

## Introduction

This document describes the Network Web services API. It is written to assist users in understanding the different service interfaces the Network has made available to its partners, and how to consume them.

## THE NETWORK'S SYSTEM SERVICES

The Network exposes a set of Web service interfaces for external systems to consume via the JSON and XML format. Additionally, the Network has the capability to notify partners when an order has been recorded by consuming a service method on the external system that can be referenced by the Network (with an agreed upon contract and payload). This will allow the external system to stay in sync in near real time.

The Vendor API has developed and exposed the following **consumable** methods in the Network:

**Publishing an Allocation:** This method allows the inventory owner to submit inventory for publication to the Network. The format of the payload (as described in detail below) requires that contiguous seat blocks are populated. This allows our company's customers to view all available tickets for a given event date. If the event, venue and production have not yet gone through the approval process prior to submission, then once submitted the allocation will enter a queuing process — whereby the allocation, once in the queue, moves through an internal approval process prior to publication. **Note:** In order to **modify** an allocation once it has been submitted, the allocation must be republished with revised seat information. "Full" allocation will be submitted when updates are made. If tickets are on hold or sold, they will not be overridden.

**Updating Allocation Status:** This method provides inventory owners the capability of updating the status of an allocation to "inactive" or "active". Updating an allocation as inactive removes the inventory from customer viewing; however, it does not remove the inventory from the Network repository. This operation basically suspends the inventory until further notice.

**Retrieve Sold Inventory Order:** Inventory owner can request details of sold inventory; however, the allocation must first have expired. In order for an allocation to be expired, the allocation end timestamp must be in the past. Data will include the sold inventory, will call names and barcodes, if applicable.

The Vendor API has developed and exposed the following **calling** methods that the Network may consume:

**Receive Order:** Once an order is placed, the Network may utilize this method to send over order information relevant to the sale, including specific seats and Network-generated barcodes (if applicable).

**Update Order:** the Network's customers have the ability to update the will call name or ticket delivery method that was originally captured when the order was placed. This update method may be called when a customer requests an update to their order.

**Cancel Order:** If for any reason the Network must perform a cancellation of an order, this method may be called.

## GENERAL PHILOSOPHY

1. Validate incoming request messages. Messages must first pass basic parameter validation checks before business logic is applied.
2. Attempt to honor a technically valid request without placing a burden on the caller.
3. MessageHash header parameter for each request would be computed by concatenating activityId, Timestamp and ticketing system id, and one-way hash it using HMACSHA256 algorithm with predefined secret key provided for each vendor.

Example of HMAC SHA256 hash example in c#:

```
public static string GetMACSHA256HashString(string key, string message)
{
    var encoding = new System.Text.ASCIIEncoding();
    byte[] keyByte = encoding.GetBytes(key);
    var hmacsha256 = new HMACSHA256(keyByte);
    byte[] messageBytes = encoding.GetBytes(message);
    byte[] hashmessage = hmacsha256.ComputeHash(messageBytes);
    return hashmessage.Aggregate("", (current, h) => current + h.ToString("X2"));
}
```

## SERVICE DESCRIPTIONS

### PUBLISH ALLOCATION

#### URL

POST/ <https://ticketsapi.network.com/v1/inventory/{ticketSystemId}/{supplierId}/allocation>

**Supported Formats:** JSON

**Supported Request Methods:** POST

**Requires Authentication:** true

- This Post operation publishes inventory to the Network.
- Post is defined in two parts: Allocation header and Ticket Groups[].
- A ticket group must consist of contiguous seats.
- A ticket group (of seats) may have multiple “price categories”, e.g., Adult, Child, Senior, etc.
- Each category may have a unique price.
- If passing venue over for the first time, all venue attributes are required.
- If Tickets are GA (ticket-group-type) then sec/row are not required.

### Request Header

Request Header	Description	Data Type	Length (Characters)	Required
Content-Type	Defines the type of communication with the tickets service. Accepted Values: application/json or application/xml	String		Yes
ActivityId	ActivityId header is used for message security and tracking the request. GUID type  Example value: A3336279-B2F7-4491-A7B9-BCC12A93AF13	String		Yes
TimeStamp	DateTime of the request	DateTime		Yes
MessageHash	One-way hash value for ActivityId, TimeStamp and ticketing systemId concatenated, hashing it with HMACSHA256	String		Yes

**POST/** v1/inventory/{ticketSystemId}/{supplierId}/allocation

Input Parameters	Description	Data Type	Length (Characters)	Required
ticketingSystemId	ID that will designate ticketing system (Network supplied)	Integer		Yes, greater than 0
supplierId	ID that will be unique to Inventory Owner (Network supplied)	Integer		Yes, greater than 0
allocation	Complex Type			Obj required
allocation:supplierAllocationId	Allocation Id	String	20	Yes
allocation:name	Inventory Owner assigned name for allocation	String	50	Yes
allocation:startDateUTC	Date and time allocation should become active in	String		Yes

## API Guide

---

	company's marketplace, UTC format: yyyy-MM-dd HH:mm:ss (2013-03-12 18:00:00) military time			
allocation:endDateUTC	Date and time allocation should become inactive in company's marketplace (no longer exposed to company customers), UTC format: yyyy-MM-dd HH:mm:ss (2013-03-12 18:00:00) military time	String		Yes, must be greater than StartDateUTC
allocation:deliveryMethodIds	Enumerator. Delivery options available (Will Call - 1, print at home - 2)	Array of Integers(Enum]		Yes, array cannot be empty; array contents must have a 1 or 2
allocation:IsTaxExempt	Flag for tax exemption, tax rate and tax amount would be ignored if value is True	Boolean		Yes
allocation:aggregatedTaxRate	Tax rate for the venue	Decimal	Decimal (14,4)	No < 100
allocation:ticketLimitPerOrder	Number of tickets that can be purchased per transaction	Integer		No > -1
allocation:barcodePrefix	Prefix used when generating barcodes	String	18	No
allocation:barcodeSuffix	Suffix used when generating barcodes	String	18	No
allocation:barcodeLength	Total length of Barcode (including prefix and suffix)	Integer		Yes > 0
allocation:notificationEmail	Email Address; response may be sent to when allocation has been processed	String	100	No (must be a valid email type)
allocation:eventName	Event Name	String	100	Yes

### Response Code and Messages: Possible response codes and messages

Code	Message
101	Previous allocation still Pending Publication; cannot accept update at this time.
102	Not all Ticket Groups have at least the Adult associated Price Code Record.
103	ActivityId missing from request header.
104	TimeStamp missing from request header.
105	MessageHash missing from request header.
106	TicketingSystemId is missing.
107	SupplierId is missing.
108	Allocation is missing.
109	SupplierAllocationId is required.
110	AllocationName is missing.
111	Valid allocation start date is required.
112	Valid allocation end date is required.
113	At least one delivery method is required.
114	Invalid Delivery Method Id.
115	TaxExempt flag is missing.
116	AggregatedTaxRate has to be less than 100.
117	TicketLimitPerOrder has to be greater than -1.
118	Valid NotificationEmail is required.
119	Event name is required with a max length of 100.
120	Venue is required.
121	Venue name is required with max length of 100.
122	Venue city is required with max length of 50.
123	Venue state is required with max length of 3.

- 124 Venue country code is required with max length of 2.
- 125 Valid Venue postal code is required with max length of 10.
- 126 Valid ProductionDateTime is required.
- 127 TicketGroup is required.
- 128 SupplierTicketGroupId has to be greater than zero.
- 129 Section is required with a max length of 20.
- 130 Row is required with a max length of 10.
- 131 Quantity is required with a max value of 32767.
- 132 StartSeat is required with a value greater than zero.
- 133 EndSeat is required with a value greater than zero and greater than StartSeat.
- 134 Total Barcode length cannot exceed {0} characters.
- 135 SupplierAllocationId has to be alphanumeric with a max length of 20.
- 136 Secondary Event name is allowed with a max length of 100.
- 137 IsConsecutiveNumbering is required.
- 138 Valid TicketGroupType is required.
- 139 IsObstructed is required.
- 140 IsADA is required.
- 141 Max length of short note is 50.
- 142 TicketGroupRanking is required with a value greater than zero.
- 143 Prices required with at least one item in array.
- 144 SupplierTicketGroupId is required in Price with a value greater than zero.
- 145 Valid PriceCodeType is required.
- 146 PricePerTicket is required with a value greater than zero.
- 147 TaxPerTicket is required with a value of zero or greater.

## Get Allocation Summary

### URL

GET/

<https://ticketsapi.network.com/v1/inventory/{ticketSystemId}/{supplierId}/allocation/{allocationId}/summary>

**Supported Formats:** JSON/XML

**Supported Request Methods:** GET

**Requires Authentication:** true

- This operation will GET the status given an allocation ID.

### Response

Response Parameters	Description	Data Type
SupplierAllocationID	Supplier allocation ID of allocation provided by Supplier	Number
Status	allocationStatusType - Enumerator value for allocation status	Number
name	Allocation Name of the allocation	String
startDateUTC	Start date of allocation UTC format: yyyy-MM-dd HH:mm:ss (2013-03-12 18:00:00) military time	String
endDateUTC	End date of allocation UTC format: yyyy-MM-dd HH:mm:ss (2013-03-12 18:00:00) military time	String
totalSeats	Total seats currently published for this allocation	Number
soldSeats	Total number of sold seats for this allocation	Number
lockedSeats	Total number of locked seats for this allocation	Number
deliveryMethodIds	Array of delivery method Ids defined for this allocation	Array[number]