

Introduction

This document is intended to capture the core functionality of RadioTAG to provide a quick overview of the revisions from the last published spec, v0.6.

The RadioTAG Developers Google Group (<http://groups.google.com/group/radiotag-developers>) is a good reference point to read the discussion and discover the reasoning behind these decisions.

Tag Submission

This is the core process of Tagging which allows a device to submit tagged events made by the user to the service provider.

Request

```
POST /1.0/service/<tx-params>/tag HTTP/1.1
...

d=<device-id>&u=<device-timestamp>
&(tu=<timestamp>|tp=<period>)
[&tr=<rating>] [&tn=<note>] [&tg=<geolocation>]
```

tx-params

The broadcast parameters that uniquely identify the service being ‘tagged’, in the same format as RadioVIS topic construction (e.g. fm/ce1/c586/09580)

device-id

Required, device-generated UUID which should persist for the lifetime of the device (or until a factory reset)

device-timestamp

Required, the current Unix epoch on the device. This is used to calculate drift and correct the timing of subsequent tagged events

timestamp

Mutually exclusive with period, Unix epoch at the time in which the user interacted with the device, required for absolute audio type services only

period

Mutually exclusive with timestamp, offset time in seconds from the start of the audio, must be supplied for relative audio type services

rating

Optional, integer between 1 and 10 providing feedback on the intensity of interest in the event

note

Optional, defined by the user, can be associated with a tag to aide recollection

geolocation

Optional, latitude and longitude of the users position when the tag was recorded as a string concatenated with a comma (',')

Response

Status Code

Code	Description	Expected Behaviour
201	Tag created	Report to user tag has been successfully submitted
403	Forbidden	There has been a security related issue with the device's submission
5xx	Server Error	--

In the HTTP response status line, the description string is not fixed. A broadcaster can provide a description suitable for an end user so that it can be rendered on a device screen. It is advised that, if a user action is required on a web site to proceed, that URL be included in the status message.

Headers

The HTTP header `Location` may also be set to provide a URL that relates to the status response, for example the web page the user needs to visit to resolve the situation or the URL that directly relates the created Tag event.

It is possible that a specific complex URL may be provided that pre-populates certain identifying information, as well as their also being a simpler "human readable" URL suitable for devices which cannot render the web page themselves, but provide a prompt for a user to copy the address from.

```
HTTP/1.1 403 This device has been blocked, please visit
capitalfm.com/tags for details
Location: http://capitalfm.com/tag/error-553&d=ABCD1234ABCD1234
```

It is proposed that in these situations the simple URL be shown in the status message and the more complex URL be used in the location field.

Additionally, a `X-RadioTAG-Syndicate` header may be sent, with acceptable values 'true' or 'false'. This header indicates that the service provider provides the ability to syndicate tags. As this value applies to the provider rather than the service itself, it should be held on the device keyed against the resolved tag server rather than the service. Omission of the header is the same as a false value. The most recently received instance of this header replaces any previously held state for this service provider.

Tagged Events Feed

If a device has a suitable screen to display information about events that have been tagged, it should use the following call to obtain this information.

Request

```
GET /1.0/device/<device-id>/feed HTTP/1.1
...
```

`device-id`

See description in 'Tag Submission'

Response

The response body is based upon the OpenGraph protocol (<http://ogp.me/>) devised by Facebook. The response is an XML body which contains a single array of event objects. The properties of each event object are derived from the OpenGraph protocol.

```
<events xmlns:og="http://ogp.me/ns#">
  <event pubDate="2011-02-25T11:10:53Z">
    <og:title>
      The Bassman played Lady Gaga - 'Paparrazi'
    </og:title>
    <og:type>song</og:type>
    <og:url>http://capitalfm.com/tags/12345678</og:url>
    <og:image>
      http://capitalfm.com/tags/img/cover-gaga-papa.jpg
    </og:image>
```

```
</event>
</events>
```

The protocol defines that `title`, `type`, `url` and `image` are all required fields. All additional OGP fields are optional, but valid within a Tagged Events Feed response.

Register

As part of a proposed registration procedure, a user would fill in a form on the service providers website and then be requested to press a 'Register' option. This would initiate the following prescribed call which returns a short, simple challenge for the user to copy from device screen back in to the same web page.

This process confirms the users' device ID without revealing it to the user or requiring it be inputted by hand to the broadcaster and that they are current in possession of the device.

Request

```
GET /1.0/device/<device-id>/register HTTP/1.1
...
```

`device-id`

See description in 'Tag Submission'

Response

Status Code

Code	Description	Expected Behaviour
200	Device ready for registration, code provided	Show supplied code and advise user to input in the website where requested
403	Forbidden	The service provider is not expecting this device for registration, display the status response string to the user

In the HTTP response status line, the description string is not fixed. A broadcaster can provide a description suitable for an end user so that it can be rendered on a device screen. It is advised that, if a user action is required on a web site to proceed, that URL be included in the

status message.

Headers

If a 200 status code is received, an `X-RadioTAG-Token` is required to provide the device with a token to display on screen for a user to read and copy in to the website registration form. It must be 4 characters in length and feature characters 0-9 and A-Z (capital letters only, input to the service providers website should be case insensitive).

Syndicate

Request

The POST body contains one or more `s` values

```
POST /1.0/device/<udi>/syndicate HTTP/1.1
```

```
...
```

```
s=<auth-domain>[&s=<auth-domain>] ...
```

`auth-domain`

A unique domain derived from the initial CNAME lookup against RadioDNS for a service that has been tagged on this device.

Response

Status Code

Code	Description	Expected Behaviour
200	Syndication data received OK	Do nothing
404	Syndication not supported	Do not try and send syndication to this server again unless a syndication header is received.
5xx	Server Error	---