



Swiss Exchange

SIX Swiss Exchange

SWXess Maintenance Release 6 - Post Release (SMR6p)

Participant Readiness

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1 Introduction

1.1 Purpose and Scope

This document provides all business related information for the SWXess Maintenance Release 6 - Post Release (SMR6p), including functional and regulatory changes, the rollout plan as well as testing activities.

1.2 Changes Since Last Version

This is the first version of the document.

1.3 Definitions and Abbreviations

Term/Abbreviation	Explanation
CLOB	Central Limit Order Book – Market Model
FIX	Financial Information eXchange Protocol
IMI	ITCH Market Data Interface
MDI	Market Data Interface
MPOB	Mid-Point Order Book of SwissAtMid
OBM	On Book Matcher
OTI	OUCH Trading Interface
RDI	Reference Data Interface
SCAP	SIX Swiss Exchange Common Access Portal
SwissAtMid	SIX Swiss Exchange at Midpoint service
SWXess	Name of the SIX Swiss Exchange trading platform
SMR6p	Post Release to SMR6

1.4 References

Document	Link
SIX Swiss Exchange Messages	http://www.six-swiss-exchange.com/news/sse_messages/2016_en.html
Rule Book	http://www.six-swiss-exchange.com/participants/regulation/rules_regs_en.html
Directives	http://www.six-swiss-exchange.com/participants/regulation/directives_en.html
Trading Guides	http://www.six-swiss-exchange.com/participants/trading/trading_guides_en.html
Forms	http://www.six-swiss-exchange.com/participants/participation/forms_en.html
SMR Releases	http://www.six-swiss-exchange.com/participants/participation/smr_en.html
MSC Messages	https://secure.six-swiss-exchange.com/member_section/it/messages.html
Interface Specifications, Manuals and Guides	https://secure.six-swiss-exchange.com/member_section/it/manuals.html
Release Documents	https://secure.six-swiss-exchange.com/member_section/it/release_docs.html
IT FAQ	https://secure.six-swiss-exchange.com/member_section/it/faq.html

1.5 Contacts

1.5.1 Market Operations

For business related questions, please contact Market Operations:

Topic	Team	Phone	E-Mail
Participant Configuration Reporting Clearing & Settlement Billing	Member Services	+41 58 399 2473	member.services@six-group.com
Mistrades and Cancellations Emergency Deletions Suspensions	Exchange Operations	+41 58 399 2475	helpdesk.exc@six-group.com
Instrument Reference Data	Static Data Operations	+41 58 399 2490	zulassung@six-group.com

1.5.2 Local Support Centers

If you have technical questions, please contact your Local Support Center:

Location	Phone	Fax	E-Mail
Geneva	+41 58 399 5642	+41 58 499 5643	lsg@six-group.com
London	+44 20 7864 4364	+44 20 7864 4333	lsf@six-group.com
Zürich	+41 58 399 2400	+41 58 499 2400	lsz@six-group.com

1.5.3 Account Management

Please do not hesitate to contact your Account Manager for specific concern and interest:

Location	Phone	Fax	E-Mail
Continental Europe & Scandinavia	Martin Schönenberger	+41 58 399 2591	martin.schoenenberger@six-group.com
	Paul Tschirky	+41 58 399 4195	paul.tschirky@six-group.com
UK & Ireland	Tony Shaw	+44 207 864 4335	tony.shaw@six-group.com
	Jennifer Hlad	+44 207 864 4338	jennifer.hlad@six-group.com

Find further contact information on the [Contact & Support](#) page of the SIX Swiss Exchange website.

2 Summary and Overview

SIX Swiss Exchange is introducing a Post Release to SWXess Maintenance Release 6 as part of its ongoing improvement efforts. The SMR6 Post Release (SMR6p) is an upgrade which will mainly change the price step validation for SwissAtMid orders as well as solve some known issues identified in the market data distribution.

The SMR6 Post Release has been introduced in the Membertest environment on **9 January 2017** and will go live on **6 February 2017** in the Production environment.

This table gives an overview of the functional change with the SMR6 Post Release:

Area	Change	Reference in this document	Type of change
Trading without pre-trade transparency	Change of Price Step Validation for SwissAtMid orders	Section 3.1.1	Optional

Further details about changes to SWXess with the SMR6 Post Release are included in the [MSC Message No. 46/2016](#) published in the [Member Section](#) of SIX Swiss Exchange.

3 Functional Changes of SMR6 Post Release

3.1 Trading without pre-trade transparency

3.1.1 SIX Swiss Exchange at Midpoint (SwissAtMid)

On 17 October 2016, SIX Swiss Exchange successfully launched the new «SIX Swiss Exchange At Midpoint» (SwissAtMid) service that offers the opportunity for a guaranteed primary mid-point price execution in Swiss equity securities.

Currently orders submitted to SwissAtMid with a limit price must comply with the valid [Price Steps](#) which are configured for the Central Limit Order Book (CLOB) of the respective security. This solution prevents Participants from entering in-limit orders within the spread in SwissAtMid for liquid securities with the smallest price step spread in the CLOB.

With the SMR6 Post Release the validation of the price steps for orders routed directly to SwissAtMid with a limit price will be relaxed. As of 6 February 2017, Participants will be able to enter limit orders in SwissAtMid up to the lowest possible decimals configured in the «Significant Price Decimals» of the respective Trading Segment:

	Blue Chip Shares	Mid-/Small-Cap Shares																																																																														
Significant Price Decimals	4	3																																																																														
Price Steps for CLOB	<table border="1"> <thead> <tr> <th>Price from</th> <th>Price to</th> <th>Price Step</th> </tr> </thead> <tbody> <tr><td>0.0001</td><td>-</td><td>0.4999</td><td>0.0001</td></tr> <tr><td>0.50</td><td>-</td><td>0.9995</td><td>0.0005</td></tr> <tr><td>1</td><td>-</td><td>4.999</td><td>0.001</td></tr> <tr><td>5</td><td>-</td><td>9.95</td><td>0.005</td></tr> <tr><td>10</td><td>-</td><td>49.99</td><td>0.01</td></tr> <tr><td>50</td><td>-</td><td>99.95</td><td>0.05</td></tr> <tr><td>100</td><td>-</td><td>499.90</td><td>0.10</td></tr> <tr><td>500</td><td>-</td><td>999.50</td><td>0.50</td></tr> <tr><td>1000</td><td>-</td><td>4999</td><td>1.00</td></tr> <tr><td>5000</td><td>-</td><td>9995</td><td>5.00</td></tr> <tr><td>10000</td><td>-</td><td>and above</td><td>10.00</td></tr> </tbody> </table>	Price from	Price to	Price Step	0.0001	-	0.4999	0.0001	0.50	-	0.9995	0.0005	1	-	4.999	0.001	5	-	9.95	0.005	10	-	49.99	0.01	50	-	99.95	0.05	100	-	499.90	0.10	500	-	999.50	0.50	1000	-	4999	1.00	5000	-	9995	5.00	10000	-	and above	10.00	<table border="1"> <thead> <tr> <th>Price from</th> <th>Price to</th> <th>Price Step</th> </tr> </thead> <tbody> <tr><td>0.01</td><td>-</td><td>9.99</td><td>0.01</td></tr> <tr><td>10</td><td>-</td><td>99.95</td><td>0.05</td></tr> <tr><td>100</td><td>-</td><td>249.90</td><td>0.10</td></tr> <tr><td>250</td><td>-</td><td>499.75</td><td>0.25</td></tr> <tr><td>500</td><td>-</td><td>999.50</td><td>0.50</td></tr> <tr><td>1000</td><td>-</td><td>4999</td><td>1.00</td></tr> <tr><td>5000</td><td>-</td><td>and above</td><td>5.00</td></tr> </tbody> </table>	Price from	Price to	Price Step	0.01	-	9.99	0.01	10	-	99.95	0.05	100	-	249.90	0.10	250	-	499.75	0.25	500	-	999.50	0.50	1000	-	4999	1.00	5000	-	and above	5.00
Price from	Price to	Price Step																																																																														
0.0001	-	0.4999	0.0001																																																																													
0.50	-	0.9995	0.0005																																																																													
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1000	-	4999	1.00																																																																													
5000	-	and above	5.00																																																																													
Price Step for SwissAtMid	0.0001 independent from price	0.001 independent from price																																																																														

The Price Step change will only apply to orders submitted directly to SwissAtMid. The price limit of Normal Orders with Sweep, which are entered in the mid-point order book (MPOB) and are subsequently forwarded to the Central Limit Order Book (CLOB), must still comply with the valid Price Steps configured for the respective security.

Find below an overview of the price step validations:

Order attribute	Normal Order in CLOB	Normal Order in MPOB	Normal Order with Sweep from MPOB to CLOB
Routing Instruction	SWX	SWM	SWMX
Price Type	Market or Limit	Market or Limit	Market or Limit
Price	Price is defined per unit of quantity. Price must be on a valid price step for the respective security.	Price is defined per unit of quantity. Price is independent from price steps : – Blue Chip Shares 0.0001 – Mid-/Small-Cap Shares 0.001	Price is defined per unit of quantity. Price must be on a valid price step for the respective security.

Please note that the change to Price Steps for orders routed to SwissAtMid does not have any impact on the MPOB market model nor the SwissAtMid matching rules. Trades in SwissAtMid will be executed at the arithmetic mid-point price of the best bid and offer (PBBO) of the Primary Reference Exchange and will continue to be matched using size/time priority.

Note that orders with limit price in SwissAtMid is relevant only to determine whether the order is in-limit or out-of-limit. Only orders which are in-limit are considered for matching based on the size/time priority principle. Therefore, the limit price orders routed to SwissAtMid is a minimum condition to be considered for execution and does not influence the matching priority.

The simplification of the price step validation for Normal Orders in SwissAtMid is an optional change for Participants and does not require mandatory changes to the Standard Trading Interface (STI) or OUCH Trading Interface (OTI).

Participants not interested in submitting orders to SwissAtMid which do not comply with the Price Steps in the CLOB do not need to make any adjustments to their systems or processes.

Please find examples of SwissAtMid matching scenarios with the new price step handling in the Appendix of this document.



Further Reading

- [SMR6 – Participant Readiness](#)
 - [Directive 5: Trading Without Pre-Trade Transparency](#)
 - [Product Guide – Trading without pre-trade transparency](#)
 - [SIX Swiss Exchange At Midpoint \(SwissAtMid\)](#)
-

3.1.2 SIX Swiss Exchange Liquidnet Service (SLS)

The SIX Swiss Exchange Liquidnet Service (SLS) is not affected by the change of price steps in SwissAtMid.

SLS does not check tick sizes based on the price or trading currency.



Further Reading

- [Directive 5: Trading Without Pre-Trade Transparency](#)
 - [Product Guide – Trading without pre-trade transparency](#)
 - [SLS - direct access to Europe's largest pool of block liquidity](#)
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3.2 Other Service Offerings

3.2.1 Sponsored Access

The Sponsored Access service offering of SIX Swiss Exchange is not affected by SMR6 Post Release.

3.2.2 SIX Structured Products Exchange AG

SIX Structured Products Exchange is not affected by the SMR6 Post Release.

3.2.3 Bilateral Trading Platform for Structured Products (XBTR)

No functional changes apply to the Bilateral Trading Platform for Structured Products.

3.2.4 SIX Corporate Bonds

No functional changes apply to the credit trading platform SIX Corporate Bonds.

4 Technical Changes

The aggregation mechanism for market data messages disseminated via the ITCH Market Data Interface (IMI) for Co-Location participants will be re-enabled. For more details, please refer to [MSC Message No. 46/2016](#) published in the [Member Section](#) of SIX Swiss Exchange.



Further Reading

- [MSC Message No. 46/2016](#)
 - [Direct Trading Interfaces Specification \(OTI, QTI, IMI\)](#)
-

All relevant SWXess Specifications, Manuals and other artefacts can be downloaded from the [Member Section](#) of SIX Swiss Exchange:

Document	Link
MSC Messages	https://secure.six-swiss-exchange.com/member_section/it/messages.html
Specifications and Manuals	https://secure.six-swiss-exchange.com/member_section/it/manuals.html

5 Regulatory Changes

The functional changes introduced with the SMR6 Post Release also necessitate changes to the rules and regulations. The following directive and guides are affected in this respect and have been amended accordingly:

- [Directives](#) of SIX Swiss Exchange
 - Directive 5: Trading Without Pre-Trade Transparency
- [Trading Guides](#)

The updated version of the Directive and Guide are available on the website of the Exchange:

Document	Link
Directives	http://www.six-swiss-exchange.com/participants/regulation/directives_en.html
Trading Guides	http://www.six-swiss-exchange.com/participants/regulation/trading_guides_en.html

The following table contains a detailed overview of the amendments to the Directive:

Document	Type of Change	SIX Swiss Exchange Reference	Title
Directive 5: Trading without pre-trade transparency	Change	Clause 8.4.1	Price step
	Change	Clause 8.4.2	Round lot

A list of the revisions made to the Directive of SIX Swiss Exchange, including information on changes to content, affected clauses and effective dates, can be found at:

http://www.six-swiss-exchange.com/participants/regulation/revisions/rule_book_en.html

The Trading Guides have also been revised in connection with the introduction of SMR6 and are now available at:

http://www.six-swiss-exchange.com/participants/regulation/trading_guides_en.html

6 Migration

The upgrade to the SMR6 Post Release does not require the migration of transactional and reference data nor does it require any configuration changes.

- All order books will be migrated to SMR6 Post Release by SIX Swiss Exchange. No active orders will be deleted from the order books as a result of the migration and Participants do not have to take any actions in this regard.
- The On Order Book and Off Order Book trades will be migrated to SMR6 Post Release and therefore no post-trade processing restrictions apply. On Monday after the migration it is possible to correct and cancel on- and Off Order Book trades which were executed or reported on Friday before the migration.
- Off Order Book trades (On- and Off-Exchange) trades which have been reported before the migration and are subject to delayed publication according to Annex Q: Delayed Publication of [Directive 3: Trading](#) will be published via Market Data Interface (MDI) as normal after the migration to SMR6 Post Release if applicable.
- Trade and Transaction Reporting are not affected by this release and therefore no post-trade processing restrictions apply.

7 Key Dates

The following table shows the key dates of the SMR6 Post Release.

Date	Mbtst	Prod	Activity
16.12.2016	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Initial announcement and publication of updated STI specification document.
06.01.2017	<input checked="" type="checkbox"/>		Membertest environment migrated to SMR6 Post Release
09.01.2017	<input checked="" type="checkbox"/>		First business day in Membertest environment with SMR6 Post Release
17.01.2017	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Publication of updated Rules and Regulations
18.01.2017	<input checked="" type="checkbox"/>		Intraday Recovery Test with test scenario On Book Matcher Partition 1 "Equities" down
04-05.02.2017		<input checked="" type="checkbox"/>	Production environment migrated to SMR6 Post Release
06.02.2017		<input checked="" type="checkbox"/>	First business day in Production environment with SMR6 Post Release

8 Testing

Before the introduction of the SMR6 Post Release in the Production environment, Participants and third parties will have the possibility to test the new and changed functionality in the Membertest environment for 4 weeks.

SIX Swiss Exchange recommends that all Trading Participants and Independent Software Vendors (ISVs) test their own applications and interfaces during the Membertest phase.

Suggested test:

- Price Step change for SwissAtMid

You are kindly invited to contact Member Services (member.services@six-group.com) if you require assistance with testing in the Membertest environment.

Information about automated testing services provided by SIX Swiss Exchange in the Membertest environment is available on the [SWXess Testing Services](#) page in the [Member Section](#).

Please refer to the following links for further information about the Membertest environment availability and trading hours:

Document	Link
Environment Calendar	http://www.six-swiss-exchange.com/participants/participation/environment_calendar_en.html
Trading Hours	http://www.six-swiss-exchange.com/download/participants/participation/calendar/Trading_Hours_Membertest.pdf

Further details about testing activities during the Membertest phase such as Background Load tests, Recovery- and Failover tests are available in the [MSC Message No. 46/2016](#) published in the [Member Section](#) of SIX Swiss Exchange.

Appendix

Matching Scenarios for SwissAtMid

Please find further Matching Scenarios for SwissAtMid in the Annex of the [SMR6 Participant Readiness](#) brochure published on the [SWXess Maintenance Releases](#) page on the website of SIX Swiss Exchange.

Price Step

The examples below show some examples of the changed behaviour.

Please note the following conditions apply for all matching scenarios:

- The order marked in **red** is the entering order
- The MPOB orders in *italic* are in-limit
- The remaining quantity of the order is in **bold**
- The order ID gives indication in which sequence the orders have entered the book(s)
- The Stop Trading Range of the security is 2%
- The Price Steps in CLOB are validated according to the [Price Step Overview](#) and the Price Steps for MPOB correspond to the lowest possible decimal of the configured significant price decimal

Read the conditions of the scenarios as well as the order book constellations carefully.

Scenario	1	Blue Chip Shares with Price Step 0.01 in CLOB and orders with smaller Price Step in MPOB										
Conditions	Mid-Point Price = 45.105 Significant Price Decimals = 4											
CLOB	Bid					Ask						
	Entity Party Capacity	Type Validity Routing	ID	Hidden Qty	Visible Qty	Price	Visible Qty	Hidden Qty	ID	Type Validity Routing	Entity Party Capacity	
						45.1100	20	-	O2	Normal Good Till Date SWX	5 5000 R	
	4 4000 P	Iceberg Good for Day SWX	O1	900	100	45.1000						
MPOB	Bid					Ask						
	Entity Party Capacity	Type Validity Routing	ID	MEQ	Quantity Orig Qty	Price	Quantity Orig Qty	MEQ	ID	Type Validity Routing	Entity Party Capacity	
						<i>Market</i>	<i>500</i> <i>500</i>	-	<i>O15</i>	<i>Normal</i> <i>Good for Day</i> <i>SWM</i>	<i>3</i> <i>3000</i> <i>R</i>	
						46.1000	1000 5000	100	O13	Normal Good till Date SWM	2 2000 P	
						45.1062	1000 5000	100	O14	Normal Good till Date SWM	6 6000 P	
	4 4000 P	Normal Good till Date SWM	O10	-	2000 2000	45.1060						
5 5000 R	Normal Good for Day SWM	O11	300	600 3000	45.0001							
Result	500 shares of order O15 are executed against the limit order O10 at mid-point price 45.105 O10 remains in the MPOB with 1500 shares.											
Comment	The new relaxed price step validation allows the order entry to the MPOB which are within the smallest spread of the CLOB.											

Scenario	2	Blue Chip Shares with smallest Price Step in CLOB and rounded mid-point price									
		Mid-Point Price = 0.45015 (arithmetic)									
Conditions		Mid-Point Price = 0.4502 (rounded up)									
		Significant Price Decimals = 4									
CLOB	Bid					Ask					
	Entity Party Capacity	Type Validity Routing	ID	Hidden Qty	Visible Qty	Price	Visible Qty	Hidden Qty	ID	Type Validity Routing	Entity Party Capacity
						0.4502	20	-	O2	Normal Good Till Date SWX	5 5000 R
	4 4000 P	Iceberg Good for Day SWX	O1	900	100	0.4501					
MPOB	Bid					Ask					
	Entity Party Capacity	Type Validity Routing	ID	MEQ	Quantity Orig Qty	Price	Quantity Orig Qty	MEQ	ID	Type Validity Routing	Entity Party Capacity
						<i>Market</i>	<i>500</i> <i>500</i>	-		<i>Normal</i> <i>O15 Good for Day</i> <i>SWM</i>	<i>3</i> <i>3000</i> <i>R</i>
						0.4610	1000 5000	100	O13	Normal Good till Date SWM	2 2000 P
						0.4562	1000 5000	100	O14	Normal Good till Date SWM	6 6000 P
	4 4000 P	Normal Good till Date SWM	O10	-	2000 2000	0.4502					
5 5000 R	Normal Good for Day SWM	O11	300	600 3000	0.4500						
Result	500 shares of order O15 are executed against the limit order O10 at mid-point price 0.4502 O10 remains in the MPOB with 1500 shares.										
Comment	The mid-point price is rounded up to the next price step because the arithmetic mid-point price has more decimals than the significant price decimals value defined for the respective security. The new relaxed price step validation for orders does not support more decimals than the configured value for significant price decimals in the reference data.										

Scenario	3	Mid-/Small-Cap Shares with smallest Price Step in CLOB and orders with smaller Price Step in MPOB									
Conditions		Mid-Point Price = 0.455 Smallest Price Step in CLOB = 0.01 Significant Price Decimals = 3									
CLOB	Bid					Ask					
	Entity Party Capacity	Type Validity Routing	ID	Hidden Qty	Visible Qty	Price	Visible Qty	Hidden Qty	ID	Type Validity Routing	Entity Party Capacity
						0.460	20	-	O2	Normal Good Till Date SWX	5 5000 R
4 4000 P	Iceberg Good for Day SWX	O1	900	100	0.450						
MPOB	Bid					Ask					
	Entity Party Capacity	Type Validity Routing	ID	MEQ	Quantity Orig Qty	Price	Quantity Orig Qty	MEQ	ID	Type Validity Routing	Entity Party Capacity
						Market	500 500	-		Normal O15 Good for Day SWM	3 3000 R
						0.461	1000 5000	100	O13	Normal Good till Date SWM	2 2000 P
						0.456	1000 5000	100	O14	Normal Good till Date SWM	6 6000 P
	4 4000 P	Normal Good till Date SWM	O10	-	2000 2000	0.455					
5 5000 R	Normal Good for Day SWM	O11	300	600 3000	0.450						
Result		500 shares of order O15 are executed against the limit order O10 at mid-point price 0.455 O10 remains in the MPOB with 1500 shares.									
Comment		The mid-point price is not rounded because the supported significant price decimals for the respective security is 3. SwissAtMid supports orders with more decimals than the price steps in CLOB.									

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