

# Nasdaq Calypso MS Trade Interface

Version 5.0.3

Revision 1.0 February 2022 Approved



#### Copyright © 2024, Nasdaq, Inc. All rights reserved.

All content in this document is owned, or licensed, by Nasdaq, Inc. or its affiliates ('Nasdaq'). Unauthorized use is prohibited without written permission of Nasdaq.

While reasonable efforts have been made to ensure that the contents of this document are accurate, the document is provided strictly "as is", and no warranties of accuracy are given concerning the contents of the information contained in this document, including any warranty that the document will be kept up to date. Nasdaq reserves the right to change details in this document without notice. To the extent permitted by law no liability (including liability to any person by reason of negligence) will be accepted by Nasdaq or its employees for any direct or indirect loss or damage caused by omissions from or inaccuracies in this document.

# **Document History**

Revision	Published	Summary of Changes		
1.0	Apr 2015	New Document		
2.0	May 2015	Added release notes for PBFA 2.8.1		
3.0	Jul 2015	Added release notes for PBFA 2.11.0		
4.0	Jul 2015	Added release notes for PBFA 2.12.0		
5.0	Aug 2015	Added release notes for PBFA 2.13.0		
6.0	Aug 2015	Updated the release notes for PBFA 2.14.0		
7.0	Nov 2015	Updated the release notes for PBFA 2.15.0		
8.0	Jun 2019	Updated the release notes for PBFA 3.8.1		
9.0	February 2020	Updated the release notes for PBFA 4.0.0		
10.0	October 2021	Release Notes are now provided in the PBFA Module Release Notes, and Core Calypso Monthly Release Notes.		
11.0	February 2022	Updated for version 5.0.0, 5.0.1, 5.0.2, 5.0.3 Technical release only – Version 17.0 compatibility		

This document describes the interface between MS and Calypso.



# **Table of Contents**

First Level	Heading.		Error! Bookmark not defined.
1.1	Second I	evel Heading	Error! Bookmark not defined.
	1.1.1	Third Level Heading	Error! Bookmark not defined.
Using Style	es		Error! Bookmark not defined.
2.1	Using Bo	dy Text Styles	Error! Bookmark not defined.
2.2	Using Bu	llets	Error! Bookmark not defined.
2.3	Using Ta	bles	Error! Bookmark not defined.
2.4	Using Dia	agrams	Error! Bookmark not defined.



# Introduction

Morgan Stanley (MS) provides execution and clearing services. MS requires an hourly feed of data. This service is a Web-based platform enabling clients to upload their trade data.

The need has come from several Calypso clients to automate the use of this service by having functionality in Calypso to upload the trade data to MS.

The following sections in this document will describe Calypso functionality to address this need.



# Interface Design

### Scope

Listed derivatives [futures, options on futures and listed options] cleared by Morgan Stanley.

Products supported by the interface include the following:

- Future MM
- Future FX
- Future Dividend
- Future Equity Index
- Future Volatility
- Future Bond
- Future Commodity
- Future Option Bond
- Future Option Dividend
- Future Option MM
- Future Option FX
- Future Option Equity Index
- Future Option Volatility
- ETO Equity
- ETO Equity Index
- ETO Volatility
- CFD Directional
- CFD Pair Trading
- CFD Convertible Arbitrage



# **Functional Analysis**

The new exchange functionality consists of one scheduled task:

• For exporting trade data to MS (INTERFACE\_FEED).

#### Assumptions

- User has the valid MS User Name and Password to upload Trades (This needs to be Configured on The Scheduled Task)
- All uploading to MS is done in the CSV format.
- All upload with MS is over SFTP protocol.
- User has datauploader jar in classpath. These are part of the package delivered. Note that if Uploader is used for some other purpose (other than MS), it needs to be licensed separately

List of jars to be in classpath:

- cal-upload.jar
- datauploader-xxx.jar
- edtftpj-pro-xxx.jar
- sjsxp-xxx.jar
- pbfa-xxx.jar



### Configuration

All the domain values and mapping types are inserted in the database by running the Execute SQL. In the Execute SQL window, add the "SchemaBase.xml" (found in release), "GatewaySchemaBase.xml" (found in datauploader) and "PBFASchemaData.xml" as shown in the screenshot below:

🔀 Execu	te SQL ( 1.55 ) on jdbc:oracle:thin:	@localhost:1521:or	l using oracle.jdb	c.OracleDriver		_		- 0 X
URL jdbc:	oracle:thin:@localhost:1521:ord		User CALYPSO_1	4SP2		Version Major: 14	/inor: 0 Sub: 0 Patch: 22	
Data M	odel Definition (Sources)							
D:\caly	pso\calypso-14.0.0.22.SP2\dient\bin	\dbscripts\GatewaySc	hemaBase.xml					•
D:\caly	pso\calypso-14.0.0.22.SP2\dient\bin	dbscripts PBFASchem	aData.xml					
Data in	cluded in synchronization							
All		Citco		GlobeOP		V MS		
E SEI	ſ	StateStree	t	🕅 pbfa				
		Synchronize Co	olumns and Data	C Load Stored Procedure SQL	K Loa	d Drop Table SQL		
SQL Prev	iew							
Executed	SQL Output							
-								00,00,00
								00:00:00

Mapping from Calypso values to the MS values:

All the columns / types of calypso that have different values at MS side need to be mapped with corresponding MS values from the Calypso Mapping window.

Navigate to the Calypso Mapping window using Processing > Tools > Calypso Mapping (menu action mapping.CalypsoMappingWindow) from the Calypso Navigator.

The following screenshot shows the calypso mapping window:



Z Calypso Mapping Window		
Calypso Mapping Window	Name: Interface Value: Calypso Value: Reverse Default: << Add >> Remove Configure Interfaces Configure Types	MS/OptionPutCall C CALL
Load		Close



### Import Report Template

Configure Report Window from the Main Entry Configurator as follows.

Menu Bar       Favorites         Image: Reports       Name: MSTrade         Image: MSTrade       Action: reporting.ReportWindow\$MSTrade         Image: SEICash       Image: ReportBook\$MSTrade         Image: SEITrade       Image: ReportBook\$MSTrade         Image: PBFATradeDiary       Image: ReportBook\$MSTrade         Image: Report Launcher       Image: ReportBook\$MSTrade         Image: PBFATradeDiary       Image: PBFATrade         Image: PBFATradeDiary<	Z MainEntry Customizer						
Reports   MSTrade   SEICash   SEITrade   PBFATradeDiary   Report Launcher   Report Browser   PBFA Trade   PBFA Trade   Trade Diary   BO Browser   -     Name:   Mstrade   Action:   reporting.ReportWindow\$MSTrade       Action:   reporting.ReportWindow\$MSTrade         Mnemonic:   Accelerator:     Insert     Apply	Menu Bar Favorites						
Accounting Reports         Asset Management         Audit         calypso_user         Load       Defaults         Clear       Save         Duplicate       Uncustomize         Test       Close         Duplicate for Group       Merge Default (by Drag&Drop)	Reports  SEICash  SEITrade  PBFATradeDiary  Report Launcher  PBFA Trade  PBFA Trade  BO Browser  BO Browser  Calypso_user  Load  Test  Close	Name: Action: Icon: Mnemonic: Defaults Duplicate f	MSTrade reporting.ReportWindow\$MSTrade Accelerator: Insert Apply Clear Save Duplicate Uncustomize for Group Merge Default (by Drag&Drop)				

#### Launch the Report window.

MSTrade Report (4/16/15 10:52:11 AM)		
Report Data View Export Market Data Utilities Help		
Criteria		† ×
Template Description	🔲 Undo Date	
Trade Start - 💌 💌 End	+	·
Settle Start - 🗸 💌 End	+ • SD Filter	Sec Code BB_CA 💌
Process Start - 💌 💌 End	+ • Filter Set	
Maturity Start End	+     Open Currency	
Trade Id ID 💌	Product Family	
Trade Attribute Contains	Product Type	
Buy/Sell Max Rows#	Product Id	
Bunde III V III	Books	
CP role: ALL	Status	
Processing Org	Action	
		Pricing Details: Current - OFFICIAL - Archive: OFF

Import the Template (resources/calypso/mapping/ms/PBFATrade\_MS\_Final.xml) from the menu Utilities > Import Templates.



🛃 Open			-		×
Look i	n: 🕕 ms			🔹 🤌 📂 🛄 -	
Recent Items	PBFATrac	le_MS_Final.xml			
Desktop					
My Documents					
Computer					
Network	File name: Files of type:	PBFATrade_MS_Final.x	kml	▼	Open Cancel

Template imported.



🔀 MSTrade Repor	rt (4/16/15 10:52:11 AM) / PBFATrade_MS_Final			
Report Data V	View Export Market Data Utilities Help			
🖬 🖳 🎯				
Criteria				t ×
Template	e Description		Undo Date	
Trade	Start -	End + •	Trade Filter ALL	
Settle	Start -	End + •	SD Filter Sec Code	BB_CA
Process	Start	End + -	Filter Set	
Maturity	Start -	End + • Open	Currency	
Trade Id			Product Family uture,ETO,FutureOption,CFD	
Trade Attribute	✓ Contains		Product Type ding,CFDConvertibleArbitrage	
Buy/Sell	Max Rows#		Product Id	
Bundle	Id 🔻		Books	
CP rol	ke: ALL		Status	
Processi	ing Org Include Child	Legal Entities	Action	
O Using template: I	PBFATrade_MS_Final		Pricing Details: Current - OFFICIAL 👻	Archive: OFF

#### Exporting - Scheduled Task (INTERFACE\_FEED):

- This Scheduled task uploads the Trade Report Data to MS.
- This task will be used with a trade filter to select the trades to be sent to MS.
- When you run this task, you can choose the trades from a trade filter or by passing dates as described below. If using scheduled task, create the trade filter first and then use it from the Scheduled Task Window and Save that task.

Scheduled task will use the following attributes to describe where and how the xml file will be sent.

Attribute	Description
Interface Name	Always "MS"
Instance	Give an instance name if multiple instances of same scheduled task need to be run.
Output Folder	C:/Test (To generate Temp Files to Send to MS)
Output File Name	Set the prefix for the output file name.
Report Type	MSTrade
Template Name	Name of the Template
Start Date	->Start Date (mm/dd/yyyy) ->Empty when Using Trade Filter (or) for trades created today.
End Date	End Date (mm/dd/yyyy) ->Empty when Using Trade Filter (or) for trades created today.
TransportType	SFTP
HostName	Host Name
UserName	Login Name
Password	Login Password
Destination	Destination url



Attribute	Description
Load Type	<leave blank=""></leave>
Ргоху Туре	DIRECT

#### 2.2.4.1 Output File Name

The transformed files will be saved in the output directory specified in the scheduled task attribute "Output Folder" having the file name prefix specified in the scheduled task attribute "Output File Name".

Output Folder	D:\Output\MS
Output File Name	MS

The resultant file name will have the "<prefix\_specified><timestamp>.xml". The below screenshot shows a sample file name.

#### MS20150410030044.csv

Below screenshot shows the scheduled task window showing the INTERFACE\_FEED scheduled task.

Scheduled Task Definitions & Schedules         Scheduled Tasks can be defined and scheduled for execution below. In the first table define your scheduled tasks and use the second panel to decide when each task is executed         Task Definitions         Image: Schedule Task Conce       Image: Schedule Task Conce         Image: Conce New       Image: Conce         Image: Conce	Scheduled Task Definition & Sched	luling	- 4			
Scheduled Tasks can be defined and scheduled for execution below. In the first table define your scheduled tasks and use the second panel to decide when each task is executed         Task Definitions         Image: Scheduled Tasks can be defined and scheduled for execution below. In the first table define your scheduled tasks and use the second panel to decide when each task is executed         Task Definitions         Image: Scheduled Tasks can be defined and scheduled for execution below. In the first table define your scheduled tasks and use the second panel to decide when each task is executed         Task Definitions         Image: Scheduled Tasks can be defined and scheduled for execution below. In the first table define your scheduled tasks and use the second panel to decide when each task is executed         Image: Schedule Schedule Content and the second panel to decide when each task is executed         Image: Schedule Schedule Content and the second panel to decide when each task is executed         Image: Schedule Schedule Content and the second panel to decide when each task is executed to the second panel to decide when each task is executed         Image: Schedule Schedule Schedule Content and the second panel to decide tasks and use the second panel to decide taskshold panel to decide tasks and use tasks and	Scheduled Task Definitions & S	Schedules				
Task Detritions         Image: Second Secon	Scheduled Tasks can be defined and	scheduled for execution below	v. In the first table define	your scheduled tasks and use the se	cond panel to decide when each task	is executed
Image: New Task       Image: New Chain       Image: Cone       Image: New Chain       Image: Cone       Image: New Chain       Image: New	Task Definitions					
External Reference       ID       Type       Trade Filter       Processing Org       Description         MarkitPV_Confirm_1       7120       INTERFACE_CONFIRMATION       INTERFACE_CONFIRMATION       INTERFACE_FEED       INTERFACE_FEED         MarkitPV_Interface_Feed       10620       INTERFACE_FEED       INTERFACE_FEED       INTERFACE_FEED         SEL_AccountActivity_Report       10120       INTERFACE_FEED       INTERFACE_FEED       INTERFACE_FEED         SEL_InterfaceFeed       9120       INTERFACE_FEED       INTERFACE_FEED       INTERFACE_FEED         SEL_AccountActivity_Report       10120       INTERFACE_FEED       INTERFACE_FEED       INTERFACE_FEED         SEL_Commetriate       Schedule       Schedule       INTERFACE_FEED       INTERFACE_FEED       INTERFACE_FEED         Schedule       InterfaceFeed       9120       INTERFACE_FEED       INTERFACE_FEED       INTERFACE_FEED       INTERFACE_FEED         Schedule       InterfaceFeed       Execute On Holidays       Poletar       InterfaceFeed       Interface	New Task 📑 New Chain 🔠	Clone 🙀 Delete 🜔 Run	🖑 Refresh ( 🕦 Info			
■ MarkitPV_Confirm_1       7120       INTERFACE_CONFIRMATION         ■ Ms_interfaceFeed       10620       INTERFACE_FEED         ■ MarkitPV_InterfaceFeed       10120       INTERFACE_FEED         ■ Guintilion_01       8620       INTERFACE_FEED         ■ SEI_AccountActivity_Report       10120       INTERFACE_FEED         ■ Guintilion_01       8620       INTERFACE_FEED         ■ SEI_InterfaceFeed       9120       INTERFACE_FEED         ■ Gitto_Inst_1       7620       INTERFACE_FEED         ■ Greate New       ■ Cone       ■ Delete       ● Enable         ● Enable       ● Refresh       ■ Report	External Reference	ID Type		Trade Filter	Processing Org	Description
Image: Subset Sector       10620       INTERFACE_FEED         MarkitPV_Interface_Feed       8120       INTERFACE_FEED         SEL_AccountActivity_Report       10120       INTERFACE_FEED         Quintilion_01       8620       INTERFACE_FEED         SEL_InterfaceFeed       9120       INTERFACE_FEED         Citco_Inst_1       7620       INTERFACE_FEED         Schedule       Image: Sector       Image: Sector         Image: Create New       Delete       Image: Sector         Trigger Name       Task External Reference       Task ID       Schedule	MarkitPV_Confirm_1	7120 INTERFACE	CONFIRMATION			
MarkitPV_Interface_Feed       8120       INTERFACE_FEED         Stl_AccountActivity_Report       10120       INTERFACE_FEED         QuintIlin_01       8620       INTERFACE_FEED         Stl_InterfaceFeed       9120       INTERFACE_FEED         Cito_Inst_1       7620       INTERFACE_FEED         Schedule       InterfaceFeed       Instable         Trigger Name       Task External Reference       Task ID         Schedule       InterfaceFeed       InterfaceFeed         Trigger Name       Task External Reference       Task ID         Schedule       InterfaceFeed       Holiday Types	MS_InterfaceFeed	10620 INTERFACE	_FEED			
SEL_AccountActivity_Report       10120       INTERFACE_FEED         Quintilion_01       8620       INTERFACE_FEED         SEL_InterfaceFeed       9120       INTERFACE_FEED         Citco_Inst_1       7620       INTERFACE_FEED         Schedule       Interface       Interface         Create New       Cone       Delete       Enable         Trigger Name       Task External Reference       Task ID       Schedule	MarkitPV_Interface_Feed	8120 INTERFACE	_FEED			
Quintilion_01       8620       INTERFACE_FEED         SEL_InterfaceFeed       9120       INTERFACE_FEED         Ottoo_Inst_1       7620       INTERFACE_FEED         Schedule       Image: Create New Im	SEI_AccountActivity_Report	10120 INTERFACE	FEED			=
SEL_InterfaceFeed       9120       INTERFACE_FEED         Citco_Inst_1       7620       INTERFACE_FEED         Schedule       InterfaceFeed       InterfaceFeed         Create New       Create New       Create New       Delete         Delete       Disable       Enable       Report         Trigger Name       Task External Reference       Task ID       Schedule	Quintillion_01	8620 INTERFACE	FEED			
Citco_Inst_1       7620       INTERFACE_FEED         Schedule       INTERFACE_FEED         Create New       Cone       Delete         Create New       Cone       Delete         Trigger Name       Task External Reference       Task ID         Schedule       Execute On Holidays       Holiday Types	SEI_InterfaceFeed	9120 INTERFACE	_FEED			
Schedule         Create New       Cone       Delete       Disable       Enable       Refresh       Report         Trigger Name       Task External Reference       Task ID       Schedule       Execute On Holidays       Holiday Types	Citco_Inst_1	7620 INTERFACE	E_FEED			<b>T</b>
Trigger Name Task External Reference Task ID Schedule Execute On Holidays Holiday Types	Create New Clone R Del	lete 🔘 Disable 🔵 Enable	e 🤣 Refresh 🛛 🛅 Rep	ort		
	Trigger Name	Task External Reference	Task ID	Schedule	Execute On Holidays	Holiday Types

If we want to check if there are any errors during the trade upload to MS using the INTERFACE\_FEED scheduled task, we can check the same from the task station. The task station displays all the validation errors that occurred while sending the trades to MS.



📕 User Task Statio	on Defaults [140022SP2/calypso	R14_dev/cal	ypso_user]				23
User Name	calypso_user cal	ypso_user	•	Config Name	Default		
Start Days	-1 End Days 2		Filter				
Date Type	TaskDatetime 👻						
Books			Book Attrs				
Inherit							
L	Merge To Group		Duplicate To	User	Duplicat	e To Group	
Tab Name Event Class	MS Exception		List of Define Messages In	d Tabs valid Contact			
Event Types	EX_INFORMATION EX_INTERFACE_EXCEPTION	>>	Edited Messa Messages Av Confirm Mato Nacked Conf	ages Auth Queu vaiting Respons ching Actions ìrm	ie ie	Up	]
All		<<	DTCC Confirr DTCC Alleged Pending Inco	m Monitor d ming SWIFT Co	onfirms	Down	]
Clear			Alleged FX Co Other Except	onfirms tions			
Set			Gateway Message SET				
Remove			MS				

The below is the screenshot of task station displaying the errors:

Z Task Station/cal	lypso_user/Default	Take Take	Parameter Second						
Configure Apply Status Priority Action Inspect Utilities Find Help									
From 04/15/20	015 Date Type TaskDatetime   Event Class Tr	rade 🔻 ID 💌	LoadRef Local filter None						
To 04/18/2015 Time Zone GMT   Load Process Free Pass Over Complete									
root	Messages Invalid Contact [1]	Edited Messages Auth Queue	Messages Awaiting Response	Confirm Matching Actions					
ľ	Nacked Confirm DTCC Confirm Monitor	DTCC Alleged Pending Incoming SWIFT Confirms	Alleged FX Confirms Other Exceptions	Gateway Message [2] SEI [11] MS [2]					
From 04/15/2015 To 04/18/2015									
	Task Id Trade Id Status Date & Time	Book Task Status Task Owner Comment	Priority User Comment	Object Id Object					
	135726 0 4/16/15 11:08:02.366 AM GM	MT NEW INTERFACE_FEED faile	d NORMAL [Connection timed out: connect]	10620					
	135725 0 4/16/15 11:05:40.744 AM GM	MT NEW INTERFACE_FEED faile	d NORMAL [missing property. HostName , missing property. U	serName , missing property. PassWord ] 10620					
Hierarchy									
Summary -									
Pricing Env OFFI	CIAL - Refresh	V Event Server		Close					