

# Real Time Contest specification (XML API)

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**Real Time Contest (RTC)** technology provides near-real-time adjudication for amateur radio contests. RTC consists of the:

- **RTC Server** – a cloud-based service
- **RTC Client** – a contest logger or third-party software

The RTC Server accepts contest log data over the Internet, one QSO at a time, from RTC Clients in real time. All participant logs are stored on the server and continuously processed for cross-checking and adjudication.

The RTC Server publishes up-to-date contest results on a web-based instant standings scoreboard. Contest winners can typically be determined within minutes after the contest ends.

← → ↻ hamscore.com/scoreboard/?contest\_id=1 ☆

**Real Time Contest Server** 📞 20 Jan 2026 17:59 UTC Real Time Contest (20.01 16z - 20.01 19z) SFI:173 Kp:7

On air: Real Time Contest [Go] **Contest is active**

Home	Profile	Filter	View	Clear Filter	No bands	Clubs	Help with logger set up				
SO-ALL HP MIXED		Score	QSO	40	20	15	10	Grid	Last		A Log
1	VA2WA	35	6	5/5	1/1	6	01:09	Contest Group du Quebec	N+		
2	K9CT	18	8	8/6		6	01:34	Society of Midwest Contesters	N+		
3	N1NA	4	2	1/1	1/1	2	00:01	Contest Group du Quebec	N+		
SO-ALL HP CW		Score	QSO	40	20	15	10	Grid	Last		A Log
1	VE2FK	15	8	8/7		7	00:00	Contest Group du Quebec	N+		
SO-ALL LP MIXED		Score	QSO	40	20	15	10	Grid	Last		A Log
1	IK3QAR	4	4/4	4/4		4	00:08	Italian Contest Club	QT		
SO-ALL LP CW		Score	QSO	40	20	15	10	Grid	Last		A Log
1	G4PVM	12	19	11/9	7/7	1/1	17	00:01		N+	
2	G4MEM	13		13/13		13	00:00	Brimham Contest Group	SD		
3	M4N (G4IZZ)		5	1/1	3/3	5	00:00	Gloucester AR&ES	SD		

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← → ↻ hamscore.com/profile/cabrillo.php ☆

**Real Time Contest Server** 📞 20 Jan 2026 20:38 UTC Real Time Contest (20.01 16z - 20.01 19z) SFI:173 Kp:7

Closed: Real Time Contest [Go] **Contest is finished**

Home Profile Filter View Clear Filter No bands Clubs Help with logger set up

## VA2WA Real Time Contest log

See Log Check Report

```
START-OF-LOG: 2.0
CALLSIGN: VA2WA
CLUB: Contest Group du Quebec
CONTEST: RTC
CATEGORY: ALL HIGH MIXED
CLAIMED-SCORE: 60
OPERATORS: VA2WA
CREATED-BY: HamScore.com
QSO: 14040 CW 2026-01-20 1602 VA2WA 0001 FN36 VE2FK 0004 FN68 1 OK
QSO: 14041 CW 2026-01-20 1605 VA2WA 0002 FN36 K9CT 0005 EN50 1 OK
QSO: 14040 CW 2026-01-20 1606 VA2WA 0003 FN36 M4N 0002 IO81 1 OK
QSO: 14040 CW 2026-01-20 1608 VA2WA 0004 FN36 N1NA 0001 FN30 1 OK
QSO: 14040 CW 2026-01-20 1608 VA2WA 0005 FN36 G4PVM 0002 JO01 3 OK
QSO: 21040 CW 2026-01-20 1621 VA2WA 0006 FN36 K2BB 0002 FN30 1 OFFCALL
END-OF-LOG:
```

# 1. RTC Client

An RTC Client is a contest logging application with RTC support, or a third-party client capable of synchronizing a contest log with an RTC Server in real time.


## 1.1 RTC Client HTTP request specification

The RTC Server accepts HTTP POST requests over HTTPS (SSL encryption required).

Authentication: HTTP Basic Authentication

Credentials:

- **USERNAME:** always the station callsign
- **PASSWORD or RTC PIN:** User profile Password or a RTC 6 digits PIN in user profile:

**Real Time Contest Server**  18 May 2026 18:55 UTC

Coming: ICWC-MST 2

Home Profile Filter View Clear Filter Breakdown Clubs

### User menu

- Manage your Team
- My ICWC-MST 2 log
- My log check report  
Ready after the contest finishes
- Logout

### Update your profile

Callsign: VA2WA

E-mail:

Name:

Password:

Client Password:

Continent:

Club:

Team:

**RTC PIN:** 000000

If you do not see your team please create your own on the [Team Management](#) page!

Authentication credentials must be included with **EVERY REQUEST!**

Example HTTP request:

```
POST https://hamscore.com/postxml/index.php HTTP/1.1
Accept-Encoding: gzip, deflate
Content-Type: application/xml
Authorization: Basic XXXXXXXXXXXXX
Content-Length: XXX
Host: hamscore.com
Connection: Keep-Alive
User-Agent: <client-name>

<xml payload>
```

## 1.2 RTC posting XML specification

The RTC XML posting use the following structure:

```
<?xml version="1.0"?>
```

```
<rtc>
```

```
<dynamicresults>
```

```
.....
```

```
</dynamicresults>
```

- Object container with online scoring data

```
<contactinfo>
```

```
.....
```

```
</contactinfo>
```

- Object container with new or edited QSO data

```
<contactdelete>
```

```
.....
```

```
</contactdelete>
```

- Object container with a deleted QSO data

```
<deletelog>
```

```
.....
```

```
</deletelog>
```

- Object container with request to delete a complete log

```
</rtc>
```

- The client must send a posting every 2 minutes, even if there are no changes in the contest log. This interval must not be configurable.
- The **<dynamicresults>** object must always be present.
- Each posting may contain any number of **<contactinfo>**, **<contactreplace>**, and **<contactdelete>** containers. If there are no changes, these containers are omitted.
- The **<deletelog>** request must be sent only once when required. New QSO data may be sent together with **<deletelog>** without limitation.

### 1.3 Object container <dynamicresults>

This object originates from the Online (Real-Time) Scoring technology.

A full description of the XML format is available at:

<https://blog.contestonlinescore.com/online-scoring-xml-specification/>

The very important part of <dynamicresults> should be the <qth> container. It has the log owner station location information:

For example:

```
<qth>
  <dxcccountry>VE</dxcccountry>
  <cqzone>4</cqzone>
  <iaruzone>5</iaruzone>
  <arrlsection>QC</arrlsection>
  <stprvoth>QC</stprvoth>
  <grid6>FN36QA</grid6>
</qth>
```

Field definitions:

<b>dxcccountry</b>	– The log owner DXCC Country prefix (K,JA,EA,EA6 etc.)
<b>cqzone</b>	– CQ Zone number
<b>iaruzone</b>	– IARU zone number
<b>arrlsection</b>	– ARRL section (WMA, SV, NTX, IL, QC, ONE etc.)
<b>stprvoth</b>	– USA state or Canadian province (MA, PA, CA, QC, ON etc.)
<b>grid6</b>	– The log owner location 6 characters VHF grid (EM41EK, JO31XJ etc.)

\* All the DATA input should be in ALL-CAPITAL letters

## 1.4 Object container <contactinfo> (New or Edited QSO)

```
<contactinfo>
<ID>....</ID>
<CabrilloString>[QSO: or X-QSO:] [FREQ] [MODE] [DATE] [TIME] [CALL] [599/59]
[EXCH] [CALL CORR] [599/59] [EXCH] [RADIO NR - only for Multi]
</CabrilloString>
<timestamp>YYYY-MM-DD HH:MM:SS</timestamp> ## optional ##
</contactinfo>
```

Field definitions:

**ID** – Unique QSO identifier (32-character hexadecimal string)

**CabrilloString** - Cabrillo string as it presents at a Cabrillo log

**(optional) timestamp** – QSO time in UTC (YYYY-MM-DD HH:MM:SS)

**\*\* optional** if the time resolution in **CabrilloString** is limited to minutes

Example (mini-CWT) :

```
<contactinfo>
<ID>08adbe588d3741b6a2f4ba5d803b97bd</ID>
<CabrilloString>QSO: 7024 CW 2026-04-25 211349 VA2WA 599 VIC 2212 VE2FK
599 DUB QC</CabrilloString>
</contactinfo>
```

or if the **CabrilloString** resolution in minutes:

```
<contactinfo>
<ID>08adbe588d3741b6a2f4ba5d803b97bd</ID>
<CabrilloString>QSO: 7024 CW 2026-04-25 2113 VA2WA 599 VIC 2212 VE2FK 599
DUB QC</CabrilloString>
<timestamp>2026-04-25 21:13:49</timestamp>
</contactinfo>
```

In case of X-QSO:

```
<contactinfo>
<ID>08adbe588d3741b6a2f4ba5d803b97bd</ID>
<CabrilloString>X-QSO: 7024 CW 2026-04-25 211349 VA2WA 599 VIC 2212 VE2FK
599 DUB QC</CabrilloString>
</contactinfo>
```

## 1.5 Object container <contactdelete>

```
<contactdelete>  
  <ID>08adbe588d3741b6a2f4ba5d803b97bd</ID>  
</contactdelete>
```

**ID** – Unique QSO identifier (32-character hexadecimal string)

## 1.6 Object container <deletelog>

The <deletelog> container requests deletion of the entire contest log. It is required in special cases where a full resynchronization is necessary, such as when a log has been lost and recreated.

```
<deletelog>  
  <contest>CW-Ops</contest>  
</deletelog>
```

## 2. RTC server

### 2.1 Standard Server Responses

Each XML posting receives a JSON response from the RTC Server..

### 2.2 Confirmation of Successful Transactions

- **OK response** (only <dynamicresults> provided):

```
{"Status": "OK", "TimeStamp": "Y-m-d H-i-s"}
```

- **CFM response** (QSO-related data included):

```
{"Status": "CFM", "TimeStamp": "Y-m-d H-i-s"}.
```

If a **CFM response** is not received, the client must resend all pending log changes during the next scheduled posting until confirmation is received

### 2.3 RTC server errors reports

```
{"Status": "Error", "Description": "Empty credentials", "TimeStamp" : "Y-m-d H-i-s"}
```

```
{"Status": "Error", "Description": "Wrong credentials", "TimeStamp" : "Y-m-d H-i-s"}
```

```
'{"Status": "Error", "Description": "Wrong XML format", "TimeStamp" : "Y-m-d H-i-s"}
```

```
{"Status": "Error", "Description": "Contest not active", "TimeStamp" : "Y-m-d H-i-s"}
```

```
{"Status": "Error", "Description": "Contest not supported", "TimeStamp" : "Y-m-d H-i-s"}
```

```
{"Status": "Error", "Description": "Wrong contest mode", "TimeStamp" : "Y-m-d H-i-s"}
```

```
{"Status": "Error", "Description": "User and Log calls mismatch", "TimeStamp" : "Y-m-d H-i-s"}
```

## 2.4 RTC server warning reports

```
{"Status": "CFM", "Description": "Warning! Exchange error", "TimeStamp" : "Y-m-d H-i-s"}
```

Clients are encouraged to display a popup warning so the operator can correct the exchange configuration in the contest log.

## 2.5 RTC server request on the log resynchronisation

```
{"Status": "ResyncLog", "TimeStamp" : "' .date('Y-m-d H-i-s') .'"} }
```

This message is reserved for future use. When implemented, the client should send a `<deleteLog>` container followed by a complete set of `<contactinfo>` containers to re-upload the entire log.

## 2.6 RTC server upload URLs

Recommended default upload endpoint:

<http://scoredistributor.net/>

Alternative direct upload endpoints:

<https://hamscore.com/postxml/>  
<https://hamscore.com/postxml/index.php>

\*\*\* Clients should allow users to edit or change the direct **HAMSCORE.com** URL if needed.