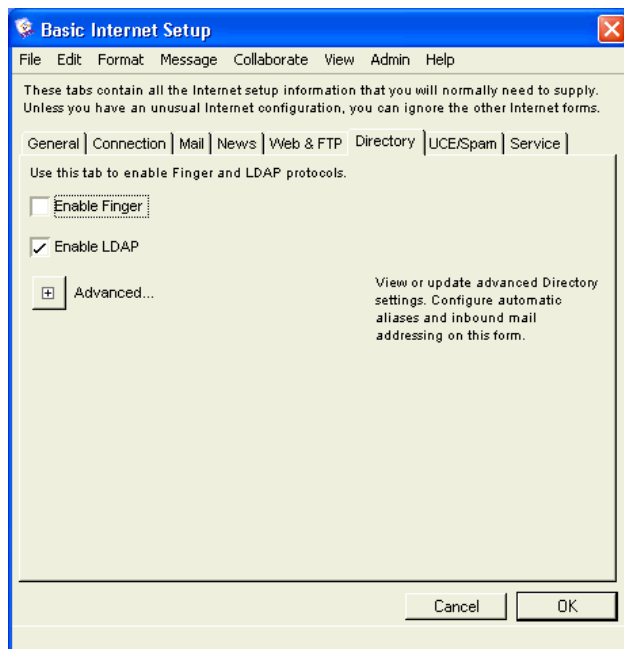
On this tab, you enable Directory filtering to control the exposure of users' email addresses through Finger or LDAP clients. On Husky Planes, we have disabled the Finger protocol but allowed LDAP lookup on our system.
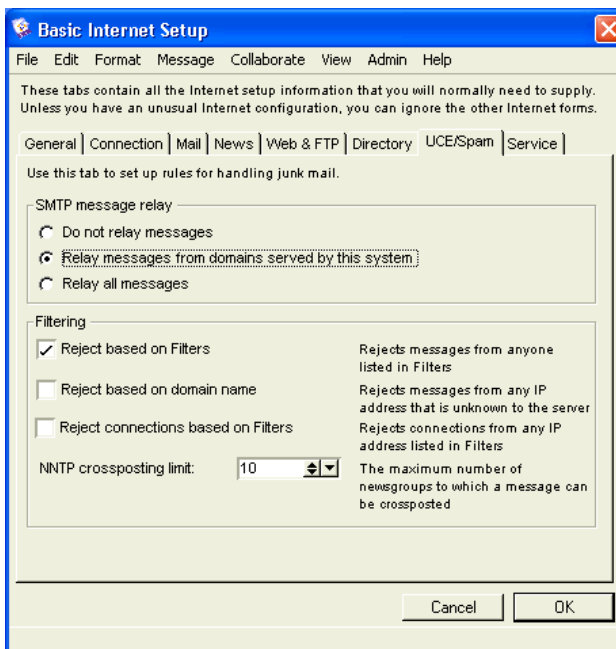
On this tab, we deal with the problem of SPAM, or unsolicited email.

Depending on your system security needs, there are different options you can choose. The first set of relay options takes the form of a radio button group labeled "SMTP message relay" which work as follows:

• Do not relay messages

This is an excellent choice (coupled with the Reject based on domain name, see page 33) as it prevents all message relaying except in cases where 'trusted' IP addresses override it. If you do not relay mail for other mail servers (for example, act as the Internet contact point for a group of internal SMTP servers) you should choose this option. This option can also be used if you support POP3 users.

• Relay messages from domains served by this system

This option allows relaying to occur but only for messages from people whose domain name is served by your system. This choice is not highly secure, since SPAMmers can hide

who they are during the SMTP conversation, but this can be effective when used in combination with "Reject based on domain name".

• Relay all messages

This is a very dangerous choice, and should only be used if your server is secure within a solid firewall.

There are also three checkboxes on this form that can affect mail relaying:

• Reject based on Filters

This option activates the files in the Internet Services >Filters folder. This folder can be used to specify email addresses, domain names, and IP addresses or masks that should be explicitly treated as either SPAMmers or 'trusted' addresses. For information on the Filters folder, see Chapter 19, "Managing system security".

• Reject based on domain name

This option causes Internet Services to reject all mail from sites whose IP address cannot be resolved to a domain name.

• Reject connections based on Filters

This option disallows connections from any IP address listed in the files in your Filters folder.

To set up how your server relays messages from someone not using FirstClass, choose one of these options:

Do not relay messages	We left this cleared because we have other domains served by the Husky Planes server. However, if you do not have other domains on your server, this is the best choice.
Relay messages from domains served by this system	We chose this option because we have other domains served by the Husky Planes server and we wanted the mail relayed for users at those sites. For example, www.fr.huskyplanes.com.

Relay all messages   We left this unchecked because we are concerned about junk mail being relayed through the Husky Planes system without our consent.

To set up how your server filters messages from someone not using FirstClass, choose one of these options:

Reject based on junk mail list   We worry about people sending our users junk mail, so we filter the mail on a per domain basis using a junk mail list in the Filters folder. For information on filtering, see Chapter 17, "Using the Java and FTP folders".

Reject based on domain name   We did not choose this option as it would slow down our system. Also, we don't want to run the risk of rejecting mail from legitimate sites.

Reject connections based on junk list   We did not choose this option because we don't want to outright reject connections from other sites. Since this option does not allow sites listed in the junk mail list to even connect to your site, it reduces the traffic and session totals on your system.

NNTP crossposting limit   10. We chose ten as the maximum number of crosspostings to newsgroups for any news item.
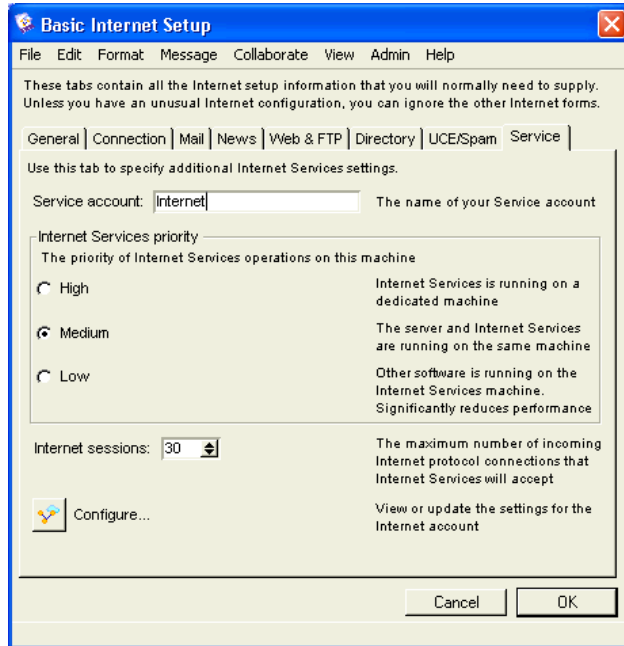
On this tab, we configure additional Internet Services settings.

Service account	Internet. The name of the gateway service.
	This name must match the name on the gateway form in order for the gateway to connect to the server.
Internet Services priority	Medium. We selected Medium because we have Internet Services and FirstClass server installed on the same single processor machine. If they were installed on different computers or on a single multiprocessor computer, we would choose High. If you have other software running on the Internet Services machine, you would choose Low.

5

Internet sessions 30. Basically, we are estimating the number of concurrent users of Internet protocols. Each of these sessions has the potential to occupy one server network session (see *FirstClass 7 Administrator's Guide*). Since Internet Services uses caching, the actual number of sessions used may be less than the number of requests. For information on checking your session load, see Chapter 18, "Monitoring your system".

Configuring the Internet gateway form

The Main tab on the Internet gateway form holds general information about your account and Directory synchronization. In order for the gateway to connect to the server, the name entered in Service name must match the gateway name entered in Service account on the Basic Internet Setup - Service tab.

Note In a clustered Internet Services environment, you will have multiple instances of this form each with a different configuration as per your service. See Chapter 8, "Clustering Internet Services to plan your system".

Internet Gateways form

Setting the Internet Services password

You must set the Internet Services gateway password so Directory services can work properly. By default, the password is blank so, for security reasons, we recommend you enter a password immediately.

> **Note** The password you set on the Internet gateway form must be the same as the one set in the InetSvcs.fc settings file (see Chapter 6, "Starting Internet Services and logging in").

To set the Internet Services password:

1. Click Directory on the Internet gateway form in the Gateways folder on the administrator's Desktop.

2. Enter the password you want to use to log into Internet Services. After you have entered your information, click OK to save your settings:

5

Internet gateway form

Internet Services and FirstClass Server resident on same machine

If Internet Services is installed on the same machine as FirstClass server, you can either connect with a local connection (default) or with a TCP/IP connection. If you connect locally, you don't need to modify the settings. If you connect with TCP/IP, you must enter the IP address of your server machine.

> **Note** It is strongly recommended that you use the TCP connection method, as it is more reliable than connecting locally.

Internet Service Setup local
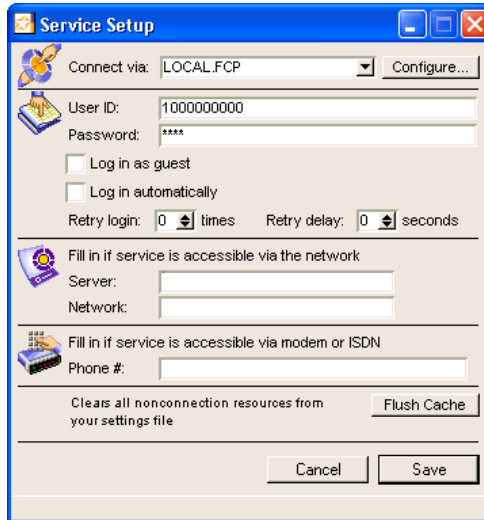
After you have entered your information, click Save.

Internet Services and FirstClass server resident on separate machines

If Internet Services is installed on a different machine from FirstClass server, you must connect using TCP/IP and enter the IP address of your server machine. This tells Internet Services where the FirstClass server is, enabling communication between machines.

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Internet Service Setup TCP/IP
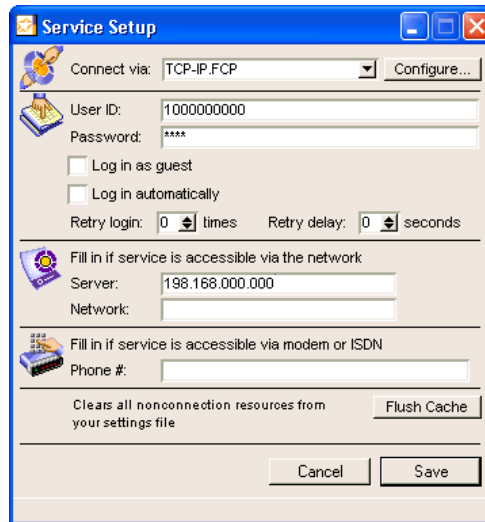
After you have entered your information, click Save.

Setting the Internet Services connection schedule

Now that we have gone through a basic setup, we need to configure the Internet Services connection schedule. You can open this form in one of two ways:

- by logging in as the administrator and opening the Internet form in the Gateways folder on the administrator's Desktop

- by clicking Configure on the Basic Internet Setup Service tab.

Setting the Scheduling tab

The Time A and Time B subtabs control incoming email (POP3), news (NNTP), and dialup connectivity. The Demand subtab controls when the service will connect based on the number of incoming emails queued or when the user logs in (depending on what you choose).

In the graphics below, you can see how we set Husky Plane's schedule:

Gateway form_Scheduling tab A

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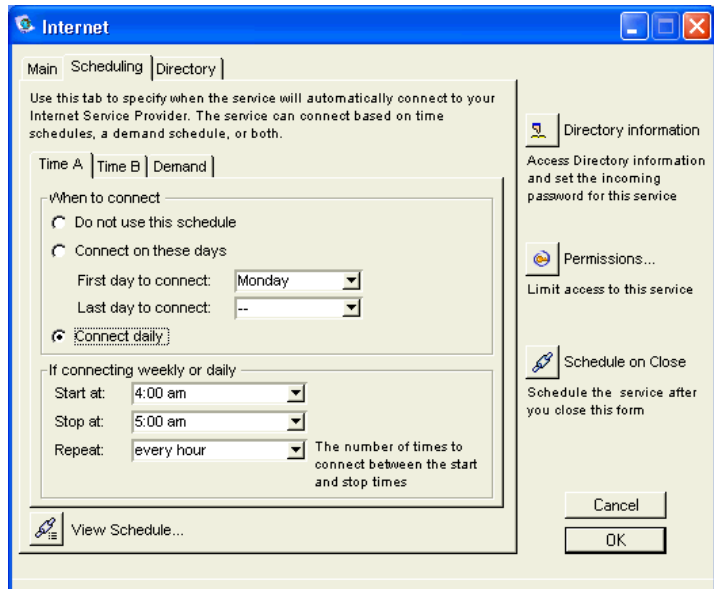
Connect daily	Selected.
	Since Husky Planes does business 24 hours a day, 7 days a week, we want to receive Internet email from our ISP using POP3 everyday.
Start at	4:00 am. We chose this start time so email will be there for early risers.
Stop at	1:00 am. We chose this time to allow a few hours, at a time when usage would probably be low, for trash collection and administrative tasks.
	Between 1:00 AM and 4:00 AM no email or news is retrieved.

Times to connect every hour. This is the interval to connect between the start and stop times. We have decided to check for POP3 mail every hour.

If you set a specific number for this field you can calculate it by dividing the total time you are connected in minutes (determined by the start and stop times) by the number of connections. For example, (21 (hours) x 60 (minutes)) / 50 (times to connect), which gives you 25 minute intervals (rounded number).

If users find they are waiting too long for information, you can increase the number. Of course, if there is a great deal of email and news, the individual connections will be long.

On Husky Planes, we don't need to use the Time B subtab. Time B subtab performs the same function as Time A subtab but adds more flexibility when setting up your schedule. For example, if you have a connection where you are charged by time, or you don't want to frequently retrieve email and news during off hours (for example, if you have a continuous connection but don't want to put extra pressure on your system's broadband capacity).

On the Demand tab, we decided to retrieve messages and deliver them to users when they connect (or on the hour as set on the Time A tab). This setting lightens the load on our server, as the messages are stored on the delivering mail server until the user is logged in (or on the hour as set on the Time A tab). Coupled with our selections on the Time A tab, this means Husky Planes will retrieve messages every hour or if a user logs in during that hour.

Configuring a dialup connection

Husky Planes has a continuous connection to the Internet. However, if your organization uses a dialup connection (you dial into an Internet Service Provider to send and retrieve email and news) rather than a continuous connection to the Internet, you must configure a dialup connection. We will cover a basic dialup setup here.

To configure a dialup connection:

1. Select Intermittent or dialup on the Basic Internet Setup Connection tab.

2. Select Route through one SMTP server and enter information in IP address with the address of that server (see "Advanced Mail" on page 33) on the Advanced Mail Routing tab.

3. Install and configure dialup software on the same computer where Internet Services is installed.

    Note Configure dialup Networking on Windows or a third-party software router (such as the Vicom Internet Gateway) to handle routing of network and IP traffic for dialup connection support on Mac OS.

4. Set a low time-out value on your dialup software.

5. Complete the Basic Internet Setup form, as described in this chapter and our online help.

6. Enter information in the Scheduling subtabs on the Gateways form and complete the Demand subtab to force a dialup connection, based on the number of queued messages for outgoing mail (SMTP).

    Note The Demand subtab can also be used on continuous connections.

The schedule you set on the Scheduling tabs will control when you connect. The low time-out value you set on your dialup software will control when that connection is dropped. If you have a set rate for peak hours you can set the Time A subtab for frequent polling (for example, every five minutes). During off hours, where you are charged higher rates, you can set the Time B subtab for less frequent polling (for example, every two hours).

You should configure your Demand subtab according to how many messages you want queued before initiating an automatic dialup connection. For example, if you want all urgent messages sent out immediately, set Urgent Messages to a lower number. If you don't require all your messages to go out immediately, set All messages to a higher number.

Advanced Internet setup

Most administrators with standard running sites only configure the Basic Internet Setup form. However, if there are any exceptions or particular issues to be addressed outside of the normal site configuration, you must use the advanced Internet setup forms.

Advanced setup forms

Since Husky Planes is a standard running site, most of the fields in the advanced forms will be left at the default settings. In this section, we'll configure the few areas on the advanced forms where Husky Planes differs. For complete descriptions of all the fields on the advanced Internet forms, see our online help.

Advanced Mail

Husky Planes uses this form to modify email presentation and protocols. You do not need to modify the protocols unless you have an unusual Internet setup.

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Advanced Mail – Text Style
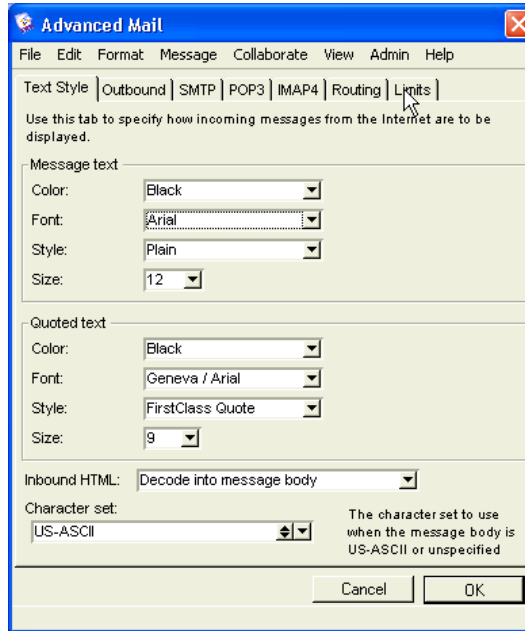
Husky Planes uses different font and size style settings from the default settings for incoming Internet emails.

Message text refers to the text style in which the message is displayed, whereas quoted text refers to the style of the text replied to. We selected Decode into message body for inbound HTML, as we want our users to view the message directly in the body but not receive an extra attachment. Husky Planes uses the following settings:

	Message text
Color	Default
Font	Arial
Style	Default
Size	12

	Quoted text
Color	Default

Font	Arial
Style	Default
Size	10
Inbound HTML	Decode into message body.
	The default behavior is to decode the HTML and add it as an attachment.

Advanced Mail – Outbound
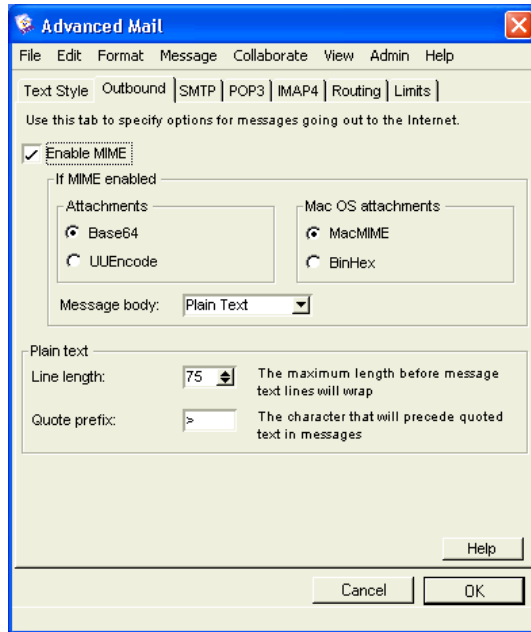
This tab specifies formatting and other options for outbound mail to the Internet.

Enable MIME	Selected. Since Husky Planes has this option selected, we had to enter information for both of the "If MIME enabled" and "Message body" sections.
Attachments	Base64. This selection is recommended to encode attachments.

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Mac OS attachments	MacMIME. This selection is recommended to encode an attachment that contains a resource fork.
Message body	Plain Text. Husky Planes has the body of all outbound messages in unformatted text.
	By setting the Message body to Plain Text and not HTML the formatting of outbound messages will be lost. With HTML now supported in the message body, we suggest you set this option to HTML for mail sent to other FirstClass systems, if you do not want to keep message text formatting.

Plain text

Line length	75. Since Husky Planes has plain text entered at Message Body, we set both Line length and Quote prefix. This setting is also needed if MIME enabled is false.
Quote prefix	>. This is the character that Husky Planes has set to precede quoted text in messages.

Advanced Mail – SMTP

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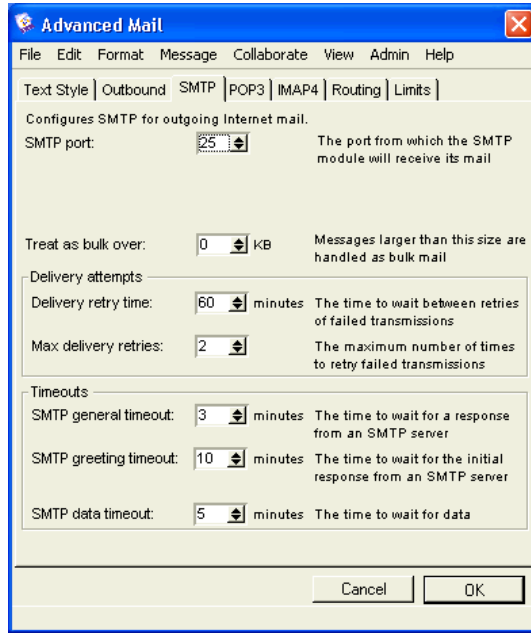
Husky Planes uses this tab to configure the SMTP protocol for incoming and outgoing Internet email.

Max bulk mail	3. This is the number of outbound SMTP sessions that Husky Planes has set to transfer bulk mail. This means messages are more likely to be sent during off-peak hours. This number must be less than the value specified on the Basic Internet Setup form's Mail tab.
Treat as bulk over	10. Husky Planes has set 10 KB (and larger) as the size at which mail is considered bulk.

Delivery attempts

Delivery retry time	60 minutes

Max delivery retries	2. Husky Planes sets only two delivery retries for users, to allow for a quick response to a bad email address.

Timeouts

SMTP general timeout	3. Husky Planes sets three minutes to wait for a command, or a response to a command, from an SMTP server before disconnecting.
SMTP greeting timeout	10. Husky Planes sets ten minutes to wait for an initial response after attempting a connection to an SMTP server before disconnecting.
SMTP data timeout	5. Husky Planes sets five minutes to wait for message confirmations, or for data, during message reception before disconnecting.

Advanced Mail – POP3
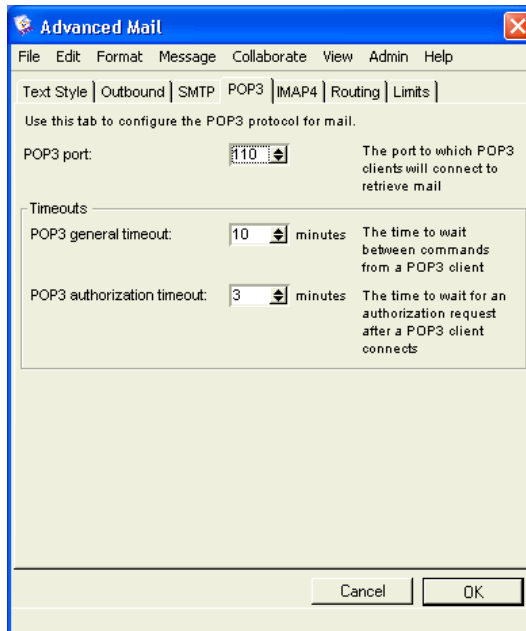
Husky Planes uses this tab to configure the POP3 protocol for serving Internet mail.

Timeouts

POP3 general timeout 10. Husky Planes sets ten minutes as the time to wait between commands from a POP3 client after the user logs in before disconnecting the client.

POP3 authorization timeout 3. Husky Planes sets three minutes for an authorization request after the POP3 client connects to the server before disconnecting the client.

Advanced Mail – IMAP4
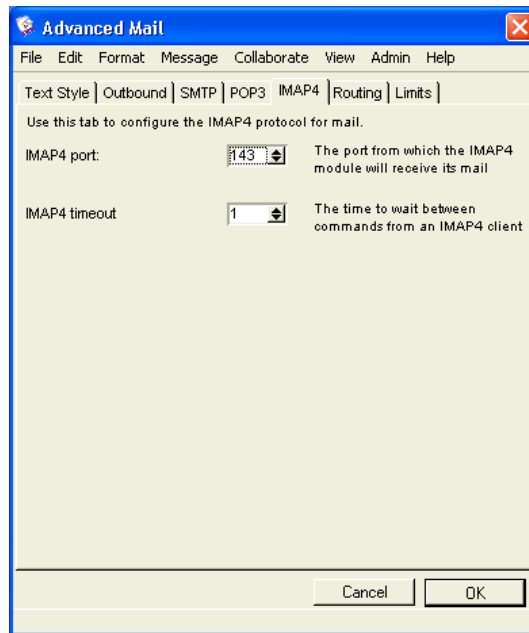
Husky Planes sets a shorter time to wait between commands.

IMAP4 timeout 1. Husky Planes sets one minute to wait between commands from an IMAP4 client after the user logs in.

Advanced Mail – Routing
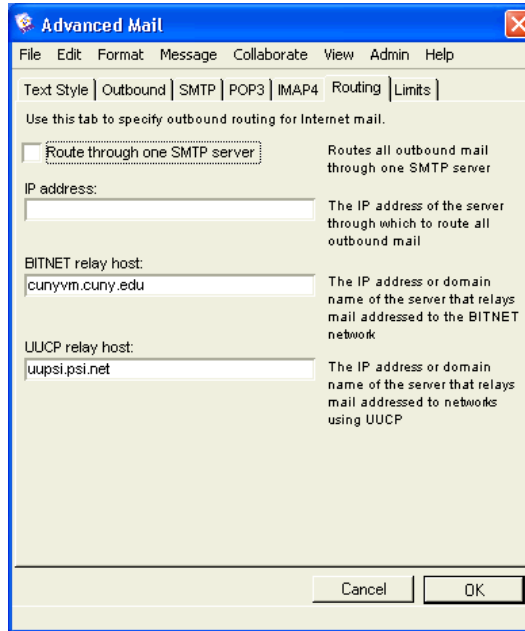
Since Husky Planes has a continuous connection to the Internet, it uses the default settings. However, if a site uses a dialup connection, select Route through one SMTP server and enter an IP address.

Route through one SMTP server	Cleared. Husky Planes does not reroute SMTP mail through another SMTP server.
IP address	The IP address of the indirect SMTP server.
BITNET relay host	cunyvm.cumy.edu. Husky Planes sends all mail with addresses that end in .bitnet to the host listed in the field.
UUCP relay host	uupsi.psi.net. Husky Planes sends mail to the named host if the recipient's address ends with .uucp.

The Limits tab remains unchanged.

Advanced Directory

Use this form to configure the Finger and LDAP protocols and to set up Internet aliases if they differ from the Basic Internet Setup form. Earlier we disabled Finger and LDAP protocols on Husky Planes on the Basic Internet Setup form.

Advanced Directory - Aliases

With the exception of the default aliases, Husky Planes does not allow its users to have additional email aliases. Each user can only receive email at his standard Internet address, for example, roy_allen@huskyplanes.com. If you want to provide your users with additional aliases, you can do so on this tab, or you can manually configure them individually on the User Information form (see our online help).

The Aliases tab provides options for the delivery of inbound SMTP mail. The Automatic aliases options allows you to set the type of mail addressing, whereas Inbound mail addressing lets you decide the level of matching you want to allow on your system. This feature could even be used to stop some of your users from receiving Internet mail. Using a combination of these two fields, you can set tighter controls on how inbound SMTP mail reaches your users.

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Advanced Directory – Aliases tab
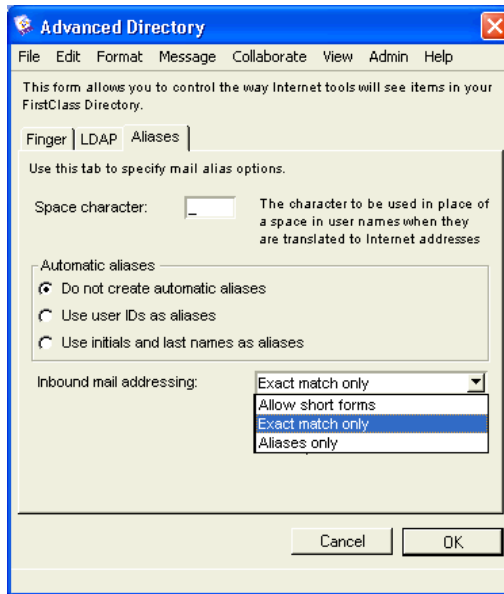
Automatic aliases

Do not create automatic aliases	Selected. We left this default setting because we don't want Internet Services automatically creating email aliases outside of the default alias, firstname_lastname@huskyplanes.com.
Use user IDs as aliases	Internet Services creates email aliases from user IDs. For example, if this option is selected, Roy Allen would receive email at rallen@huskyplanes.com.
Use initials and last names as aliases	Internet Services creates email aliases from a user's first initial and last name. For example, if this option is selected, Roy Allen would receive email at rallen@huskyplanes.com.

Inbound mail addressing

Allow short forms	This option allows short forms of mail aliases, for example, ro_al@huskyplanes.com for Roy Allen.

Exact match only	Selected. This is the default setting. The recipient's name has to match the entire entry on his User Information form.
	Husky Planes has this option selected to only allow addresses with exact matches to be delivered, for example, roy_allen@huskyplanes.com or roy@huskyplanes.com. Both of these email addresses are on Roy Allen's User Information form.
Aliases only	This option allows only exact matches to the aliases set on the User Information form.

Let's take a look at some addressing scenarios.

1. If we selected both Do not create automatic aliases and Allow short forms, the following address could no longer reach Roy Allen:

   • rallen@huskyplanes.com (as this is his user ID)

   However, the following addresses would reach Roy Allen:

   • ro_al@huskyplanes.com (or any other short form that produces a single match)

   • roy_allen@huskyplanes.com.

   Internet Services does best single match automatic aliasing. This means, if you have the above settings on your system, Roy Allen can receive Internet mail addressed to different combinations of his email address roy_allen@huskyplanes.com, if no other user on the Husky system has a similar name. If there are other users on the system with a similar combination of letters, the fully qualified email address of the recipient must be used (for example, roy_allen@huskyplanes.com).

2. If we selected both Do not create automatic aliases and Exact match only, the following address could no longer reach Roy Allen:

   • ro_al@huskyplanes.com (or any other short form that produces a single match).

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However, the following addresses would reach Roy Allen:

- roy_allen@huskyplanes.com (from the first and last name on his User Information form)

- roy@huskyplanes.com (from the mail alias entered on his User Information form).

3. If we selected both Do not create automatic aliases and Aliases only, the following address could not longer reach Roy Allen:

- ro_al@huskyplanes.com (or any other short form that produces a single match)

- roy_allen@huskyplanes.com (from the first and last name on his User Information form).

However, the following address would reach Roy Allen:

- roy@huskyplanes.com (from the mail alias entered on his User Information form).

If you want to stop some of your users from receiving incoming mail altogether:

1. Select Do not create automatic aliases from the Automatic aliases options.

2. Select Aliases only from the Inbound mail addressing options.

3. Clear Mail aliases on the User Information form.

Advanced DNS

Use this form to modify DNS defaults and add addresses for additional DNS servers. This is useful if you have heavy mail routing on your site or want DNS redundancy in case of Primary DNS failure.

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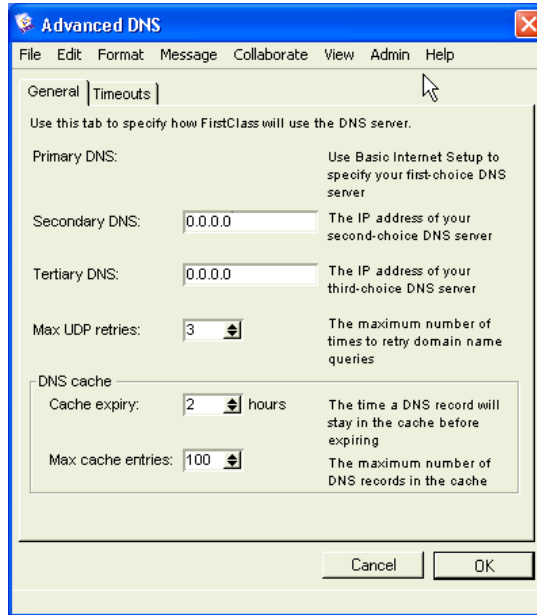
Husky Planes only uses the Primary DNS, as configured on the Basic Internet Setup form.

Max UDP retries	3. Husky Planes sets three as the maximum number of times to retry domain name queries.

DNS cache

Cache expiry	2. Husky Planes sets two hours as the length of time to retain all DNS records received before deleting them. For exceptions to this, see our online help.
Max cache entries	100. Husky Planes sets 100 as the number of records to retain. When a new DNS record is added to the cache, any records in the cache that exceed this limit are deleted, starting with the oldest record.

Advanced DNS – Timeouts
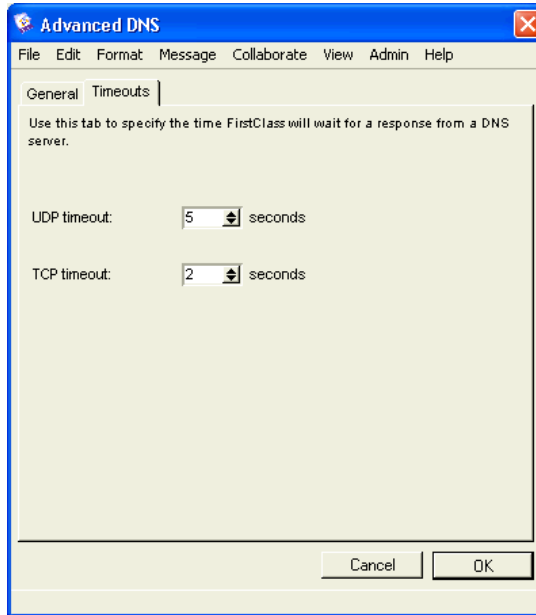
UDP

5. Husky Planes uses UDP to conduct domain name queries.

Set this value higher for a slower DNS server and lower for a faster DNS server. If your DNS is usually fast but experiences occasional slowdowns or dropouts, set this value low and increase retries.

Advanced Web & FTP

Use this form to configure the HTTP and FTP protocols if they are different from the Basic Internet Setup form (see Chapter 5, "Configuring Internet Services") or if you are not using the Multiple Sites & Languages form (see Chapter 9, "Using the Multiple Sites & Languages form"). You also configure Internet Services statistics logging on this tab.
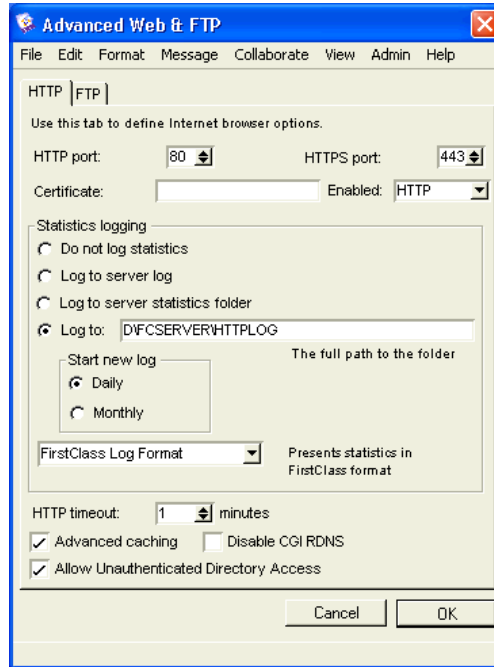
Husky Planes uses this tab to set up statistics. For details on Internet Services statistics, see the Routine administration section of our online help. Husky Planes' certificate information and settings are already set on the Multiple Sites & Languages form (see "The Multiple Sites & Languages form setup for single web sites" on page 124).

> **Note** Port 80 is the default port for HTTP and port 443 is the default port for HTTPS. Do not change these port numbers unless advised to do so by Centrinity Customer Support or your reseller.

Statistics logging

Do not log statistics	No statistics log is kept.
Log to server log	Write HTTP statistics to the server log.
Log to statistics file	Write HTTP statistics to the statistics file.

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Log to	d:/fcserver/httplog. Write HTTP statistics to your own logging file. This file must be on the server machine, not the Internet Services machine.
Start new log	Daily. If you are writing statistics to your own logging file, see Log to, set this field.
FirstClass logging format	FirstClass Log Format. Husky Planes uses this logging format to log statistics. Leave this box cleared to use an industry standard format, for example, Apache.
HTTP timeout	1. Husky Planes sets five minutes for Internet Services to wait for a response from a web browser before disconnecting.
Advanced Caching	Selected. Husky Planes has this option selected so read-only files from external folders can be cached.
Disable CGI RDNS	Husky Planes leaves this option unselected to lighten the load on the server. This way, the DNS server doesn't have to resolve domain names into IP addresses for CGIs that don't need this information.
Allow Unauthenticated Directory Access	Default. Allows unauthenticated users to access the Directory by placing /Directory in a URL.

Husky Planes has the Certificate information already entered on the Multiple Sites & Languages form, so we have left it blank on this form. However, if you only have one site and you have not entered the certificate name in the Multiple Sites & Languages form, you can enter it here and choose HTTPS or Both from the pull-down menu.

If you are running a multi-site setup on your web server, or you have clustered Internet Services, you enter your certificates on

the Multiple Sites & Languages form and leave this blank. If you do enter a certificate name in this field, it corresponds to the first entry in the Multiple Sites & Languages form.

HTTP statistics formats   You can choose between three formats when logging HTTP statistics:

- NCSA Common Log Format
- FirstClass Log Format
- NCSA Combined Log Format

NCSA Common Log Format   The Common industry standard (Apache) format follows this syntax:

```
remote_ip<SP>rfc931<SP>userid<SP>
[DD/Mon/YYYY:hh:mm:ss [+/-]HHMM]<SP>
"request"<SP>status_code<SP>num_bytes
```

<SP>	This indicates a space.
(-)	A dash will be inserted if information is not available.

Since this is an industry standard format, various tools are available to decode and use this data. For more information on Internet Services statistics, see our online help.

FirstClass Log Format   The FirstClass format contains additional data and follows this syntax:

```
<date><TAB>remote_ip<TAB>userid<TAB>http_metho
d<TAB>req_host<TAB>url<TAB>user_agent<TAB>refe
rer
```

<TAB>	This indicates a tab.
(-)	A dash will be inserted if information is not available.

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url\<TAB>\<TAB>referer   This indicates the
information for user_agent
is not available.

**NCSA Combined Log
Format**

The Combined format is the same as the Common format except
it add `<SP>"referer "<SP>"user-agent"`.

Advanced Web & FTP - FTP
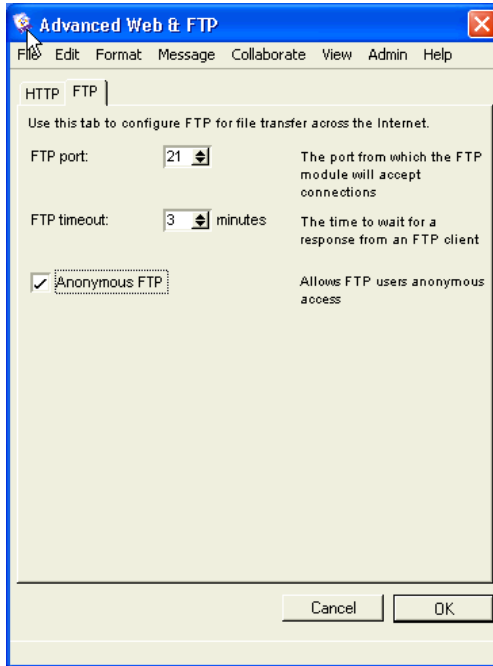
Husky Planes uses this tab to configure advanced FTP protocol
settings.

FTP port   The TCP port that FTP clients use to
download files from your FTP folder.

FTP timeout   3. Husky Planes waits three minutes
before disconnecting from an FTP
client.

| **Allow anonymous FTP access** | Selected. Husky Planes allows unauthenticated access to its FTP folder. This way, any user can download information without the server requiring user information. |

Note Port 21 is the default port for FTP. Do not change this port number unless advised to do so by your FTP administrator.

Advanced News

Use this form to configure the News protocol if it is different from the Basic Internet Setup form (see Chapter 5, "Configuring Internet Services").

Advanced News

Husky Planes uses this form to configure NNTP ports and timeouts.

| **NNTP general timeout** | 5. Husky Planes sets five minutes to wait, before disconnecting, for commands from an NNTP server or for a response after issuing a command to an NNTP server. |

NNTP greeting timeout

3. Husky Planes sets three minutes to wait, before disconnecting, for an initial response after attempting a connection to an NNTP server.

NNTP data timeout

5. Husky Planes sets five minutes to wait, before disconnecting, for news confirmations or for data during news reception.

Starting Internet Services and logging in

Before you can use Internet Services, there are a few configuration tasks you must perform:

- set a password for the Internet Services and save it

- enter information in the Internet Services account form in the Gateways folder.

Starting Internet Services

In "Basic Internet Setup - General" on page 24, we explain how you can have Internet Services start automatically when you start your server. If you choose to start Internet Services manually, or if Internet Services is running on a different machine than your FirstClass Server, do the following:

1. Double-click the Internet Services icon:

The Internet Services application resides in your FCServer folder. The file is called Fcintsrv.exe (Windows) or FirstClass Internet Services (Mac OS).

> **Hint** If Internet Services does not start, check your password or connection protocol in your connection settings file.

Internet Services console

When you start Internet Services, a console appears on your screen. Some of the information the console displays is:

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- the Internet Services version running

- the operating system running

- a confirmation that your server is running

- any error messages pertaining to Internet Services

- a confirmation that debugging is turned on.

The same menus exist on Windows and Mac OS with the exception of the Edit menu, which is not available on Mac OS. The Help menu has the usual system specific help options.

Note Not all menu items are mentioned below. For debugging levels and categories, see our online help.

The following information describes the Internet Services console and some of its more common menu items:

File

Exit (Windows), Quit (Mac OS)	Exit Internet Services.

Edit (Windows only)

Copy	Copy selected text.
Mark	Set the point at which to select text.
Select All	Select all text in the window.
Font	Change the font of console text.

Service

Get configuration	Reload the configuration information from the forms in the Internet Services folder (see "Get Config" on page 180).
Force Internet connection	Force an immediate connection to the Internet.
Priority	Set Internet Services priority. For more information, see "Basic Internet Setup - Service" on page 35.

Diagnostics

Flush HTTP Cache   Flush system cache.

You do not need to flush HTTP cache after most changes to your web sites, unless you are serving out content from read-only files from external volume(s).

Logging   Set debugging categories and their logging levels for Internet Services.

If logging is set from the Internet Services console, the settings are not saved and will be reset the next time Internet Services is started. For more information on Internet Services debugging categories and logging levels, see our online help.

The Diagnostics menu is intended for use by your reseller or Centrinity Customer Support in resolving technical problems you may encounter. If required, they will explain the use of the menu items.

The Internet Services console, coupled with the FirstClass Server console, is useful as a first line of defense in troubleshooting system problems. For information on FirstClass Server console, see *FirstClass 7 Administrator's Guide*.

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Logging into Internet Services

When you installed Internet Services, a settings file called Inetsvcs.fc was placed in your FCServer folder. Use this file to connect to Internet Services.

Note   You need a client installed on your machine or you will receive an error.

Inetsvcs.fc. settings file login screen
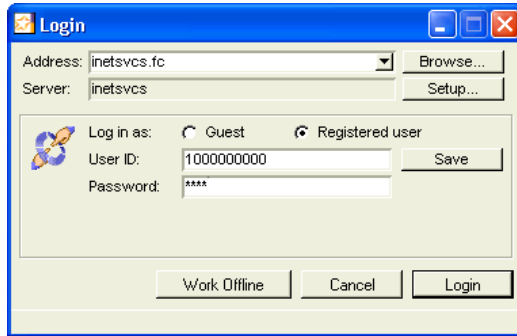
Before you can log into Internet Services, the InetSvcs.fc file has to be configured correctly. This is done through the Internet gateway's form located in the Gateways folder on the administrator's Desktop (see "Configuring the Internet gateway form" on page 36) or by clicking the Configure button on the Basic Internet Setup - Service form (see "Basic Internet Setup - Service" on page 35).

Note Remember, you must enter the same user ID and password on the login screen that you entered on the Internet gateway form.

After you have configured your settings and set your password, you should log in as Internet Services, using the settings file, to check that your information is correct.

Planning your Internet Services environment

Using the HeaderMatch document to plan your system

The HeaderMatch document is a configuration file and is located in the Internet Services folder on the administrator's Desktop. Using the HeaderMatch document, you can point users to different template sets depending on what browser or device they use. This is called browser steering, because the HeaderMatch document steers different users to different templates.

There is only one HeaderMatch document for an entire site, even on a clustered system. For information on Internet Services clustering, see Chapter 8, "Clustering Internet Services to plan your system". Since the HeaderMatch document allows you to configure all multiple web site systems, there is no need to replicate it on a per-cluster basis.

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Steering users to appropriate template sets

When planning your FirstClass system, you should be aware of how your users log in and where you want them go once they arrive. In this section, we discuss browser steering for:

- different browsers and platforms
- multiple web sites
- clustered environments
- other uses.

This is what the Husky Planes HeaderMatch document looks like:

Husky Planes HeaderMatch
document

```
HeaderMatch

File   Edit   Format   Message   Collaborate   View   Admin   Help

# HeaderMatch
#
# This file allows runtime configuration of the HTTP server, based on pattern matching HTTP request headers.
#
# Here is the format ( [ ] indicate optional elements, characters in bold and red indicate literals ):
# <websitealias>[.<Language>]: [<condition>] <action>
#       set <websitealias> to * to match all sites (and languages)
# <condition> is one of:
#       IF <pattern match expression>
#              where <pattern match expression> is:
#                     <HTTP header name> <operator> <regular expression applied to header value>
#                            <HTTP header name> is the name of the header, e.g. User-Agent or Referer without the :
#                                   URL is a 'special' header name to access the URL
#                            <operator> is == (contains) or != (does not contain)
#                            <regular expression> is ala grep, using ^$.[]+?* as meta characters
# <action> is one of:
#       SET <variable> [=] <value> [AND [SET] <variable> [=] <value>]...
#              <variable> is one of: .templates, allowbasicauth, 204response, contenttype, forcehttpver10, keepalive, icons, pictures
#              for allowbasicauth, forcehttpver10 and keepalive, <value> is a boolean. use 1, on, yes, true or oui for true, 0, off, no, false
or non for false
#              for .templates and contenttype, <value> is the replacement string, in double quotes if it contains spaces or tabs
#              for 204response, <value> is the numeric return code to use instead of 204.
#              for icons, <value> is the alternate icons resource filename to use.
#              for pictures, <value> is the alternate pictures resource filename to use.
#              multiple variables may be set by separating them with the AND keyword
#       VAR <script variable> [=] <value> [AND <script variable> [=] <value>]...
#              <script variable> is the name of the IS script variable to create
#              <value> is the value to assign to the script variable
#              multiple script variables may be defined by separating them with the AND keyword
#
# browser steering
# the default template set is the 'light' templates
# selected browsers are steered to the 'full' templates
# Internet Explorer 4.0 or better (Win) or 4.5 or better (Mac)
*IF User-Agent == "MSIE 4\.0.+Mac" SET .templates = .templates
*IF User-Agent == "MSIE [5-9]" SET .templates = .fulltemplates
Spain.es: IF User-Agent == "MSIE [5-9]" SET .templates = .fulltemplates

100%
```
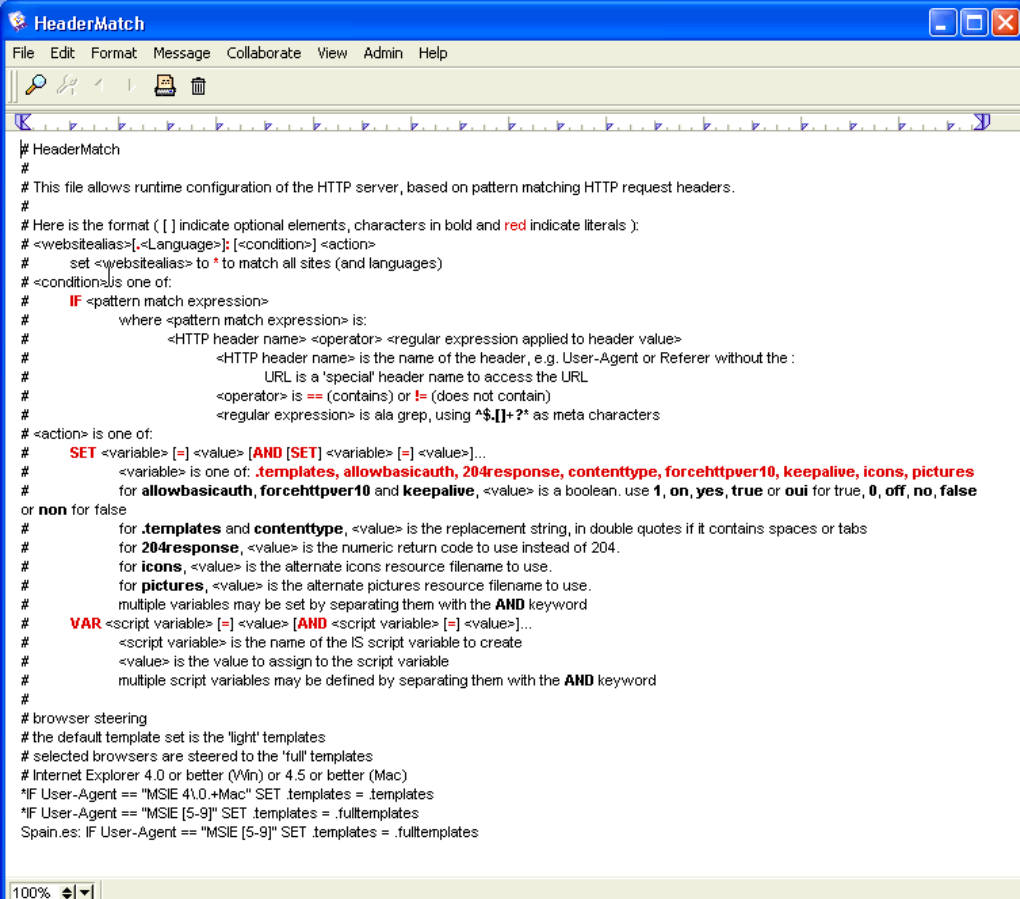
In this document, most of the code consists of comments (lines with the pound sign (#) in from of them). The last three lines represent the browser steering for the Husky Planes web site. Two of these lines of code have an asterisk (*) but no pound sign in front of them (denoting all sites) and the last line has the specific site alias name. For an explanation of this code, see "Browser steering for different browsers and platforms" on page 73.

The basic syntax for the HeaderMatch document is:

```
websitealias[.language]: condition action
```

web site alias	This is the alias name of your web site as entered on the Multiple Sites & Languages form.
language	This is the language of your site, if you have a multiple- language configuration.
condition	This sets a particular condition to trigger the action.
action	The action of the condition.

Browser steering for different browsers and platforms

On a standard web site, you will have Mac OS users, Windows users, and those using different versions of both Netscape® and Microsoft® Internet Explorer, all of which must be accommodated by different template sets. For example, Microsoft® Internet Explorer versions 5.0 and higher can handle a more robust template set, whereas versions lower than 5.0 can only handle a lighter template set. You also may point your Mac OS users to one template set, regardless of which browser or browser version they use.

Browser steering example for different browsers and platforms

Let's take a look at how the Husky Planes administrator configured the HeaderMatch document for his entire site.

The line of code below points all Microsoft Explorer users running versions 5.0 to 9.0 users on a Windows platform to the .fulltemplates in your WWW folder:

```
*: IF User-Agent == "MSIE [5-9]\..+Win" SET
.templates = .fulltemplates
```

*	code is universal for all web sites on your web server

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User-Agent	sets the specific browser (in this case Microsoft Internet Explorer versions 5 to 9)
"(\)..+Win"	backslash is an escape character that removes the special meaning for + and turns ( ) and 0 - 9 into special characters
.templates	sets the default template set you want to point to (in this case .fulltemplates)

Note If you want to steer Mac OS users to a particular set of templates, substitute `Win` in the line of code with `Mac`.

This next line of code steers Microsoft Internet Explorer users running versions 4.0 and lower, any Netscape users, and all browsers running on a Mac platform to the .templates folder:

```
*: IF User-Agent == "MSIE 4\.0.+Mac" SET
.templates = .templates
```

Note Remember, the .templates folder holds the default templates for your web site.

You could also steer users to a custom set of templates by putting the next line of code in your HeaderMatch document:

```
*: IF User-Agent == "MSIE [5-9]\..+Win" SET
.templates = .customtemplates
```

This line points all Microsoft Internet Explorer users running versions 5.0 and higher on a Windows platform to the .customtemplates in your WWW folder. To create customized templates, see Chapter 13, "Creating custom templates".

Browser steering for different templates and web sites

You can also configure your HeaderMatch document to steer users to different template sets (see Chapter 13, "Creating custom templates") and different web sites you have configured on your FirstClass system (see Chapter 10, "Creating your web sites"). To do this, configure your HeaderMatch document to

steer users to a particular site based on the site alias name on the Multiple Sites and Languages form. If you want to steer users to different web sites on your web server, don't place an asterisk (*) in front of the code line.

Browser steering example for different templates

The line of code below steers users on Windows platforms and using Internet Explorer 5 or higher to the set of custom templates called .spanishtemplates, located in the site folder Spain. This does not affect steering on any other sites.

```
Spain: IF User-Agent=="MSIE [5-9]\..+Win" SET
.templates= .spanishtemplates
```

Spain	the web site alias name entered on the Multiple Sites & Languages form
	For information on the Multiple Sites & Languages form, see Chapter 9, "Using the Multiple Sites & Languages form".

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If you want to steer only Mac OS users to this set of templates, the line of code would be:

```
Spain: IF User-Agent==".+Mac.+" SET .templates=
.spanishtemplates
```

Browser steering example for different web sites

To steer users to two different web sites, you could use the following code:

```
othersite.lang: IF User-Agent == "MSIE [5-
9]\..+Win" SET .templates = .templates
```

othersite.lang	replaced by the actual name and language (if applicable) of the site
	For example Canada.fr.

```
anothersite.lang: IF User-Agent == "MSIE
[4.5]\..+Win" SET .templates = othertemplates
```

anothersite.lang	replaced by the actual name and language (if applicable) of the site
	For example Spain.

Browser steering for a clustered environment

If you have clustered Internet Services on your system, you can use browser steering to balance your Internet Services load (see Chapter 8, "Clustering Internet Services to plan your system").

Other uses for the HeaderMatch document

Some other uses for the HeaderMatch document are to:

- set HTTP error response
- tailor MIME content type that supersedes the MIME type file
- set Internet Services script (IS Script) variables using SET and VAR variables.

  SET and VAR variables are enhancements to the HeaderMatch syntax that allow you to omit the IF<condition> if you want <condition> to always be true.

  Note For a list of Internet Services script variables, see our online help. You can use your own variable names.

Let's take a look at some examples.

Setting HTTP error responses

To set HTTP error responses in the HeaderMatch document:

```
*: IF User-Agent == "Go.Web/*.+RIM9" SET
204response = 202
```

User-Agent	sets the specific browser (in this case Go Web on the RIM version 9)

204response	error response
202	actual error substituted for error response 204

This entry states that on all sites, if the browser is Go.Web and the platform is RIM, substitute a 204 error response with a 202. This is useful if some browsers cannot understand certain error responses; they can be directed to another one.

The 202 response is in .templates as 'error202'. There is no 'error204' template, as the error is 'No content', which means that Internet Services is acknowledging a request, but telling the browser not to display anything new. Some browsers don't handle 204 properly, so this is a way to tell Internet Services to send a 202 response instead of a 204 response.

Setting Internet Services Script variables

If you want to set a particular interface format for users on more space-limited platforms, such as handheld devices, you can use Internet Services script variables to accomplish this task.

```
*: IF User-Agent == "RIM" VAR ROWS = 10 AND COLS
= 20 AND DEVICE = ""RIM BLACKBERRY""
```

This entry states that on all sites, set the row number to ten and the column number to twenty.

> **Note** You must place double quotes around a string if it contains spaces or tabs.

You can also set Internet Services Script variables for template sets using VAR commands. If you are customizing the new object field for multiple template sets (for example, for use by multiple sites), the order in which you add these commands matters. Internet Services processes VAR command entries in the HeaderMatch document in order from top to bottom and uses the last VAR command it encounters for all applicable templates, for example:

```
*: VAR CUSTOMFORMS=96;2060
site2: VAR CUSTOMFORMS=96;900;2060
```

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makes all sites except site2 include only document forms 96 and 2060 in the drop-down menu. The site2 VAR command is the last one encountered by FirstClass, and for site2 only, it overrides the first command.

and

```
site2: VAR CUSTOMFORMS=96;900;2060
*: VAR CUSTOMFORMS=96;2060
```

makes all sites include only document forms 96 and 2060 in the drop-down menu, because the second command applies to all templates, and is the last encountered by FirstClass. It therefore overrides the site2 VAR command.

For each matching entry, the variable(s) are set.

There are other VAR switches that you can add as part of the HeaderMatch document, as they are either specific to a given template set or must be controlled on a set-by-set basis not possible using the Global Site Preferences form). Some examples are:

- `VAR UNIXDATES = 1`

  Use this code if you are running 5.5 templates against a Internet Services version 7.0. in order for the date pickers to behave correctly.

- `VAR CALVIEW = template#`

  Use this code to control Internet Services default calendar views (generally the view you get when opening a calendar from a conference or Desktop listing). For example, if you want to set monthly calendar view as the default view you would enter `VAR CALVIEW = 158` (as this is the monthly view template number).

  > **Note** For mobile templates, you should set this view to daily (template 160) to accommodate the smaller screen.

- `VAR CUSTOMMESSAGES = 141;128`

  `VAR CUSTOMFORMS = 900;902`

Use these variables to replace the message or document forms available in the "new items" menus in the main conference toolbar in both full and standard template sets.

CUSTOMMESSAGES replaces the default message forms in the drop-down with the ones specified (using a semi-colon separated list of form IDs).

Note Using CUSTOMMESSAGES will stop the FirstClass client switch, since it creates a different default form drop-down.

CUSTOMFORMS provides similar functionality, but for document forms.

Note This relieves the need for your to have to edit the toolbar whenever adding custom forms to your system.

Adding HeaderMatch SET variables

The SET variables, forcehttpver10 and keepalive, in the HeaderMatch document, control how an HTTP server sends HTML and handles connections. Each of these variables can be set to either true or false, for example:

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- setting allowbasicauth to false (default is true, which allows login if the authorization form is disabled) prevents the use of 'basic authentication scheme' as a fallback if forms-based authentication is disabled or fails.

- setting forcehttpver10 to true (default is false) will force Internet Services to return the response as HTTP/1.0, which disables certain features primarily chunked encoding

- setting keepalive to false (default is true) forces Internet Services to close the connection to the browser after it has sent the current response

In the HeaderMatch document, the line of code below detects if an HTTP request has arrived from a caching net appliance, and adjusts the Internet Services response to the request to prevent problems encountered on the part of the appliance:

*: IF Via == "NetCache NetApp/5" SET keepalive = false AND forcehttpver10 = true

*	applies to all sites
IF	keyword that initializes an action if a condition is met
Via	HTTP header name
==	tests if a pattern is contained in the HTTP header value
"NetCache NetApp/5"	the pattern to match
SET	sets one or more internal variables if the HTTP header contained the pattern to match
keepalive = false	an internal variable that tells Internet Services to close the connection after sending the response to the current request
AND	keyword that indicates there is another variable to set
forcehttpver10 = true	an internal variable that tells Internet Services to return HTTP/1.0 as part of the response Normally, HTTP/1.1 is returned.

Clustering Internet Services to plan your system

Clustering refers to running multiple services of the same type, for example Internet Services or Voice Services, from a single FirstClass server. For details on clustering Voice Services, see the Voice Services section of your *FirstClass 7 Administrator's Guide*. You can use clustering to route different Internet protocols (for example, SMTP, NNTP, or HTTP) to better organize and balance your FirstClass environment. For example, you can dedicate a clustered machine to only handle one protocol or you can have multiple clusters for the same protocol to balance the traffic.

You can run multiple clusters on separate machines gatewayed to one FirstClass server and on both Mac OS and Windows platforms. In all cases, you must have Internet Services already installed on your clustered machines. Although each clustered service is set up and configured independently, it is possible to share components such as web content or filters using FirstClass folder linking.

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Note   You must have the client loaded on your clustered machines to configure your gateway login settings file and for testing purposes.

In this chapter, we discuss:

- creating a generic clustered service and connecting the new service to a FirstClass server

- dedicating a clustered service to specific user groups

- creating a clustered service by protocol

- creating a clustered service by domain name

- creating a combination cluster service of both Internet protocol and domain name.

Although the examples we cover in this chapter may cover many of the scenarios you may want to implement on your system, they are by no means exhaustive. Once you understand Internet Services clustering you can configure multiple combinations (either simple or complex) for your FirstClass site. For clarity, we highly recommend you diagram your structure before you create your clustered environment.

Creating a simple clustered service

Use the following steps to create any basic FirstClass clustered service:

1. *using a text editor*
   Open the FirstClass server Cluster Script batch admin file. This file is located on the CD in \Clustering\isCluster.ba (Windows) or \FirstClass Installers\ Clustering\ isCluster.ba (Mac OS).

2. Copy the file into the body of a new message.

3. Replace all instances of <GatewayName> with the name of the new service, for example, New cluster.

   Replace the angle brackets as well.

4. Replace all instances of <GatewayUserID> with the user ID of the new gateway, for example, 20000000079.

   Replace the angle brackets as well.

   > **Note** Use logical ID numbers for the Gateway User ID. For example, if your primary Internet Services ID is 1000000000 use 1000000001 or 2000000000. Do not use the 9000000000 or 9000000001 ID, as they relate to Voice Services and Call Answer respectively.

5. Send the message to batch admin to run the batch admin script.

Repeat steps 2 to 5 for each Internet Services you want clustered to one FirstClass server.

Once the batch administration script has run, you will find a new folder on the administrator's Desktop named Clustered Services.

Note If you have already created this folder by clustering other services, for example Voice Services, the batch administration script will detect the existing folder and place the new service in it.

Inside the Clustered Services folder you will find a folder for each clustered service you have created.

Clustered Services folder
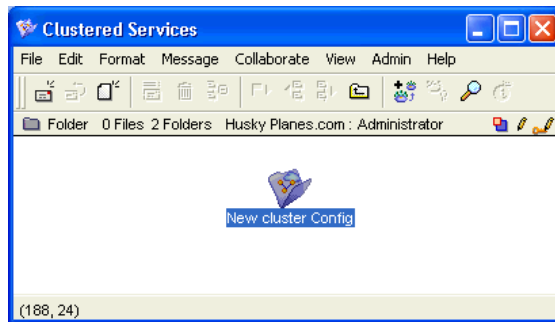
The new folder name is the gateway (service) name with 'Config' after it: in this case, New cluster Config. With the exception of the WWW folder and the HeaderMatch documents, all of the same folders and forms that are in your primary Internet Services folder are placed in this folder as well.

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New cluster Config folder
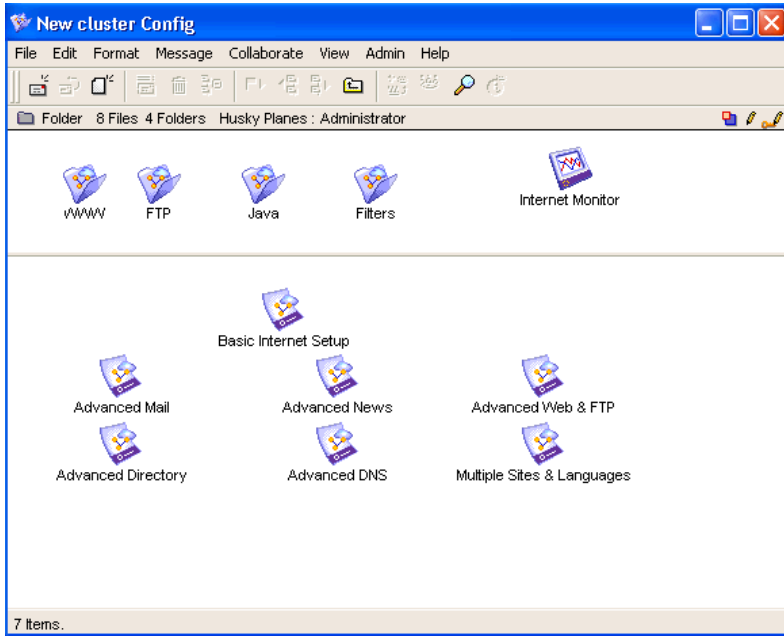
> **Warning** Never delete the primary Internet Services folder from the administrator's Desktop or move it to another place.

6. Configure the Basic Internet Setup form.

After you have set up your new service(s), you must configure the Gateway form. To do this:

7. Open the New gateway (clustered service) form, located in the Gateways folder on the administrators Desktop, created by the batch admin script:

> **Note** Service name and Service account number should already be filled in on the Main tab.

New gateway form before service created

New cluster

File   Edit   Format   Message   Collaborate   View   Admin   Help

Main | Connection | Scheduling | Multisite | Advanced |

Use this tab to set up a connection to a remote server or an external gateway.

Gateway name:

New cluster

The site name specified in the remote server's System Profile

Remote server serial number:

2000000079

When filled in, a gateway account is created with this number as the User ID

Use the Directory button to set the gateway account password

Directory...

Access Directory information and set the incoming password for this gateway

Permissions...

Limit access to the gateway

Connect on Close

Connect to the remote system after you close this form

Cancel

OK

At this point, you must make a change to form (for example, retype the Gateway name) and save the form. When you reopen the form you will see this form:

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This three-tab form indicates your new clustered service has successfully been created.

8. Click Directory and fill in Password for the gateway on the Gateway Directory Information form.

New cluster Gateway Directory
Information form

```
2000000005                                          _ □ X
File  Edit  Format  Message  Collaborate  View  Admin  Help

  Gateway Directory Information          Résumé    Desktop

User ID:              2000000005
Last name:            Employee Services
Where:                D: [-D-]
Last logged in:
Password:             4USTOUSE
Domain name:
Comments:

  Privileges
Groups:               Other Sites                     Unlisted

  User Limits
Daily time limit:      Default      minutes
Session inactivity limit: Default    minutes
                              Cancel         OK
```

For details on setting a gateway password, see Chapter 6, "Starting Internet Services and logging in".

9. Close and save both the New cluster Gateway Directory Information form and the New cluster Gateway form.

After you have completed the above steps you must connect your new clustered service to the server machine.

> **Note** The information you enter on the Basic Internet Setup form will vary between clustered services; there is no generic setup. For examples of configuring the Basic Internet Setup form, see "Clustering scenarios" on page 89.

Connecting your new service to the server machine

After you have completed the above steps, you must install one copy of Internet Services for each new clustered service. Follow the installation procedures as you would for a regular Internet Services install (see *FirstClass 7 Administrator's Guide*). Then you

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must configure your new service to gateway to the server machine.

1. Double-click the Inetsvcs.fc settings file (for each clustered service) and enter:

   • user ID

   • password of the clustered Internet Services

   • name or IP address of the FirstClass server to which it points in Server on the Service Setup form.

Clustered service login screen
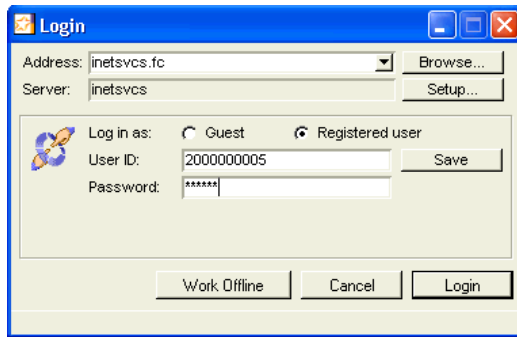
2. Click the Setup button.

This is what the setup should look like for the new clustered service:

Clustered service login setup

Service Setup

Connect via: TCP-IP.FCP   Configure...

User ID: 2000000005
Password: ******

☐ Log in as guest
☐ Log in automatically

Retry login: 0 ⬍ times   Retry delay: 0 ⬍ seconds

Fill in if service is accessible via the network
Server: Inetsvcs
Network:

Fill in if service is accessible via modem or ISDN
Phone #:

Clears all nonconnection resources from your settings file   Flush Cache

Cancel   Save

3. Close the Service Setup form and log into the server, using the new settings file.

After you have successfully logged in, you can close your client on this machine.

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> **Note** You must use the same password in the login setup form that you used in the gateway form on the server machine.

Clustering scenarios

In the remainder of this chapter, we will discuss three different possible clustering scenarios on Husky Planes:

- clustering services by protocol

- clustering services by domain

- clustering services by a combination of protocols and domains.
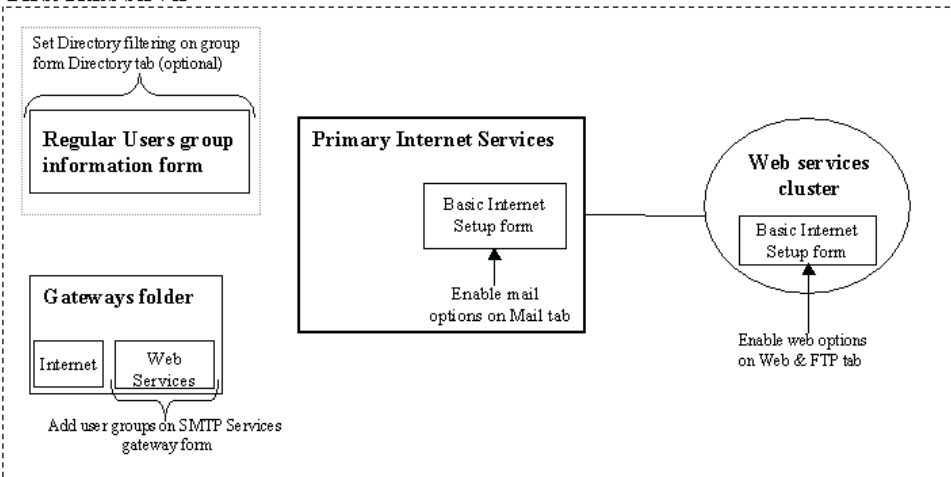
Clustering services by protocol: Scenario 1

You can dedicate separate clustered services to route all outbound mail (SMTP) and all web traffic (HTTP) on your system. You can also bind different user groups to these services. This is useful if you have a large site with heavy mail and web traffic and want to better balance your Internet Services by having each protocol on a separate service.

Think of dedicating one clustered service to one protocol as similar to having a dedicated Internet phone line in your house. Your regular phone line is used only for incoming and outgoing calls, whereas your Internet phone line is only used for logging onto the web.

The diagram below shows the different areas and forms on your system that you must configure to have dedicated SMTP and HTTP clustered services:

Clustering diagram for scenario 1

FirstClass server

Set Directory filtering on group form Directory tab (optional)

Regular Users group information form

Primary Internet Services

Basic Internet Setup form

Web services cluster

Basic Internet Setup form

Enable mail options on Mail tab

Gateways folder

Internet | Web Services

Enable web options on Web & FTP tab

Add user groups on SMTP Services gateway form

On Husky Planes, we dedicated the primary Internet Services to route all outbound mail (SMTP) and created an HTTP clustered service to route all web and FTP traffic. By doing this, we created a more efficient system for handling outbound mail and web traffic.

To accomplish the above configuration:

> **Note** Leave any information not discussed in steps
> cleared.

1. Create a new clustered service called Web Services,
following the same steps in "Creating a simple clustered
service" on page 82.

2. Open the Web Services Config folder in the Web Services
clustered service folder on the administrator's Desktop.

3. Double-click the Basic Internet Setup form.

4. Select both Enable HTTP and Enable FTP and fill in both HTTP
server domain name and FTP server domain name, on the
Web & FTP tab:

Web Services cluster Basic Internet
Setup form – Web & FTP tab
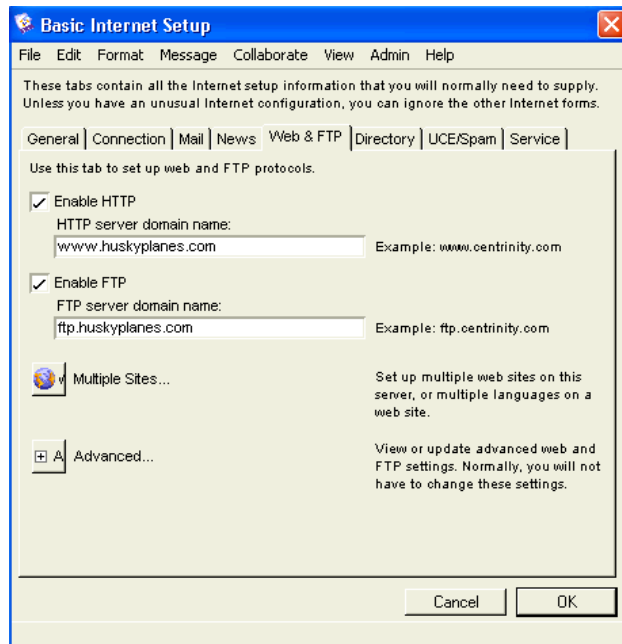
5. Enter the name of the gateway in Service Account, on the
Service tab:

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Web Services cluster Basic Internet
Setup form - Service tab
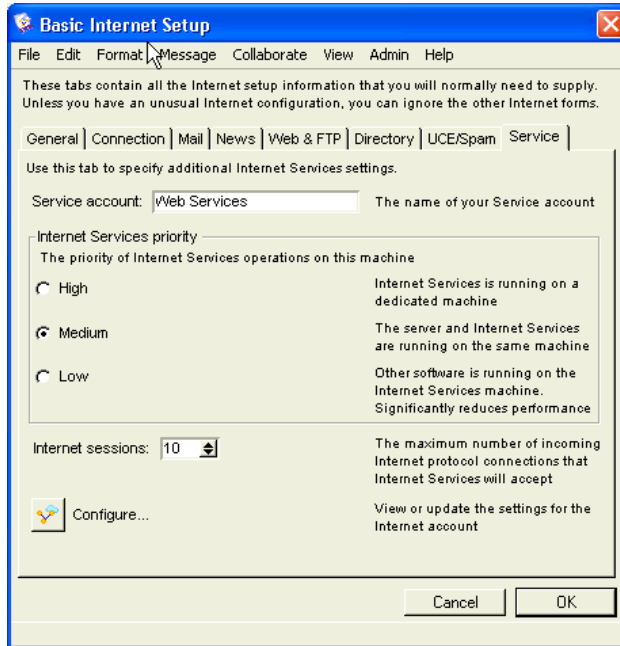
6. Clear Enable SMTP and make sure SMTP server domain name is empty, on the Mail tab.

7. Click OK.

8. *in the primary Internet Services folder*
   Double-click the Basic Internet Setup form.

9. On the Mail tab select Enable SMTP, Enable POP3, and Enable IMAP4 and fill in SMTP server domain name:

Basic Internet Setup

File   Edit   Format   Message   Collaborate   View   Admin   Help

These tabs contain all the Internet setup information that you will normally need to supply.
Unless you have an unusual Internet configuration, you can ignore the other Internet forms.

General | Connection | Mail | News | Web & FTP | Directory | UCE/Spam | Service |

Use this tab to set up the mail protocol.

☑ Enable SMTP

SMTP server domain name:

mail.huskyplanes.com   Example: mail.centrinity.com

☑ Enable POP3

☑ Enable IMAP4

Max outgoing mail: 5 ⬍   The maximum number of
simultaneous outgoing messages

Mail server:

[   ]   The name of the mail server to
connect to for POP3 message
importing if none is specified in a
user's information

Example: mail.centrinity.com

⊞ A Advanced...   View or update advanced mail
settings. Normally, you will not
have to change these settings.

Cancel   OK

8

10. Click OK.

> **Note** Make sure your POP3 and IMAP4 users have the
> correct server domain name
> (mail.huskyplanes.com) configured in their POP3
> or IMAP4 clients.

Now all outbound mail for Husky Planes employees is routed
through the primary Internet Services and all web traffic is
routed through the web clustered service.

## Binding one or more user groups to a clustered service

You can balance your system's load even more by binding one or
more user groups to a clustered service. For example, you could
have all mail for certain user groups route through one clustered
service and the mail for the rest of your employees route through
another clustered service. On Husky Planes, we decided to route
SMTP mail for the Management, Sales, and Marketing groups
through a separate SMTP clustered service and have all other

employee mail continue to route through the primary Internet Services. Below are the steps we followed to accomplish this configuration:

> **Note** If SMTP is enabled on two or more clusters for different groups, you must define these groups on each Cluster's gateway form.

1. Create a new clustered service called Group Mail Services, following the same steps in "Creating a simple clustered service" on page 82.

2. Open the Group Mail Services Config folder in the Clustered Services folder on the administrator's Desktop.

3. Double-click the Basic Internet Setup form.

4. Select Enable SMTP, Enable POP3, and Enable IMAP4.

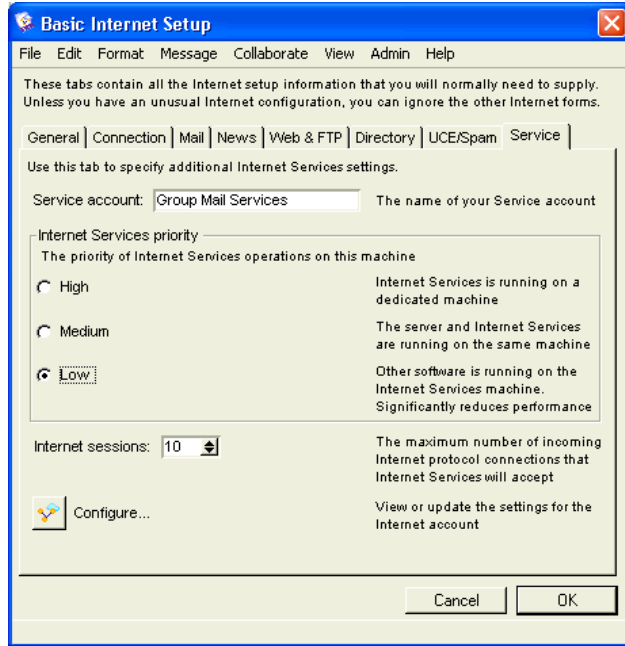5. Fill in SMTP server domain name, on the Mail tab:

Group Mail Services cluster Basic Internet Setup form – Mail tab
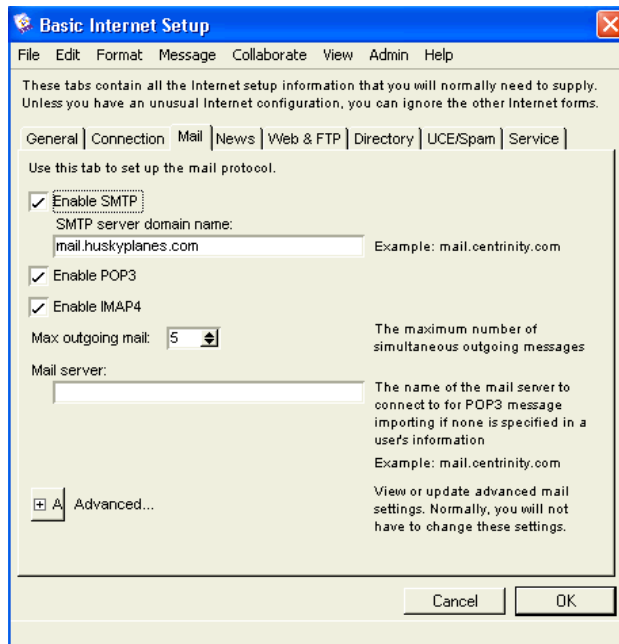
6. Clear Enable HTTP and Enable FTP on the Web & FTP tab

7. Enter 'Group Mail Services' in Service account on the Service tab.

Group Mail Services cluster Basic
Internet Setup form – Service tab

8. Click OK.

Now, we must correctly configure the primary Internet Services and gateway forms:

1. *in the primary Internet Services folder*
Double-click the primary Internet Services Basic Internet Setup form in the Internet Services folder on the administrator's Desktop.

2. Select Enable SMTP, Enable POP3, and Enable IMAP4 on the Mail tab.

**3.** Fill in SMTP server domain name and Mail server.

Important We recommend that you leave SMTP enabled on your primary Internet Services, as any messages already delivered into the server through the primary Internet Services are already tagged for

that gateway and all replies will attempt to send mail out through this same gateway. If you turn off SMTP in this primary gateway, these outbound replies will sit indefinitely in the Internet Services Mailbox.
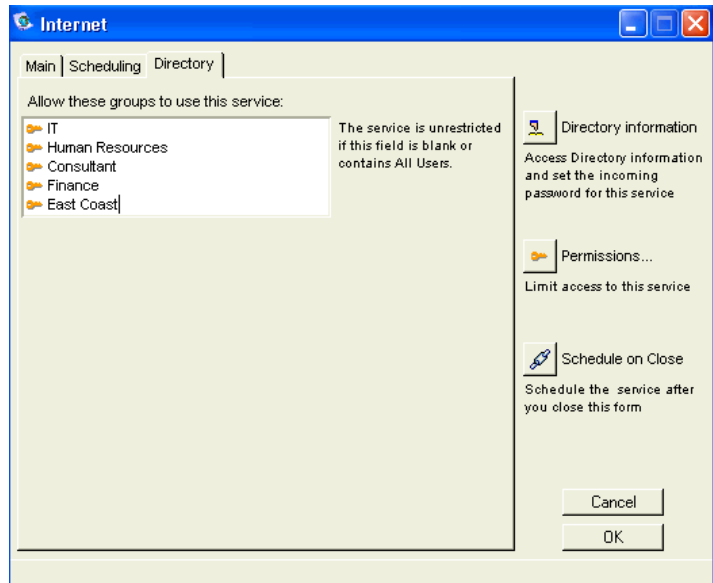
4. Click OK

5. *in the Gateways folder*
Open the Group Mail Services gateway form and enter Group Mail Services in Service name on the Main tab.

6. Enter the user groups to which you want to limit this service (in this case Management, Sales, Marketing) in Allow these groups to use this service on the Directory tab:

Group Mail Services gateway form –
Directory tab
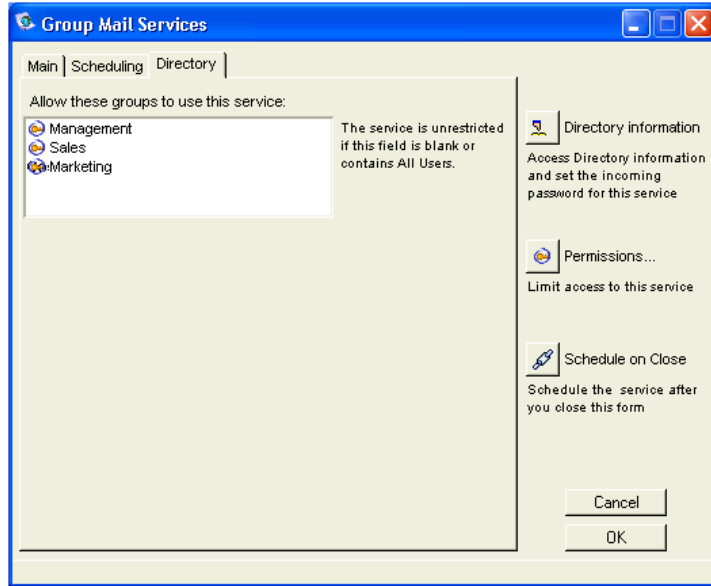
7. Click OK.

8. *on the primary Internet Services gateway form*
Click the Directory tab and enter the other groups (excluding Management, Sales, Marketing) in Allow these groups to use this service:
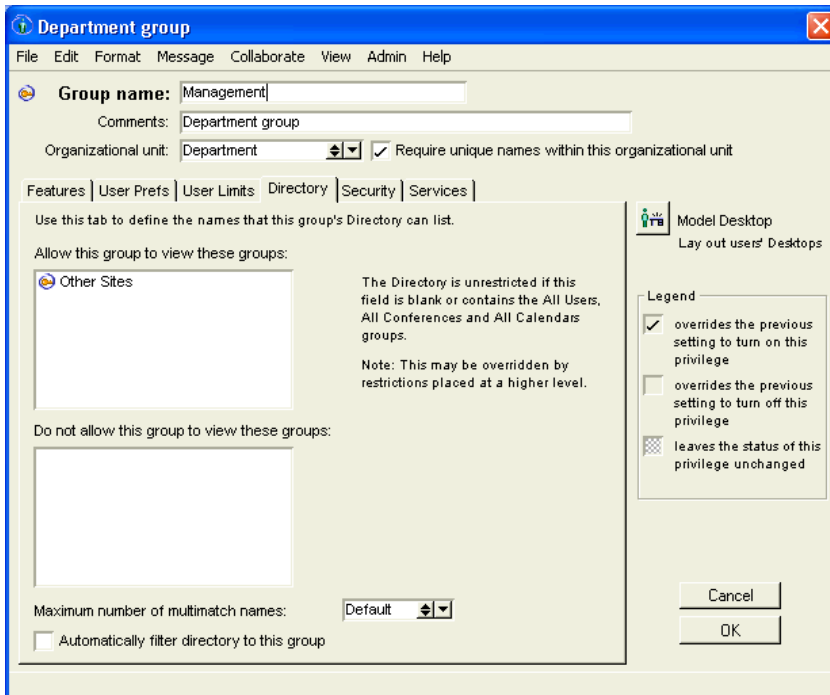
9. Click OK.

10. *on each user group form*
Click the Directory tab and enter Other Sites in Allow this
group to view these groups.This enables the group(s) to see
other gateways:

Management group User
Information Form- Directory tab

> **Note** If the user group is already configured to see all
> other sites, you do not have to configure the
> Directory tab.

11. Click OK.

Now all mail for the Management, Sales, and Marketing groups
is routed through the primary Internet Services and all web
traffic is routed through the web clustered service.

Clustering services by domain: scenario 2

Another way to cluster Internet Services is by domain. Let's say
you have a company with a large customer base and want to
route all your customer and employee traffic through two
different domains to reduce congestion.

> **Note** You must register any external domain names you use on your system.

You may also want your customers and staff to view a different home page and FirstClass interface. This is handy if you do not want your customers to have access to confidential company information or have to authenticate each time they access your site.

> **Note** The WWW folder is not automatically created in clustered folders. If you need to create a unique FirstClass interface and home page, you must batch in or copy all of the templates from the .templates folder in the primary Internet Services folder.

We decided to route all employee traffic on the primary Internet Services domain and all customer traffic on a cluster with a separate domain. By doing this, we provide both our customers and employees with totally different home pages and FirstClass information, while reducing the mail and web traffic for both groups of users.
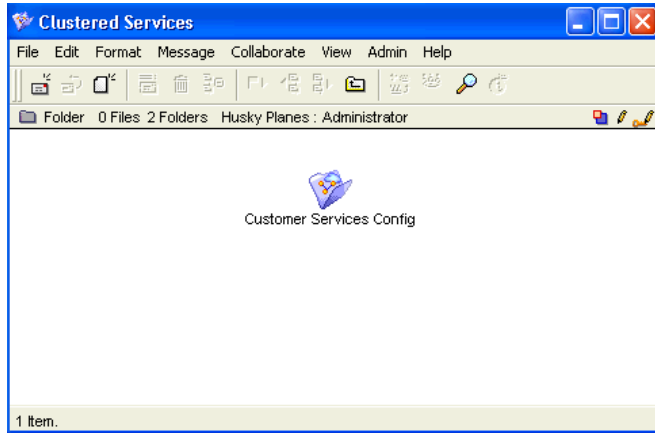
To accomplish the above configuration:

> **Note** Leave any information not discussed in steps cleared.

1. Create a cluster called Customer Services, following the same steps in "Creating a simple clustered service" on page 82.

The Clustered Services folder, on the administrator's Desktop, now has a new Customer Services Config folder:
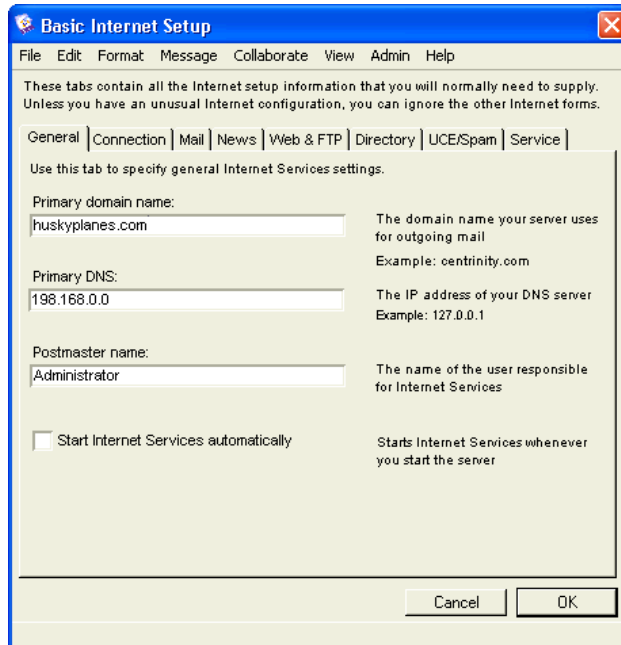
Customer Services folder

2. *in the primary Internet Services folder*
   Double-click the Basic Internet Setup form.

3. Fill in Primary domain name, on the General tab:

Primary Internet Services Basic
Internet Setup form – General tab

4. Select Enable SMTP and fill in SMTP server domain name, on the Mail tab:

Primary Internet Services Basic Internet Setup form – Mail tab

5. Select Enable HTTP and Enable FTP, and fill in HTTP server domain name and FTP server domain name, on the Web & FTP tab:

Basic Internet Setup

File   Edit   Format   Message   Collaborate   View   Admin   Help

These tabs contain all the Internet setup information that you will normally need to supply.
Unless you have an unusual Internet configuration, you can ignore the other Internet forms.

General | Connection | Mail | News | Web & FTP | Directory | UCE/Spam | Service |

Use this tab to set up web and FTP protocols.

☑ Enable HTTP
    HTTP server domain name:
    www.employee.huskyplanes.com   Example: www.centrinity.com

☑ Enable FTP
    FTP server domain name:
    ftp.employee.huskyplanes.com   Example: ftp.centrinity.com

🌐 Multiple Sites...   Set up multiple web sites on this
                              server, or multiple languages on a
                              web site.
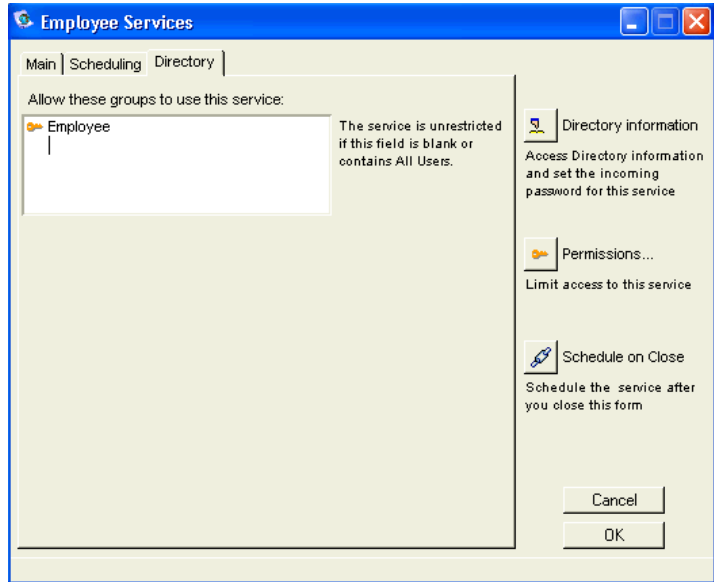
⊞ Advanced...   View or update advanced web and
                       FTP settings. Normally, you will not
                       have to change these settings.

Cancel   OK

6. Open the Gateways folder on the administrator's Desktop
and double-click the Employee Services form.

7. Enter the groups to which you want to bind this service
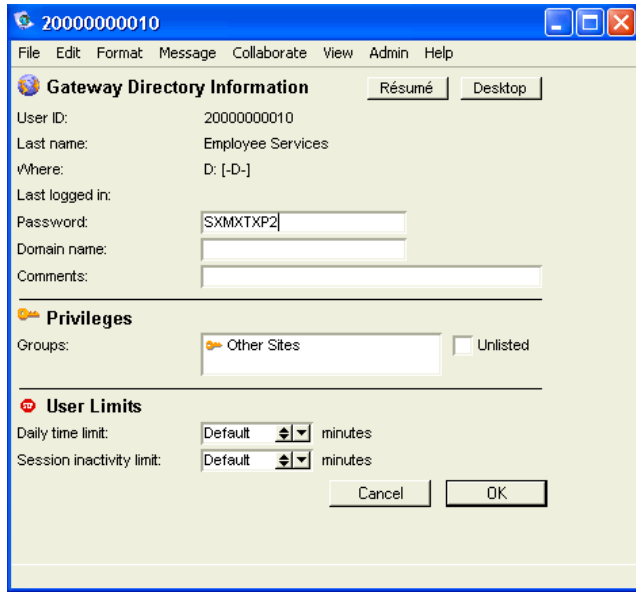(Employees), on the Directory tab:

Internet gateway form

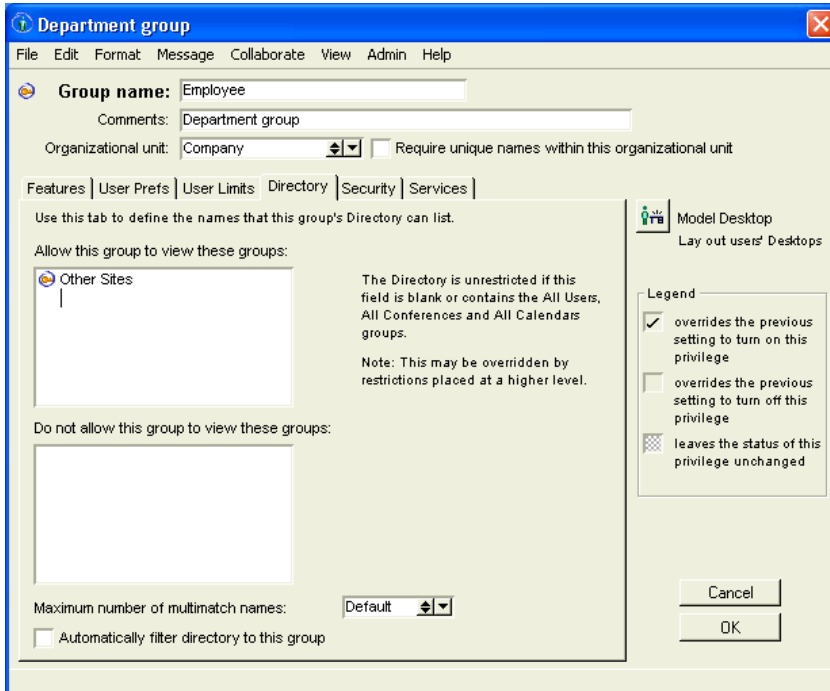**8.** Click Directory Information and fill in Password:

Internet Directory Information form

9. Open the Employee group form, in the Groups folder on the administrator's Desktop, and select the Directory tab.

10. Enter Other Sites in Allow this group to view these groups:

Employee group form

This allows the Employees group to see the gateway form for the new Employee Services cluster.

11. *in the Customer Services Config folder*
Double-click the Basic Internet Setup form.

12. Clear Enable SMTP and SMTP server domain name, on the Mail tab.

13. Select Enable HTTP and Enable FTP, on the Web & FTP tab, and enter www.huskyplanes.com in HTTP server domain name and ftp.huskyplanes.com in FTP server domain name.

Customer Services Basic Internet Setup form – Web & FTP tab
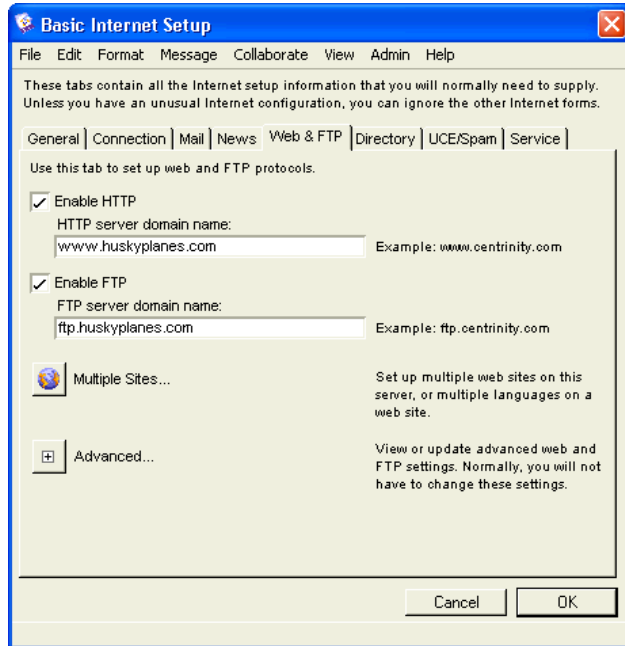
The final step is to configure the domain names and Mail Exchange (MX) records on the DNS server.

Now, Husky Planes' customer web and Directory traffic will route through the Employee Services clustered service, and all employee traffic will route through the primary Internet Services.

Clustering services by protocols and domains: scenario 3

You can cluster your Internet Services by combining protocols and domains in your setup. In this scenario, we decided to separate HTTP/FTP and SMTP/NNTP protocols for both employees and customers on different services. In total, we have four Internet Services machines running a combination of domains and protocols.

The diagram below shows the structure we created:

Scenario 3 clustering structure

FirstClass Server

Customer Internet
Services cluster

HTTP & FTP

Employee Internet
Services cluster

HTTP & FTP, Directory
services

Customer Internet
Services cluster

NNTP, Directory services

Employee Internet
Services cluster
SMTP & NNTP
(primary Internet Services)
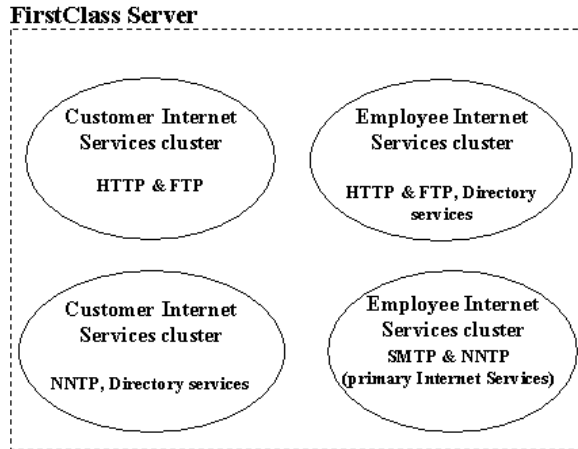
To accomplish the above configuration, follow these steps:

**Note**   Leave any information not discussed in steps
cleared.

1. Create three new clusters, following the same steps in
"Creating a simple clustered service" on page 82:

- C News & Dir Services Config

- C Web Services Config

- E Web & Dir Services Config.

The primary Internet Services routes all employee mail and
news. We do not support customer mail services.

The Clustered Services folder should look like this:

Clustered Services folder
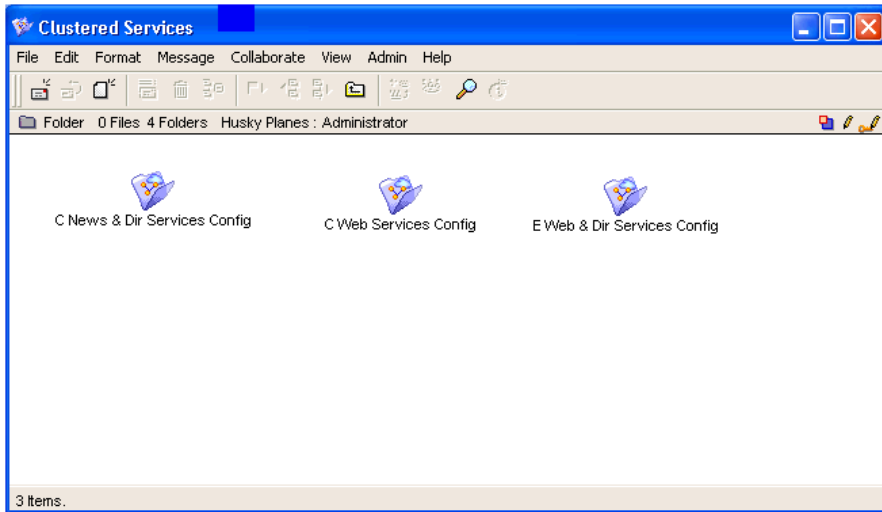
2. *in the C Web Services Config folder*
   Double-click the Basic Internet Setup form.

3. Enter the required information on the General tab.

8

4. Select Enable HTTP and Enable FTP, on the Web & FTP tab, and enter www.customer.huskyplanes.com in HTTP server domain name and ftp.customer.huskyplanes.com in FTP server domain name.

C Web Services Basic Internet Setup form – Web & FTP tab
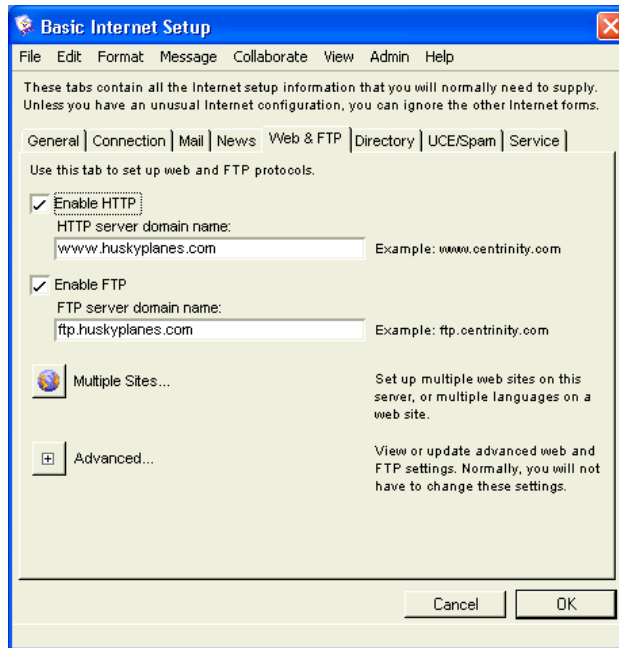
5. Enter the name of the gateway, C Web Services, in Service account on the Service tab.

This name must match the entry in Service name on the Main tab in the C Web Services gateway form.

6. Clear all fields on the remaining tabs.

7. *in the C News & Directory Services Config folder* Double-click the Basic Internet Setup form.

8. Select Enable NNTP on the News tab, and enter customernews.huskyplanes.com in NNTP server domain name and the name of the server that provides your news feed in NNTP feed server.

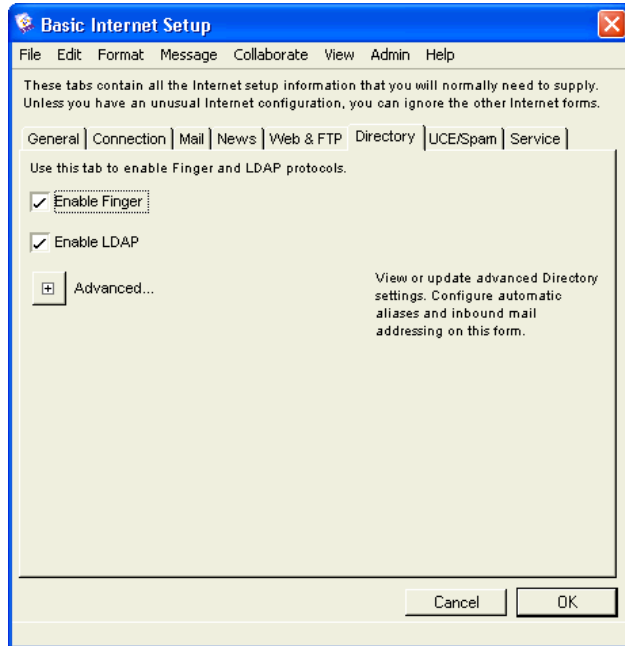**9.** Select Enable Finger and Enable LDAP on the Directory tab.

10. Enter the name of the gateway, C News & Directory Services, in Service account on the Service tab.

This name must match the entry in Service name on the Main tab on the C News & Directory Services gateway form.

The next step is to configure your employee services:

1. *in the E Web & Dir Services Config folder*
Double-click the Basic Internet Setup form.

2. Select Enable HTTP and Enable FTP and enter www.employee.huskyplanes.com in HTTP server domain name and ftp.employee.huskyplanes.com in FTP server domain name, on the Web & FTP tab.

3. Select Enable Finger and Enable LDAP on the Directory tab.

4. Enter the name of the gateway, E Web & Dir Services in Service account on the Service tab:

8

E Web & Dir Services Basic Internet
Setup form – Service tab

This name must match the entry in Service name on the Main tab on the E Web & Dir Services gateway form.

5. *in the primary Internet Services folder*
Double-click the Basic Internet Setup form.

6. Select Enable SMTP, Enable POP3, and Enable IMAP4 and enter mail.huskyplanes.com in SMTP server domain name, on the Mail tab.

7. Select Enable NNTP and enter news.huskyplanes.com in NNTP server domain name, on the News tab.

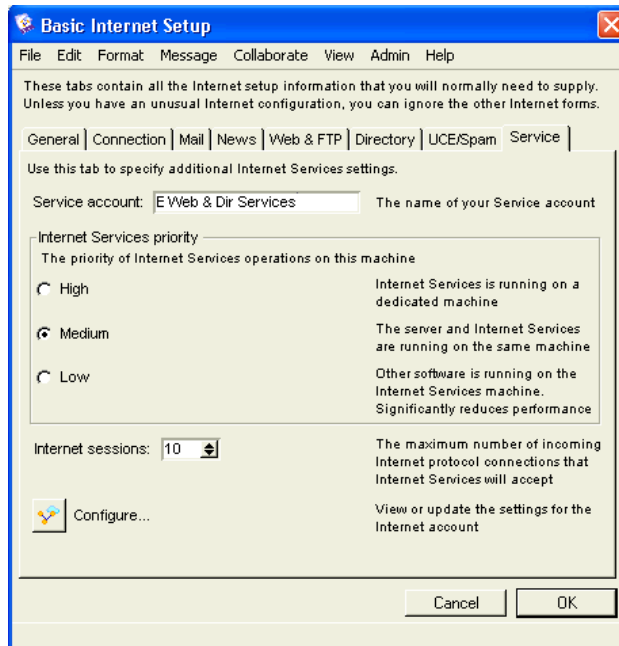**8.** Enter the name of the gateway, Internet in Service account on the Service tab.

This name must match the entry in Service name on the Main tab on the Internet gateway form.

The next step is to configure the gateway forms:

> **Note** Service account and Service account number should already be filled in on the Service tab.

1. *on the C News & Dir Services gateway form*
Enter Customer in Allow these groups to use this service, to limit this service to your customers.

2. *on the C Web Services gateway form*

   Enter Customer in Allow these groups to use this service, to limit this service to your customers only.

3. *on the E Web & Dir Services gateway form*

   Enter Employee in Allow these groups to use this service, to limit this service to your employees only.

4. *on the Internet gateway form*

   Enter Employee in Allow these groups to use this service, to limit this service to your customers only.

The final step is to configure the domain names and Mail Exchange (MX) records on the DNS server.

Now there are different Internet Services clusters supporting different services on different domains.

8

Creating your Internet Services environment

Using the Multiple Sites & Languages form

The Multiple Sites & Languages form is an Internet Services configuration file located in the Internet Services folder on the administrator's Desktop. Use the Multiple Sites & Languages form to:

* specify multiple web sites and languages

* enable security certificates.

For a description of each field on this form, see our online help.

Specifying multiple web sites and languages

9

Use the Multiple Sites & Languages form if you want to maintain a single site with multiple languages or multiple sites with multiple languages. If you support a single web site with one language, you do not have to use this form. If you support multiple languages on a single web site, you must enter the language codes on this form and you must have the language settings files (for example, fr.fc or es.fc) present on your system (see "Understanding languages" on page 121). If you support multiple sites, you must enter the relevant information on this form.

Husky Planes supports three domain names on one server, and each site has its own alias. This means the IP address 192.166.0.0 is the same for the following three domain names:

* www.huskyplanes.com

* www.us.huskyplanes.com

* www.sp.huskyplanes.com

Each web site has a different set of languages configured. This is Husky Planes' Multiple Sites & Languages form configuration:

Husky Planes Multiple Sites & Languages form

If you have registered different domain names for your multiple-site setup, and therefore have unique IP addresses for each, you would enter all of this information on the form. For information on using the Multiple Sites & Languages form to set up your web site(s), see Chapter 10, "Creating your web sites".

Creating your web sites

A FirstClass web site consists of FirstClass web templates, FirstClass content (a post office), and site content (a home page). Content is what is displayed to the user and templates control how this content is displayed. Together, these comprise your users' web site experience.

In this chapter we will discuss:

* different web site templates

* different web site languages

* a single-site setup

* a multiple-site setup

10

The default Internet Services web site setup

When you install Internet Services, by default the following items are placed in the Internet Services/WWW folder on the administrator's Desktop:

* .fulltemplates folder

  The enhanced template set.

* .templates folder

  The standard template set.

* .mobiletemplates folder

  The template set for handheld devices.

* .OnlineHelp

  FirstClass online help documents and online books.

* Images folder

  Your web site images.

- ClientDownloads folder

  For information on this folder, go to the Start here\Add users folder located on the administrator's Desktop.

- Home Page document

  The default homepage for your web site.

  For information on developing web site content, see Chapter 12, "Publishing content to the web".

FirstClass web templates define the FirstClass user interface — the look and feel of your Desktop when you log in with a web browser. FirstClass objects include:

- conferences
- folders
- FirstClass messages
- FirstClass documents

and the different views of these objects (conference and list views).

You can keep the default web template view, provided by the shipping templates, or customize your own. For information on customizing web templates, see Chapter 13, "Creating custom templates" and our online help.

Displaying different templates

What users see on your web site is determined by:

- the browser they use
- the templates they get
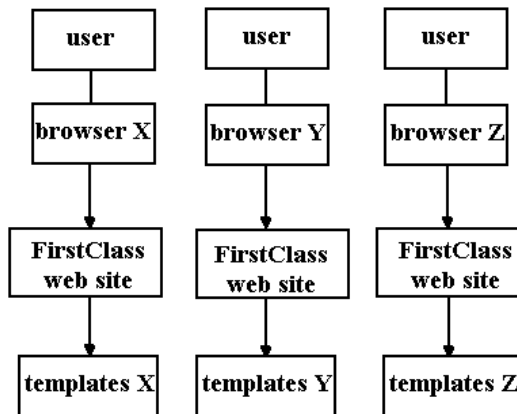- the system HeaderMatch document configuration.

You can have several sets of templates in your WWW folder, and use the HeaderMatch document to steer incoming browsers to them accordingly. To do this, place the different template sets in separate folders with unique names, then configure the HeaderMatch document to reflect this configuration. See

Chapter 7, "Using the HeaderMatch document to plan your system".

If you want to display a different template set as the default without having to change the settings in the HeaderMatch document, you can rename the folder in which the templates reside, for example:

- if you want the .fulltemplates to be the default templates, rename the .fulltemplates folder to .templates and rename the .templates

- if you want a customized templates to be the default templates, rename the customized templates' folder and rename the .templates.

Consider these structures:

```
┌──────────┐   ┌──────────┐   ┌──────────┐
│   user   │   │   user   │   │   user   │
└────┬─────┘   └────┬─────┘   └────┬─────┘
     │              │              │
┌────┴─────┐   ┌────┴─────┐   ┌────┴─────┐
│browser X │   │browser Y │   │browser Z │
└────┬─────┘   └────┬─────┘   └────┬─────┘
     │              │              │
     ▼              ▼              ▼
┌──────────┐   ┌──────────┐   ┌──────────┐
│FirstClass│   │FirstClass│   │FirstClass│
│ web site │   │ web site │   │ web site │
└────┬─────┘   └────┬─────┘   └────┬─────┘
     │              │              │
     ▼              ▼              ▼
┌──────────┐   ┌──────────┐   ┌──────────┐
│templates X│  │templates Y│  │templates Z│
└──────────┘   └──────────┘   └──────────┘
```

10

In the above diagram, browser X supports enhanced features, so the HeaderMatch is configured to steer all users on browser X to templates X (full templates). This is what the user sees when he logs into Husky Planes using browser X:
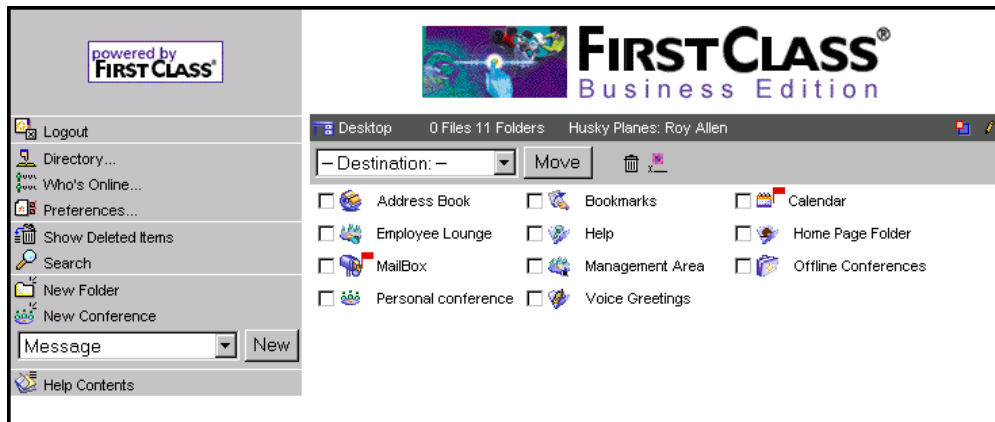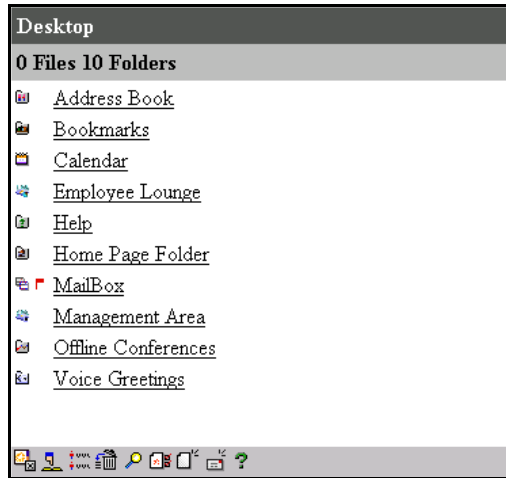
Roy Allen's Desktop using full templates

Browser Y does not support enhanced features, so the HeaderMatch is configured to steer all users on Browser Y to templates Y (standard templates). This is what the user sees when he logs into Husky Planes using browser Y:

Roy Allen's Desktop using standard templates

Browser Z is the microbrowser used on a handheld mobile device, so the HeaderMatch is configured to steer all users on Browser Z to templates Z (mobile templates). This is what the user sees when he logs in using browser Z:

Roy Allen's Desktop using mobile
templates

Desktop

0 Files 10 Folders

- Address Book
- Bookmarks
- Calendar
- Employee Lounge
- Help
- Home Page Folder
- MailBox
- Management Area
- Offline Conferences
- Voice Greetings

You must have at least one .templates folder located in your
WWW folder.

Understanding languages

10

The templates shipped with FirstClass Internet Services are
language independent; they draw all of their strings from *lang*.fc
files. So, instead of having to translate each template on your
system, the correct language strings are pulled from the
appropriate *lang*.fc file. The only things you have to translate on
your site, if desired, are your home page and post office objects
(which are both independent of the language settings files).

Remember these points when configuring your server to use
multiple languages:

- the order of preference is set by the user's web browser

  The first language in this list is the user's default language.
  Internet Services uses the following search sequence based on
  the user's preferences as indicated by his browser:

  - the user's default language

  - other languages on the user's browser language list

  - the default language defined for your server.

The order in which you define languages on the Multiple Sites & Languages form is not important, except for the default language, which must be first in the definition list. Otherwise, orders has no effect since it is the order of the preference of the browser that is used.

• you can use any name to identify a language, as long as you use the same name consistently

The same language name must be in:

• Languages on the Multiple Sites & Languages form

• the title of the site language folder in your WWW folder.

If you use unconventional names, browsers will not be able to list them in their preferences unless you instruct them to do so. Language names can consist of any alphanumeric characters and the dash (-).

Note As a standard, settings files are named *lang*.fc, where *lang* is the ISO code name of the language that you want to represent.

• *if the lang.fc file is not present for a language that you require*

take a *lang*.rez file from a localized FirstClass client, rename it to *lang*.fc, and all the strings will be translated in the web templates the same way as they are displayed in the client

or

copy the contents of an existing lang.fc file to a new file, translate the strings into any language, and rename the file with the appropriate ISO code.

If you are creating a lang.fc file from scratch, choose a character set appropriate for your language, see Charset Files on FirstClass Online (FCOL) in the FirstClass Webmasters\Resources\General Resources conference.

Note Use Windows character sets where possible; if unavailable use Mac OS.

Location of language files

The *lang*.fc files are located in the:

- Config folder on the Internet Services machine or in the Internet Services folder, when Internet Services is running on a dedicated machine and as a single-site

  Note The Config folder is located in the folder containing the Internet Services executable.

- Internet Services/WWW/*site root* folder, when running a multi-site setup

  Note Language settings files located in the Internet Services/WWW/site *root folder* override the language settings files in the Config folder.

- Internet Services/site root folder, language folder when running a multi-site set with multiple languages.

In all cases, *lang*.fc files should be at the same level as your site preferences form.

Creating a single web site

10

In FirstClass, you can create a single web site with either one language or multiple languages. Creating a single web site is relatively straightforward, as most of the work is done for you upon server setup. Here is the basic structure for a single language web site and a multiple-language web site respectively:

Single-site hierarchy
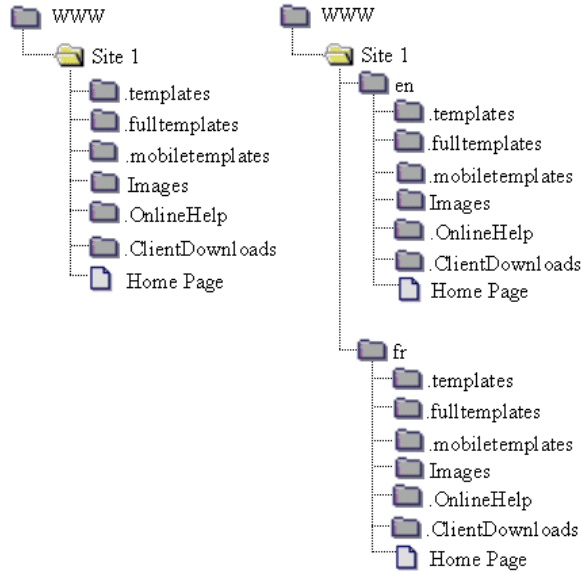
Both of the above structures have a folder with the site name, site content (home page and other web documents), and a folder containing web templates. The multiple-language site has a separate folder for each language containing all of the same folders and documents as the single-language site folder.

The Multiple Sites & Languages form setup for single web sites

If you support a single language web site on your FirstClass system, you don't need to enter any information on the Multiple Sites & Languages form. If you support multiple languages on your web site, you need to enter the relevant information on the Multiple Sites & Languages form, see Chapter 9, "Using the Multiple Sites & Languages form". For descriptions of the fields on the Multiple Sites & Languages form, see our online help.

Creating multiple web sites

Creating multiple web sites, or multiple web sites with multiple languages, involves more work than creating single web sites. Keep in mind, though, that creating a multiple-site setup on your system is merely an extension of the single-site setup. Regardless

of how many extra sites you create, you must always have the basic site structure.

Let's take a look at the steps involved in creating multiple sites for your organization.

> **Note** From this point, we'll refer to any folders containing templates as template folders.

To create multiple web sites:

1. Choose and register a domain name for each of your additional sites.

2. Choose one-word aliases by which your sites will be referred to internally. For example, Canada or Spain.

3. Create separate folders in the WWW folder and use the same name as the aliases you selected in step 2. These are called the site folders.

4. Decide in what languages you want your site content displayed.

> **Note** You must have the language settings files installed on your system if you want to serve out language specific FirstClass content (see "Understanding languages" on page 121).

5. Create language subfolders under the site folder.

   Use the ISO language codes for the names of these subfolders, for example, fr for French or es for Spanish.

6. Create a template folder(s) in each language folder (if there are multiple languages), or in the site folder (if there is only one language).

> **Note** This must be done in order to display FirstClass content on your site; otherwise, the contents of your WWW folder will be served out to your users.

If you are using the same templates throughout your sites you can alias your existing templates to all of the template folders. If you wish to customize templates for a specific site,

10

you must copy the templates and customize them or create new ones from scratch (see Chapter 13, "Creating custom templates").

7. *if you want a unique look for a particular site*
    Make a copy of the Global Site Preferences form (Ctrl+drag in Windows, Option+drag in Mac), rename it .sitepref, drag it into the site-root folder(s), and customize the appearance of that site.

    > **Note** If you have multiple Internet Services clusters, place a .sitepref form in the individual site folder(s) for that cluster.

8. Fill in the Multiple Sites & Languages form.

    For each web site on the Husky Planes web server, we defined a web site alias and registered one domain name. The IP address listed indicates the default Husky Planes web site.

    We have the ISO names of our site language folders in the next field. The order of the languages is important only for the first language, as it is considered the default. After this, you can place the languages in any order.

    > **Note** If you make a change or addition to Port or SSL Status (that implies a change to the port(s) listened on) you must restart Internet Services.

    > **Remember** If you have separate domain names registered for user groups or organizational units defined on your system, you must enter these domain names on both the Multiple Sites and Languages form and on the Service tab on the Groups form (see *FirstClass 7 Administrator's Guide* for information on user groups.

   For a full description of the fields on this form, see our online help.

9. Click Get Config to refresh your changes.

When you make any subsequent changes to the Internet Services config forms (forms inside of the Internet Services folder) and files, click Get Config to update your changes (see Chapter 18, "Monitoring your system"). If you still find that your web site is loading old information, do a Flush Cache located on the Internet Monitor, (see Chapter 18, "Monitoring your system") or a Flush HTTP Cache, located on your Internet Services console, (see Chapter 18, "Understanding the Internet Services console").

10. Create your site content for each of your sites (see Chapter 12, "Publishing content to the web").

Husky Planes site setup

Let's take a look at an example based on the Husky Planes web server. The following diagram represents the different web sites and languages configured on Husky Planes:

Husky Planes North America site structure

10
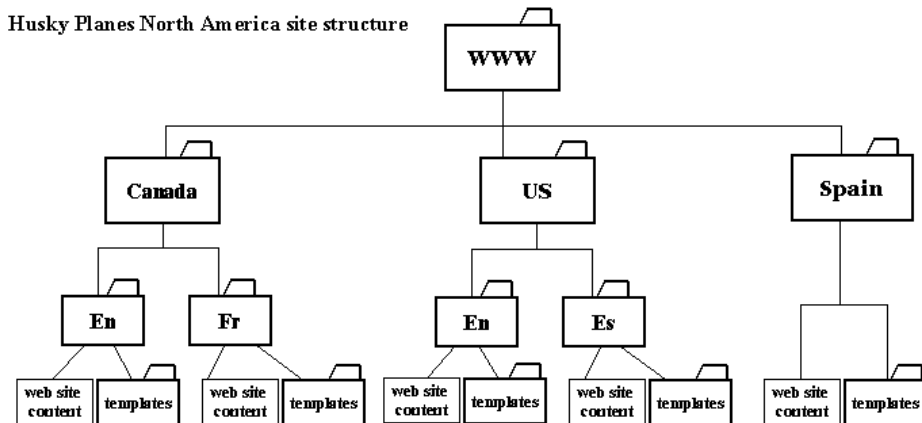
In the above example, Husky Planes has three different web sites pointing to the same server machine: Canada, US, and Spain. Canada and US each have separate folders for the two different languages they support. Each folder has a home page in its respective language, but no translated post offices. The Spain site has only an English home page.

Let's look at three different users accessing these web sites with different languages set in their browsers.

Jacques Bertrand from Canada has two languages set in his browser's preference list: French as the default and English as his second language. Lucy Tyler from the United States has two languages set in her browser's preference list: Spanish as the default and English as her second language. Enrico Hernandez has Spanish as his only language choice in his browser's preference list.

The following table explains what these three different users would see when accessing Husky Planes with their web browsers:

Alias	Jacques Bertrand	Lucy Tyler	Enrico Hernandez
Canada	French	English	English
US	English	Spanish	Spanish
Spain	Default	Default	Default

Since the Canada site supports both English and French site content and templates:

• Jacques Bertrand will get the French home page and templates

• Lucy Tyler will get the English home page and templates

• Enrico Hernandez will get the English home page and templates.

Since the US site supports both English and Spanish site content and templates:

• Jacques Bertrand will get the English home page and templates

• Lucy Tyler will get the Spanish home page and templates

• Enrico Hernandez will get the Spanish home page and templates.

Since the Spanish site supports only English site content and templates, all three users get the default, English, only.

Other useful web site tips

Some other things to keep in mind when creating and administrating your web site(s) include:

✔When unauthenticated users access the web site, they log into FirstClass as the Internet gateway account and are subject to the restrictions for this account. Once users authenticate (answer the login dialog), they are logging into FirstClass as themselves, and have all of their normal permissions and privileges.

✔The Web Users privilege group is an override group and is applied to all logins through the web. If a conference has Web Users disallowed in its permissions list, then no web login will be able to enter this conference.

✔Internet Services now uses a FirstClass Protocol (FCP) connection to the server for each user logged in, regardless of how many connections are made from the browser.

Not only does this make configuring the server easier for you, but the performance is improved because Internet Services no longer has to open, validate, and close multiple sessions. Also, there is no longer the issue of determining how big a pool of remote sessions there must be. If you want to support 20 remote sessions, you buy 20 remote licenses. There is a one-to-one ratio. The session is released when the user hits the logout button or times out.

We recommend that you use the Web Users group as your method of setting Session inactivity limit on the group setup form. Users will get a shorter time limit when logged in over the web even if the All Users group is set to a long timeout.

10

Other useful web site tips

Customizing your web user's interface

You can easily customize your user's web interface when users log into your FirstClass server using a web browser. This is done through the Global Site Preferences form (or the .sitepref form if you have a multiple-site setup, see Chapter 10, "Creating your web sites"), located in the Internet Services folder on the administrator's Desktop.In this chapter, we will go through Husky Planes's setup of this form, and show which form fields affect which areas on the web site. For Global Site Preferences default settings, see,"Global Site Preferences form defaults" on page 109 in the Appendix.

Global Site Preferences form

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The Global Site Preferences form lets you customize the display, colors, fonts, and images displayed to the web. These settings are universal for your web site and provide your users' web experience when they log in. Users cannot override these settings.

Global Site Preferences - Display

Use this tab to set the number of items displayed per page, the number of items downloaded from a conference, page width, position of menu items and icon size. Husky Planes uses the standard default settings for optimal system performance.

> **Note** The items displayed refer to leaf objects (documents and messages) not container objects (conferences or folders) which are always listed.
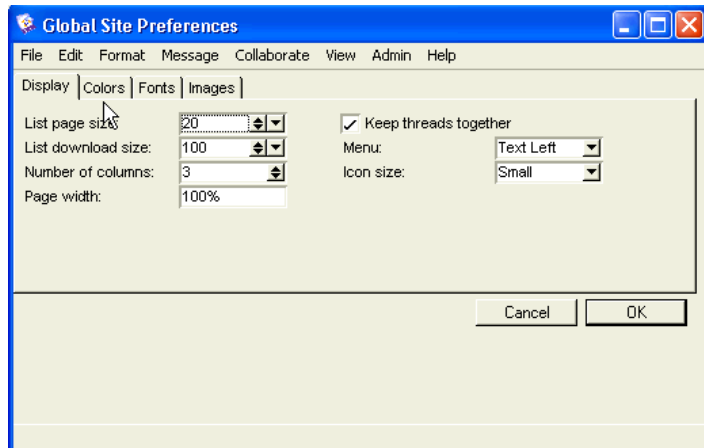
List page size   20. The maximum number of items per page that are actually displayed when viewing conferences on the web. Page size is used to control the display so that an appropriate number of items appears on the screen for the size of the average user's monitor. If your system has a small bandwidth (capacity), it is recommended that you don't set this number to more than 20. You can play with the number until you are satisfied with your system's performance.

Keep threads together   Selected. Checking this box causes the web table manager to display threads in their entirety. This occurs even if the threads extend beyond the normal page size.

List download size	100. The number of items downloaded from a conference listing but not necessarily shown. By default, 100 items are downloaded. However, administrators with many users that have modems or other slow connections, may want to set this option to 50 - 75 items to improve performance. A lower number is faster but may cause threads not to be kept together (reduces fidelity), while a higher number keeps threads together (boosts fidelity) while slowing performance.
	On Husky Planes, this option is set to 100. This means that Husky Planes initially downloads 100 documents and caches 100 documents.
Number of columns	3. The number of columns for folders and conferences in List view.
Page width	100%. The overall table width. This number can be in either pixels or percentage. If using pixels, input just the number, for example, 300. If using percentage, input the number and percent sign.
Menu	Text Left. Controls the position of the menu items and whether to display text plus small icons, or just buttons.
	With the 'text' options, small icons are always displayed regardless of the position.
Icon size	Small. Controls the size of the icons displayed.

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Here are the areas on a web site that are affected by the Display tab fields:

Display tab fields
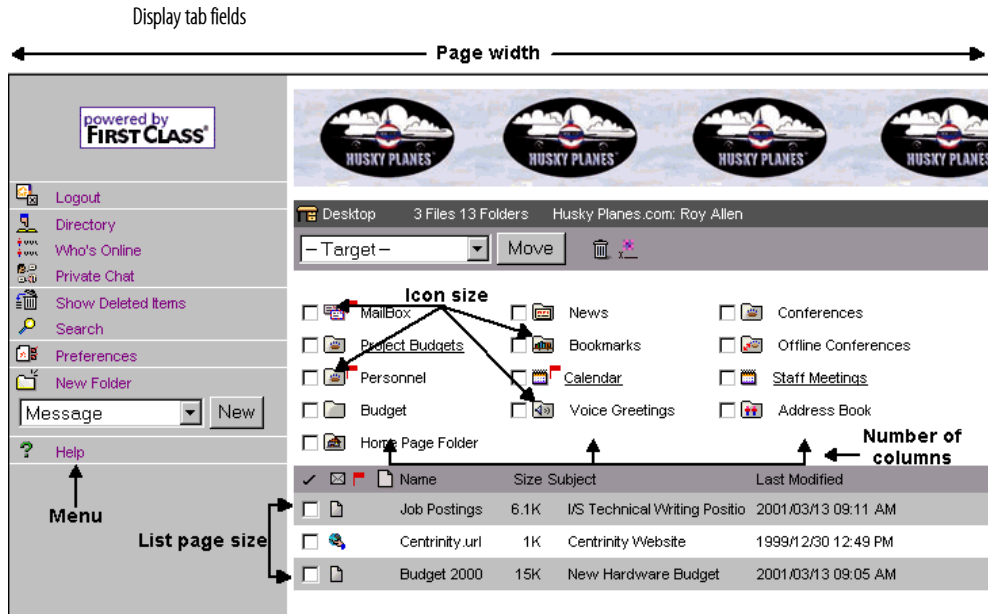
Global Site Preferences - Colors

Use this tab to set page, toolbar, title and row colors for your web site. All colors are configured in standard RGB numbers. Husky Planes uses the standard defaults for all of the settings except for Even rows and Odd rows.

Global Site Preferences form – Colors tab
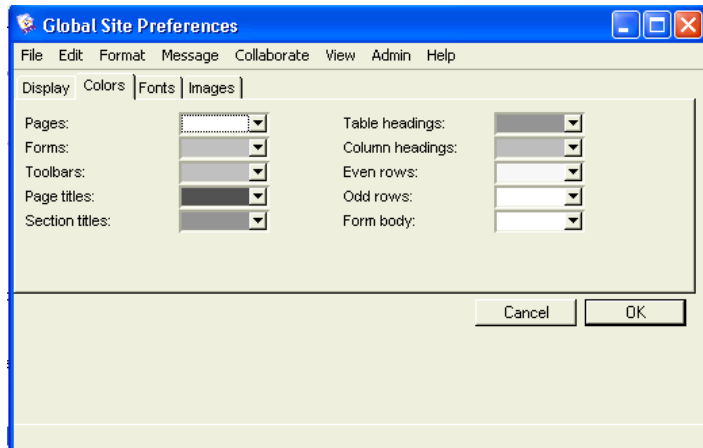
Pages	Default. The background color of each page.
Forms	Default. The color of each form.
Toolbars	Default. The color of the toolbar on each page.
Page titles	Default. The color of the page title row on each form. Not visible in conferences or folders in list view or in Calendar views.
Section titles	Default. The color of the section title row on each form.
Table headings	Default. The color of the table headings row in a table.
Column headings	Default. The color of headings of columns in a list view.
Even rows	White. The color of even rows in a list view.
Odd rows	Grey. The color of odd rows in a list view.
Form body	White. The color of a form body.

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Here are the areas on a web site that are affected by the Colors tab fields:

Colors tab fields

Forms
Table headings

Form body

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Test changing the colors on your Global Site Preferences form and then viewing your FirstClass Desktop on the web. After each change, remember to do a Get Config and if you find that your web server is caching old information, do a Flush Cache. These

functions can be found on the Internet Services Console (see Chapter 18, "Understanding the Internet Services console") or Internet Services Internet Monitor (see Chapter 18, "Monitoring your system").

Global Site Preferences - Fonts

Use this tab to set titles and text font attributes for your web site. Husky Planes uses the standard defaults for all of the font settings except Navigation text.

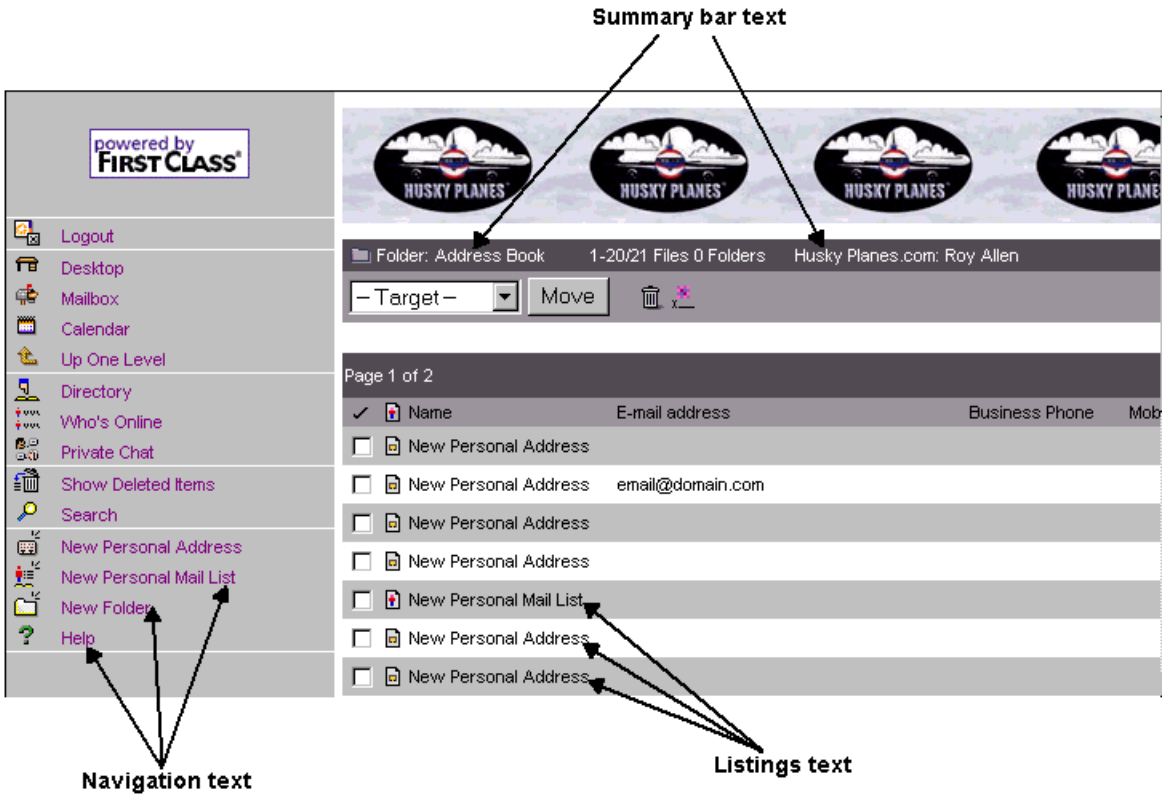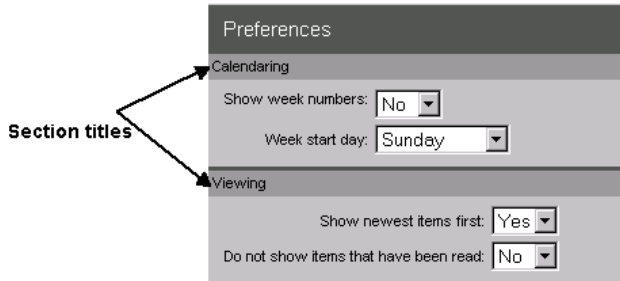Global Site Preferences form – Fonts tab
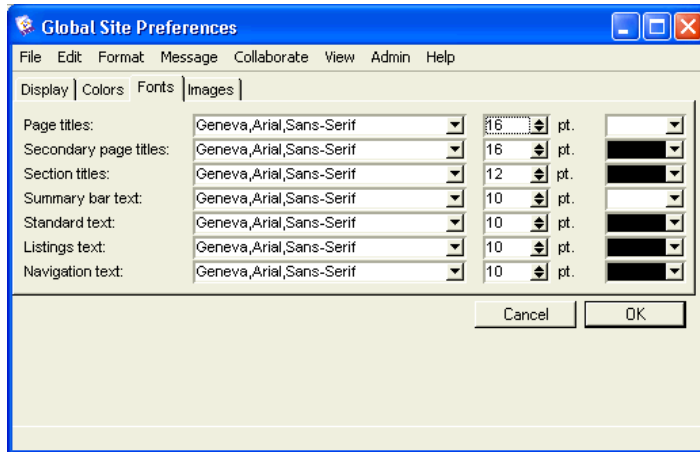
Page titles	Default. The title of the page. Not visible in conferences or folders in list view, or in Calendar views.
Secondary page titles	Default. The second title on a page. Secondary page titles are only visible in Calendar views.
Section titles	Default. The title of each section on a page.
Summary bar text	Default. The page summary text at the top of each page.
Standard text	Default. All text in the envelope on a form.
Listings text	Default. The text for items in a list view.

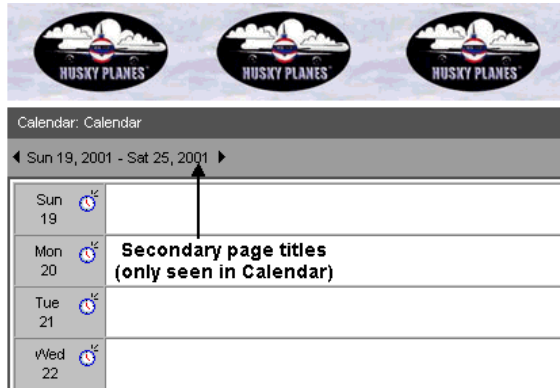|	
Navigation text	Geneva, Arial, Sans-Serif, 11, purple. The text in the Menu that is displayed on each page.

Here are the areas on a web site affected by the Fonts tab fields:

Fonts tab fields

Summary bar text

Navigation text

Listings text

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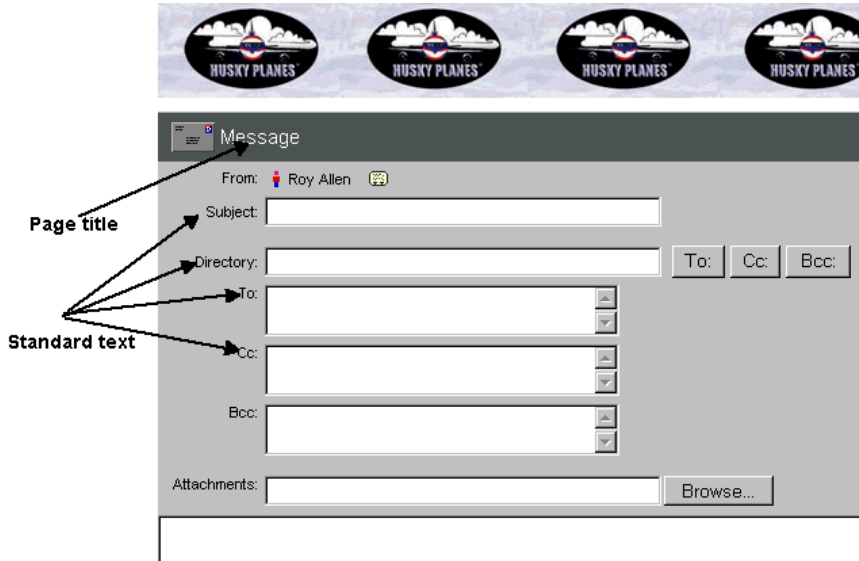
Global Site Preferences - Images
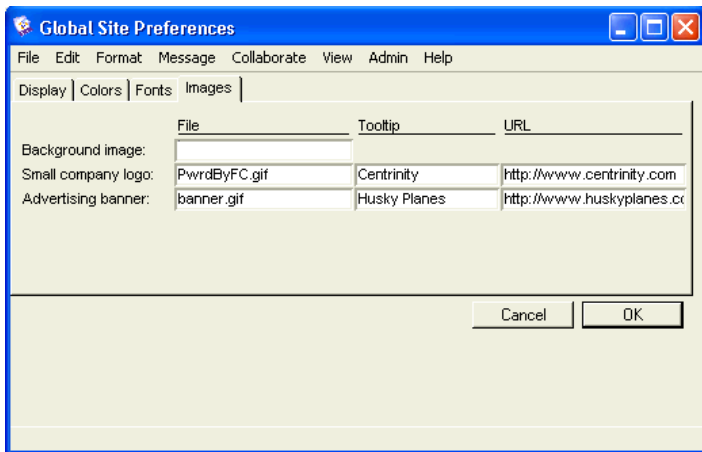
Use this tab to set unique background images, company logos, and any advertising banners that will appear on your web site. Husky Planes uses the standard default for the logo and no background, but uses its own company banner to span the top of the web site.

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Global Site Preferences form – Display tab

| **Background image** | Default. The background image of your web site. |

Small company logo	Default. The small logo on your web site. When a user hovers over the logo on Husky Planes the popup 'FirstClass' appears. If a user clicks on the logo, she will link directly to the Centrinity web site.
Advertising banner	banner.jpg. The banner on the web site. When a user hovers over the banner the pop up 'Husky Planes' appears. If a user clicks on the banner, she will link directly to the Husky Planes web site.

Here are the areas on a web site that are affected by the Images tab fields:

Images tab fields
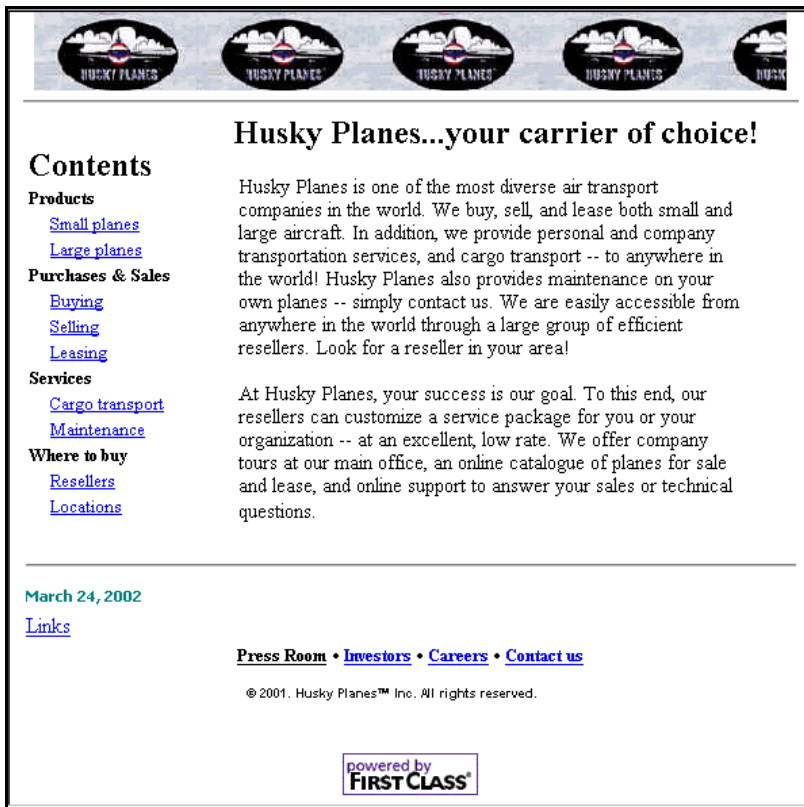
How Internet Services accesses images and resources

Depending on the name structure, your images and other resources can reside in a number of different places. Once images are entered in the Global Sites Preferences form, Internet Services must access them. There are three places where images, logos, and banners can reside (listed in the order they are accessed):

- if the name of the image or resource starts with a tilde (~), Internet Services looks in the Home Page Folder located on the user's Desktop, for example ~image.jpg.

- if the image or resource has a period (.) in the extension (for example, .gif or .jpg), Internet Services looks in the Images folder located in Internet Services > WWW folder > *site name* folder (if applicable)

  The Images folder must be at the same level as your .templates folder. This is the site root level unless you have multiple sites or multiple languages. All images in this folder must have a valid extension (for example, .gif, .png, or .jpg). If you want the same FirstClass client background images to show up when you access your Desktop on the web, you must place them in the Internet Services/WWW/Images folder.

- if the image or resource has no extension Internet Services looks in the pictures.fc file

  The Pictures.fc resources file contains images that cannot reside in the Images folder, such as Mac OS PICT files (Mac OS image format). These PICT files must not contain an extension in the file name (for example, Default instead of Default.pict). If you mistakenly add an extension to one of these image files, Internet Services will look for them in the Images folder instead of the pictures.fc files. By default, the Pictures.fc file does not exist. You must create this file and place it in FCServer/Config located on your hard drive or in the same place as the *lang*.fc files.

  Note You cannot have an object called Pictures, as the name is reserved for the pictures.fc file.

Internet Services can also access images by a fully qualified path in your document. For example, www.ads.com/myads/image1.gif.

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Web icons and the icons.fc file

Web icons and any custom icons can reside in the Icons.fc file. If you want the same client icons to display when you access your Desktop on the web, you must add them to your Icons.fc file.

The icons.fc file can reside on your server's hard drive in the FirstClass server/Config folder, in the Internet Services/WWW folder on the administrator's Desktop, or in both locations. The icons.fc file on the Desktop overrides the file on the hard drive. If you have multiple sites, you can have an icons.fc file in each site folder at the root level (at the same level as a .sitepref form). The presence of this file in separate site folders overrides the default icons.fc for the main site.

After configuring the Global Site Preferences form for Husky Planes, this is what Roy Allen's Desktop looks like when he logs in through the web:

Roy Allen's FirstClass Desktop – web view
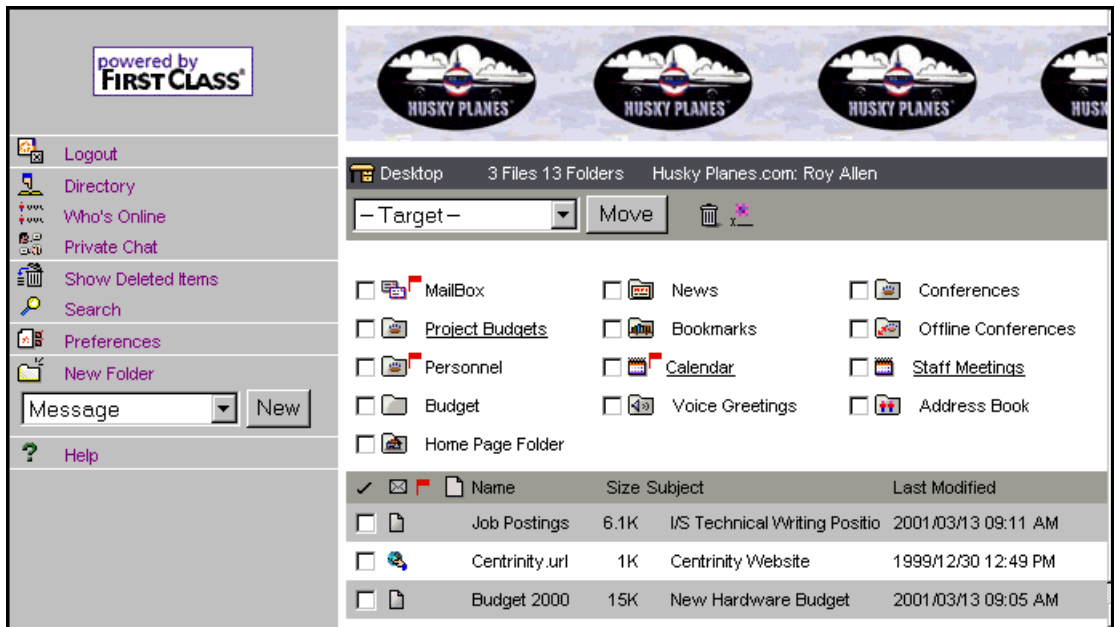
If a user wants to customize his Desktop, she can do so through local web preferences from her client (see our online help).

Global Site Preferences form defaults

The Global Site Preference defaults are as follows:

Display	
List page size	20
List download size	100
Number of columns	3
Page width	100%
Keep threads together	selected
Menu	text left
Icon size	small
Colors	**RGB values**
Pages	255 255 255
Forms	192 192 192
Toolbars	192 192 192
Page titles	85 85 85
Section titles	153 153 153
Table headings	153 153 153
Column headings	153 153 153
Even rows	243 243 243
Odd rows	255 255 255
Form body	255 255 255

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Fonts	
Page titles	Geneva, Arial, Sans-Serif 14 point RGB: 255 255 255
Secondary page titles	Geneva, Arial, Sans-Serif 14 point RGB: 0 0 0
Section titles	Geneva, Arial, Sans-Serif 10 point RGB: 0 0 0
Summary bar text	Geneva, Arial, Sans-Serif 10 point RGB: 255 255 255
Standard text	Geneva, Arial, Sans-Serif 10 point RGB: 0 0 0
Listings text	Geneva, Arial, Sans-Serif 10 point RGB: 0 0 0
Navigation text	Geneva, Arial, Sans-Serif 10 point RGB: 0 0 0

Images	
Background image	\<blank\>
Small company logo	PwrdByFC.gif
	FirstClass
	http://www.centrinity.com
Advertising banner	banner.gif
	http://www.huskyplanes.com

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Publishing content to the web

Any information on your FirstClass system can be served out to the web. This information includes:

- FirstClass server conferences and folders (original containers or aliases)
- FirstClass documents
- FirstClass home pages
- HTML documents
- external folders (see our online help)
- any combination of the above.

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Creating a home page using a text editor

You can create home pages using a standard text editor or a FirstClass document. When serving out your home page to the web, Internet Services looks for a file with valid HTML code, a FirstClass document with regular text and images, or a combination of both. The home page must reside in the Internet Services > WWW folder on the administrator's Desktop. If you support multiple web sites, you can create a distinct home page for each one (see "Creating multiple web sites" on page 124).

You can create an HTML file using a simple text editor. Internet Services will automatically search for HTML files with the following names:

- default.html, default.htm, default.shtml, default.stm
- index.html, index.htm, index.shtml, index.stm
- home.html, home.htm, home.shtml, home.stm
- home page.

Once Internet Services finds a file with one of these names, it automatically opens it. If none of these files exists, the contents of the WWW folder will be rendered out in HTML format.

> **Note:** Never include more than one home page in any Internet Services folder.

If you wish to have an HTML file which includes references to conferences or external folders, you need to include the appropriate HTML code. FirstClass server conferences and folders in the WWW folder can be referenced by HTML code in the same way any files or folders are referenced. For example, if you have a folder named Services you wish to reference in the same location as the HTML file, use this code:
HTML code Services.

Creating a home page using a FirstClass document

Open a home page using a FirstClass document through Message > New Document Special > Site Web Page. This file can contain regular text, literal HTML code or a combination of both. Also, you can name this file anything and it does not require an extension. Keep in mind, any FirstClass document named Home Page that appears in a conference or folder will render as the main page for that container object. Make sure you place this document in the correct location.

The Literal HTML style in the client (Format > Style > Literal HTML) can be used to insert HTML code into messages and documents. To do this, highlight the code you want converted and apply the Literal HTML style to it. This HTML will not run through the normal style run processing and will be output as is for interpretation by the browser.

Creating site content

When Internet Services is first installed, the root public web site is in the WWW folder, and any content you place there is rendered out to the web. As stated earlier, this content can consist of HTML files, or FirstClass content such as conferences,

folders, document, and messages. Any content placed here is subject to standard permission restrictions, so placing a restricted conference in your web site will lead to a login dialog that requests for the user to provide a valid user ID and password.

To create site content, open the WWW folder in the Internet Services folder located on the administrator's Desktop. Place any documents, conferences, or folders (or aliases of these containers) in the WWW folder that you want to serve out to the web. Internet Services renders on the fly, so changes to conferences or folders will be automatically displayed when the user reloads the web page.

Let's take a look at the contents of the Husky Planes WWW folder:

Husky Planes WWW folder

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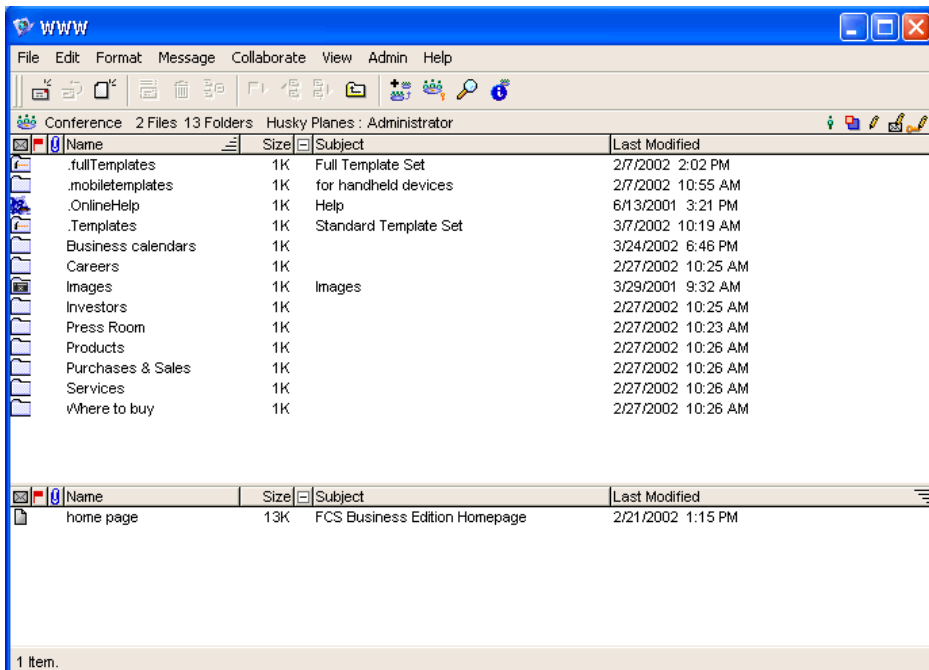
As you can see, Husky Planes has a number of folders, conferences, and documents that are published to web users. One document, home page, is Husky's landing page.

The Husky Planes administrator chose to create a home page as a FirstClass document, using a combination of FirstClass editor features, HTML, and Literal HTML. Let's take a look at the some aspects of the home page source code:

HTML used in the Husky Planes
home page


```
<hr>
<table cellpadding=2 cellspacing=0 border=0>
<tr>
<td><table cellpadding=2 cellspacing=0 border=0>
    <tr>

       <td colspan=2 nowrap><font size="5" color="#000000"><b>Contents </b></font></td>
    </tr>
    <tr>
       <td colspan=2><font size="2"><b>Products</b></font></td>
    </tr>
    <tr>
       <td rowspan=2><img src="/images/pixel.gif" width=10 height=1 border=0></td>
        <td><a href="/Products/Small Planes/"><font size="2">Small planes</font></a></td>
    </tr>
    <tr>
      <td><a href="/Products/Large Planes/"><font size="2">Large planes</font></a></td>
    </tr>
```

At the top of the home page, we embedded an image. Next, we built our table in standard HTML code, converted it into literal HTML, and referenced conferences we have aliased on our home page.

In the next section of code, we used FirstClass editor features to change the font and color of our text:

FirstClass editor features used in the
Husky Planes home page

```
<td valign="top">Husky Planes...your carrier of choice!<br>

<blockquote><color="#000000">  Husky Planes is one of the most diverse air transport companies in the world. We buy, sell, and
lease both small and large aircraft. In addition, we provide personal and company transportation services, and cargo transport – to anywhere in the
world! Husky Planes also provides maintenance on your own planes – simply contact us. We are easily accessible from anywhere in the world
through a large group of efficient resellers. Look for a reseller in your area!

At Husky Planes, your success is our goal. To this end, our resellers can customize a service package for you or your organization – at an
excellent, low rate. We offer company tours at our main office, an online catalogue of planes for sale and lease, and online support to answer your
sales or technical questions.</blockquote></td>
```

In the final section of code above, we used FirstClass to create links to four areas on our web site (for details on linking, see our online help).
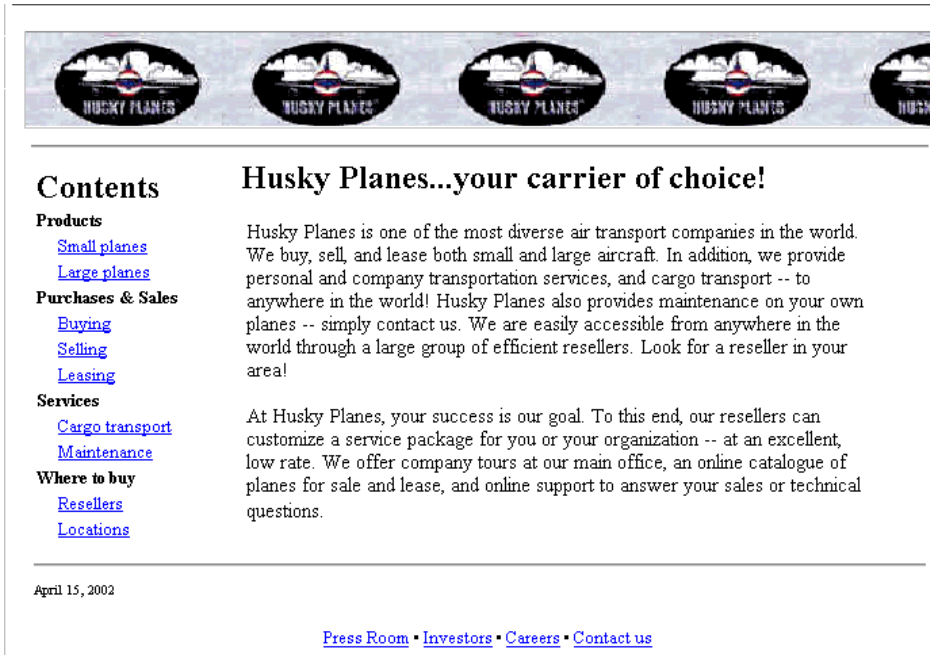
FirstClass links

This is what the Husky Planes home page looks like when Internet Services serves it out to the web.

Husky Planes home page

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Note Internet Services only includes HTML templates for the standard forms. If the conferences or folders you publish include customized forms, you must include customized HTML versions of those forms (see *FirstClass 7 Designer*).

Creating custom templates

You can customize your FirstClass templates to reflect the type and appearance of information that you want served out to your web users. You can make changes to the existing templates, located in the WWW\.templates folder on the administrator's Desktop, or you can create brand new templates to replace the existing ones.

For information on customizing templates, see Online Books in our online help.

Creating custom forms and templates

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You can create custom templates in different ways:

- copy an existing template into a FirstClass document or text editor, and customize the code

- create a new form using FirstClass Designer, and save it as an HTML document (see *FirstClass 7 Designer*)

    Note If you want to use custom forms for your web site(s), you must also create an HTML template of this form and place it in the appropriate template folder.

- create a new document in FirstClass or a text editor using HTML, JavaScript, and Internet Services Script (IS Script).

In all cases, use X-FC-tags to customize your templates. X-FC tags work only in server-parsed HTML files. Internet Services, as shipped, considers the following files to be server-parsed:

- files ending in .SHTML or .SHTM

- include files (.INC)

- templates (from the .templates folder).

Custom templates in the WWW folder

If you are using custom templates, you can put them in a *name*.templates folder (where *name* is any name you give the folder) located in the Internet Services/WWW folder on the administrator's Desktop. You can also place custom templates in the default templates folder (.templates), depending on what browser you want pointing to these templates. When you are arranging your templates in the WWW folder, make sure the correct templates are in the correct folders.

Creating CGIs

While HTML allows you to create only static content, a Common Gateway Interface (CGI) allows you to create active content. An advantage of using CGIs over HTML is that they can be used to create interactive forms or continuously updated fields, such as web hit counters or date fields.

The cgi-bin folder

The cgi-bin folder (an external folder) is located in the same folder as the Internet Services and FirstClass server executables. The cgi-bin folder is not created by default, you must create it.

Since the cgi-bin folder exists on your Internet Services machine, not in the Internet Services folder on the administrator's Desktop, only a user with access to your physical machine can add or remove CGI executables.

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How CGI works on your system

A CGI executable can be written in any language which will create an executable object on your system. For example, C++, Visual Basic, or Perlscript on Windows, and Applescript or Perlscript on Mac.

> **Note** If you are running a CGI executable written in Perl, your machine must be Perl-enabled.

You must put the CGI executable in the cgi-bin folder.

You can also have subfolders separating CGIs into different categories, depending on the complexity of the CGI. Also, if you have two CGIs with the same name, you must place them in different subfolders within the cgi-bin folder.

Internet Services also supports a cgi-win folder for executables that conform to the WinCGI protocol (for example, Visual Basic applications). The cgi-win folder is also an external folder that is not created by default, so you must create it in the same location as the cgi-bin folder.

Basic CGI syntax

To use the CGI, simply call it from your HTML using the syntax:

* `/cgi-bin/executable-name?arguments`

or

* `/cgi-bin/foldername/executable-name?arguments`

cgi-bin	the folder name
foldername	a subfolder name
executable-name	the name of your cgi executable
arguments	any additional arguments attached to the cgi executable

You can place a link on a web page to the executable file.

Adding a CGI script

The following is an example of the CGI script we placed on our Husky Planes home page to generate random links for our web site visitors.

> Note The CGI script is discussed only as it relates to FirstClass. There is no discussion of how to configure CGI files or write Perl script.
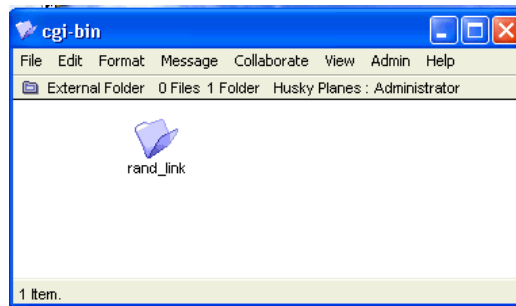
To add a CGI script on Husky Planes:

1. Create a cgi-bin folder in the same folder as the FirstClass server and Internet Services executable files.

2. *in the cgi-bin folder*

Create a folder to hold your CGI script files.

Here we created a folder called rand_link:

cgi-bin folder

3. Install all the CGI files in the folder you created in Step 2.

4. Follow the information contained in the CGI ReadMe to configure your executable.

5. Add a link to your company home page (or any other HTML document on your web site) using the line of code provided in the CGI ReadMe document.

6. Log into your web site and test your CGI executable.

In Chapter 15, "Creating and editing the Aliases document", we will show you how to hide the CGI script we just created from the browser.

14

Adding a CGI script

Creating and editing the Aliases document

Use the Aliases document to run different scripts from your web server while hiding these paths from users.

The purpose of the Aliases document is to:

- install a CGI written for a different web server (for example a CGI written for an Apache server) where you don't have access to the CGI source files or they are too complex to modify. For example:

    - if a CGI is written in a programming language, such as C or C++ and you only have the executable (.exe) file.

    - if a CGI is written in Perl and you are not a Perl programmer.

- trigger CGIs and hide them behind virtual names

    This allows you to hide the source of the CGI and even the fact that you are running CGIs on your system. For an example, see "Hiding a CGI path on a web page" on page 163.

- hide or change URLs

    This allows you to change the name of a publicly accessible conference on your FirstClass system. You may want to provide an alias of the old name to the new name, for people who have bookmarks or to support requests made through search engines. For an example, see "Changing a URL to a publicly accessible conference" on page 164.

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The Aliases document is not a standard item on your system. You must create this document in the Internet Services/WWW folder on the administrator's Desktop:

Basic Alias document syntax

The basic syntax of each line in the Aliases document is:

```
keyword website URLpattern URLreplacement
```

keyword	the word that begins the code line (for example, ScriptAliasMatch or Alias)
website	either * to indicate all web sites (or the only site if the Multiple Sites & Languages form is not used), or a web site alias optionally followed by a period and a language
URLpattern	describes the URL to match (depending on the *keyword*)

URLreplacement	substituted (internally) for the requested URL if the pattern matches

In all cases, the link in the browser will show the *URLpattern*, and navigate to the *URLreplacement*.

> **Note** Both *URLpattern* and *URLreplacement* are case insensitive and regular expressions.

Code lines can start with either the ScriptAlias or ScriptAliasMatch keyword, to trigger CGI processing and Alias and AliasMatch keywords for all other HTTP requests:

Aliases document examples

The following are examples of:

- triggering CGIs and hiding them behind virtual names
- hiding or changing URLs.

Hiding a CGI path on a web page

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In Chapter 14, "Creating CGIs", we placed a CGI on the Husky Planes web site. Now, we are going to provide an alias to the same CGI executable in the Aliases document.

To create an alias to a CGI executable:

1. Create an Aliases document in the Internet Services folder containing the following code:

> **Note** The following code must be entered on one line.

```
ScriptAliasMatch * /[Ll]inks /cgi-bin/
and_link/rand_link.pl/arguments (if any)
```

[Ll]inks	is the link name
rand_link	is the name of the CGI folder in the cgi-bin folder
rand_link.pl	is the CGI executable name
arguments	are any additional arguments required for the CGI executable

> **Note** If you don't want to match, use ScriptAlias.

2. Close the document.

3. Do a Get Config to update your changes.

   You do not need to restart Internet Services.

When a browser requests the URL /Links (or /links) from your server, the request is changed internally to `/cgi-bin/ and_link/rand_link.pl/` and the CGI is run as if the requested URL was entered as `/[Ll]inks /cgi-bin/ rand_link/rand_link.pl?`.

Changing a URL to a publicly accessible conference

You can hide or change URL paths to publicly accessible conferences on your FirstClass system.

For example, on the Husky Planes web site we have a conference called Sold Product Customer Support for the different models of planes we sell. However, we are now moving to a lease-only model for our company but still want to provide support for our customers who have bought our products in the past. Because of our new business direction, the FirstClass administrator has to move the Sold Product Customer Support conference inside another conference called Old Product Support. Since most customers who require customer support have the original conference URL bookmarked in their browsers, we must ensure they can still reach it without having to change their bookmark.

To solve this problem, Husky Planes' administrator created an alias of the URL /Sold Product Customer Support to the URL / Old Product in the Aliases document. Following the basic Aliases document syntax, *keyword website URLpattern URLreplacement*, she entered this in the Aliases document:

```
Alias * "/Sold Product Customer Support"<SP>"/
Old Product Support/Sold Product Customer
Support"
```

The above line of code reroutes customers using their old bookmarks to the new location of the conference.

The Mimetype file

Multipurpose Internet Mail Extensions (MIME), is a specification for formatting documents and messages so they can be sent over the Internet. These documents include server-parsed files and many non-html files such as:

- graphics

- audio

- video.

You set MIME types in the Mimetype file, located in the FCServer/Config folder on your hard drive. Using this configuration file, Internet Services maps file extensions, Macintosh type and Macintosh creator information, to MIME types. You can open this file with any ASCII editor (for example Notepad (Windows) or SimpleText (Mac OS)).

You can use the Mimetype file to:

- associate file types with particular programs

- Render non-template documents

- enable browsers to display files that are not in HTML format

- inform Internet Services of which types of files to parse.

Although you can make changes to your existing Mimetype file, it is usually not necessary for most standard FirstClass systems. By default, the Internet Services Mimetype file is configured to handle most widely used file extensions.

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Associating file types with programs

The most common use of the Mimetype file is to associate file types with programs. The standard length for both the

Macintosh file type and Macintosh file creator names is four characters. If you have less than four characters, you must use double quotes ("") around the entry and put spaces in for missing characters (for example, "mp3 ").

Mimetype file syntax   The basic MIME type syntax is:

mime type/*subtype*<tab>*Mac type*<tab>*Mac creator*<tab>*filename extension*

mime type	is the type of file
subtype	is the subtype of the file
<tab>	is a space
Mac type	is the Macintosh file type
Mac creator	is the browser type
filename extension	is the extension of the file

In keeping with the above syntax, a standard MIME type entry might be:
```
text/html<tab>text<tab>MSIE<tab>.html
```

This entry causes all files with an .html extension to be sent to the browser directly.

For video files, you could enter this line of code in the Mimetype file:

```
video/mpeg MPEG mPEG .mpeg
```

This entry causes all files with an .mpeg extension to be sent to the browser directly.

Although it is a good idea to put entries in for each variable in the MIME type syntax, the most important entries are the *mime type*, *subtype*, and *filename extension*. These entries must be entered for the MIME type code to work. You can enter question marks (?) for the *Mac type* and *Mac creator* variables, for example:
```
audio/basic ???? ???? .snd
```

where this entry specifies a basic audio file with the .snd extension, and both *Mac type* and *Mac creator* can be anything, as designated by the question mark (?).

Although there are many predefined MIME types, such as GIF graphics files and PostScript files, you can also define your own, by adding a line for each in the Mimetype file. Some commonly used file extensions are:

- .shtml, .shtm, .shm, .inc

- .swm, .swmls, .wml

- .png, .pict, .bmp

- .txt

- .css.

Rendering non-template documents

The Mimetype file can also be used to determine which non-template documents to render.

Typically, when a FirstClass web document is opened, a template is used to render it. However, you may want to create web pages using HTML, or some other markup language such as Extensible Markup Language (XML), to display content on your web site. Internet Services must have a way of sending these files to a browser without using templates. You can accomplish this by associating document extensions with specific file types.

Markup language example

For HTML documents, you could enter this line of code in the Mimetype file:

```
text/html<tab>text<tab>MSIE<tab>.html
```

This entry causes all files with an .html extension to be sent to the browser directly.

Non-standard extensions

If you have inherited HTML pages with a nonstandard extension that you want to maintain, for example .wws, you could enter this line of code in the Mimetype file:

```
text/html<tab>text<tab>MSIE<tab>.wws
```

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This entry causes all files with a .wws extension to be sent to the browser directly.

Enabling browsers to identify non-html files

You can use the Mimetype file to enable browsers to identify non-html files and do something with them instead of just saving them to disk (for example, audio and video files). A typical entry might be:
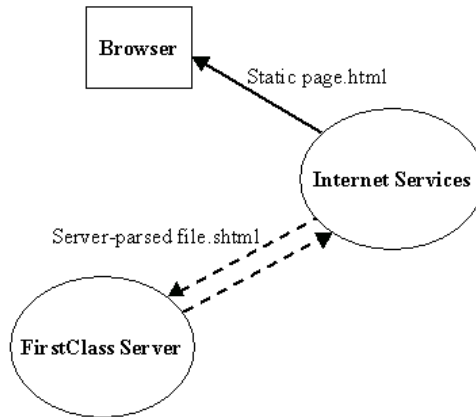
```
audio/mp3<tab>"mp3 "<tab>????<tab>.mp3
```

audio	is the file type
mp3	is the subtype of this file, "mp3 " is the Macintosh type (using less than four characters)
????	designates any browser
.mp3	is the filename extension

Rendering server-parsed files to the web

You can also use the Mimetype file to determine which files should be server parsed. Server-parsed files are dynamic web documents (.shtml extension) that are sent to the server before they are displayed by a browser. This is different from static web documents (.html) that are displayed by a browser without passing through the server.

The following diagram illustrates this concept:

When a browser hits a web site and calls a page, Internet Services sends any non server-parsed files to the browser directly. If there are any server-parsed files that need to be displayed, Internet Services first sends the file to the FirstClass server for processing. After processing is complete, the FirstClass server sends the file back to Internet Services, which then forwards it onto the browser to display.

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Examples of server-parsed files are:

- files with .shtml extensions

- Internet Services web templates

- any documents that include IS Script in the code.

Below are examples of MIME type entries for server-parsed files:

- `text/x-server-parsed-html TEXT MOSS .shtml`

- `text/x-server-parsed-html TEXT MOSS .shm`

- `text/x-server-parsed-html TEXT MOSS .inc`

> **Note** The Macintosh creator code for Netscape is MOSS.

These lines of code identify any html file with extensions .shtml, .shm, or .inc as server-parsed files.

For more information on sever-parsed files, see the Web templates document in our online help.

Using the Java and FTP folders

Use the Java and FTP folders, located in the Internet Services folder on the administrator's Desktop, to include Java enabled features on your system and make files available for download.

Java folder

The Java folder contains a FirstClass chat folder (including FirstClass-supplied templates for the Java chat feature), and FaxViewer. FaxViewer is a Java application that allows users to view PCX and DCX on the web.

Java folder

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This feature allows your users to chat while logged in over the web. You can also place additional folders, containing your own Java applications, in the Java folder.

If you are running Internet Services on a separate machine from the FirstClass server and you wish to run Java chat:

1. Create a copy of your Inetsvcs.fc file and call it PROXY.FC.

For more information about Inetsvcs.fc, see Chapter 6, "Starting Internet Services and logging in".

2. Connect your PROXY.FC file to your server.

This file must be on the same machine routing your web traffic.

The number you enter in Retry Login will specify the number of concurrent chat connections you can have. Remember, each connection consumes a session and therefore system memory.

FTP folder

The FTP folder contains conferences, folders, and files available for download using the FTP protocol.

FTP folder

You can upload files to the FTP folder (subject to permissions), create FirstClass documents in it, or alias conferences and folders to it. All information in this folder is available to authenticated users, anonymous users (if you have this option enabled), and FTP clients (any FTP program). For details on enabling anonymous users, see "Advanced Web & FTP" on page 58.

Uploaded files and documents, whether uploaded directly to the FTP folder or to a conference aliased to that folder, are available for FTP download. Messages within an aliased conference will also be available, but not attachments to those messages. Any attachments you wish FTP users to download should be uploaded separately.

For Mac OS environments, files in the FTP folder must be in a suitable form for downloading. For example, multifork Mac files must be in BinHex or MacBinary format, since FTP does not support multifork file transfers. Internet Services does not perform conversion on-the-fly.

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FTP folder

Maintaining your Internet Services environment

Monitoring your system

One of the most important day-to-day activities you will perform as an administrator is monitoring your system. Understanding the monitors and log files, and the information they provide, helps you proactively maintain your Internet Services system to avoid any down time. Use the Internet Monitor, located in the Internet Services folder on the administrator's Desktop, to check session load and determine whether you need to modify any of the protocol settings.

Internet Monitor display

The Internet Monitor provides information on your Internet Services activity and also lets you update Internet Services changes and empty your cache remotely. When you double-click the Internet Monitor icon, the form opens:

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Internet Monitor

Internet protocols are divided into two groups: outbound and inbound. The outbound group consists of outgoing SMTP mail and NNTP news. The first Total line refers only to outbound protocols.

On the Basic Internet Setup form tab, "Basic Internet Setup - Mail" on page 27, you set the total number of outbound mail and news sessions at Max outgoing mail.

The inbound group consists of inbound mail and news plus directory and web client connections. The second Total line refers only to inbound protocols.

On the Basic Internet Setup form tab,"Basic Internet Setup - Service" on page 35, you set the total number of inbound sessions at Internet sessions.

Internet connection	This light is green when you are connected to the Internet, black when not.
Last Reset	The last time the Internet Monitor was reset.

Vers	The Internet Services version currently active.
Status	This light is green when the protocol is enabled, yellow if enabled but temporarily unavailable, and black if disabled.
Active connections	The current number of active connections for this protocol.
Peak	These are the LED lights to the right of the Totals bars on the Total lines.
	Lights are black if none of the protocols in the group are enabled and green if at least one protocol in the group is enabled and there is no overload condition.
	Lights are yellow if the number of current active connections reaches or exceeds 66% of the total connections you have defined for the group. If the LED is yellow consider adding sessions.
	Lights are red if the number of current active sessions reaches 100% of the total connections you have defined for the group. If the LED is red this means service was denied, and you should add sessions if memory allows.
	Lights will stay yellow or red until you click Reset or restart Internet Services.
Hits/Items	The total number of connections since you last clicked Reset.
Transferred	The amount of data, in kilobytes, transferred using this protocol since you last clicked Reset.
Reset	Resets the date and time, clears the Hits/Items, and Transferred sections.
	Monitor totals and Peak lights will reset when you restart Internet Services.

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Get Config	Forces Internet Services to reread its config forms, located in the Internet Services folder, except for the HeaderMatch document and Alias document.
Flush Cache	Flushes HTTP cache.
	Empties static content from the HTTP cache. The HTTP cache should be flushed when you change static content on your web site or when you edit templates.

If peak usage occurs, either increase the number of available sessions (this will increase the amount of memory used) or disable low priority protocols within the group.

Managing system security

Your FirstClass Internet Services is already very secure. However, since your system communicates with the Internet, and therefore, communicates with systems outside of your own, we encourage you to take extra steps to increase security. For information on FirstClass server security, see *FirstClass 7 Administrator's Guide*.

In this chapter, we discuss unwanted email and SPAM, the Internet Services Filters folder, and creating security certificates using the Secure Socket Layer (SSL) protocol.

Controlling unsolicited email and SPAM

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Unsolicited email (UCE and SPAM) is a big problem on the Internet. People who generate unwanted traffic are able to do so because many SMTP servers are incorrectly configured. This allows SPAMmers to "bounce" or relay SPAM email off of their system. As a result, efforts to track these SPAMmers are often unsuccessful as they move on to other unprotected web servers.

If your system is used to relay SPAM email, you can expect to experience any of the following activities:

- high load on your server as these unwanted messages are processed

- damage to your organization's reputation as questionable material is seen emanating from your site

- reduction or denial of your Internet Services as Internet Service Providers (ISPs) and other Internet organizations begin to recognize you as a SPAMmer.

Internet Services provides many features to help you reduce SPAM on your system. These features are controlled using the

Basic Internet Setup form > UCE/Spam tab and the Internet Services > Filters folder, which are both located on the administrator's Desktop. For further discussion of the UCE/Spam tab, see "Basic Internet Setup - UCE/Spam" on page 32. For a description of Basic Internet Setup form fields, see our online forms help.

Using the Filters folder for system security

The Filters folder, located inside the Internet Services folder on the administrator's Desktop, in conjunction with the options on the Basic Internet Setup form, plays an important role in securing your FirstClass system. The Filters folder holds files or documents containing email addresses, domain names of individuals, or sites from which you want to restrict email. These files can be either FirstClass documents or uploaded text files. For information on uploaded files, see our online help.

When Internet Services is started, the files in the Filters folder are used to create:

- a table of SPAM addresses, domain names, and email addresses

- a table of "trusted" addresses, domain names, and email addresses.

Filter documents

There are general rules you must follow when setting filters for email, IP addresses, and IP masks or domain names in your filter documents.

> **Note** A mask is a filter that selectively includes or excludes certain values.

These rules are separated into:

- rules for general headers on email

- rules for Internet addresses.

Rules for general headers

Email headers follow these rules:

- if a mail item has any priority set, obey the setting and do not mark as junk (it may already be marked as such)

- if a message has no messageID, mark it as junk

- If a message only has "Bcc" recipients, mark it as junk

- If a message has one of the following X-Mailers, mark it as junk:

  - Extractor

  - Floodgate

  - Group Mail

  - Millennium Mailer

  - AutoMail.

Rules for Internet addresses

On Internet addresses, follow these general rules for marking addresses as junk:

- if the From address has no "@" sign

- if the From address is in the filters list

- if the From domain name is "*numeric*.com"

  Numeric can be on or more number ranging from 0 -9 inclusive, for example 12345.com.

- if the From address matches the To address

- if To is Friend@public.com.

Filter document syntax and examples

In a filter document, a plus sign (+) can be placed before a user address or domain name to indicate that the user or domain is trusted even if it falls within a filtered group. A plus sign (+) on an IP mask will allow email relaying for those specific sites even if you have disallowed relaying. For information on setting relay options, see "Basic Internet Setup - UCE/Spam" on page 32.

A filter document can contain the following types of entries:

#	this character is used as a comment

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111.222.333.444	This entry blocks this IP address.
111.*.*.*	This entry blocks every IP address in this mask (every IP address starting with 111).
spamdomain.com	This entry blocks this domain name.
user1@piratedomain.com	This entry blocks this email address.
+111.111.111.111	The plus sign (+) prefix in this entry makes this IP address trusted. Email from this IP address will not be marked as junk or rejected; relaying is allowed.
	You cannot use wildcards for trusted IP ranges; you must add them individually.
+happyplace.com	The plus sign (+) prefix in this entry makes this domain trusted. Email from this domain name will not be marked as junk. There is no relaying, as only IP masks have this effect.
+goodguy@spamdomain.com	This entry overrides earlier spamdomain.com block. There is no relaying effect.

Ways to secure your system from unauthorized relaying

There are many ways you can use the UCE/Spam tab, see "Basic Internet Setup - UCE/Spam" on page 32, in combination with filter documents to help you secure your site from unauthorized message relaying. Here are three examples that should work for most sites:

Example 1

This method is simple and reliable.

On the UCE/Spam tab, select Do not relay messages. This method works for every site that doesn't need to relay mail.

Example 2

This method is also simple and provides only a slight risk of SPAM getting through. On the UCE/Spam tab:

1. Select Relay messages from domains served by this system.

2. Select Reject based on domain name.

3. Set DBG_SMTPCon = 1 debugging in the Inetsvcs.cf file.

For information on the Inetsvcs.cf file, see Routine administration in our online help.

This method allows you to relay messages safely and will only let through messages from a site that claims to be your domain name. However, this situation is usually avoided using the reverse DNS option on the HTTP tab on the Advanced Web & FTP form. For information, see "Advanced Web & FTP - HTTP" on page 59. If unwanted messages do filter into your site, the Internet Services console will log entries that read "spammer.com claims to be this domain.com".

Example 3

This method is a little more work but effective. On the UCE/Spam tab:

1. Select Do not relay messages.

2. Select Reject based on junk mail list.

3. Add the IP masks as trusted IP addresses of your local POP3 users in one of the SPAM filter files, as well as any SMTPs for which you want to relay.

This method allows only those users at the IP addresses specified, to relay from your site. This will stop all unauthorized relaying through your system.

Creating Internet security certificates

Certificates are a way of securing the transmission of private documents on the Internet using the Secure Socket Layer (SSL) protocol. The SSL Certificates folder is located in the Internet Services folder on the administrator's Desktop.

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SSL Certificates folder

This chapter takes you through the process of generating your certificate request, sending the request to a certificate authority and, finally, creating the security certificate document for your system.

SSL protocol overview

The primary goal of the SSL protocol is to provide privacy and reliability between two communicating applications. The SSL protocol uses certificates to create a private key to encrypt data that is transferred over the SSL connection. At the lowest level of this protocol is the SSL Record Protocol. This protocol is layered on top of a reliable transport protocol, for example TCP/IP.

The SSL Record Protocol is used to encapsulate various higher-level protocols. One such encapsulated protocol, the SSL Handshake Protocol, allows the server and client to authenticate

each other and to negotiate an encryption algorithm and cryptographic keys before the application protocol transmits or receives its first byte of data. Encryption is used after an initial handshake to define a secret key.

One advantage of SSL is that it is application protocol independent. This means a higher-level protocol can layer on top of the SSL Protocol transparently.

Both Netscape Navigator and Internet Explorer support SSL, and many web sites use the protocol to obtain confidential user information, such as credit card numbers. By convention, Web pages that require an SSL protocol connection start with HTTPS, instead of HTTP (see Chapter 9, "Using the Multiple Sites & Languages form"), and will have a browser lock(s) on the bottom of the secured web page:

https://huskyplanes.com/catalogue/resales/   Internet

SSL support in Internet Services

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Internet Services supports the Secure Socket Layer standard as a method of providing secure communication over the HTTP protocol. Internet Services supports SSLv2, SSLv3, and TLSv1 and both strong and weak (export) encryption levels. Internet Services does not support the use of IDEA encryption algorithms in SSL.

Creating a security certificate for your system

To create a security certificate for your FirstClass system:

1. Shut down FirstClass server.

or

Create a blank or a dummy post office on a separate machine.

2. Start FirstClass Tools.

3. Select Configure > Make Certificate Package.

4. Enter a password:

> **Note** You can choose any alphanumeric password you wish. Record this password in a secure place, as you will need to use it later.

5. Click OK.

You now have to fill out a request form.

6. Complete the Certificate Request Information form.

> **Note** You must fill in every field on the Certificates form.

Certificate Request Information form

Country name   The name of your country. For example, CA for Canada.

State or province name	The full name of your state or province. For example, Ontario.
Locality name	The full name of your city. For example, Markham.
Organization name	The full name of your organization. For example, Husky Planes Inc.
Organization unit name	The full name of the department or area in your organization for the web site. For example, Sales, Engineering, or Marketing. If your web site is for your entire company, repeat the company name in this field.
Domain name	Web site domain name. For example, www.huskyplanes.com.
Email address	Web site email address. For example, sales@huskyplanes.com.

After you have completed the form, press OK and follow the instructions.

7. Move the mouse over the screen to generate random data.

> **Note** Moving the mouse over the screen generates random information needed to generate the certificate.

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Information that represents both an RSA private key and the certificate request is gathered, and text-like output is displayed to this form:

8. Copy both sections of the above information to a text file.

9. Shut down FirstClass Tools and start your FirstClass server.

If you are using a blank or dummy post office on a separate machine, use this server, not your live server.

10. Open the Internet Services/Certificates folder, on the administrator's Desktop, and create a new FirstClass document.

11. Paste the first section of the text from Step 8 (starting with ----BEGIN RSA PRIVATE KEY ----) into the document you created in the Certificates folder in Step 10.

12. Close the document and name it something meaningful ending with one of the following extensions: .cert, .crt, or .pem.

13. Choose a certificate authority, for example, VeriSign.

14. Request an SSL certificate on your certificate authority's web site and, when prompted, paste the second section of the text from Step 7 (starting with ----BEGIN CERTIFICATE REQUEST----) into the text field provided.

To see a list of certificate authorities in the Netscape browser:

> **Note** Third-party vendors issue security certificates for a small fee.

a) Select Communicator > Tools >Security Info, while in the browser.

b) Click Signers, located on the Certificates window.

To see a list of certificate authorities in the Microsoft Internet Explorer browser:

a) Select Tools > Internet Options.

b) Click Certificates on the Content tab.

c) Click the Trusted Root Certification Authorities tab.

A certificate will be emailed back to you, containing this information:

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```
-----BEGIN CERTIFICATE-----
MIICaDCCAhICEGxWiH7imteVvRYhrSwuzjEwDQYJKoZIhvcNAQEEBQAwgakxFjAU
BgNVBAoTDVZlcmlTaWduLCBJbmMxRzBFBgNVBAsTPnd3dy52ZXJpc2lnbi5jb20v
cmVwb3NpdG9yeS9UZXN0N0Q1BTIEluY29ycC4gQnkgUmVmLiBMaWFiLiBMVEQuMUYw
RAYDVQQLEz1Gb3IgVmVyaVNpZ24gYXV0aG9yaXplZCB0ZXN0aW5nIG9ubHkuIE5v
IGFzc3VyYW5jZXMgKEMpVmVyaVNpZ24sIEluYy4xMDAxMDMwNjawMDAwMFoXDTAxMDMyMDIz
NTk1OVowgYAxCzAJBgNVBAYTAkNBMRAwDgYDVQQIEwdPbnRhcmlvMRAwDgYDVQQH
FAdNYXJraGFtMRkwFwYDVQQKFBBDZW50cmluaXR5LCBJbmMuMRUwEwYDVQQLFAxE
ZXZlbG9wbWVVudDIxGzAZBgNVBAMUEmZ1bGwuYmx1ZWR3YXJmLmNvbTCBnzANBgkq
hkiG9w0BAQEFAAOBjQAwgYkCgYEApdOcnoRvVL87OATwd+UBzB/PeoDfypYeUvZd
uWqfadhFfkxPymTE397jt/SRJ6pGXBun6GqzgOZ4/Vhb+2p+kFCQ4S+4Gff05Y1A
ecK4IvaFqLUW7szLeDjLVSv6CRy4TgMd/D5vqZ10WpD68LC6VY5INhQHIlz6zb3T
rX2GebECAwEAATANBgkqhkiG9w0BAQQFAANBAESmdLYHx8RQJ0Esdvv11XgWx2Wg
V5yDuRid6Vn7JXDKqUUwe22cVAETuWDpojBo50dPcQuLyIq+MjCARUZqXqM=
-----END CERTIFICATE-----
```

Paste the above text (starting with ----BEGIN CERTIFICATE---- and ending with ----END CERTIFICATE----) above the text in the document you created in Step 10.

15. Enter this line between the two paragraphs in the document:

password: <password here>

where <password here> should be replaced with the password you entered in step 4.

This is what your document should look like.

Completed certificate document

```
-----BEGIN CERTIFICATE-----
MIICaDCCAhICEGxWiH7imteVvRYhrSwuzjEwDQYJKoZIhvcNAQEEBQAwgakxFjAU
BgNVBAoTDVZlcmlTaWduLCBJbmMxRzBFBgNVBAsTPnd3dy52ZXJpc2lnbi5jb20v
cmVwb3NpdG9yeS9UZXhhN0Q1BTIEluY29ycC4gQnkgUmVmLiBMaWFiLiBMVEQuMUYw
RAYDVQQLEz1Gb3IgVmVyaVNpZ24gYXV0aG9yaXplZCB0ZXN0aW5nIG9ubHkuIE5v
IGFzc3VyYW5jZXMgKEMpVMxOTk3MB4XDTAxMDMwNjAwMDAwMFoXDTAxMDMyMDIz
NTk1OVowgYAxCzAJBgNVBAYTAkNBMRAwDgYDVQQIEwdPbnRhcmlvMRAwDgYDVQQH
FAdNYXJraGFtMRkwFwYDVQQKFBBDZW50cmluaXR5LCBJbmMuMRUwEwYDVQQLFAxE
ZXZlbG9wbWVudDIxGzAZBgNVBAMUEmZ1bGwuY2Ymx1ZWR3YXJmLmNvbTCBnzANBgkq
hkiG9w0BAQEFAAOBjQAwgYkCgYEApdOcnoRvVL87OATwd+UBzB/PeoDfypYeUvZd
uWqfadhFfkxPymTE397jt/SRJ6pGXBun6GqzgOZ4/Vhb+2p+kFCQ4S+4Gff05Y1A
ecK4IvaFqLUW7szLeDjLVSv6CRy4TgMd/D5vqZ10WpD68LC6VY5INhQHIIz6zb3T
rX2GebECAwEAATANBgkqhkiG9w0BAQQFAANBAESmdLYHx8RQJ0Esdvv11XgWx2Wg
V5yDuRid6Vn7JXDKqUUwe22cVAETuWDpojBo50dPcQuLyIq+MjCARUZqXqM=
-----END CERTIFICATE-----

password: <password here>

-----BEGIN RSA PRIVATE KEY-----
MIICXQIBAAKBgQDN+yG3aucGQhmuNR4+nBs/Uivr7e9os7ewhII6Ot00FcUuRO20
gYMEU7L8HpF0NfrdyH1/6F8b3FE6YhSVHTtuQoTVainmuMpR0GVK1FNL3Bp/hOZ3
QoEnPmveKPpHxXQDmM+5LQgt8cLQFzzGj5DnOzF9XXX5ktmnUZxASKS5GQIDAQAB
AoGBAJotsvQWuaxuh8hlDClzMdX4zNWBOOWXOBSRauTpMLAO55QVlhO5qXbwq5WZ
z+g7i3a83muCZMZ25/oadiuTQOqUWPGI9hIQ3/NeX4UxeP/LyxC1kHeiS3KV3rPR
clOe/FI9XMkSVO0AYZ0hForlkUt//hT0bMKMHPpHs6Xrq2hNAkEA6pSTb4tjDE0G
7ZpQyvmSvwJBAODKCCgzZttWRkqcxA327kTNnpQCOObbHGIh/e+HwoHqcQVXy4nr
f/1f1gm5mBXxRg+2LERc4R2fBdBiHeteIicCQA9Sv0LFDyZJjcJOXgz4UEc5GUOT
vUbSETMkqfHdWuUvEbrqNCZcKhDMEqATFi8m2VffBCjUM6g17n802lw3608CQCQW
KvMRNWz2z7gArLS1NJEVFWUbajkdadQTMun2OHKUyWobKxDMHrL1ZK4Q/mpfXmj9
TOP4qScRNWS7q6Pya7cCQQDnoarugOUDMSqjpZtc0PQpfl6W3cR+Tj/40oSz1Mb2
9dD+YOhu7DPa6369w7XIyifSUonz9I0ig4KdoXBlOy7W
-----END RSA PRIVATE KEY-----
```

16. Open the Multiple Sites & Languages form and enter the certificate name (from Step 12) in Certificate field.

Change SSL Status to either Enabled or Required. Enabled will instruct Internet Services to accept both secure and unsecure connections for the web site. Required will only accept secure connections:

> **Note** If you want to support SSL in a multi-site setup, you must purchase separate security certificates and pick unassigned port numbers (except for port 443 that is the default port) for each site.

17. Restart Internet Services.

Your Internet Services console should include a line that reads "Initialized 1 HTTPS listeners".

Note When you enable HTTPS, the SSL connection is in use. This means extended server-side include (XSSI) variables that describe the connection become available (are set) and can be used in XSSI scripts. Internet Services supports all industry standard XSSI variables, with the exception of SSL_VERSION_INTERFACE. For a full listing of the

variables used in Internet Services, see our online help.

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