

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. A Network Diagram overview
- 3. When applicable, screen prints demonstrating the use and/or display of CTA NETWORK A & CTA NETWORK B data
- 4. When applicable, Exhibit B for Nonprofessional Subscribers (if offering data to nonpros or on a per-quote basis)
- 5. When applicable, Exhibit C for "Click-on" Agreements (if offering data to nonpros or on a per-quote basis)
- 6. When applicable, additional Exhibit C's or contracts corresponding to your use of the data (i.e. Delayed Data feeds, Third Party Payors, etc.)
- 7. 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, http://www.nyxdata.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 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. Are you using the data for non-display purposes? Yes (if checked, please see CTA Non-Display Policy and complete Section II) (if checked, please skip Section II) 3. Company Information: Website Address: Main Phone Number: 4. Data feed installation: **Installation Address** Billing Address (if different than install 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 City, State, Province, Postal Code, Country Country Billing Contact Name 5. Method of Access & Source of Data Vendor Information Vendor Name: Vendor Service: ______ Vendor Account Number(s): ______

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:	First Name Title	
Billing: Compliance:	Phone Facsimile E-mail	
Reporting:	Address where contact is located Installation Billing Other (please specify)	
Technical: Other (specify):		
Other (specify).		
	Province Country I	Postal Code
	+	
Main:	First Name Title	
Billing: Compliance:	Phone Facsimile E-mail	
Reporting:		
Technical:	Address where contact is located Installation Billing Other (please specify)	
Other (specify):	Street Address City	
	Province Country I	Postal Code
 	 	
Main:	Title	
Billing:	First Name Title	
Compliance: Reporting:	Phone Facsimile E-mail	
Technical:	Address where contact is located Installation Billing Other (please specify)	
Other (specify):	Street Address City	State
	Province Country I	Postal Code
	<u> </u>	
Main:		
Billing:	First Name Last Name Title	
Compliance:	Phone Facsimile E-mail	
Reporting: Technical:	Address where contact is located Installation Billing Other (please specify)	ł
Other (specify):	Street Address City	State
•	Province Country I	Postal Code
Cubscriber A		
Subscriber Ap	. pproval ntact for subscriber approval only if you've selected on page 5 that you intend to provide data	n to Professional Subscribers at a
•	Vendors are required to request approval on a firm by firm basis.	a to <u>Frojessional Substitution and a</u>
		· · · · · · · · · · · · · · · · · · ·
First Name	Lact Name Title	
	Last Name Title	
	Facsimile E-mail	
	tact is located Installation Billing Other (please specify)	
	City	
Province	Country Postal	al Code

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:

Category 1:

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

Category 2:

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

• 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 Categor	ry 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 make real-t	ime CTA marke	t data available <u>INTERNALL</u>	<u>Y</u> (to employees).
1.	Customer/Subscriber Certification				
	CHECK here to acknowledge that the data Customer's/Subscriber's subsidiaries listed in use of market data, there will be no redistribe outside of the Customer's/Subscriber's organ section III of this questionnaire.	this document. ution of the data	Except as permit	ted in the applicable subscriber onic) to clients, other organizations	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 MKT Index Data (ETFs, IIVs etc)				
	Other (specify)				
	 Please enter the location(s) where the branch office, disaster/backup site, total number of devices initially en 	development si	te, etc.) to where	the data will be redistributed. I	
	Installation Address:	(HC	Relationship Q, Data Ctr, Backu	# of NYSE (Tape A) Devices	# of NYSE MKT (Tape B) Devices
	motalia (in Audicoo)		9 2010 011) 20010	p) Sevices	e, ecited
			Relationship	# of NYSE (Tape A)	# of NYSE MKT (Tape
	Additional Location(s):	(HC), Data Ctr, Backu		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 appl	1.	Types of Data	(check all that apply	1
---------------------------------------	----	---------------	-----------------------	---

Type of Data	Data Receiving	Redistribute as Data feed Service	Redistribute as Display Service
CTA NETWORK A Last Sale			
CTA NETWORK A Bid-Asked			
CTA NETWORK B Last Sale			
CTA NETWORK B Bid-Asked			
NYSE MKT Index Data (ETFs, IIVs etc)			
Delayed CTA NETWORK A Last Sale			
Delayed CTA NETWORK A Bid-Asked			
Delayed CTA NETWORK B Last Sale			
Delayed CTA NETWORK B Bid-Asked			
Other (specify)			

	CTA NE	TWORK B Bid-Asked				
	NYSE N	/IKT Index Data (ETFs, IIVs etc)				
	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)				
2.	Data fee	d Redistribution				
	A.	Will you redistribute data via an uncont	rolled data feed?	Yes No		
	В.	Will you create a "bundled" feed consis	ting of several da	ita elements?	Yes No	
		If yes, please explain and/or list the dat "bundled" feed.	a elements (i.e. L	ast Sale, Bid-Asked, Ir	ndices, Delayed, etc.)	you plan to include in eac
		bullated feed.				
3.	Delayed	Data (check all that apply) Check here if you will delay a real-t Asked prices must be delayed at least 1 Check here if you will provide index	5 minutes. x data as part of a	·	ice. In a delayed serv	rice, Last Sale and Bid-
		☐ NYSE MKT Inde	x Data			
		Check here to indicate your unders "Prices delayed 15 minutes" must be co				
		Check here to acknowledge you have	ve submitted a <u>sc</u>	reen print of the dela	ay notice as it will ap	pear in your service.
4.	Services A.	being Offered Provide a detailed description of the se	rvice(s) you plan t	to offer to your subsc	ribers.	

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.nyxdata.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 Hard copy of Exhibit B Usage-based/Nonpro Subscribers (sections 1&2) *Electronic version of Exhibit B (Usage-based/Nonprofessional Agreement) Usage-based fee without Capping Hard copy of Exhibit B Usage-based/Nonpro Subscribers (section 1) *Electronic version of Exhibit B (Usage-based/Nonprofessional Agreement) Usage-based fee with Capping (see note below) Hard copy of Exhibit B Usage-based/Nonpro Subscribers (sections 1&2) *Electronic version of Exhibit B (Usage-based/Nonprofessional Agreement) *Also requires a copy of the Exhibit C for "Click-on" Agreements

NOTE: 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 MKT, 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.nyxdata.com) for information and requirements regarding quote meter audits.

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

Check here to indicate you	ir understanding of and	agreement to comply with	NVSE's Quote Meter	Audit requirements
i Check here to molcare voi	JI UHURISIAHUHIR DI AHU	agreement to combiv with	LINTSE'S COUCHE MELET	AUGIL FEGULIERIES

SECTION V - Technical Control & Data Display

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

NYSE ha display i	al and Administrative Control s a device-based rate structures and requires data recipients to account for all devices that have been technically enabled ts data. To ensure the number of users with access to CTA data (via displays and/or data feeds) being reported each mon s, NYSE requires firms to have an entitlement system in place.
A.	Does your firm have the technical ability to control each entitlement to CTA market data?
	Data feeds
	Name of Entitlement System: Product Name / Version:
В.	Is this a Proprietary System? Yes No N/A
	If yes, please explain the system's functionality and its ability to produce reports. Please include as much detail as poss and attach a sample report for review (attach a separate sheet if necessary). Your entitlement report should contain a 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:
s able to	o provide accurate historical/audit information, NYSE reserves the right to bill for all devices on your network. For audits, all entitlement systems should have the ability to generate (in .csv or .txt format) and store entitlement reports for a fine 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 who are not entitled to receive a specific data providers' market data
s able to ourpose period o	 Separate and unique ID/Passwords for each user which are not shared Prevent simultaneous access to the data by the same user ID/Password Generate monthly entitlement reports for each product to identify those users who are entitled and who are not entitled to receive a specific data providers' market data Provide an audit trail identifying each entitlement transaction (additions, deletions, etc.) on a produ level Does your system have the ability to perform all of the above? \(\subseteq \text{Yes} \subseteq \text{No} \)
s able to purpose period o	o provide accurate historical/audit information, NYSE reserves the right to bill for all devices on your network. For audits, all entitlement systems should have the ability to generate (in .csv or .txt format) and store entitlement reports for of no 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 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 Does your system have the ability to perform all of the above? Yes No If no, please explain: How are device entitlements controlled? Terminal ID basis Yes No User ID / Password Basis Yes No
s able to purpose period o D.	or provide accurate historical/audit information, NYSE reserves the right to bill for all devices on your network. For audits, all entitlement systems should have the ability to generate (in .csv or .txt format) and store entitlement reports for of no 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 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 productiveled. Does your system have the ability to perform all of the above? Yes No If no, please explain: How are device entitlements controlled? Terminal ID basis Yes No Other (explain) Yes No If yes, explain:

	В.	Will your display service be compatible with third party software (i.e. Order Management System, etc.)? Yes No
		If yes, please explain:
	C.	Will the data from a display service be redistributed to additional servers, which in turn, can redistribute or "fan" data to various users, servers and/or devices?
		If yes, please explain:
3.	Distribu	ion of CTA Data
	A.	Will CTA data be distributed over a local area network (LAN) or a wide area network (WAN)?
	В.	Please indicate the total number of devices presently on the network (include all devices whether or not they will be receiving real-time data).

SECTION VI - Service Facilitators and Customer Affiliates

1. Service Facilitators

A. Provide the name(s) and address of each service facilitator that you wish to identify. Describe the functions performed on your behalf by each service facilitator in the processing or dissemination of market data. (A service facilitator is a person or organization that assists customer(s) in processing or disseminating market data, such as cable casters, facility proprietors, equipment maintainers, switch service suppliers, sales/marketing agents, etc.; whose performance you guarantee.) - If more space is needed, please attach a separate sheet. If this does not apply to your firm, please check 'NONE'.

Facilitators (inc	clude full name & address)	Function
None		
B. Will any service fa	acilitator(s) have access to this d	data? Yes No
If yes, please expl	ain:	
for reporting and	payment for any affiliates cover	er affiliate, which is to be covered by this agreement. You will red by this Exhibit A. If more space is needed, please attach a sindicate (NONE)
A. Provide the name for reporting and sheet. <i>If this does</i>	payment for any affiliates cover not apply to your firm, please	red by this Exhibit A. If more space is needed, please attach a s indicate 'NONE'.
A. Provide the name for reporting and sheet. <i>If this does</i>	payment for any affiliates cover	red by this Exhibit A. If more space is needed, please attach a s
A. Provide the name for reporting and sheet. <i>If this does</i>	payment for any affiliates cover not apply to your firm, please	red by this Exhibit A. If more space is needed, please attach a s indicate 'NONE'.
A. Provide the name for reporting and sheet. <i>If this does</i>	payment for any affiliates cover not apply to your firm, please	red by this Exhibit A. If more space is needed, please attach a s indicate 'NONE'.
A. Provide the name for reporting and sheet. <i>If this does</i> Affiliates (inclu	payment for any affiliates cover not apply to your firm, please	red by this Exhibit A. If more space is needed, please attach a s indicate 'NONE'.
A. Provide the name for reporting and sheet. <i>If this does</i> Affiliates (inclu None	payment for any affiliates cover not apply to your firm, please	red by this Exhibit A. If more space is needed, please attach a sindicate 'NONE'. Function

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 Vendor Guide as in effect from time to time for more information and instructions on products codes and reporting)

Please cl	heck 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.
	ng Method elect the method of reporting you will use:
	NYSE Reporting Website Report directly on the NYSE website. * 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 * This option is highly recommended for vendors who have a large professional subscriber base.
	Third Party Reporting Facilitator Explain:

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. I will promptly inform the New York Stock Exchange LLC ("NYSE") of any changes to the information given above.

CUSTOMER	
ignature:	
Title:	-
Print Name:	
Date Completed:	_