



/SecureFileTransfer Automation

DataBridge Administrator Guide

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DataMotion, Inc.

200 Park Avenue, Suite 302

Florham Park, NJ 07932

USA

1 800-672-7233 or +1 973-455-1245

<http://www.datamotion.com/>

FileTransfer DataBridge Administrator Guide

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ABOUT THIS GUIDE

INTRODUCTION

Welcome to the DataMotion DataBridge hosted Service Administrator Guide. The purpose of this guide is to provide the information necessary to manage your DataBridge configuration.

DataBridge is cost effective, easy to install and quick to implement. DataBridge provides an easy to use tool for regular, planned file transfers user-to-server and server-to-server.

To simplify locating information and answering questions about functionality, each chapter in this guide is focused on a specific task or type of information. The first part of this guide focuses on the overall administration through the DataMotion Portal while the second part focuses on the local administration that occurs through the management console.

The remainder of this section contains important general information about this guide.

INTENDED AUDIENCE

This guide is intended primarily for administrators.

It is helpful if the reader is familiar with navigating the Internet with a web browser such as Internet Explorer, Firefox or Chrome.

Users of this guide are not expected to be security experts, but knowledge of file transfer is helpful.

It is expected that the reader is familiar with accessing and navigating the SecureMail server.

OTHER REFERENCES

This document does not provide steps or information about managing user accounts which are normally associated with SecureMail. The SecureMail Administrator Guide provides information about user account management for the users who will send and receive files.

The following documentation provides more information about other aspects of DataBridge:

- *DataBridge Services Install Guide* – installation of the locally installed DataBridge Server.
- *SecureMail Administrator Guide* – management of SecureMail user accounts.
- *SecureMail FileTransfer User Guide* – documents how an end user can interface with the FileTransfer services.

EXAMPLE REFERENCES

For easier reading with examples, a fictitious company called Galactic Seats is used for reference. This company has been setup with a Cobrand.

INTRODUCING DATAMOTION DATABRIDGE

DataMotion DataBridge provides simplified managed file transfer capabilities for organizations that need to integrate the delivery of files between systems and users. Designed to easily fit into existing workflows, DataBridge leverages standards-based technology such as SSL, TLS, SSH and AES encryption to ensure compatibility with how you work while providing maximum security and tracking.

DATABRIDGE FEATURES

DataBridge is a highly flexible platform which can provide a variety of secure transport services for your organization. Integrated with the DataMotion Portal it provides an easy to deploy and low risk exposure platform for a hosted, managed secure file transfer solution. Both users and servers can send and receive files along pre-defined workflows or workflows, enabling an organization to quickly move and track files that must be securely transferred both inside and outside their organization.

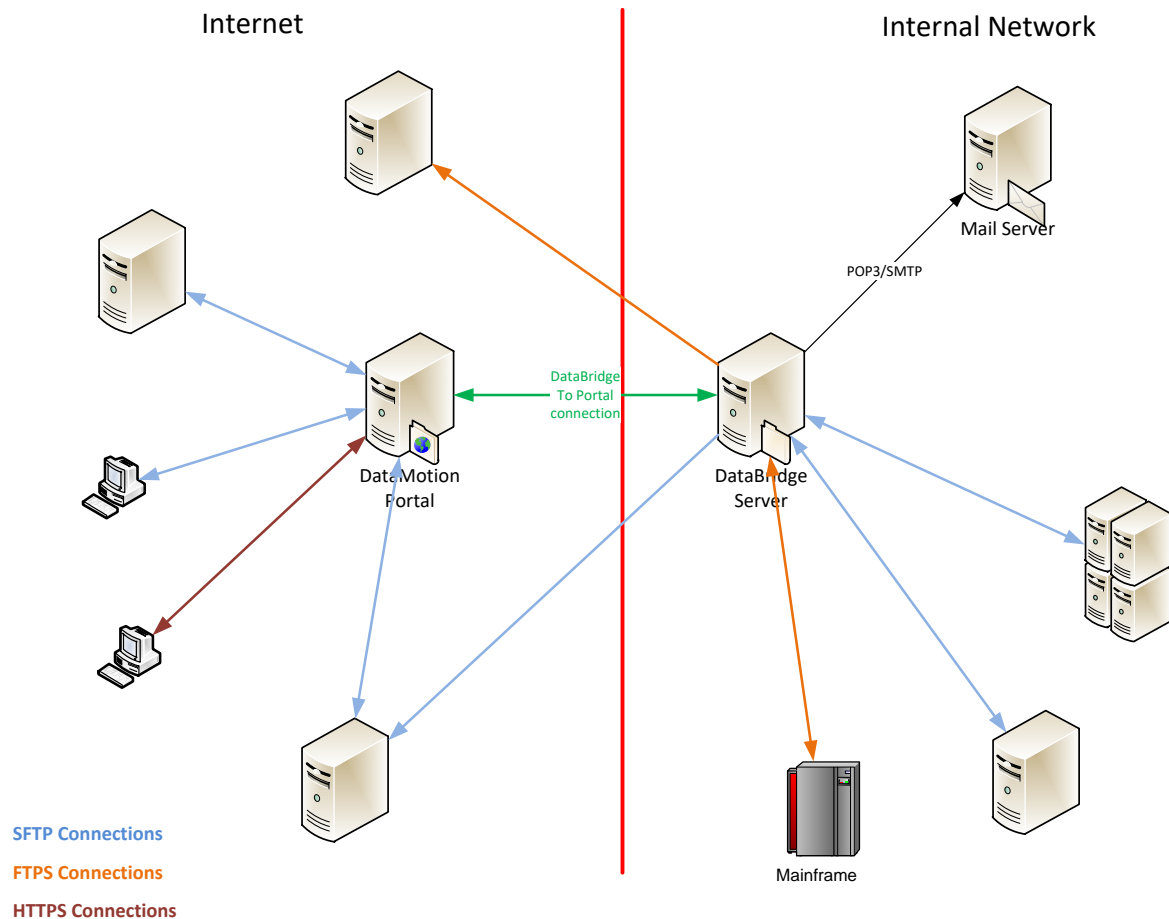
A short list of features available to you through DataBridge is:

- External entities can send and receive files without needing access to your network
- No inbound open firewall ports to send or receive files with DataBridge
- Focused around what a user needs, not the file delivery process
- No management of directory structures to provide file transfer
- End users have multiple options for uploading and downloading files
- Integrate with SecureMail accounts to provide secure email and ad hoc file transfer capabilities in a single package
- TotalView reporting for all files sent through the system

DATABRIDGE ARCHITECTURE

There are two components to a DataBridge installation: the DataMotion Portal and the DataBridge server. The DataBridge server acts like a client of the DataMotion Portal, receiving its configuration from the Portal. The benefit to this configuration is that all connections are initiated by the DataBridge server, not the Portal, so no inbound firewall ports need to be open to enable files to be sent from external entities to your internal servers. The external entities send their files to the DataMotion Portal, and the DataBridge server connects to the Portal to download (or upload for outgoing) the files. This enhances your network security by eliminating the need to maintain file transfer servers inside the DMZ along with the open firewall ports associated with them.

The illustration below shows the DataMotion Portal on the Internet, able to send and receive to any systems also on the Internet. The DataBridge Server fully talks only to the Portal and servers located inside the internal network. The connections shown from the DataBridge Server to other Internet servers are outbound-only connections where DataBridge is accessing those servers directly as a client to send or receive files.



DATABRIDGE WORKFLOWS

There are three types of workflows possible within DataBridge with their own specific configuration requirements.

Client to Server Workflow

The Client to Server workflow starts with an external entity needing to send a file to an internal server. This user would initiate the connection through the DataMotion Portal, either by uploading the file through a web browser or SFTP client. This file would be downloaded by DataBridge and delivered to the server.

Server to Client Workflow

The Server to Client workflow is the opposite of the Client to Server flow. The source is an internal server that is sending a file to an external entity. The file is delivered to DataBridge which then uploads it to the Portal for delivery to the external entity. The external entity can download the file from the Portal by email, web browser or SFTP client.

Server to Server Workflow

This workflow is similar to the Server to Client Workflow with the key difference here being that DataBridge delivers the file directly to the destination server without going through the Portal.

COBRANDING

To provide a common user experience, it is possible to have your users and customers see the DataMotion Portal as a branded site showing your organizational identity and not DataMotion. An example of the difference between a branded and not branded site is shown below.

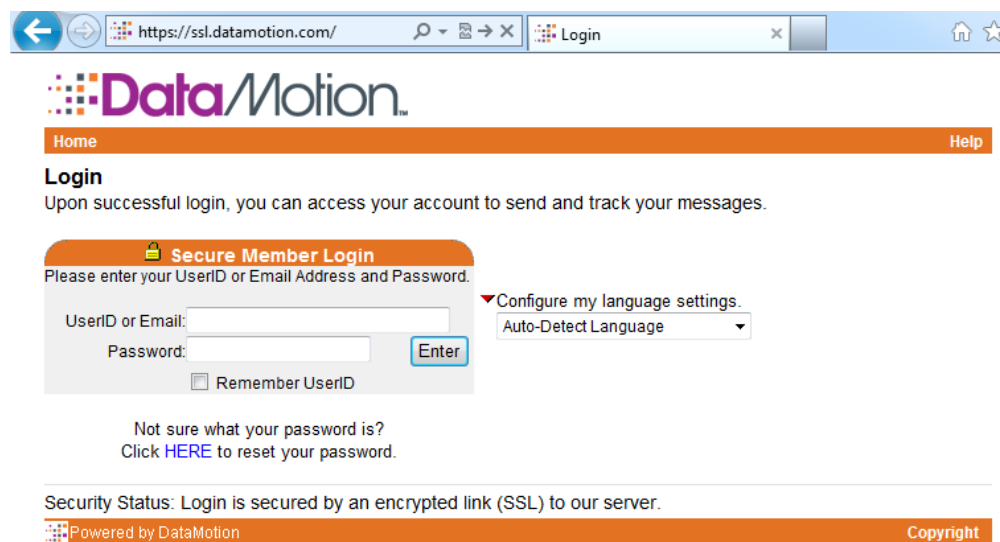
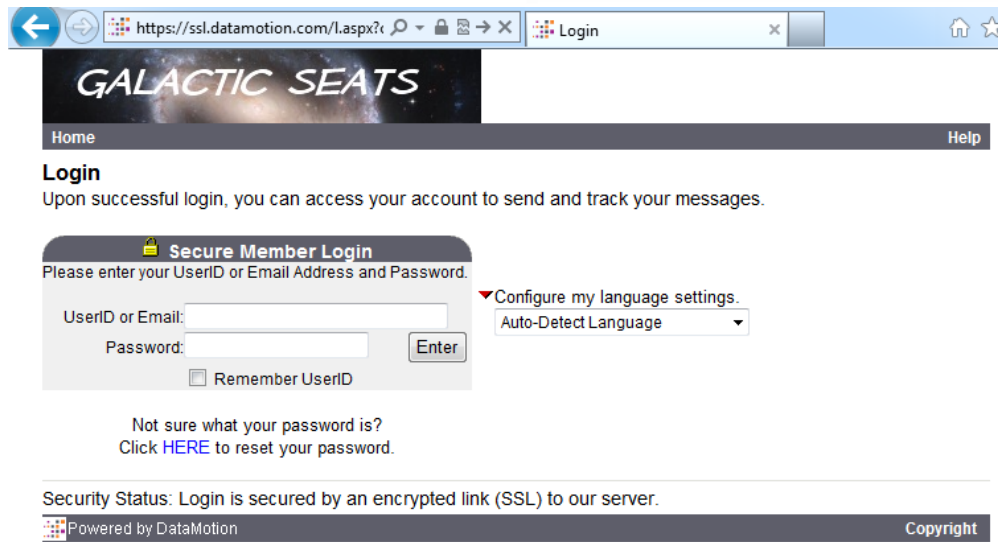


Figure 1 - DataMotion default site branding



The screenshot shows a web browser window with the URL `https://ssl.datamotion.com/l.aspx?c`. The page features a header with the custom branding "GALACTIC SEATS" and navigation links for "Home" and "Help". Below the header, there is a "Login" section with the text: "Upon successful login, you can access your account to send and track your messages." The main content area contains a "Secure Member Login" form with the following elements:

- A lock icon and the title "Secure Member Login".
- A prompt: "Please enter your UserID or Email Address and Password."
- Input fields for "UserID or Email:" and "Password:".
- An "Enter" button next to the password field.
- A checkbox labeled "Remember UserID".
- A link to "Configure my language settings." with a dropdown menu currently set to "Auto-Detect Language".
- A link for users who are "Not sure what your password is?" with the text "Click [HERE](#) to reset your password."

At the bottom of the form area, a "Security Status" message states: "Login is secured by an encrypted link (SSL) to our server." The footer of the page includes "Powered by DataMotion" and a "Copyright" notice.

Figure 2 - Custom site branding

DATABRIDGE ADMINISTRATION OVERVIEW

The administration of DataBridge is primarily focused around workflow and endpoint administration.

ACCESSING DATABRIDGE ADMINISTRATION

Administration of the DataBridge functionality is done through the Workflow Management console when you login as a DataBridge administrator. The link will appear under the Admin Console.

Member Center

DataBridge Admin: <zmoore@galacticseats.com>

▼Messages & Files

[Send New](#)
[Track Sent](#)
[Inbox](#)
[Drafts](#)
[Folders](#)

▼My Account

[Address Book](#)
[User Information](#)
[Preferences](#)
[SecureContact.me](#)

▼Download Console

[Client Downloads](#)

▼Admin Console

[Administrative Tools](#)
[Workflow Management](#)
[Security Questions](#)

▼Workflows

[Upload Workflow](#)
[Track Workflows](#)

DATABRIDGE ADMINISTRATION TOOLS

There are four areas of administration functions available for DataBridge: Workflows, Endpoints, Modules and Tools. The Modules and Tools areas are for managing the configuration of the DataBridge server. The Workflows and Endpoints areas are for creating and maintaining the file transfer routing information.

Workflow Management Console Galactic Seats

DataBridge Server: ▼

[Workflows](#) [Endpoints](#) [Workflow Groups](#) [Modules](#) [Tools](#)

Once workflows and endpoints have been created, they can be seen by clicking on the alphabet below the menu tabs (not shown here). This list will highlight when a workflow or endpoint starts with the specified character (letter, number or special character). Clicking on the link will display the list of items starting with that character. Nothing is shown until you click on one of the characters.

In addition to these functions, it is also necessary to manage the users who will be uploading files. These users must be in the User Type “File Transfer Users” to be able to use the system. More information about managing user accounts can be found in the *SecureMail Administrator Guide*.

DATABRIDGE SERVERS

Each DataBridge server must have an account created for it on the DataMotion Portal. This is done by DataMotion Support and the necessary account information for setting up the server is provided directly. It is possible to have multiple DataBridge servers within your company but endpoints and workflows are defined uniquely for each DataBridge.

For example, a workflow is uniquely defined on an individual DataBridge server and the file transfers for that workflow will only be handled by that server. If a user needed to receive files from workflows on two different DataBridge servers, that user would need to be defined as an endpoint on each server.

DATABRIDGE MODULES

The primary configuration source for any DataBridge server is the DataMotion Portal. The settings on the DataMotion Portal are the “master” settings and will always overwrite any local settings that are in conflict. The Modules provide the settings that control how the DataBridge server communicates and interacts with the DataMotion Portal.

MODULE SETTINGS

The following table provides a description of the settings which can be configured for DataBridge.

Modules

Configuration Update

Enabled: ☒

DataMotion Portal Polling Interval (seconds):

Control File

Enabled: ☒

File Directory:

File Polling Interval (seconds):

Email Polling Interval (seconds):

Email To Address:

Email Subject:

☐ Processed File Location:

POP3 Server

Host Name:

Port:

User Name:

Password: *Credentials must be configured on the DataBridge server

Message Synchronization

Enabled: ☒

DataMotion Portal Polling Interval (seconds):

DataMotion Portal File Expiration (days):

Workflow Synchronization

Enabled: ☒

DataMotion Portal Polling Interval (seconds):

Workflow

Enabled: ☒

Jobs Polling Interval (seconds):

Temporary Directory:

Maximum Retries:

Retry Interval (seconds):

Heartbeat

Enabled: ☒

DataMotion Portal Polling Interval (seconds):

Logger

Enabled: ☒

DataMotion Portal Polling Interval (seconds):

SMTP Server

Host Name:

Port:

User Name:

Password: *Credentials must be configured on the DataBridge server

Update

NOTE: The Heartbeat setting should always be enabled. While it is not required, all other connections to the Portal check on the connection status via the Heartbeat setting before attempting a connection. If this is not enabled or is set to a larger value the performance of other connections can suffer.

NOTE: Each of these settings is independent of the others. This means that different intervals can be used for different types of data based on expected usage and need. It also means that modules can be enabled or disabled as necessary.

Each DataBridge server will have its own unique set of Module settings.

Module Setting	Module Field	Description	Recommended Value
Configuration Update	DataMotion Portal Polling Interval	The interval at which these configuration settings will be polled.	86400 seconds
Control File	File Directory	The local folder where control files (and possibly data files) will be placed on the DataBridge server.	
	File Polling Interval	The polling intervals for both the local folder and the POP3 email account to check for new control files.	10 to 180 seconds (depending on the number of files being transferred). A value of 0 will disable checking the File Directory. At least one value must not be 0.
	Email Polling Interval	The polling intervals for both the local folder and the POP3 email account to check for new control files.	10 to 180 seconds (depending on the number of files being transferred). A value of 0 will disable checking the email account. At least one value must not be 0.

Module Setting	Module Field	Description	Recommended Value
	Email To Address	The email address which can receive control files by email.	-
	Email Subject	The subject line which is used for any control file sent through email. Emails that do not have that subject will be ignored in the specified Inbox.	-
	Processed File Location	When enabled, a copy of any control file that has been read will be placed in the specified location. The copy process will overwrite existing files (it will not rename files to preserve multiple copies), and the files are not automatically removed or cleared by DataBridge.	-
POP3 Server	Host Name	The name or IP address of the mail server where the Control File Email Account can be accessed	-
	Port	The port to connect to the mail server. If set to 993 the connection will automatically use SSL.	-
Message Synchronization	DataMotion Portal Polling Interval	The polling interval for DataBridge to contact the Portal to both download incoming files and upload new files being sent out to external users.	60 to 180 seconds (depending on the number of files being transferred).

Module Setting	Module Field	Description	Recommended Value
	DataMotion Portal File Expiration	The expiration time before a file is automatically removed from the DataBridge Portal. NOTE: This occurs whether the file has been downloaded or not.	14 days
Workflow Synchronization	DataMotion Portal Polling Interval	The polling interval for synchronizing new workflows/endpoints from the Portal to the DataBridge server.	3600 seconds
Workflow	Jobs Polling Interval	The polling interval for running new transfer jobs. This includes jobs from control files as well as new jobs based on Messages from the Portal.	10 to 180 seconds (depending on the number of files being transferred).
	Temporary Directory	Specifies the working directory for file transfers in process as well as max retries and the retry interval.	-
	Maximum Retries	The maximum number of times a delivery will be attempted before the job is put into a Delivery Failure state	5 retries
	Retry Interval	The amount of time between retry attempts	At least 360 seconds
Heartbeat	DataMotion Portal Polling Interval	The frequency which DataBridge checks to see if the Portal is still accessible. This should always be enabled and configured with an equal or smaller value than any other Portal connection setting.	60 to 180 seconds This should be equal to or smaller than any other interval that connects to the Portal.

Module Setting	Module Field	Description	Recommended Value
Logger	DataMotion Portal Polling Interval	The frequency that log information generated by DataBridge is uploaded to the Portal. This information can be used to support troubleshooting.	43200 seconds
SMTP Server	Host Name	The name or IP address of the server used to send out status notification messages from DataBridge. This does not include messages sent directly from the Portal, only those which would normally originate from DataBridge.	-
	Port	The port used to connect to the SMTP server	-

Once any settings have been changed, click Update to save them.

NOTE: All Interval settings are in seconds and cannot be set lower than 10 seconds.

ENDPOINT MANAGEMENT

On the DataBridge, an Endpoint is defined as any user or server which will send or receive a file. To access the Endpoints click the Endpoints tab inside the Workflow Management Console.

[Workflows](#) [Endpoints](#) [Workflow Groups](#) [Modules](#) [Tools](#)

Endpoints

Endpoint Management

A B C D E **F** G H I J K L M N O P Q **R** S T **U** V W X Y Z 0-9 SPECIAL

Create New Endpoint

An Endpoint is not specifically a source or a destination for a workflow. A single Endpoint can be used as a source or a destination on any workflow, and can be used on multiple workflows.

NOTE: The 0-9 is for all items starting with a number and the SPECIAL is for any item starting with something other than a letter or number.

CREATING A NEW ENDPOINT

An Endpoint can be server or a user, and each one has different configuration information required to be added. When creating an Endpoint, the choice in the Protocol field will determine whether the Endpoint is a user or a server.

There is no limit to the number of times you can set a single server as an Endpoint. As long as the server Endpoint Name is unique, you can use the same information (protocols, ports, hostnames, etc.). This is not the case for users, which can only be defined once based on the email address.

Server Endpoints support three connection protocols: SFTP, FTPS and FTP. The fields that are available will change based on the protocol selected to provide you with only what is needed to complete the Endpoint definition.

Common Server Endpoint Fields

The following fields are common to all server Endpoints.

Server Field	Description
Endpoint Name	The name of the Endpoint as it will be called when selecting Workflows
Protocol	The Protocol used for transport. For servers the options are SFTP , FTPS and FTP .

Server Field	Description
Port	<p>The port used by the protocol. The port will change to the default port for the specified protocol. The ports listed below are the standards-specified defaults for each protocol.</p> <p>SFTP: 22</p> <p>FTPS: 990</p> <p>FTP: 21</p>
Host Name	The Fully Qualified Domain Name or IP Address of the server.
User Name / Password	<p>This is where you would specify credentials to access the server. This information can only be accessed through the DataBridge Console located on the DataBridge server itself. The Endpoint is created on the Portal and when the Endpoint is synchronized to the DataBridge server the credentials can be entered. This information is never passed back to the Portal.</p>
Duplicate Workflow Delay	<p>An optional field when the Endpoint is used as a Workflow destination where you can specify a time delay for delivering multiple copies of the same file.</p> <p>For example, if the job which reads the file being transferred only runs once every 10 minutes you would want to specify a delay of at least 10 minutes between deliveries of the same file to prevent overwriting the first file before it is read by the server job.</p> <p>This field is not used when the Endpoint is used as a Workflow source.</p>
Maximum Concurrent Connections	<p>This is the maximum number of concurrent connections which can be made to this endpoint at one time. This setting is enforced across all connections (i.e. both uploading and downloading a file) to the Endpoint.</p>
Comments	A free text box for information about the Endpoint (such as location, owner, etc.).

Creating an SFTP Server Endpoint

An SFTP server Endpoint is made up of the following unique fields.

Server Field	Description
Protocol	The Protocol used for transport. Set to SFTP .
Port	The port used by the protocol. The port will change to the default port for the specified protocol. Default SFTP Port: 22
SFTP Private Key	The SFTP Private Key can be used to authenticate to the SFTP server instead of a password. The key must be in the SSH v2 RSA format. As with the password, this information is entered on the DataBridge server.
SFTP Host Key Fingerprint	This is where you would specify the MD5 fingerprint of the Host Key for the server. This is used to verify that the server is correct (i.e. DataBridge is verifying the authenticity of the server, not logging into it with this information). As with the user credentials, this information is entered on the DataBridge server.

To create an SFTP server Endpoint:

1. Click the **Create New Endpoint** button and select SFTP for the protocol.

Create Endpoint

Endpoint Name

Protocol

SFTP

Port 22

Host Name

User Name

☒ Password

☐ SFTP Private Key

An SFTP private key exists: No

Browse...

SFTP Host Key Fingerprint

?

*Credentials must be configured on the DataBridge server

Duplicate Workflow Delay (minutes)

Maximum Concurrent Connections

1

Comments

Save

Cancel

2. Enter the information based on the table.

Create Endpoint

Endpoint Name

sftp1.galacticseats.com

Protocol

SFTP

Port 22

Host Name

sftp1.galacticseats.com

User Name

☒ Password

☐ SFTP Private Key

An SFTP private key exists: No

Browse...

SFTP Host Key Fingerprint

?

*Credentials must be configured on the DataBridge server

Duplicate Workflow Delay (minutes)

Maximum Concurrent Connections

1

Comments

IP: 10.100.16.195

Admin: Zach Moore

Location: NYC Data Center

Save

Cancel

3. Click **Save**.

The SFTP server Endpoint has now been created.

Creating an FTP Server Endpoint

An FTP server Endpoint is made up of the following unique fields.

Server Field	Description
Protocol	The Protocol used for transport. Set to FTP .
Port	The port used by the protocol. The port will change to the default port for the specified protocol. Default FTP Port: 21
SFTP Private Key	The SFTP Private Key can be used to authenticate to the SFTP server instead of a password. The key must be in the SSH RSA format. As with the password, this information is entered on the DataBridge server.

To create an FTP server Endpoint:

1. Click the **Create New Endpoint** button and select FTP for the protocol.

Create Endpoint

Endpoint Name

Protocol

Host Name

User Name

Password

*Credentials must be configured on the DataBridge server

Duplicate Workflow Delay (minutes)

Maximum Concurrent Connections

Comments

Save

Cancel

2. Enter the information based on the table.

Create Endpoint

Endpoint Name

mfmumu03.int.galacticseats

Protocol

FTP Port 21

Host Name

ftp4.galacticseats.com

User Name

Password

*Credentials must be configured on the DataBridge server

Duplicate Workflow Delay (minutes)

10

Maximum Concurrent Connections

1

Comments

IP: 10.21.156.224

Admin: Jackie Snyder

Location: Houston Data Center

Save

Cancel

3. Click **Save**.

The FTP server Endpoint has now been created.

Creating an FTPS Server Endpoint

An FTPS server Endpoint is made up of the following unique fields.

Server Field	Description
Protocol	The Protocol used for transport. Set to FTPS .
Port	The port used by the protocol. The port will change to the default port for the specified protocol. Default FTPS Port: 990
FTPS Certificate Fingerprint	This is where you would specify the SHA-1 fingerprint of the SSL Certificate for the server. This is used to verify that the server is correct (i.e. DataBridge is verifying the authenticity of the server, not logging into it with this information). As with the user credentials, this information is entered on the DataBridge server.

Server Field	Description
FTPS Options	<p>These options allow you to specify the configurations necessary to connect to the FTPS server. The default options should work for most FTPS servers.</p> <p>Contact DataMotion Technical Support for more information and testing tools related to FTPS connectivity.</p>

To create an FTPS server Endpoint:

1. Click the **Create New Endpoint** button and select FTPS for the protocol.

Create Endpoint

Endpoint Name

Protocol

FTPS

Port

990

Host Name

User Name

Password

FTPS Certificate Fingerprint

*Credentials must be configured on the DataBridge server

FTPS Options

☒ Encrypt Data Channel
☐ Implicit SSL
☐ SSL2
☒ SSL3
☒ TLS 1
☐ TLS 1.1
☐ Passive Mode

Duplicate Workflow Delay (minutes)

Maximum Concurrent Connections

1

Comments

Save

Cancel

2. Enter the information based on the table.

Create Endpoint

Endpoint Name

ftp3.galacticseats.com

Protocol

FTPS Port 21

Host Name

ftp3.galacticseats.com

User Name

Password

FTPS Certificate Fingerprint

*Credentials must be configured on the DataBridge server

FTPS Options

☒ Encrypt Data Channel
 ☐ Implicit SSL
 ☐ SSL2
 ☒ SSL3
 ☒ TLS 1
 ☐ TLS 1.1
 ☐ Passive Mode

Duplicate Workflow Delay (minutes)

Maximum Concurrent Connections

3

Comments

IP: 203.123.6.5
 Admin: Al Johnston
 Location: Paris Data Center

Save

Cancel

3. Click **Save**.

The FTPS server Endpoint has now been created.

Creating a User Endpoint

A user Endpoint is specifically defined by the protocol type of User. The fields that are available will change based on the protocol selected to provide you with only what is needed to complete the Endpoint definition.

A user Endpoint is made up of the following fields.

User Field	Description
Endpoint Name	The name of the Endpoint as it will be called when selecting Workflows
Protocol	The Protocol used for transport. For user the only option is User .
Email Address	The email address of the user who will be sending or receiving files.

User Field	Description
Comments	A free text box for information about the Endpoint (such as full name, phone number, etc.).

To create a server Endpoint:

1. Click the **Create New Endpoint** button and select User as the protocol.

Create Endpoint

Endpoint Name

Protocol User ▼

Email Address

*Credentials must be configured on the DataBridge server

Comments

Save Cancel

2. Enter the information based on the table.

Create Endpoint

Endpoint Name

Protocol User ▼

Email Address

*Credentials must be configured on the DataBridge server

Comments

Save Cancel

3. Click **Save**.

The user Endpoint has now been created.

MANAGING ENDPOINTS

Once Endpoints have been created they can be managed. In addition to creating new Endpoints, they can be updated, deleted or copied.

To manage your Endpoints, click on the Endpoint tab and find the Endpoint you want to manage.

Endpoints

Endpoint Management

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0-9 SPECIAL

Create New Endpoint

Endpoint Name	Email Address	Host Name	Network Protocol Type	Creation Date	Modified Date
sftp1.galacticseats.com		sftp1.galacticseats.com	SFTP	1/27/2012 4:53:16 PM	1/27/2012 4:53:16 PM
sftp2.galacticseats.com		sftp2.galacticseats.com	SFTP	1/30/2012 4:54:19 PM	1/30/2012 4:54:19 PM

The example above was found by clicking on the **S** link since the Endpoint name is “sftp1.galacticseats.com”. To manage the Endpoint, click the name of the Endpoint.

Manage Endpoint

Endpoint Name

sftp1.galacticseats.com

Protocol

SFTP Port 22

Host Name

sftp1.galacticseats.com

User Name

☒ Password

☐ SFTP Private Key

An SFTP private key exists: No

Browse...

SFTP Host Key Fingerprint

*Credentials must be configured on the DataBridge server

Duplicate Workflow Delay (minutes)

0

Maximum Concurrent Connections

1

Comments

IP: 10.100.16.195
 Admin: Zach Moore
 Location: NYC Data Center

Update

Delete

Copy As New

Cancel

Updating Endpoints

From this window you can edit the information related to the Endpoint. The information can be updated in the same manner as when the Endpoint was created. To save the update, click the **Update** button. This will save the changes.

NOTE: The Endpoint type cannot be changed once it has been set. An Endpoint that has been defined as a server Endpoint cannot be changed to a user Endpoint. The protocol field cannot be edited once the Endpoint has been saved initially. This is done to preserve Workflow integrity.

Deleting Endpoints

From the Endpoint details screen you can delete an Endpoint by clicking on the Delete button. This will remove the Endpoint from the list and it will be unavailable for further use.

Endpoints that have been removed can always be recreated but all settings associated with the Endpoint, including assigned workflows, will be lost.

Creating New Endpoints using Copy As New

From the Endpoint details screen you can create a new Endpoint starting with the settings of the Endpoint you are currently viewing by clicking on the Copy As New button. This will create a new Endpoint, copying all the settings of the current Endpoint and making them available for editing. The new Endpoint can be edited in the same way as when a new Endpoint is created.

Create Endpoint

Endpoint Name

Copy of sftp1.galacticseats

Protocol

SFTP Port 22

Host Name

sftp1.galacticseats.com

User Name

Password

SFTP Private Key

An SFTP private key exists: No

Browse...

SFTP Host Key Fingerprint

*Credentials must be configured on the DataBridge server

Duplicate Workflow Delay (minutes)

0

Maximum Concurrent Connections

1

Comments

IP: 10.100.16.195

Admin: Zach Moore

Location: NYC Data Center

Save

Cancel

USER ACCOUNTS FOR USER ENDPOINTS

When a User Endpoint is created, it must have an associated SecureMail account to function. The type of account needed depends on what the user will be doing. If the user will only be receiving files, the automatically provisioned Recipient account (this account is not able to send files) should be sufficient. If the user needs to send files, they must be assigned permissions by being created and assigned to a User Type which is allowed to send files via Workflows. This type of user must be created and assigned before they can be created before the account can be assigned as a Workflow Source Endpoint.

See the *SecureMail Administrator Guide* for more information about user account creation and management.

WORKFLOW GROUPS

In many cases you have a group of users who need to perform the same file transfer (either send or receive). For example, the billing person at several partner organizations all need to send you a bill. They are all sending it to the same place (such as a single internal mainframe) and so you would rather not create individual workflows for each partner, but one that is shared by any partner that needs to send a billing file to you. This is the purpose of Workflow Groups. Using Workflow Groups you can create a single workflow with common parameters (such as notifications, the other endpoint, conversions, etc.) once instead of for each individual user.

To access the Endpoints click the Workflow Groups tab inside the Workflow Management Console.

[Workflows](#) [Endpoints](#) [Workflow Groups](#) [Modules](#) [Tools](#)

Workflow Groups

Workflow Group Management

A B C D E F G H I J K L M N O P Q R S **T** U V W X Y Z 0-9 SPECIAL

Create New Workflow Group

A Workflow Group is not specifically a source or a destination for a workflow. A single Workflow Group can be used as a source or a destination on any workflow, and can be used on multiple Workflows.

NOTE: The 0-9 is for all items starting with a number and the SPECIAL is for any item starting with something other than a letter or number.

HOW WORKFLOW GROUPS WORK

From the standpoint of how you use a Workflow Group, it looks like any other Endpoint. Since a Workflow Group is made up of User Endpoints, it follows the same rules as User Endpoints do, such as a User Endpoint can only be assigned as either the source or destination in a Workflow, not both.

A critical point of Workflow Groups though, is that each user sees it as if they were the only person using it. Adding two users to a Workflow Group does not mean that each user can see what the other user is doing; as far as each user knows, that workflow is just for them. What the DataMotion Portal and DataBridge server do is to virtually expand any Workflow that has a Workflow Group as an Endpoint into an individual Workflow for each user in the Workflow Group.

What the User Sees

It is important to understand that from a user perspective, they see they have a Workflow they can send files through (or receive them from). They do not know the workflow is a shared definition, nor does it matter. Each file sent along this Workflow is a unique job, isolated from any other users who may also have that workflow by virtue of being in the Workflow Group.

CREATING A NEW WORKFLOW GROUP

A Workflow Group is a collection of User Endpoints. A User Endpoint can be a member of multiple Workflow Groups. It is possible to have up to 10,000 User Endpoints in a single Workflow Group.

User Endpoints are associated to a Workflow Group by their email address. The Workflow Group does not list the user ID for the User Endpoints nor does it list their “name”; it is simply a list of the email addresses.

Workflow Group Settings

The Workflow Group fields are:

Workflow Group Field	Description
Workflow Group Name	The name of the Endpoint as it will be called when selecting Workflows
Comments	A free text box for information about the Endpoint (such as full name, phone number, etc.).
Email Addresses	The email addresses of the user who will be members of the Workflow Group.

Creating a Blank Workflow Group

There are two methods for adding User Endpoints to a Workflow Group, but in either case, the Workflow Group needs to be created first. The steps to create a blank Workflow Group are common for creating any Workflow Group with any number of users.

To create a blank Workflow Group:

1. Click **Create New Workflow Group**.

Create Workflow Group

Manage Workflow Group Name and Comments

Workflow Group Name

Comments

Manage Workflow Group User Email Addresses

Email Address:

Select CSV File:

Workflow Group User Email Address Management

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0-9 SPECIAL

2. Enter a **Workflow Group Name**.

Create Workflow Group

Manage Workflow Group Name and Comments

Workflow Group Name

Comments

Manage Workflow Group User Email Addresses

Email Address:

Select CSV File:

Workflow Group User Email Address Management

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0-9 SPECIAL

3. Click **Add Email Addresses and Create Group**.

At this point you will have created a new Workflow Group that is empty.

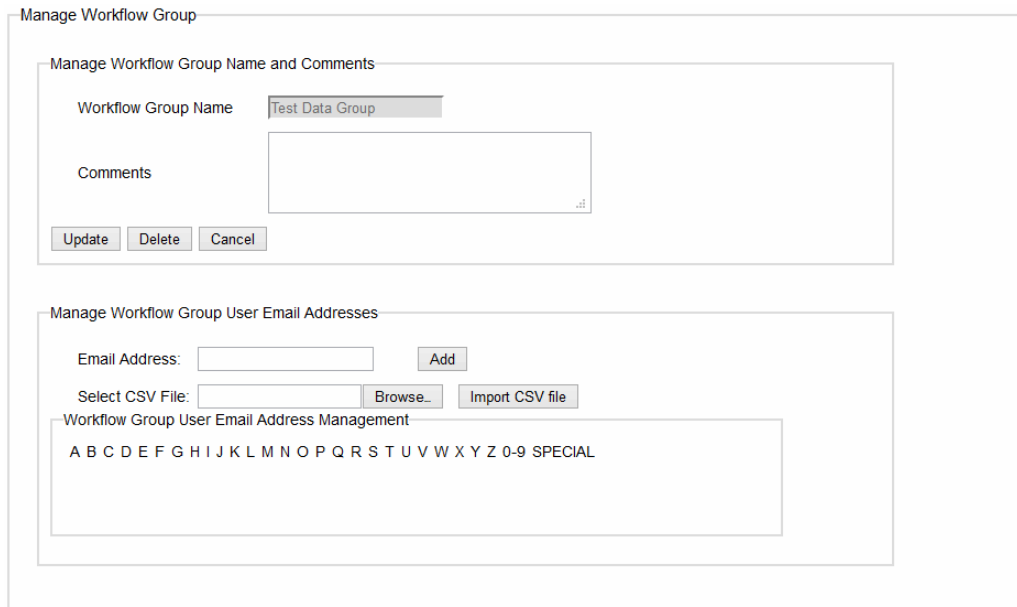
NOTE: You can enter an email address into the field before clicking the **Add Email Addresses and Create Group** button which will add that email address into the Workflow Group at the time the Workflow Group is created.

Adding Single Email Addresses to a Workflow Group

Once a Workflow Group has been created it is possible to enter email addresses for the User Endpoints who will be able to use and Workflows associated to the Workflow Group. For small additions, email addresses can be simply typed into and added one-by-one to the Workflow Group.

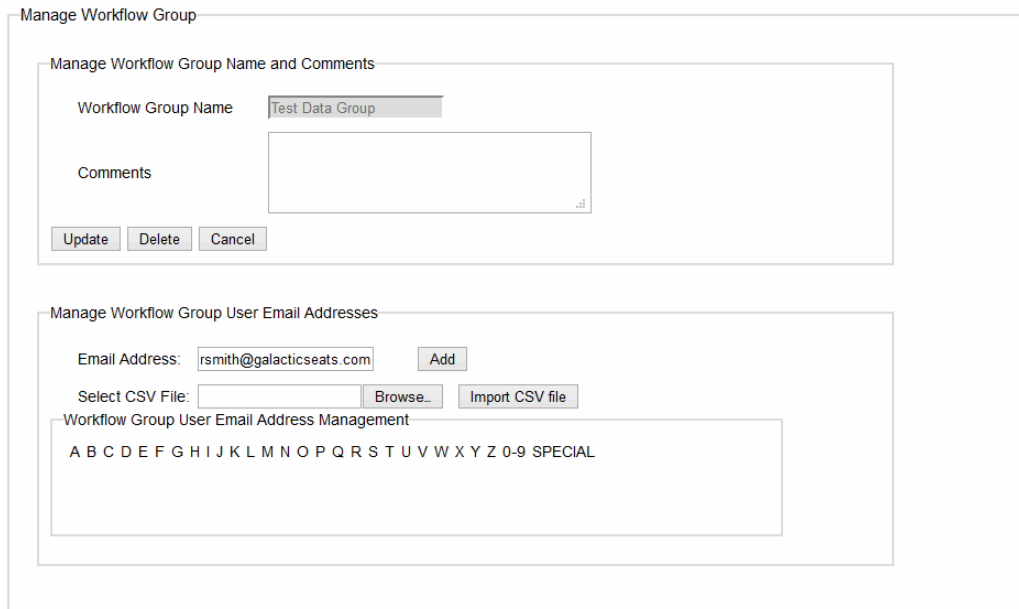
To add single email addresses:

1. Open the Workflow Group.



The screenshot shows the 'Manage Workflow Group' interface. It is divided into two main sections. The top section, 'Manage Workflow Group Name and Comments', contains a 'Workflow Group Name' field with the value 'Test Data Group', a 'Comments' text area, and three buttons: 'Update', 'Delete', and 'Cancel'. The bottom section, 'Manage Workflow Group User Email Addresses', contains an 'Email Address' field with an 'Add' button, a 'Select CSV File' field with 'Browse...' and 'Import CSV file' buttons, and a 'Workflow Group User Email Address Management' table. The table has a single row with the header 'A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0-9 SPECIAL'.

2. In the **Email Address** field, enter the email address of the User Endpoint and click **Add**.



3. This will add the entered email address to the Workflow Group. To save the added email addresses click **Update**.

Multiple email addresses can be entered before updating the Workflow Group, that only needs to be done once after all the changes have been made.

Adding Bulk Email Addresses to a Workflow Group

In addition to being able to individually add email addresses it is possible to bulk import addresses for large groups. This simplifies the creation of large groups.

The import of email addresses is from a simple text file with a single email address per line in the file. For example, the contents of a file could be:

```
rsmith@galacticseats.com
zmoore@galacticseats.com
jdugan082@gmail.com
```

Importing this file would add these three email addresses to the Workflow Group.

To import multiple users into the Workflow Group:

1. Open the Workflow Group.

Manage Workflow Group

Manage Workflow Group Name and Comments

Workflow Group Name:

Comments:

Manage Workflow Group User Email Addresses

Email Address:

Select CSV File:

Workflow Group User Email Address Management

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0-9 SPECIAL

- Click **Browse** to select the file that contains the email addresses you want to import.

Manage Workflow Group

Manage Workflow Group Name and Comments

Workflow Group Name:

Comments:

Manage Workflow Group User Email Addresses

Email Address:

Select CSV File:

Workflow Group User Email Address Management

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0-9 SPECIAL

- Click **Import CSV file** to import the email addresses.

[Return to Workflow Group Management](#)

Workflow Group Import Summary

Number of Valid Email Addresses Imported:
2

Invalid Email Addresses Not Imported:

Existing Email Addresses Not Imported:
rsmith@galacticseats.com

4. Click **Return to Workflow Group Management** and then click **Update** to save the new email addresses to the Workflow Group.

The import process will provide a status report about the import process. In this example you can see that a duplicate address was found and hence not imported. All addresses that were not imported will be displayed on this page under the reason they were not imported. Any addresses that were imported will not be displayed here.

MANAGING WORKFLOW GROUPS

Once a Workflow Group has been created, they can be managed. In addition to adding more users (using the steps above), users can be removed and the Workflow Group can be deleted.

Removing Users from a Workflow Group

Removing users is done using a dialog similar to moving around the Endpoints, Workflows and the Workflow Groups with the selection of the starting character and then a paging navigation dialog.

Manage Workflow Group User Email Addresses

Email Address:

[Add](#)

Select CSV File:

[Browse...](#)

[Import CSV file](#)

Workflow Group User Email Address Management

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0-9 SPECIAL

[Delete Selected Email Addresses](#)

☐ Select All

Email Address

☐ jdugan082@gmail.com

To delete an email address, check the box next to the email address you want to delete and click **Delete Selected Email Addresses**. Once this is done, click **Update** to save the changes to the Workflow Group settings.

To delete multiple email addresses at once it is possible to select multiple checkboxes at one time before clicking **Delete Selected Email Addresses**. In addition you can select the **Select All** checkbox and all items on that page will be automatically selected. Unchecking

the **Select All** checkbox will unselect all items on the page. This will only select the items on the page, not across any other pages within the Workflow Group.

Deleting a Workflow Group

Deleting a Workflow Group is done by opening the Workflow Group and then under the **Manage Workflow Group Name and Comments** to click the **Delete** button. This will remove the entire Workflow Group. It does not remove any User Endpoints, only their membership in the Workflow Group.

Manage Workflow Group Name and Comments

Workflow Group Name

Test Data Group

Comments

Update

Delete

Cancel

WORKFLOW MANAGEMENT

On the DataBridge, a Workflow is the configuration which controls how files are moved from one point to another. A Workflow defines a source and destination as well as information necessary to move the file between those points. To access the Workflows click the Workflows tab inside the DataBridge Console.

[Workflows](#) [Endpoints](#) [Workflow Groups](#) [Modules](#) [Tools](#)

Workflows

Workflow Management

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0-9 SPECIAL

Create New Workflow

Each Workflow is unique to a single file in a single direction. While it is possible that a combination of source and destination Endpoints may have multiple different files to move between them each file would have a unique Workflow associated with it. Similarly a single workflow only moves from the Source to the Destination; a Workflow does not include a return path.

NOTE: The 0-9 is for all items starting with a number and the SPECIAL is for any item starting with something other than a letter or number.

CREATING A NEW WORKFLOW

A Workflow is a unique combination of file, source and destination that controls how a file is moved. There is no limit to the number of Workflows that can be configured, but a single Workflow can only move one specific file between the source and destination Endpoints.

Workflow Settings

Workflow settings are broken into three areas: general Workflow information, Source Endpoint Configuration and Destination Endpoint Configuration.

The general Workflow information fields are:

Workflow Field	Description
Workflow Name	The unique name of the workflow. This name is matched in the Control Files to determine what Workflow to initiate when a Control File is delivered.
Destination File Name	The name of the file when it is placed at the destination. The file will be renamed to the value listed here.

Workflow Field	Description
Contact Email(s)	The email addresses who will be notified of any status changes on this Workflow. Status changes can include files being sent, received, and delivery success or failure. Multiple email addresses must be separated by commas.
Enabled	Enable this Workflow to be used.
Comments	A free text box for information about the Workflow (such as owner, etc.).

The Source Endpoint Configuration fields are:

Source Field	Description
Endpoint or Workflow Group	The Endpoint that will be source of the file. Clicking the Select Endpoint button shows the Endpoint list where you can navigate to the Endpoint you want to select. Clicking on the Endpoint name will populate the Source Endpoint. Clicking the Select Workflow Group will let you select a Workflow Group instead as the Endpoint.
Directory	When applicable (such as on a server) the folder where the file will be located. This path can be absolute or relative, based on the path specified.
File Format Type	The format of the file on the source.
Compression & Encryption Password	If the file is compressed (using ZIP) at the source. Optionally, if the compressed file is encrypted, the password needed to decrypt the file.

NOTE: A Workflow Group can only set as the Source OR Destination. If a Workflow Group is set for one, the button will be greyed out for the other.

NOTE: A Workflow Group counts the same as a User Endpoint and must be paired with a Server Endpoint on the other end.

The Destination Endpoint Configuration fields are:

Destination Field	Description
Endpoint or Workflow Group	<p>The Endpoint that will be source of the file.</p> <p>Clicking the Select Endpoint button shows the Endpoint list where you can navigate to the Endpoint you want to select. Clicking on the Endpoint name will populate the Source Endpoint.</p> <p>Clicking the Select Workflow Group will let you select a Workflow Group instead as the Endpoint.</p>
Directory	<p>When applicable (such as on a server) the folder where the file will be placed. This path can be absolute or relative, based on the path specified.</p>
File Format Type	<p>The format the file needs to be in when placed on the destination.</p>
Compression & Encryption Password	<p>If the file needs to be compressed (using ZIP) at the destination. Optionally, if the compressed file needs to be encrypted, the password needed to encrypt the file.</p>
Deliver Receipt	<p>When checked, a control file will be placed into the destination folder along with the file. The control file will have the MD5 checksum and file size specified.</p>
Pre-Delivery Command	<p>This box allows you to specify a series of commands which would be executed on the Destination Endpoint before the file is transferred. If these commands do not complete successfully the file will not be transferred.</p> <p>Each command must be separated by “\r\n” to distinguish between separate lines.</p> <p>NOTE: This is only available for FTP/FTPS Endpoints.</p>

Destination Field	Description
Post-Delivery Command	<p>This box allows you to specify a series of commands which would be executed on the Destination Endpoint after the file is transferred successfully. If these commands do not complete successfully the file transfer will not be complete.</p> <p>Each command must be separated by “\r\n” to distinguish between separate lines.</p> <p>NOTE: This is only available for FTP/FTPS Endpoints.</p>

Destination File Name Variables

The Destination File Name can support the use of variables to create unique filenames based on information gathered when the file is uploaded to either DataBridge or the Portal. When a variable is specified in the filename, the output of the variable will be entered into the space in the filename before the file is moved to the destination.

The filename variables are:

Variable	Description	Example
%UID% %USERID%	The username of the user who has uploaded the file. This will use the username associated with the user account if one has been specified, or the email address if there is no assigned username.	
%YYYY%	Four digit year	2011
%YMD%	Eight digit date in the form YYYYMMDD	20110701 (July 1, 2011)
%DT%	Fourteen digit date and time in the form YYYYMMDDhhmmss in 24-hour time	20110701121853 (July 1, 2011 at 12:18:53)
%YY%	Two digit year	11 (2011)
%M%	Two digit month	07 (July)
%D%	Two digit day	01 (the first)

Variable	Description	Example
%hms%	Six digit time of upload in the form hhmmss in 24-hour time	121853 (12:18:53)
%ORIG%	The original filename that was uploaded	

NOTE: The variables are case sensitive. The string %yms% is not the same as %YMS% and will not be recognized as a variable.

When sending files to a mainframe it is common to use GDG (Generation Data Group) extensions to have files automatically renamed and lined together as a group. This is done by adding **(+1)** to the end of the Destination File Name. To support GDG in the Destination File Name, the whole filename must be surrounded by single quotes. Below is an example of a valid GDG Destination File Name.

```
'FUELTEST.PHASE1(+1)'
```

NOTE: Use of GDG in the Destination File Name requires that the GDG configuration already be in place on the mainframe; this configuration is not done from DataBridge.

File Format Type Settings

The File Format Type setting provides a way to convert files between different formats as they are moved between systems. There are four different settings that can be specified here, and the combination of the source setting and the destination setting determine how the file is converted.

File Type	Description
NONE	This must be set as None on both the source and destination and means to not perform any conversion on the file as it is transferred.
DOS	Text file format with CR/LF as the end of line formatting
UNIX	Text file format with only LF as the end of line formatting
EBCDIC	Mainframe file format

When a file must be converted, the source and destination File Format Type must be set to the proper settings. For example if a text file is coming from a Windows PC and needs to go to a mainframe, the source would be set as DOS and the destination as EBCDIC.

If a file should just be transferred without any conversion, both sides must be set to NONE. If a both the source and destination are set to the same type, no conversion will be performed (the same as setting NONE).

NOTE: It is not valid to specify NONE as the File Format Type on one side of the Workflow while specifying any other setting on the other side. NONE can only be paired with NONE.

Creating a Workflow


To create a new Workflow:

1. Click the **Create New Workflow** button.

Create Workflow

Workflow Name

Destination File Name

Contact Email(s) 

☐ Enabled

Comments


Source Endpoint Configuration

Select Endpoint

Select Workflow Group

Selected Endpoint: None

Selected Workflow Group: None

Directory 

File Format Type

None

☐ Compression

Encryption Password


Destination Endpoint Configuration

Select Endpoint

Select Workflow Group

Selected Endpoint: None

Selected Workflow Group: None

Directory 

File Format Type

None

☐ Compression

Encryption Password

☐ Deliver Receipt

Save

Cancel

DataBridge Modules
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Page 43

2. Enter the information based on the tables above.

Create Workflow

Workflow Name

Fuel Billing - Internal

Destination File Name

fuelbilling.csv

Contact Email(s)

zmoore@galacticseats.com

☐ Enabled

Comments

Source Endpoint Configuration

Select Endpoint

Select Workflow Group

Selected Endpoint:

sftp1.galacticseats.com

Selected Workflow Group:

None

Directory

/pub/billing

File Format Type

DOS

☐ Compression

Encryption Password

Destination Endpoint Configuration

Select Endpoint

Select Workflow Group

Selected Endpoint:

ftp3.galacticseats.com

Selected Workflow Group:

None

Directory

/pub/uploads

File Format Type

UNIX

☐ Compression

Encryption Password

☐ Deliver Receipt

Pre-Delivery Command

Post-Delivery Command

Save

Cancel

3. Click **Save**.

The Workflow has now been created.

MANAGING WORKFLOWS

Once Workflows have been created they can be managed. In addition to creating new Workflows, they can be updated, deleted or copied.

To manage your Workflows, click on the Workflow tab and find the Workflow group you want to manage.

Workflows

Workflow Management

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0-9 SPECIAL

Create New Workflow

Workflow Name	Enabled	Source Endpoint Name	Destination Endpoint Name	Creation Date	Modified Date	Deliver Receipt
Fuel Billing - Internal	False	sftp1.galacticseats.com	ftp3.galacticseats.com	1/30/2012 5:50:58 PM	1/30/2012 5:50:58 PM	False

The example above was found by clicking on the **F** link since the Workflow name is “Fuel Billing - Internal”. To manage the Workflow, click the name of the Workflow.

Manage Workflow

Workflow Name

Fuel Billing - Internal

Destination File Name

fuelbilling.csv

Contact Email(s)

zmoore@galacticseats.com

☐ Enabled

Comments

Source Endpoint Configuration

Select Endpoint

Select Workflow Group

Selected Endpoint:

sftp1.galacticseats.com

Selected Workflow Group:

None

Directory

/pub/billing

File Format Type

DOS

☐ Compression

Encryption Password

Destination Endpoint Configuration

Select Endpoint

Select Workflow Group

Selected Endpoint:

ftp3.galacticseats.com

Selected Workflow Group:

None

Directory

/pub/uploads

File Format Type

UNIX

☐ Compression

Encryption Password

☐ Deliver Receipt

Pre-Delivery Command

Post-Delivery Command

Update

Delete

Copy As New

Cancel

Updating Workflows

From this window you can edit the information related to the Workflow. The information can be updated in the same manner as when the Workflow was created. To save the update, click the **Update** button. This will save the changes.

Deleting Workflows

From the Workflow details screen you can delete a Workflow by clicking on the Delete button. This will remove the Workflow from the list and it will be unavailable for further use. This does not remove the Endpoints, only the Workflow.

Workflows that have been removed can always be recreated but all settings associated with the Workflow, will be lost.

Creating New Workflows using Copy As New

From the Workflow details screen you can create a new Workflow starting with the settings of the Workflow you are currently viewing by clicking on the Copy As New button. This will create a new Workflow, copying all the settings of the current Workflow and making them available for editing. The new Workflow can be edited in the same way as when a new Workflow is created.

Create Workflow

Workflow Name

Copy of Fuel Billing - Internal

Destination File Name

fuelbilling.csv

Contact Email(s)

zmoore@galacticseats.com

☐ Enabled

Comments

Source Endpoint Configuration

Select Endpoint

Selected Endpoint: sftp1.galacticseats.com

Select Workflow Group

Selected Workflow Group: None

Directory

/pub/billing

File Format Type

DOS

☐ Compression

Encryption Password

Destination Endpoint Configuration

Select Endpoint

Selected Endpoint: ftp3.galacticseats.com

Select Workflow Group

Selected Workflow Group: None

Directory

/pub/uploads

File Format Type

UNIX

☐ Compression

Encryption Password

☐ Deliver Receipt

Pre-Delivery Command

Post-Delivery Command

Save

Cancel

DATABRIDGE TOOLS

For situations where it may be necessary to manually move the endpoint and workflow list from the DataMotion Portal to the DataBridge server (such as during an initial configuration where the DataBridge server may not have Internet access), or to provide a backup of this information, the Tools provides a manual export capability of the Workflows and Endpoints list.

[Workflows](#) [Endpoints](#) [Workflow Groups](#) [Modules](#) [Tools](#)

Tools

Export Workflows & Endpoints

When the Export Workflows & Endpoints is clicked, a complete list of all Workflows and Endpoints can be downloaded. This list can then be imported into the DataBridge Console.

NOTE: The Export Workflows & Endpoints button will be greyed out until there are workflows or endpoints to be able to export.

DATABRIDGE SERVER MANAGEMENT CONSOLE

The visible portion of the DataBridge Server is the DataBridge Server Management console (DataBridge console). The DataBridge console provides access to the administration functionality of the locally installed service. The console provides the same four tabs seen on the DataMotion Portal as well as an additional tab for configuring the database and connection information to the DataMotion Portal.

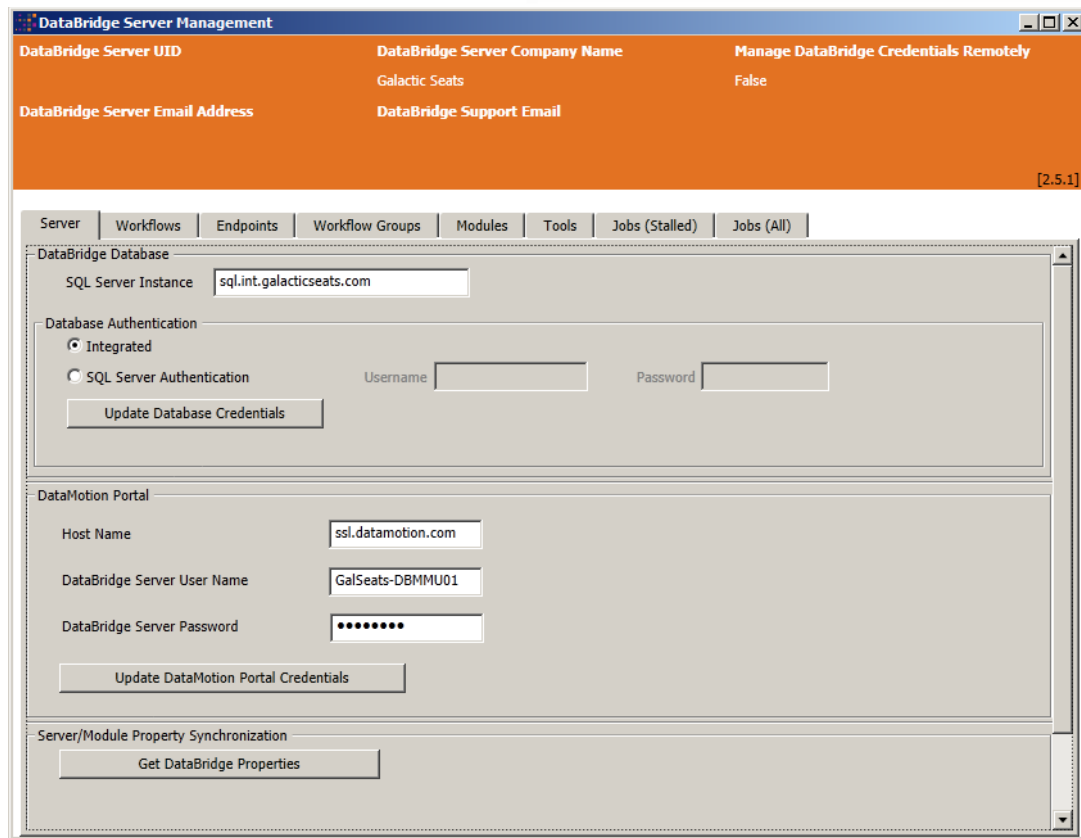
THE DATAMOTION PORTAL & DATABRIDGE SETTINGS

While DataBridge settings, workflows and endpoints can be set both in the DataMotion Portal and the DataBridge console, the Portal is considered the authoritative master. Changes made in the Portal are pulled down to the DataBridge Server, and when this happens, local settings changes will be overwritten with the current settings from the Portal. Settings made on DataBridge are not sent to the Portal in any way, ensuring that the Portal is always the final answer to conflicting settings.

There are some settings which must be set locally on the DataBridge Server, such as connection strings about the server and endpoint credential information. This information is only set on the DataBridge and is not overwritten by the Portal settings.

DATABRIDGE CONSOLE SERVER TAB

The Server tab functions as the point to configure connections for the DataBridge Server both to the database and the DataMotion Portal.



The screenshot shows the 'DataBridge Server Management' window. At the top, there's a header with fields for 'DataBridge Server UID', 'DataBridge Server Company Name' (Galactic Seats), 'Manage DataBridge Credentials Remotely' (False), 'DataBridge Server Email Address', and 'DataBridge Support Email'. Below this is a tabbed interface with tabs for 'Server', 'Workflows', 'Endpoints', 'Workflow Groups', 'Modules', 'Tools', 'Jobs (Stalled)', and 'Jobs (All)'. The 'Server' tab is active, showing the 'DataBridge Database' section with fields for 'SQL Server Instance' (sql.int.galacticseats.com), 'Database Authentication' (Integrated selected), 'Username', and 'Password'. There's an 'Update Database Credentials' button. Below that is the 'DataMotion Portal' section with fields for 'Host Name' (ssl.datamotion.com), 'DataBridge Server User Name' (GalSeats-DBMMU01), and 'DataBridge Server Password' (masked with dots). There's an 'Update DataMotion Portal Credentials' button. At the bottom is the 'Server/Module Property Synchronization' section with a 'Get DataBridge Properties' button.

DataBridge Database

The settings here specify the connection information for the database where DataBridge stores its routing information. The fields here can be used to change the location of the SQL Server instance where the database is located as well as the authentication information needed to access the database. This information is saved from the installation of the DataBridge software, but can be changed at a later time if the information is out of date.

DataMotion Portal

The information here is used to connect the DataBridge to the DataMotion Portal. By default the Host Name should always be **ssl.datamotion.com** but this could be different if the server is being tested. In test environments, **sandbox.datamotion.com** may be used.

For more information about test environments contact DataMotion Support.

The DataBridge Server User Name/Password fields are the credentials the DataBridge server uses to connect to the Portal. These are provided by DataMotion Support.

To save any changes, click the Update DataMotion Platform Credentials button.

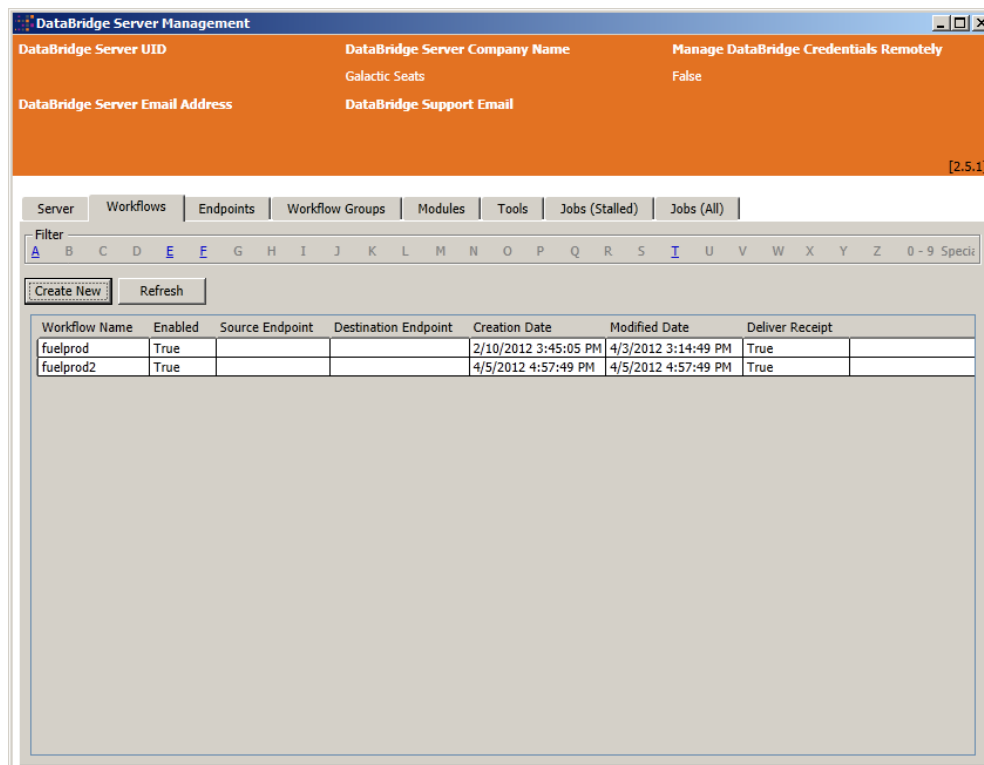
Server/Module Property Synchronization

The Get DataBridge Properties button tells the server to immediately contact the Portal and download the Server/Module properties. While this information is downloaded automatically based on the schedule specified on the Portal, the very first time this button must be used to initiate the connection. Additionally, if changes are made on the Portal and you do not want to wait for the update interval to pass before the settings are downloaded, this button will perform the synchronization immediately.

This button does not cause the Workflows and Endpoints to be downloaded to the server. This only happens based on the module settings.

WORKFLOWS TAB

The Workflows tab is the same as the workflows on the Portal. The settings for the workflows are identical.



DataBridge Server Management

DataBridge Server UID: [redacted] DataBridge Server Company Name: Galactic Seats Manage DataBridge Credentials Remotely: False

DataBridge Server Email Address: [redacted] DataBridge Support Email: [redacted]

[2.5.1]

Server | **Workflows** | Endpoints | Workflow Groups | Modules | Tools | Jobs (Stalled) | Jobs (All)

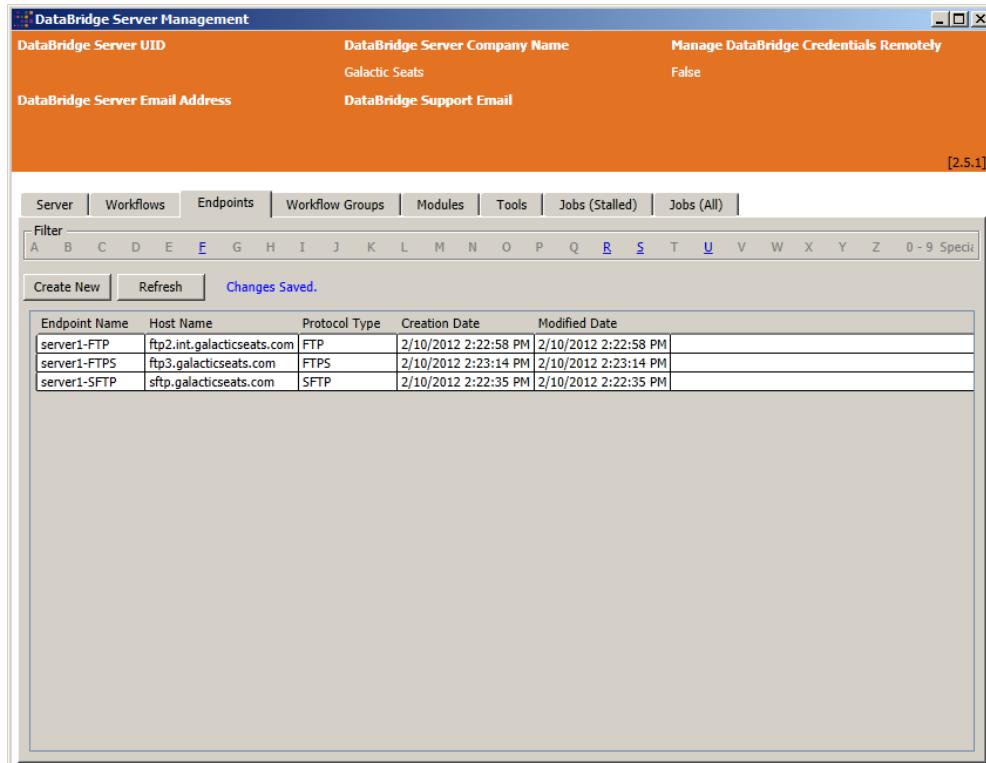
Filter: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0-9 Special

Create New Refresh

Workflow Name	Enabled	Source Endpoint	Destination Endpoint	Creation Date	Modified Date	Deliver Receipt
fuelprod	True			2/10/2012 3:45:05 PM	4/3/2012 3:14:49 PM	True
fuelprod2	True			4/5/2012 4:57:49 PM	4/5/2012 4:57:49 PM	True

ENDPOINTS TAB

The Endpoints tab is the same as on the Portal. The settings for the endpoints are identical. The main difference is that endpoint authentication credentials are entered on the DataBridge, so this setting is enabled in the DataBridge console, unlike on the Portal.



DataBridge Server Management

DataBridge Server UID
Galactic Seats

DataBridge Server Company Name
Galactic Seats

Manage DataBridge Credentials Remotely
False

DataBridge Server Email Address

DataBridge Support Email

[2.5.1]

Server | Workflows | **Endpoints** | Workflow Groups | Modules | Tools | Jobs (Stalled) | Jobs (All)

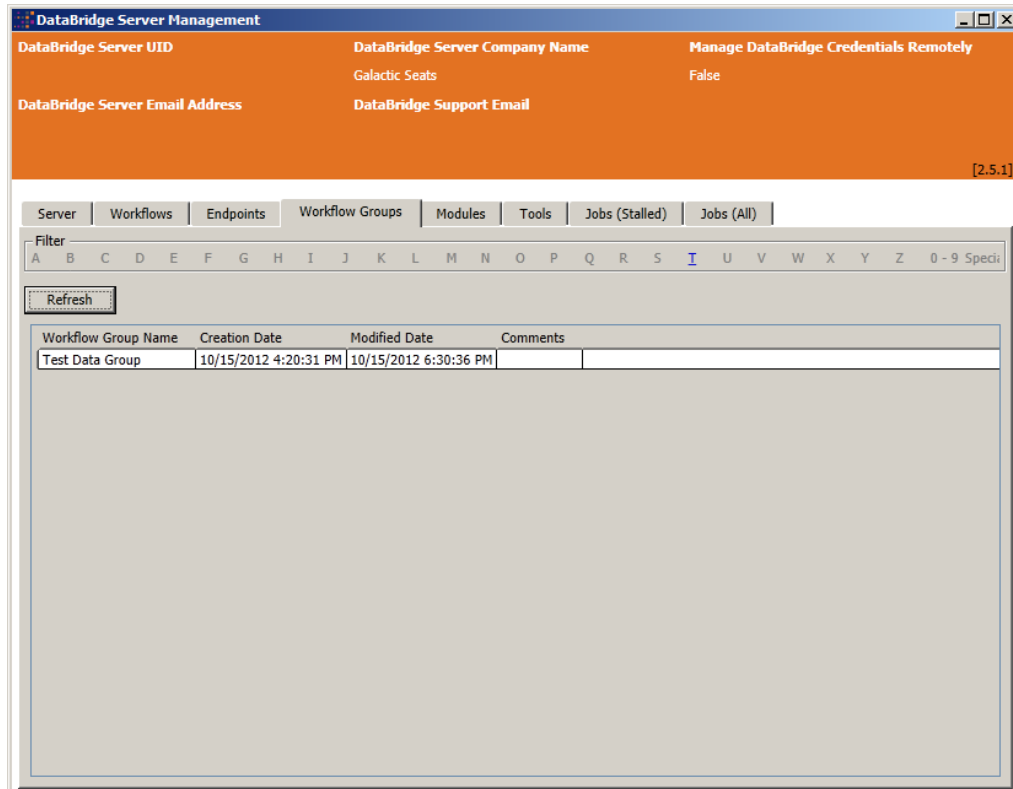
Filter
A B C D E **F** G H I J K L M N O P Q **R** S T U V W X Y Z 0 - 9 Spec

Create New | Refresh | **Changes Saved.**

Endpoint Name	Host Name	Protocol Type	Creation Date	Modified Date
server1-FTP	ftp2.int.galacticseats.com	FTP	2/10/2012 2:22:58 PM	2/10/2012 2:22:58 PM
server1-FTPS	ftp3.galacticseats.com	FTPS	2/10/2012 2:23:14 PM	2/10/2012 2:23:14 PM
server1-SFTP	sftp.galacticseats.com	SFTP	2/10/2012 2:22:35 PM	2/10/2012 2:22:35 PM

WORKFLOW GROUPS TAB

The Workflow Groups tab here is a view-only version of the Portal. Here you can see a list of the Workflow Groups that have been created but the individual list of address and editing of the Workflow Group membership is not available in the console.



The screenshot shows the DataBridge Server Management console. At the top, there is a header bar with the title "DataBridge Server Management". Below this, there is a section for server information with the following fields:

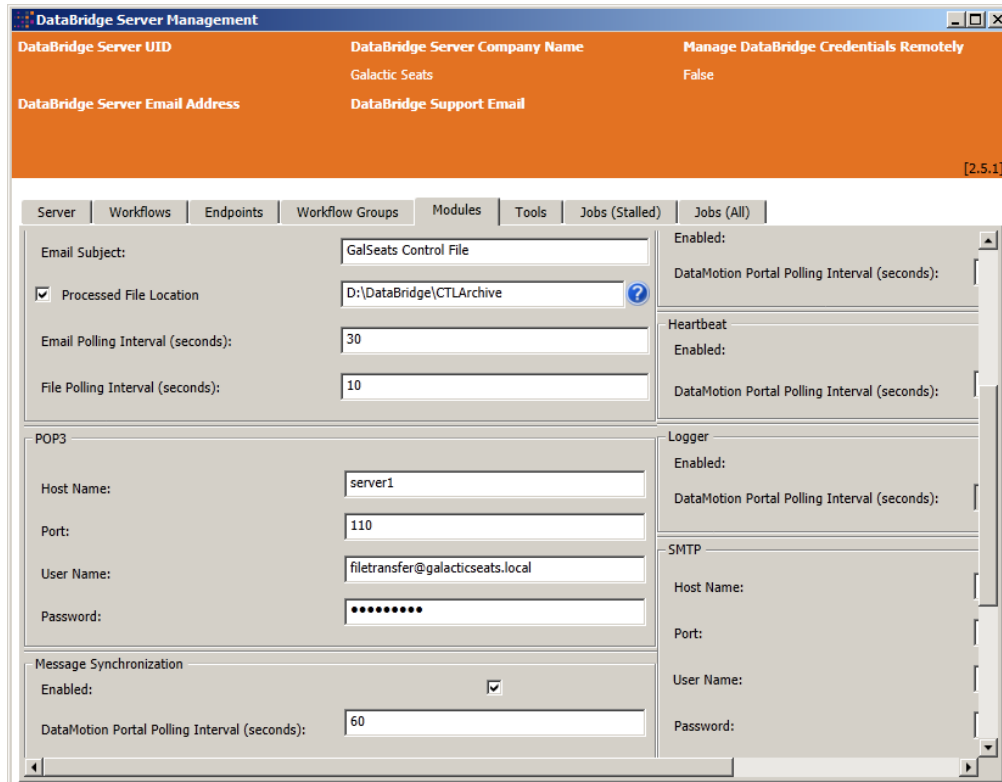
DataBridge Server UID	DataBridge Server Company Name	Manage DataBridge Credentials Remotely
	Galactic Seats	False
DataBridge Server Email Address	DataBridge Support Email	

Below the server information, there is a tabbed interface with the following tabs: Server, Workflows, Endpoints, Workflow Groups (selected), Modules, Tools, Jobs (Stalled), and Jobs (All). The Workflow Groups tab is active, showing a table with the following columns: Workflow Group Name, Creation Date, Modified Date, and Comments. The table contains one entry: "Test Data Group" with a creation date of "10/15/2012 4:20:31 PM" and a modified date of "10/15/2012 6:30:36 PM".

Workflow Group Name	Creation Date	Modified Date	Comments
Test Data Group	10/15/2012 4:20:31 PM	10/15/2012 6:30:36 PM	

MODULES TAB

The Modules tab is also the same as on the Portal. The settings here will show the settings brought down from the Portal, but the POP3 and SMTP authentication credentials are available for entry.



DataBridge Server Management

DataBridge Server UID	DataBridge Server Company Name	Manage DataBridge Credentials Remotely
	Galactic Seats	False
DataBridge Server Email Address	DataBridge Support Email	

[2.5.1]

Server | Workflows | Endpoints | Workflow Groups | **Modules** | Tools | Jobs (Stalled) | Jobs (All)

Email Subject: GalSeats Control File

☒ Processed File Location: D:\DataBridge\CTLArchive

Email Polling Interval (seconds): 30

File Polling Interval (seconds): 10

POP3

Host Name: server1

Port: 110

User Name: filetransfer@galacticseats.local

Password:

Message Synchronization

Enabled: ☒

DataMotion Portal Polling Interval (seconds): 60

Enabled:

DataMotion Portal Polling Interval (seconds):

Heartbeat

Enabled:

DataMotion Portal Polling Interval (seconds):

Logger

Enabled:

DataMotion Portal Polling Interval (seconds):

SMTP

Host Name:

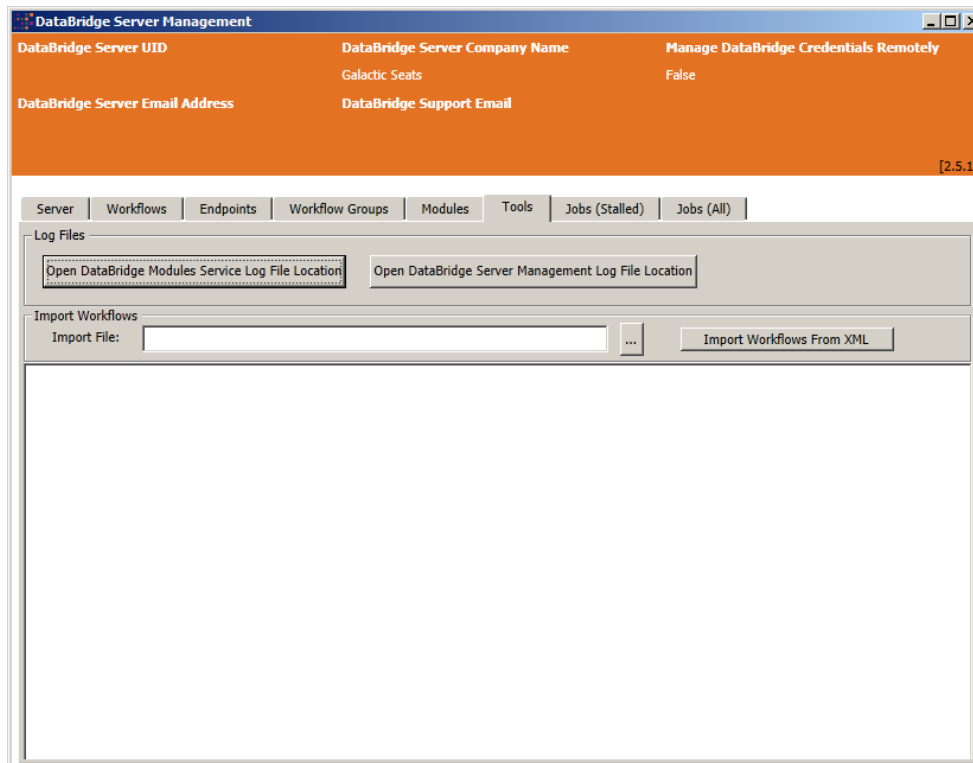
Port:

User Name:

Password:

TOOLS TAB

The Tools tab provides an import function for the configuration data from the Portal. The Tools tab on the Portal can export this information to an XML file which can then be imported into DataBridge from this tab.

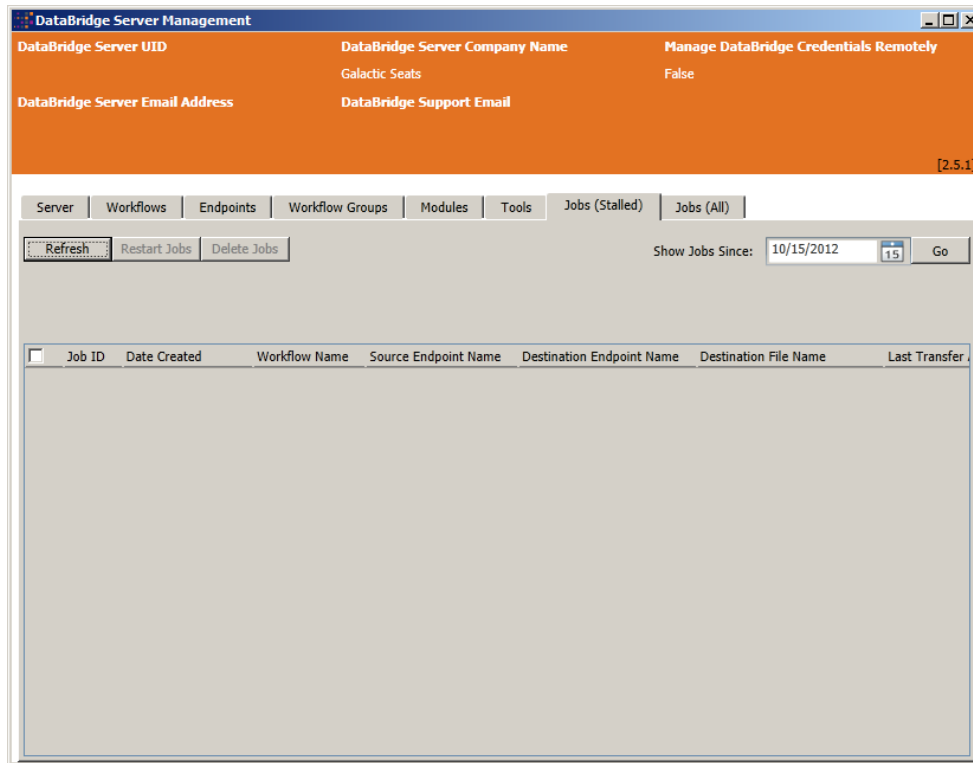


This can be a useful option for situations where an initial server configuration may have limited connectivity or when it is thought that the initial workflow and endpoint list is too large to want to download directly.

In addition to the import function, the Tools tab provides quick access to the local logs generated by DataBridge. By clicking on the buttons an Explorer window will be opened immediately to the location where the log files are stored.

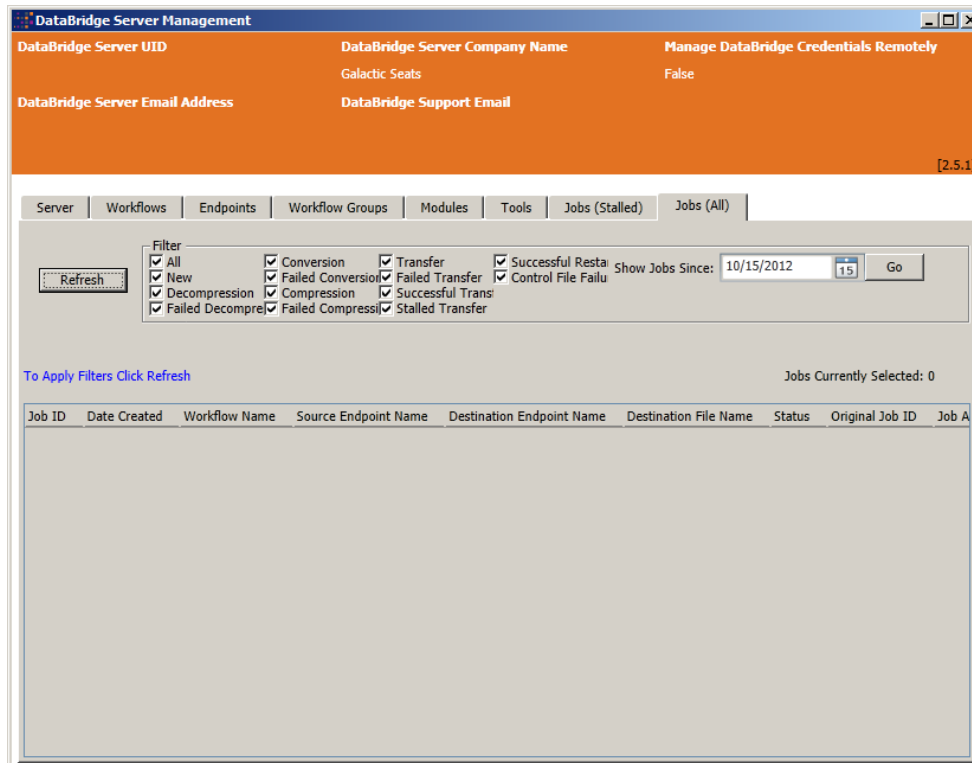
JOBS (STALLED) TAB

The Jobs (Stalled) tab provides a look at all jobs that have reached their maximum retry attempts without completing a successful transfer. These jobs can be managed from this tab.



JOBS (ALL) TAB

The Jobs (All) tab provides a look at all the jobs that have been sent through DataBridge.



DataBridge Server Management

DataBridge Server UID: [2.5.1]

DataBridge Server Company Name: Galactic Seats

Manage DataBridge Credentials Remotely: False

DataBridge Server Email Address: [2.5.1]

DataBridge Support Email: [2.5.1]

Server | Workflows | Endpoints | Workflow Groups | Modules | Tools | Jobs (Stalled) | **Jobs (All)**

Filter

☒ All ☒ Conversion ☒ Transfer ☒ Successful Resta ☒ Control File Failu

☒ New ☒ Failed Conversion ☒ Failed Transfer

☒ Decompression ☒ Compression ☒ Successful Trans

☒ Failed Decompre ☒ Failed Compression ☒ Stalled Transfer

Show Jobs Since: 10/15/2012 15 Go

To Apply Filters Click Refresh

Jobs Currently Selected: 0

Job ID	Date Created	Workflow Name	Source Endpoint Name	Destination Endpoint Name	Destination File Name	Status	Original Job ID	Job A
--------	--------------	---------------	----------------------	---------------------------	-----------------------	--------	-----------------	-------

ENDPOINT CREDENTIAL & CONNECTION MANAGEMENT

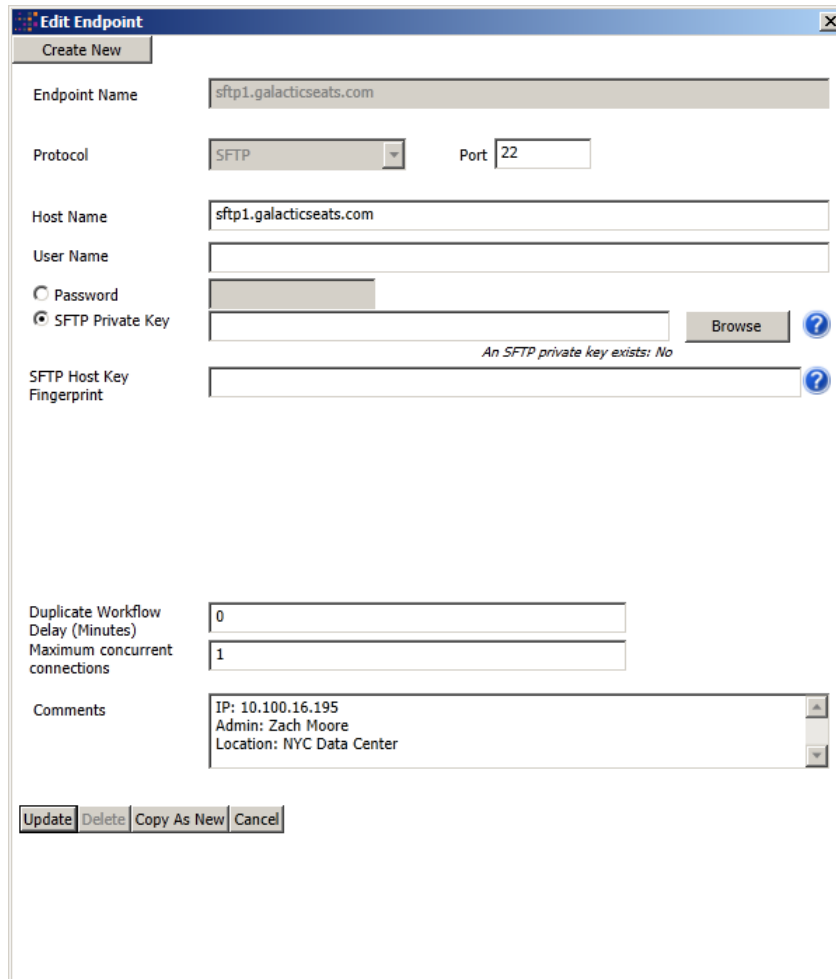
While server endpoints are configured on the DataMotion Portal, the authentication credentials necessary to actually login to those servers and transfer files are not stored on the Portal. When a server endpoint is created and synchronized to the DataBridge, it needs to have authentication credentials associated with it before it can be used as an endpoint (source or destination).

The authentication credentials are entered in the endpoint properties for the server endpoint in question. While username and password are common options on all servers, some types of servers have other options.

When saving the credentials, click the **Update** button.

SFTP SERVER ENDPOINT CREDENTIALS

The following credentials are needed for an SFTP server as an endpoint:



The screenshot shows the 'Edit Endpoint' dialog box with the following fields and options:

- Create New** button
- Endpoint Name**: sftp1.galacticseats.com
- Protocol**: SFTP (dropdown menu)
- Port**: 22
- Host Name**: sftp1.galacticseats.com
- User Name**: (empty text field)
- Authentication Options**:
 - ☐ Password
 - ☒ SFTP Private Key
- SFTP Private Key**: (empty text field with a **Browse** button and a help icon)
- SFTP Host Key Fingerprint**: (empty text field with a help icon)
- Duplicate Workflow Delay (Minutes)**: 0
- Maximum concurrent connections**: 1
- Comments**: IP: 10.100.16.195
Admin: Zach Moore
Location: NYC Data Center
- Buttons**: Update, Delete, Copy As New, Cancel

- User Name – the user name necessary to login to the remote server

- Password – the password for the specified user name
- SFTP Private Key – the private SSH key used to authenticate to the server instead of a password

NOTE: Either a password or SFTP Private Key is used for authentication, not both.

- SFTP Host Key Fingerprint – the MD5 fingerprint of the server's SSH key

NOTE: Only settings which relate to credentials are described here. For more information about other settings see the *DataBridge Administrator Guide*.

The SFTP Private Key must be stored in the SSH-RSA format. Some examples are:

```
-----BEGIN RSA PRIVATE KEY-----
MIICWgIBAAKBgQC1IIEZbJuqgXsdcbE+6xc80+Se/g6xoy/11Q2yYQfDsJD6clcR
d8+DxjJ27fQGjtzUuEPgnnesdESLnkq+mh4r0X7w0xksnewjQotOOymO9RHdNB2Y
KjceLK+tDJvMtWkCXR60Tgg/8dzq/ae43VDwR0elVKIsP/HUSTWOumlyYQIBEQKB
gAKp6pq6EVkYfgu6JH0pGrHV8IneFs3oC//ZuKwI9NHvxeWQvYQFhtD/JmOhnfEJ
oV17Liy3CUoQxMXRYvtGB/kXEJafGyDjJpryNftYen+8fLJs4PB6hUo9215BorkS
1Na6g6id1Nswk0I/T3cbvajWkb+BSilR2VKsCe/6PhMhAkEAwbZS3ppLA9ksTPqV
+xkqGXS6VhxxUr7f/p+Dtv6v48Og4yRKsA7eLJEGp07S9jmu6RrlpLAQ4/3sIT8X
npIzGQJBAO9gmxlKJUPRzp859L+Gdsp9vfJFRkwQhcAPH+Zj89EcV+8Bn7FvKN4u
S4U9Qoi2aF914VafIZ458nVSuKNaKokCQFson3fQI00a56vBN4U5BMCvZr8aj653
8PBLEM6V+Gsu4kzFyMtSSm9TTmzZzLAbJSJnAqieJhDv9qY7zuElvbECQH66rHbM
5olQ9OricoODbBDZKFMVna/MgwtTTR+eU+ctH36IY5oryleB678CUGZ+r7oROw+9
qGLTYj4cvBo+yzkCQQC/FiYIMlFFh0V2Ftyd+I9XY+KnAiXBQ7sN/FVFyCtW5t+X
1FLt5euSPUgjNdXL5s3AxKUiHabI10iz75pxIB36
-----END RSA PRIVATE KEY-----
```

A second example:

```
PuTTY-User-Key-File-2: ssh-rsa
Encryption: none
Comment: rsa-key-20120201
Public-Lines: 4
AAAAB3NzaC1yc2EAAAABJQAAAIBuaJA0yT50kJVO3XsO2ByXHQzE0drLuLVgKFnW
Pb5uwAuTQk5GaANxDDvS8zgs5BJ4vCqqZeMIOAilectdV9gkxRQMVc9OhnHNh6vH
b09AZmrn/mB6Fvr8z6WgwlqHucfwn9eCK1hwHYIf5mBzzvFa+GqWGI0qn416rfwv
poJ6tw==
Private-Lines: 8
AAAAGe2VlcQ6Yz0nVCmUtlakBkCsoTBcHTUlr+K0kifYXE3TDw2Iigf2EEGZ5Nls
pAPeiYVF9He9N8CWE/UlJx7/dUlTssmv7+M+24hFOZPGDKTKE74NL4tW9JygFr+y
wNYkmm9NP6KRh8btKfQK/9oBiqRTjZtmF5mYxgsC5eo38DVtAAAAQQDPyqhavdC
ulcWj81C59zf3vCpOSbIUnlyecYWsyduTz/QTlxleFlKMFgz/2pHlmTK8sEbmM4J
bSypAKp1XQJRAAAAQQCIBgnce0UbfG0iSgpXfMfJb98HT/1S6fM+Ro7K0AgrExJr
c4NZPGgLqcUFMASFKVsZBu3/XJ+LfKDPoKQwT6KHAAAAQBH7xisEKurN7xnm/WBB
wAl57vwDrCC+Y5kA/EnPNQ6k3Wx0RCuGmg7j/RlFQIU6/AmcytcxFH+xmdC7m8ot
LPk=
Private-MAC: b65aff65d74161d88fdab8d2e2e61dcd9a740805
```

Both of these keys will be properly read by DataBridge.

NOTE: The private key must be exported without a password to be used by DataBridge (as this password would need to be interactively entered for each transfer to the server).

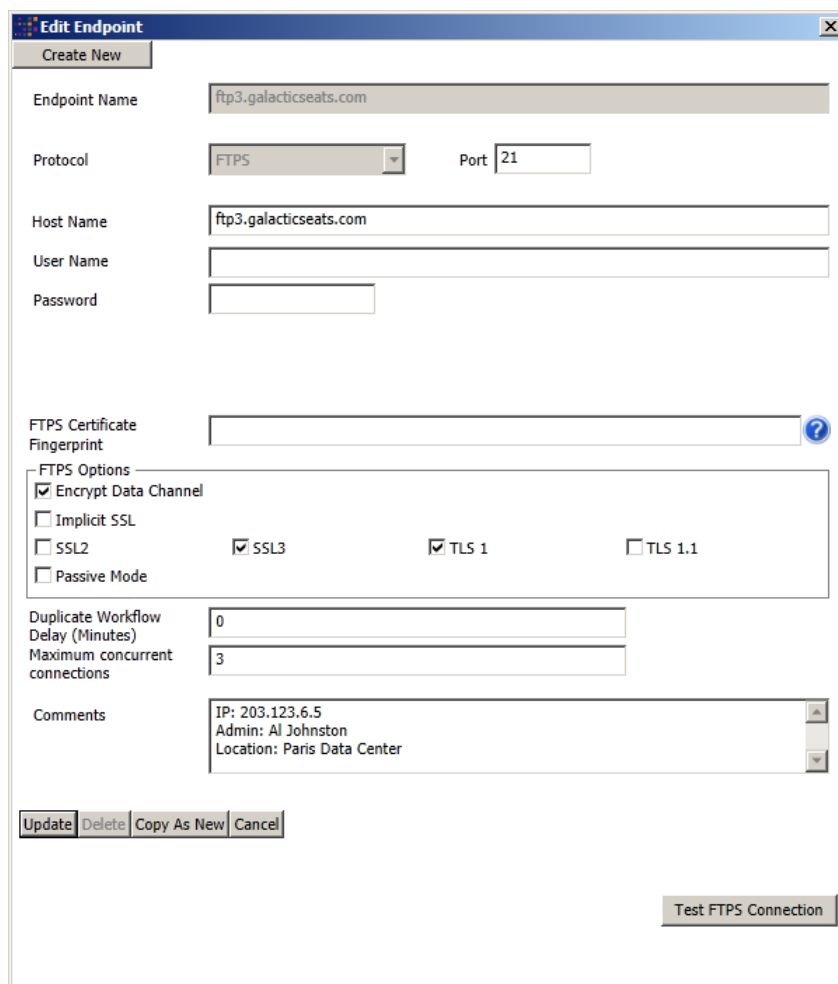
The SFTP Host Key Fingerprint must be in the form:

77:61:79:26:f2:b1:9c:6a:4b:c1:0e:96:0e:2c:3e:07

The fingerprint is used to validate the server when a connection is made over SFTP.

FTPS SERVER ENDPOINT CREDENTIALS

The following credentials are needed for an FTPS server as an endpoint:



- User Name – the user name necessary to login to the remote server
- Password – the password for the specified user name
- FTPS Certificate Fingerprint – the SHA-1 fingerprint of the host SSL certificate

NOTE: Only settings which relate to credentials and the FTPS configuration are described here. For more information about other settings see the *DataBridge Administrator Guide*.

The FTPS Certificate Fingerprint must be in the form:

77:61:79:26:f2:b1:9c:6a:4b:c1:0e:96:0e:2c:3e:07:aa:09:b6:0a

The fingerprint is used to validate the server when a connection is made over FTPS.

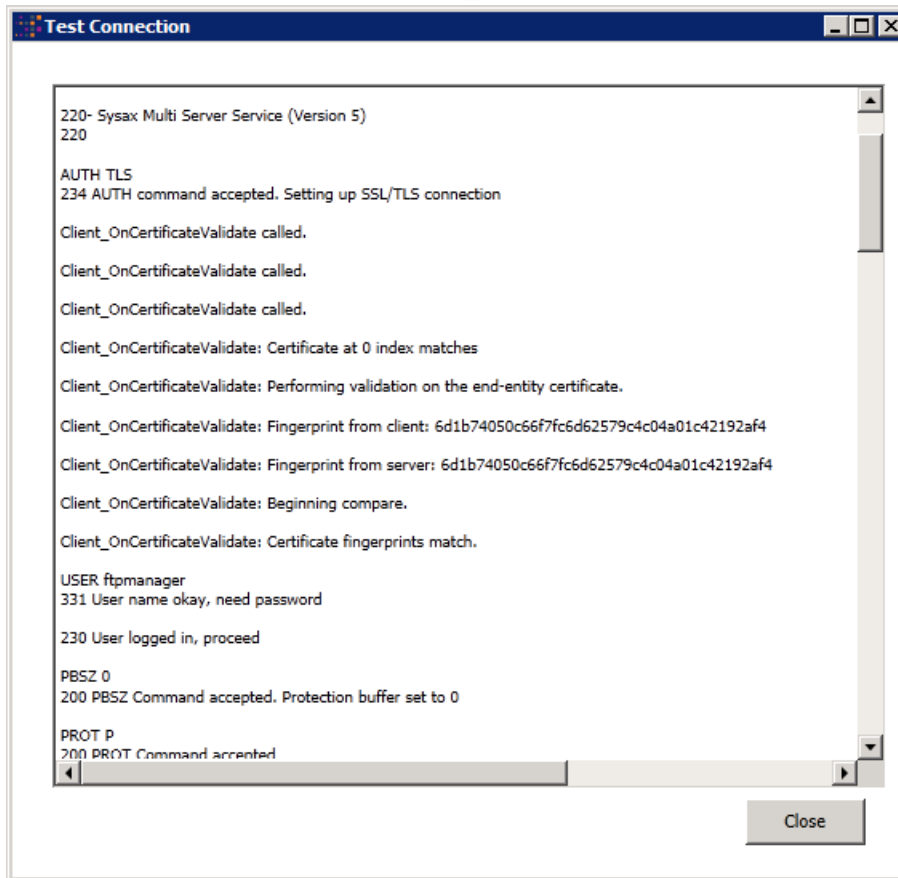
FTPS Options

FTPS configurations vary widely from server to server. The options provided here can be used to tailor the connection properties to correctly connect to the FTPS server destination as necessary.

FTPS Option	Description
Encrypt Data Channel	Enables encryption of the data channel once the session has been established
Implicit SSL	Generally only used with port 990, assumes SSL is enabled from the initial connection (i.e. it does not start unencrypted and setup SSL, it starts as SSL)
SSL2	Enables SSL 2.0 support on the connection. (Not recommended unless connecting to a very old system)
SSL3	Enables SSL 3.0 support on the connection
TLS 1	Enables TLS 1.0 support on the connection
TLS 1.1	Enables TLS 1.1 support on the connection
Passive Mode	Sets the secondary ports from the client instead of the server.

Test FTPS Connection Button

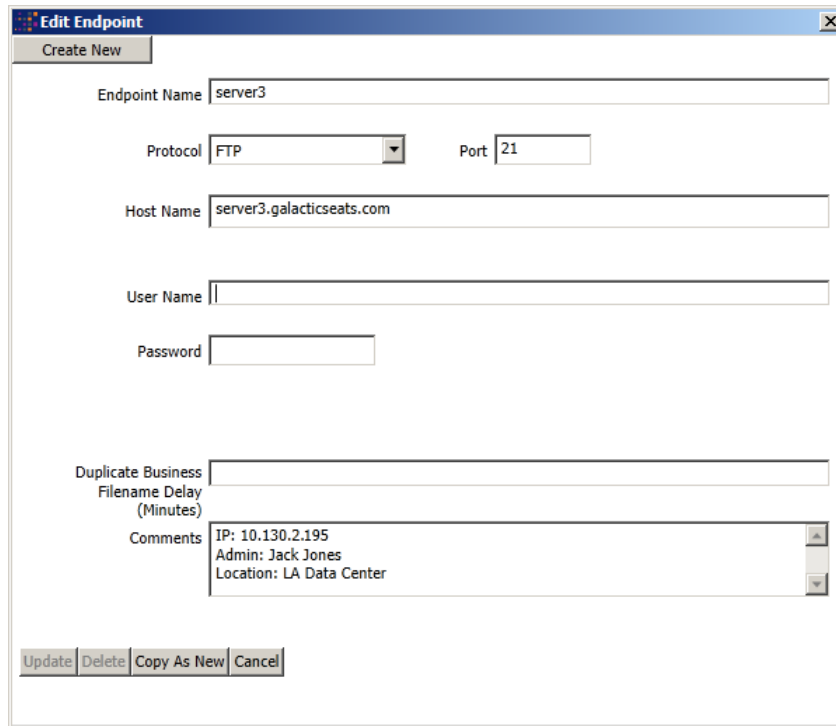
To provide easier troubleshooting on establishing FTPS connectivity, a Test FTPS Connection button is available on all Endpoints defined as FTPS. This button will use the connection information specified for the Endpoint and attempt to connect to the specified Endpoint. The connection will include verifying all the settings in the FTPS Options that were checked as well as uploading and then downloading a test file.



The results of the test are shown in a pop-up window and can be reviewed to determine successful or failed connectivity.

FTP SERVER ENDPOINT CREDENTIALS

The following credentials are needed for an FTP server as an endpoint:



Edit Endpoint

Create New

Endpoint Name: server3

Protocol: FTP Port: 21

Host Name: server3.galacticseats.com

User Name:

Password:

Duplicate Business Filename Delay (Minutes):

Comments: IP: 10.130.2.195
Admin: Jack Jones
Location: LA Data Center

Update Delete Copy As New Cancel

- User Name – the user name necessary to login to the remote server
- Password – the password for the specified user name

JOB QUEUE MANAGEMENT

In any workflow/file transfer system, management of the job queue is critical to the overall health of the system. DataBridge provides two queue views for managing the system.

STALLED JOBS QUEUE

By default, DataBridge does not consider transfer failures to be terminal events. When a file cannot be delivered to the destination and has failed the maximum attempts, it is considered Stalled and placed into that state. This is only done for jobs which fail because they cannot be transferred to the destination. Jobs which fail due to conversion errors (like having a corrupt file which cannot be converted) are marked directly as failed and will not be re-attempted due to a job-terminal failure.

The Stalled Jobs Queue can be found in the Jobs (Stalled) tab.

Server

Workflows

Endpoints

Workflow Groups

Modules

Tools

Jobs (Stalled)

Jobs (All)

Refresh

Restart Jobs

Delete Jobs

Show Jobs Since: 4/15/2012 15 Go

<input type="checkbox"/>	Job ID	Date Created	Workflow Name	Source Endpoint Name	Destination Endpoint Name	Destination File Name	Last Transfer Attempted
<input type="checkbox"/>	2	5/1/2012 3:07:32 PM	fuelprod	server1-FTP	ubuntu	fuelprod-20120501-110732.vsd	5/1/2012 3:09:31 PM
<input type="checkbox"/>	1	5/1/2012 3:01:33 PM	fuelprod	server1-FTP	ubuntu	fuelprod-20120501-110133.vsd	5/1/2012 3:03:31 PM

When a job has reached a stalled state, the defined DataBridge administrator will receive a message of the job's status. At this point the job is parked in the stalled status until manual intervention by the administrator. The choices for intervention are to delete the job or to restart the job. If multiple jobs are in this state, all checked jobs can be restarted or deleted at once.

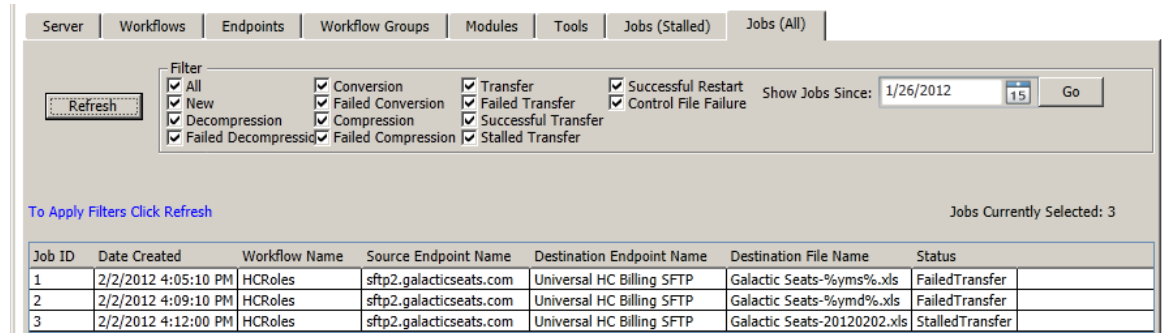
Restarting a Job

While there are many reasons a job could fail, the most common reasons involve expired or changed credentials for the account used to login to the destination server. In either case, it is recommended that a job not be restarted until the connectivity problem is resolved.

When a job is restarted, to ensure it has the most recent data, it will re-read the destination settings upon the restart and uses this information to attempt to complete the transfer. The restarted job will appear as a new job within the job queue with the same filename and destination information. This allows the initial job to be explicitly marked as having stalled and restarted. The initial job status will change from "Stalled Transfer" to "Successful Restart". In the TotalView reporting the restarted job would show the original job ID as one of its parameters, allowing a succession of restarts to be tracked to the original job.

ALL JOBS QUEUE

All current and past jobs are visible in the Jobs (All) tab. From here you can see the status of current jobs as well as past jobs. To make it easier to see the jobs, it is possible to filter the jobs displayed based on the time period, job status and by sorting the resulting information.



The screenshot shows the 'Jobs (All)' tab in the DataMotion interface. It includes a 'Refresh' button, a 'Filter' section with 14 checkboxes, a 'Show Jobs Since' date picker, and a 'Go' button. Below the filters, a table displays job details.

Job ID	Date Created	Workflow Name	Source Endpoint Name	Destination Endpoint Name	Destination File Name	Status
1	2/2/2012 4:05:10 PM	HCRoles	sftp2.galacticseats.com	Universal HC Billing SFTP	Galactic Seats-%yms%.xls	FailedTransfer
2	2/2/2012 4:09:10 PM	HCRoles	sftp2.galacticseats.com	Universal HC Billing SFTP	Galactic Seats-%ymd%.xls	FailedTransfer
3	2/2/2012 4:12:00 PM	HCRoles	sftp2.galacticseats.com	Universal HC Billing SFTP	Galactic Seats-20120202.xls	StalledTransfer

The fourteen (14) Filter checkboxes allow you to choose just what jobs to see. The All option automatically checks all the boxes to show all jobs. Additionally the date box allows you to filter only jobs from a certain date to “now”. Clicking the Refresh or Go button will immediately update the results based on the filter settings.

It is also possible to sort the results by clicking on the column headers in the results display. By default the display is sorted by Job ID in an ascending order.

LOCAL DATABRIDGE ADMINISTRATION

There are three primary tasks related to managing the actual DataBridge Services once they have been installed and configured: mail server credential management, service management and “offline” configurations.

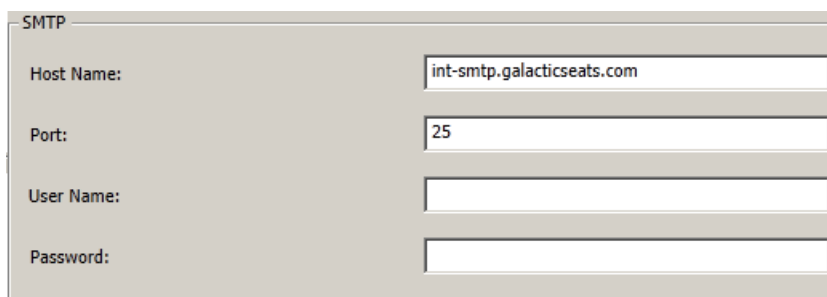
MAIL SERVER CREDENTIAL MANAGEMENT

There are two sets of mail server credentials that are configurable within the DataBridge Console. These are both located on the Modules tab.

SMTP Credentials

The DataBridge services are capable of sending notification emails for the final disposition of a workflow job. For example, if a workflow job fails, then a failure notification would be sent. These messages are sent to the specified Contact Email(s) addresses listed in the workflow properties. Additional status notifications are sent to the designated administrator using this server.

To be able to send these notification emails, a mail server must be specified as part of the SMTP configuration in the Modules. The user name and password needed to send the message must also be configured.



SMTP	
Host Name:	int-smtp.galacticseats.com
Port:	25
User Name:	
Password:	

If this information is not configured, not notification messages will be sent under any circumstances.

POP3 Credentials

There are two methods for receiving control files to begin jobs in DataBridge: by placing them into the Control File Directory or by sending them to a designated email address. If the email address method will be used, then the POP3 credentials for the email address must be configured to allow DataBridge to check the account.

POP3

Host Name:

Port:

User Name:

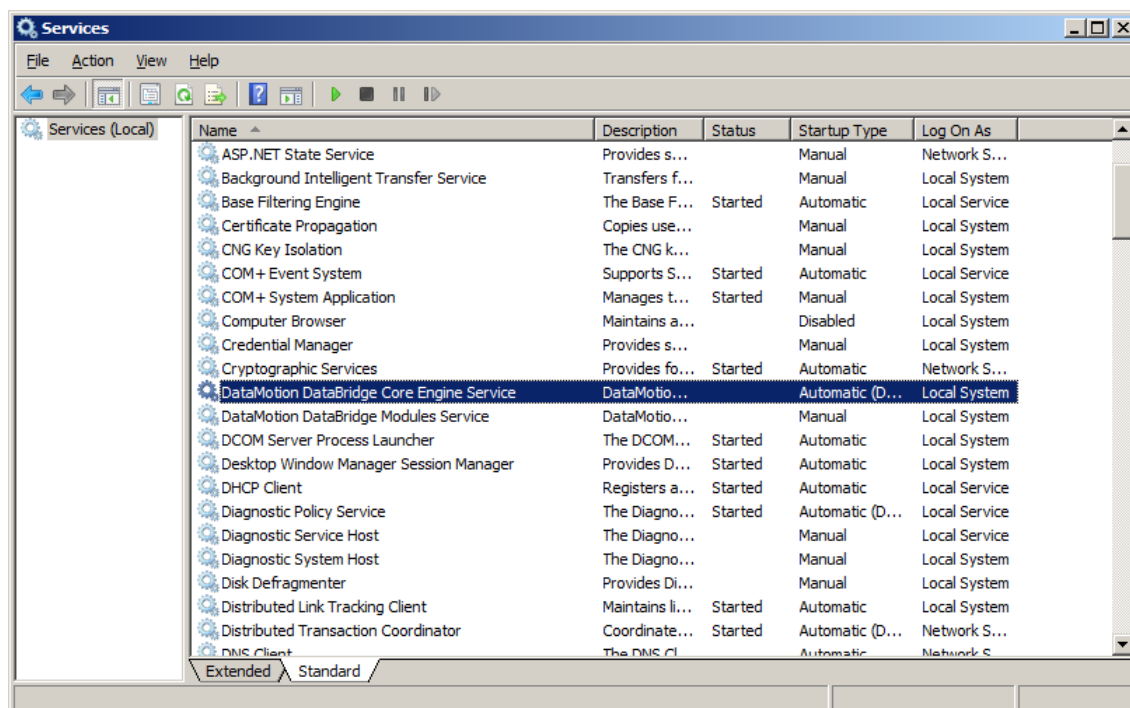
Password:

The DataBridge services will use this information to login to the specified mail server using POP3 and look for incoming control files at the configured interval.

THE DATABRIDGE SERVICES

There are two DataBridge services. The primary service is the **DataMotion DataBridge Core Engine Service**. This service will automatically start the **DataMotion DataBridge Modules Service**.

To start or stop the service manually, open the Services administrative console and find the **DataMotion DataBridge Core Engine Service**. This service is set to start automatically (hence the reason a reboot will also start the service). Starting this service will also automatically start the **DataMotion DataBridge Modules Service**.



OFFLINE CONFIGURATIONS

In some situations it may be necessary to run the DataBridge Server without connectivity to the DataMotion Portal (such as during external network outages). At times it may also be useful to test Server to Server workflows or test connectivity settings locally before making a configuration changes on the Portal.

NOTE: Changes made locally in the DataBridge Server Management console will be overwritten the next time DataBridge synchronizes with the Portal.

DATABRIDGE LOGS

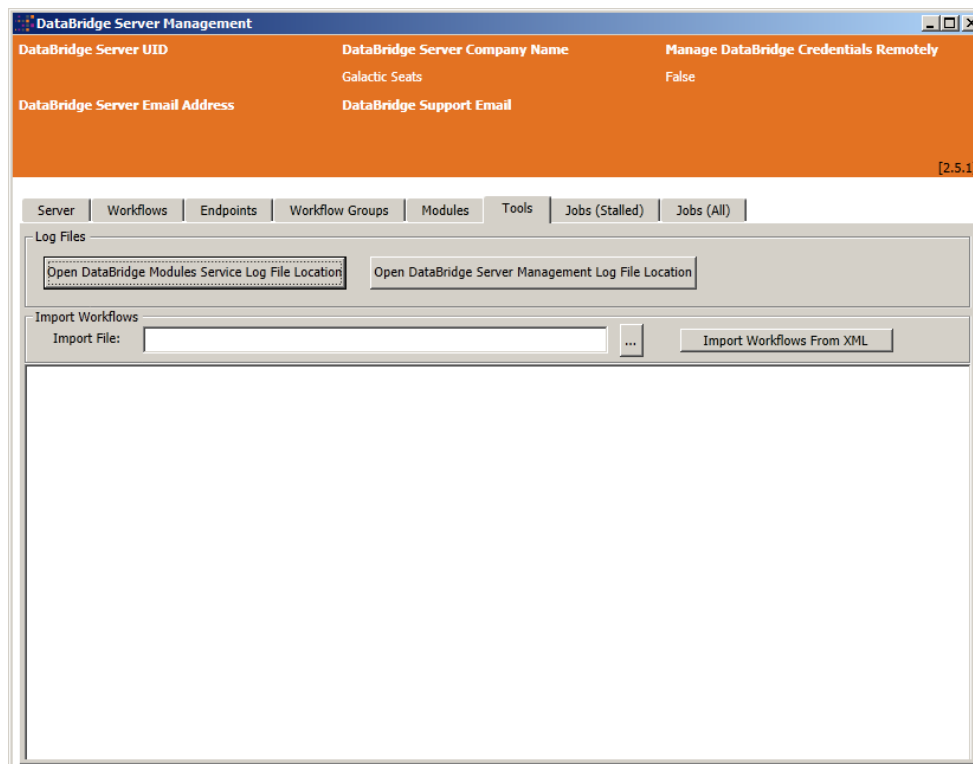
The DataBridge Server provides extensive logging for diagnostic purposes. This logging includes events in the Windows Event Log as well as detailed logs about the modules and their status.

WINDOWS EVENT LOGS

The Windows services **DataMotion DataBridge Core Engine Service** and **DataMotion DataBridge Modules Service** both log events to the Windows Application Log. These events will provide information about success and failures about the services.

INTERNAL DATABRIDGE LOGGING

Access to the internal log files generated by DataBridge can be quickly found using the Tools tab in the DataBridge Console. Clicking on the Log Files buttons will open the folder directly in Explorer.



The DataBridge Modules Service logs are where most information about workflows will be generated while the Server Management logs deal primarily with the running of the services itself.

DataBridge Log Wrapping

Each log has a current, active log file as well as the previous files. The main files are:

- Modules Service: `DataBridgeModulesService.txt`
- Server Management: `DataBridgeWPF.txt`

After a log file reaches approximately 1MB a new log file is generated and the old one is renamed to contain the date and a number representing the order of the file creation (i.e. the file extension starts at 1, then 2, etc.).

NOTE: All logs explicitly remove authentication credentials from the output so while you may see responses related to authentication, the actual parameters passed are never included in the logs themselves.

Enabling Debug Logging for the Modules Service

The Module Service, by default has the logging level is set as “informational.” The purpose of this is to provide broad information about the status of the system, but not necessarily enough to debug problems. If this occurs and more logging is needed, debug logging can be enabled by editing the `ModulesService_log4net.config` file.

To enable debug logging:

4. Open the `ModulesService_log4net.config` file in the specified **Modules Service** folder. This will be under the installation path.
5. Find the two lines with the following text:

```
<param name="LevelMin" value="INFO"/>
```

6. Change the value **INFO** to **DEBUG**.

```
<param name="LevelMin" value="DEBUG"/>
```

7. Save the file.

Debug logging is now enabled.

Disabling Debug Logging

Once the debug logging is no longer needed it may be disabled.

To disable debug logging:

8. Open the `ModulesService_log4net.config` file in the specified **Modules Service** folder.
9. Find the two lines with the following text:

```
<param name="LevelMin" value="DEBUG"/>
```

10. Change the value **DEBUG** to **INFO**.

```
<param name="LevelMin" value="INFO"/>
```

11. Save the file.

Debug logging is now disabled.