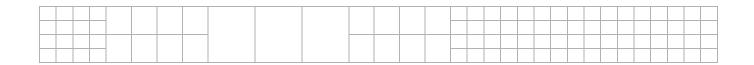
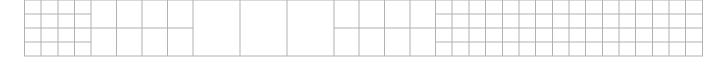
# SFTP Connectivity Policy

July 2021



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#### Overview

#### **BB-SFTP Functionality**

BB-SFTP enables a set of Bloomberg-provided SFTP accounts to be used for transferring files. Access to BB-SFTP is restricted to SFTP Users. SFTP Users may use dedicated/leased lines or the Internet to access BB-SFTP.

#### **Bloomberg SFTP Connectivity Standards**

- The Bloomberg SFTP Connectivity Standards document sets forth the connectivity standards for Bloomberg clients or third parties (collectively, "SFTP Users") authorized to use Bloomberg's secure file transfer infrastructure ("BB-SFTP"). This document details responsibilities and requirements for SFTP Users of BB-SFTP. SFTP Users must review and comply with these Connectivity Standards in order to use BB-SFTP.
- Bloomberg will periodically review and update these Connectivity Standards.
- Access to BB-SFTP will be enforced via IP allowlists.
- SFTP Users are responsible for configuration changes within their own environments and for ensuring that they make any necessary changes to their firewalls to enable BB-SFTP access. This includes communicating IP changes to Bloomberg for IP allowlisting.
- SFTP Users should regularly review their own application security controls.
- Bloomberg may suspend the account of any SFTP User at any time.

#### **Connectivity Requirements**

SFTP Users must agree to operate within the best practices guidelines below and data limits currently in place for BB-SFTP.

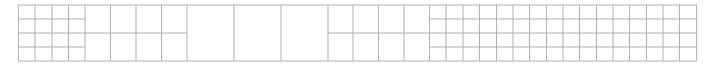
# **Security Policy**

### **SFTP Password Requirements**

- Have a minimum length of 16 ASCII characters and maximum of 32 ASCII characters
- Must contain at least one of the following characters: \_ % + = [], . { }
- Must contain at least one upper case letter, one lower case letter and one number
- May not contain a space
- May not contain these characters: \$\`&() < ">|; '^\*?:#@!
- May not contain non-printable characters
- Changed at regular intervals defined by Bloomberg

#### **IP Allowlisting Requirements - Internet Connectivity**

 Access to BB-SFTP is only permitted from an IP address previously allowlisted with Bloomberg for the use of that account.



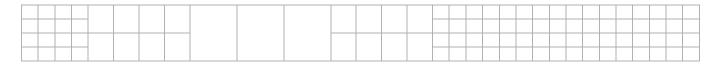
- SFTP Users need to provide their disaster recovery (DR) IP addresses to Bloomberg
- IP allowlists can be configured as follows:
  - a. The standard allowlisting bracket is:
    - i. 5 or fewer IP addresses (specified individually);
    - ii. 5 or fewer sets of IP addresses (specified in CIDR notation); or
    - iii. Up to a total of 1,280 IP addresses (specified in any combination of individual entries or CIDR notation)
    - iv. Accounts in this category may use a key or a password (or both) for authentication
  - b. The non-standard allowlisting bracket requires an SSH key for authentication. Accounts requiring an allowlist of more than 1,280 host IP addresses must use an SSH key and not a password for authentication.
- Exceptions to this policy must be justified and coordinated with your account manager.

#### IP Allowlisting Requirements - Leased Line/Private Line Connectivity

- Access to BB-SFTP is only permitted from an IP address previously allowlisted with Bloomberg for the use of that account.
- SFTP Users need to provide their disaster recovery (DR) IP addresses to Bloomberg

#### **Public Keys**

- Where SFTP Users authenticate using an SSH key, it should meet the following criteria:
  - a. Key Type: SSH-RSA
  - b. Strength: SSH keys for SFTP must at minimum be 2,048-bit RSA public keys with a recommendation of 4,096 bits
  - c. Public Key Format: OPENSSH, single-line format
  - d. SFTP Users must provide Bloomberg with their public keys
  - e. Keys must be stored securely and should only be shared with authorized individuals
  - f. Bloomberg reserves the right to expire SSH keys at regular intervals. These would be communicated to clients in advance of any such expiration.



#### **Unsupported Ciphers, MAC and Key Exchange Algorithms**

These Ciphers, MAC and Key exchange algorithms are no longer supported. You must upgrade all SFTP tools and client libraries to avoid using unsupported algorithms.

Ciphers	MAC	Key Exchange
3des-cbc	hmac-md5	diffie-hellman-group-exchange-sha1
aes128-cbc	hmac-sha1-etm@openssh.com	diffie-hellman-group1-sha1
aes192-cbc	hmac-md5-96	
aes256-cbc	hmac-sha1	
arcfour		
arcfour256		
blowfish-cbc		
cast128-cbc		
rijndael-cbc@lysator.liu.se		

**NOTE**: Bloomberg will no longer support SFTP clients that require "SSH\_MSG\_KEX\_DH\_GEX\_REQUEST\_OLD" during key exchanges.

# **Usage Policy**

#### Contacts

No connections will be created or maintained without up-to-date contact information.
 Reach out to your Bloomberg service representative if you need to confirm the status of your registered contacts.

#### **Login Sessions**

- For each successful **login**, a corresponding **logout** is expected within 24 hours.
- Logins to a given SFTP account must not exceed 60 attempts per hour.
- SFTP accounts exceeding this limit may be throttled or disabled at any time without warning.

#### **Polling of Directories and File Transfer Rate**

- Uploads, downloads, or directory scans of a given SFTP account must not exceed
   300 actions per hour, with a maximum of 4 concurrent actions.
- SFTP accounts exceeding these limits may be throttled or disabled at any time without warning.

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#### **Performance Expectations**

- Uploaded files are generally processed within 30 minutes end-to-end. Certain workflows are processed only once every 24 hours.
- SFTP by definition is a file transfer protocol. As such users or applications using this SFTP service may experience delays of several minutes. If data is expected to be transferred in real time, then a real-time protocol other than SFTP is required.
- Bloomberg will not under any circumstances support real-time performance via SFTP connectivity.

#### **Maintenance Window**

• Bloomberg SFTP infrastructure may be unavailable on weekends between 6:00 EST Saturday and 18:00 EST Sunday for maintenance reasons.

#### **Internet Failover**

- The failover addresses sftp.bloomberg.com and sftp.blpprofessional.com provided in Table 1 will switch between Bloomberg data centers as needed, with automatic failover provided by Bloomberg.
- In fact, all SFTP addresses are set up for automatic failover. We provide additional data center Virtual IPs to allow you to choose to make a specific site primary.
- Please always connect to our failover instead of server-specific IP, so traffic is routed to available servers automatically if they are available.

#### **Account Disablement Due to Inactivity**

 Any account not accessed in 6 months (180 days) or more may be deleted and all associated files removed.

#### **Storage & File Retention**

- SFTP Users are generally permitted a maximum of **5GB** per account.
- Users of certain Bloomberg products may be allocated more per account. Your Bloomberg service representative will inform you if this applies to your account.
- Files stored on BB-SFTP may be deleted on a rolling 30-day basis. Retrieve any files you need to keep within 29 days of their upload.
- BB-SFTP is a store and forward system; it does not archive files; this is the responsibility of SFTP Users.
- Uploaded files in excess of acceptable limits may be blocked or deleted.

	Maximum Size
Single file, one-time delivery	1.5 GB
Single file, automated delivery	400 MB
Total of all files stored	5 GB

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#### **IP Proxies**

• In the scenario where SFTP Users are funneling all their SFTP sessions through a few proxy IPs, they may encounter a per-IP session limit. In this situation, SFTP Users will need to direct their excess SFTP traffic through additional IP proxies as session limits per IP will not be raised.

# **Connecting to Bloomberg**

#### **Firewall Changes**

 SFTP Users may need to make network changes to allow access to the BB-SFTP servers on port 22 or 30206. See IPs in tables below that you may need to add to your firewalls in order to connect to Bloomberg's SFTP servers.

# **Internet Connectivity via to Bloomberg SFTP Servers (Table 1)**

See Failover section	Host Name	IP Address	Port	Connection Type	Region
1	sftp.bloomberg.com	205.216.112.23 208.22.57.176	22	Internet Auto Failover	Global
4	sftp.blpprofessional.com	205.216.112.23 208.22.57.176	22	Internet Auto Failover	China

For Internet connectivity, clients are advised to use DNS **sftp.bloomberg.com** and **not use IP addresses directly**.

In the event that one server becomes unavailable, sftp.bloomberg.com will always point to another available server. SFTP Users' Internet-facing IP addresses need to be allowlisted with Bloomberg.

For more information, see IP Allowlisting Requirements.

# Leased Line Connectivity via Bloomberg Routers to Bloomberg SFTP Servers (Table 2)

IP Address	Port	Connection Type	Region
160.43.94.78	22	Virtual IP NY/NJ Failover	New York, Tokyo & Asia Pac
160.43.94.20	22	Virtual IP NY/NJ Failover (NY Primary)	New York, Tokyo & Asia Pac
160.43.166.57	22	Virtual IP NY/NJ Failover (NJ Primary)	New York, Tokyo & Asia Pac
160.43.94.77	22	Virtual IP EMEA Failover	London/EMEA
160.43.94.24	22	Virtual IP NY/NJ Failover (NY Primary)	London/EMEA
160.43.166.58	22	Virtual IP NY/NJ Failover (NJ Primary)	London/EMEA

#### **Additional Connections**

• Certain business units such as News or Exchange feeds may provide a different set of servers than the above listed, generally used SFTP servers. SFTP Users of these services should confirm IP addresses with their relationship manager.

#### **Failover URLs**

For <u>Internet SFTP Connectivity</u>, Bloomberg supports four URLs for use by external parties to connect to our servers. (See Table 1)

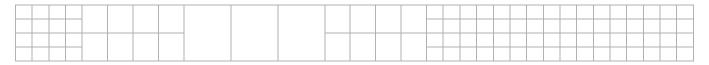
- 1. sftp.bloomberg.com
- 2. sftp.blpprofessional.com (China Only)
- 3. bfm1-sftp.bloomberg.com
- 4. bfm2-sftp.bloomberg.com

#### URLs 1 and 2 work as follows:

- Incoming SFTP connections are routed to a Data Center based on load.
- Changes made to the file system via SFTP operations are not replicated across Data Centers. This means that the effect of a file system update (e.g. rename, move, copy, make directory, etc.) would only be visible to subsequent connections if those connections are also routed to the same Data Center where the initial rename operation took place. Routing is load based and cannot be guaranteed to be constant between any two connections.
- We recommend users who intend to only collect files from Bloomberg via Internet SFTP in a read only manner use URL 1. Files published by Bloomberg will be available from both data centers.
- In the case of a Data Center outage event, users of URLs 1 and 2 will be able to continue using the URLs as normal and no action needs to be taken.

#### URLs 3 and 4 work as follows:

- URL 3 targets one data center, while URL 4 targets another. Both are equal in terms of capabilities and performance.
- In the event that there is a problem accessing Bloomberg Internet SFTP servers through URL 3, we expect you to failover to use URL 4 instead, and vice versa. This means that connections made through these URLs will be guaranteed to have a consistent view of the file system.
- Any write operation made through URL 3 will not be replicated to URL 4, and vice versa. This means that in the event that your primary URL of 3 or 4 becomes unavailable, the effects of any previous write operations will be lost.



# Beta Internet Connectivity via to Bloomberg SFTP Servers (Table 3)

Host Name	IP Addresses	Port	Connection Type	Region
bfmrrb-sftp.bloomberg.com	205.216.112.26	22	Beta Internet	Global
	208.22.57.170		NY/NJ	

Some SFTP workflows are enabled for client beta testing. Your Bloomberg service representative will inform you if this is the case for a particular account.

All beta connectivity is via the Internet: no leased line option is provided.

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BEIJING	FRANKFURT	LONDON	NEW YORK	SÃO PAULO	SYDNEY	
+86 10 6649 7500	+49 69 9204 1210	+44 20 7330 7500	+1 212 318 2000	+55 11 3048 4500	+61 2 9777 8600	
DUBAI	HONG KONG	MUMBAI	SAN FRANCISCO	SINGAPORE	TOKYO	
+971 4 364 1000	+852 2977 6000	+91 22 6120 3600	+1 415 912 2960	+65 6212 1000	+81 3 3201 8900	

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