ICE BENCHMARK ADMINISTRATION

MFT CONNECTIVITY

VERSION 1.5

- ICE LIBOR™
- ICE SWAP RATE
- LBMA GOLD AND SILVER PRICES
- ICE TSRR
- ISDA SIMM™ CROWDSOURCING UTILITY

January 2021

Preface

Document Purpose

This document is designed to provide clients with information on how to access those ICE Benchmark Administration services which are delivered through the secure Managed File Transfer (MFT) server.

Document History

VERSION NO.	DATE	CHANGE DESCRIPTION
1.0	Feb 2016	Created document based on information previously included in other client specification documents.
1.1	May 2018	Updated SO Post Trade email address. Added SSH Key Exchange policy detail
1.2	Sept 2018	Added section re. client polling behaviour (no more than once per second).
1.3	July 2019	Technical specifications updates 2.2 and 2.3 updated
1.4	May 2020	Technical specifications updates (2.3 updated)
1.5	Jan 2021	Addition of TSRR Benchmark

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1. MFT ACCESS DETAILS

ICE Benchmark Administration uses MFT for distributing and consuming data relating to the benchmark and other services we manage. The usage and file specifications are detailed in the Client Specifications for each service. This document provides the details required to establish a connection to MFT, which are common to all services.

1.1 MFT STAGING SERVERS

For the production environment MFT servers are available in both a primary location and a disaster recovery location. The IP address for the primary and disaster recovery MFT servers is the same.

The UAT environment is accessible only in the primary data centre.

Connectivity details for both environments are as follows:

ENVIRONMENT	LOCATION	SERVER IP	PORT	SSH FINGERPRINT (Min key length 2048)
Production	please contact IBA for details	-	-	-
UAT	please contact IBA for details	-	-	-

MFT does not allow HTTPS connectivity via a web browser. Connectivity to MFT is provided via Secure File Transfer Protocol (SFTP) on the standard port. The client-side firewall must allow the port outbound to the IBA MFT host.

Please arrange for the necessary network routing and firewall changes to be made by the relevant teams in your organisation. If there is a need to escalate any connectivity issues to ICE Benchmark Administration, email soposttrade-support@theice.com.

Connectivity can be provisioned over the public Internet or via any of the existing dedicated connections available for connection to the ICE data centre. To allow your source servers access to the above, the routes to the Internet may need to be advertised on your network.

1.2 CONNECTIVITY VIA STAGING SERVERS

The System Administrators at your company may also need to provide a means of connecting to the internet. One method may require them to setup a staging server in your DMZ which is allowed to connect to the internet. Internal servers (your source servers) would then connect to the DMZ servers to upload files, etc. Contact ICE Benchmark Administration if you require more information on this approach.

1.3 AUTHENTICATION

Authentication for the MFT server is SSH key based. Clients are required to generate an SSH key pair and supply ICE Benchmark Administration with the public key whilst retaining their private key. Although the server details are the same, separate participant IDs and authentication will be required for each service.

1.3.1 KEY CREATION

You can create keys using an SSH Client, such as OpenSSH, Cygwin, PuTTY or a commercial SSH. IBA can advise clients on how to generate SSH keys if required. Please contact soposttrade-support@theice.com.

It is important to label your keys correctly before sending them in for installation. Mark the key clearly showing:

- Source system (*e.g.* ICELIBOR – a reminder for you that this key is for the IBA ICE LIBOR directory)
- Target environment (*e.g.* PROD- indicating it is a production certificate in this instance)
- Participant ID. This will be assigned by ICE Benchmark Administration to each participant.

Examples of key string created for the production environment:

> *ssh-2 rsa*
> *AAAAB3NzaC1yc2EAAAABJQAAAIBuNnKdoXvTDFzCVHWcawAE8VTZQLPY8JT3VoFFpM*
> *6bSdjNgezK9O0I3ImrHGv/9f0LCDMF4tzfsDeBuZb9gy5AMZUn8ynuntmGf0alGC9omvm/5xX*
> *z5EbVgvB3FioflIlo92mgS0mrYLZsEdKloH+Au/oZBUzatoxv8q2Upb4Amw==*
> *ICELIBORPRODABCD*

The SSH Key Exchange policies supported by IBA servers are:

- Diffie-Hellman Group 14
- RSA-based key exchange

1.3.2 REQUEST KEY INSTALLATION

Once your key(s) are generated, attach the public key to an email and send to iba@theice.com, stating clearly the service and folders to which access is required. The key strings should be self-explanatory as described above. If there is any ambiguity your request will be rejected/delayed.

For each key submitted, you will receive a corresponding username from ICE Benchmark Administration. This username is required to access the MFT service (a password is not required by IBA).

1.3.3 NOTIFY IP ADDRESSES

IBA validates client IP addresses against a whitelist. You will need to send a list of IP addresses which will be used to connect to MFT, by email to soposttrade-support@theice.com.

1.3.4 CHECK SSH FINGERPRINT

On initial connection a user will be prompted with a server side public SSH fingerprint. The format should match the SSH fingerprint shown in section 1.1. If it does NOT match, do not trust the target server. Please contact soposttrade-support@theice.com if you notice any irregularities.

2. SFTP CLIENTS

2.1 CLIENT APPLICATIONS

Please note, IBA does not specifically recommend or support any third party SFTP client software. That said, there are many options available on the open market for both free and paid applications. Please check with your internal Information Security and/or network teams to determine if there is an existing standard within your organisation.

2.2 CLIENT SETUP

Clients are provided with a single MFT account for the purpose of retrieving files. IBA may consider providing additional MFT accounts for business continuity / disaster recovery purposes only.

2.3 CLIENT BEHAVIOUR

When using MFT to download data from the real time rates folders ('Rates' or 'RealTime', depending on the rate), clients should only execute 'GET' commands to return the files.

Clients are not to execute 'GET' commands to the MFT server more frequently than once per second for the same file.

Clients can also execute 'STAT' commands to the MFT server but not more than 250 per second, and 5,000 per day.

No other commands are allowed.

A client should login once and maintain a single session to the MFT server to complete any required downloads.

3. TROUBLESHOOTING

3.1 CONNECTIVITY ISSUES

If you have problems connecting to your account on the staging server(s), try the following to troubleshoot the issue:

1. **Do you get a prompt on the target server?**

If not, inform your internal Comms/Security teams. Ask them to confirm that your source server(s) is allowed to connect via SSH to the ICE Benchmark Administration staging servers. If they need to escalate the issue, email soposttrade-support@theice.com.

2. **Do you get a prompt for your password?**

If you are getting a prompt from the server but it is requesting your password. Check whether any of the following apply:

a. Is your key deployed on the target environment?

Have you requested the installation of the source servers key on the target environment? Ensure your keys are properly aligned with your account on the target environment.

b. Are you pointing at your private key properly?

Depending on the SSH client that is being used, you may not be specifying the location of your private key properly.

c. Are the permissions on your private keys correct?

This is usually not an issue on Windows. On UNIX, check that the permissions on your keys are not too weak. They should be something like this:

700 .ssh

600 .ssh/id_rsa

3.2 ESCALATION

If you have checked the settings on your client side and are still experiencing problems, email soposttrade-support@theice.com and include the information below:

- Your User ID and the server to which you are trying to connect.
- The time you last attempted to connect.
- Do you get a prompt from the server? Include exact output.
- Any other error messages. Include exact output.