eyeQ Bundle Service Delivery Platform Developers (SDP) Guide

Product Version 1.5.0

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Introduction

The Gracenote eyeQ Bundle supports Service Delivery Platform (SDP) systems and client-based (non-SDP) systems. Non-SDP systems consist of client applications running on set top, mobile, or other end user devices that interact directly with Gracenote Media Recognition Services.

SDP systems consist of one or more customer-hosted distributed servers that process queries and deliver responses to large network of end user devices. SDP systems can request special types of TV batches that contain full TV data listings. These batches are for strict use of SDP customers only and do not include zip code or provider data.

This documentation describes APIs specifically for SDP. Use this information along with the rest of the eyeQ Bundle documentation set.

Retrieving TV Grid EPG Batch Data

The Gracenote eyeQ Web API provides two ways to retrieve EPG data:

- TVGRID_LOOKUP: Used for any application that downloads EPG data for currently-airing programming. For information about this API, see the *eyeQ Web API Reference Guide*.
- TVGRIDBATCH_UPDATE: Used to download several weeks of EPG data for multiple channels.

TVGRIDBATCH_UPDATE

TVGRIDBATCH_UPDATE for SDP systems can return all available TV providers, channels, listings, and recommendations. A response can include all metadata for each TV program, including contributors, third-party links (XIDs), image URLs, and so on.

Given the large volume of data returned by TVGRIDBATCH_UPDATE, do not use it for client applications running on set top, mobile, or other end user devices that interact directly with Gracenote Media Recognition Services.

> ℹ️ **Note**
>
> The URLs contained within the TVGRIDBATCH_UPDATE response always point to gzip'd XML documents.

STATE_INFO and STATE_TYPE Query Nodes

Each TVGRIDBATCH_UPDATE query requires one or more STATE_INFO nodes. Each node represents the kind of batch to return. Each STATE_INFO contains a STATE_TYPE, indicating the country or region for the batch query.

The following table lists possible STATE_TYPE values. In this table, TV*_ is TVSETUP_, TVLISTINGS_, or TVPROVIDER_. For TVRECOMMENDATIONS, STATE_TYPE can be either TVRECOMMENDATIONS_ALL or TVRECOMMENDATIONS_EU, where _ALL is all supported countries and _EU is for Europe only.

STATE_TYPE Values	Description	Updates per Day
TV*_REGION-APAC	Returns data for countries in Asia and Pacific, including Australia and New Zealand.	Up to 3 or 4
TV*_REGION-EU	Returns data for European countries, including Russia.	Up to 3 or 4
TV*_REGION-JP	Returns data for Japan.	Up to 3 or 4
TV*_REGION-NA	Returns data for North America, including USA, Canada, and Central America.	Up to 3 or 4
TV*_REGION-SA	Returns data for South America, including Brazil and Argentina.	Up to 3 or 4
TVRECOMMENDATIONS_ALL	Returns data for all supported countries.	1
TVRECOMMENDATIONS_EU	Returns data for Europe only	1

> **ⓘ Note**
>
> Contact your Gracenote Professional Services Representative for a current list of supported countries and regions.

Example Query using TVSETUP_REGION-EU

```
<QUERIES>
    <LANG>eng</LANG>
    <COUNTRY>usa</COUNTRY>
    <AUTH>
        <CLIENT>a-client-id-string</CLIENT>
        <USER>a-user-id</USER>
    </AUTH>
    <QUERY CMD="TVGRIDBATCH_UPDATE">
        <STATE_INFO>
            <STATE_TYPE>TVSETUP_REGION-EU</STATE_TYPE>
        </STATE_INFO>
    </QUERY>
</QUERIES>
```

Example Response for TVSETUP_REGION-EU

```
<RESPONSES>
    <RESPONSE STATUS="OK">
        <UPDATE_INFO>
            <UPDATE_TYPE>TVSETUP_REGION-EU</UPDATE_TYPE>
            <UPDATE_INST>MUST_RELOAD</UPDATE_INST>
            <STAMP>1000039243</STAMP>
            <URL TYPE="TVGRIDBATCH">a_temporary_url/TVGRIDBATCH_TVSETUP_REGION-EU_1000039243.xml.gz</URL>
        </UPDATE_INFO>
    </RESPONSE>
</RESPONSES>
```

UPDATE_INFO Response Node

TVGRIDBATCH_UPDATE responses contain one or more UPDATE_INFO nodes that correspond to the STATE_INFO nodes sent in the query.

Each UPDATE_INFO node contains:

Data	Description
UPDATE_TYPE	The update type based on the STATE_TYPE sent in the query.
UPDATE_INST	Contains instructions (UPDATE_INST) for the SDP application to follow.
STAMP	The timestamp of the returned batch. You can use this timestamp in the next query to obtain partial batches that may be available. Without this stamp, you will always get full batches if available, or none if there were no changes since the prior query. Note: you will always get the full batch for when using TVPROVIDER.
URL	The URL to the TVGRIDBATCH object containing the batch data. The URLs contained within the TVGRIDBATCH_UPDATE response always point to gzip'd XML documents. For detailed descriptions of the TVGRIDBATCH formats for SDP systems, see "Platform Batch Data" in the *Gracenote eyeQ Web API Data Model Guide*.

Working with TV Channel Lineups

A TV channel lineup is a list of TV channels bundled together and offered to consumers. Most channel lineups are *national*, based on the country where the consumer lives. However, within a country, some lineups are *regional*. Regional lineups often exist to support multi-lingual countries where language or regional preferences differ among consumers.
In addition to national and regional types, TV channel lineups can also be virtual or network-based.

Virtual Channel Lineups

A *virtual channel lineup* is a sorted list of TV channels without channel numbers. These lineups are collected by Gracenote, and represent a set of TV channels that are independent from physical networks. Virtual lineups usually represent the most-watched channels or are an aggregation of all channels available in a country. They are useful for devices and applications that do not necessarily need to control or work in front of a specific TV device. Virtual lineups are usually national level only.
Examples are:

- Top TV channels in a country
- All TV channels in a country
- Japanese ARIB lineups

Network-based Channel Lineups

A *network-based channel lineup* represents channels offered by a broadcast network or other provider. These lineups can be subgrouped by network type: satellite, cable, terrestrial, IPTV, and so on. They usually are sorted and provide channel numbers. Network-based channel lineups can be either national or regional. Examples are:

- BSkyB UK
- Kabel Deutschland
- DVB-T France
- Astra 1 FTA Deutschland
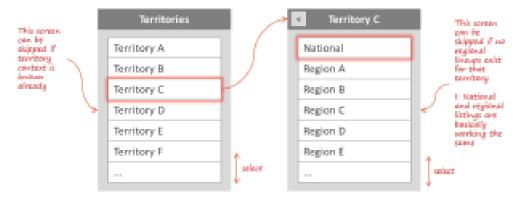
TV Channel Lineup Use Cases

Gracenote eyeQ supports various use cases for presenting TV channel lineup data. This sections describes some of these use cases.
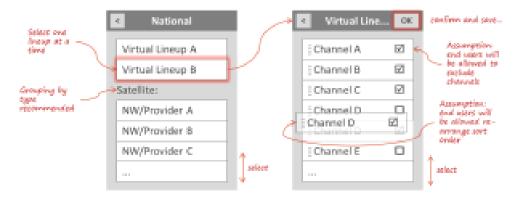
Browse and Select a Channel Lineup

Consumers are provided with a a step-by-step selection to get to a channel lineup:
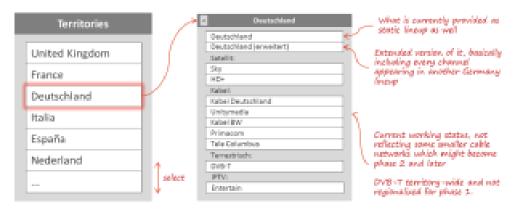
1. The first level will be the territory (usually a country). The user selects the country of interest.
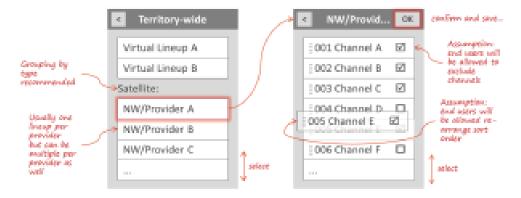
1. If the country has national and regional channel lineups, the application presents the regions for the consumer to select.
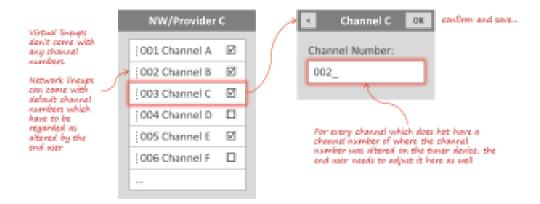
1. After choosing a region, the consumer is presented with a grouped list of channel lineups, such as:

- Virtual lineups
- Satellite network-based lineups
- Cable network-based lineups
- Terrestrial network-based lineups
- IPTV network-based lineups

1. Next, consumers usually are offered the following options:

- Hide and/or Re-sort the channel lineups

- Adjust channel numbers (always required for virtual lineups, optional for network-based)
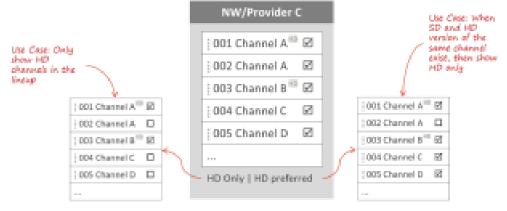
Filter Channel Lineups by Station and Channel Attributes

A feature most consumers want is to filter channels based on the channel type. Common filters are SD/HD and top channels for Free or Pay TV.

Filtering SD/HD Channels

The diagram below shows two common ways of presenting HD-filtered channels.

Filtering Top Channels for Free and Pay TV

The diagram below shows how a Smart TV set could filter top channels for free and pay TV.

1. The Smart TV requests the basic and extended virtual channel lineup for a given country from Gracenote.
2. The Smart TV uses one of the lineups to determine the top of the channel lineup, and sort all other channels alphabetically below it.

Retrieving a List of Regions for a Country using FIELDVALUES

Use FIELDVALUES queries to get a list of country names associated with a client id and user id string. To get a list of regions associated with a country, use FIELDVALUES and specify the COUNTRY parameter with the name of the country to search. These scenarios are shown below.

Query for List of Countries

```
<QUERIES>
<AUTH>
    <CLIENT>client_id_string</CLIENT>
    <USER>user_id_string</USER>
  </AUTH>
    <QUERY CMD="FIELDVALUES">
        <FIELDNAME>TVCOUNTRIES</FIELDNAME>
    </QUERY>
</QUERIES>
```

Response Showing List of Countries

```
<RESPONSES>
 <RESPONSE STATUS="OK">
   <COUNTRY>GBR</COUNTRY>
   <COUNTRY>DEU</COUNTRY>
   <COUNTRY>ITA</COUNTRY>
 </RESPONSE>
</RESPONSES>
```

Query for List of Regions in a Country

```
<QUERIES>
  <COUNTRY>GBR</COUNTRY>  <!-- required -->
  <AUTH>
    <CLIENT>client_id_string</CLIENT>
    <USER>user_id_string</USER>
  </AUTH>
  <QUERY CMD="FIELDVALUES">
      <FIELDNAME>TVREGIONS</FIELDNAME>
  </QUERY>
</QUERIES>
```

Response showing list of Regions in a Country

```
<RESPONSES>
 <RESPONSE STATUS="OK">
   <TVREGION ID="12345">Border (England)</ TVREGION >
   <TVREGION ID="12346">Border (Scotland)</ TVREGION >
   <TVREGION ID="12347">Channel Islands</ TVREGION >
    …
  </RESPONSE>
</RESPONSES>
```

Filtering on IPG Category Values using FIELDVALUES

The FIELDVALUES query retrieves all ID/string pairs for a list- or descriptor-based field. It is generally intended for Service Delivery Platforms who use TVGRIDBATCH_UPDATE to get bulk EPG data. It is also useful for any client application that needs to process all potential *IPG Category* values. For example, the application might color-code particular values, or use the full list to implement searching or filtering by type. Because the list values may change over time, the FIELDVALUES query is useful to get the current set of available string and integer identifier pairs.

For a partial list of IPG category values, see "FIELDVALUES" and "IPG Category Types" in the *Gracenote eyeQ Web API Reference*. For a complete list, contact your Gracenote Professional Services representative.

Performing Incremental Batch Updates

Gracenote updates TV Grid EPG batches daily. Incremental batches for STATE_TYPEs TV*_REGION-*, such as TVSETUP_REGION-EU, TVLISTINGS_REGION-NA, and so on, are updated three to four times a day. Given this update frequency, your application should check for updates at least once per hour.

To perform incremental batch updates:

1. Perform a full batch download.
2. Obtain and store the STAMP element value from each batch response.
3. When performing the next TVGRIDBATCH_UPDATE query, add the STAMP element in the STATE_INFO structure. Set the STAMP value to the STAMP value you obtained in Step 2.
4. Send the query and retrieve the response.
5. Follow the response instructions as described in Processing Update Instructions (see page).

ⓘ **Note**

Incremental batch updates are only available for TVLISTINGS queries.

Example Query for incremental batch downloads

```
<QUERY CMD="TVGRIDBATCH_UPDATE">
  <STATE_INFO>
    <STATE_TYPE>TVLISTINGS_REGION-NA</STATE_TYPE>
    <STAMP>203735100</STAMP>
  </STATE_INFO>
  ...
</QUERY>
```

General Update Guidelines

- For partial batches, new TV airings might be added for TV programs that the client has already stored locally. The STAMP (timestamp) that the client application sends in TVGRIDBATCH_UPDATE enables Gracenote to determine when this occurs. In this case, the TV program itself is not included in the batch response. However, the response does include the new TV airings for that TV program.
- A partial batch may only contain TV airings. This occurs when the batch response contains only re-runs of previously downloaded TV programs. For this situation, the client application should delete locally stored TV airings that occurred in the past.
- TV programs can repeat across channel batches. Because of this, the client application might receive the same TV program with the same GN_ID in several separate channel batches. In this case, the application should overwrite the cached object with the latest object received.
- For cache housekeeping, applications may benefit by deleting TV programs from the local cache when they are no longer referenced by any TV airing. This decision depends on the application requirements and frequency of batch updates.

Example Update Schedule

At any time, both Full and Incremental batch files are available for download from Gracenote. If your application is only using Full batch files and no incrementals, you can choose to retrieve and ingest the Full batch file based on your business needs. If your application is using Incremental batch files, it should check for updates hourly,

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and process any incremental updates. Below is an example describing a daily incremental update scenario. The update hours and frequency are for illustration purposes only and do not necessarily represent the actual update schedule:

Hypothetical Update Schedule:
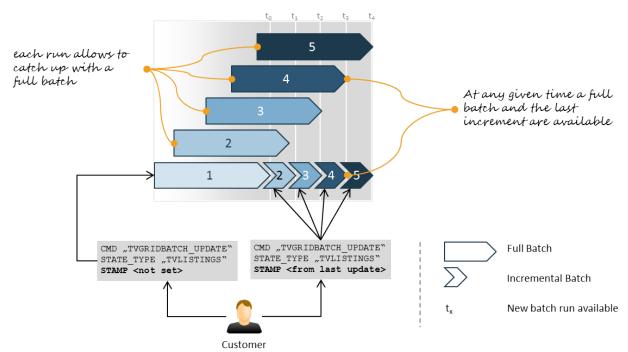
Hour	Available Batches
9:00AM	Full batch and Incremental batch containing only the changes since the 3:00AM Full batch.
3:00PM (15:00)	Full batch and Incremental batch containing only the changes since the 9:00AM Full batch.
9:00PM (21:00)	Full batch and Incremental batch containing only the changes since 3:00PM Full batch.
3:00AM	Full batch and Incremental batch containing changes since 9:00PM Full batch.

Example Batch Update Scenarios:

Update Request	Batch Returned
An application requests data at 3:00AM and does not indicate it has incremental data	Gracenote returns the 3:00AM Full batch file.
An application requests data at 3:00AM and indicates it has the data from 9:00PM	Gracenote returns the 9:00PM Incremental file.
An application requests data at 3:00AM and indicates it has the data from 3:00PM	Gracenote returns the 3:00AM Full batch file.

The diagram below illustrates the workflow for five subsequent incremental batch runs.

Example showing 5 subsequent batch runs

Processing UPDATE_INST Values

TVGRIDBATCH_UPDATE responses include processing instructions within the UPDATE_INST element. These instructions indicate how the application should update its cache. After each TVGRIDBATCH_UPDATE query, the application should process the UPDATE_INST values to determine how to process the batch data.

The TVGRIDBATCH object itself includes additional instructions for the application to refresh its data. These instructions are in the TYPE attribute of the GRIDCHANGE node.

Possible values for UPDATE_INST are:

Values	Description
MUST_RELOAD	Indicates the TVGRIDBATCH object for the TV channel is a full batch. After downloading the TVGRIDBATCH object, the client application must clear the local cache for the channel, before applying the changes. To apply changes, the application should follow the GRIDCHANGE instructions UPDATE_TVPROGRAM and ADD_TVAIRING in the TVGRIDBATCH object. ℹ **Note** To retain past grid data, clear the cache starting from the current date and time only.
APPLY_CHANGES	Indicates the TVGRIDBATCH object returned is a partial batch. After downloading the TVGRIDBATCH object, the application must apply the changes for the TV channel in its local cache. To apply changes, the application should follow the GRIDCHANGE instructions DELETE_TVAIRING, UPDATE_TVPROGRAM, and ADD_TVAIRING in the TVGRIDBATCH object. See Performing Incremental Batch Updates (see page 10) for more information. ℹ **Note** APPLY_CHANGES is available only if you include the STAMP element from the previous TVGRIDBATCH_UPDATE query in the STATE_INFO structure of the current query. The partial batch is the diff or delta since the last batch downloaded. If you did not include a STAMP element, the response will be either a full batch (MUST_RELOAD) or none (NO_CHANGE).
NO_CHANGE	Indicates there are no changes to apply. No TVGRIDBATCH object was returned.
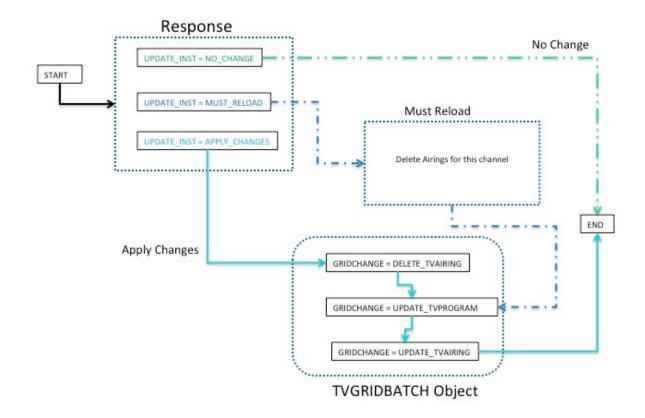
GRIDCHANGE in TVGRIDBATCH

The following table describes the possible GRIDCHANGE values in a TVGRIDBATCH object.

GRIDCHANGE Values	Description
UPDATE_TVPROGRAM	The application must update the corresponding TV program in its cache, or add it if not already cached.
UPDATE_TVAIRING	The application must add the TV airings to its cache or update TV airings in its cache.
DELETE_TVAIRING	The application should delete the previously stored TV airing.
UPDATE_RECOMMENDATION	The application must update the corresponding recommendation in its cache, or add it if not already cached.
UPDATE_TVCHANNEL	The application must update the corresponding TV channel in its cache, or add it if not already cached.

Update Instruction Workflow

The diagram below shows the basic workflow for processing the instructions.

TVGRIDBATCH_UPDATE Data Model

The following examples show batch data for Service Delivery Platforms in response to TVGRIDBATCH_UPDATE queries. All batches are returned as TVGRIDBATCH objects. Attributes are indicated by @, such as @TYPE.

> **ℹ Note**
>
> Descriptor and list fields (such as those contained in CONTRIBUTOR, IPGCATEGORY, EPGPRODUCTION) are provided as English strings. To get these fields in different languages, use the FIELDVALUES query. EPGAUDIO_TYPE, EPGVIDEO_TYPE, EPGCAPTION_TYPE are returned as ID values, not as text strings.

Schedule Data Returned by TVGRIDBATCH_UPDATE

This section describes the structure of linear content metadata. Linear content is Data regarding programs transmitted on TV channels. A content element will have schedule Data (when and on what channel it will be screened) and Data regarding the program itself (such as series/episode Data, actors, description).

A TVGRIDBATCH_UPDATE request will reply with a URL by which a TVGRIDBATCH can be retrieved. The TVGRIDBATCH carries either complete program data for all channels (platform batches), or contains schedule data for a single channel. In the case of a single channel, the batch returned is either full schedule data for a specific channel, or contains an incremental update to a previously downloaded batch. In either case, this data contains instances of two different structures, TVPROGRAMs and TVAIRINGs:

TVPROGRAM Values

Values returned in both per-channel schedule batches and platform batches:

Value	Sub-Values	Description
GN_ID		Unique GN_ID for this program.
TITLE		First line of title.
TITLE_SUB		Second line of title.
LISTING		Listing text: A short description of a program suitable for display in a television listing grid.
IPGCATEGORY/IPGCATEGORY_L1	@ID	Level 1 program category text. @ID carries the numerical ID of this category.
IPGCATEGORY/IPGCATEGORY_L2	@ID	Level 2 program category text. @ID carries the numerical ID of this category.
RANK		Popularity rank.
GROUPREF		
EPGPRODUCTION_TYPE	@ID	The kind of EPG production type, such as Movie. @ID carries the numerical ID of this value.
SEASON_NUM		Season number this TVPROGRAM is a part of.
EPISODE_NUM	@COUNT	Episode number for this TVPROGRAM. @COUNT is the total number of episodes for this series or season.

Additional TVPROGRAM values returned in only individual **TVPROGRAM_FETCH** requests, or in complete **TVLISTINGS** platform batches:

Value	Sub-Values	Description
TITLE_ORIGINAL		Original title of TVPROGRAM.
EPISODE_NUM	@COUNT	Episode number for this TVPROGRAM. @COUNT is the total number of episodes for this series or season.
SYNOPSIS		Synopsis for TVPROGRAM.
ORIGIN	@ID	Country of origin for this TVPROGRAM. @ID Carries the ID for this value.
CONTRIBUTOR	See the AV_WORK / TVPROGRAM Associated Contributor Data table below	Contributors featured in this TVPROGRAM.

AV_WORK	GN_ID	GN_ID of the AV_WORK associated with this TVPROGRAM.
SERIES	GN_ID	GN_ID of the SERIES associated with this TVPROGRAM.

TVAIRING Values

Value	Sub-Values	Description
@GN_ID		GN_ID of the program being aired. This should match a TVPROGRAM provided in this same batch. **This field is only present in single-channel schedule batches, where the channel id is implied by which batch was requested.** **For TVLISTINGS platform batches, see below.**
@START		The time and date (in UTC) when the content element will start.
@END		The time and date (in UTC) when the content element will end.
RATING	@SYSTEM @CODE	The rating system and code of the airing.
EPGAUDIO_TYPE	@ID	
EPGCAPTION_TYPE	@ID	
EPGVIEWING_TYPE	@ID	
EPGVIDEO_TYPE	@ID	

Additional TVAIRING values present only in **TVLISTINGS platform batches**:

Value	Description
@TVPROGRAM_GN_ID	GN_ID of the program being aired. This should match a TVPROGRAM provided in this same batch.
@TVCHANNEL_GN_ID	GN_ID of the channel this airing is associated with.

TVPROVIDER Batch Data

Contains a list of all TVPROVIDERs in the system and the channel lineup each provides.

Value	Description	
TVGRIDBATCH	The batch object	
BATCH_TYPE	TVPROVIDER_REGION-APAC	Returns TV providers for countries in Asia and Pacific, including Australia and New Zealand.
	TVPROVIDER_REGION-EU	Returns TV providers for European countries, including Russia.
	TVPROVIDER_REGION-JP	Returns TV providers for Japan.
	TVPROVIDER_REGION-NA	Returns TV providers for North America, including USA, Canada, and Central America.
	TVPROVIDER_REGION-SA	Returns TV providers for South America, including Brazil and Argentina.
UPDATE_INST	The update instructions: MUST_RELOAD, APPLY_CHANGES, NO_CHANGE	

STAMP	The time stamp of the batch.

Value	Sub-Value	Description
GRIDCHANGE	@TYPE	The type of grid change, UPDATE_TVPROVIDER

TVPROVIDER Values

Value	Sub-Value	Description
TVPROVIDER		The TV Provider node
GN_ID		The Gracenote identifier to the TV channel automatically recognized using existing channel signal data.
NAME		The TV Provider name
PROVIDERTYPE		The transmission type of the provider: CAB (cable), SAT (satellite), or DBC (digital broadcast)
CALLSIGN		The TV Channel call sign. These are channel names suitable for matching channels in this batch against service names provided in the channel's stream.
COUNTRY		The country of the TV Provider. Three-letter ISO country code for the country this channel broadcasts in, such as USA, DEU, and so on.
EDITORIALLANG		The language used for editorial content.
PLACE		The geographical location of this television provider.
POSTAL_CODE		For North America and Canada only. The postal codes where the provider is available. A single POSTAL_CODE tag can contain multiple, comma-separated postal code values. Additionally there may be multiple POSTAL_CODE tags for a provider.
TVREGION		One or more region IDs can be returned in with each TVPROVIDER batch file. Multiple values are comma-separated. TVREGION nodes are provided for any territory other than North America and Canada.
TVLINEUP		The TV Lineup node. This contains a list of the channels in the lineup.
CHANNEL_LOCATOR	@TYPE @TVCHANNEL_GN_ID	A channel in the lineup. TYPE is one of the values of PROVIDERTYPE above. TVCHANNEL_GN_ID is a channel ID that refers to a channel in the TVSETUP batch file.
CHANNEL_NUM		The TV channel number the provider assigns to the channel.

TVPROVIDER Batch Data Example for North America

```
<TVGRIDBATCH>
    <BATCH_TYPE>TVPROVIDER_REGION-NA</BATCH_TYPE>
    <UPDATE_INST>MUST_RELOAD</UPDATE_INST>
    <STAMP>1000030182</STAMP>
    <GRIDCHANGE TYPE="UPDATE_TVPROVIDER">
        <TVPROVIDER>
            <GN_ID>a_gracenote_id</GN_ID>
            <NAME>Comcast Contra Costa</NAME>
            <PROVIDERTYPE>CAB</PROVIDERTYPE>
            <COUNTRY>USA</COUNTRY>
            <PLACE>Pleasant Hill</PLACE>
```

```
        <!-- A list of all the postal codes where this provider is available. -->

        <POSTAL_CODE>90720,94506,94507</POSTAL_CODE>
        <POSTAL_CODE>94508,94509</POSTAL_CODE>
        <POSTAL_CODE>94510</POSTAL_CODE>
        ...
        <TVLINEUP>

          <!-- A list of all the channels in the lineup. -->

          <CHANNEL_LOCATOR TYPE="CAB" TVCHANNEL_GN_ID="a_gracenote_id">
             <CHANNEL_NUM>002</CHANNEL_NUM>
          </CHANNEL_LOCATOR>
          <CHANNEL_LOCATOR TYPE="CAB" TVCHANNEL_GN_ID="a_gracenote_id">
             <CHANNEL_NUM>003</CHANNEL_NUM>
          </CHANNEL_LOCATOR>
          <CHANNEL_LOCATOR TYPE="CAB" TVCHANNEL_GN_ID="a_gracenote_id">
             <CHANNEL_NUM>004</CHANNEL_NUM>
          </CHANNEL_LOCATOR>
          ...
        </TVLINEUP>
    </TVPROVIDER>
    <TVPROVIDER>
        <GN_ID>a_gracenote_id</GN_ID>
        <NAME>Local Over the Air Broadcast</NAME>
        <PROVIDERTYPE>DBC</PROVIDERTYPE>
        <COUNTRY>USA</COUNTRY>
        <POSTAL_CODE>17088</POSTAL_CODE>
        <TVLINEUP>
          <CHANNEL_LOCATOR TYPE="DBC" TVCHANNEL_GN_ID="a_gracenote_id">
             <CHANNEL_NUM>10.1</CHANNEL_NUM>
          </CHANNEL_LOCATOR>
          <CHANNEL_LOCATOR TYPE="DBC" TVCHANNEL_GN_ID="a_gracenote_id">
             <CHANNEL_NUM>10.2</CHANNEL_NUM>
          </CHANNEL_LOCATOR>
          <CHANNEL_LOCATOR TYPE="DBC" TVCHANNEL_GN_ID="a_gracenote_id">
             <CHANNEL_NUM>10.3</CHANNEL_NUM>
          </CHANNEL_LOCATOR>
          ...
        </TVLINEUP>
    </TVPROVIDER>
    <TVPROVIDER>
        <GN_ID>a_gracenote_id</GN_ID>
        <NAME>DIRECTV San Francisco</NAME>
        <PROVIDERTYPE>SAT</PROVIDERTYPE>
        <COUNTRY>USA</COUNTRY>
        <PLACE>San Francisco</PLACE>
        <POSTAL_CODE>94002,94005,94010</POSTAL_CODE>
        ...
        <TVLINEUP>
          <CHANNEL_LOCATOR TYPE="SAT" TVCHANNEL_GN_ID="a_gracenote_id">
             <CHANNEL_NUM>001</CHANNEL_NUM>
          </CHANNEL_LOCATOR>
          <CHANNEL_LOCATOR TYPE="SAT" TVCHANNEL_GN_ID="a_gracenote_id">
             <CHANNEL_NUM>002</CHANNEL_NUM>
          </CHANNEL_LOCATOR>
```

```
        <CHANNEL_LOCATOR TYPE="SAT" TVCHANNEL_GN_ID="a_gracenote_id">
            <CHANNEL_NUM>002</CHANNEL_NUM>
        </CHANNEL_LOCATOR>
        ...
    </TVLINEUP>
</TVPROVIDER>
```

TVPROVIDER Batch Data Example for Europe

```
<TVGRIDBATCH>
    <BATCH_TYPE>TVPROVIDER_REGION-EU</BATCH_TYPE>
    <UPDATE_INST>MUST_RELOAD</UPDATE_INST>
    <STAMP>1000030182</STAMP>
    <GRIDCHANGE TYPE="UPDATE_TVPROVIDER">
    <TVPROVIDER>
      <GN_ID>gn_id_string</GN_ID>
       <NAME>1</NAME>
       <PROVIDERTYPE>CAB</PROVIDERTYPE>
       <COUNTRY>GBR</COUNTRY>
       <TVREGION>12345</TVREGION>
         <TVLINEUP>
           <CHANNEL_LOCATOR TVCHANNEL_GN_ID=" gn_id_string ">
             <CHANNEL_NUM>1</CHANNEL_NUM>
           </CHANNEL_LOCATOR>
             …
           </TVLINEUP>
    </TVPROVIDER>
...
```

TVSETUP Batch Data

Contains a list of all TVCHANNELs in the system, ordered by ID.

Value	Description		
TVGRIDBATCH	The batch object		
BATCH_TYPE		TVSETUP_REGION-APAC	Returns channel data for countries in Asia and Pacific, including Australia and New Zealand.
		TVSETUP_REGION-EU	Returns channel data for European countries, including Russia.
		TVSETUP_REGION-JP	Returns channel data for Japan.
		TVSETUP_REGION-NA	Returns channel data for North America, including USA, Canada, and Central America.
		TVSETUP_REGION-SA	Returns channel data for South America, including Brazil and Argentina.
UPDATE_INST	The update instructions: MUST_RELOAD, APPLY_CHANGES, NO_CHANGE		
STAMP	The time stamp of the batch.		

Value	Sub-Value	Description
GRIDCHANGE	@TYPE	The type of grid change, UPDATE_TVCHANNEL

TVCHANNEL Values

Value	Sub-Value	Description
TVCHANNEL		The TV Channel node
GN_ID		The Gracenote identifier to the TV channel automatically recognized using existing channel signal data.
NAME		The TV Channel name
NAME_SHORT		The TV Channel short name
CALLSIGN		The TV Channel call sign. These are channel names suitable for matching channels in this batch against service names provided in the channel's stream.
COUNTRY		The country of the TV Channel. Three-letter ISO country code for the country this channel broadcasts in, such as USA, DEU, and so on.
EDITORIALLANG		The language used for editorial content.
DVBIDS	@TYPE	Only for European data. The digital video broadcast ID (DVBID) triplet type: T (Terrestrial), C (Cable), S (Satellite), or none for no type value. A DVB triplet has the format dvb://aaa.bbb.ccc, ONID.TSID.SID
ONID		The Original network ID (the first number).
TSID		The Transport stream ID (the second number).
TRANSPORTIDS	@SYSTEM @SUBSYSTEM	Used for other types of digital television broadcast standards. This is generically defined to support additional systems that may have different formats, for example, quad-lets instead of triplets. SYSTEM is the broadcast system type: • ISDB-J for Japan • ISDB for Brazil SUBSYSTEM is the broadcast type: T (Terrestrial), C (Cable), S (Satellite).
TRANSPORTID	@TYPE	The ID(s) that define the channel. TYPE is the type of the ID (such as ONID, TSID, SID).
CHANNEL_LOCATOR		Additional data that may used to describe a channel.
CHANNEL_NUM		For ISDB-J, the channel number displayed on the screen.
ORDINAL		For ISDB-J, the order the channel should be displayed when doing a "channel up" or "channel down" on the remote.
LOCATION	@TYPE	Location specific information. TYPE is the location identifier. For ISDB-J, TYPE is ARIB and the value is the ARIB region ID.
SID		The Service ID (the third number).
RANK		Relative importance of the channel. Value is 0 (low importance) to 1,000,000,000 (high importance.) ⚠️ **Important** The rank for a channel can change. Do not hard code rank values into your application assuming that they will remain constant. For guidelines about using RANK, see the *eyeQ Bundle Implementation Guide*.

TVSETUP Batch Data Example

To filter out channels that have no listings, ignore any channels that contain the element LISTINGS_AVAILABLE. This element is included in the response only when the TV channel has no listings.

```
<TVGRIDBATCH>
    <BATCH_TYPE>TVSETUP_REGION-NA</BATCH_TYPE>
    <UPDATE_INST>MUST_RELOAD</UPDATE_INST>
    <STAMP>12345</STAMP>
    <GRIDCHANGE TYPE="UPDATE_TVCHANNEL">

       <!-- A list of all TVCHANNELs in the system, ordered by ID -->

       <TVCHANNEL>
           <GN_ID>a_gracenote_id</GN_ID>
           <NAME>13ème RUE</NAME>
           <NAME_SHORT>13èmeRU</NAME_SHORT>
           <CALLSIGN>13 eme HD</CALLSIGN>
           <CALLSIGN>13 eme H.D.</CALLSIGN>
           <CALLSIGN>13 eme</CALLSIGN>
           <COUNTRY>FRA</COUNTRY>
           <EDITORIALLANG>FRE<EDITORIALLANG>
           <DVBIDS TYPE="C">
               <ONID>1</ONID>
               <TSID>1100</TSID>
               <SID>8703</SID>
           </DVBIDS>
           <RANK>800000000</RANK>
       </TVCHANNEL>
       <TVCHANNEL>
           <GN_ID>a_gracenote_id</GN_ID>
           <NAME>Silver</NAME>
           <NAME_SHORT>Silver</NAME_SHORT>
           <COUNTRY>DEU</COUNTRY>
           <EDITORIALLANG>GER<EDITORIALLANG>
           <DVBIDS TYPE="T">
               <ONID>70</ONID>
               <TSID>33</TSID>
               <SID>3313</SID>
           </DVBIDS>
           <LISTINGS_AVAILABLE>N</LISTINGS_AVAILABLE>        <!-- This element is included only when the TV
channel has no listings.-->
           <RANK>800000000</RANK>
       </TVCHANNEL>
       ...
    </GRIDCHANGE>
</TVGRIDBATCH>
```

TVSETUP IMAGEURL Batch Data

Contains a list of all TVCHANNELs in the system that have images, ordered by ID.

The default TV channel image size is 110 x 50 (SIZE="110"). Larger images, 220x100 (SIZE="220"), are also returned if they are available.

Value	Description		
TVGRIDBATCH	The batch object		
BATCH_TYPE	TVSETUP_REGION-APAC_IMAGEURL	Returns channel images for countries in Asia and Pacific, including Australia and New Zealand.	
	TVSETUP_REGION-EU_IMAGEURL	Returns channel images for European countries, including Russia.	
	TVSETUP_REGION-JP_IMAGEURL	Returns channel images for Japan.	
	TVSETUP_REGION-NA_IMAGEURL	Returns channel images for North America, including USA, Canada, and Central America.	
	TVSETUP_REGION-SA_IMAGEURL	Returns channel images for for South America, including Brazil and Argentina.	
UPDATE_INST	The update instructions: MUST_RELOAD, APPLY_CHANGES, NO_CHANGE		
STAMP	A time stamp of the batch		
EXPIRATION	The expiration date of the batch, such as 2011-11-27T05:00. This is currently seven days after batch creation time.		

TVCHANNEL Values

Value	Sub-Value	Description
GRIDCHANGE	@TYPE	The kind of grid change, UPDATE_TVCHANNEL

Value	Sub-Value	Description
TVCHANNEL		The TV channel node.
GN_ID		The Gracenote identifier of the TV Channel
URLGROUP	@TYPE	The kind of URLs in the group, such as IMAGE
URL	@TYPE @SIZE	A temporary URL for the image. TYPE is IMAGE. SIZE is 110 (110x50).
URL	@TYPE @SIZE	A temporary URL for the image. TYPE is IMAGE. SIZE is 220 (220x100). This URL is returned only if the image is available in this size.

TVSETUP IMAGEURL Batch Data Example

The default TV channel image size is 110 x 50 (SIZE="110"). Larger images, 220x100 (SIZE="220"), are also returned, but only if they are available.<TVGRIDBATCH>
<BATCH_TYPE>TVSETUP_REGION-NA_IMAGEURL</BATCH_TYPE>
<UPDATE_INST>MUST_RELOAD</UPDATE_INST>
<STAMP>12345</STAMP>
<EXPIRATION>2011-11-27T05:00</EXPIRATION> <!-- Seven days after batch creation time -->
<GRIDCHANGE TYPE="UPDATE_TVCHANNEL">

<!-- A list of all TVCHANNELs in the system *that have images*, ordered by ID -->
<TVCHANNEL>
<GN_ID>a_gracenote_id</GN_ID>

```
<URLGROUP TYPE="IMAGE">
<URL TYPE="IMAGE" SIZE="110">a_temporary_url</URL>
<URL TYPE="IMAGE" SIZE="220">a_temporary_url</URL>
</URLGROUP>
<TVCHANNEL>
<GN_ID>a_gracenote_id</GN_ID>
<URLGROUP TYPE="IMAGE">
<URL TYPE="IMAGE" SIZE="110">a_temporary_url</URL>
<!-- Image size 220 is not available, so second URL is not returned. -->
</URLGROUP>
</TVCHANNEL>
...
</GRIDCHANGE>
</TVGRIDBATCH>
```

TVLISTINGS Batch Data

Value	Description		
TVGRIDBATCH	The batch object		
BATCH_TYPE	TVLISTINGS_REGION-APAC	Returns TV listings for countries in Asia and Pacific, including Australia and New Zealand.	
	TVLISTINGS_REGION-EU	Returns TV listings for European countries, including Russia.	
	TVLISTINGS_REGION-JP	Returns TV listings for Japan.	
	TVLISTINGS_REGION-NA	Returns TV listings for North America, including USA, Canada, and Central America.	
	TVLISTINGS_REGION-SA	Returns TV listings for South America, including Brazil and Argentina.	
UPDATE_INST	The update instructions: MUST_RELOAD, APPLY_CHANGES, NO_CHANGE		
STAMP	The time stamp of the batch.		

Value	Sub-Value	Description
GRIDCHANGE	@TYPE	The type of grid change, UPDATE_TVPROGRAM

TVPROGRAM Values

Value	Sub-Value	Description	
TVPROGRAM		The TV Program node	
GN_ID		A Gracenote identifier of the TV Program	
TITLE	@LANG	The title of the AV Work. The LANG attribute is the language of the TV program. If the language is unavailable, Gracenote omits this attribute from the response.	
TITLE_ORIGINAL		The original TV Program title.	

TITLE_SUB		The subtitle of an AV Work, or episode title of a TV Series.
LISTING		How the TV Program is listed, such as USA 2010, Science fiction
SYNOPSIS	@LANG	The synopsis of the AV Work. The LANG attribute is the language of the TV program. If the language is unavailable, Gracenote omits this attribute from the response.
DATE	@TYPE	Date for the TV Program. The TYPE attribute indicates the kind of date, such as PRODUCTIONEND.

AV_WORK Values

Value	Sub-Value	Description
AV_WORK		The AV Work node
GN_ID		The Gracenote identifier of the AV Work
SERIES		The Series node
GN_ID		The Gracenote identifier of the Series
EPISODE_NUM	@COUNT	The episode number of a series. COUNT is the total number of episodes for the Season.
SEASON_NUM		The Season number for the Series
CONTRIBUTOR	@RANK	The rank of the Contributor based on order in credits list
NAME		The Contributor name.
GN_ID		The Gracenote identifier of the Contributor

CONTRIBUTOR Values

Value	Sub-Value	Description
CONTRIBUTION		The Contribution node
CONTRIBUTION_TYPE	@MEDIASPACE @ID	The kind of contribution to the AV Work, such as Actor, Director, and so on. MEDIASPACE is the kind of media, such as VIDEO. ID is the Gracenote identifier for the contribution type.
CHARACTER		The name of the character portrayed by the Contributor.
EPGPRODUCTION_TYPE	@ID	The kind of EPG production, such as Movie. ID is the Gracenote identifier of the production type.
ORIGIN	@ID	The place where the AV Work originated, such as the United States. ID is the Gracenote identifier of the place of origin.
IPGCATEGORY		The Interactive Programming Guide (IPG) category node
IPGCATEGORY_L1	@ID	The Gracenote IPG Level 1 category, such as Movie, TV Series, News, and so on. ID is the Gracenote identifier for the category.
IPGCATEGORY_L2	@ID	The Gracenote IPG Level 2 category, such as Action, Adventure, Comedy, and so on. ID is the Gracenote identifier for the category.
RANK		The rank of the AV Work.
GROUPREF		The group reference of the AV Work.

TVAIRING Values

Value	Sub-Value	Description
GRIDCHANGE	@TYPE	The kind of grid change, ADD_TVAIRING. This returns a list of all TV airings for all channels, ordered by channel ID, then by start time.

Value	Sub-Value	Description
TVAIRING	@TVCHANNEL_GN_ID @TVPROGRAM_GN_ID @START @END	TVCHANNEL_GN_ID is the Gracenote identifier of the TV Channel. TVPROGRAM_GN_ID is the Gracenote identifier of the TV Channel. START is the start time of the airing, such as 2011-09-06T00:00. END is the end time of the airing, such as 2011-09-06T01:00.
RATING		The rating node
SYSTEM		The rating system used for this airing, such as FCC-TVPG (USA)
CODE		The rating code, such as TV-PG
EPGAUDIO_TYPE	@ID	The Gracenote identifier of the Electronic Programming Guide (EPG) audio type
EPGVIDEO_TYPE	@ID	The Gracenote identifier of the Electronic Programming Guide (EPG) video type
EPGCAPTION_TYPE	@ID	The Gracenote identifier of the Electronic Programming Guide (EPG) caption type

TVLISTINGS Batch Data Example

```
<TVGRIDBATCH>
    <BATCH_TYPE>TVLISTINGS_REGION-NA</BATCH_TYPE>
    <UPDATE_INST>MUST_RELOAD</UPDATE_INST>
    <STAMP>12345</STAMP>
    <GRIDCHANGE TYPE="UPDATE_TVPROGRAM">

        <!-- A list of all TVPROGRAMs in the system, ordered by ID -->

        <TVPROGRAM>
            <GN_ID>a_gracenote_id</GN_ID>
            <TITLE LANG="ger">faszination musik</TITLE>
            <LISTING>Live-Sendung</LISTING>
            <SYNOPSIS LANG="ger">Ludwig van Beethoven: "Allegretto" aus 7. Sinfonie.
                Beethoven: "Allegretto" aus 7.</SYNOPSIS>
            <CONTRIBUTOR RANK="1">
                <NAME>SWR Sinfonieorchester Baden-Baden</NAME>
            </CONTRIBUTOR>
            <CONTRIBUTOR RANK="2">
                <NAME>Freiburg</NAME>
            </CONTRIBUTOR>
            <CONTRIBUTOR RANK="3">
                <NAME>Michael Gielen</NAME>
            </CONTRIBUTOR>
            <EPGPRODUCTION_TYPE ID="a_gracenote_id">Live Events</EPGPRODUCTION_TYPE>
            <IPGCATEGORY>
                <IPGCATEGORY_L1 ID="a_gracenote_id">Music</IPGCATEGORY_L1>
                <IPGCATEGORY_L2 ID="a_gracenote_id">Classical</IPGCATEGORY_L2>
            </IPGCATEGORY>
            <RANK>422000000</RANK>
            <GROUPREF>239608</GROUPREF>
        </TVPROGRAM>
```

```
      <TVPROGRAM>
         <GN_ID>a_gracenote_id</GN_ID>
         <TITLE LANG="eng">Traffic Cops Special: On the Loose</TITLE>
         <LISTING>Documentary</LISTING>
         <SYNOPSIS LANG="eng">South Yorkshire police crack down on dangerous trucks used by gangmasters,
                              but get an unexpected result when they apprehend asylum
                              seekers working on nearby farms
         </SYNOPSIS>
         <EPGPRODUCTION_TYPE ID="68040">Documentary</EPGPRODUCTION_TYPE>
         <IPGCATEGORY>
            <IPGCATEGORY_L1 ID="a_gracenote_id">TV Series</IPGCATEGORY_L1>
            <IPGCATEGORY_L2 ID="a_gracenote_id">Documentary</IPGCATEGORY_L2>
         </IPGCATEGORY>
         <RANK>468000000</RANK>
         <GROUPREF>690032</GROUPREF>
         <URLGROUP TYPE="IMAGE">
            <URL TYPE="IMAGE" SIZE="MEDIUM">a_temporary_url</URL>
            <URL TYPE="IMAGE" SIZE="SMALL">a_temporary_url</URL>
            <URL TYPE="IMAGE" SIZE="THUMBNAIL">a_temporary_url</URL>
         </URLGROUP>
      </TVPROGRAM>
      <TVPROGRAM>
         ...
      </TVPROGRAM>
      ...
   </GRIDCHANGE>

   <GRIDCHANGE TYPE="ADD_TVAIRING">

      <!-- A list of all TV airings for all channels, ordered by channel ID, then by start time. -->

      <TVAIRING TVCHANNEL_GN_ID=a_gracenote_id" TVPROGRAM_GN_ID=a_gracenote_id" START="2011-09-06T00:00"
END="2011-09-06T01:00">
         <EPGAUDIO_TYPE ID="68004"/>
         <EPGAUDIO_TYPE ID="68011"/>
         <EPGVIDEO_TYPE ID="68013"/>
         <EPGCAPTION_TYPE ID="68024"/>
         <EPGVIDEO_TYPE ID="68020"/>
      </TVAIRING>
      <TVAIRING TVCHANNEL_GN_ID="a_gracenote_id" TVPROGRAM_GN_ID="a_gracenote_id" START="2011-09-06T01:00"
END="2011-09-06T01:30">
         <EPGAUDIO_TYPE ID="68004"/>
         <EPGAUDIO_TYPE ID="68011"/>
         <EPGVIDEO_TYPE ID="68013"/>
         <EPGCAPTION_TYPE ID="68024"/>
         <EPGVIDEO_TYPE ID="68020"/>
      </TVAIRING>
      <TVAIRING TVCHANNEL_GN_ID="a_gracenote_id" TVPROGRAM_GN_ID="a_gracenote_id" START="2011-09-06T01:30"
END="2011-09-06T02:00">
         <EPGAUDIO_TYPE ID="68004"/>
         <EPGVIDEO_TYPE ID="68013"/>
         <EPGCAPTION_TYPE ID="68024"/>
         <EPGVIDEO_TYPE ID="68020"/>
      </TVAIRING>
      <TVAIRING TVCHANNEL_GN_ID="a_gracenote_id" TVPROGRAM_GN_ID="a_gracenote_id" START="2011-09-06T02:00"
END="2011-09-06T02:30">
         <RATING>
```

```
            <SYSTEM>FCC-TVPG (USA)</SYSTEM>
            <CODE>TV-PG</CODE>
        </RATING>
        <EPGAUDIO_TYPE ID="68004"/>
        <EPGVIDEO_TYPE ID="68013"/>
        <EPGCAPTION_TYPE ID="68024"/>
        <EPGVIDEO_TYPE ID="68020"/>
    </TVAIRING>
  </GRIDCHANGE>
 </TVGRIDBATCH>
```

TVLISTINGS IMAGEURL Batch Data

Contains a list of all TVPROGRAMs in the system that have images, ordered by ID.

Value	Description	
TVGRIDBATCH	The batch object	
BATCH_TYPE	TVLISTINGS_REGION-APAC_IMAGEURL	Returns TV listing images for countries in Asia and Pacific, including Australia and New Zealand.
	TVLISTINGS_REGION-EU_IMAGEURL	Returns TV listing images for European countries, including Russia.
	TVLISTINGS_REGION-JP_IMAGEURL	Returns TV listing images for Japan.
	TVLISTINGS_REGION-NA_IMAGEURL	Returns TV listing images for North America, including USA, Canada, and Central America.
	TVLISTINGS_REGION-SA_IMAGEURL	Returns TV listing images for for South America, including Brazil and Argentina.
UPDATE_INST	The update instructions: MUST_RELOAD, APPLY_CHANGES, NO_CHANGE	
STAMP	The time stamp of the batch.	
EXPIRATION	Expiration date of the batch, such as 2011-11-27T05:00. This is currently seven days after batch creation time.	

TVPROGRAM Values

Value	Sub-Value	Description
GRIDCHANGE	@TYPE	The kind of grid change, UPDATE_TVPROGRAM

Value	Sub-Value	Description
TVPROGRAM		The TV Program node.
GN_ID		The Gracenote identifier of the TV Program
URLGROUP	@TYPE	The kind of URLs in the group, such as IMAGE
URL	@TYPE @SIZE	A temporary URL for the image. TYPE is IMAGE. SIZE can be THUMBNAIL (75x75), SMALL (170x170), MEDIUM (450x450), LARGE (720x720), or XLARGE (1080x1080)

TVLISTINGS IMAGEURL Batch Data Example

Values for the image SIZE attribute are: THUMBNAIL, SMALL, MEDIUM, LARGE, XLARGE. The default size is MEDIUM.

SIZE Value	Image Size
THUMBNAIL	75x75
SMALL	170x170
MEDIUM	450x450
LARGE	720x720
XLARGE	1080x1080

```
<TVGRIDBATCH>
    <BATCH_TYPE>TVLISTINGS_REGION-NA_IMAGEURL</BATCH_TYPE>
    <UPDATE_INST>MUST_RELOAD</UPDATE_INST>
    <STAMP>12345</STAMP>
    <EXPIRATION>2011-11-27T05:00</EXPIRATION>        <!-- Seven days after batch creation time -->
    <GRIDCHANGE TYPE="UPDATE_TVPROGRAM">
        <!-- A list of all TVPROGRAMs in the system *that have images*, ordered by ID -->
        <TVPROGRAM>
            <GN_ID>a_gracenote_id</GN_ID>
            <URLGROUP TYPE="IMAGE">
                <URL TYPE="IMAGE" SIZE="XLARGE">>a_temporary_url</URL>
                <URL TYPE="IMAGE" SIZE="LARGE">>a_temporary_url</URL>
                <URL TYPE="IMAGE" SIZE="MEDIUM">>a_temporary_url</URL>
                <URL TYPE="IMAGE" SIZE="SMALL">>a_temporary_url</URL>
                <URL TYPE="IMAGE" SIZE="THUMBNAIL">>a_temporary_url</URL>
            </URLGROUP>
        </TVPROGRAM>
        <TVPROGRAM>
            ...
        </TVPROGRAM>
        ...
    </GRIDCHANGE>
</TVGRIDBATCH>
```

TVRECOMMENDATIONS Batch Data

Contains all recommendations based on TV programs, AV Works, and Series.

Value	Description	
TVGRIDBATCH	The batch object	
BATCH_TYPE	TVRECOMMENDATIONS_ALL	Returns recommendations for all supported countries and regions.
	TVRECOMMENDATIONS_EU	Returns recommendations for Europe, and all other supported countries and regions, except North America.
UPDATE_INST	The update instructions: MUST_RELOAD, APPLY_CHANGES, NO_CHANGE	

STAMP	The time stamp of the batch.

Value	Sub-Value	Description
GRIDCHANGE	@TYPE	The grid change type, UPDATE_RECOMMENDATION

Recommendations based on a TVPROGRAM

Value	Sub-Value	Description
RECOMMENDATION	@TYPE @GN_ID	The Recommentation node. TYPE is TVPROGRAM, indicating the recommendations are based on a TV program. GN_ID is the Gracenote identifier of the TV program.

Recommended TVPROGRAM Values

TVPROGRAM	ORD	The recommended TVPROGRAM node. ORD is the order of this TV Program in the list of recommended TV Programs.
GN_ID		The Gracenote identifier of the recommended TV program.

Recommended AV_WORK Values

AV_WORK	ORD	The recommended AV_WORK node. ORD is the order of this AV Work in the list of recommended AV Works.
GN_ID		The Gracenote identifier of the recommended AV Work.

Recommended SERIES Values

SERIES	ORD	The recommended SERIES node. ORD is the order of this Series in the list of recommended Series.
GN_ID		The Gracenote identifier of the recommended Series.

Recommendations based on an AV_WORK

Value	Sub-Value	Description
RECOMMENDATION	@TYPE @GN_ID	The recommendation node. TYPE is AV_WORK, indicating the recommendations are based on an AV Work . GN_ID is the Gracenote identifier of the AV Work.
TVPROGRAM	ORD	The recommended TVPROGRAM node. ORD is the order of this TV Program in the list of recommended TV Programs.

Recommended AV_WORK Values

AV_WORK	ORD	The recommended AV_WORK node. ORD is the order of this AV Work in the list of recommended AV Works.
GN_ID		The Gracenote identifier of the recommended AV Work.

Recommended SERIES Values

SERIES	ORD	The recommended SERIES node. ORD is the order of this Series in the list of recommended Series.
GN_ID		The Gracenote identifier of the recommended Series.

Recommendations based on a SERIES

Value	Sub-Value	Description
RECOMMENDATION	@TYPE @GN_ID	TYPE is SERIES, indicating the recommendations are based on an Series. GN_ID is the Gracenote identifier of the Series.
TVPROGRAM	ORD	The recommended TVPROGRAM node. ORD is the order of this TV Program in the list of recommended TV Programs.

Recommended AV_WORK Values

AV_WORK	ORD	The recommended AV_WORK node. ORD is the order of this AV Work in the list of recommended AV Works.
GN_ID		The Gracenote identifier of the recommended AV Work.

Recommended SERIES Values

SERIES	ORD	The recommended SERIES node. ORD is the order of this Series in the list of recommended Series.
GN_ID		The Gracenote identifier of the recommended Series.

TVRECOMMENDATIONS Batch Data Example

```
<TVGRIDBATCH>
    <BATCH_TYPE>TVRECOMMENDATIONS_ALL</BATCH_TYPE>
    <UPDATE_INST>MUST_RELOAD</UPDATE_INST>
    <STAMP>12345</STAMP>
    <GRIDCHANGE TYPE="UPDATE_RECOMMENDATION">

        <!-- All recommendations for a TVPROGRAM -->
        <RECOMMENDATION TYPE="TVPROGRAM" GN_ID="a_gracenote_id">
            <!-- Recommended TVPROGRAMs -->
            <TVPROGRAM ORD="1">
                <GN_ID>a_gracenote_id</GN_ID>
            </TVPROGRAM>
            <TVPROGRAM ORD="2">
                <GN_ID>a_gracenote_id</GN_ID>
            </TVPROGRAM>
            <!-- Recommended AV_WORKs -->
            <AV_WORK ORD="1">
                <GN_ID>a_gracenote_id</GN_ID>
            </AV_WORK>
            <AV_WORK ORD="2">
                <GN_ID>a_gracenote_id</GN_ID>
            </AV_WORK>
            <SERIES ORD="1">
                <GN_ID>a_gracenote_id</GN_ID>
            </SERIES>
            <SERIES ORD="2">
                <GN_ID>a_gracenote_id</GN_ID>
            </SERIES>
        </RECOMMENDATION>

        <!-- All recommendations for an AV_WORK -->
        <RECOMMENDATION TYPE="AV_WORK" GN_ID="a_gracenote_id">
```

```xml
        <!-- Recommended AV_WORKs -->
        <AV_WORK ORD="1">
            <GN_ID>a_gracenote_id</GN_ID>
        </AV_WORK>
        <AV_WORK ORD="2">
            <GN_ID>a_gracenote_id</GN_ID>
        </AV_WORK>
        <SERIES ORD="1">
            <GN_ID>a_gracenote_id</GN_ID>
        </SERIES>
        <!-- Recommended TVPROGRAMs -->
        <TVPROGRAM ORD="1">
            <GN_ID>a_gracenote_id</GN_ID>
        </TVPROGRAM>
        <TVPROGRAM ORD="2">
            <GN_ID>a_gracenote_id</GN_ID>
        </TVPROGRAM>
    </RECOMMENDATION>

    <!-- All recommendations for a SERIES -->
    <RECOMMENDATION TYPE="SERIES" GN_ID="a_gracenote_id">
        <!-- Recommended AV_WORKs -->
        <AV_WORK ORD="1">
            <GN_ID>a_gracenote_id</GN_ID>
        </AV_WORK>
        <AV_WORK ORD="2">
            <GN_ID>a_gracenote_id</GN_ID>
        </AV_WORK>
        <SERIES ORD="1">
            <GN_ID>a_gracenote_id</GN_ID>
        </SERIES>
        <!-- Recommended TVPROGRAMs -->
        <TVPROGRAM ORD="1">
            <GN_ID>a_gracenote_id</GN_ID>
        </TVPROGRAM>
        <TVPROGRAM ORD="2">
            <GN_ID>a_gracenote_id</GN_ID>
        </TVPROGRAM>
    </RECOMMENDATION>
  </GRIDCHANGE>
</TVGRIDBATCH>
```