

iNetVOD_{SM} Provider API Reference Version 1.0.8

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Disclaimers

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Overview

This document defines the application programming interfaces (API) of requests/responses between a content provider server that is part of the iNetVOD_{SM} service and the iNetVOD_{SM} servers.

Please refer to the document "iNetVOD High-Level Overview" for an overview and background information regarding iNetVOD_{SM} service.

Please refer to the document "iNetVOD Provider Questionnaire" for background information regarding the configuration options available for a content provider that is part of the iNetVOD_{SM} service.

Terms

Streaming Media

Audio and/or video that is provided in an electronic form via a computer network. This includes media provided via a streaming protocol (like RTSP) and well as media data files (like AVI files).

Player Device

The physical device(s) and its computer software that exposes the iNetVOD Player UI for accessing Streaming Media and supports the viewing/listening of Streaming Media (audio and/or video). The Player Device initiates requests to the iNetVOD service.

iNetVOD Service

Computer software that runs on a server and is accessed by the Player Device in order to provide access to Streaming Media (audio and/or video). The iNetVOD Service fulfills requests from the Player Device. The iNetVOD Service initiates requests to the Providers' Services.

Provider Service

Computer software that runs on a server and is accessed by the iNetVOD Service in order to provide access to Streaming Media (audio and/or video). The Provider Service fulfills requests from the iNetVOD Service.

User

An individual who uses the Player Device to access Streaming Media.

Member

A User who has an accounts at the Provider.

Provider

A company or service that provides Streaming Media.

Show

A video/audio stream available for viewing/listening. A single piece of Streaming Media. The same Show may be available from multiple Providers.

Background Information

Authentication

Most of the iNetVOD requests are performed in the context of a specific Member while some are not specific to a particular Member.

iNetVOD provides two levels of authentication. First, each request will provide a Provider-assigned 'Administrator' User ID and Password. Second, some requests will provide a Member's User ID and Password.

The Administrator User ID / Password are used to ensure that outside parties are not accessing the Provider's systems without their knowledge.

The Member User ID / Password are used to ensure member-specific requests are happening at the direction of the particular Member.

It is extremely important that the Provider authenticate the Administrator and Member on each request. Some of these requests will perform monetary charges against the Member's account.

The Authenticate data structure is used to convey this data to the Provider. This data structure contains four fields:

AdminUserID
AdminPassword
MemberUserID
MemberPassword

The "AdminUserID" and "AdminPassword" are used to pass the administrator's authentication credentials. These 2 fields are always required.

The "MemberUserID" and "MemberPassword" are used to pass the Member's authentication credentials. These 2 fields are only required for the following requests: CheckShowAvailRqst, RentShowRqst, WatchShowRqst, and ReleaseShowRqst.

For authentication failures, a StatusCode of InvalidAdminUserID should be returned for an invalid Administrator UserID or Password, and InvalidMemberUserID should be returned for an invalid Member UserID or Password.

Member Enrollment

Providers are not required to support enrollment through the iNetVOD. If not supported, Users will be instructed to visit your web site to enroll.

If enrollment is supported, the iNetVOD service will send the EnrollRqst request once instructed by the User to enroll.

UserID, Password, FirstName, LastName, and Email are required fields and will always be passed as part of the request.

BirthDate, ShippingAddress, and BillingAddress are not required by all Providers. As such, they are marked as optional fields. If these fields are necessary for the enrollment and have not been provided, return a Status Code of RequestMissingRequired.

Request Encryption

To ensure the safe transport of Member data, only the HTTPS protocol is used for passing request and response data. The HTTPS protocol will encrypt all data passed between the iNetVOD service and the Providers' servers, eliminating the need to encrypt individual fields.

Renting Shows

Throughout the iNetVOD documentation, the term "Renting" is used when referring to the accessing of content. The term is being used in a very broad sense.

Besides including content accessed as a specific user with a specific cost, this term also refers to:

- 1) a specific user accessing free content
- 2) a specific user accessing content for a specific cost
- 3) an anonymous user accessing free content

Rental Periods

Some Shows are only available during a certain rental period. Some Shows are available for multiple rental periods for different costs. For example, there is one cost for a 24 hour rental period and another cost for 7 day rental period.

Some rental periods may define a rental "window", or the maximum time period for watching a Show after it has been rented. Once watching of a Show begins, the rental "period" may begin. For example, some Shows need to be watched within 30 days of being rented, and once watching begins, they must be watched within 24 hours.

The ShowCost data structure defines the cost of a Show for a particular rental period (see [Show Cost](#) below). The ShowCost.RentalWindowDays specifies the rental "window" while the ShowCost.RentalPeriodHours field specifies the rental "period" for a particular Show cost. Multiple rental periods are defined by specifying multiple ShowCost entries.

If the ShowCost.RentalWindowDays is not specified, there is not limit to when the Show can be watched. If the ShowCost.RentalPeriodHours field is not specified, the Show is considered never to expire.

Show Cost

Providers allow for access to their Shows in 1 of the 3 "rental" scenarios. The iNetVOD service models these:

- 1) Free - Show is free to Members and Non-Members (access may be anonymous).
- 2) Subscription - Show is free to Members of a certain subscription level (which may just mean membership is required).
- 3) Pay-Per-View - Show has cost for each viewing (Member access only).

The ShowCost.ShowCostType data field indicates one of these 3 types. The ShowCost data structure encapsulates this cost type, along with additional fields, in order to convey to the user their cost for renting a Show. The ShowCost.Cost data field is the amount if the cost can be represented in monetary terms. The ShowCost.CostDisplay data field is the human readable text for the cost. This may contains informative text such as "Free" or "Subscription" or may contain text representing the monetary cost with the appropriate currency, such as "\$4.95".

The ShowCost data structure is returned in the ShowDetail and the CheckShowAvailResp data structures. ShowDetail returns a Non-Member Show cost, since this data is retrieved outside the scope of a specific Member. CheckShowAvailResp returns the Show cost for a specific Member. If the cost represents a monetary charge to the Member, the Player Device will prompt the Member for confirmation. The approved Show cost is then returned via the RentShowRqst request.

1 or more ShowCost data structures may be returned in ShowDetail and CheckShowAvailResp. A single entry represents a single Show cost for a specific rental period.

Payment Methods (Pay-Per-View)

Shows that have a Pay-Per-View cost can be paid for in one of two ways:

- 1) On Account – The Show will be charged to a Member's account at the Provider. Most likely this means the Show will be charged to a credit card on file with the Provider, but the Provider may have other means of automatic payment in place.
- 2) Credit Card – The Member's credit card information is passed to the Provider in the RentShow request.

The Payment.PaymentType data field indicates one of these 2 types. The Payment data structure encapsulates this payment type along with the optional CreditCard data structure. The CreditCard data structure is only required if the PaymentType is CreditCard. The Payment data structure is only required if the ShowCost.ShowCostType is PayPerView.

If a Member has their credit card information on file with iNetVOD then the RentShow request will always contain a PaymentType of CreditCard.

If a Provider does not support the "On Account" payment method and the RentShow request contains a PaymentType of OnAccount, then the ShowPaymentDenied error should be returned from the RentShow request.

Show Formats

The ShowFormat data structure is used to describe the various audio/video encodings including its data container / delivery mechanism, and resolutions / frames per second available for a particular Show. These formats are provided to iNetVOD servers from the Provider's servers and are used to determine what Player Devices are capable of playing a particular Show.

The ShowFormat data structure contains six fields:

MediaEncoding
MediaContainer
HorzResolution
VertResolution
FramesPerSecond
BitRate

The "MediaEncoding" is a closed enum value specifying the audio/video encoding (codec) used for the media. See [MediaEncoding](#) for possible values.

The "MediaContainer" is a closed enum value specifying the data file format, or possibly the data streaming protocol, used for the media. See [MediaContainer](#) for possible values.

The "HorzResolution" is an integer defining the number of horizontal pixels for the media (video-only).

The "VertResolution" is an integer defining the number of vertical pixels for the media (video-only).

The "FramesPerSecond" is an integer defining the number of frames per second for the media (video-only).

The "BitRate" is an integer defining the kilo-bites per second of the media (video-only).

Note: The ShowFormat data structure also contains a ShowFormatID. This field is an optional unique ID field. It may be used if ShowID is not enough to describe a particular Show in a particular format.

Multiple Language Support

The iNetVOD service has support for multiple languages. Each Show has an associated language for the audio track. When searching for Shows, the iNetVOD service automatically eliminates any non-matching languages for the user.

A future version of the iNetVOD service will support subtitle languages.

Show License Methods

Different Providers have different implementations for their integrations with the Digital Rights Management (DRM) systems. Some Providers require the Player Device to communicate with a license server directly while others encapsulate this interaction through a Member-specific URL. Finally, some Providers offer "free" content providing a "free" license.

The LicenseMethod field, in the License data structure of the RentShow and WatchShow responses, indicates which method is being used by the Provider for the particular Show (show license methods are specified at the Show level, allowing a single Provider to incorporate different methods for different content).

The iNetVOD Service currently models two methods (these methods will be enhanced as needed by supported Providers and Player Devices):

- 1) URLOnly – Show is accessed via a specific URL. This URL may be Member and rental-specific, alleviating the need for the Player Device to communicate with a license server. Free content uses this method while providing a non-specific URL for the Show.
- 2) LicenseServer – License is acquired via a specified license server.

The License data structure holds the LicenseMethod field in addition to other fields that are needed to support a particular method. This data structure has the following fields:

LicenseMethod
ShowURL
LicenseURL

The "ShowURL" field is the URL of Show and is required for both methods.

The "LicenseURL" field is the URL of a License server. It is only required for the "LicenseServer" method. The Player Device will contact the license server via the LicenseURL, using a Show's ShowID as the content ID and the Member's credentials for the Provider.

For downloaded content, the License data structure is required in the RentShow response, but only the ShowURL field is required (the other fields may be optionally specified). This is to allow the Player Device to begin downloading the Show prior to the Member requesting to watch the show.

Show List / Show Detail

The ShowList request, combined with ShowDetail request, provide a mechanism for the iNetVOD service to update its local cache of available shows for a Provider. On a periodic basis, over a certain interval, the iNetVOD servers will first call ShowList to get the ShowIDs of the entire list of Shows, then repeatedly call ShowDetail for a small set of Shows, until all Shows have been updated. This method was chosen so a massive update could be avoided. It is a trickle down approach that reduces the performance requirements on the Providers servers as well as alleviates a single point of failure.

Show Avail / Rent Show / Watch Show / Release Show

Once a Show has been located by a Member, there are 3 API requests to complete the process of renting the show: CheckShowAvail, RentShow, and WatchShow.

CheckShowAvail is the first request and it provides 2 functions. First, it confirms the Show is still available for renting (dealing with the case where the iNetVOD cache of available Shows is temporary out of date). Second, it confirms a Member-specific cost for the Show. The ShowDetail request can only return a general cost for a particular Show. In some cases, a particular Show will have different costs for different Members (as in the case of different subscription models).

RentShow is the next request and it provides 3 functions. First, it charges the Member's account for the cost of the Show (which in the case of free content, no action is actually taken). Second, for a download Show, it provides the "license" for the Show so the Player Device can begin downloading the content. No license is provided at this time if the Show will be streamed. The license for streamed content is provided via the WatchShow response. Third, in the case of DRM, it optionally starts the rental period, defining the expiration date and time.

WatchShow is the last request and it provides 2 functions. First, in the case of DRM, it optionally adjusts the rental period, redefining the expiration date and time. Second, it provides the license for accessing the content, both streamed and downloaded. Various license methods are defined in the [Show License Methods](#) section.

When a Member is finished watching a Show, the ReleaseShow request will be invoked. Many Providers will have no need to be notified of this and no action will be taken on their part. Some Providers may track the number of outstanding rentals. These Providers will take the appropriate action to adjust the rental queue of the Member.

Categories

Each Show can be assigned 1 or more categories. This assignment happens by specifying one or more CategoryID fields in the ShowDetail data structure. The CategoryID is a Provider-assigned unique ID for a category or genre.

These Provider-assigned values are in turn mapped to iNetVOD-assigned values, providing a consistent list of categories to the User.

All possible values for the Provider-assigned CategoryID are required to be specified in the "iNetVOD Provider Questionnaire" document.

Ratings

A "rating" is designation such as the ratings given to movies by the MPAA and to television shows by the TV Parental Guidelines Monitoring Board.

Each Show can be optionally assigned 1 rating. This assignment happens by RatingID fields in the ShowDetail data structure. The RatingID is a unique ID for a rating.

Data Formats

This API was designed to be supported by the following data formats:

XML

XML

For the XML data format, XML request documents are sent by the Client App application to the Server App application using the HTTPS protocol. An XML response document will be returned for each XML request document received by the Server App.

The URL for the request will be defined by the Server App and should be configurable by the Client App.

XML documents will be encoded using UTF-8 encoding without the byte-order marks (BOM).

XML documents will contain the DOCTYPE element set to a URL as provided by the Server App. This URL will point to a document definition file (DTD).

Each data field will be represented by an XML element. XML attributes will not be used. Missing or empty elements should be considered identical and will represent Null values.

Column Definitions

Request/Response

Name

The name of the field. For XML file formats, this is the name of the XML element.

Description

A brief description of the field.

Type

Data type field. Possible values are defined by "Base Data Types" below.

Req

Required Field.

For XML data formats:

A Required Field is an element that must exist in the XML document. The element may not be empty.

For a non-Required field, the element need not exist or may be empty.

Rep

Repeating Field. For Required Fields, 1 or more of this field must exist. For non-Required fields, 0 or more of this field may exist.

Base Data Types

String(n)

A series of 0 or more Unicode characters where 'n' is the maximum number of characters. If 'n' is not specified, the maximum number of characters will be defined by $+2^{15}$.

Int16

An integer number that can be represented in 16 bits. A allowable range of $\pm 2^{15}$.

Int32

An integer number that can be represented in 32 bits. A allowable range of $\pm 2^{31}$.

Float64

An floating-point number that can be represented in 64 bits.

For XML data formats:

This value would be represented in the format: 9999.9999, with the maximum precision as can be supported in 64 bits. Other formats, such as scientific notation, are not supported.

Boolean

A Boolean value.

For XML data formats:

'true' and '1' will represent True values and 'false' and '0' will represent False values.

Date

A date value without a time component.

For XML data formats:

This type will be formatted as specified by ISO 8601 as a complete date, w/o the optional time component.

Timestamp

A date and time value.

For XML data formats:

This type will be formatted as specified by ISO 8601.

Comp

Composite Field. A group of base data types and/or other Composite fields.

Identifier Types

Identifier Types are non-composite data types that encapsulate a specific type of values relating to uniquely identifying a particular entity.

<i>Name</i>	<i>Description</i>	<i>Type</i>
ShowID	Provider-assigned unique ID for Show.	String(64)
CategoryID	Provider-assigned unique ID for a category. All possible values are required to be specified in the "iNetVOD Provider Questionnaire" document.	String(32)
CountryID	Unique ID for a country. Possible values are defined by ISO 3166-1.	String(2)
LanguageID	Unique ID for a spoken Language. Possible values are defined by ISO 639-2.	String(3)
CurrencyID	Unique ID for a Currency. Possible values are defined by ISO 4217:2001.	String(3)
ShowFormatID	Provider-assigned unique ID for a particular ShowFormat.	String(64)

Closed Enumerators

Closed Enumerators are non-composite data types with a predetermined, finite set of values. These are defined as String(32) unless noted otherwise.

RatingID

RatingID is an industry-assigned unique ID for a movie or television rating. Below are valid values as of the version of this document. Notify iNetVOD to add a new rating to this list.

<i>Value</i>	<i>Description</i>
g	G - General Audiences
pg	PG - Parental Guidance Suggested
pg13	PG-13 - Parents Strongly Cautioned
r	R - Restricted
nc17	NC-17 - No one 17 and under admitted
tvY	TV-Y - All Children
tvY7	TV-Y7 - Directed to Older Children
tvY7fv	TV-Y7-FV - Directed to Older Children - Fantasy Violence
tvg	TV-G - General Audience
tvpg	TV-PG - Parental Guidance Suggested
tv14	TV-14 - Parents Strongly Cautioned
tvma	TV-MA - Mature Audience Only

MediaEncoding

All possible codecs that a Show may be encoded. Notify iNetVOD to add a new codec to this list.

<i>Value</i>	<i>Description</i>
WMV1	Windows Media Video v7
WMV2	Windows Media Video v8
WMV3	Windows Media Video v9
RV30	RealVideo v9
RV40	RealVideo v10

SVQ3	Sorenson Video Codec 3 (QuickTime)
avc1	Apple's H.264
mp4v	MPEG-4 Video
divx	DivX v5
mpga	MP3 Audio
mp4a	MPEG-4 Audio
WMA2	Windows Media Audio

MediaContainer

All possible containers that a Show may be contained. Notify iNetVOD to add a new container to this list.

<i>Value</i>	<i>Description</i>
ASF	Advanced Systems Format
RM	RealMedia
RTSP	Real-time streaming protocol
AVI	Audio Video Interleave
MOV	QuickTime
MP3	MP3

ShowCostType

<i>Value</i>	<i>Description</i>
Free	Show is free to Members and Non-Members (access may be anonymous).
Subscription	Show is free to Members of a certain subscription level (which may just mean membership is required).
PayPerView	Show has cost for each viewing (Member access only).

PaymentType

<i>Value</i>	<i>Description</i>
ChargeAccount	Charge the Member's account at Provider
CreditCard	Charge supplied Member's credit card

Note: future versions could include other payment types.

LicenseMethod

<i>Value</i>	<i>Description</i>
URLOnly	Show is accessed directly from a URL, secure or unsecured depending on Show.
LicenseServer	Player device acquires license from specific license server.

Note: additional methods will be added when new methods are required by Providers.

Envelope

ProviderRqst and ProviderResp form the outer “envelope” of all requests and responses defined in this API.

ProviderRqst

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
Version	API Version as defined by this document (i.e. 1.0.0).	String(16)	Y	N
Authenticate	Data identifying the Member for the request.	Comp	Y	N
RequestData	Container of request data.	Comp	Y	N

ProviderResp

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
StatusCode	See Appendix A	Int32	Y	N
ResponseData	Container for response data	Comp	N*	Y

Notes: ResponseData is required for all requests unless an error has occurred.

Request/Response Data

RequestData

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
RequestType	Type for actual request. Possible values: <ul style="list-style-type: none"> • PingRqst • EnrollRqst • ShowListRqst • ShowDetailRqst • CheckShowAvailRqst • RentShowRqst • WatchShowRqst • ReleaseShowRqst 	String(64)	Y	N
PingRqst	PingRqst data	Comp	One, and only one, of these data structures, as defined by RequestType.	
EnrollRqst	EnrollRqst data	Comp		
ShowListRqst	ShowListRqst data	Comp		
ShowDetailRqst	ShowDetailRqst data	Comp		
CheckShowAvailRqst	CheckShowAvail data	Comp		
RentShowRqst	RentShow data	Comp		
WatchShowRqst	WatchShow data	Comp		
ReleaseShowRqst	ReleaseShow data	Comp		

ResponseData

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
ResponseType	Type for actual response. Possible values: <ul style="list-style-type: none"> • PingResp • EnrollResp • ShowListResp • ShowDetailResp • CheckShowAvailResp • RentShowResp • WatchShowResp • ReleaseShowResp 	String(64)	Y	N
PingResp	PingResp data	Comp	One, and only one, of these data structures, as defined by ResponseType.	
EnrollResp	EnrollResp data	Comp		
ShowListResp	ShowListResp data	Comp		
ShowDetailResp	ShowDetailResp data	Comp		
CheckShowAvailResp	CheckShowAvail data	Comp		
RentShowResp	RentShow data	Comp		
WatchShowResp	WatchShow data	Comp		
ReleaseShowResp	ReleaseShow data	Comp		

Ping

Verifies that the Server App servers can be accessed.

PingRqst

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
(none)				

PingResp

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
(none)				

Enroll

Enrolls a User into the Provider's membership.

EnrollRqst

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
UserID	UserID	String(64)	Y	N
Password	Password	String(16)	Y	N
FirstName	First name of User	String(32)	Y	N
LastName	Last name of User	String(32)	Y	N
Email	Email address of User	String(64)	Y	N
BirthDate	Birth date of User. Required to allow access to Adult content	Date	N	N
ShippingAddress	The physical location of the User and their player device.	Address	N	N
BillingAddress	The default billing address of the User (may be overridden in Payment.CreditCard data)	Address	N	N

Note: If enrollments are not supported through this API, return a Status Code of RequestNotSupported.

Note: BirthDate, ShippingAddress and BillingAddress are not required by all Providers. If these fields are necessary and have not been provided, return a Status Code of RequestMissingRequired.

EnrollResp

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
(none)				

Status Codes

<i>Number</i>	<i>Value</i>	<i>Description</i>
1	RequestNotSupported	Request is not supported.
2	RequestMissingRequired	Request is missing required fields.
1002	UserIDInUse	UserID already registered.

ShowList

ShowList, combined with ShowDetail, provide a mechanism for the iNetVOD service to update its local cache of available shows for a Provider. On a periodic basis, over a certain interval, the iNetVOD servers will first call ShowList to get the ShowIDs of the entire list of Shows, then repeated call ShowDetail for a small set of Shows, until all Shows have been updated. This method was chosen so a massive update could be avoided.

ShowListRqst

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
(none)				

ShowListResp

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>	<i>Comments</i>
ShowID		ShowID	N	Y	ShowID list of all available Shows.

ShowDetail

ShowList, combined with ShowDetail, provide a mechanism for the iNetVOD service to update its local cache of available shows for a Provider. On a periodic basis, over a certain interval, the iNetVOD servers will first call ShowList to get the ShowIDs of the entire list of Shows, then repeated call ShowDetail for a small set of Shows, until all Shows have been updated. This method was chosen so a massive update could be avoided.

ShowDetailRqst

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
ShowID		ShowID	Y	Y

ShowDetailResp

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
ShowDetail		ShowDetail	Y	Y

Status Codes

<i>Number</i>	<i>Value</i>	<i>Description</i>
3	RequestInvalid	Request contains bad data values. Returned if ShowID in request is invalid.

CheckShowAvail

Requests Show's availability, cost, and rental period for a specific Member. Request specifies particular ShowFormat and ShowCost as returned in ShowDetailRqst.ShowDetail.ShowRental.

CheckShowAvailRqst

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
ShowID		ShowID	Y	N
ShowFormat	Particular format show for this Member (as returned from ShowDetail.ShowRental.ShowFormat).	ShowFormat	Y	N
ShowCost	Particular cost and rental period (as returned from ShowDetail.ShowRental.ShowCost).	ShowCost	Y	N

CheckShowAvailResp

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
ShowCost	Confirmation of the cost of the Show for this Member. Money or short description of cost. May vary from ShowCost passed in the request.	ShowCost	Y	N

Status Codes

<i>Number</i>	<i>Value</i>	<i>Description</i>
3	RequestInvalid	Request contains bad data values. Returned if ShowID in request is invalid.
1100	ShowNoAccess	Member does not have access to rent show – Reason: Unknown.
1101	ShowLevelInsufficient	Member does not have access to rent show – Reason: their membership level is too low.

RentShow

RentShowRqst

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
ShowID		ShowID	Y	N
PlayerIPAddress	The IP address of the Player Device requesting the rental.	String(16)	Y	N
ShowFormat	Particular format show for this Member (as returned from ShowDetail.ShowRental.ShowFormat).	ShowFormat	Y	N
ApprovedCost	The amount the Member thinks they will be charged (as returned from CheckShowAvailResp.ShowCost).	ShowCost	Y	N
Payment	Member payment information for this Show.	Payment	N	N

RentShowResp

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
AvailableUntil	Date/time when rental period expires. If not specified, then Show never expires.	Timestamp	N	N
License	Specifics for the licensing of the Show. Is optional for streamed content. For download content, the License.ShowURL is required, optionally returning the remaining fields during the WatchShow response.	License	N	N

Status Codes

<i>Number</i>	<i>Value</i>	<i>Description</i>
1100	ShowNoAccess	Member does not have access to rent show – Reason: Unknown.
1101	ShowLevelInsufficient	Member does not have access to rent show – Reason: their membership level is too low.
1104	ShowPaymentDenied	Member's payment for a Show has been denied.

WatchShow

WatchShowRqst

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
ShowID		ShowID	Y	N
PlayerIPAddress	The IP address of the Player Device requesting to watch the Show.	String(16)	Y	N
ShowFormat	Particular format show for this Member (as specified in RentShowRqst.ShowFormat).	ShowFormat	Y	N

WatchShowResp

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
AvailableUntil	Date/time when rental period expires. If not specified, then Show never expires.	Timestamp	N	N
License	Specifics for the licensing of the Show.	License	Y	N

Status Codes

<i>Number</i>	<i>Value</i>	<i>Description</i>
1102	ShowNotRented	Member has not rented show.
1103	ShowRentExpired	Member's rental of show has expired.

ReleaseShow

ReleaseShowRqst

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
ShowID		ShowID	Y	N
ShowFormat	Particular format show for this Member (as specified in RentShowRqst).	ShowFormat	Y	N

ReleaseShowResp

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
(none)				

Status Codes

<i>Number</i>	<i>Value</i>	<i>Description</i>
1102	ShowNotRented	Member has not rented show.

Internal Data Structures

Data structures contained within the higher level requests and responses.

Authenticate

UserID/Password values for both Administrator and Member.

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
AdminUserID	Administrator's User ID	String(64)	Y	N
AdminPassword	Administrator's Password	String(16)	Y	N
MemberUserID	Member's User ID	String(64)	N*	N
MemberPassword	Member's Password	String(16)	N*	N

Note: MemberUserID and MemberPassword are required for CheckShowAvailRqst, RentShowRqst, WatchShowRqst, and ReleaseShowRqst.

Address

Physical postal address of Member, for billing and shipping requirements.

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
AddrStreet1	First line of street address	String(64)	Y	N
AddrStreet2	Second line of street address	String(64)	N	N
City	Address city	String(64)	Y	N
State	Address state or providence	String(64)	Y	N
PostalCode	Address ZIP or postal code	String(32)	Y	N
Country	Address country	CountryID	Y	N
Phone	Telephone number at address	String(32)	Y	N

ShowDetail

Detail description of Show

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
ShowID		ShowID	Y	N
Name	Show's displayable title	String(64)	Y	N
EpisodeName	For TV shows, name of episode	String(64)	N	N
EpisodeNumber	For TV shows, number assigned to episode	String(32)	N	N
ReleasedOn	Original released date, with optional time component. For TV shows, the original air date. For Movies, the theatre release date.	Date or Timestamp	N	N
ReleasedYear	Year show was released if ReleasedOn is not available.	Int16	N	N
Description	Multi-line description of show	String()	N	N
RunningMins	Total running minutes of show	Int16	N	N
PictureURL	URL to image of Show	String(4384)	N	N
CategoryID	Categories for this Show (maybe be 0 or more)	CategoryID	N	Y
RatingID	Movie/TV rating	RatingID	N	N
LanguageID	The spoken language of the audio track.	LanguageID	Y	N
IsAdult	True is show is Adult content	Boolean	Y	N
ShowRental	Defines the variations of Show's formats, cost,	ShowRental	Y	Y

	rental periods. Not Member-specific cost.			
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ShowRental

Defines the association between various show formats, the rental costs and periods. For example, a streaming format of a Show may have different rental costs than a downloaded format of the same Show. Defining multiple ShowFormat items and multiple ShowCost items in a single ShowRental means all variations are valid. A particular ShowFormat must only be used in a single ShowRental.

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
ShowFormat	Formats show is available in.	ShowFormat	Y	Y
ShowCost	Money or short description of cost. Not Member-specific cost. May contain multiple costs for varying rental periods.	ShowCost	Y	Y

ShowFormat

Defines the attributes of the format of a single Show. See [Show Formats](#).

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
ShowFormatID	Optional unique ID if needed for particular ShowFormat.	ShowFormatID	N	N
MediaEncoding	Encoding (codec)	MediaEncoding	Y	N
MediaContainer	Data file container	MediaContainer	Y	N
HorzResolution	Horizontal picture resolution	Int16	Y	N
VertResolution	Vertical picture resolution	Int16	Y	N
FramesPerSecond	Number of frames per second	Int16	Y	N
BitRate	Kilo-bites per second	Int16	Y	N

Money

Data for a monetary value in a particular currency.

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
CurrencyID	See CurrencyID	CurrencyID	Y	N
Amount	The amount of the currency	Float64	Y	N

ShowCost

The cost of a Show is not always represented in pure Money form. The cost may be free or part of a subscription service. This structure captures those variations.

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
ShowCostType	The type of cost for the Show.	ShowCostType	Y	N
Cost	Show's cost if can be represented in monetary terms.	Money	N	N
CostDisplay	Displayable description of the Cost. If Cost is defined, this value should be a representation of Cost (i.e. showing currency symbol with amount).	String(32)	Y	N
RentalWindowDays	Rental window in days for this cost.	Int16	N	N
RentalPeriodHours	Rental period in hours for this cost.	Int16	N	N

Payment

Details of payment information

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
PaymentType	What type of payment is this?	PaymentType	Y	N
CreditCard	Credit Card information. Required if PaymentType = CreditCard.	CreditCard	N	N

CreditCard

Details of a credit card

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
NameOnCC	Exact name on the credit card	String(64)	Y	N
CCType	Credit card type (VISA, Mastercard, etc.)	String(16)	Y	N
CCNumber	Credit card number	String(32)	Y	N
CCSIC	Credit card security identification code	String(16)	N	N
ExpireDate	Expiration date of credit card (MMYYYY)	String(6)	Y	N
BillingAddress	Address on the credit card account	Address	Y	N

License

Details for accessing content from Provider within their licensing scheme.

<i>Name</i>	<i>Description</i>	<i>Type</i>	<i>Req.</i>	<i>Rep.</i>
LicenseMethod	What is the particular license for this Show.	LicenseMethod	Y	N
ShowURL	URL of Show, possibly Member-specific.	String(4096)	Y	N
LicenseURL	URL of License server. Only required if LicenseMethod is LicenseServer.	String(4096)	N	N

Appendix A – All Status Codes

<i>Number</i>	<i>Value</i>	<i>Description</i>
0	Success	Request fulfilled successfully.
1	RequestNotSupported	Request is not supported.
2	RequestMissingRequired	Request is missing required fields.
3	RequestInvalid	Request contains bad data values.
1000	InvalidMemberUserID	Member UserID not registered or Password is invalid.
1001	InvalidAdminUserID	Admin UserID or Password is invalid.
1002	UserIDInUse	UserID already registered.
1100	ShowNoAccess	Member does not have access to rent show – Reason: Unknown.
1101	ShowLevelInsufficient	Member does not have access to rent show – Reason: their membership level is too low.
1102	ShowNotRented	Member has not rented show.
1103	ShowRentExpired	Member's rental of show has expired.
1104	ShowPaymentDenied	Member's payment for a Show has been denied.
9999	UnknownError	Catch-all error code when specific error is not known.