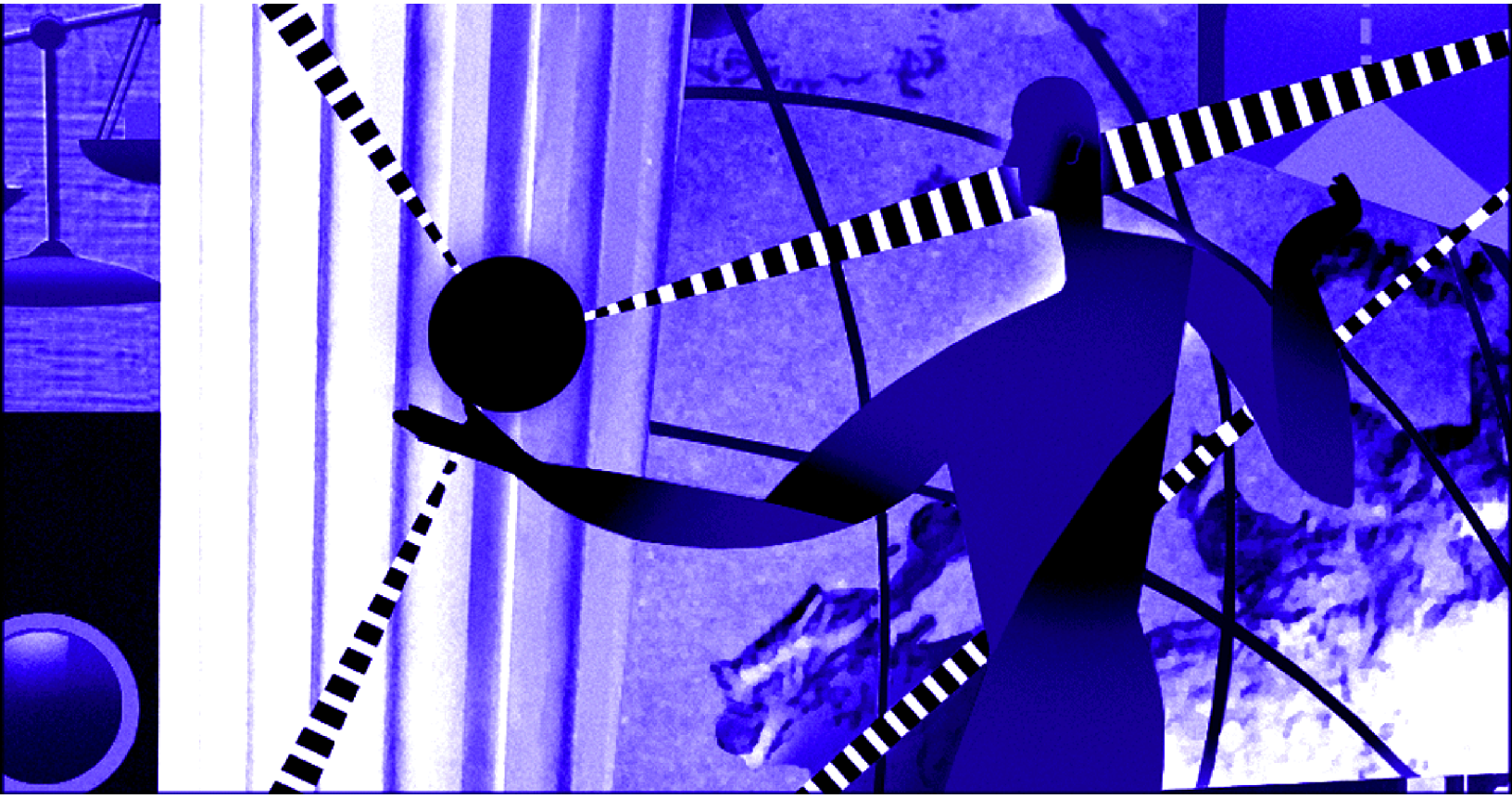
OASYS GLOBAL™ DIRECT



OASYS Global Direct Release Notes

Version 3.4.2

August 2000

Thomson Financial ESG
22 Thomson Place
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OASYS Global Direct Version 3.4.2 Release Notes

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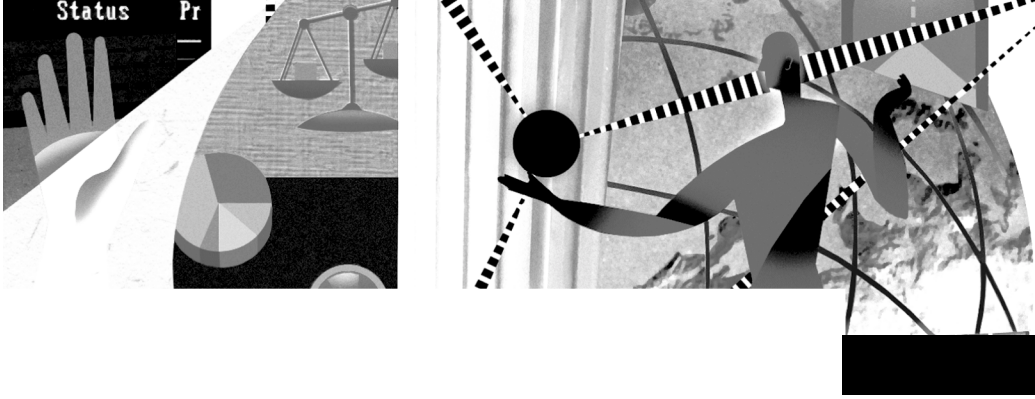


1 Overview

The purpose of this document is to describe conditions of the 3.4.2 client software update of OASYS Global *Direct* (OGD) version 3.3 that are relevant to the Broker and Institution using OGD. This includes general maintenance, specific system improvements, and documentation that are new to this release, as well as any known defects. Detailed descriptions of changes follow the summary section as described below.

Please contact your Integration Consultant with any questions regarding update 3.4.2.

The 3.4.2 Release of OASYS Global Direct goes into production on 11 March 2000, during the weekend maintenance period.

2 References

OASYS Global Direct MT511 Message Specification

OASYS Global Direct Programmer's Guide to the TCP API

3 Enhancements to Previous Release

3.1 MOA Comms Upgrade

OGD has received a communications Messaging Open Application Programmers' Interface (MOA API) upgrade to version 6.8. Changes required to existing applications are as follows:

- NT — MOA for Windows NT uses the Windows socket library (**wsock32.dll**) to communicate with the host via TCP/IP. Note that the library, **moa.lib**, replaces the library, **winmoa32.lib**, from OGD 3.3.

Note! There is a new **MOA_SET** program. You must regenerate your MDS configuration file using the new **MOA_SET** program after rebuilding. Refer to the "MOA Configuration" chapter in the *Message Delivery System TCP/IP API Programmers Guide*.

- Solaris — For the SUN, the statically linked library, **libmds.a**, has been replaced by a shared library, **libMOA.so**, and its static counterpart **libMOA.a**. These files must be put in a known common place (for example., */usr/local/lib*). To link, pass the flags *-L/usr/local/lib -lMOA* (substituting the appropriate directory for the *-L* flag). To run using this shared library, add */usr/local/lib*, or the appropriate directory, to the *LD_LIBRARY_PATH* environment variable of the UNIX user which invokes the client application. (Note that if you actually use */usr/local/lib*, you probably will not need to modify *LD_LIBRARY_PATH*.)

3.2 MT511 Message Parser Upgrade

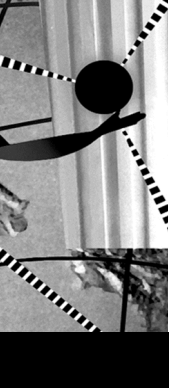
The following upgrades to the MT511 Messaging Parser are now in effect with OGD 3.4.2.

3.2.1 Maturity Dates Limitation Removed

This change applies to all date fields, although the Maturity Date field is most likely to be carrier of extended future dates. In OGD 3.3, a message with a date greater than 2037 fails to translate at the host. In OGD 3.4.2, that same message will translate and be sent to the investment manager with the greater date.

3.2.2 British Pound Sterling Symbol (£) Handled

In OGD 3.3, a single white space replaces the pound symbol (£). OGD 3.4.2 now supports the British Pound Sterling symbol. The £ is represented by an ASCII code of octal 243.



3.2.3 ALERT Country Codes Accepted, CH1 & CH2

In the OGD 3.4.2 parser, the 3x (three alphanumeric characters) replaces the 3a (three alpha characters) format for field :***72B:/ALCC/***.

The software upgrade allows the alphanumeric ALERT codes to be processed successfully. New tables will be made available on the OGD ftp site. This affects primarily investment managers, however brokers may receive settlement instructions too. This affects field ***:72B:/ALCC/***. You should contact your Account Executive and discuss with your regional integration team representative before implementing this change, as configuration changes at the host are necessary to complete the change. The default will be to maintain CHA and CHB indefinitely.

3.2.4 Slash and Colon Character Handling Improved.

Slashes (/) occurring in the first position of a field, directly after the closing colon (:) on a tag, no longer cause a parsing failure. Also, a colon leading a continuation line no longer is “escaped” by a space unless the colon starts what would otherwise be a legal MT511 tag.

3.2.5 Defines Added to Parser Header Files

New and missing defines in the parser include files associated with the ***:72C:*** field have been added:

REASON_CODE_LEN
REASON_NARRATIVE_LEN
REASON_NARRATIVE_LINE_CNT
REASON_NARRATIVE_LINE_LEN

3.2.6 Directed Commissions Capability Added

Tag ***:23Q:***, Type of Commission Sharing Arrangement, is expanded to include a new value, *02*, to indicate that a trade's commission is to be directed to a third party.

Note! This functionality will be enabled in the OG system in early Q2 2000. Please consult your Thomson Financial ESG integration consultant for more details.

3.2.6.1 Background

The use of this value is intended to be used in conjunction with a special syntax and firm code list which should populate tag ***:72:***, ***Sender to Receiver Information***. In block-level electronic trade confirmation, it is the OGD institution who populates field ***:72:*** in a TA, whereas in contract-level trade confirmation, it is the OGD broker who populates field ***:72:*** in a CN.

In OASYS Global *Direct* 3.3, tag ***:23Q:*** was either not present, or contained the value *01* to indicate whether a trade's commission was Hard or Soft. In OASYS Global *Direct* 3.4.2 this field has been extended to include *02*, the *02* indicating trades with directed commissions. In addition, the ***Sender to Receiver Information*** field, tag ***:72:***, may be used in conjunction with the ***Type of Commission Sharing Arrangement*** field to indicate the third party to whom the commission is to be directed.

In addition to implementing the 02, two other methods are used to assist in the processing of allocations with directed commissions:

1. A special syntax should be used in the Sender to Receiver Information Field, tag ***:72:***, so that clients can identify the third party to whom the trade's commission is being directed.
2. A list of third party firm codes will be maintained starting in Q1 2000 external to OASYS Global, based on existing clients' OG acronym or created by Thomson Financial ESG. THis will be updated weekly, and made available on ESG's extranet web site (*http://www.thomsonesg.com/client/f-clie.htm*).

The ESG-recommended syntax is:

```
(::Firm Code From List::)
```

The firm code list will be dynamic (in that it will be maintained on a weekly basis). The initial draft of this list is included in Appendix A of this document. When final, the document will contain alphanumeric data and will be of variable length, up to eight characters maximum. Note that the final list will also include city, ISO country, and ALERT information.

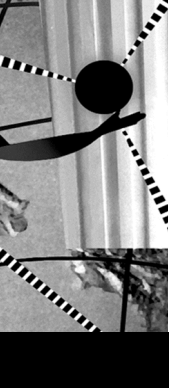
An example of what a block-level institution, or broker doing business with a contract-level institution, would enter in the Sender to Receiver Information field (along with specifying 02 in the Type of Commission Sharing Arrangement field) is:

```
(::ASESORES::)
```

In the example above, the instruction would be an indication that the commission associated with this allocation is a commission that is to be directed to A. B. Asesores Bursatiles S.A.

3.2.6.2 Implementation

The use of and adoption of the method for indicating that a trade's allocation contains directed commission information will need to be agreed-upon between trading partners. The addition of new codes to the firm list in Table 6-1, “Broker List Sample,” on page 9, will be administered by ESG's regional offices via Account Managers.



3.3 Other Improvements

There are two other improvements to OGD. Version 3.4.2 now allows the insertion of space for some multi-line fields (e.g., ***:72:***). There are also new ***:72C:*** field values.

3.3.1 Insertion of space for some multi-line fields

For any MT511 field with continuation lines (e.g., ***:72:***), OGD inserts an extra space for each continuation line which happens to begin with a valid MT511 tag (e.g., ***:23M:***). Without this extra space, the parser cannot distinguish between a continuation line and a separate (new) tag. The result of this extremely rare situation is that the effective maximum width of these fields is reduced by one for each space inserted.

For outbound (from an OG host perspective) multi-line fields, the data is broken down into 35-character segments. If a valid MT511 tag begins a continuation line in the resultant field, then a space is inserted before each colon leading each continuation line (even if the colon character does not start an actual MT511 tag). Such circumstances have never been seen in practice.

For inbound multi-line fields, processing is dependent on the field itself. For ***Comments*** (***:72:***) and ***Narrative*** (***:72A:***), newlines (that is, "line wraps") are retained when the total number of characters in the field, including the newlines, is less than or equal to the maximum field width (175 characters). If the total number of characters in the field, including the newlines, exceeds the maximum field width, (176 or greater in the case of ***:72:*** and ***:72A:***) then the newlines are removed.

Consider the following examples for fields ***:72:*** and ***:72A:***:

```
:72:12345678901234567890123456789012345
12345678901234567890123456789012345
12345678901234567890123456789012345
12345678901234567890123456789012345
12345678901234567890123456789012345678901
```

This is forwarded to the workstation as:

```
12345678901234567890123456789012345
12345678901234567890123456789012345
12345678901234567890123456789012345
12345678901234567890123456789012345
12345678901234567890123456789012345678901
```

This is because the total number of characters (including newline, which is not visible) is exactly 175 characters. Except in the rare cases noted above, line wrap will be preserved in cases where the total number of characters is 175 characters or less.

Alternately, consider the following:

```
:72:12345678901234567890123456789012345
12345678901234567890123456789012345
12345678901234567890123456789012345
12345678901234567890123456789012345
12345678901234567890123456789012
```

This is forwarded to the workstation as (one continuous line):

```
12345678901234567890123456789012345123456789012345678901234567890123456789012345678901234512
34567890123456789012345678901234512345678901234567890123456789012345678901234512345
56789012345678901234567890123
```

This is because the total number of characters (including newline, which is not visible) exceeds 175 characters (note the trailing *2* which is not present in the previous example, bringing the total number of characters to 176).

For Financial Instrument (***:35B:***), newlines are removed.

For Manual delivery instructions (DI), field ***:TF11:***, the rules are as follows (for these rules, "continuation line" means any ***:TF11:*** line which is not the first line of the first ***:TF11:*** field of the given DI. The first line of the first ***:TF11:*** field is processed without modification):

1. If a continuation line begins with a space, remove the space and retain the newline preceding the current continuation line.

2. Otherwise, if the previous line was less than maximum width (35 characters), retain the newline before the current continuation line.
3. Otherwise, remove the newline preceding the current continuation line.

Consider the following examples of multi-line formatting for field ***:TF11:***:

```
:TF11:12345678901234567890123456789012345
 23456789012345678901234567890123456
1234567890123456789012345678901234
 23456789012345678901234567890123456
12345678901234567890123456789012345
```

In the example above, line 2 begins with a space; the newline before line 2 is therefore retained (and the space removed). Line 4 is less than 35 characters wide; therefore the newline before line 5 is retained. This is forwarded to the workstation as:

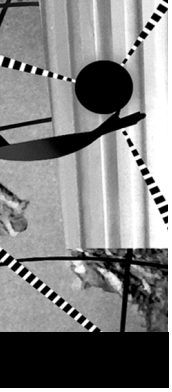
```
12345678901234567890123456789012345
2345678901234567890123456789012345123456789012345678901234567890123456
23456789012345678901234567890123456
12345678901234567890123456789012345
```

Also note that Security Description (field ***:35B:***) always has newlines removed.

3.3.2 New :72C: Field Values

The new ***:72C:*** field (***Reason Narrative***) values are:·

Message	Explanation
“Invalid message type \”%s\” for existing message (expected \”%s\”)”	Client sent an incompatible message type with same ***:TF14:*** value
“Spurious Detected: Ref = %s”	Client sent a duplicate Valid after an Amend
“Spurious Detected: Ref = %s; State = %s	Client sent any other out-of-sequence message



4 Compatibility/Testing

4.1 MOA Communications API Upgrade

There are no compatibility issues with the MOA API.

4.2 MT511 Message Parser Upgrade

4.2.1 Maturity Dates Limitation Removed

There are potential issues with using the OGD 3.3 parser at your site once the OGD 3.4.2 parser is installed at the host. Whether or not there will be a problem depends entirely on details that are specific to each client implementation.

Testing Recommendations — In general you should test the receipt of an AE or CN with any date field greater than 2037. Two aspects of your application should be reviewed to determine if a problem will result:

1. If you are using the OGD 3.3 parser, then the message carrying this date will fail to parse at the client application. You should review the handling of a parser failure to see that the counterparty is properly notified when the failure occurs, and to ensure that processing of subsequent messages will proceed. The parser will return an error code of **MT511_FAILURE**, and produce an error message similar to *LINE=0:Invalid date: '20380601'*.
2. If you upgrade to the OGD 3.4.2 parser, or use a different parser, then you should also ensure that the rest of the application can handle this date. It is possible, for example, that the client application used the same date function that the MT511 parser had used - *mktime()* – or some other function that has similar limitations.

4.2.2 British Pound Sterling Symbol (£) Handled

Testing Considerations — Since the £ may appear in any ‘x’ format field, e.g., comment fields, Security Descriptions, Settlement Instructions, etc., there are two aspects to consider, similar to above:

1. If you use the OGD 3.3 MT511 parser, then you will have to upgrade to the OGD 3.4.2 parser before being able to use the £. The alternative is to ensure that your error handling is sufficient to handle the *INVALID* status from the parser. The error message *LINE=%d:Invalid %s(%s) field: the OGD 3.3 parser will issue '% s'*. For example, *LINE=22:Invalid FLD_RESPONSE_NARRATIVE (72A) field: 'Please adjust tax to £222.35'* indicates that a comment used the £.
2. Your application must be capable of handling the new character, and expect to use the standard code, octal 243.

4.2.3 ALERT Country Codes Accepted, CH1 & CH2, :72B:/ALCC/

The OGD 3.3 parser expects a 3a format, therefore, the current host table uses CHA as a substitute for CH1, and CHB as a substitute for CH2. Should you wish to implement this change, please contact your account executive.

4.2.4 Slash ‘/’ and Colon ‘:’ Character Handling Improved

There is no OGD 3.3 compatibility issue with this defect, since the host currently can send a message that fails to parse for this reason to you. You, however, should upgrade to the OGD 3.4.2 parser as soon as possible (after the OGD 3.4.2 host upgrade) to avoid this scenario.

4.2.5 Defines Added to Parser Header Files

No testing or compatibility issues are anticipated.

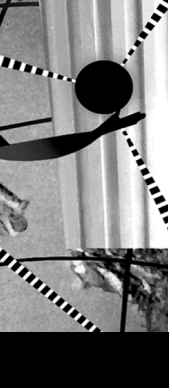
4.3 Other Improvements

4.3.1 Insertion of Space for some Multi-Line Fields, :72:

No testing or compatibility issues are anticipated. The parser will reject a call to *putfield()* if the data contains a tag on a continuation line.

4.3.2 New :72C: Field Values

No testing or compatibility issues are anticipated. If your application automates the handling of the :72C: Field Values in general, then the application needs to be enhanced to handle these new field values.



5 Documentation Errata and Changes

This section addresses changes to the MT 511 Messaging Specification due to the OGD 3.4.2 upgrade.

5.1 Space Starting Security Identifier Value

The parser will reject a trade if there is an extra space in front of the security code in the ***Security Identifier Value*** (***35B*2***). The following, for example, is correct (• represents a space):

```
:35B:SEDOL•6638892
```

The following is wrong:

```
:35B:SEDOL••6638892
```

There are two spaces in the above (i.e., the security code leads with a space). For example, the entry *:35B:SEDOL•• 6638892^M* in the original message, causes the parser to reject it with the following message:

```
1999-06-24  11:36:27.290 INFO    OGHTH_IN1:25196 goa LINE-23:Invalid
FLD_ID_FNCL_INSTR_CODE (35B*2) FIELD: " (mtutils.c:326)

1999-06-24  11:36:27.300 INFO    OGHTH_IN1:25196: goa MT511 message parse
failure (MT411Msg.cc:414)
```

Also note that ***Security Description*** (field ***:35B:***) always has newlines removed.

5.2 Space Within Security Identifier Value

If there is a space in the middle of the ***Security Identifier Value***, the parser will discard the data following the space. For example, the value *6638 892* will show up as *6638* for the ***Security Identifier Value***.

5.3 Trade Commission Percent

Trade Commission Percent, **:TF09: /PCT**, should be documented and enabled as always having the format *2.2* not *5d*. For example, *1.125* should be *1.13*, or *12.475*, should be *12.48* due to the OG workstation's ***Trade Commission Percent*** field being implemented as such.

6 Directory of Brokers (SAMPLE)

The following directory excerpt contains codes for broker dealers, to be used to identify the directed broker at the allocation level of a trade, on both OASYS and OASYS Global.

This list will be maintained and updated on a weekly basis, and will be available on Thomson Financial ESG's extranet web site (*www.thomsonesg.com/client/f-clie.htm*). To add a broker code to this list, simply contact your regional Account Manager.

Table 6-1 *Broker List Sample*

Firm Code	Company Name	City	ISO Code	ALERT Acronym
ASESORES	A.B. Asesores Bursatiles S.A.	MADRID	ES	ASESORES
ABGSEC	ABG Securities	Norway	NO	ABGSEC
AAAINDIA	ABN AMRO Asia Equity (India) Ltd.	Mumbai	IN	
AAAHK	ABN AMRO Asia Ltd.	Hong Kong	HK	AAAHK
AAAKOR	ABN Amro Asia Ltd., Seoul	Seoul	KR	
AAATWN	ABN Amro Asia Ltd., Taipei	Taipei	TW	
AAASG	ABN AMRO Asia Securities (Singapore) Pte Ltd.	Singapore	SG	AAASG
HGASIALD	ABN AMRO Asia Securities Ltd.	London	UK	
ABNAMROD	ABN AMRO Bank (Deutschland) AG	Frankfurt	DE	ABNAMROD
AABAMS	ABN AMRO Bank N.V.	Amsterdam	NL	
AACC	ABN AMRO Chicago Corporation	New York, NY	US	
ABN	ABN AMRO Chicago Corporation	New York, NY	US	ABN
AAHGLDN	ABN AMRO Equities (UK) Limited	London	UK	
ABNALDN	ABN AMRO Equities (UK) Limited	London	UK	
ABNEQSUK	ABN AMRO Equities (UK) Limited	London	UK	
HOAREGL1	ABN AMRO Equities (UK) Limited	London	UK	