# **CHESS Access EIS Upgrade**

ASX mFund Enhancements CHESS 10 Release

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# Contents

1	Acronym Glossary	4
2	Introduction	5
2.1	Overview	5
2.2	Scope of Release	5
2.3	Accreditation	5
2.4	Modified CHESS Messages	6
2.5	Next Steps	7
2.6	Contacting ASX-CHESSPC	7
3	EIS Upgrade 8	
3.1	CHESSPC – EIS Upgrade Kit	8
3.2	CHESSPC – EIS Upgrade Pre-requisite	8
3.3	CHESSPC – EIS Upgrade	10

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## **Document History**

Version No.	Date	Author	Description
V1.0	01/06/2018	Satpal Dhillon	CHESS Release 10 requirements included. For a view of CHESS 10 Requirements, please go to: <u>CHESS 10 Project Website</u>

# **1** Acronym Glossary

Acronym	Definition	
APG	ASX Settlement Procedure Guidelines	
ASX Clear	ASX Clear Pty Ltd	
ASX Settlement	ASX Settlement Pty Ltd	
CHESS	Clearing House Electronic Sub-System Common Reporting Standard	
CRS		
EIS	CHESS External Interface Specification	
FATCA	Foreign Account Tax Compliance Act (US)	
HIN Holder Identification Number (CHESS)		

# 2 Introduction

### 2.1 Overview

This document outlines the following:

- New or modified CHESS data messages
- Procedures to upgrade existing CHESS Access installations with the latest EIS release.

#### An EIS upgrade requires a new CHESS Access code as your existing version of CHESS Access will not function correctly for EIS94. The new CHESS Access version is CHESS Access40b.jar;

Please take a copy of your current *Jar* file, replace it with the *CHESS Access40b.jar* file, and then rename it as your original *Jar* file.

The upgrade procedure to be followed depends on the CHESS Access interface and connection configuration used and the version of EIS you are currently on.

The following interface types are supported:

- MQSeries interface
- JDBC interface
- Signals Protocol interface

## 2.2 Scope of Release

The scope of mFund enhancements to CHESS are:

	Enhancement	
1	Restructuring of the Application request to focus this message on application details	
2	Introduction of a HIN to HIN transfer function.	
3	Introduction of a dedicated Foreign Tax compliance (CRS/FATCA) message to accompany 'Initial Application and Transfer requests, and to act as a stand-alone maintenance message.	
4	Introduction of an Investor details message to accompany 'Initial' Application and Transfer requests, and to act as a stand-alone maintenance message.	
5	Removal of a number of redundant fields from various messages.	
6	Inclusion of an optional Unit Price on the Unit Adjustment message.	
7	Inclusion of an additional field for Part C NA Annual Income Statements.	

## 2.3 Accreditation

CHESS Access has completed certification for the following new and modified messages:

#### 2.3.1 New CHESS Messages

- MT735 Foreign Tax Status
- MT736 Foreign Tax Status Details
- MT737 Investor Details
- MT738 Participant Investor Details
- MT740 Cancelled Fund Request
- MT851 CHESS to CHESS Fund Transfer Request
- MT852 Fund Transfer Response
- MT853 CHESS to CHESS Fund Transfer Request Details
- MT854 CHESS to CHESS Fund Transfer Response

#### 2.3.2 Modified CHESS Messages

- MT718 Issuer Sponsored Fund to CHESS Conversion Request
- MT719 Issuer Sponsored Fund to CHESS Authorisation Request
- > MT720 Accepted Participant Request (EIS *Pre-Requisites* modified)
- MT722 Fund Response (EIS *Pre-Requisites* modified)
- MT726 Application Request
- MT727 Application Order Request
- MT729 Application Order/Payment Plan Application Response
- MT730 Effected Application Order/Payment Plan Application Response
- MT732 Unit Adjustment
- MT733 Effected Fund Unit Adjustment
- MT800 Redemption Request
- MT801 Redemption Order Request
- MT802 Redemption Order Response
- MT803 Effected Redemption Order Request
- MT806 Switch Request
- MT807 Switch Order Request
- MT808 Switch Order Response
- MT809 Effected Switch Order Request
- MT845 Unit Reversal Notification
- MT846 Effected Unit Reversal Notification
- MT957 Registry Income Statement Part A
- MT962 Participant Income Statement Part A
- MT967 Registry Income Statement Part C NA

CHESSAccess Upgrade: V 1.0

MT972 Participant Income Statement Part C NA

## 2.4 Next Steps

The information in this document should be used to upgrade CHESS Access instances in accordance with the CHESS External Test and Production schedules. The exact dates for CHESS External Test Environment and production go-live will be communicated closer to the time.

## **2.5** Contacting ASX – CHESS Access

For any information regarding upgrade of CHESS Access, ASX can be contacted on:

- Satpal Dhillon Senior Analyst Programmer
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# 3 EIS Upgrade

Full details of new and modified CHESS messages can be found in the following document:

Business and Technical Overview, mFund Settlement Service Enhancements CHESS 10 Project Website

## 3.1 CHESS Access – EIS Upgrade Kit

The EIS upgrade kit will contain the following files:

- ► EIS94.BAT
- ► EIS94.TXT
- EIS94.SQL
- CHESSAccess41b.jar
- ChessAccessEIS94Upgrade.doc
- CHESSMESSAGES\_Table.sql
- CHESSMESSAGES\_Numeric\_Table.sql

See Appendix B for a detailed description of these files.

The upgrade kit consists of folders for each database type currently supported and tested for use with CHESS Access. These are:

- ➢ DB2
- Oracle8i/9i
- > mySQL
- MSSQL
- Sybase

Each database folder contains a customised copy of the EIS94.BAT and EIS94.TXT files.

Important Note: Please ensure that you use the version that applies to your database.

## 3.2 CHESS Access – EIS Upgrade Pre-requisite

The following questions and answers will guide you through the pre-upgrade procedure and determine if you need to upgrade:

- **Q.** <u>What type of connection and interface are you using?</u>
- CHESS Access supports two interface types, MQSeries or JDBC Database. To determine the type of interface you are using, do the following:
  Edit the CHESS Access configuration file *gateway.xml* located in the CHESS Access installation folder. You should see one of the following connection tags:
  <chess\_to\_mq\_connection>
  <chess\_to\_jdbc\_connection>

<signals\_to\_mq\_connection> <signals\_to\_jdbc\_connection>

If you find *mq\_connection*, you are using MQSeries as the interface connection and You DO NOT require an upgrade. However, you will need to make changes to your internal interface application that receives CHESS messages via MQSeries to accept the new and changed messages as described in Appendix A.

If you find *jdbc\_connection*, you are using JDBC as the interface connection.

- **Q.** <u>What is the database table type used?</u>
- A. Edit the CHESS Access configuration file *gateway.xml* located in the CHESS Access installation folder. Check the contents of the *<table\_type>* tag.

If this tag is set to "FIELD", then you are using field based message storage and retrieval. For this type of set-up you will have to follow the CHESSFIELD upgrade procedure as described in 3.3.1.

If this tag is set to "MESSAGE", then you are using message based storage and retrieval. For this type of JDBC connection, you will have to change your internal interface application to accept the changed and new messages as described in 3.3.2.

## **3.3 CHESS Access – EIS Upgrade**

## 3.3.1CHESSFIELD Upgrade

It is important before proceeding with this upgrade, that you take a full backup of the database.

#### 3.3.1.1 Delete Existing Data

The following action should be done by your database administrator or someone familiar with SQL. Use the following SQL command to delete all rows from the CHESSFIELDS table:

DELETE FROM CHESSFIELDS

or

DELETE \* FROM CHESSFIELDS

The following screen shot is an example of MSSQL:



#### 3.3.1.2 Load new data

There are two ways to populate the CHESSFIELDS table:

- 1. By directly running the EIS94.SQL script
- 2. By running the EIS94.BAT file as follows:
  - Retrieve the upgrade files EIS94.TXT and EIS94.BAT from the upgrade kit folder associated with the database you are using (DB2, Oracle, MYSQL, MSSQL, Sybase).
  - Copy the EIS94.TXT and EIS94.BAT to the CHESS Access installation folder.
  - Edit the file EIS94.BAT and change the Java class path, device driver used, database path, username and password used in the command to suit your environment (see Appendix B).
  - From a DOS command window, use the CD command to navigate to the CHESS Access installation folder. Then execute the batch file by typing in EIS94.BAT at the DOS prompt. This will execute the RunScript java class and update the CHESSFIELDS table.

The following screen shots show the output when the batch file is executed for an MSSQL database:

😅 C:\Windows\system32\cmd.exe	- 🗆 ×
C:\ChessAccess/eis92.bat	<b></b>
C:\ChessAccess>java au.com.asx.dbforchess.RunScript net.sourceforge.jtds.jdbc.Driver jdbc:jtds:sqlserver://localhost:1433/CHESSA s "testuser" "testuser" EIS92.txt жижихижижихижихихижихихихихихихихихихих	cces
Arguments supplied:-	
Driver : net.sourceforge.jtds.jdbc.Driver Url : jdbc:jtds:sqlserver://localhost:1433/CHESSAccess User : testuser Password : testuser File : El892.txt	
Loading JDBC database driver net.sourceforge.jtds.jdbc.Driver Establishing database connection Loading script file EIS92.txt Loading line number: 1 Loading line number: 2 Loading line number: 3 Loading line number: 4 Loading line number: 6 Loading line number: 6 Loading line number: 7 Loading line number: 8 Loading line number: 10 Loading line number: 10 Loading line number: 12 Loading line number: 12 Loading line number: 12 Loading line number: 13 Loading line number: 14 Loading line number: 15 Loading line number: 15 Loading line number: 16 Loading line number: 17 Loading line number: 18	
Loading line number: 19 Loading line number: 21 Loading line number: 22 Loading line number: 22 Loading line number: 23 Loading line number: 25 Loading line number: 25 Loading line number: 25 Loading line number: 27 Loading line number: 29 Loading line number: 30 Loading line number: 31 Loading line number: 32 Loading line number: 35 Loading line number: 35	



## 3.3.2 CHESSMESSAGE Database Table Upgrade

It is important before proceeding with this upgrade, that you take a full backup of the database.

*Note:* This change should be made by someone familiar with the database you are using (either a database administrator or development person responsible for the database).

The CHESSMESSAGE table provides the structure of every Chess field in columns starting with FIELD nnn where nnn is the field number.

#### 3.3.2.1 Non Sybase Databases (MSSQL, Oracle, DB2)

This section is for the databases other than a Sybase database; for Sybase databases please refer to 3.3.2.2.

- Update FIELD 250, FIELD 252, FIELD 253, FIELD 254, FIELD 255, FIELD 256, 1. FIELD 258, FIELD 259, FIELD 260 -> VARCHAR(15)
- 2. Update FIELD\_251 -> VARCHAR(13)
- 3. Update FIELD\_261, FIELD\_262 -> VARCHAR(8)
- 4. Update FIELD 263, FIELD 264 -> VARCHAR(5)
- 5. Update FIELD 257 -> CHAR(1)
- 6. Update FIELD\_163 -> VARCHAR(2)
- 7. Update FIELD 218, FIELD 219 -> VARCHAR(30)
- 8. Update FIELD\_228, FIELD\_229 -> VARCHAR(6)
- 9. Update FIELD 227 -> VARCHAR(10)
- 10. Update FIELD\_243 -> VARCHAR(50)
- 11. Update FIELD\_063 -> VARCHAR(3)

A full list of the fields and their types can be found in the CHESSMESSAGES.SQL file. A full list of CHESSMESSAGES can be found in the CHESSMESSAGES Table.sql file.

The following screenshot is an example of changes applied to an MSSQL database. The columns that require changes are highlighted.

Ξ	FIELD_003 (Varchar(3), hu	III)	
	FIELD_163	varchar(2)	<b>V</b>
		1 2-5	
	FIELD_218	varchar(30)	1
	FIELD_219	varchar(30)	1
	FIELD_227	varchar(10)	1
	FIELD_228	varchar(6)	<b>V</b>
	FIELD_229	varchar(6)	1

#### FIELD 062 (constraint) and 0

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FIELD_243	varchar(50)	1
FIELD_250	varchar(15)	
FIELD_251	varchar(13)	
FIELD_252	varchar(15)	•
FIELD_253	varchar(15)	•
FIELD_254	varchar(15)	
FIELD_255	varchar(15)	
FIELD_256	varchar(15)	•
FIELD_257	char(1)	
FIELD_258	varchar(15)	
FIELD_259	varchar(15)	•
FIELD_260	varchar(15)	•
FIELD_261	varchar(8)	•
FIELD_262	varchar(8)	
FIELD_263	varchar(5)	
FIELD_264	varchar(5)	

#### **3.3.2.2** Sybase Database

This section is for a Sybase database; for databases other than a Sybase database please refer to 3.3.2.1.

- 1. Update FIELD\_250,FIELD\_252 , FIELD\_253, FIELD\_254, FIELD\_255, FIELD\_256 , FIELD\_258, FIELD\_259 , FIELD\_260 ->NUMERIC(15,2)
- 2. Update FIELD\_251 -> NUMERIC(13,5)
- 3. Update FIELD\_261, FIELD\_262 -> VARCHAR(8)
- 4. Update FIELD\_263, FIELD\_264 -> VARCHAR(5)
- 5. Update FIELD\_257 -> VARCHAR(1)
- 6. Update FIELD\_163 -> VARCHAR(2)
- 7. Update FIELD\_218, FIELD\_219 -> VARCHAR(30)
- 8. Update FIELD\_228, FIELD\_229 -> NUMERIC(6,0)
- 9. Update FIELD\_227 -> NUMERIC(10,0)
- 10. Update FIELD\_243 -> VARCHAR(50)
- 11. Update FIELD\_063 -> VARCHAR(3)

CHESSAccess Upgrade: V 1.0

A full list of the fields and their types can be found in the CHESSMESSAGES.SQL file. A full list of CHESSMESSAGES can be found in the CHESSMESSAGES\_Numeric\_Table.sql file.

The following screenshot is an example of changes applied to a SYBASE database. The columns that require changes are highlighted.

FIELD_063	varchar(3)	
FIELD_163	varchar(2)	
FIELD_218	varchar(30)	
FIELD_219	varchar(30)	
FIELD_227	numeric(10, 0)	<b>V</b>
FIELD_228	numeric(6, 0)	<b>V</b>
FIELD_229	numeric(6, 0)	
FIELD_243	varchar(50)	$\checkmark$
FIELD_250	numeric(15, 2)	$\checkmark$
FIELD_251	numeric(13, 5)	$\checkmark$
FIELD_252	numeric(15, 2)	$\checkmark$
FIELD_253	numeric(15, 2)	$\checkmark$
FIELD_254	numeric(15, 2)	$\checkmark$
FIELD_255	numeric(15, 2)	$\checkmark$
FIELD_256	numeric(15, 2)	$\checkmark$
FIELD_257	char(1)	$\checkmark$
FIELD_258	numeric(15, 2)	$\checkmark$
FIELD_259	numeric(15, 2)	$\checkmark$
FIELD_260	numeric(15, 2)	$\checkmark$
FIELD_261	varchar(8)	$\checkmark$
FIELD_262	varchar(8)	$\checkmark$
FIELD_263	FIELD_263 varchar(5)	
FIELD 264	varchar(5)	

#### 3.3.2.3 Gateway.xml File Modifications (Sybase Database only)

The gateway.xml file is the configuration file for CHESSAccess ; The setting information given with the Tag <numeric\_field\_list> is the list for the numeric fields and their precision. This setting will be changed with this new one as following:

<numeric\_field\_list>3D,4D,12I,13I,16I,17I,19I,20I,24I,29I,46I,52I,53I,54I,55I,57I,61I,64I,66I,67D,68 D,73D,80I,82I,86I,94I,95I,98I,106I,108I,110I,123I,124I,136D,137D,138I,155D6,158I,164I,165D,166 D,171I,181D,194I,196I,198I,199D4,211D4,212D4,213D4,214D4,215D4,220D6,221D6,223D,224D, 225D6,227I,228I,229I,230D6,232D6,233D6,235D6,236I,237D,238D6,239I,241I,242I,244I,250D,25 1D5,252D,253D,254D,255D,256D,258D,259D,260D</numeric\_field\_list>

# **4** Appendices

## 4.1 Appendix A – Upgrade kit files

### 4.1.1 EIS94.BAT

This batch file executes the RunScript java class to update the database. The format of the command used is as follows:

> Java RunScript [JDBC driver name] [Datbase URL] [username] [password] [Scritpt filename]

To obtain the values for these parameters, edit the CHESSAccess configuration file **gateway.xml** and get the values within the tags shown in the table below. This file can be found in the CHESSAccess installation folder:

Command line parameter	XML tag in gateway.xml
JDBC driver name	<driver>&lt;\driver&gt;</driver>
Database URL	<url>&lt;\url&gt;</url>
Username	<username>&lt;\username&gt;</username>
Password	<password></password>

The parameter [Script filename] is set to EIS92.TXT

The following is an example:

java au.com.asx.dbforchess.RunScript net.sourceforge.jtds.jdbc.Driver jdbc:jtds:sqlserver://localhost:1433/CHESSAccess "testuser" "testuser" EIS92.txt java – Execute Java run time au.com.asx.dbforchess.RunScript – Location and name of Java class net.sourceforge.jtds.jdbc.Driver – Location and name of JDBC driver jdbc:jtds:sqlserver://localhost:1433/CHESSAccess – Location and name of database "user1" – Username to be used to connect to the database "pwd1" – Password to be used to connect to the database EIS94.txt – Name of script file to execute. This contains the SQL commands required to update the database

**Note:** For this batch file to execute correctly, please ensure that all class path definitions have been entered correctly according to your CHESSAccess, database driver and Java installation. Also ensure that the username and password is set according to your environment. The following is the BAT file for MSSQL:

REM	
REM	Batch File : EIS93.BAT
REM	Purpose : Executes Java Class RUNSCRIPT to load the CHESSFIELDS database table
REM	Parameters : [JDBC driver name] = Database driver details
REM	[Database URL] = Database location
REM	[Username] = Username for connecting to database
REM	[Password] = Password for connecting to database

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REM	[Script filename] = EIS93.TXT - data file that contains SQL	
REM	Parameter values can be obtained from GATEWAY.XML con	figuration file in
REM	the Chess ACCESS install folder	
REM	Parameter values can be obtained from GATEWAY.XML con	figuration file in
REM	the Chess ACCESS install folder	
REM		
REM Replace	the parameters, enclosed in square brackets, in the following	g line to suit your environment
REM======		
java RunScript	[JDBC driver name] [Datbase URL] [username] [password] [S	critpt filename]
REM		
REM		
REM		
REM The follo	wing line is an example	
REM java au.c	om.asx.dbforchess.RunScript net.sourceforge.jtds.jdbc.Driver	r jdbc:jtds:sqlserver://localhost:1433/CHESSAccess
"testuser" "te	stuser" EIS92.txt	

### 4.1.2 EIS94.TXT

An SQL script will be executed when EIS94.BAT is submitted. The script will create a new row for every Field in all CHESS Messages.

### 4.1.3 CHESSMESSAGES\_Table.SQL

This SQL script is for reference for field definitions for a non-Sybase database. This file can be used for reference for the database field definitions.

### 4.1.4 CHESSMESSAGES\_Numeric\_Table.SQL

This SQL script is for reference for field definitions for a Sybase database. This file can be used for reference for the database field definitions.

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