

Exhibit A – CTA NETWORK A & CTA NETWORK B Market Data Internal and External Redistribution

Thank you for your interest in **CTA NETWORK A & CTA NETWORK B** market data. This questionnaire is intended to simplify user application requirements while furnishing customers and data providers (aka "vendors") with the information needed to sanction the release of market data. Please follow the instructions below and answer all questions accurately and thoroughly to ensure timely processing of your market data request(s).

Customers should complete a separate questionnaire for each market data source (or consult your NYSE account manager for further instruction). One questionnaire may include several sites provided each site operates on the same network, utilizes a single market data vendor source and is clearly identified. If more than one location/environment exists with different levels or controls, a separate questionnaire must be completed for that location.

All customers and vendors who wish to receive market data via an uncontrolled data feed are required to complete and submit this Exhibit A. In addition, NYSE requires:

- 1. A signed copy of the NYSE Vendor Agreement (if currently not on file)
- 2. When applicable, screen prints demonstrating the use and/or display of CTA NETWORK A & CTA NETWORK B data
- 3. When applicable, Exhibit B for Nonprofessional Subscribers (if offering data to nonpros or on a per-quote basis)
- 4. When applicable, Exhibit C for "Click-on" Agreements (if offering data to nonpros or on a per-quote basis)
- 5. When applicable, additional Exhibit C's or contracts corresponding to your use of the data (i.e. Delayed Data feeds, Third Party Payors, etc.)
- 6. A data feed request submitted by your vendor to NYSE on your behalf

Please be sure all names and dates are consistent across all documents/contracts. All documents/contracts can be found on our website, www.ctaplan.com. All required documents should be executed and returned to your account manager or:

New York Stock Exchange LLC Attn: Market Data Services 11 Wall Street, 15th Floor New York, NY 10005 Fax (212) 656-5922

Exhibit A to the Vendor Agreement for receipt and use of CONSOLIDATED NETWORK A DATA AND NYSE MARKET DATA MARKET DATA dated

between New York Stock Exchange LLC and (name of organization) 1. How do you intend to use the market data? **INTERNALLY** (to employees) (if checked, please complete sections I, II, III, V, VI, and VII) **EXTERNALLY** (to non-employees) (if checked, please complete sections I, II, IV, V, VI, and VII) **BOTH** (Internal and External) (if checked, please complete ALL sections) 2. Company Information: Website Address:_____ Main Phone Number:_____ 3. Data feed installation: Billing Address (if different than install address) **Installation Address** Street Address (P.O. Box number not accepted) Street Address (P.O. Box number not accepted) Street Address Street Address City, State, Province, Postal Code, Country City, State, Province, Postal Code Billing Contact Name Country 4. Method of Access & Source of Data Vendor Information Method of Access ☐ Direct from NYSE (SFTI) Vendor Name: _____ Indirect through a Vendor (Third Party) Vendor Service: ______ Vendor Account Number(s): _____

Dated: _____

SECTION I - Contact Information

Customer/Subscriber must provide contact information for at least one *MAIN*, one *BILLING*, one *COMPLIANCE*, one *TECHNICAL* and one *REPORTING* contact for the purposes of addressing any appropriate notification. If any type of market data is to be received through direct access to any data provider's facilities, technical and emergency contact(s) should be designated.

Main: ☐ Billing: ☐	First Name	Last Name	Title	
Compliance:	Phone			
Reporting:	Address where contact is located			
Technical: Other (specify):	Street Address		_ " ' '	State
	Province			
Main. 🗆				
Main: Billing:	First Name	Last Name	Title	
Compliance:	Phone	Facsimile	E-mail	
Reporting: Technical:	Address where contact is located	☐ Installation ☐ Billing	Other (please specify)	
Other (specify):	Street Address		City	State
	Province	Country	Po	ostal Code
Main:				
Billing:	First Name			
Compliance: Reporting:	Phone			
Technical:	Address where contact is located			
Other (specify):	Street Address		_ City	State
	Province	Country	Po	ostal Code
Main:	First Name	Last Name	Title	
Billing: Compliance:	Phone			
Reporting:	Address where contact is located			
Technical: Other (specify):	Street Address			State
(4)	Province			
	THOVINCE	Country	PC	Jacan Couc
	_			
Subscriber Ap	•	/ salastad as saas E tha		on Dunfannian al Cultanille and at a
•	tact for subscriber approval only if y Vendors are required to request ap		·	o <u>Projessional Subscribers at a</u>
				1
First Name	Last	Name	Titla	
	Facsimile			
	act is located Installation			
			• •	Stato
Province		Country	Postal (Loae

SECTION II - Non-Display Usage

Where appropriate, customers are to identify and confirm their Non-Display Use of real-time CTA Market Data. Non-Display Use is broken down to three (3) categories:

A. Category 1

• Fees are applicable when a data recipient's Non-Display Use of CTA Market Data is on its own behalf.

B. Category 2

• Fees are applicable when a data recipient's Non-Display Use of CTA Market Data is on behalf of its clients.

C. Category 3

• Fees are applicable when a data recipient's Non-Display Use of CTA Market Data is, in whole or in part, for the purpose of internally matching buy and sell orders within an organization. Matching buy and sell orders includes matching customer orders on a data recipient's own behalf and/or on behalf of its clients. This category includes, but is not restricted to, use in trading platform(s), such as exchanges, alternative trading systems (ATSs), broker crossing networks, broker crossing systems not filed as ATSs, dark pools, multilateral trading facilities, and systematic internalization systems

Examples of Non-Display Use under the 3 categories are, without limitation

- Any trading in any asset class
- Automated order or quote generation and/or order pegging
- Price referencing for algorithmic trading
- Price referencing for smart order routing
- Operations control programs

- Investment analysis
- Order verification
- Surveillance programs
- Compliance and Risk management
- Portfolio Valuation

Please insert a X in the appropriate boxes:

Type of Data	Category 1	Category 2	Category 3*	No Non-Display**
CTA NETWORK A Last Sale				
CTA NETWORK A Bid-Asked				
CTA NETWORK B Last Sale				
CTA NETWORK B Bid-Asked				

* If you selected Category 3, Please list your platforms below				
Number of Platforms:				
Platform Name:				

**If you selected No Non-Display, please explain

SECTION III - Internal Redistribution of Market Data

* This s	ection to be completed only if you intend to	o make real-t	ime CTA market o	data available <u>INTERNALL</u>	<u>Y</u> (to employees).
1.	Customer/Subscriber Certification				
	CHECK here to acknowledge that the data of Customer's/Subscriber's subsidiaries listed in the use of market data, there will be no redistribute outside of the Customer's/Subscriber's organizes section III of this questionnaire.	his document. tion of the data	Except as permitted (including electron	d in the applicable subscriber ic) to clients, other organizati	agreements governing ons, or any person
		Real-time	Delayed		
	Type of Data	Data	Data		
	CTA NETWORK A Last Sale				
	CTA NETWORK A Bid-Asked				
	CTA NETWORK B Last Sale				
	CTA NETWORK B Bid-Asked				
	NYSE American Index Data (ETFs, IIVs etc)				
	Other (specify)				
	c. Please enter the location(s) where the data feed(s) will be installed and any additional locations (i.e. subsidiary company of branch office, disaster/backup site, development site, etc.) to where the data will be redistributed. Be sure to include the total number of devices initially entitled with data at each location.				
	Installation Address:	(HC	Relationship Q, Data Ctr, Backup)	# of NYSE (Tape A) Devices	# of NYSE American (Tape B) Devices
			Relationship	# of NYSE (Tape A)	# of NYSE American
	Additional Location(s):	(HC), Data Ctr, Backup)	Devices	(Tape B) Devices

SECTION IV - External Redistribution of Market Data

* This section to be completed only if you intend to redistribute CTA market data <u>EXTERNALLY</u> (to non-employees).

1. Types of Data (check all that ap

2.

3.

		Data	Redistribute as	Redistribute as	
	Type of Data	Receiving	Data feed Service	Display Service	1
CTA NETWORK A Last Sale					_
CTA NE	TWORK A Bid-Asked				
CTA NE	TWORK B Last Sale				
CTA NE	TWORK B Bid-Asked				
Delaye	d CTA NETWORK A Last Sale				
Delaye	d CTA NETWORK A Bid-Asked				
Delaye	d CTA NETWORK B Last Sale				
Delaye	d CTA NETWORK B Bid-Asked				
Other ((specify)				
A. B.	Will you redistribute data via an uncontout Will you create a "bundled" feed consist of yes, please explain and/or list the dat "bundled" feed.	ting of several da	ta elements?	☐ Yes ☐ No dices, Delayed, etc.)	you plan to include in each
Delayed	Data (check all that apply)				
	Check here <i>if you will</i> delay a real-t Asked prices must be delayed at least 1		create a delayed servio	ce. In a delayed serv	rice, Last Sale and Bid-
	Check here <i>if you will</i> provide index NYSE American		a delayed service.		
	Check here to indicate your unders "Prices delayed 15 minutes" must be constituted.				
	Check here to acknowledge you ha	ve submitted a sc	reen print of the dela	y notice as it will ap	pear in your service.
Services	being Offered				

A. Provide a detailed description of the service(s) you plan to offer to your subscribers.

5. Types of Subscribers, Pricing and Sign-up Methods

Every external (non-employee) firm or nonprofessional subscriber must sign or electronically agree to the appropriate NYSE agreement before gaining access to real-time data. Nonprofessional subscribers may sign up and agree via an electronic click-on agreement. The required agreements are stated below.

<u>Professional Subscribers</u> - Vendors are required to obtain NYSE approval (via <u>www.ctaplan.com</u>) before entitling external professional subscribers with CTA data.

<u>NOTE</u>: An agreement may be signed in the name of the "Parent" company. Agreement are signed on a "firm by firm" basis, so it is not necessary for each individual at the firm to sign.

<u>Nonprofessional Subscribers</u> - Vendors are required to *qualify* an end-user as a nonprofessional user prior to their gaining access to CTA data.

Please indicate how you will sign up subscribers for service (check all that apply)

Type(s) of User	Method of Sign-up and Pricing Model
Internal use by Employees	☐ Fixed monthly fee per user ☐ Usage-based fee
Professional Subscribers	Fixed Monthly fee per user ** Hard copy of Professional Subscriber Agreement required ** If selected, please complete Subscriber Approval contact section (Pg 2) Usage-based fee Hard copy of Exhibit B for Usage-based/Nonpro Subscribers (section 1 only) *Electronic version of Exhibit B (Usage-based/Nonprofessional Agreement) * Also requires a copy of the Exhibit C for "Click-on" Agreements
Nonprofessional Subscribers	Fixed Monthly fee per user *Electronic version of Exhibit B (Usage-based/Nonprofessional Agreement) Usage-based fee without Capping *Electronic version of Exhibit B (Usage-based/Nonprofessional Agreement) Usage-based fee with Capping (see note below) *Electronic version of Exhibit B (Usage-based/Nonprofessional Agreement) *Also requires a copy of the Exhibit C for "Click-on" Agreements

<u>NOTE</u>: Vendors wishing to vend data via the usage-based (per quote) rate must complete question 6. Capping refers to each prequalified nonprofessional subscriber whose monthly usage cost exceeds the fixed monthly charge. Vendors may pay the fixed monthly nonprofessional monthly charge in respect of that subscriber.

6. Usage-Based/Per-Quote Subscribers and Quote Meter Information

Vendors who want to redistribute real-time quotes on a per quote basis may do so provided their system is able to correctly identify and count real-time quote packets for the various data providers (e.g., NYSE, NYSE American, NASDAQ, OPRA, etc.). A "quote packet" is defined as any data element, or all data elements, for a *single* issue (for example, open, high, low, last, volume, net change, bid, offer, size are data elements. "IBM" is a single issue.). Data elements for an ETF, such as DIA, also qualify as a quote packet. The quote meter (log file) should identify and store fee liable quotes (i.e. less than 15 minutes old) only during NYSE market hours, currently 9:30am – 4:15pm (excluding weekends and holidays).

Usage-Based/Quote Meter Audit Requirements & Attestation

An audit/review of the quote meter must be performed within 90 days after the start of service and annually thereafter. Please refer to the NYSE's Quote Meter Audit Guidelines (www.ctaplan.com) for information and requirements regarding quote meter audits.

NOTE: If using a quote meter, it must be clearly represented in your network/system diagram.

SECTION V - Technical Control & Data Display

If yes, please explain:

* This section is required and must be completed and approved by NYSE prior to receiving real-time market data

1.	NYSE has display it	al and Administrative Control s a device-based rate structures and requires data recipients to account for all devices that have been technically enabled to s data. To ensure the number of users with access to CTA data (via displays and/or data feeds) being reported each month is , NYSE requires firms to have an entitlement system in place.
	A.	Does your firm have the technical ability to control each entitlement to redistribute CTA market data?
		Data feeds Yes No N/A [For Datafeed redistribution ONLY] Display Service Yes No N/A
		Name of Entitlement System: Product Name / Version:
	В.	Is this a Proprietary System?
		If yes, please explain the system's functionality and its ability to produce reports. Please include as much detail as possible and attach a sample report for review (attach a separate sheet if necessary). Your entitlement report should contain the following fields: Unique User ID Product Name Activation Date De-Activation Date Level of Access/Max Count .
	C.	Please explain, if any, the dataflow between your permissioning and reporting databases:
	-	general genera
		s, all entitlement systems should have the ability to generate (in .csv or .txt format) and store entitlement reports for a fino less than three years and feature the following: 1. Separate and unique ID/Passwords for each user which are not shared 2. Prevent simultaneous access to the data by the same user ID/Password 3. Generate monthly entitlement reports for each product to identify those users who are entitled and those who are not entitled to receive a specific data providers' market data 4. Provide an audit trail identifying each entitlement transaction (additions, deletions, etc.) on a product level
	D.	Does your system have the ability to perform all of the above?
	E.	How are device entitlements controlled? Terminal ID basis Yes No User ID / Password Basis Yes No Other (explain) Yes No If yes, explain:
	F.	Location(s) where entitlement control will take place (if different than install address)?
2.	Market I A.	Data Display Service (Software Development, API's, OMS's, etc.) Will you offer an API (Application Programming Interface) or DDE (Dynamic Data Exchange) as part of your display service? Yes No

	В.	Will your display service Yes No If yes, please explain:	e be compatible with third	d party software (i.e. Order Management System, etc.)?	
	C.		play service be redistribund/or devices?	ted to additional servers, which in turn, can redistribute or "fan" data	a to
		If yes, please explain:			
3.	Distribu	tion of CTA Data			
	A.	Will CTA data be distrib	uted over a local area net	work (LAN) or a wide area network (WAN)?	
	В.	Please indicate the tota receiving real-time data		ently on the network (include all devices whether or not they will be	
4.	Attach a provide	a high level overview of e	each network utilizing mai	diagram should identify all internal sub-networks attached to the system that detailed as possible). Each site location send users) and where entitlement control takes place.	
	□ c	heck here to acknowledg	ge you have submitted a	Network Diagram	
SECTI	ON VI	– Service Facilit	ators and Custo	mer Affiliates	
1.	Α.	your behalf by each ser	vice facilitator in the proc	facilitator that you wish to identify. Describe the functions performe essing or dissemination of market data. (A service facilitator is a personal facilitator is a personal facilitator.)	
		equipment maintainers space is needed, please	s, switch service suppliers, e attach a separate sheet.	ng or disseminating market data, such as cable casters, facility propries sales/marketing agents, etc.; whose performance you guarantee.) - If this does not apply to your firm, please check 'NONE'. Som NYSE monthly access fees.	
		equipment maintainers space is needed, please NOTE: Service Facilitate	s, switch service suppliers, e attach a separate sheet.	sales/marketing agents, etc.; whose performance you guarantee.) - If this does not apply to your firm, please check 'NONE'.	
		equipment maintainers space is needed, please NOTE: Service Facilitate	s, switch service suppliers, attach a separate sheet. ors may not be exempt fr	sales/marketing agents, etc.; whose performance you guarantee.) - If this does not apply to your firm, please check 'NONE'. om NYSE monthly access fees.	
	В	equipment maintainers space is needed, please NOTE: Service Facilitate Facilitators (include	s, switch service suppliers, attach a separate sheet. ors may not be exempt fr full name & address)	sales/marketing agents, etc.; whose performance you guarantee.) - If this does not apply to your firm, please check 'NONE'. om NYSE monthly access fees. Function	
	В.	equipment maintainers space is needed, please NOTE: Service Facilitate Facilitators (include	s, switch service suppliers, attach a separate sheet. ors may not be exempt fr full name & address)	sales/marketing agents, etc.; whose performance you guarantee.) - If this does not apply to your firm, please check 'NONE'. om NYSE monthly access fees.	
2.		equipment maintainers space is needed, please MOTE: Service Facilitate Facilitators (include maintainers) None Will any service facilitate If yes, please explain: er Affiliates Provide the name(s) and for reporting and paym	tor(s) have access to this of	sales/marketing agents, etc.; whose performance you guarantee.) - If this does not apply to your firm, please check 'NONE'. om NYSE monthly access fees. Function data? Yes No N/A er affiliate, which is to be covered by this agreement. You will be restred by this Exhibit A. If more space is needed, please attach a separar	If more
2.	Custome	equipment maintainers space is needed, please MOTE: Service Facilitate Facilitators (include maintainers) None Will any service facilitate If yes, please explain: er Affiliates Provide the name(s) and for reporting and paym	tor(s) have access to this of address of each customent for any affiliates coveragely to your firm, please	sales/marketing agents, etc.; whose performance you guarantee.) - If this does not apply to your firm, please check 'NONE'. om NYSE monthly access fees. Function data? Yes No N/A er affiliate, which is to be covered by this agreement. You will be restred by this Exhibit A. If more space is needed, please attach a separar	If more
2.	Custome	equipment maintainers space is needed, please MOTE: Service Facilitate Facilitators (include Mone) None Will any service facilitate If yes, please explain: er Affiliates Provide the name(s) and for reporting and paym sheet. If this does not a	tor(s) have access to this of address of each customent for any affiliates coveragely to your firm, please	sales/marketing agents, etc.; whose performance you guarantee.) - If this does not apply to your firm, please check 'NONE'. om NYSE monthly access fees. Function data? Yes No N/A er affiliate, which is to be covered by this agreement. You will be restred by this Exhibit A. If more space is needed, please attach a separal indicate 'NONE'.	If more
2.	Custome A.	equipment maintainers space is needed, please NOTE: Service Facilitate Facilitators (include in the limit of the limit o	d address of each customent for any affiliates coverpply to your firm, please	sales/marketing agents, etc.; whose performance you guarantee.) - If this does not apply to your firm, please check 'NONE'. om NYSE monthly access fees. Function data? Yes No N/A er affiliate, which is to be covered by this agreement. You will be restred by this Exhibit A. If more space is needed, please attach a separal indicate 'NONE'. Function	If more
2.	Custome	equipment maintainers space is needed, please NOTE: Service Facilitate Facilitators (include in the limit of the limit o	d address of each customent for any affiliates coverpply to your firm, please	sales/marketing agents, etc.; whose performance you guarantee.) - If this does not apply to your firm, please check 'NONE'. om NYSE monthly access fees. Function data? Yes No N/A er affiliate, which is to be covered by this agreement. You will be restred by this Exhibit A. If more space is needed, please attach a separal indicate 'NONE'.	If more

SECTION VII - Reporting

1. Reporting Obligations

2.

The NYSE requires customers/vendors to submit a total inventory of each product and professional subscribers utilizing CTA market data. This report should be submitted by the second to last business day of each month and is required to ensure accurate invoicing by NYSE either directly to you or your client. (Please refer to NYSE's *Reporting Fact Sheet* for more information and instructions on products codes and reporting)

Please ch	neck the box(es) corresponding to reporting requirements applicable to your use of the data:
	INTERNAL Users (Employees) Any organization providing CTA data to their employees are required to report the number of users on a monthly basis. In addition, NYSE requires them to maintain records indicating the company name, installation address, number of accesses, inventory changes, type of service and the date that service began/terminated.
	PROFESSIONAL Subscribers (Non-employees) Vendors providing CTA data to non-employee professional subscribers will be required to obtain NYSE approval, maintain records indicating the company name, installation address, number of accesses, inventory changes, type of service and the date that service began/terminated. * NYSE will use this information to invoice subscribers directly
	NONPROFESSIONAL Subscribers Vendors providing CTA data to nonprofessional subscribers will be required to maintain records of the name, address, employer and job function of their nonprofessional subscribers and only report the total number of nonprofessional subscribers who accessed Real-time data at least once during that month. * NYSE will use this information to invoice your firm directly
	USAGE-BASED (per quote) Reporting Vendors providing usage-based services will be required to report the total number of quotes requested that month. * NYSE will use this information to invoice your firm directly
	DATA FEEDS Vendors providing data feeds will be required to obtain approval from NYSE prior to providing data to subscribers. Vendors will be required to maintain records indicating the company name, installation address, data product and date that service began or was terminated.
•	g Method elect the method of reporting you will use:
	NYSE Reporting Website Report directly on the NYSE website (www.nyxdata.com/reporting). * This option is highly recommended for vendors who do not have a large professional subscriber base.
	File-based Reporting Report to NYSE via file based reporting - VRXML file (www.vrxml.org - select Vendor Services, VRXML specs) * This option is highly recommended for vendors who have a large professional subscriber base.
	Third Party Reporting Facilitator
	Explain:

Customer acknowledges that NYSE may be subject to internal policies, laws and regulations that govern and restrict the collection, storage, processing, disclosure or use of any information that identifies or can be used to identify, contact or precisely locate the person or legal entity to whom such information pertains or from which identification or contact information of an individual person or legal entity can be derived ("Personal Information"), including, but not limited to, any Personal Information relating to the Customer, Customer's affiliates and each of their respective customers, suppliers and personnel. NYSE's Privacy Policy is located here:

https://www.intercontinentalexchange.com/privacy-policy. Where Customer is subject to the data protection laws and regulations of the European Union ("EU"), the European Economic Area ("EEA") and/or any Member State thereof (including the United Kingdom in the event that the United Kingdom is no longer part of the EU or EEA), Switzerland and/or Singapore, Customer acknowledges and agrees that certain additional terms and conditions set out in NYSE's Privacy Policy and other documents in connection with the collection, storage, processing, disclosure, access, review and/or use of such Personal Information are applicable to the Vendor Agreement and Exhibit A. Where Customer provides Personal Information to NYSE for purposes of providing the Services ("Customer's Personal Information"), NYSE shall act as a service provider with respect to such Customer's Personal Information. NYSE shall process Customer's Personal Information consistent with NYSE's Privacy Policy and unless Customer provides prior written approval, NYSE shall not collect, retain, use, disclose, or sell Customer's Personal Information for any purpose other than performing the Services pursuant to the Vendor Agreement and this Exhibit A, enabling NYSE to meet its legal and regulatory requirements, marketing NYSE's products and services, or product improvement and development. Specifically with respect to Customers or one or more of its affiliates which provide Personal Information to NYSE that is subject to European Data Protection Laws (as defined in the Additional Terms), the Additional Terms located here:

https://www.theice.com/publicdocs/Additional Terms EU Subscribers.pdf shall be incorporated into and form part of this Exhibit A and, in the event of conflict with any other terms of the Vendor Agreement or Exhibit A, shall prevail over such terms.

I certify that the information provided in this questionnaire is accurate and the data will only be used in the manner outlined in this exhibit. I also understand that I may be asked to provide further information related to the entitlement system and/or its audit function and that failure to comply with NYSE requirements may result in the cancellation/termination of NYSE market data services and NYSE reserves the right to bill retroactively for any improprieties/discrepancies which are deemed non-compliant.

Signature:	Title:	
Print Name:	Date Completed:	