

**Streaming,
Pre & Post-
Trade
Allocations &
Algos Support
and
Operations
Policies and
Procedures**



FXSpotStream LLC Streaming Support and Operations Policies and Procedures

I. Introduction

FXSpotStream LLC (the “Company” or “FSS”) provides a multibank Spot FX, FX Forwards, Swaps, NDF, NDS, and Spot and Swaps Precious Metals price streaming service, including support for pre- and post-trade allocations and FX Algos (collectively, the “Service”). These Support and Operations Policies and Procedures (the “Operating Procedures”) form a part of the legal agreement(s) entered into by and between the Company and its users, liquidity providers and vendors. In the event of any inconsistencies between these Operating Procedures and the legal agreement(s) the terms of the legal agreement(s) shall control.

II. Support Hours and Contacts

FSS provides a support help desk which is available from 7am Auckland on Monday until 5pm NYT on Friday.

The email address for FSS support is:

- support@fxspotstream.com

The local support phone numbers for the FSS support desk are as follows:

- Tokyo : +81 3 6863 5370 / +81 3 4520 9264
- London : +44 (0) 20 3318 5020 / +44 (0) 20 3608 3081
- New York : +1 646 381 2035 / +1 646 616 7549

A local Tokyo support desk is also available for Japanese speaking clients. The Tokyo local support desk is staffed with individuals who are fluent in Japanese.

All support staff can be reached by using the above contact numbers.

Note that any ticket raised between the service closing Friday and opening on Sunday, unless an urgent production matter, will be reviewed on Sunday when the Service opens.

III. Hours of Operation

The FSS Service will be open commencing every Monday at 7am Auckland and will close on Friday at 5pm New York.

IV. Daily LP Maintenance

Please note, as stated above, the FSS Service does not have daily maintenance during the week. Each LP, however, has their own specific schedule for daily maintenance. Please see the below list for time frames on how long each LP goes down for daily maintenance at 5pm New York:

Streaming Session Schedule			
LP	Service	Sunday/Monday	Daily
Bank of America Merrill Lynch	Streaming	Starts at 5:00PM New York	Maintenance at 5PM-5:05PM NYT and closed 5:00PM on Friday
Barclays	Streaming	Starts at 3:00PM New York	Maintenance at 4:59pm-5:08pm NYT and closed 5:00PM on Friday
Bank of Tokyo-Mitsubishi	Streaming	Starts at 5:30PM New York	Maintenance at 5PM-5:20PM NYT and closed 5:00PM on Friday
BNP Paribas	Streaming	Starts at 5:10PM New York	Maintenance at 5PM-5:02PM NYT and closed 5:00pm on Friday
Citigroup	Streaming	Starts at 3:00PM New York	Maintenance at 5PM-5:02PM NYT and closed 5:00PM on Friday
Commerzbank	Streaming	Starts at 5:05PM New York → 5PM NYT Friday	
Credit Suisse	Streaming	Starts at 7:00AM Auckland → 4:55PM NYT on Friday	
Goldman Sachs	Streaming	Starts at 3:00PM New York	Maintenance at 5:00PM - 5:02PM NYT and closed 5:00PM on Friday
HSBC	Streaming	Starts at 5:02PM New York	Maintenance at 5PM-5:02PM and closed 5:00PM on Friday
JP Morgan	Streaming	Starts at 5:06AM Sydney	Maintenance at 5PM-5:06PM NYT and closed 05:00PM on Friday
Morgan Stanley	Streaming	Starts at 3:00PM New York → 5PM NYT Friday	
Societe Generale	Streaming	Starts at 6:00PM New York	Maintenance at 5pm-5:05pm NYT and closed at 5:00 PM on Friday*
Standard Chartered Bank	Streaming	Starts at 5:05PM New York	Maintenance at 5PM-5:05PM NYT and closed 5:00 PM on Friday
State Street	Streaming	Starts at 6:30AM Hong Kong	Maintenance at 5:00-5:30PM NYT and closed 5:00PM on Friday
UBS	Streaming	Starts at 5:00AM Sydney → 5PM NYT Friday	

*Swaps pricing suspended between 5pm and 7pm NYT

V. Service Maintenance

The Company shall use reasonable efforts to operate and maintain the Service during the hours of operation and promptly notify users and liquidity providers of any difficulties experienced by users and/or liquidity providers with respect to their access to or use of the Service. The Company in its sole discretion shall determine the need for and conduct any maintenance of the Service. To the extent practicable the Company shall notify users and liquidity providers in advance of any maintenance required of the Service. The Company does not have a standing maintenance window during the hours of operation.

VI. Client Connectivity

Clients have multiple options to connect the Service:

- Xconnect: Available in Equinix Datacenters, clients can choose between 1g or 10g Xconnects and are able to use Single Mode Fiber (SMF) or Multi-Mode Fiber (MMF)
- Extranet: Clients can establish a connection via TNS or BT Radianz
- VPN – Clients can connect using a secured tunnel via the internet. VPN connections with Microsoft Server devices are not supported

- Public Internet (NY2 Only) – Connections over Public Internet must be secured using SSL/TLS version 1.2 or better. SSL v1 and v2 are not supported. Clients can use a self-signed certificate and FSS does not have a restriction on key length

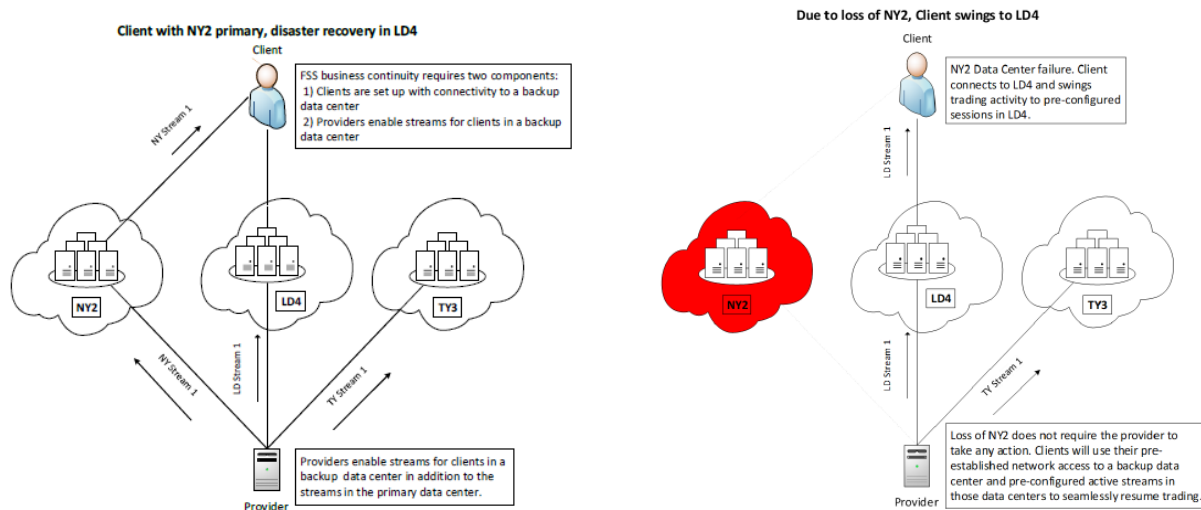
For client connections FSS can only accept public IPs. If needed, FSS can allocate a private IP to the client for non-Public Internet connections.

Application Level Whitelisting: Note that on top of any network related access rules the FSS trading application will only allow client applications to logon from a client provided list of source IP addresses. This includes the FSS GUI. Clients must provide the public IP address or range of IP addresses that the FSS trading system will see their connection originating from (the source IP address) and will reject any logon requests from IP addresses that are not in the address whitelist associated with the client.

VII. Disaster Recovery

FXSpotStream offers clients the ability for its clients to connect to multiple co-los for the purposes of disaster recover. During the client onboarding process, clients using FIX will have the option of creating a secondary connection to a separate colocation from their primary connection which will remain active once the client goes live. In the event a co-locenter is lost, clients using FIX connections will have the ability to move their primary connection to this secondary connection to maintain business continuity. The secondary connection, however, should not be used for sending orders and receiving market data except in the event of a DR event. The client will be responsible for maintaining the secondary connection.

The DR procedure is depicted below:



Additionally, in the event that FSS email becomes unavailable, the entire business and support team can be reached by emailing: clientservices@liquiditymatchllc.com

VIII. FIX Session Sequence Number Reset Window

FIX implementation supports sequence number processing which is used to ensure message delivery and is used for message recovery purposes. FSS will reset this sequence number to zero once per week at the end of the weekly hours of operation (e.g., after 5pm New York Friday).

IX. User Profile

The FSS Service provides a mechanism for a liquidity provider (“LP”) to approve and configure a user to send orders and receive market data with the liquidity provider. During the configuration

phase, the liquidity provider sets up an appropriate profile for each user which determines the eligible currency or precious metal pairs, execution sizes, aggregation rules and price streams associated with the user. FSS does not set up the user profile and assumes no responsibility for any errors in the configuration of the profile by the liquidity provider.

X. Streaming Order Types

FXSpotStream supports fill-or-kill, IOC/Partials, VWAP, Limit and “slippage”, orders.

- Fill-or-kill orders allows for an order to be filled in its entirety or not at all
- IOC/Partial orders allow for a partial and immediate fill of less than the entire quoted notional amount
- VWAP allows a client to aggress on multiple quotes by only sending 1 order message to the bank, with a VWAP calculated price
- Limit Orders allow a client to set a limit on the order which will be filled when an LP's quote meets that limit or better. FSS supports both aggressive and passive limit orders. For aggressive Limit Orders both FOK and IOC orders are allowed, however, typically when using aggressive Limit Orders, Clients using IOC orders receive better fill rates
- Slippage allows a client to set a worse price acceptable to the client to be filled at by the bank if the original price on the quote is not available. When adding slippage on the price originally quoted, the client is informing the bank(s) that it is authorizing the bank to fill the order at a worse price as specified by the client versus having the bank reject the order. Before sending an order with slippage, clients should speak directly to the bank to understand and agree on how orders with slippage are handled by the bank. FSS is not involved in any way in the determination of the price at which an order is filled by the bank

Please find below the order types supported by each LP:

Limit ORDERS			
LP's	LIMIT	DMA (LMT)	MARKET
BAML	Yes		Yes
BARX	Yes		Yes
BNP	Yes		Yes
CITI	Yes		Yes
COBA	Yes		Yes
CS	Yes		Yes
GS	Yes		Yes
HSBC	Yes		Yes
JPMC	Yes	Yes	Yes
MS	Yes		Yes
MUFG	Yes		Yes
SCB	Yes		Yes
SGSP	Yes		Yes
STS	Yes		Yes
UBS	Yes		Yes

ORDER TYPES				
LP's	FOK	IOC	Slippage	VWAP
BAML	Yes		Yes	
BARX	Yes			
BNP	Yes			Yes
CITI	Yes			Yes
COBA	Yes			Yes
CS	Yes			Yes
GS	Yes			
HSBC	Yes		Yes	Yes
JPMC	Yes			Yes
MS	Yes	Yes	Yes	Yes
MUFG	Yes			
SCB	Yes			
SGSP	Yes			
STS	Yes	Yes		Yes
UBS	Yes	Yes		Yes

XI. Streaming Aggregation Rules

Users interact bilaterally with one or more liquidity providers based on one of two aggregation rules configured by the liquidity provider:

- Option 1 – Best bid/ask for full
- Option 2 – Fully disclosed, depth of book

XII. Forwards/Swaps RFS Rules

All content and rules in this document apply to Forward/ Swap RFS unless explicitly mentioned. In addition, below are specific rules concerning the RFS service:

- Quote Request:
 - Following a quote request, the LP will start streaming prices for such quote request and absent any action the quote request will be cancelled after 2 minutes. This applies to NDF/NDS as well
 - If an order is placed, the same timeout rules apply as detailed in section XIV below
 - Once an order is placed with a specific LP, streams from all other LPs on the same RFS will be cancelled immediately
- A mid-price will only be sent to a client if it is provided by the LP
- UTI:
 - If a client provides a UTI on the order, FSS will pass this value on to the LP
 - In the event that a UTI is not provided, FSS will generate its own UTI to send to the LP. The LP, however, will be able to reject the FSS generated UTI and generate its own UTI to share with the client and FSS

XIII. NDF/NDS

NDF (non-deliverable forwards) and NDS (non-deliverable swaps) are available for all of our streaming liquidity options (eg. Passthrough, Full Amount, Limit Orders, etc.), as well as RFS and in our GUI. Outside of the additional fields required for NDFs (e.g., fixing date), the underlying functionality of the liquidity options remain unchanged.

FSS does not take a position on or assume responsibility for fixing source information expected, requested or required by the LP or the client. The client should always discuss in advance of sending an order to a given LP and agree with the LP what the 'default' fixing source to be used will be. Agreeing on the fixing source in advance will ensure agreement on the terms of the transaction and will also avoid any issues in the downstream booking process. For those LPs that do support dynamic selection of fixing sources for workflow supported on FSS, please refer to the ROE for details on how to select the reference desired. In all events, FSS merely transmits prices and orders between the parties and any trade/booking questions or issues should take place directly between the client and LP. FXSpotStream assumes no responsibility for the fixing source or any errors or disagreements between the client and LP related to the fixing source.

XIV. Streaming Orders and Algo Timeout Notifications

• STREAMING ORDERS

FSS shall use reasonable efforts to monitor pending streaming orders from a client to a liquidity provider and send notifications as applicable. If an order placed by a client has not been acknowledged by a liquidity provider within 1 second, the Service **WILL CANCEL THE ORDER** and generate a cancel on the execution report to the client, with a reason "Order Timeout". This will prompt an email notification to be sent to both the liquidity provider and the client to notify them of the time out and subsequent cancelation of the order.

If following the order time out, the liquidity provider sends to FSS an order cancellation or reject in the execution report, FSS will suppress this message from being sent to the client to prevent duplication.

To the extent that following the 1 second order time out the liquidity provider sends FSS an order filled execution report, FSS will perform two actions:

- Suppress the execution report from being sent to the client (as the client knows the deal as a timed out order that has been cancelled)
- Send an email notification to the liquidity provider and client to inform the liquidity provider that a fill execution report was received for a timed out order that the client knows as cancelled

In the above scenarios we also recommend the LP to monitor any STP/post-trade feeds to ensure there are no issues or discrepancies.

Irrespective of cancellations or notifications generated by the Service, the liquidity provider and client acknowledge and agree that any streaming order transmitted by the Service from the client will be deemed cancelled if not acknowledged by the liquidity provider in 1 second whether or not FSS sends or does not send a cancellation due to a technical or other reason. Further, the liquidity provider and client acknowledge that an order once cancelled will be deemed cancelled even if the liquidity provider subsequently attempts to fill the previously cancelled order or act in accordance with a prior request.

In addition to the order timeout conditions (detailed above), FSS will issue an email notification in the event that a liquidity provider sends FSS an execution report that results in one of the following conditions or contains an unsupported execution type:

- Order over-fill
- Order under-fill
- Unexpected execution type (i.e., other than a fill, reject or cancel)

Again, upon this email notification it is the responsibility of the client and bank to immediately contact each other to address the order/trade in question. Details of the order/trade will be included in the body of the email generated by FSS.

- **ALGO ORDERS**

FSS shall use reasonable efforts to monitor pending Algo orders and requests (e.g., Algo order amendments) from a client to a liquidity provider and send notifications as applicable. If an Algo order placed or request made by a client has not been acknowledged by a liquidity provider within 5 seconds, the Service will generate an email to the client and liquidity provider notifying the parties that an order placed or request made has not been acknowledged. The Service **WILL NOT, HOWEVER, CANCEL THE ORDER AND/OR REQUEST that is in an unknown state or has not been acknowledged.** The purpose of the email is to notify the parties that the status of an order and/or request is unknown and the parties should immediately communicate directly to address the status of the order and/or request.

In all cases, should the Service not generate an email at the time expected by the client informing the client that the status of the order and/or request is unknown, it is at all times the responsibility of the client in the first instance to contact the liquidity provider to inquire about the status of an order and/or request when the client believes the order and/or request should have been acknowledged but an acknowledgment has not been received by the client.

Irrespective of cancellations or notifications generated by the Service, the liquidity provider and client acknowledge and agree that the status of an Algo order is always as known and notified by the liquidity provider.

In the case of streaming and Algo orders, it is the responsibility of the client and liquidity provider in the first instance to, at all times, independently monitor all orders and/or requests transmitted through the Service and to monitor the status of such orders and/or requests. If the client and liquidity provider disagree with any action taken by FSS, it is the responsibility of the client and liquidity provider to immediately contact each other to address the status of the order and/or request and to notify FSS regarding any mutually agreed changes to the status of the order and/or request.

FSS does not take a view on whether an order and/or request should be accepted, cancelled, or rejected and is not and will at no time be a party to any transaction between the client and liquidity provider. FSS shall use reasonable efforts to address order and Algo request timeouts in accordance with the above stated protocol.

Clients and liquidity providers who use the Service agree to abide by FSS' stated policy and protocols.

XV. Order Management

The user is responsible for managing all orders sent via FSS irrespective of the order type, including when accessing FX Algos of the liquidity providers. All orders are active and may be acted on by the applicable liquidity provider until they are executed or cancelled. If the user's connection terminates or disconnects with active orders still pending, the user is still responsible for honoring the orders placed via FSS should they be executed on by the liquidity provider.

If an event occurs in which the user is unable to manage orders placed via FSS because of technical or other issues and the user would like those orders to be cancelled or removed, it is the responsibility of the user to contact the liquidity provider or FSS, as applicable, regarding the problem and the associated pending orders.

FSS has functionality to cancel any limit orders resting on FSS on a disconnection, but the user remains responsible for all orders, irrespective of the order type, placed on the Service unless and until such orders are actually cancelled by the Service or by the user.

Order Handling Options

The FSS API provides users options to specify how their orders are handled via the order session in various scenarios. Once an order is acknowledged by a liquidity provider, it is managed by that liquidity provider and the current state of any open order is controlled by the liquidity provider. Users will specify their order handling options using Tag 18 (ExecInst)

ExecInst Options For Streaming Orders (Not Applicable to Algos)

- 18=n (Keep orders open and active) - If a client sends 18=n on their order session and then subsequently gets disconnected or logs off, FSS will not take any action against the client's order; The state of the client's orders will be unchanged.
- 18=o (Cancel on connection loss) - If a client sends 18=o on their order session and then subsequently gets disconnected or logs off, FSS will cancel any GTC, GTD or Day Limit orders still resting in the FSS Limit book

ExecInst Options For Algo Orders

- Tag 18 = n (Keep orders open and active) – Because the orders are managed by the algo suite providers, when a client disconnects or logs off FSS will take no action against orders where 18=n and in this scenario the state of a client's orders will be unchanged.

- Tag 18 = o (Cancel on connection loss) - Because the orders are managed by the algo suite providers, when a client disconnects or logs off, FSS will send an order cancel request to the algo suite provider where 18=o unless the order is in an unknown state (Pending, Pending Replace, Pending Cancel) in which case the order cancel request will **NOT** be sent by FSS to the algo suite provider. In the event that a cancel request is not sent by FSS to the algo suite provider because an order is in an unknown state, the client should immediately contact FSS and the algo suite provider.

Amending Algo Orders

In the event a client wishes to amend a prior order, the “Order Cancel Replace Request” (35=G) **MUST** include **ALL** the fields and parameters from the current order, including both the amended values and those that have not changed. If parameters from the original order are not provided on the “Cancel Replace Request,” the parameters might default to values at the bank as specified in the FSS addendum. FSS assumes no responsibility for any parameters that default to a value as a result of the parameter not being included in the client’s amended request.

The “Order Cancel Replace Request” (35=G) message is intended to be used to change the parameters of a client’s existing open order. This message is **NOT** to be used to cancel the remaining quantity of an outstanding order (to cancel the remaining quantity of an outstanding order, a client should use the “**Order Cancel Request**” (35=F)).

XVI. Order Validations (Only Applicable to Streaming Orders)

- **Stale Orders:**

If an order sent by the client is received by the service significantly later, FSS will mark the order as stale and reject the order. The Transact Time tag (#60) on the New Order Single is checked against the time when FSS receives the order. If the difference is more than 60 seconds, the order is rejected with an appropriate reason sent back to the client.

The check is based on the assumption that the client is using a UTC (GMT) Time Stamp in the Transact Time tag (#60) as specified in our ROE. If that is not the case, the client should change the time in this tag to be expressed in UTC to prevent the orders from being rejected.

- **Max Orders during a certain time:**

The FSS service enforces a limit of max number of orders allowed during a certain amount of time. This number will be configurable. When the circuit breaker kicks in, the system will reject all incoming client’s orders and disconnect the client’s order session.

FSS Support will manually notify the client when this happens and check with them if the problem has been fixed. Once the problem is resolved, Support will manually mount the session and enable orders to be sent, once the client has reconnected.

The limit will be set to a max of 500 orders in 5 secs.

XVII. Liquidity Provider/Algo Provider and User Contact Details

During the course of the onboarding process FSS will request and gather contact details of the user and liquidity provider. FSS will use the contact details to generate email communications and to otherwise contact the user and liquidity provider. Communications include, but are not limited to, status changes during the on boarding process, order submission timeout notifications and other

important communications related to the Service. The user and liquidity provider must ensure that the contact details provided are accurate and promptly notify FSS of any changes to the contact details provided.

Schedule A to these Operating Procedures contains the current support telephone and email contacts of the FSS liquidity providers (“Liquidity Provider Contacts”). Users should ensure that they maintain their own current list of contact emails and telephone numbers supplied to the user by each liquidity provider.

XVIII. Slow Consumer Detection (Only Applicable to Streaming Orders)

For the protection of our clients and the overall FSS environment, FSS monitors a client’s ability to consume and process market data snapshots sent by the Service to the client. The monitoring is performed at the “socket” level where a client connects to the FSS network. If a client is slow to process market data snapshots being transmitted by FSS to the client, FSS will disconnect the client from the FSS network. The disconnection will occur when the Service cannot push data over the socket for a period of 4 seconds.

Once FSS disconnects a client from the Service, the client is able to reconnect the session immediately and resubscribe.

The slow consumer monitoring occurs at the session level. Thus, only a session that is subject to the slow consumer detection will be impacted. If a client has multiple sessions and only one of those sessions is detected as a slow consumer, only THAT session is disconnected.

XIX. LP Product Support

Below are the streaming products supported by each Liquidity Provider over FSS. Please note these are subject to change based on changes made by the Liquidity Providers.

The Service will accept limit orders on Fridays up until 16:59:00 NYT. Any orders received after this time will be rejected by the Service.

FORWARDS		
LP's	FWD ESP	FWD RFS
BAML	Yes	Yes
BARX	Yes	Yes
BNP	Yes	Yes
CITI	Yes	Yes
COBA	No	Yes
CS	Yes	Yes
GS	Yes	Yes
HSBC	Yes	Yes
JPM	Yes	Yes
MS	Yes	Yes
MUFG	No	No
SCB *	Yes	Yes
SGSP	Yes	Yes
STS	Yes	Yes
UBS	Yes	Yes

* SCB Certified for FWD ESP. But not for the GUI

PRECIOUS METALS		
LP's	ESP	RFS
BAML	No	No
BARX	No	No
BNP	Yes (Only NY)	Yes (Only NY)
CITI	Yes	Yes
COBA	No	No
CS	Yes	Yes
GS	Yes	Yes
HSBC	Yes	Yes
JPM	Yes	Yes
MS	Yes	Yes
MUFG	No	No
SCB	Yes	Yes
SGSP	No	No
STS	No	No
UBS	Yes	Yes

SWAPS	
LP's	RFS
BAML	Yes
BARX	Yes
BNP	Yes
CITI	Yes
COBA	Yes
CS	Yes
GS	Yes
HSBC	Yes
JPM	Yes
MS	Yes
MUFG	No
SCB	Yes
SGSP*	Yes
STS	Yes
UBS	Yes

Limit ORDERS			
LP's	LIMIT	DMA (LMT)	MARKET
BAML	Yes		Yes
BARX	Yes		Yes
BNP	Yes		Yes
CITI	Yes		Yes
COBA	Yes		Yes
CS	Yes		Yes
GS	Yes		Yes
HSBC	Yes		Yes
JPMC	Yes	Yes	Yes
MS	Yes		Yes
MUFG	Yes		Yes
SCB	Yes		Yes
SGSP	Yes		Yes
STS	Yes		Yes
UBS	Yes		Yes

*SGSP No sw aps pricing between 5pm NYT-7PM NYT

NDF's						
LP's	ESP	RFS NDF	RFS NDS	GUI ESP	GUI RFS - NDF	GUI RFS - NDS
BAML*	Yes	Yes	Yes	Yes	Yes	Yes
BARX*+++	Yes	Yes	Yes	Yes	Yes	Yes
BNP*++	Yes	Yes	Yes	Yes	Yes	Yes
CITI *	Yes	Yes	No	Yes	Yes	No
COBA *	Yes	Yes	No***			
CS**	Yes	Yes	Yes	Yes	Yes	Yes
GS	Yes	Yes	Yes	Yes	Yes	Yes
HSBC	Yes	Yes	Yes	Yes	Yes	Yes
JPMC	Yes	Yes	Yes	Yes	Yes	Yes
MS	Yes	Yes	Yes	Yes	Yes	Yes
MUFG	No					
SCB	Yes	Yes	Yes	Yes	Yes	Yes
SGSP	Yes	Yes	Yes	Yes	Yes	Yes
STS *+	Yes	Yes	Yes	No****		
UBS	Yes	Yes	Yes	Yes	Yes	Yes

*FSS is certified and live with BAML, CITI & COBA for ESP, requests will be considered on a client by client basis

** Latam supported on RFS (local hours only). RUB NDFs not supported

*** FSS cannot support NDFs on our GUI if the LP requires a fixing date to be sent on the subscription

*+ STS: ESP NDF is supported but only for 1M

**** BARX: ESP NDF (Only USD/KRW, USD/TWD, USD/INR) is supported but only for 1M

CS, JPMC do not price USDMYR

XX. Algos and Pre & Post-Trade Allocations Provider Support Matrix

Pre-trade allocations can only be supported on Full Amount order protocols. FSS does not provide any support of pre-trade allocations on order protocols and/or order options that result in FSS taking a single client order and routing multiple underlying orders to one or more providers. Therefore, client orders must be placed on the FSS Full Amount or Passthrough protocols or a limit order with a TIF of FOK or has the Execlnst value of AON. RFS also accepts pre-trade allocations.

LP	Pre-Trade Allocations			Post Trade Allocations
	ESP	RFS	*Benchmark Fixing	
BAML	Yes	Yes		Yes**
BARX	Yes	Yes	Yes	Yes
BNP	Yes	Yes	Yes	
CITI		Yes		
COBA	Yes	Yes	Yes	Yes**
CS		Yes	Yes	
GS	Yes	Yes	Yes	Yes**
HSBC		Yes		Yes**
JPMC	Yes	Yes		Yes**
MS	Yes	Yes		Yes**
SCB		Yes		
SGSP	Yes	Yes		Yes
STS		Yes	Yes	
UBS		Yes		

* PreTrade Allocations support for Benchmark Orders will not be available in the initial launch of Algos and Allocations.

** These banks support Post Trade allocations for Benchmark Orders

XXI. Provider Support Matrix – Algos, Resting Orders and Benchmark Fixings

LP	Algos			Resting Orders		Benchmark Fixings	
	Spot	SCF	NDF	Limit	Stop	Spot	Forwards
BAML	Yes	Yes		Yes	Yes	Yes	Yes
BARX	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BNP	Yes	Yes	Yes			Yes	Yes
CITI	Yes						
COBA	Yes			Yes	Yes	Yes	Yes
CS	Yes	Yes	Yes			Yes	Yes
GS	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HSBC	Yes	Yes	Yes	Yes	Yes	Yes	Yes
JPM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MS	Yes	Yes		Yes	Yes	Yes	Yes
SCB	Yes						
SGSP	Yes	Yes		Yes	Yes	Yes	Yes
STS	Yes	Yes				Yes	Yes
UBS	Yes			Yes	Yes		

SCF = Spot Contingent Forward

XXII. FSS Territories

The user may access the FSS Service from any of the jurisdictions listed below:

Jurisdiction	Spot FX/PM	FX Forwards/Swaps	FX NDF/NDS	PM Swaps/Forwards
Australia	✓	✓	✓	
Austria	✓	✓	✓	✓
Belgium	✓	✓	✓	✓
Canada	✓	✓	✓	✓
Cayman Islands	✓	✓	✓	✓
Chile	✓	✓	✓	✓
China	✓	✓	✓	✓
Czech Republic	✓	✓	✓	✓
Cyprus	✓	✓	✓	✓
Denmark	✓	FWDs, only		
Dubai International Financial Centre	✓			
France	✓	✓	✓	✓
Greece	✓	✓	✓	✓
Hong Kong	✓	✓	✓	✓
Hungary	✓	✓	✓	✓
Ireland	✓	✓	✓	✓
Israel	✓	✓	✓	✓
Italy	✓	✓	✓	✓
Japan	✓	✓	✓	✓
Kuwait	✓	✓	✓	✓
Latvia	✓	✓	✓	✓
Liechtenstein	✓	✓	✓	✓
Malta	✓	✓	✓	
Mexico	✓	✓	✓	✓
Netherlands	✓	✓	✓	✓
Norway	✓	✓	✓	✓
Poland	✓	✓	✓	✓
Russia	✓	✓	✓	✓
Singapore	✓	✓	✓	✓
South Africa	✓	✓	✓	✓
South Korea	✓	✓	✓	✓
Spain	✓	✓	✓	✓
Sweden	✓	✓	✓	✓
Switzerland	✓	✓	✓	✓
Turkey	✓	✓		
United Arab Emirates	✓			
United Kingdom	✓	✓	✓	✓
United States	✓	✓	✓	✓

SCHEDULE A

Bank of America Merrill Lynch		
Support Group	Phone Number	Email Address
eFX Client Services Team*	Americas: +1 855-290-5502 EMEA: +44 808-234-0295 Japan**: 0120 959 974 Singapore**: 800-1206150 Taiwan: 00801-13-6465 Hong Kong: +852-800-963-304 Australia: 1800-134328 China: 4001-202336 India: 00800001-6743 Korea: 00798-14-800-9131 Malaysia: 1-800-816393	Efx.csg@baml.com eficc.cc@baml.com
Algo	Americas: 1 855 290 5502 EMEA: 44 808 234 0295 HK: 852 800 963 304 Japan: 0120 959 974 Singapore: 800 1206150	fx.support@baml.com , dg.maps_ficc_fx_fix@bankofamerica.com , efx.csg@bofa.com
* available 24 hours ** local toll free only		

Barclays		
Support Group	Phone Number	Email Address
FX Support Team & Algo	212-412-3640, 212-841-3588 +44 (0) 207 7739885 , 44 207 595 2545	barxsupport@barclays.com
Trading Team		barxfxtrading@barclays.com

BNP Paribas		
Support Group	Phone Number	Email Address
Cortex Client Serviced - PROD Issues and Trade Support Global	Americas: +1 212 841 3838 EMEA: +44 207 595 8886 APAC: +65 6210 1828	cortex.client.services@bnpparibas.com
fxetr.support@uk.bnpparibas.com	Americas: 1 212 841 3588 London: 44 207 595 2545	fxetr.support@uk.bnpparibas.com

Citigroup		
Support Group	Phone Number	Email Address
CitiFX Helpdesk	+1 212 723 3500 +44 207 500 1832 +65 67868000	etteam@citi.com fifx.support@citi.com
FX Trading, Sales and Technology - Global	+1 212 723 3037 +81 362709188	efxsales@citi.com

Commerzbank		
Support Group	Phone Number	Email Address
Production and Technology Support Issues - Global	+44 207 47 54500	esupport@commerzbank.com
FIX Support Issues - Global	+44 20 7475 5542	FIXSupport@commerzbank.com

Credit Suisse		
Support Group	Phone Number	Email Address
EFX Support	Singapore: +65 6212 3313 London: +44 207 883 2213 NY: +1 212 538 4339	list.efx-support@credit-suisse.com
EFX business contact/Trade issues	NY - 212-538-1404 London - 44-(20)7-883-7697 Asia - 65-6212-4399	list.gfx-efx-bus-mgt@credit-suisse.com
Algo	NY: 1 212 325 0640 EMEA Hours: 91 99756 23646	list.macc-eu@credit-suisse.com, list.macc-eu@credit-suisse.com (APAC HOURS), karankrishnakumar.panikar@credit-suisse.com

Goldman Sachs		
Support Group	Phone Number	Email Address
Production and Technology Support Issues Americas	+1 212 902 5050	ficc-smm-tech@gs.com
Production and Technology Support Issues EMEA	+44 207 552 5050	ficc-smm-tech@gs.com
Production and Technology Support Issues Tokyo	+813 6437 4833	ficc-smm-tech@gs.com
Production and Technology Support Issues Hong Kong	+852 2978 7435	ficc-smm-tech@gs.com
FX eSales New York	+1 212 902 7334	gs-efx-global@gs.com
FX eSales London	+44 207 051 1514	gs-efx-global@gs.com
FX eSales Tokyo	+81 3 6437 9555	gs-efx-global@gs.com
FX eSales Hong Kong	+85 2 2978 2258	gs-efx-global@gs.com
eFX Operations New York	+1 212 902 7318	ficc-fx-quickops@gs.com
eFX Operations London	+44 207 774 6296	ficc-fx-quickops@gs.com
eFX Operations Tokyo	+81 3 6437 8070	ficc-fx-quickops@gs.com
eFX Operations Hong Kong	+81 3 6437 8070	ficc-fx-quickops@gs.com
Commodities eSales New York	+1 212 902 6365	gs-ecommod@gs.com
Commodities eSales London	+44 207 051 3802	gs-ecommod@gs.com
Commodities eSales Hong Kong	+852 2978 1520	gs-ecommod@gs.com
Commodities Operations New York	+1 212 902 5050	jaron-commid-except@gs.com
Commodities Operations London	+44 207 552 3129	jaron-commid-except@gs.com
Commodities Operations Hong Kong	+81 3 6437 4833	jaron-commid-except@gs.com ficc-mo-sg@gs.com
Algo	NY: + 1 646 446 0033, LND: 44 207 051 1930 TY: 81 364377988	FICCSMMTech@ny.email.gs.com

HSBC		
Support Group	Phone Number	Email Address
Any Issue – Hours: 24 hours a day 6 days a week		
Production Support Issues - EMEA	+44 (0) 207 991 1342	gfx.eclientservices.global@hsbc.com ; erisk.quant.group@hsbcib.com
Production Support Issues - Americas	+1 212 525 3048	gfx.eclientservices.global@hsbc.com ; erisk.quant.group@hsbcib.com
Production Support Issues - Asia Pac	+852 3071 4888	gfx.eclientservices.global@hsbc.com ; erisk.quant.group@hsbcib.com
Production Support Issues – Toll Free	00800 8090 8000	GFX.eClientServices.global@hsbc.com erisk.quant.group@hsbcib.com
Algo	London: 44 0 207 991 7677 NY: 212 525 0128 Asia: 852 3071 4888 (06:30–18:00 HK Time)	gisexecutionservices@hsbc.com , eclientservices@hsbc.com , fxclientconnectivity@hsbcib.com
Onboarding		
Onboarding - HK	+861 392 501 0146	globalefxsales@hsbc.com ; efxsalesemea@hsbc.com
Production & Fix Support – Hours: Local office hours only		
FIX SUPPORT - HK	+861 392 501 0146	fix.support@hsbcib.com , eclientservices@hsbc.com , fxclientconnectivity@hsbcib.com ,
UAT Support		
UAT Support		fxclientonboarding@hsbc.com.hk fxclientonboarding@hsbc.com.hk

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JP Morgan		
Support Group	Phone Number	Email Address
Production and Technology Support Issues - North America	+1 877 339 5762	JPMorgan_FXEcom_Urgent@jpmorgan.com
Production and Technology Support Issues - EMEA	+44 20 7777 4422	JPMorgan_FXEcom_Urgent@jpmorgan.com
Production and Technology Support Issues - Asia	SG +65 0066-33-813 293 or Toll Free: 800 120 6712 TY Toll Free: 0066 33 813 293 HK Toll Free: 852 800 961026 AUS Toll Free: 1 800 597903	JPMorgan_FXEcom_Urgent@jpmorgan.com
Onboarding/Set up – Globally	+1 877 339 5762 +44 20 7777 4422 +61 1300 576 0	MDAPI_Onboarding_Team@jpmorgan.com ; fx.ecs@jpmorgan.com

	+65 6882 7222 +81 3 6736 7888	
Algo	North America: 1 877 339 5762 Europe: 44 207 777 4422 Australia: 1 800 597903 Hong Kong: 800 961026 Japan: 0066 33 813293 Singapore: 800-120-6712	JPMorgan_FXAlgoEcom_Urgent@jpmorgan.com , mdapi_onboarding_team@jpmorgan.com

Morgan Stanley		
Support Group	Phone Number	Email Address
Available 24 Hours		
FXASG - Global Production Support	NY: +1 212 762 2090 LD: +44 20 7677 1000 APAC: +852 2239 1559	fxasg@morganstanley.com
FXACCTMGT - Global Trading Support	+1 888 777 5784 +1 212 761 2690	fxacctmgt@morganstanley.com
Algo	NY: 1212 762 2090 LDN: 44 207 677 1000 APAC: 852 2239 1559	fxfix-clientcon@morganstanley.com, efxcs@morganstanley.com, fxasg@morganstanley.com

Mitsubishi UFJ Financial Group		
Support Group	Phone Number	Email Address
Foreign Exchange Trading Department	+81-3-6268-1340	btmutky_efx_PF@mufj.jp

Societe Generale		
Support Group	Phone Number	Email Address
Client Support	+33 1 42 13 86 00	Alphafx@sgcib.com
Algo	Time (Paris) Phone 08:30 am – 05:00 pm +331 572 91313 05:00 pm – 01:00 am +1 212 278 5010 01:00 am – 08:30 am +852 2166 5299	FX-support@sgcib.com, alphafxbullion.world@sgcib.com

Standard Chartered Bank		
Support Group	Phone Number	Email Address
Client Services Team & Algo	Singapore: +65 6622 7192 Hong Kong: +852 3983 8170 Bahrain: +973 1654 8913 London: +44 203 564 6553 New York: +1 917 4217 292	eclientservices@sc.com
Production Support Team		FM_Ecommerce_Support@sc.com

State Street		
Support Group	Phone Number	Email Address
EFX Support Team	UK Toll Free: 0800 0282310 UK: +44 2035649689 HK: +852 30774997 Japan Toll Free: 0120608700 Japan Paid: +81 367438569 US Toll Free: 877 5087808	efxsupport@statestreet.com
Algo	US: 877 5087808 UK: 0800 0282310 UK: +44 2035649689 HK: +852 30774997	calgo-support@StateStreet.com, FX-TSG@StateStreet.com

UBS		
Support Group	Phone Number	Email Address
Available 24 Hours		
FX Support	+1 877-814-6707 TY Local: 0120-211-789 or 03-5208-7779	fxehelp@ubs.com
Trade Issues Americas	+1 866-910-8751	frcecommerce@ubs.com
Trade Issues EMEA	+800 80 80 80 88	frcecommerce@ubs.com
Trade Issues APAC	+65 649 586 51	frcecommerce@ubs.com
Algo	EMEA: +44207 568 2005 US: 1 203 719 8889 APAC: 852 2971 8585	ol-electronicexecution@ubs.com.

FXSpotStream		
Support Group	Phone Number	Email Address
Sales Americas	+ 1 201 217 8074 + 1 201 217 8075	sales@fxspotstream.com
Sales EMEA	+ 44 (0)20 7856 2520	sales@fxspotstream.com
Sales APAC	+81 (0)3 4580 1263	sales@fxspotstream.com
Support	Tokyo : +81 3 6863 5370 London : +44 (0) 20 3318 5020 New York : +1 646 381 2035	support@fxspotstream.com