

# VRXML Reporting Requirements

The NASDAQ Stock Market, Inc.

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## Overview

<b>OVERVIEW</b>	<p>In coordination with the Financial Information Services Division (FISD), NASDAQ will offer Vendor Reporting eXtensible Markup Language (VRXML). VRXML was developed with the flexibility to become an industry standard protocol by serving the needs of exchanges, distributors, and subscribers.</p> <p>Updated versions of this document are available at <a href="http://www.nasdaqtrader.com">www.nasdaqtrader.com</a>.</p> <p>Embedded within the XML schemas are validation rules, which are in coordination with the NASDAQ usage reporting requirements.</p>
<b>TOTAL INVENTORY REPORTING</b>	<p>Distributors are required to provide detailed reporting to NASDAQ for all external professional usage. NASDAQ requires that distributors report total inventory for each service month.</p> <p><b>Inventory Rule:</b> All VRXML files should contain all reportable products for the Distributor. All files are processed using Eastern Time / New York-time (ET) submission dates and times.</p> <p>If the Distributor has fulfilled their reporting obligation for the current month then submission of a file that do not contain all reportable product's quantities such as adding a reporting contact is permissible.</p> <p>NASDAQ's Reporting Requirements requires Distributions to provide VRXML reports on a monthly basis. If, for a given month, a Distributor does not submit a report, then NASDAQ requests the Distributor submit the missed report prior to reporting the next report.</p>
<b>MONTHLY REPORTING</b>	<p>A reporting period is defined as the one month. For example, the reporting period for one Distributor for March 2004 may be March 1, 2004 to March 31, 2004. The reporting period for another Distributor for that same month of February 2004 may be January 20, 2004 to February 19, 2004.</p> <p>The Distributor should take a "snapshot" of their database as of a consistent date during each month and use this data as their usage report for that month. For example, if a single device is in use during the February reporting period – then it should be reported with a quantity of 1 for February. There is one exception to this rule. If a product becomes active in the same reporting period that it becomes inactive it must be reported for that month. If a product is activated on February 1, 2004 and then deactivated on February 5, 2004 – then it is to be reported with a quantity of 1 for February, and then in next month's file (March) be reported with a quantity of 0 (and made inactive if appropriate).</p>

# VRXML Structure

<b>VRXML STRUCTURE</b>	<p>The VRXML structure is made up of layers of elements. Elements are embedded within other elements to provide enhanced communication capabilities. Each layer is contained within the VRXML root element and rules are applied to how these elements can be intermingled. The following outlines the structure of the VRXML from a layered perspective.</p> <p><b>MetaData Elements</b></p> <ul style="list-style-type: none"><li>• VRXML</li><li>• fileDescriptor</li><li>• entryMetaData</li></ul> <p><b>1st Layer Elements:</b></p> <ul style="list-style-type: none"><li>• inventoryEntry</li><li>• vendorEntry</li><li>• subscriberNewEntry</li><li>• subscriberChangeEntry</li></ul> <p><b>2nd Layer Elements:</b></p> <ul style="list-style-type: none"><li>• product</li><li>• productCode</li><li>• locationNew</li><li>• locationChange</li><li>• locationLocals</li><li>• contact</li></ul> <p><b>Core Data Elements:</b></p> <ul style="list-style-type: none"><li>• inventory</li><li>• address</li><li>• company</li><li>• person</li></ul>
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## Meta Data Elements

<b>VRXML RULES</b>	<p>The rules for the VRXML file as a whole are applied to ensure the following:</p> <ul style="list-style-type: none"><li>• The file is submitted using the stringent rules that are expressed in the VRXML Schema.</li><li>• The file contains reportable data using the elements provided in the VRXML Schema.</li><li>• The file contains the "Total Inventory" concept of reporting. Refer to the Total Inventory section in this document for further details.</li><li>• The file must abide by the VRXML Schema.</li><li>• The file must have at least one 1st layer element.</li></ul>
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<b>FILE DESCRIPTOR</b>	<p><b>FILE DESCRIPTOR</b></p> <p>The fileDescriptor element is used to report the following information:</p> <ul style="list-style-type: none"> <li>• The Distributor that has submitted the report</li> <li>• The date the file was created</li> <li>• Type of data for file</li> </ul> <p><b>Business Rules:</b></p> <ul style="list-style-type: none"> <li>• The rules for the fileDescriptor element are applied to ensure that the VendorId element contains the valid vendorId of the Vendor who is submitting the file.</li> <li>• The vendorId element must be the valid vendorId of the Distributor that is submitting the report. NASDAQ assigns each vendor a 4-character vendorId.</li> </ul> <p>Distributors should follow the below file naming convention to ensure that all VRXML files are processed and posted correctly.</p> <p><b>VENDORNAME_VENDORID_YYYYMM_S.xml</b></p> <p><b>NAME:</b> Distributor Name without underscores. Cannot be empty)  <b>VENDORID:</b> four character id assigned by NASDAQ  <b>YYYYMM:</b> four character year followed by two character month  <b>S:</b> Sequence number for that month. First report sent is '1'. If a revised/updated report is sent for the same service month, then that would be marked '2'.</p>
<b>ENTRY META DATA</b>	<p>The entryMetaData element is used to report the total count of each first level element expressed within the file.</p> <p><b>Business Rules:</b></p> <p>The rules for the entryMetaData element are applied to ensure that there are no discrepancies in what the Vendor is intending to report and what is actually reported.</p> <ul style="list-style-type: none"> <li>• The count elements of an entryMetaData element must contain the total number of occurrences of the entry identified using the entry attribute.</li> </ul>

## 1<sup>st</sup> Layer Elements-record type

<b>VENDOR ENTRY</b>	<p>The vendorEntry element is used to report the following information:</p> <ul style="list-style-type: none"> <li>• Vendor name changes</li> <li>• Billing address changes</li> <li>• Contact changes to include adding, deleting, and updating contacts</li> <li>• Adding new locations for internal Vendor usage</li> <li>• Location changes for internal Vendor usage</li> </ul> <p><b>Business Rule Overview:</b></p> <p>The rules for the vendorEntry element are applied to ensure the following:</p> <ul style="list-style-type: none"> <li>• There is always one and only one 'Primary Reporting' contact per Distributor.</li> <li>• A contact cannot be indicated to be a location contact without being linked to that specific location. Instead, addition location or change a location.</li> <li>• Any new contacts must be accompanied by an address for</li> </ul>
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	<p>that contact.</p> <ul style="list-style-type: none"> <li>• Adding new contacts with 'Primary Reporting' responsibility or changing an existing contact to have 'Primary Reporting' responsibility will automatically change the existing 'Primary Reporting' contact to a 'Reporting' contact.</li> </ul> <p><b>Business Rule Specifics:</b></p> <ul style="list-style-type: none"> <li>• Distributor name changes are actually requests for a name change and are not automatically processed.</li> <li>• Billing addresses are currently ignored. A Distributor may submit this data but it will not be processed.</li> <li>• There can only be one contact element with a contactType element of 'PR' (Primary Reporting) that is being added or updated using an actionCode of 'ADD' or 'UPD' respectively.</li> <li>• There can only be a contact element with a contactType element of 'PR' (Primary Reporting) with an actionCode of 'DEL' if within the file there is a contact element with a contactType element of 'PR' (Primary Reporting) with an actionCode of 'ADD'.</li> <li>• A contact element cannot have a single contactType element with a value of 'LO' (Location) unless the contact element is embedded within a locationNew or locationChange element.</li> <li>• If a contact element that is being added using an actionCode='ADD', then the address element becomes a mandatory element.</li> </ul>
<b>INVENTORY ENTRY</b>	<p>The inventoryEntry element is used to report the following information:</p> <ul style="list-style-type: none"> <li>• New products at specified locations</li> <li>• Product cancellations at specified locations</li> <li>• Quantities for products at specified locations</li> </ul> <p><b>Business Rule Overview:</b></p> <p>The rules for the inventoryEntry element are applied to ensure that a Vendor Account Number (VAN) uniquely identifies the reported locations.</p> <p><b>Business Rule Specifics:</b></p> <ul style="list-style-type: none"> <li>• The inventoryEntry element's VAN attribute is mandatory unless the inventoryEntry element is embedded within a locationNew or locationChange element. In the latter case the VAN attribute is implied to be the VAN of the locationNew or locationChange element.</li> <li>• The VAN attribute must be less than or equal to 10 characters in length.</li> </ul>
<b>SUBSCRIBER NEW ENTRY</b>	<p>The subscriberNewEntry element is used to report the following information:</p> <ul style="list-style-type: none"> <li>• A new Subscriber for the reporting vendor</li> <li>• The new Subscriber's billing address</li> <li>• The new Subscriber's contact information</li> <li>• The new Subscriber's company information</li> <li>• The new Subscriber's new locations</li> </ul> <p><b>Business Rule Overview:</b></p> <p>The rules for the subscriberNewEntry element are applied to ensure the following:</p> <ul style="list-style-type: none"> <li>• The Vendor understands that billing addresses are not processed if they are submitted in the file.</li> <li>• That there is not a concept of contacts for Subscribers but rather contacts for Subscriber's locations.</li> </ul>

	<p><b>Business Rule Specifics:</b></p> <ul style="list-style-type: none"> <li>• Billing addresses are currently ignored. A Distributor can submit this data but it will not be processed.</li> <li>• Contact elements must be embedded within a locationNew element; otherwise contact elements are currently ignored.</li> </ul>
<b>SUBSCRIBER CHANGE ENTRY</b>	<p>The subscriberChangeEntry element is used to report the following information:</p> <ul style="list-style-type: none"> <li>• Billing address changes for the specified Subscriber</li> <li>• Contact changes for the specified Subscriber</li> <li>• Company name changes for the specified Subscriber</li> <li>• New locations for the specified Subscriber</li> <li>• Changes to existing locations for the specified Subscriber</li> </ul> <p><b>Business Rule Overview:</b></p> <p>The rules applied to the subscriberChangeEntry element are supplied to ensure the following:</p> <ul style="list-style-type: none"> <li>• The Vendor understands that billing addresses are not processed if they are submitted in the file.</li> <li>• There is not a concept of contacts for Subscribers but rather contacts for Subscriber's locations.</li> <li>• All references to Vendor Account Numbers (VANs) must be valid VANs.</li> </ul> <p><b>Business Rule Specifics:</b></p> <ul style="list-style-type: none"> <li>• Billing addresses are currently ignored. A Vendor can submit this data but it will not be processed.</li> <li>• Contact elements must be embedded within a locationNew or locationChange element otherwise contact elements are currently ignored.</li> <li>• Company name changes are currently ignored. A Vendor can submit this data but it will not be processed.</li> <li>• The refVAN attribute must be less then or equal to 10 characters in length.</li> </ul> <p>Data • The refVAN attribute of the subscriberChangeEntry element must refer to a current location for the Subscriber that is being changed.</p>

## 2<sup>nd</sup> Layer Elements-

<b>LOCATION NEW</b>	<p>The locationNew element is used to report the following information:</p> <ul style="list-style-type: none"> <li>• A new location for a Subscriber or Vendor</li> <li>• Contact information for the new location</li> <li>• Local address information for the location</li> <li>• Local company information for the new location</li> <li>• Inventory information for the new location</li> </ul> <p><b>Business Rules Overview:</b></p> <p>The rules applied to the locationNew element are supplied to ensure the following:</p> <ul style="list-style-type: none"> <li>• Location contacts are the only type of contacts that can be</li> </ul>
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	<p>indicated when adding new locations.</p> <ul style="list-style-type: none"> <li>• Products can only be added to new locations and cannot be deleted until the ensuing month's report.</li> <li>• All new locations must have a local company name.</li> <li>• All references to Vendor Account Numbers (VANs) must be new VANs and cannot already have been reported.</li> </ul> <p><b>Business Rule Specifics:</b></p> <ul style="list-style-type: none"> <li>• If a contact element exists, then the contact element must have a contactType='LO' (Location).</li> <li>• The contact element must have an actionCode='ADD' or an actionCode='UPD'.</li> <li>• Each product element embedded within an inventoryEntry element must have an actionCode='ADD' or an actionCode='UPD'.</li> <li>• LocationNew elements must contain a locationLocals element, which contains a name1 element that indicates the local company name of this new location.</li> <li>• The VAN attribute must be less then or equal to 10 characters in length.</li> </ul> <p>Data • A location with a VAN equal to that of a locationNew's VAN attribute cannot already exist in the backend system.</p>
<b>LOCATION CHANGE</b>	<p>The locationChange element is used to report the following information:</p> <ul style="list-style-type: none"> <li>• Changes to the location's contact information</li> <li>• Changes to the location's local address</li> <li>• Changes to the location's local company information</li> </ul> <p><b>Business Rules Overview:</b></p> <p>The rules applied to the locationChange element are supplied to ensure the following:</p> <ul style="list-style-type: none"> <li>• Location contacts are the only type of contacts that can be addressed when changing location information.</li> <li>• All references to Vendor Account Numbers (VANs) must be valid VANs.</li> </ul> <p><b>Business Rule Specifics:</b></p> <ul style="list-style-type: none"> <li>• If a contact element exists, then the contact element must have a contactType='LO' (Location).</li> <li>• The VAN attribute must be less then or equal to 10 characters in length.</li> </ul> <p>Data • A location with a VAN equal to that of a locationChange's VAN attribute must exist when attempting to change existing location information.</p>
<b>LOCATION LOCALS</b>	<p>The locationLocals element is used to report the local address and company information of a location.</p> <p><b>Business Rules Overview:</b></p> <p>No business rules have been applied.</p>

<b>CONTACT</b>	<p>The contact element is used to report the following information:</p> <ul style="list-style-type: none"> <li>• Updates to contact information</li> <li>• Deletions of contacts</li> <li>• Additions of contacts</li> <li>• Person information for a contact</li> <li>• Address information for a contact</li> </ul> <p><b>Business Rules Overview:</b> The rules applied to the contact element are supplied to ensure the following:</p> <ul style="list-style-type: none"> <li>• Primary Reporting contacts cannot be a Reporting contact as well -- they are mutually exclusive.</li> <li>• Location contacts are linked with locations.</li> <li>• Contacts are uniquely identified per Vendor by using the contact name. Any changes to contact information must adhere to the uniqueness of the last name.</li> </ul> <p><b>Business Rules Specifics:</b></p> <ul style="list-style-type: none"> <li>• If the contact element has a contactType element of 'PR' (Primary Reporting), the contact element cannot also have a contactType element of 'RP' (Reporting).</li> <li>• If the contact element has only one contactType element of 'LO' (Location), then the contact element must be embedded within either a locationNew or locationChange element.</li> <li>• If the contact element has only one contactType element with a value of 'BL' (Billing), then the contact element will be rejected.</li> </ul> <p>Data</p> <ul style="list-style-type: none"> <li>• If a contact does not already exist with same last name in the backend system when attempting to update a contact using the actionCode element with a value of 'UPD', then the contact will be added.</li> <li>• Even if a contact exists with same last name in the backend system for this Vendor or Location when attempting to add a contact using an actionCode of 'ADD', the contact will be added.</li> </ul>
<b>PRODUCT</b>	<p>The product element is used to report the following information:</p> <ul style="list-style-type: none"> <li>• Adding products for a location</li> <li>• Canceling products for a location</li> <li>• Inventory quantities for a product</li> </ul> <p><b>Business Rules Overview:</b> The rules applied to the product element are supplied to ensure the following:</p> <ul style="list-style-type: none"> <li>• The action of canceling a product must have a date of cancellation associated with it.</li> <li>• Products cannot be indicated as being deleted in the future.</li> <li>• The only product codes that can be used are Vendor product codes.</li> <li>• All products are reported once per month.</li> <li>• Products cannot be canceled using an effective date that is before the effective date that they were added.</li> <li>• Products that are being added to a location must be approved products for that Vendor.</li> </ul> <p><b>Business Rules Specifics:</b></p> <ul style="list-style-type: none"> <li>• If a product element is being cancelled at a location then the effectiveDate element becomes a mandatory field and is</li> </ul>

	<p>used to indicate the date the product is to be canceled.</p> <ul style="list-style-type: none"> <li>• If product element is being deleted from a location then the effectiveDate element cannot be a date in the future.</li> <li>• All product elements must have a productCode element with a codeOwner='VEN'.</li> <li>• A products inventory elements with the same effectiveDate cannot be listed more than once.</li> </ul> <p>.</p> <p><b>Data</b></p> <ul style="list-style-type: none"> <li>• If product element is being used to delete it from a location using and actionCode='DEL', then the effectiveDate element cannot be earlier than start date of the product.</li> <li>• If a product element is being added to a location using an actionCode='ADD', then the Vendor must have already received approval by the NASDAQ to vend the product at the specified location.</li> <li>• If a product element is being added to a location using an actionCode='ADD' and the product is determined to be for a Metered Usage or Non Professional service, then the following rules apply: <ol style="list-style-type: none"> <li>1. The product must be being added to a Vendor's location</li> <li>2. The product must not already exist at another location.</li> <li>3. The product's location must be the only location that exists in the backend or within the file that contains a Metered Usage or Non Professional service.</li> </ol> </li> </ul>
<b>PRODUCT CODE</b>	<p>The productCode element is used to report the identity of the product that is being reported.</p> <p><b>Business Rule Overview:</b> The rules applied to the productCode element are supplied to ensure that all referenced product codes are valid product codes.</p> <p><b>Business Rule Specifics:</b> No additions to the VRXML Schema.</p> <p><b>Data</b></p> <ul style="list-style-type: none"> <li>• The code element with a codeOwner='VEN' must exist in the backend system.</li> </ul>

## Core Data Elements-

<b>INVENTORY</b>	<p>The inventory element is used to report the quantities for products at locations.</p> <p><b>Business Rule Overview:</b> The rules applied to the inventory element are supplied to ensure the following:</p> <ul style="list-style-type: none"> <li>• The Vendor is aware that NASDAQ is only concerned with the month and year of the inventory and the day is ignored.</li> <li>• The Vendor cannot report for inventory for future months.</li> <li>• Inventory quantities cannot be reported for months prior to the start date of the product at that location.</li> <li>• Any changes to previously reported inventory must be accompanied by a comment that explains the necessary change.</li> </ul>
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	<p><b>Business Rule Specifics:</b></p> <ul style="list-style-type: none"> <li>• Only the month and year of the effectiveDate element is used.</li> <li>• The effectiveDate element must be equal to or earlier than the current month</li> </ul> <p><b>Data</b></p> <ul style="list-style-type: none"> <li>• If an inventory element is being reported that has already been reported for, then the comments element becomes a mandatory field.</li> </ul>
<b>ADDRESS</b>	<p>The address element is used to report address changes and additions.</p> <p><b>Business Rule Overview:</b> The rules applied to the address element are supplied to ensure the following:</p> <ul style="list-style-type: none"> <li>• All United States (US) and Canada (CA) locations must indicate a state/province and any values for region are ignored.</li> <li>• If a state/province is indicated for a non 'US' or 'CA' location then it will be used as long as it is a valid state/province.</li> <li>• Regions are only used if they are in accordance with the ISO 3166-2 standard for country subdivision codes.</li> </ul> <p><b>Business Rule Specifics:</b></p> <ul style="list-style-type: none"> <li>• Only the first 35 characters are used of the address1, address2, and address3 elements.</li> <li>• If the country element is 'US' or 'CA' then the stateProvince element is mandatory and must contain a valid 'US' or 'CA' state code.</li> <li>• The region element is only used if the country element is not 'US' or 'CA'.</li> <li>• Only the first 20 characters of the postalCode element are used.</li> <li>• The countryCode element must be an ISO 3166-1-alpha-2 country code.</li> <li>• If the country element is 'US' then the postalCode must exist and must be either 5 or 10 characters in length</li> <li>• If the country element is 'CA' then the postalCode must exist.</li> </ul> <p><b>Data</b></p> <ul style="list-style-type: none"> <li>• If the country element is not 'US' or 'CA', the stateProvince element is not used.</li> <li>• If the stateProvince element is a valid subdivision for the given country then the stateProvince element is used and the region element is disregarded.</li> <li>• If the region element is used for non 'US' or 'CA' locations is only used if it is an ISO standard state/province/region, otherwise it is ignored.</li> </ul>

<b>COMPANY</b>	<p>The company element is used to report the company related informational changes and additions.</p> <p><b>Business Rule Overview:</b> The rules applied to the company element are supplied to ensure the following:</p> <p><b>Business Rule Specifics:</b></p> <ul style="list-style-type: none"> <li>• Only the first 35 characters are used for name1 and name2 elements.</li> </ul>
<b>PERSON</b>	<p>The person element is used to report the person related informational changes and additions.</p> <p><b>Business Rule Overview:</b> The rules applied to the person element are supplied to ensure the following:</p> <ul style="list-style-type: none"> <li>• The full name of a person is not a field that is used and can be omitted from files.</li> </ul> <p><b>Business Rule Specifics:</b></p> <ul style="list-style-type: none"> <li>• The fullName element is currently not used.</li> <li>• Only the first 15 characters are used for the salutation element.</li> <li>• Only the first 50 characters are used for the title element.</li> </ul>