Changelog_for_GPW_WATS_2.01_Native_Order_Gateway_Specification_v1.7.5_vs_v1.7.10

3. DOCUMENT HISTORY

1.7.6-1.7.9		No changes in the document.
1.7.10	03.06.2026	Section 5.2.2 Recovery mode has been updated Section 5.2.3 Recovery Mode (DR Scenario / BCP Plan) has been added Section 5.3 Message Throttling – the measurement period has been updated

Detailes:

5.2.2

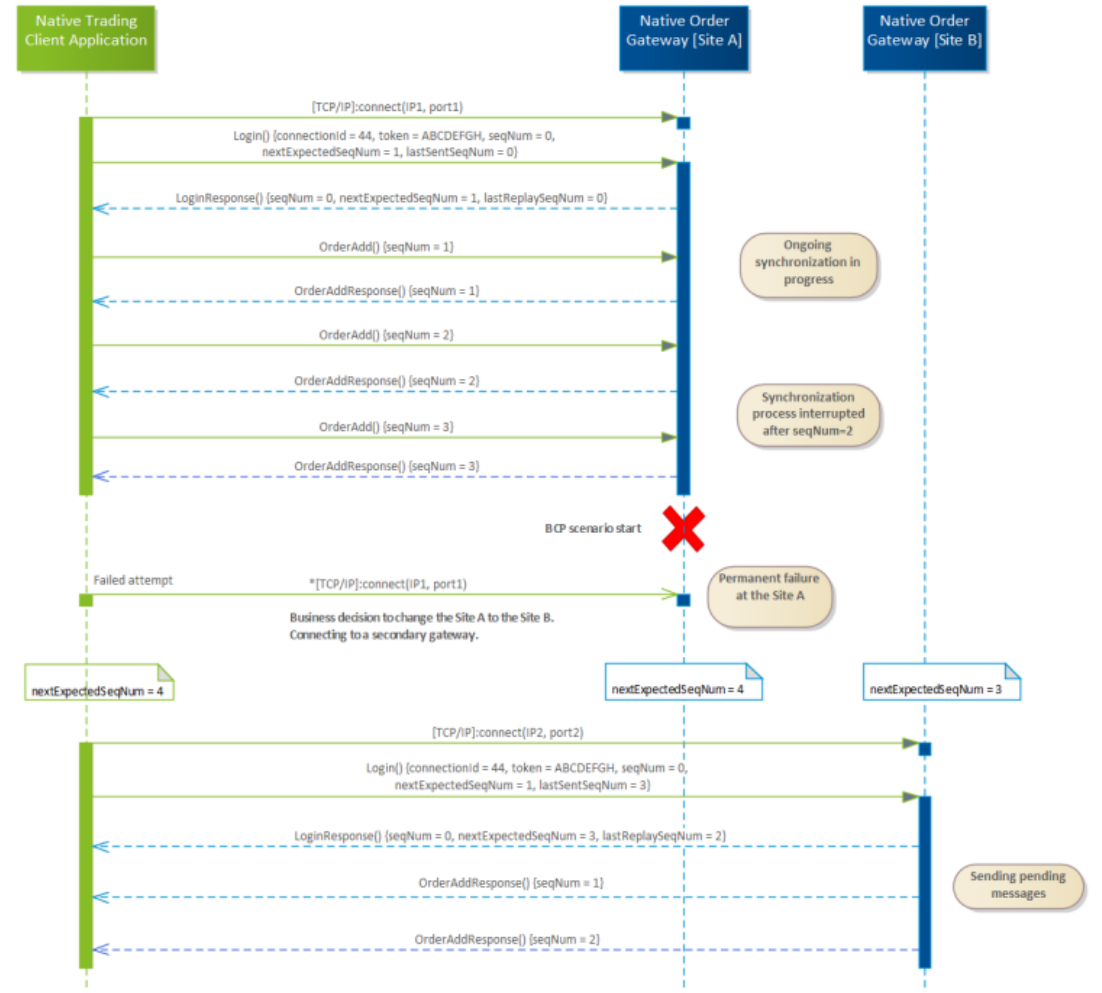
5.2.2. RECOVERY MODE

When the primary Gateway is unavailable for a long period (minimum 15 seconds), the procedure to switch to a secondary could be launched. It is a business decision of Exchange Member. The connection is established with the same login parameters but on a new IP address and a port number. After logging in, business messages are synchronized in the same manner as in the first case (i.e. failover mode). In case, during logging to site B, there is still open session remaining in Site A it will be closed and subsequently session in site B will be established. The diagram below shows such a situation. Exchange Member should number subsequent application messages in accordance with the sequence number received in the LoginResponse (the nextExpectedSeqNum field).

5.2.3

5.2.3. RECOVERY MODE (DR SCENARIO / BCP PLAN)

In the event of DR scenario, announced by GPW, the full restoration of the message state is necessary on the side of the Exchange Member. The nextExpectedSeqNum field in the Login message should be set to 1, which will enable the recovery of the entire state of messages received from WATS System.



5.3

5.3. MESSAGE THROTTLING

The throttling parameters are configurable at Gateway service as follows:

- The business limit level is configured for each connection and depends on the level of service provision agreed upon between System Operator and the Exchange Member. The measurement period - last ~~10~~2 seconds.
- The technical limit level is configured as an internal gateway parameter and is set to 5000 messages per second. The measurement period - last 100 milliseconds.

Changelog_for_GPW_WATS_2.02_FIX_Order_Gateway_Specification_v1.7.5_vs_v1.7.10

3. Document History

1.7.6-1.7.9		No changes in the document.
1.7.10	03.06.2026	Section 5.2 Message Throttling – the measurement period has been changed Section 6.5.2 Recovery mode has been updated

- Section 5.2 Message Throttling – the measurement period has been changed
- Section 6.5.2 Recovery mode has been updated

Detailes:

5.2

5.2. Message Throttling

- The throttling parameters are configurable at Gateway service as follows:
  - The business limit level is configured for each connection and depends on the level of service provision agreed upon between System Operator and Exchange Member. The measurement period - last ~~10~~2 seconds.

6.5.2

6.5.2. RECOVERY MODE

When the primary Gateway is unavailable for a long period (minimum 15 seconds), the procedure to switch to a secondary could be launched. In such a situation the connection should be established with the same FIX Session (i.e. SenderCompID, TargetCompID and BeginString) parameters but on a new IP address and a port number.

In the recovery mode, it is necessary to fully restore the message state on Exchange Member's side.

The sequence number of the restored messages may differ from those obtained from the previously used gateway. Data consistency on Exchange Member's side should be maintained at the level of business identifiers such as CliOrdId, OrderId, TradeId, TradeReportID, QuoteID.

Exchange Member will set the Logon message with MsgSeqNum and NextExpectedMsgSeqNum set to 1 and begin the login process with a zero state of their received messages storage. The Logon from the gateway side will contain NextExpectedMsgSeqNum set to the expected value. Exchange Member should set their sequence number to the one indicated in the Logon message received from the gateway. This is accomplished by sending a SequenceReset message.

Exchange Member will receive the complete state of messages from the gateway and will be able to continue operations.

In case of further connection issues, please contact the System Operator.

Please note that in case Gateway Member uses the CoD mechanism and disconnects without a logout message, which is natural for most failures, orders are cancelled (see section Cancel On Disconnect) but only in case there was no FIX Order Gateway failure. In case there was FIX Order Gateway or overal site A failure CoD mechanism will not be triggered.

In case, during logging to site B, there is still open Fix session remaining in Site A it will be closed and subsequently FIX session in site B will be established.

Changelog_for_GPW_WATS_3.01_Market_Data_Protocol_v1.7.5_vs_v1.7.10.pdf

3. Document History

1.7.6-1.7.9		No changes in the document
1.7.10	03.06.2026	7.8.2. ProductSummary – better description of the encryption features of the message and the use of the market attribute. 7.1.4. Sequence Of Messages In Auctions –table updated to make clear that OrderExecute messages are not generated for transactions which happen during auctions. 7.2.6.3. OrderExecute and Trade – Clarified that OrderExecutes are published for passive orders only and not for aggressive orders. 11.2.2. The Sequence Of Messages In An Aggressor Scenario – no OrderExecutes are published for the hidden part of an Iceberg aggressed by an incoming order. 11.6.3. Aggressive Order Removes Peak And Part Of Hidden Quantity – Table corrected. OrderExecute does not come out for the hidden part of the Iceberg. 11.6.4. Aggressive Order Removes Peak And Hidden Quantity - Table corrected. OrderExecute does not come out for the hidden part of the Iceberg.

Detailes:

7.1.4

7.1.4. SEQUENCE OF MESSAGES IN AUCTIONS

9	InstrumentStatusChange	Change of Market Phase	Switching into another Market Phase after Uncrossing (Continuous Trading or Auction). ~~Enriched Trade reports from the auction follow this message. Please note that no Execution reports (OrderExecute) are generated for auctions.~~
10	Trade	Trade	Enriched Trade reports from the auction follow Please note that no Execution reports (OrderExecute) are generated for auctions.

7.8.2.

7.8.2. PRODUCTSUMMARY

ProductSummary presents end-of-day summary statistics for a financial product.. It contains enriched summary information calculated from trading day statistics for the individual instruments stemming from that financial product which trade under that Market model. By default, it provides statistics for the CLOB, BLOCK, CLOSS and Hybrid instruments of a single financial product on a specific MIC code. It also provides several option-related statistics.

ProductSummary is ~~available to recipients with a valid subscription and requisite encryption keys~~encrypted only on the encrypted channel.

ProductSummary:market is an indicator of the market to which the instrument belongs. The following ~~markets are defined currently:~~list presents the markets that are currently defined. This list is designed to be flexible and extensible and may change. For this reason, it is not devised as an enum in the Market Data protocol.

7.2.6.3

7.2.6.3. OrderExecute and Trade

OrderExecute is sent ~~in pairs, one for each side,~~ when ~~an~~a passive order executes~~, and a tr~~ OrderExecutes are not produced ~~on the order book~~for aggressive orders. The message refers to ar by the publicOrderId field. The execution may be full, in which case quantity=0, or partial. The ID related Trade is provided by executionId.

OrderExecute is published immediately upon a match. Trade differs from OrderExecute in that it official record of the transaction and appears with a slight delay due to its size and contents.


```
{"header":{"length":82,"msgType":"OrderExecute","version":4096,"seqNum"
586,"timestamp":"2024-06-10 08:33:00.779924142","sourceTimestamp":"202
06-10
08:33:00.779484731","isEncrypted":false,"encryptionOffset":0,"encryptio
yId":0,"sessionId":793,"streamId":0},"quantity":0,"instrumentId":4669,"
licOrderId":11,"executionId":1,"executionPrice":13500000000,"execution(
tity":11}
```


The ~~first of two~~ OrderExecute messages inform of an execution in PKN Orlen shares, instrumentID=4 Order with publicOrderId=11 executed fully ("remaining" quantity=0) at a price of 135. The trade w reported by the Trade message with tradeId=executionId=1.

11.2.2

11.2.2. THE SEQUENCE OF MESSAGES IN AN AGGRESSOR SCENARIO

The general sequence of messages On Market Data in an aggressive match scenario is the following:

1. OrderExecutes are published for the passive orders hit by the aggressive order. No OrderExecute/s are/is published for the aggressor. No OrderExecutes are published for the hidden part of an Iceberg.
2. OrderAdd for the leftover part of the aggressive order is published. If the aggressive order is fully filled no OrderAdd is published.
3. Trade messages conveying final trade information are published. ~~The number of Trade messages will be equal to the number of OrderExecute messages.~~

11.6.3

11.6.3. AGGRESSIVE ORDER REMOVES PEAK AND PART OF HIDDEN QUANTITY

The messages from this order flow are shown in the next table.

Message flow on WATS Market Data

Step	Message	Message Details	Note
1	OrderAdd	N/A	OrderAdd for the aggressive buy limit is suppressed (order 160).
2	OrderExecute	N/A	OrderExecute attendant to the aggressive order is suppressed (order 160).
3	OrderExecute	Message=OrderExecute Quantity=0 PublicOrderId=101 ExecutionId=40 ExecutionPrice=200 ExecutionQuantity=100	OrderExecute related to the execution of the peak (order 101). The peak is exhausted and Quantity=0.
~~4~~	~~OrderExecute~~	~~Message=OrderExecute~~ ~~Quantity=0~~ ~~PublicOrderId=101~~ ~~ExecutionId=41~~ ~~ExecutionPrice=200~~ ~~ExecutionQuantity=100~~	~~The partial execution of the iceberg's hidden quantity (order 101).~~ ~~PublicOrderID refers to the Iceberg and Quantity=0~~
~~5~~4	Trade	Message=Trade Price=200 Quantity=100 TradeId=40	Trade message for the partial execution of peak.

11.6.4

11.6.4. AGGRESSIVE ORDER REMOVES PEAK AND HIDDEN QUANTITY

The messages from this order flow are shown in the next table.

Message flow on WATS Market Data

Step	Message	Message Details	Note
1	OrderAdd	N/A	OrderAdd for the aggressive buy limit is suppressed (order 160).
2	OrderExecute	N/A	OrderExecute attendant to the aggressive order is suppressed (order 160).
3	OrderExecute	Message=OrderExecute Quantity=0 PublicOrderId=101 ExecutionId=50 ExecutionPrice=200 ExecutionQuantity=100	OrderExecute related to the execution of the peak (order 101). The peak is exhausted and Quantity=0.
~~4~~	~~OrderExecute~~	~~Message=OrderExecute~~ ~~Quantity=0~~ ~~PublicOrderId=101~~ ~~ExecutionId=51~~ ~~ExecutionPrice=200~~ ~~ExecutionQuantity=100~~	~~The full execution of the iceberg's hidden quantity (order 101).~~ ~~PublicOrderID refers to the Iceberg and Quantity=0~~

20260602-Testy_PCN-wytyczne_PCN_v.1.3.pdf

3. HISTORIA DOKUMENTU

1.3	02.06.2026	Rozszerzenie opisu w rozdziale 5 Disaster Recovery: · Ujednolicono i doprecyzowano zasady działania w scenariuszach DR. · Wskazano ZCPD jako jedyne źródło aktualnego i referencyjnego stanu rynku. · Uporządkowano sekwencję działań GPW (komunikacja, przełączenie, anulacje, wznowienie/rozliczenie). · Doprecyzowano zasady unieważniania transakcji i zleceń. · Określono stan systemu po przełączeniu (aktualne kursy, puste arkusze). · Wzmocniono gwarancje spójności Market Data i obowiązki uczestników

- **unieważnieniem - decyzją Zarządu GPW - wszystkich transakcji po czasie wskazanym w komunikacie GPW,**
- **wysłaniem komunikatów anulujących (anulat) dla transakcji zawartych po uruchomieniu ZCPD lub przeniesionych do ZCPD w trakcie awarii, po czasie ostatniej transakcji uznanej za ważną,**
- **anulowaniem wszystkich zleceń aktywnych po uruchomieniu systemu transakcyjnego w ZCPD,**
- **umożliwieniem nawiązywania połączeń z systemem transakcyjnym GPW uruchomionym w ZCPD,**
- **określeniem gotowości Członków Giełdy do wznowienia notowań,**
- **określeniem godziny wznowienia notowań albo podjęciem decyzji o rozliczeniu sesji bez wznawiania notowań w ZCPD.**

Stan systemu transakcyjnego GPW uruchomionego w ZCPD obejmuje :

- **stan kursów dla instrumentów zgodny dostępnym w SNAPSHOT Market DATA oraz w danych dostarczonych w pliku awaryjnym**
- **puste arkusze zleceń**

5.1.1. MARKET DATA

GPW gwarantuje że komunikaty do godziny ostatniej transakcji poddanej w komunikacji GPW przewidzianej planem awaryjnym, będą zgodne zarówno co do zawartości merytorycznej jak i kolejnych numerów sekwencyjnych.
Wszystkie kolejne komunikaty będą posiadały numery zgodne z protokołami Market Data a ich zawartość będzie odpowiadała jedynemu aktualnemu stanowi aplikacji transakcyjnej uruchamianej w ramach planu awaryjnego w ZCPD.

Aplikacje klienckie, po przełączeniu do ośrodka zapasowego GPW (ZCPD), powinny bazować wyłącznie na danych rynkowych z tego ośrodka i na ich podstawie odtworzyć (zbudować) aktualny stan rynku, zgodnie z obowiązującymi, wewnętrznymi procesami przetwarzania danych.

GPW gwarantuje, że wszystkie komunikaty wysłane do momentu przełączenia systemu zgodnie z planem awaryjnym – tj. do chwili przetworzenia ostatniej transakcji w systemie podstawowym – będą spójne zarówno pod względem treści merytorycznej, jak i numeracji sekwencyjnej.

Wszystkie kolejne komunikaty będą posiadały numery sekwencyjne zgodne z protokołami Market Data, a ich zawartość będzie odzwierciedlała jedyny aktualny stan aplikacji transakcyjnej uruchomionej w ramach planu awaryjnego w ZCPD.

RPOCEDURA PRZYWRÓCENIA KOMUNIKACJI w obszarze MARKET DATA:
- przełączenie na strumień danych rynkowych dystrybuowany z ZCPD zgodnie z parametryzacja techniczną

Wykonie podłączenia zgodnie z :

GPW WATS 3.01 Market Data Protocol **pkt.: 4.3**

~~5.1.1.~~5.1.2. BIN

Procedura odtworzenia komunikacji w sytuacji uruchomienia scenariusz DR dla portu BIN opisana jest w dokumencie:

GPW WATS 2.01 Native Order Gateway Specification pkt.: 5.2.3. Recovery Mode (DR scenario / BCP Plan)

Procedura ma zastosowanie zawsze po uruchomieniu procedur DR po stronie GPW.

5.1.3. FIX

Procedura odtworzenia komunikacji w sytuacji uruchomienia scenariusz DR dla portu FIX opisana jest w dokumencie:

GPW WATS 2.02 FIX Order Gateway Specification (FIX 5.0) **pkt.: 6.5.2.1.**

Procedura ma zastosowanie zawsze po uruchomieniu procedur DR po stronie GPW.

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3. DOCUMENT HISTORY

1.3	02/06/2026	**Extension of the description in Chapter 5 – Disaster Recovery:** · The principles governing DR scenarios have been standardized and clarified. · BDC has been designated as the single source of the current and reference market state. · The sequence of GPW actions has been structured (communication, switchover, cancellations, resumption/settlement). · The rules for cancelling trades and orders have been refined. · The system state after switchover has been defined (current prices, empty order books). · Guarantees of Market Data consistency and participant obligations have been strengthened.

5. DISASTER RECOVERY -FAILURE SCENARIOS

5.1. MARKET DATA AND FIX/BIN CONNECTIONS

Due to the potential diversity of failures within DR scenarios (section 4.3.2), which may be triggered only in the event of large-scale incidents with significant impact on GPW IT systems, it is necessary to ensure the reliability and auditability of the trading session state processed or settled using the resources of the GPW backup site (Backup Data Center BDC).

Therefore, all systems connected to GPW systems, during the restoration of critical services, must treat the state of systems running in BDC as current and authoritative, both for the continuation of trading and settlement of the trading session, as well as—depending on the scenario—solely for settlement purposes.

The activation of DR scenarios, confirmed by full operational communication from GPW, results in the following sequence of information and actions on the GPW side:

- notification of the incident and activation of the DR scenario,
- execution of the switchover procedure to BDC,
- initiation of processes restoring the trading system functionality in BDC,
- determination of the time of the last valid transaction executed prior to the incident,
- invalidation, by decision of the GPW Management Board, of all transactions after the time indicated in the GPW communication,
- sending annulment messages (anulats) for transactions executed after the activation of BDC or transferred to BDC during the incident, following the last transaction considered valid,
- cancellation of all active orders after the trading system is launched in BDC,
- enabling connectivity to the GPW trading system operating in BDC,
- determination of Exchange Members' readiness to resume trading,
- determination of the trading resumption time or a decision to settle the session without resuming trading in BCD.

State of the GPW trading system launched in BDC:

- instrument prices consistent with SNAPSHOT Market Data and data provided in the emergency file,
- empty order books.

The activation of DR scenarios, confirmed by full operational communication from GPW, results in the following sequence of information and actions:

- notification of the incident and activation of the DR scenario,
- initiation of the switchover procedure to BDC,
- launch of processes restoring trading system functionality in BDC,
- determination of the time of the last valid transaction executed prior to the incident,
- invalidation—by decision of the GPW Management Board—of all transactions after the time indicated in the GPW communication,
- sending cancellation messages for transactions executed after the activation of BDC or transferred during the incident after the last valid transaction,
- **cancellation of all active orders after the trading system is launched in BDC,**
- enabling connections to the GPW trading system operating in BDC,
- determination of Exchange Members' readiness to resume trading,
- determination of the time of trading resumption or a decision to settle the session without resuming trading in BDC.

State of the GPW trading system in BDC includes:

- instrument prices consistent with SNAPSHOT Market Data and emergency file data,
- empty order books.

5.1.1. MARKET DATA

GPW guarantees that messages up to the time of the last transaction included in the emergency communication will be consistent both in content and in sequential numbering.

All subsequent messages will maintain sequence numbers compliant with Market Data protocols, and their content will reflect the single, current state of the trading application running under the DR plan in BDC.

Client applications, after switching to the GPW backup site (BDC), should rely **exclusively on market data from that site** and, based on it, reconstruct the current market state in line with their internal data processing procedures.

GPW guarantees that all messages sent before the system switchover in accordance with the DR plan—i.e., until the last transaction is processed in the primary system—will be consistent in both content and sequence numbering.

All subsequent messages will have sequence numbers compliant with Market Data protocols, and their content will reflect the current state of the trading system running in BDC.

Procedure for restoring communication in the Market Data area:

- switch to the market data stream distributed from BDC in accordance with technical configuration.

Connection should be established in accordance with:
GPW WATS 3.01 Market Data Protocol, section 4.3

5.1.2. BIN

The procedure for restoring communication in a DR scenario for the BIN port is described in: GPW WATS 2.01 Native Order Gateway Specification, section 5.2.3 (Recovery Mode – DR scenario / BCP Plan).

This procedure always applies after DR procedures are activated by GPW.

5.1.3. FIX

The procedure for restoring communication in a DR scenario for the FIX port is described in: GPW WATS 2.02 FIX Order Gateway Specification (FIX 5.0), section 6.5.2.1.

This procedure always applies after DR procedures are activated by GPW.