Olympic Data Feed

ODF Transmission Document

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Technology and Information Department

DOCUMENT CONTROL

Version history

Version	Date	Comments
v1.0	5 December 2013	First version

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Change Log

Version	Status	Changes on version
R1 v1.0	APP	• First version

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1. Introduction

1.1. This document

This document describes the current understanding of the data and processes associated to the ODF transmission of messages.

1.2. Objective

The objective of this document is to describe the technical standards to be used to transfer information between the information systems of the host organizers and those of the ODF customers (broadcasters, press organizations, OCOG website, International Federations, NOCs, and others), for information related to the Summer and Winter Olympic Games and other sport competitions. This communication mechanism is known as the Olympic Data Feed.

1.3. Main Audience

The audience for this document includes: Atos Origin Major Events and Omega for development; the OCOG results technology team and the ODF Service Manager for testing and acceptance; and the ODF customers and IOC as end users of the Olympic Data Feed.

1.4. Glossary

The following abbreviations are used in this document

- **IDS –** Info Diffussion System
- **IDF –** Internet Data Feed
- **IOC –** International Olympic Committee
- **NOC –** National Olympic Committee
- **ODF –** Olympic Data Feed
- **ODF-PiT –** Olympic Data Feed – Point in Time
- **ODF-RT –** Olympic Data Feed – Real Time
- **OVR –** On Venue Results
- **WNPA –** World News Press Agencies

1.5. Related Documents

Document	Document Title	Document Description
ODF/INT004	ODF General Messages	This document describes the

	Interface Document	ODF messages
ODF/INT0XX	ODF Data Dictionaries (One per discipline)	This document details the ODF messages for each sport

2. Overall Perspective

2.1. Objective

The objective of this document is to provide the ODF messages transmission interface.

2.2. End to End data flow

2.2.1. Encoding

The character set to be used in all information exchange is the standard Unicode UTF-8.

2.2.2. Message Structure

Messages will be built in XML format.

2.2.3. Connectivity

ODF message transmission will be accomplished via a combination of an underlying TCP/IP based connection along with message transmission using the HTTP protocol.

This method of transmission requires that customers be able to establish TCP based connectivity with the organizing committee's network along with having software capable of receiving and dealing with HTTP Post requests.

2.2.4. HTTP Usage

Messages will be delivered to the customers using the HTTP protocol. Specifically each message will be delivered using an HTTP Post request. This is a sample of what an ODF message posting would look like:

```
POST /path/ODFClient HTTP/1.1
Content-type: text/xml
User-Agent: IDF/1.0
Cache-Control: no-cache
Pragma: no-cache
Host: 172.24.44.85:997
Connection: keep-alive
Content-Length: 1402

<?xml version="1.0" encoding="utf-8"?>
<OdfBody  DocumentCode="BV0000000"  DocumentSubcode="GENERAL"  DocumentType="DT_PARTIC_UPDATE"
FeedFlag="T" Date="20120811" Time="121537867" LogicalDate="20120811" Version="1" Serial="1">
<Competition Code="LOCOG">
<Participant     Code="50214132"     Parent="50214132"     Status="ACCRED"     GivenName="PABLO"
FamilyName="HERRERA"  PrintName="HERRERA  PABLO"  PrintInitialName="HERRERA  P."  TVName="HERRERA
PABLO"    TVInitialName="HERRERA    P."    Gender="M"    Organisation="ESP"    BirthDate="19820629"
Height="193"     Weight="85"     PlaceofBirth=""     CountryofBirth="ESP"     PlaceofResidence=""
CountryofResidence=""      Nationality="ESP"      Current="true"      ModificationIndicator="N"
OlympicSolidarity="N" MainFunctionId="AA01">
        <Discipline Code="BV">
                <RegisteredEvent Gender="M" Event="400" Bib="">
                        <EventEntry Code="E_CAPTAIN" Value="N" Type="E_ENTRY"  />

                        <EventEntry Code="E_POSITION" Value="L" Type="E_ENTRY"  Pos="1"/>
                        <EventEntry Code="E_HAND" Value="L" Type="E_ENTRY"  />
                        <EventEntry Code="E_POSITION" Value="B" Type="E_ENTRY"  Pos="2"/>
                        <EventEntry Code="E_SHIRT_NAME" Value="HERRERA" Type="E_ENTRY"  />
                </RegisteredEvent>
```

```
        </Discipline>
</Participant>
</Competition>
</OdfBody>
```

The above example assumes the following:

- The request URI (in this case 'path/ODFClient') will be specified by each customer.
- The TCP port the requests will be sent to will be specified by each customer. The default will be port 80 but each customer is free to change this.
- The message payload will contain the ODF message.

Upon receiving the HTTP request the customers designated handler may do whatever it likes with the message but it should pass an HTTP response back with a return code of 200 to the sender to indicate successful reception of the message. Here's what the response would look like:

```
HTTP/1.1 200 OK
```

If the sending software does not receive a successful response within a specific timeframe (for example, 5 seconds) from the recipient the message should be queued again and resent at regular intervals (for example, 5 seconds) till a successful response is received. After some number of failed attempts an appropriate notification should be sent.

2.3. Operation modes

The interface defined in this document applies to Olympic Data Feed in testing and Games Time periods.

2.4. Message Serialization

2.4.1. Feed Types

ODF defines three different feeds:

- Point in Time Feed (PiT)
- PDF Feed (PDF)
- Real Time Feed (RT)

RT ends when results become unofficial. Latter updates on the previous sent as real time results data are only available in the PiT feed. That means the customer will need to listen the PiT feed for updates (with for example corrections on previous results) once the RT transmission has finished.

2.4.2. Message generation systems

ODF messages are produced by different systems; this system includes at least:

- OVR Providers at the different venues

- IDS Central systems

2.4.3. Good Morning and Good Night

Each system that generates messages during the day needs to start the transmission with a Good Morning message and end with a Good Night message.

For Point in Time (PiT) transmissions a Good Morning (DT_GM) is sent at the beginning of the logical day; the last message of the logical day must be a Good Night (DT_GN).

For PDF transmissions a Good Morning (DT_PDF_GM) is sent at the beginning of the logical day; the last message of the logical day must be a Good Night (DT_PDF_GN).

For Real Time (RT) transmission a Real Time Good Morning (DT_RT_GM) message is sent at the beginning of the transmission; the last message of the transmission must be a Real Time Good Night (DT_RT_GN) message. In the same logical day several RT transmissions can take place in the same venue and discipline. As ODF-RT is defined on top of ODF-PIT, RT sessions have to be contained within a PiT session. The first message of the logical day is always a DT_GM and the last one has to be DT_GN.

The Good Morning message defines in it body the frequency of the DT_SERIAL, DT_PDF_SERIAL, DT_RT_KA (see below) and “Live Full” messages.

2.4.4. Message Serialization

Each system that generates messages serializes its own messages. Each system works in an autonomous way and provides its own serialization. That means serial number is generated at the venues or at the IDS central systems. Different disciplines or venues will have different serial numbers.

Serial number is reset in each transmission (with each Good Morning message) being Serial “1” the Good Morning message (DT_GM/DT_PDF_GM/DT_RT_GM).

Real Time messages have a second serial number. This second serial number contains the last PiT message number to ensure that RT information is processed on the last PiT information.

For Point in Time (PiT) and PDF transmissions a special message (DT_SERIAL/DT_PDF_SERIAL) sent by the transmission generator (Omega or IDS central systems) can be used by ODF customers that want to control if there are missing PiT messages, and activate filtering in IDF.

For Real Time transmissions the information about current serials is sent in the DT_RT_KA message.

2.5. Backup and recovery

What has been referred to as the “Backup Internet Data Feed” (BIF) server will be the sole backup mechanism in place should there be a failure in the HTTP based delivery mechanism. The BIF will consist of a Website, an FTP site and an automatic resend process.

An ODF customer can detect missing messages with two different mechanisms:

- Serial and Version number in the Header (not valid if a customer applies filtering mechanism that do not include all messages of a message key)
- Processing the DT_SERIAL/DT_PDF_SERIAL/DT_RT_KA message (can be used also to detect which message is missing)

If a customer missed a RT message, he needs to wait for the next Live Full message and process it.

If a customer missed a PiT or a PDF message he has two options:

- Manually retrieve it from the BIF application.
- Request an automatic resend.

All messages are available in BIF as a backup.

2.5.1. Real Time Feed (RT) Recovery

While Point in Time and PDF messages are full messages and new version of a message invalidates any previous contents Real Time data is accumulative. New data does not invalidate previous data. For this reason, special mechanisms are necessary to recover during competition.

With the “Live Full”, “Live Mandatory” and “Live Last” ODF messages the ODF customers will also be able to recover previously sent data. These messages are identified with a special common flag in the message header.

2.5.1.1. Live Full

A “Live full” message is an accumulated of all the Real time updates received until now for an ODF unique key (unique key is DocumentCode, DocumentSubcode, DocumentType and DocumentSubtype). This message can be used by ODF external customers in case they have detected missing messages in order to get all missing data. This kind of message is requested to be sent periodically.

2.5.1.2. Live Mandatory

A “Live Mandatory” message is a special kind of “Live Full” that is mandatory to be processed by all customers. This message is used by the transmission generator (OVR for all Real Time messages) when data needs to be synchronized. Note that normal Real Time messages include only updates since the previous message. The only way to delete/correct data is using this special message.

2.5.1.3. Live Last

Additionally, the last messages of a real time ODF unique key (unique key is DocumentCode, DocumentSubcode, DocumentType and DocumentSubtype) is a “Live Last” message. This message indicates that no more real time messages, “Live Full” or “Live Mandatory” messages for the given key will be generated.

If after a “Live Last” message a real time transmission for the same ODF unique key (unique key is DocumentCode, DocumentSubcode, DocumentType and DocumentSubtype) needs to be restarted (due to an unexpected situation of for events that take place in more than one day) a “Live Mandatory” needs to be provided.

2.5.2. Backup Message Web Site

An interactive web site where agencies will be able to retrieve previously posted ODF messages. The site will allow for filtering of the messages to be retrieved based on the following criteria:

- Games Day
- Language
- Format
- Time
- Document Code
- Document Type

User can then select messages and:

- Compress them into one .zip file and download it

or

- (Re)distribute them to the ODF Feed (if available).

2.5.3. Backup FTP Site

Along with the interactive web site all posted messages will be available to ODF customers via SFTP connection. The directory structure of this site should place messages in folders by Games Day. The files should be named in a way that allows ODF customers to be able to easily determine the following for the message:

- Eight characters for the Logical Date
- Nine characters for Document Code
- Ten characters for Document Subcode
- Thirty characters for Document Type
- Twenty characters for Document Subtype
- Five characters for version
- One character for Feed Flag
- Three characters for language
- Eight characters for date (yyyymmdd)
- Nine characters for time (hhmmssnnn)
- Three character for uniqueness

Eg:

```
20120820ATM010101_____DT_RESULT_____________________________________00001PENG2012082010092735
1000.xml
```

… for a file with Document Code=ATM010101, Document Type=DT_RESULT, Version=1, Feed Flag=P, Language=ENG, Date=20120820, Time=100927351

2.5.4. Automatic resend

A servlet in the interactive web site will enable agencies to request resending of previously posted ODF messages. To do so, the customer will need to do an HTTP GET or POST request to a specific URL in the BIF web server with the following parameters:

Request Parameter	Mandatory	Description
DocumentCode	Y	Document Code
DocumentSubcode	N	Document Subcode
DocumentType	Y	Document Type
DocumentSubtype	N	Document Subtype
Version	Y	Version
LogicalDate	N	Message Logical Date
Date	N	Message Date
FeedFlag	Y	Feed Flag
Language	N	Language

An example of a request would be:

```
http://bifserver/resend?DocumentCode=CM0000000&DocumentType=DT_PDF&DocumentSubt
ype=C67&Version=1&LogicalDate=20120812&FeedFlag=P
```

3. Interface Description

3.1. Description

ODF should send XML messages following the general rules described in this document.

3.2. Rules for the Interface

Generate syntactically valid messages.

Generate correctly UTF-8 encoded messages

Inform correctly header's attributes.

3.3. Functional conditions for the interface

- The messages will be distributed to all the subscribed users at the same time (in parallel).
- All generated and distributed messages will be stored in a "backup message store" for later re-distribution.
- Re-distribution to selected or all the users. The retransmission is manual based on search criteria defined in Section 2.5.2 - Backup Message Web Site or automatic as defined in Section 2.5.4 - Automatic resend.
- Undelivered or partially delivered messages due to the loss of the connectivity should be queued and automatically transmitted after re-establishing the connectivity.

3.4. Frequency/Triggers

Message triggering will be described in the Olympic Data Feed Requirements Documents.

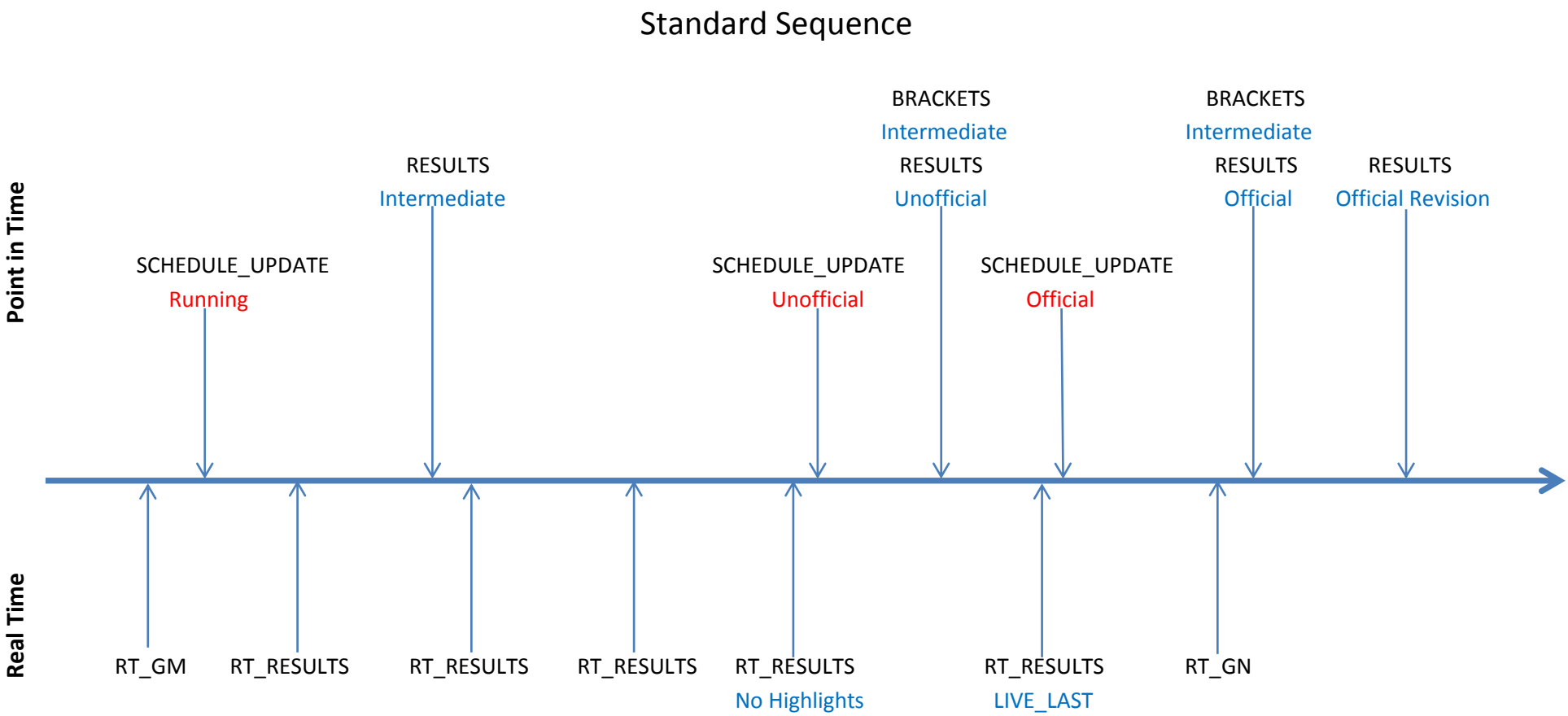
3.5. Expected Results

HTTP Response will be expected from the customers as explained in 2.2.4 - HTTP Usage

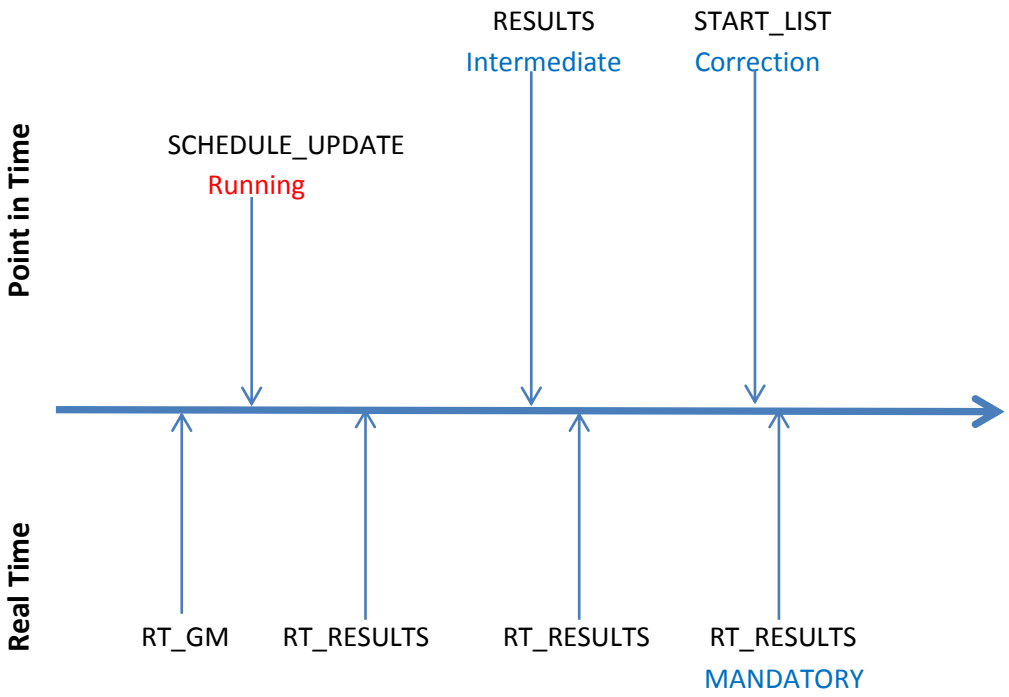
4. Messages

The transmitted unit is an XML message. Data messages providing content for Olympic Data Feed, including Global and Discipline/Venue Good Morning and Good Night messages are defined in the ODF General Messages Interface Document.

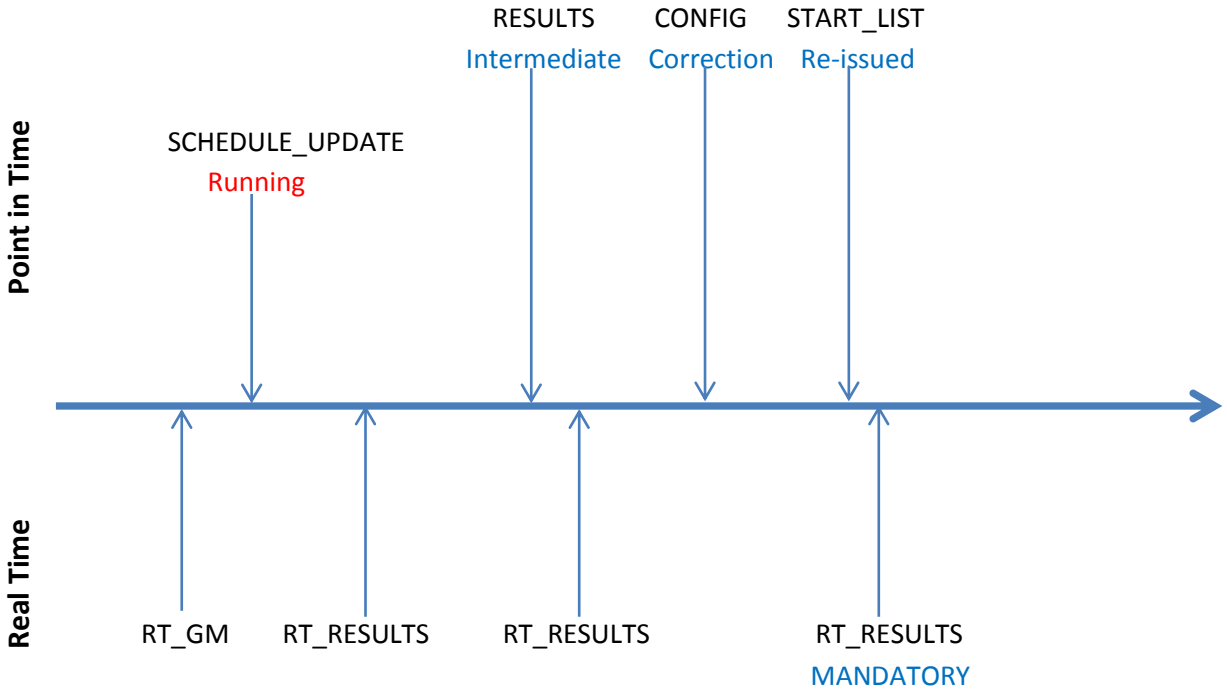
5. Sequence of Messages



Start List Correction



Config Correction



Team sports special cases