ODF-RECEIVER – CONFIGURATION MANUAL 1.4.1

The ODF-Receiver is a web-based API to receive, store and forward ODF messages via HTTP-POST or HOVTP.
The API must be hosted by an IIS Webserver, using the .NET Framework 4.5 to run.
The configured clients, behind the ODF-Receiver will get the messages. All messages will be versioned written to a configured location.

1. Service configuration

The configuration consists of three parts:

- The web.config for the basic service-configuration
- The clients.json, which holds the configuration for the message receivers behind the ODF-Receiver
- The HOVTP session-sync configuration which holds all fallback systems, which should get the HOVTP sessions from the master

a. Web.config

Environment-settings

- **CompetitionCode**: User-defined code of the competition (used for the folder-structure of the storage)
- **Environment**: Production (P) or Test (T). Messages from a different environment will be filtered.
- **FederationCode**: User-defined code of the federation, which the sport is related to (can have a custom value, if the instance isn´t used for a specific federation)
- **ConfigFolder**: Directory-path to the folder, where the client-configuration is located in.
- **ConnectionCheckResponseCode**: Default HTTP response code of …/api/ConnectionTest. This can be used for alive-monitoring or load-balancers. This must be a number and a valid HTTP status-code

Logging-settings

- **LogPath**: Location of the directory, where the logfiles are located in.
- **LogPatternLayout**: layout of a log-entry. See https://logging.apache.org/log4net/log4net-1.2.13/release/sdk/log4net.Layout.PatternLayout.html for details
- **LogMaxFileSize**: Maximum size of a single logfile. Parameter consists of a number with a unit appended to it (e.G. 5MB)
- **LogMaxNumberOfFiles**: Maximum number of rolling logfiles.
- **LogLevel**: Loglevel. Possible values: ALL, DEBUG, INFO, WARN, ERROR, FATAL, OFF
- **LogFileName**: Name of the logfile, without path and extension
- **EnableComponentLogging**: When enabled (true), every component writes its own logfile to the log-directory. The name will be the classname of the component. This loggfiles will be written additionally to the standard logfile, configured with “LogFileName”

Storage-settings

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- **StoragePath**: Root path of the ODF message storage. All incoming messages will be saved in the folder-structure below this folder
- **FilenameFieldSepparator**: Filenames will be generated from some of the fields of the ODF-message. This fields will be separated by the value of this confg parameter.
- **CurrentMessageStorage**: This folder will contain the latest version of each message. A new message will cause the old message to be overwritten.
- **IncomingJournalStorage**: This folder contains messages, which are not finally processed at the moment. The service will delete this messages after they are processed.
- **ErroneousMessageStorage**: This folder contains all messages, which couldn´t be processed. Every message has a corresponding file with the extension .err, which contains error details.
- **UndeliverableStorage**: Contains all messages, which cannot be delivered to a specified target (e.G. messages with FeedFlag T which were sent to a service, configured to receive Production messages).
- **VersionedStorage**: Contains all versions of all messages. New messages will be saved into a new file, while old messages are left untouched. The prefix of each versioned file is a timestamp of the logical date. The timestamp format can be configured via the web.config parameter "TimeStampFormat".
- **FileExtension**: Extension of the files, which are containing the ODF-messages (usually xml)
- **CheckErroneousMessageStorage**: Activate or deactivate the check of erroneous messages. This check will send mails on threshold-breach when counting the elements.
- **MailHostname**: Hostname of the mail-server which should send the mails
- **MailServerPort**: Network port of the mail-server which should send the mails.
- **MailLoggingFromAddress**: Sender address of the error mails
- **MailLoggingToAddress**: On or more receipient addresses, separated by comma.
- **ErroneousElementsCountTresholdWarning**: Max. number of elements in the storage, before a warning-message will be sent.
- **ErroneousElementsCountTresholdCritical**: Max. number of elements in the storage, before a critical warning-message will be sent (usually with a higher notification frequency).
- **StorageNotificationCheckIntervalMs**: Check interval in milliseconds for the number of elements in the erroneous message storages. Minimum value is 30.000 (30sec)
- **ErroneousElementsWarningResendIntervalMinutes**: Resend interval in minutes for the warning-mails.
- **ErroneousElementsCriticalResendIntervalMinutes**: Resend interval in minutes for the critical warning-mails.

Format-settings

- **DateFormat**: Dateformat, used in the ODF-message. This format must match the format of the dates in the ODF-messages. Otherwise the messages will be put into the ErroneousMessageStorage.

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- **TimeFormat**: Timeformat, used in the ODF-message. This format must match the format of the times in the ODF-messages. Otherwise the messages will be put into the ErroneousMessageStorage.
- **TimeStampFormat**: Format of the timestamp, used as a prefix for the message-versions (prefix for the filenames).
- **RscSportCodePosition**: Position of the sportcode within the RSC code (usually 0).
- **RscSportCodeLength**: Length of the sportcode (usually 2 – AT, BK, SW, …)

Client-behavior

- **SendRetryWaitTimeMs**: Wait time in milliseconds before retrying to send a message to a client.
- **MaxRetryCount**: Maximum number of send attempts, when a message delivery to a client has failed
- **SendWorkerDeactivationTimeoutMs**: Timeout in milliseconds for the send worker to shut down. After this timeout, the worker process will be aborted.

Message processor settings

- **WorkerRestartWaitTimeoutMs**: Wait timeout for restart or shutdown of the message processor. On shutdown, the processor worker will be aborted after this timeout.
- **UpdateMessageBehavior**: Processing behavior of …_UPDATE-messages
    - Strict: Full-message must exist when an update-message should be processed. Missing full-message will lead to an exception and the processing will be aborted. The update-message will be moved to the erroneous message storage
    - Standalone: builds full-message from UPDATEs. If no full-message is available in the latest messages storage, the first update-message will be taken as initial full-message. All following update-messages will be merged into that message

Dataprovider settings

- **BifBaseUrl**: Base URL of the ATOS BIF interface. The BIF service is used for requesting resend operation of missed messages.
- **BifApiKey**: API key for authentication against the ATOS BIF interface.

Statistics settings

- **ReceivedMessagesCountShortTermPeriodSeconds**: Short-term period of the “Messages received” statistics output.
- **ReceivedMessagesCountMeduimTermPeriodSeconds**: Medium-term period of the “Messages received” statistics output
- **ReceivedMessagesCountLongTermPeriodSeconds**: Long-term period of the “Messages received” statistics output.

HOVTP settings

- **HovtpMode**: on|off|auto Defines if the ODF-receover should process HOVTP-messages.
- **HovtpUuidMode**: ODF-receiver expects GUID as session-identifier when this value is “true”.
- **HovtpSessionStorage**: Folder-location where the HOVTP-sessions are stored.

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- **HovtpSessionCheckCycleMs**: Cycle-time of the session-check worker, which checks all HOVTP sessions for timeout.
- **HovtpSessionDefaultTimeout**: Default timeout for HOVTP sessions.
- **HovtpSessionDefaultTimeoutGrace**: Maximum number of timeouts, before a HOVTP session will be killed.
- **HovtpSyncSettingsPath**: Sync settings for HOVTP-session synchronization (session-sync with other ODF-Receivers).
- **HovtpSerialCheck**: Enable or disable the serial-check of the HOVTP protocol (continuous numbers , beginning on 1).

b. Clients configuration (clients.json)

This configuration defines the clients, which should get the ODF messages. The clients are grouped with primary clients and secondary clients, used as fallback when the primary client is down.

One client configuration can have multiple groups with multiple clients. There must not be more than one primary client per group. An empty JSON array means that there are no clients.

Example:

```
[
 {
  "$type": "ServiceConfig.ConfigModels.TcpClientSettings, ServiceConfig",
  "IpAddress": "www-1-07.inet.lpz",
  "Port": 21009,
  "ReconnectAttemptIntervalMs": 1000,
  "Name": "Main",
  "Group": "RO",
  "ClientRole": "Primary",
   "ResendBehavior": "Off",
  "SportCodes": [
   "RO"
  ]
 },
 {
  "$type": "ServiceConfig.ConfigModels.TcpClientSettings, ServiceConfig",
  "IpAddress": "www-1-05.inet.lpz",
  "Port": 21009,
  "ReconnectAttemptIntervalMs": 1000,
  "Name": "Backup1",
  "Group": "RO",
  "ClientRole": "Secondary",
   "ResendBehavior": "On",
  "SportCodes": [
   "RO"
  ]
 },
 {
  "$type": "ServiceConfig.ConfigModels.TcpClientSettings, ServiceConfig",
  "IpAddress": "www-1-05.inet.lpz",
```


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```
  "Port": 21009,
  "ReconnectAttemptIntervalMs": 1000,
  "Name": "Backup2",
  "Group": "RO",
  "ClientRole": "Secondary",
   "ResendBehavior": "AfterFallback",
  "SportCodes": [
    "RO"
  ]
 }
]
```

Parameter description

- **$type**: There can be multiple types of clients with specific settings. Currently only TCP is implemented.
- **IpAddress**: IP-address or hostname of the client.
- **Port**: TCP-port where the client is listening on.
- **ReconnectAttemptIntervalMs**: Reconnect attempt interval in milliseconds. Used when the connection was lost.
- **Name**: Unique name of the client.
- **Group**: Unique name of the group. Clients with the same group name are consolidated under this group name.
- **ClientRole**: Primary|Secondary Role of the client in the group. Only one client can be in the primary role. The primary client is the one which gets all the messages. The secondary clients are in hot-backup to take messages, when the primary client fails.
- **ResendBehavior**: Decides when a resend-all action will be taken
  - **On**: Executed on application-startup and also when the active client has been changed after a fallback-cycle.
  - **AfterFallback**: Executed when the active client has been changed after a fallback-cycle.
  - **Off**: Never execute a resend-all.
- **SportCodes**: Sportcode filter. The client will get messages with this sportcodes only. The items must be inserted as JSON array.

c. HOVTP sync peers

When in HOVTP mode, the ODF-Receiver can synchronize it´s HOVTP-sessions to backup peers. This can be configured in a JSON file (web.config → HovtpSyncSettingsPath).

In case of failure of the master, one of the backup-systems can continue the sessions of the master.

Example:

```
{
 "SyncPeers": {
  "www-1-06-qa": {
   "Url": "http://192.168.101.59/api/HovtpSessionSync/",
   "Hostname": "qa.odf.sportresult.com"
  }
 },
```


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```
  "SyncWorkerTimeout": 10000
}
```

- SyncPeers: Dictionary of peers to synchronize the sessions.
  - **Url**: Target for the session information.
  - **Hostname**: HOSTNAME header can be overwritten with this parameter.
- SyncWorkerTimeout: Timeout in milliseconds for the synchronization operation.

2. API-Methods

a. http://<host.name/api/Odf
   - HTTP-POST method to receive ODF and HOVTP messages
     - **Parameter**: XML-data.
     - **Returns**: HTTP status-code of the operation (200 in case of success).
   - HTTP-OPTIONS used for HOVTP status-messages
     - See HOVTP documentation for details.

b. http://<host.name/api/ConnectionTest
   This GET method returns a configured HTTP status code as a connection-test. The returned code can be configured in the web.config (ConnectionCheckResponseCode).

A full description of all API methods is located in http://<yourServer>/Help

3. Storage

The storage contains all received messages, grouped into a folder structure

a. Latest messages
   Contains the latest version of each message. A new message will overwrite the old version
   Location:
   <StoragePath>\<CompetitionCode>\<Environment>\<FederationCode\<CurrentMessageStorage>

b. Erroneous messages
   Contains all messages which couldn´t be processed. Each erroneous message has a corresponding file with the extension .err which contains details about the error. The files are named <Timestamp><FilenameFieldSepparator><UUID>.xml with a corresponding .err file.
   Location:
   <StoragePath>\<CompetitionCode>\<Environment>\<FederationCode\<ErroneousMessageStorage>

c. Message versions
   This folder contains all versions of all messages. The messages are located in a separate folder per day (logical date from the message). The filename has a timestamp as prefix (also the logical date from the message).
   Location:
   <StoragePath>\<CompetitionCode>\<Environment>\<FederationCode\<VersionedStorage>

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d. Undeliverable messages
Contains messages which are valid but cannot be processed (e.g. configured feed-flag is P, message feed-flag is T). Each undeliverable message has a corresponding file with the extension .err which contains details about the error. The files are named <Timestamp><FilenameFieldSepparator><UUID>.xml with a corresponding .err file
Location:
<StoragePath>\<CompetitionCode>\<Environment>\<FederationCode\<UndeliverableStorage>

e. Unprocessed messages
Contains messages which are currently in processing by the service. The messages will be deleted automatically after the processing has been finished.
Location:
<StoragePath>\<CompetitionCode>\<Environment>\<FederationCode\<IncomingJournalStorage>

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