

Simple Award Verification Protocol (SAVP)

by Petr Hložek (OK2CQR), Jindra Vavruška (OK4RM)

Amateur radio awards

The idea to verify QSO claimed in award applications on a web server has been around in the internet since maybe as early as 2000, including some implementations.

We believe that internet verification of contacts should be simple and that there should not be ten different ways to do so.

Therefore Petr, OK2CQR, has implemented a simple, yet powerful protocol for verification of individual claimed contacts over web. Protocol specification is based on KISS approach (“Keep It Simple, Stupid”).

Protocol specification

The protocol is based on HTTP version 1.1 and CGI. HTTP client (operated by “award manager”) will send a plain HTTP request to a dedicated URL. The host can respond by three different answers:

- if all data match, the answer is “yes”
- if the QSO was not found, the answer is “not found” (meaning “I don’t know”)
- if the request does not fit specification, the answer is “bad request”

Verification request data content

Verification request contains just a few parameters:

Parameter	Meaning	Format	Mandatory/Optional
mycall	whose contact is verified (award applicant)	text (callsign), case insensitive	mandatory
hiscall	whose station log will be sought for (station worked)	text (callsign), case insensitive	mandatory
date	date of contact, in UTC	YYYYMMDD	mandatory
utc	time of contact	HHMM	optional
band	amateur radio band where contact was made (2-way, no cross-band)	text, value from list, case insensitive (see ADIF specification)	mandatory
mode	modulation used (2-way)	text, value from list, case insensitive	optional

Verification response content

Verification host must send HTTP status (200, 400 or 404). This is **the only specified** answer. Response body is optional and its content is not specified at all. Only one strict rule applies, that the response body must not disclose any further details about the contact beyond what was sent in the request, in order to prevent “data mining”, post-contest log completion and correction, etc..

Action Sequence

1. HTTP client will send verification request using GET method to an URL assigned by host administrator. Verification request data are sent as CGI parameters. Mandatory parameters **MUST** be used and **MUST NOT** be empty. Optional parameters **MAY** be included and their values **MAY** be empty. Empty parameter value is equivalent to missing parameter.
2. HTTP host will check validity of the request. If any mandatory parameter is missing or is malformed, host will return status 400 Bad Request.
3. If the request is valid and the verification fails, host will return status 404 Not Found.
4. If the verification succeeds, host will return status 200 OK and optional response body (i.e. response body may be empty).

Matching rules

The following rules must be tested in the specified order to determine whether the request to verify contact in counterparty station log **succeeds**, or **fails**.

1. If there is no station log uploaded by **hiscall** on the host, request **fails**. Value of **hiscall** in the request must exactly match callsign of the station log “owner”, except for case and spaces.
2. All contacts from hiscall’s log matching **mycall**, **date** and **band** form a **matching resultset**.
3. If **mode** value in the request is not empty, all contacts not matching its value are removed from matching resultset.
4. If **utc** value in the request is not empty, all contacts not matching its value are removed from matching resultset.
5. If, after all rules were applied, the matching resultset is not empty, request **succeeds**. Otherwise it **fails**..

Try for instance <http://hamqth.com/verifyqso.php>.