



ATSC

ADVANCED TELEVISION
SYSTEMS COMMITTEE

ATSC Standard: A/344:2019 Amendment No. 9, Service Guide

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Advanced Television Systems Committee
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Revision History

Version	Date
Amendment approved	31 January 2020

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1. OVERVIEW

1.1 Definition

An Amendment is generated to document an enhancement, an addition or a deletion of functionality to previously agreed technical provisions in an existing ATSC document. Amendments shall be published as attachments to the original ATSC document. Distribution by ATSC of existing documents shall include any approved Amendments.

1.2 Scope

This document extends the Query Service Guide API to add a service ID filter and to provide additional linkage information in the response.

1.3 Rationale for Changes

The existing Query Service Guide API currently returns a complete list of fragments (which could be large) and without sufficient linkage information to make proper use of the fragments without undue processing.

1.4 Compatibility Considerations

This amendment is backwards compatible since the changes are the addition of a new optional field. (Existing) receiver implementations need not support the new field. Additionally, when supported by a Receiver, existing Broadcaster Applications are expected to ignore items that they do not understand per the provisions of Section 9.1: *“The Broadcaster Application is expected to gracefully ignore unknown keys and unknown values for existing keys, including unknown enumeration values.”*

2. LIST OF CHANGES

Change instructions are given below in *italics*. Unless otherwise noted, inserted text, tables, and drawings are shown in **red (due to text coloring in base document)**; deletions of existing text are shown in **red-strikeout**. The text “[ref]” or **yellow highlighted red** indicates that a cross reference to a cited referenced document or section should be inserted.

A/344 maintains a “revision log” of its included APIs from revision to revision by listing the changes in Table 9.1. In addition, each revision includes an Annex which captures the API from the previous edition in unchanged form. By maintaining the previous API definition in the document, implementers may look at the history of each API. When this amendment is finally rolled into the main revision document, Table 9.1 will need to be updated and the original text of the API modified below may be copied into the Annex for the revision.

2.1 Informative References

Add informative reference as follows:

[x] ATSC: “ATSC Recommended Practice: Techniques for Signaling, Delivery and Synchronization,” Doc. A/351:2019, Advanced Television Systems Committee, August 2019.

Revise Section 9.2.10 as follows:

9.2.10 Query Service Guide URLs API

The Broadcaster Application may wish to access the various service guide data structures provided in the current broadcast. The Query Service Guide URLs API returns a list of URLs the Broadcaster Application can use to retrieve (for example, by XHR) the specific service guide data structures provided in the broadcast.

The Query Service Guide URLs API shall be defined as follows:

method: "org.atsc.query.serviceGuideUrls"

params: ~~Omitted~~ A JSON object consisting of an optional key named `service`.

params JSON Schema:

```
{
  "type": "object",
  "properties": {
    "service": { "type": "string", "format": "url" }
  }
}
```

`service` – The optional `service` field as defined in the Query Service ID API in Section 9.2.3. When omitted, all service guide fragments are returned for all services. When present, only those fragments related to the provided service are returned.

Response:

result: a JSON object containing a list of references as defined below.

result JSON Schema:

```
{
  "type": "object",
  "properties": {
    "urlList": {
      "type": "array", "items": { "type": "object",
        "properties": {
          "sgType": { "type": "string", "enum": ["Service", "Schedule", "Content"] },
          "sgUrl": { "type": "string", "format": "url" },
          "service": { "type": "string", "format": "url" },
          "content": { "type": "string", "format": "url" }
        }
      },
      "required": ["sgType", "sgUrl"]
    }
  },
  "required": ["urlList"]
}
```

`sgType` – One of the service guide XML fragment types. The corresponding `sgUrl` can be used to access the XML fragment corresponding to the type of service guide fragment indicated.

Note that there may be multiple fragments within the list of the same `sgType`. The `sgType` may be used to quickly access fragments of interest.

`sgUrl` – A fully-qualified URL that can be used by the Broadcaster Application, for example in an XHR request, to retrieve the current broadcast service guide XML fragment for the associated `sgType`. The service guide is delivered in XML fragments whose syntax is defined in A/332 [2].

`service` – The `service` field as defined in the Query Service ID API in Section 9.2.3. Note: This is more commonly known as the `globalServiceId` field. For proper operation this requires that `globalServiceId` be present in the SLT. See A/331 [1] Section 6.3 and A/351 [x] Section 5.

`content` – A fully-qualified URI present when `sgType="content"` that can be used by the Broadcaster Application to uniquely identify a specific content item on a service (of which there may be many). The service guide is delivered in XML fragments whose syntax is defined in A/332 [2].

For example, the Broadcaster Application makes a query:

```
--> {
  "jsonrpc": "2.0",
  "method": "org.atsc.query.serviceGuideUrls",
  "id": 913
}
```

The Receiver might respond:

```
<-- {
  "jsonrpc": "2.0",
  "result": {
    "urlList": [
      { "sgType": "Service",
        "sgUrl": "http://127.0.0.1:8080/wmbc.appctx/Service.xml",
        "service": "https://doi.org/10.5239/8A23-2B0B" },
      { "sgType": "Schedule",
        "sgUrl": "http://127.0.0.1:8080/wmbc.appctx/Schedule.xml",
        "service": "https://doi.org/10.5239/8A23-2B0B" },
      { "sgType": "Content",
        "sgUrl": "http://127.0.0.1:8080/wmbc.appctx/Content.xml",
        "service": "https://doi.org/10.5239/8A23-2B0B" }
        "content": "urn:eidr:10.5240:7791-8534-2C23-9030-8610-5" }
    ]
  },
  "id": 913
}
```

Note that the URLs provided are examples only. The actual URLs used, including the file names, are completely dependent on the Receiver implementation and how it chooses to make the ESG files available through its HTTP server. The Broadcaster Application should make no assumptions regarding the URL path and simply use it to access the fragment data directly.

The referenced service guide files, in this example, `Service.xml`, `Schedule.xml` and `Content.xml`, shall contain the Service, Schedule and Content XML fragments as described in A/332 [2], respectively. The Receiver shall extract each XML fragment from the binary SGDU structure before making it available to the Broadcaster Application.

To associate ESG files with Broadcaster Applications, the corresponding Application Context Identifiers shall be provided in the Extended FDT (EFDT) element, **FDT-Instance@appContextIdList**, defined when sending the ESG files in the LCT channel of the ESG Service ROUTE session. Descriptions of the FDT extensions and the ESG Service can be found in A/331 [1]. Application Context Identifiers need not be included in the EFDT if the ESG data is not needed by the Broadcaster Application.

– End of Document –