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### **20.03 MAINFRAME DUAL HOST (MDH) SYSTEM USER GUIDE FOR RELEASE-REQUEST PROCESSING (INPUT AND OUTPUT) AND PLEDGE AND PLEDGE-RETURN PROCESSING (OUTPUT ONLY)**

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# PREFACE

This document describes, specifically, the input and output requirements for Release-Requests as well as output requirements for Pledge and Pledge-Return activity via DTC's Mainframe Dual Host (MDH) system.

A complete description of the MDH System and the functions it supports are contained in *The MDH User Guide - Version 4*.

# OVERVIEW

## Criteria for Developing MDH

The Mainframe Dual Host (MDH) system is designed to converse with those participants with mainframes that can support real-time (for example, CICS) processing via the LU6.2 communications protocol. This protocol is described in the next section of this document.

The MDH system provides the following advantages over older systems at DTC:

- Allows two-way traffic activity between DTC and the participant in a real-time environment.
- Eliminates the need for intermediate hardware/software.
- Provides backup through redundant mainframes and lines.

MDH will control the data flow between the DTC host computer and the participant host computer via a dedicated point- to-point communication, that is, telephone, line. The procedure with which the participant can either request data to be transmitted to DTC or request data to be transmitted to it from DTC is described in other sections of this document.

# PARTICIPANT-TO-DTC 'PLEDGE-TYPE' TRANSMISSIONS

## General

This section describes in detail the procedure that the participant's host uses to send 'Pledge-type' transmission blocks to MDH.

To review the sequence of transmissions required to send data to MDH, the participant will:

- Sign on to MDH by transmitting a Type '01' logon block (see [Exhibit 1](#)).
- Request the appropriate function to send the specific type of data by transmitting a Type '03' function-request block. The corresponding training functions may also be selected (see [Exhibit 2](#)).
- Send blocks of selected transactions by transmitting Type '05' data blocks. Please refer to the document titled 5.09 PLG1/PLG5 Function User's Guide.

## Sending Pledge-type Instructions to DTC (Pledge, Release Request, and Release Return)

### Pledge-type Transmission Block Format

The MA/NA Position Transfer transmission block format is shown in the diagram below:

BLOCK PREFIX	PLG TYPE TRANS #1	PLG TYPE TRANS #2	PLG TYPE TRANS #3	PLG TYPE TRANS #4	PLG TYPE TRANS #5	PLG TYPE TRANS #6	PLG TYPE TRANS #7	PLG TYPE TRANS #8	PLG TYPE TRANS #9	PLG TYPE TRANS #10
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∟□MINIMUM ↓□∟

∟□↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓MAXIMUM ↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓□∟

Each block contains a prefix followed by up to ten Pledge/Release-type transactions.

# DTC-TO-PARTICIPANT DATA TRANSMISSION

## General

This section describes in detail the procedure that the participant uses to receive data transmission blocks from MDH.

The types of data available are:

- Pledge and Release Return (PLG) Notification - Type '017', '051', '054', '055', and '056'.

To review the sequence of transmissions required to receive data, the participant's host will:

- Sign on to MDH by transmitting a Type '01' logon block (see [Exhibit 1](#)).
- Request the MDLS function by transmitting a Type '03' function-request block (see [Exhibit 2](#)).
- Transmit a Type '07' transmission-request block (see [Exhibit 3](#)).
- Receive one or more Type '08' data blocks until all the available data has been transmitted.

## Receiving Data From DTC

### Type '08' Transmission Block Format

The Type '08' transmission block format is shown in the diagram below:

BLOCK PREFIX	BLOCK DATA LENGTH (4)	TRANS #1 LENGTH	TRANS #1 DATA PLG (496) RRQ	TRANS #2 LENGTH	TRANS #2 DATA PLG (496) RRQ	TRANS # N (UP TO 4085) TOTAL CHARACTERS)
(66)		(4)	(291)	(4)	(291)	

∟□↓↓↓↓↓↓↓-↓MINIMUM 365↓↓↓↓↓↓↓-↓↓↓□∟

Or

∟□↓↓↓↓↓-↓--↓-↓MINIMUM 570↓↓↓-↓-↓-↓↓↓↓□∟

∟□↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓MAXIMUM 4085↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓□∟

**Note:**

This data can be interspersed with other types of non-Pledge activity.

Each block contains a 66-byte prefix followed by one to 10 transactions in any combination of the data record types described above. The minimum block length is 365 bytes and the maximum is 4085 bytes.

### Transmitting the Request Block

The participant will transmit a Type '07' block containing the following fields:

- **Block Type** must be '07'
- **Time Stamp** is provided by MDH and used for cutoff-time checking.
- **Participant Signon ID** must be a valid eight-character field.
- **Individual user Number** - This two-digit field is provided by MDH in the Type '02' logon response block. It must be inserted in the prefix of every transmission block sent to MDH to uniquely identify the transmission.

- **Function Requested** must be 'MDLS'
  - **Request Code** (should be 'AD' for 'all data').
  - **File Control Number** (YYYYDDDs). (Julian date + session).
  - **Starting Sequence Number** Desired ('nnnnnn').
  - **Total Number Desired** ('nnnnnn' - optional).
- 

**Note**

The 'starting seq. #' and 'total #' parameters are six-character numeric fields, which must be right-aligned and left zero filled.

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**Note:**

See [Exhibit 3](#) for this block's format

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**Receiving the Response Block**

The participant host will receive one of the three following responses as a result of the Type '07' request.

1. A 'No Data Available' condition. The Type '08' block will contain:
  - A 70-byte block prefix.
  - A transaction length attribute with a value of 8.
  - A message 'NONE' in the data portion of the transaction, indicating that there was no data available for the requested range (see [Exhibit 4](#)).

The participant can now submit a Type '03' function-request block or a Type '90' signoff block.

2. A 'Data Sent' condition. The Type '08' block will contain:
    - A 70-byte block prefix indicating the number of transactions sent in the block.
    - One or more occurrences of intermixed transactions in the sequence that they were chronologically processed at DTC.
- 

**Note:**

The first block will be followed by additional '08' blocks until either no more data is available or the desired range has been satisfied.

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3. A 'No More Data' condition. The Type '08' block will contain:
    - A 70-byte block prefix.
    - A transaction length attribute with a value of 8.
    - A message 'END ' in the data portion of the transaction indicating that no more data is available or that the desired range has been satisfied (see [Exhibit 4](#)).
    - The participant can now submit a Type '03' function-request block or a Type '90' signoff block.
- 

**Notes:**

- The transaction length attributes shown above always contain the length of the data that follows plus four for the length of the length attribute field itself.
- The use of the 'Starting Seq. #' and 'Total #' parameters allows the end-user to receive the same data more than once if needed, similar to the 'RPNT' function on PTS. It does not, however, mark this data as being sent as an 'original transmission'
- As discussed earlier, if a system problem occurs at DTC and is caused, for example, by a program ABEND, unavailability of files or tables, or other reasons, MDH will send a Type '99' response transmission block instead of

the Type '08' block currently being transmitted. When the problem is resolved at DTC, the participant will be informed and should attempt to reestablish the session in the normal manner.

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# EXHIBITS

## Exhibit 1 – Logon Request

### Logon Request Block from Participant - Length 68 bytes

Field Name	Pos	Len	Field Attributes
TYPE-OF-BLOCK	01	02	Numeric - Value is '01'
TIME-STAMP	03	06	Time received (HHMMSS)
USER-ID	09	08	Numeric for individual user (e.g. 00000161); Alphanumeric for group user (e.g. G0000123)
INDIVIDUAL-USER-NUMBER	17	02	Internal to MDH
LU6.2-TERMINID	19	04	Internal to MDH
Filler	23	38	Value spaces
PASSWORD	61	08	DTC-assigned User Password

Figure 1. Logon Request Block from Participant

**Logon Response Block From MDH - Length 142 bytes**

Field Name	Pos	Len	Field Attributes
TYPE-OF-BLOCK	01	02	Numeric - Value is '02'
TIME-STAMP	03	06	Time received (HHMMSS)
USER-ID	09	08	Numeric for individual user (e.g. 00000161); Alphanumeric for group user (e.g. G0000123)
INDIVIDUAL-USER-NUMBER	17	02	Returned by MDH. Must be copied by participant into all blocks sent to MDH.
LU6.2-TERMINID	19	04	Internal to MDH
Filler	23	38	Value spaces
RESPONSE-CODE	61	01	Values: 'A': Logon accepted 'R': Logon rejected
RESPONSE-REASON-CODE	62	01	Code indicating reason for rejection: 'B': Invalid block type 'C': Invalid connection I.D. 'D': Already logged on 'H': PTS is in 'Halt' mode 'P': PTS is down 'Q': DBF Recovery down 'S': Invalid signon ID 'X': Invalid password
RESPONSE-ERROR-MESSAGE	63	80	Message explaining why the Logon was rejected

Figure 2. Logon Response Block from MDH

## Exhibit 2 – Function Request

### Function Request Block from Participant - Length 65 bytes

Field Name	Pos	Len	Field Attributes
TYPE-OF-BLOCK	01	02	Numeric - Value is '03'
TIME-STAMP	03	06	Time received (HHMMSS)
USER-ID	09	08	Numeric for individual user (e.g. 00000161); Alphanumeric for group user (e.g. G0000123)
INDIVIDUAL-USER-NUMBER	17	02	Copied from Type '02' logon response.
LU6.2-TERMID	19	04	Internal to MDH
Filler	23	38	Value spaces
FUNCTION-REQUESTED	61	04	Possible values: 'MDLS': DO/PO output to participant 'PLG1': Pledge, release-request, and release return input
Filler	65	01	Value space

Figure 3. Function Request Block from Participant

**Function Response Block from MDH - Length 146 bytes**

Field Name	Pos	Len	Field Attributes
TYPE-OF-BLOCK	01	02	Numeric - Value is '04'
TIME-STAMP	03	06	Time received (HHMMSS)
USER-ID	09	08	Numeric for individual user (e.g. 00000161); Alphanumeric for group user (e.g. G0000123)
INDIVIDUAL-USER-NUMBER	17	02	Internal to MDH
LU6.2-TERMINID	19	04	Internal to MDH
Filler	23	38	Value spaces
FUNCTION-REQUESTED	61	04	Possible values: 'MDLS': output to participant 'PLG1': Pledge, release request, and release return input
RESPONSE-CODE	65	01	Values: 'A': Function request accepted 'R': Function request rejected
RESPONSE-REASON-CODE	66	01	Code indicating reason for rejection: 'A': Not signed on 'B': Past cutoff time 'C': Function does not exist 'D': User not eligible for function 'E': Function quiescing 'F': Function mismatch for block type '05' 'G': Function not for LU6.2 (MDH) 'H': Previous function not completed 'P': PTS is down 'Q': Recovery not available
RESPONSE-ERROR-MESSAGE	67	80	Message explaining why Response Code is 'R'

Figure 4. Function Response Block from MDH

## Exhibit 3 – Data Request Block (for MDLS Function)

### Data Request Block from Participant - Length 86 bytes

Field Name	Pos	Len	Field Attributes
TYPE-OF-BLOCK	01	02	Value '07'
TIME-STAMP	03	06	Time received (HHMMSS)
USER-ID	09	08	Numeric for individual user (e.g. 00000161); Alphanumeric for group user (e.g. G0000123)
INDIVIDUAL-USER-NUMBER	17	02	Entered by sender from Type '02' logon response
LU6.2-TERMID	19	04	Internal to MDH
Filler	23	38	Value spaces
FUNCTION-REQUESTED	61	04	Value 'MDLS'
REQUEST-TYPE	65	02	Value of 'AD', 'OP' or 'OD'
FILE-CONTROL-NUMBER	67	08	Format : YYYYDDDS
STARTING-SEQ-#	75	06	Numeric 'starting' sequence number desired
MAXIMUM-NUM-REQUESTED	81	06	Numeric number of transactions desired

Figure 5. Data Request Block from Participant

## Exhibit 4 – Data Response Block from MDH with 'END' or 'NONE'

### Data Response Block from MDH - Length 78

Field Name	Pos	Len	Field Attributes
TYPE-OF-BLOCK	01	02	Value '08'
TIME-STAMP	03	06	Time received (HHMMSS)
USER-ID	09	08	Numeric for individual user (e.g. 00000161); Alphanumeric for group user (e.g. G0000123)
INDIVIDUAL-USER-NUMBER	17	02	Internal to MDH
LU6.2-TERMID	19	04	Internal to MDH
Filler	23	30	Value spaces
FILE-CONTROL-NUMBER	53	08	Format : YYYYDDDS
RESPONSE-CODE	61	01	'A' or 'R'
RESPONSE-REASON-CODE	62	01	'A': Not signed on 'B': Past cutoff 'C': Not in 'MDLS' function 'D': Invalid range request 'E': Function incorrect 'F': Invalid Request-Type (MDLS) 'G': Wrong File-Control-# (MDLS) 'M': Message Delivery is down 'N': File-Ctl# vs Request-Type is invalid (MDLS) 'P': PTS is down
TRANSACTION5-IN-BLOCK	63	04	Number of transactions in this block (Value = 0)
BLOCK-DATA-LENGTH	67	04	Length of the data following this field plus 4 Value 12
TRANSACTION-LENGTH	71	04	Length of the transaction following this field plus 4. Value 8
REQUEST-END-MESSAGE	75	04	Values: 'END ' = All data requested has been sent 'NONE' = No data has been found for this request

Figure 6. Data Response Block from MDH

## Exhibit 5 – Data Response Block for Pledge/Release-type Notifications

The '08' response block is variable length and consists of a 70-byte block prefix followed by up to 10 transactions, each preceded by a 4-byte length attribute. The exhibit below shows a block that contains a single Pledge/Release-type transaction. It consists of the 70-byte prefix, the 4-byte length attribute, and 376 bytes of the transaction.

### Data Response Block For Pledge/Release-type Notifications from MDH

Field Name	Pos	Len	Field Attributes
TYPE-OF-BLOCK	01	02	Value '08'
TIME-STAMP	03	06	Time received (HHMMSS)
USER-ID	09	08	Numeric for individual user (e.g. 00000161); Alphanumeric for group user (e.g. G0000123)
Individual-User-Number	17	02	Internal to MDH
LU6.2-TERMIN	19	04	Internal to MDH
Filler	23	30	Value spaces
FILE-CONTROL-NUMBER	53	08	Format : YYYYDDDS
RESPONSE-CODE	61	01	'A': Accepted 'R': Rejected
RESPONSE-REASON-CODE	62	01	'A': Not signed on 'B': Past cutoff 'C': Not in 'MDLU' function 'D': Invalid range request 'E': Function incorrect 'F': Invalid Request-Type (MDLS) 'G': Wrong File-Control-# (MDLS) 'M': Message Delivery is down 'N': File-Ctl # vs Req-Type inval 'P': PTS is down
TRANSACTIONS-IN-BLOCK	63	04	Number of transactions in this block
BLOCK-DATA-LENGTH	67	04	Length of the data following this field plus 4
TRANSACTION-LENGTH	71	04	Length of the transaction following this field plus 4 Value = '500'
Filler	75	02	For DTC internal use only
Filler	77	01	Value space

Field Name	Pos	Len	Field Attributes
DEST-PARTIC-ACCOUNT	78	08	Individual participant # or group user #
DEST-SYMBOL	86	02	Destination Symbol <input type="checkbox"/> Numeric
Filler	88	01	Value '□'
DEST-ACCOUNT-SEQ-#	89	06	Sequence # of the transaction <input type="checkbox"/> unique for each account destination
TYPE-OF-08-RESPONSE	95	01	Value 'L' (Pledge/Release-type)
DTC-SYS-ORIGIN-CODE	96	01	DTC System origination Values: 2 = CCF 3 = PTS 4 = ID 5 = MDH 0= Other
PLG/RLSE-OUT-COPY-IND	97	01	Values: Space = Original copy 'Q' = Duplicate copy (Not available)
PLG/RLSE-OUT-ACTIV-CD	98	03	Values: '007' = Participant/Pledgee Swings '017' = Free Pledge to the DTC Fund '050' = Free Pledge from IPO a/c '051' = Free Pledge '052' = Valued Pledge from IPO a/c '054' = Valued Pledge '055' = Valued Release-Return '056' = Free Release-Return '156' = OCC Release to CNS
PLG/RLSE-OUT-PLEDGOR-#	101	8	Pledgor participant number
PLG/RLSE-OUT-PLEDGE-BK	109	8	Pledgee bank number
PLG/RLSE-OUT-PLEDGE-PT	117	8	Pledgee participant number (if present)
Plg/Rlse-Out-Loan-Date	125	6	Pledge loan date (MMDDYY)
Filler	131	2	Value spaces
Plg/Rlse-Out-Loan-Re1	133	1	Pledge loan purpose or release type Values: 1, 2, 3, or 4 (Not currently available on output)

Field Name	Pos	Len	Field Attributes
P1g/Rlse-Out-Hypothectn	134	1	Pledge hypothecation code Values: +1, 2, 3, or space (Not currently available on output)
P1g/Rlse-Out-CUSIP	135	9	Pledge/Release CUSIP number
Filler	144	3	Value Spaces
P1g/Rlse-Out-Loan-Amt	147	13	Dollars and cents value of the loan (with assumed decimal point) PIC 9(11)V9(2)
Filler	160	3	Value spaces
P1g/Rlse-Out-Share-Qty	163	9	Numeric share quantity
Filler	172	1	Value Space
P1g/Rlse-Out-RAD-Ind	173	1	Values: ' ' = Did not process thru RAD 'R' = Was processed thru RAD
Filler	174	1	Value space
P1g/Rlse-Out-Comments	175	216	Comments Format: First 56 positions - User supplied comments Next 160 positions - Generated from 'Loan Purpose/Release Type' and Hypothecation codes
Filler	391	3	Value spaces
P1g/Rlse-Out-CNS-Ind	394	1	CNS Indicator (not currently available on output)
P1g/Rlse-Out-Seq-#	395	5	User supplied MDH-input sequence number
P1g/Rlse-Out-Date	400	6	Processing date of this transaction (MMDDYY)
Filler	406	2	Value spaces
P1g/Rlse-Out-Time-MDH	408	6	Time that MDH processed this transaction (HHMMSS)
P1g/Rlse-Out-Time-ATP	414	6	Time that ATP processed this transaction (HHMMSS)
P1g/Rlse-Out-Account-Type	420	3	Account Type: '010' = Pledge against the General account '014' = Release from the Pledge account 'IPO' = pledge from the IPO account
Filler	423	1	Value space

Field Name	Pos	Len	Field Attributes
Plg/Rlse-Out-Status	424	1	Processing status (code) of this transaction: 'M' = Made 'X' = Previous Pend 'P' = Pending 'D' = Drop
Plg/Rlse-Out-Pend-Rsn	425	1	Values: ' ' = No Pend 'A' = Delivering participant has insufficient position for CP 'C' = Delivering participant has insufficient collateral 'D' = Receiving participant debit cap reached 'F' = Pending for FIFO processing 'O' = Receiving participant has insufficient collateral 'S' = Delivering participant has insufficient position
Plg/Rlse-Out-Jrnl-Code	426	1	Journal Code: 'O' = No journal (i.e., Original) 'N' = Next-day journal 'S' = Same-day journal
Plg/Rlse-Out-Pend-Pos	427	13	Dollar position of the initiator (if Pending) PIC 9(11)V9(2)
Plg/Rlse-Out-CUSIP-Desc	440	20	CUSIP description
Plg/Rlse-Out-SDFS-Ind	460	1	SDFS indicator: Space = NDFS 'S' = SDFS 'C' = Commercial Paper (Subl=525) 'M' = Medium Term Note (Subl=530)
Plg/Rlse-Out-DTC-RBN-Rec#	461	8	Pointer to this record on the DTC central transaction log file
Filler	469	01	Value spaces
PLG/RLS-SHARE-QTY-NEW	470	09	Share quantity (new format 1 = 1 for all issues)
Filler	479	02	Value spaces

Field Name	Pos	Len	Field Attributes
PLG/RLS SUBISSUE-TYPE	481	03	<p>Sub-Issue type for SDFS CUSIPs.</p> <p>Values:</p> <p>'100' = NOT APPLICABLE</p> <p>'030' = LMTD PARTNRSH</p> <p>'040' = CMO-UNITS</p> <p>'041' = ABS-UNITS</p> <p>'042' = ISSUE-UNITS</p> <p>'110' = ADR</p> <p>'120' = PFD-CP</p> <p>'320' = MUNI VRDO/CP</p> <p>'330' = MUNI CP</p> <p>'340' = BEARER-ZERO CPN</p> <p>'502' = Bas</p> <p>'504' = CDs</p> <p>'505' = CERTFD MMI</p> <p>'506' = CTFD MMI-PER.</p> <p>'525' = CORPORATE CP</p> <p>'526' = CORP. VRDO/CP</p> <p>'530' = MTNs</p> <p>'531' = Deposit Notes</p> <p>'532' = M/T Bank Notes</p> <p>'533' = MMI MTNs</p> <p>'540' = CMO</p> <p>'541' = ABS</p> <p>'542' = NON-CMO/ABS</p> <p>'550' = S/T Bank Notes</p> <p>'551' = ZERO COUPON</p> <p>'560' = DISCOUNT NOTES</p>
Filler	484	02	Value spaces
PLG/RLS-Maturity-Date	486	06	Maturity Date for C.P. CUSIPs
PLG/RLS-Market-Value	492	13	Market value for free Pledge/Return activity PIC 59(13)
PLG/RLS-PTA-Indicator	505	01	<p>Pending-Transaction indicator.</p> <p>Permissible values:</p> <p>'N' = No (i.e., zero) position has been reserved for 'pending' Pledge/Release activity.</p> <p>'Y' = Position has been reserved for 'pending' Plg/Rise activity.</p> <p>Blank = Default to 'no'</p>

Field Name	Pos	Len	Field Attributes
PLG/RLS-ORIG-REC-NUM	506	08	Pointer to a prior record for this transaction
PLG/RLS-FOSP-IND	514	01	Foreign Ordinary Securities Indicator: '0' = Security is not eligible for Foreign Ordinary Securities Processing '1' = Security is eligible for Foreign Ordinary Securities Processing
PLG/RLS-Contra-Part #	515	08	Contra-Participant for Participant Swing activity. If the trans-type is equal to '007', this field will contain the 'swung from' participant #.
RAD Sequence Number	523	08	This field is the IMS TID displayed in the "non-displayable character" version. This is the current format used in RAD output.
IMS TID	531	16	This is the number generated by DTC which uniquely identifies any transaction.
Filler	547	24	Valued spaces

Figure 7. Format of Data Response Block for Pledge/Release-type Notifications

## Exhibit 5B – Data Response Message for Pledge/Release-type Notifications to the OCC

This is a new record layout that accounts for new and expanded OCC related field formats within the comments area (starting in position 175)

The following message consists of a 74 character MQ header, followed by 568 characters of transaction data.

**Note:**

Characters 75 through 94 represent the messages prefix.

### Data Response Message For Pledge/Release-type Notifications from MQ

Field Name	Pos	Len	Field Attributes
MQ HEADER DATA	01	74	
Filler	75	02	For DTC internal use only
Filler	77	01	Value space
DEST-PARTIC-ACCOUNT	78	08	Individual participant # or group user #
DEST-SYMBOL	86	02	Destination Symbol <input type="checkbox"/> Numeric
Filler	88	01	Value ' <input type="checkbox"/> '
DEST-ACCOUNT-SEQ-#	89	06	Sequence # of the transaction <input type="checkbox"/> unique for each account destination

Field Name	Pos	Len	Field Attributes
TYPE-OF-RESPONSE	95	01	Value 'L' (Pledge/Release-type)
DTC-SYS-ORIGIN-CODE	96	01	DTC System origination Values: 2 = CCF 3 = PTS 4 = ID 5 = MDH 0= Other
PLG/RLSE-OUT-COPY-IND	97	01	Values: Space = Original copy 'Q' = Duplicate copy (Not available)
PLG/RLSE-OUT-ACTIV-CD	98	03	Values: '017' = Free Pledge to the DTC Fund '050' = Free Pledge from IPO a/c '051' = Free Pledge '052' = Valued Pledge from IPO a/c '054' = Valued Pledge '055' = Valued Release-Return '056' = Free Release-Return
PLG/RLSE-OUT-PLEDGOR-#	101	8	Pledgor participant number
PLG/RLSE-OUT-PLEDGEE-BK	109	8	Pledgee bank number
PLG/RLSE-OUT-PLEDGEE-PT	117	8	Pledgee participant number (if present)
Plg/Rlse-Out-Loan-Date	125	6	Pledge loan date (MMDDYY)
Filler	131	2	Value spaces
Field Name	Pos	Len	Field Attributes
Plg/Rlse-Out-Loan-Re1	133	1	Pledge loan purpose or release type Values: 1, 2, 3, or 4 (Not currently available on output)
P1g/Rlse-Out-Hypothectn	134	1	Pledge hypothecation code Values: +1, 2, 3, or space (Not currently available on output)
Plg/Rlse-Out-CUSIP	135	9	Pledge/Release CUSIP number
Filler	144	3	Value Spaces

Field Name	Pos	Len	Field Attributes
Plg/Rlse-Out-Loan-Amt	147	13	Dollars and cents value of the loan (with assumed decimal point) PIC 9(11)V9(2)
Filler	160	3	Value spaces
Plg/Rlse-Out-Share-Qty	163	9	Numeric share quantity
Filler	172	1	Value Space
Plg/Rlse-Out-RAD-Ind	173	1	Values: ' ' = Did not process thru RAD 'R' = Was processed thru RAD
Filler	174	1	Value space
OCC Clearing Group ID*	175	2	New Field – OCC Future Use
OCC Clearing Member Number	177	5	OCC Required Field OCC Clearing Member Number 5 numeric digits – Example '00005'  DTC required field for Options Release of Deposit Request (both two-party & three-party requests)
OCC Account Type	182	2	OCC Required Field OCC Account Type List of values: 'C ' – Customer 'F ' – Firm 'M ' - Market Maker 'Z ' – Clearing Fund  DTC required field for Options Release of Deposit Request (two-party request only)
OCC Account ID	184	15	New Field - Optional OCC Sub-Account ID Example: 'ABC'

Field Name	Pos	Len	Field Attributes
OCC Collateral Type	199	2	OCC Required Field OCC Collateral ID List of Values: 'GE' – GSE Debt 'GS' – Government Security 'MM' – Money Market Fund 'SD' – Specific Deposit 'VS' – Valued Security  DTC required field for Options Release of Deposit Request (two-party request only)
OCC Option Symbol	201	6	OCC required field only for Collateral Type of Specific Deposit Option Symbol Example: 'IBM'  DTC required field for Options Release of Deposit Request (three-party request only)
OCC Option Expiration Year	207	4	OCC required field only for Collateral Type of Specific Deposit Option Expiration Year Example: '2008'  DTC required field for Options Release of Deposit Request (three-party request only)
OCC Option Expiration Month	211	2	OCC required field only for Collateral Type of Specific Deposit Option Expiration Month Example: '08'  DTC required field for Options Release of Deposit Request (three-party request only)

Field Name	Pos	Len	Field Attributes
OCC Option Expiration Day	213	2	<p>New Field</p> <p>OCC required field only for Collateral Type of Specific Deposit</p> <p>Option Expiration Day</p> <p>Example: '20'</p> <hr/> <p><b>Note:</b></p> <p>This field is optional until the Options Symbology Initiative (OSI) goes live, at which point this will be a required OCC field for the Collateral type of Specific Deposit. At this time, this field will also be a DTC required field for Options Release of Deposit Request (three-party request only)</p>
OCC Option Type	215	1	<p>OCC required field only for Collateral Type of Specific Deposit</p> <p>Option Type</p> <p>List of values:</p> <p>'C' – Call</p> <p>'P' - Put</p>
OCC Option Strike Price (Integer)	216	6	<p>OCC required field only for Collateral Type of Specific Deposit</p> <p>Option Strike Price (Integer)</p> <p>Example: '000135'</p> <p>DTC required field for Options Release of Deposit Request (three-party request only)</p>
OCC Option Strike Price (Fraction / Decimal)	222	6	<p>OCC required field only for Collateral Type of Specific Deposit</p> <p>Option Strike Price (Fractional)</p> <hr/> <p><b>Note:</b></p> <p>Must continue to be represented as fractional data (values will continue to be 0-7 left justified with trailing spaces) until the Options Symbology Initiative (OSI) goes live, at which point this data must be represented as decimal.</p>
OCC Cross Reference	228	20	<p>Optional Field</p> <p>Cross Reference ID</p> <p>Example '123456789012 '</p>
OCC Customer Account	248	20	<p>Optional Field</p> <p>Customer Account ID</p> <p>Example: '1234567890123456'</p>

Field Name	Pos	Len	Field Attributes
OCC Filler	268	30	Reserved for OCC future use
OCC Old/New Format Indicator	298	1	Indicates whether or not the OCC is receiving data using the new or old symbol formats Values are: "O" = Old symbol formats "N" = New symbol formats
Plg/Rlse-Out-Comments	299	160	Comments  160 positions - Generated from 'Loan Purpose/Release Type' and Hypothecation codes
Filler	459	3	Value spaces
Plg/Rlse-Out-CNS-Ind	462	1	CNS Indicator (not currently available on output)
Plg/Rlse-Out-Seq-#	463	5	User supplied MDH-input sequence number
Plg/Rlse-Out-Date	468	6	Processing date of this transaction (MMDDYY)
Filler	474	2	Value spaces
Plg/Rlse-Out-Time-MDH	476	6	Time that MDH processed this transaction (HHMMSS)
Plg/Rlse-Out-Time-ATP	482	6	Time that ATP processed this transaction (HHMMSS)
Plg/Rlse-Out-Account-Type	488	3	Account Type: '010' = Pledge against the General account '014' = Release from the Pledge account 'IPO' = pledge from the IPO account
Filler	491	1	Value space
Plg/Rlse-Out-Status	492	1	Processing status (code) of this transaction: 'M' = Made 'X' = Previous Pend 'P' = Pending 'D' = Drop

Field Name	Pos	Len	Field Attributes
Plg/Rlse-Out-Pend-Rsn	493	1	Values: ' ' = No Pend 'A' = Delivering participant has insufficient position for CP 'C' = Delivering participant has insufficient collateral 'D' = Receiving participant debit cap reached 'F' = Pending for FIFO processing 'O' = Receiving participant has insufficient collateral 'S' = Delivering participant has insufficient position
Plg/Rlse-Out-Jrnl-Code	494	1	Journal Code: 'O' = No journal (i.e., Original) 'N' = Next-day journal 'S' = Same-day journal
Plg/Rlse-Out-Pend-Pos	495	13	Dollar position of the initiator (if Pending) PIC 9(11)V9(2)
Plg/Rlse-Out-CUSIP-Desc	508	20	CUSIP description
Plg/Rlse-Out-SDFS-Ind	528	1	SDFS indicator: Space = NDFS 'S' = SDFS 'C' = Commercial Paper (Subl=525) 'M' = Medium Term Note (Subl=530)
Plg/Rlse-Out-DTC-RBN-Rec#	529	8	Pointer to this record on the DTC central transaction log file
Filler	537	01	Value spaces
PLG/RLS-SHARE-QTY-NEW	538	09	Share quantity (new format 1 = 1 for all issues)
Filler	547	02	Value spaces

Field Name	Pos	Len	Field Attributes
PLG/RLS SUBISSUE-TYPE	549	03	<p>Sub-Issue type for SDFS CUSIPs.</p> <p>Values:</p> <p>'100' = NOT APPLICABLE</p> <p>'030' = LMTD PARTNRSHP</p> <p>'040' = CMO-UNITS</p> <p>'041' = ABS-UNITS</p> <p>'042' = ISSUE-UNITS</p> <p>'110' = ADR</p> <p>'120' = PFD-CP</p> <p>'320' = MUNI VRDO/CP</p> <p>'330' = MUNI CP</p> <p>'340' = BEARER-ZERO CPN</p> <p>'502' = Bas</p> <p>'504' = CDs</p> <p>'505' = CERTFD MMI</p> <p>'506' = CTFD MMI-PER.</p> <p>'525' = CORPORATE CP</p> <p>'526' = CORP. VRDO/CP</p> <p>'530' = MTNs</p> <p>'531' = Deposit Notes</p> <p>'532' = M/T Bank Notes</p> <p>'533' = MMI MTNs</p> <p>'540' = CMO</p> <p>'541' = ABS</p> <p>'542' = NON-CMO/ABS</p> <p>'550' = S/T Bank Notes</p> <p>'551' = ZERO COUPON</p> <p>'560' = DISCOUNT NOTES</p>
Filler	552	02	Value spaces
PLG/RLS-Maturity-Date	554	06	Maturity Date for C.P. CUSIPs
PLG/RLS-Market-Value	560	13	Market value for free Pledge/Return activity PIC 59(13)
PLG/RLS-PTA-Indicator	573	01	<p>Pending-Transaction indicator.</p> <p>Permissible values:</p> <p>'N' = No (i.e., zero) position has been reserved for 'pending' Pledge/Release activity.</p> <p>'Y' = Position has been reserved for 'pending' Plg/Rise activity.</p> <p>Blank = Default to 'no'</p>

Field Name	Pos	Len	Field Attributes
PLG/RLS-ORIG-REC-NUM	574	08	Pointer to a prior record for this transaction
PLG/RLS-FOSP-IND	582	01	Foreign Ordinary Securities Indicator: '0' = Security is not eligible for Foreign Ordinary Securities Processing '1' = Security is eligible for Foreign Ordinary Securities Processing
PLG/RLS-Contra-Part #	583	08	Contra-Participant for Participant Swing activity. If the trans-type is equal to '007', this field will contain the 'swung from' participant #.
Filler	591	52	Value spaces

Figure 5B. Format of Data Response Block for Pledge/Release-type Notifications involving the OCC that accounts for new and expanded OCC field formats.

## Exhibit 6 – The Pledge Release-Request Output Detail Record (N/A)

Exhibit 6 will no longer be longer used.

See document 5.19 Section 6 for the most current output file formats for an Options Release of Deposit Request.

See document 5.19 Section 7 for the new Machine Readable Output layout associated with the modified OCC related field formats due to the Option Symbology Initiative,

Figure 8 Deleted

## Exhibit 7 - Function Change Request Block from Participant

### Function Change (End Function) Request Block - Length 77 Bytes

Field Name	Pos	Len	Field Attributes
TYPE-OF-BLOCK	01	02	Numeric Value '05' DO or PO input to MDH or Status Inquiry
TIME-STAMP	03	06	Time received (HHMMSS)
USER-ID	09	08	Numeric for individual user (e.g. 00000161); Alphanumeric for group user (e.g. G0000123)
INDIVIDUAL-USER-NUMBER	17	02	Entered by sender from Type '02' logon response.
LU6.2-TERMID	19	04	Internal to MDH
Filler	23	38	Value spaces
CURRENT FUNCTION	61	04	Possible values: 'MDLS': output to participant 'PLG1': Pledge, Release Request, and Release Return input
BLOCK-NUMBER	65	04	Not required
BLOCK-TRANS-NUMBER	69	02	Not required
DATA-LENGTH	71	04	Length of the Data segment that follows; Value '3'
FUNCTION-END-CODE	75	03	Value 'END'

Figure 9. Function Change Request Block From Participant

## Exhibit 8 - Logoff Request Block

### Logoff Request Block From Participant - Length 60 bytes

Field Name	Pos	Len	Field Attributes
TYPE-OF-BLOCK	01	02	Value '90'
TIME-STAMP	03	06	Time received (HHMMSS)
USER-ID	09	08	Numeric for individual user (e.g. 00000161); Alphanumeric for group user (e.g., G0000123)
Individual-User-Number	17	02	Entered by sender from Type '02' logon response
LU6.2-TERMID	19	04	Internal to MDH
Filler	23	38	Value spaces

Figure 10. Logoff Request Block from participant

**Logoff Response Block From MDH - Length 142 bytes**

Field Name	Pos	Len	Field Attributes
TYPE-OF-BLOCK	01	02	Value '91'
TIME-STAMP	03	06	Time received (HHMMSS)
USER-ID	09	08	Numeric for individual user (e.g. 00000161); Alphanumeric for group user (e.g. G0000123)
Individual-User-Number	17	02	Internal to MDH
LU6.2-TERMID	19	04	Internal to MDH
Filler	23	38	Value spaces
Response-Code	61	01	Values: 'A' = Logoff accepted 'R' = Logoff rejected
Response-Error-Code	62	01	Code indicating reason for rejection Values: 'A' = Not logged on 'B' = Wrong signon-ID 'P' = PTS is down
Error-Message	63	80	Error message if logoff has been rejected

Figure 11. Logoff Response Block from MDH

## Exhibit 9 – System Error Block from MDH

### System Error Block From MDH - Length 145 Bytes

Field Name	Fee	Len	Field Attributes
TYPE-OF-BLOCK	01	02	Value '99'
TIME-STAMP	03	06	Time received (HHMMSS)
USER-ID	09	08	Numeric for individual user (e.g. 00000161); Alphanumeric for group user (e.g. G0000123)
Individual-User-Number	17	02	Internal to MDH
LU6.2-TERMID	19	04	Internal to MDH
Filler	23	38	Value spaces
Function	61	04	Function in progress at time of error
Error-Code	65	01	This error-code field is currently not used, but will eventually contain the CICS ABEND code at the time of system failure.
Error-Message	66	80	System error message

Figure 12. System Error Block from MDH

## Exhibit 10 – Participant Request/MDH Response

Participant Request/MDH Response - Chart

PARTICIPANT REQUEST		MDH RESPONSE	
Block type	Description	Block type	Description
'01'	Logon	'02'	Logon (accepted/rejected)
			OR -
		'06'	Status of last good transmission ('recovery' after abnormal session termination)
		'99'	Logon rejected (System error)
'03'	Function	'04'	Function (accepted/rejected)
			- OR -
		'99'	Function rejected (System error)
'05'	Data to DTC (Or 'Change of Function')	'06'	Status of Data Block
			- OR -
		'99'	Data rejected (System error)
'07'	Data from DTC (via 'Range Request' or 'ALL')	'08'	Data transmission
			- OR -
		'99'	Data rejected (System error)
'90'	Logoff	'91'	Logoff (accepted/ rejected)
			- OR -
		'99'	Logoff rejected (System error)
NONE	'Time-out' (automatic)	NONE	Session terminated via LU6.2-to-LU6.2 system protocol message

Figure 13. Participant Request/MDH Response - Chart

## Exhibit 11 - PEND Reason Indicators

Code	Meaning
' '	Not 'pended'
'N'	Pended for Receiver's collateral deficiency
'S'	Pended for shares
'O'	Pended for Receiver's collateral deficiency
'C'	Pended for Deliverer's collateral deficiency
'D'	Pended for Receiver's debit deficiency
'E'	Pended for Deliverer's debit deficiency
'A'	Pended for Deliverer insufficient position
'B'	Pended for Receiver insufficient position
'P'	Pended for Deliverer insuff Pledged position
'F'	Pended for FIFO processing

Figure 14. PEND Reason Indicators

## Exhibit 12 - DROP Reason Indicators

Code	Meaning
' '	If DO-OUT-DTC-STATUS-IND = 'D' please refer to <a href="#">Exhibit 13</a> following. Otherwise this was not 'dropped'
'I'	Dropped for Receiver's collateral deficiency
'S'	Dropped for shares
'O'	Dropped for Receiver's collateral deficiency
'C'	Dropped for Deliverer's collateral deficiency
'E'	Dropped for Deliverer's debit deficiency
'A'	Dropped for Deliverer insufficient position
'B'	Dropped for Receiver insufficient position
'P'	Dropped for Deliverer insuff Pledged position
'J'	Dropped when Deliverer's settlement bank unavailable
'N'	Dropped when Receiver's settlement bank unavailable
'M'	Dropped when the market value exceeded
'V'	Dropped when collateral monitor value exceeded
'L'	Dropped when Deliverer's debit cap limit reached
'R'	Dropped when Receiver's debit cap limit reached
'D'	Dropped when the adjustable debit cap exceeded
'Z'	Dropped when PEND (recycle) cutoff was taken at the other Depository

Figure 15. DROP Reason Indicators

## Exhibit 13 - DROP Code Indicators

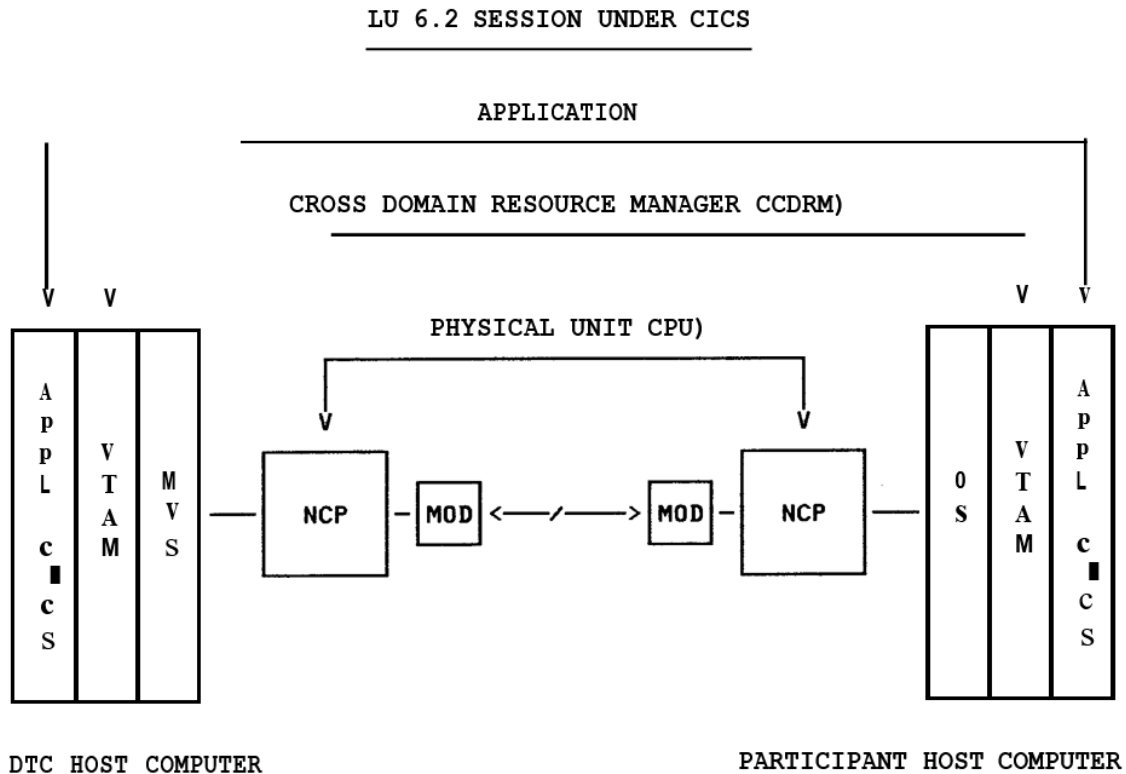
Code	Meaning
' '	Not dropped
'C'	PEND (recycle) cutoff taken at DTC
'S'	No short available for CNS transactions
'A'	Shares are not pendable
'T'	Collateral monitor is not pendable
'D'	Debit is not pendable
'X'	Unknown reason

Figure 16. DROP Code Indicators

# MDH TECHNICAL DOCUMENTATION

This section describes the Communications end Systems Programming Requirements for participants that wish to use the Mainframe Dual Host (MDH) System. The test and production environments at DTC are described along with guidelines for the environment at the participant's location.

The diagram below represents the 'layers' of communications that comprise an LU6.2 session:



## General Communications Definitions

Listed below are the characteristics of the DTC test and production systems. For a participant to use MDH, its system must have matching characteristics at the same or a higher level and this information will be exchanged with DTC as soon as it is known:

No	Feature	DTC Test Frame	DTC Prod Frame
1	VTAM Level	CSV2R8	CSV2R8
2	NCP Level	V7 R5	V7 R5
3	NETID	DTCT	DTCT
4	NULL NETID **		
5	GWNCP	Yes	Yes
6	MAXSUBA	31	31

No	Feature	DTC Test Frame	DTC Prod Frame
7	NULL NET MAXSUBA **		
8	HOST SUBAREA (NON- GATEWAY)	Not applicable	Not applicable
9	NCP SUBAREA (NON-GATEWAY)	Not applicable	Not applicable
10	NULL NET NCPSUBAREA **		
11	CDRM NAME	DTCT02	DTCP03
12	CDRM ADDRESS, ELEMENT (GATEWAY)	( ,2)	( ,2)
13	SSCPID	1025	1027
14	Transmission Group for Line	1	1
15	ERS, VRS	0,0 and 1,1	0,0 and 1,1
16	MAX RU SIZE	3840	3840
17	Application Name **	UTOR	PLCICS
18	Line Name **		
19	Line Station Name **		

Figure 17. Communication Requirements

\*\* To be determined at time of installation by agreement between DTC and participant.

**Notes:**

1. The production link will run at 9600 Baud Full Duplex
2. Items 8 and 9 do not apply if participant's installation is Gateway capable.

## Controller 'Sysgen' Definitions

The following parameters must be included in 3705 or 3725 gens:

1. For Both 3705 and 3725 Group or Line Macros:
  - o NRZI= No
  - o NEWSYNC = No
  - o DUPLEX = Full
2. For 3725, code the Line Address as follows:
  - o Address = (XXX,Full) for Full Duplex
  - o Address = (XXX,Half) for Half Duplex

**Note:**

IBM Informational APAR I101803 is very useful for Link Station definitions.

## VTAM Requirements

### 3. Mode Table Definitions

The required Mode Table entry for use with LU6.2 is shown below:

MODELU62 TITLE MVS/XA SYSTEM MODE TABLE FOR LU 6.2 USE

```
MODULE NAME = MODELU62
```

```
MODELU62  MODETAB
          SNASVCMG  MODEENT  LOGMODE=SNASVCMG
          SNASVCUS  MODEENT  LOGMODE=SNASVCUS
          MODEEND
          END
```

### 4. VTAM CICS Application Definition

\*

```
XXX      APPL      EAS=160,          ESTIMATED CONCURRENT SESSIONS
          ACBNAME=XXX,      APPLID FOR ACB
          SONSCIP=YES,
          VPACING=3
          MODETAB=MODELU62,
          PARSESS=YES,
          AUTH=(ACQ,VPACE,PASS)
```

## CICS Requirements (General)

The participant's system must have the following:

5. At least CICS Release 1.6.1.
6. At least a PUT Level 8601 (with Release 1.6.1).
7. A TCT entry defining the CICS/LU6.2 line as suggested below. This entry defines the link for the LU6.2 Communications Facility and will be allocated by the LU6.2 Participant Application Region.

<b>LU62</b>	<b>DFHTCT</b>	<b>TYPE=SYSTEM,</b>	DEFINE IRC
		<b>ACCMETH=VTAM,</b>	USE VTAM
		<b>TRMTYPE=LUTYPE62,</b>	LOGICAL UNIT 6.2
		<b>FEATURE=SINGLE,</b>	SINGLE SESSION
		<b>SYSDNT=LU62,</b>	NAME OF THIS LINK (ANY NAME)
		<b>NETNAME=PLCICS,</b>	APPLID OF REMOTE SYSTEM AT DTC <input type="checkbox"/>

---

**NOTE:**

USE TQCICS FOR TESTING

---

<b>MODENAME=SNASVCUS</b>	LOG MODE ENTRY NAME <input type="checkbox"/>
	MATCH TO MODETAB ENTRY
<b>BUFFER=1024,</b>	OUTBOUND RUSIZE
<b>RUSIZE=1024,</b>	INBOUND RUSIZE
<b>TCTUAL=172</b>	OPTIONAL TCT USER AREA

Participants must provide DTC with the NETNAME, that is, 'APPLID', of their systems for inclusion in the DTC DFHTCT.

---

**Note:**

It is recommended that the participant consider maintaining a separate CICS Region for the LU6.2 link with DTC. This will facilitate the coordination of PTF upgrades at each location and avoid incompatible versions of CICS. A policy paper discussing this issue is available upon request.

---

## CICS/LU6.2 Application Requirements

Shown below are two skeleton programs that highlight the key activities required to establish an LU6.2 session with the MDH system and to send and receive data.

The code is a combination of actual CICS commands, mainly related to establishing the session and conversing, and pseudo code, which indicates the sequence of block types that will be transmitted back and forth over the communication line.

Purpose: The code below describes the LU 6.2 participant processing required to send the following transactions to DTC:

- Deliver Orders (DO) Payment Orders (PO)
- Issuance transactions  
RAD Approval/Cancellation transactions
- SEG-type activity PLEDGE-type activity

**Note:**

Recovery logic is not included here.

8. Initialization

```
EXEC CICS HANDLE ABEND LABEL(LU62-EXIT) END-EXEC.  
EXEC CICS HANDLE CONDITION SYSIDERR(ALLOC-FAIL) END-EXEC.
```

9. Allocate an LU6.2 session with the MDH System.

```
EXEC CICS ALLOCATE SYSID(LU62-SYSTEM) END-EXEC.
```

Where the label 'LU62-SYSTEM' should be the TCT ID of the remote facility, that is, DTC.

**Note:**

When the resource is not available (DTC System is down or the session has already been taken), the program will wait at this point until the session becomes available.

```
MOVE EIBRSRCE TO LU62-ID.
```

Where the label 'LU62-ID' is a storage area for the Session-ID required in subsequent code.

```
EXEC CICS CONNECT PROCESS  
PROCNAME(PROC-NAME)  
PROCLENGTH(4)  
SYNLEVEL(1)  
CONVID(LU62-ID)  
END-EXEC.
```

Where 'PROC-NAME' is a 4-byte constant 'LU62'.

10. Format a Type-01 signon block in Working-Storage including signon-ID and password.
11. Send the block to DTC and receive the response (Type-02 block).

<b>EXEC</b>	<b>CICS</b>	<b>CONVERSE</b>
		<b>CONVID(LU62-ID)</b>
		<b>FROM(SIGNON-BLOCK-AREA)</b>
		<b>FROMLENGTH(BLOCK-01-LENGTH)</b>
		<b>SET(BLL-CELL-2)</b>
		<b>TOLENGTH(BLOCK-02-LENGTH)</b>
		<b>END-EXEC.</b>

12. Validate block Type-02 returned by LU6.2 and that the signon was accepted.
13. Determine which function, 'DO', 'PO', etc., to request.
14. Build and send a 'DO', 'PO', etc., Function Request (Type-03 block) and wait for the response (Type-04 block).

<b>EXEC</b>	<b>CICS</b>	<b>CONVERSE</b>
		<b>CONVID(LU62-ID)</b>
		<b>FROM(BLOCK-03-AREA)</b>
		<b>FROMLENGTH(BLOCK-03-LENGTH)</b>
		<b>SET (BLL-CELL-4)</b>
		<b>TOLENGTH(BLOCK-04-LENGTH)</b>
		<b>END-EXEC.</b>

15. Validate block Type-04 and response.
16. Get the next transactions to be sent (up to 10) and build a Type-05 data block.
17. Send the block and wait for the Type-06 block response.

<b>EXEC</b>	<b>CICS</b>	<b>CONVERSE</b>
		<b>CONVID(LU62-ID)</b>
		<b>FROM(BLOCK-05-AREA)</b>
		<b>FROMLENGTH(BLOCK-05-LENGTH)</b>
		<b>SET(BLL-CELL-6)</b>
		<b>TOLENGTH(BLOCK-06-LENGTH)</b>
		<b>END-EXEC.</b>

18. Validate block Type-06 and response.
19. If more transactions, go to send more data (Step 9).
20. Otherwise, build and send an 'END' Type-05 data block and go to process the next function (Step 6).
21. When no more input, build and send a signoff (Type-90) block and wait for the response (Type-91) block.
22. Free the session.

**EXEC CICS FREE SESSION(LU62-ID) END-EXEC.**

23. Terminate the program.

**Important Notes:**

- Coding should be included after every 'CONVERSE' instruction to test for a Type-99 block. This block will be returned if there is any MDH system failure at DTC.
- The 'HANDLE ABEND' Routine must contain:

**EXEC CICS FREE SESSION(LU62-ID) END-EXEC.**

as its first statement.

- In the 'HANDLE ABEND' Routine, a 'USER ABEND' is acceptable only after the 'FREE SESSION' has been requested. This is required in order to keep the LU6.2 session synchronized.

Purpose: This code describes the LU 6.2 participant processing needed to receive 'DO', 'PO', etc., transactions from DTC.

**Note:**

Recovery logic is not included here.

24. Initialization

**EXEC CICS HANDLE ABEND LABEL(LU62-EXIT) END-EXEC.**

**EXEC CICS HANDLE CONDITION SYSIDERR(ALLOC-FAIL) END-EXEC.**

25. Allocate an LU6.2 session with the MDH System.

**EXEC CICS ALLOCATE SYSID(LU62-SYSTEM) END-EXEC.**

Where the label 'LU62-SYSTEM' should be the TCT ID of the remote facility, that is, DTC.

---

**Note:**

When the resource is not available (DTC System is down or the session has already been taken), the program will wait at this point until the session becomes available.

---

**MOVE EIBRSRCE TO LU62-ID.**

Where the label 'LU62-ID' is a storage area for the Session-ID required in subsequent code.

```
EXEC  CICS  CONNECT  PROCESS
                                PROCNAME(PROC-NAME)
                                PROC LENGTH(4)
                                SYNCLEVEL(1)
                                CONVID(LU62-ID)
                                END-EXEC.
```

Where 'PROC-NAME' is a 4-byte constant 'LU62.'

26. Format a Type-01 signon block in Working-Storage including signon-ID and password.
27. Send the block to DTC and receive the response (Type '02 block).

```
EXEC  CICS  CONVERSE
                                CONVID(LU62-ID)
                                FROM(SIGNON-BLOCK-AREA)
                                FROMLENGTH(BLOCK-01-LENGTH)
                                SET(BLL-CELL-2)
                                TOLENGTH(BLOCK-02-LENGTH)
                                END-EXEC.
```

28. Validate block Type-02 returned by LU6.2 and that the signon was accepted.
29. Build and send an 'MDLU' Function Request (Type-03 block) and wait for the response (Type-04 block).

```
EXEC  CICS  CONVERSE
                                CONVID(LU62-ID)
                                FROM(BLOCK-03-AREA)
                                FROMLENGTH(BLOCK-03-LENGTH)
                                SET(BLL-CELL-4)
                                TOLENGTH(BLOCK-04-LENGTH)
                                END-EXEC.
```

30. Validate block Type-04 and response.
31. Build a Type-07 block containing 'ALL' to receive all messages or a range of message numbers.
32. Send the block.

**EXEC CICS SEND**

**CONVID(LU62-TD)  
FROM(BLOCK-07-AREA)  
LENGTH(BLOCK-07-LENGTH)  
INVITE  
WAIT  
END-EXEC.**

33. Issue a RECEIVE for the Type-08 Response block, test whether a CONFIRMATION is required and, if so, send the CONFIRMATION.

**EXEC CICS RECEIVE**

**CONVID(LU62-ID)  
INTO(BLOCK-08-RESPONSE-AREA)  
LENGTH(BLOCK-08-LENGTH)  
END-EXEC.**

**IF EIBCONF EQUAL HIGH-VALUES**

**EXEC CICS ISSUE CONFIRMATION**

**CONVID(LU62-ID)  
END-EXEC.**

34. Determine whether the Type-08 block contains 'NONE', 'END', or data:
- If 'NONE', go to end the session (Step 15).
  - If 'END', go to end the session (Step 15).
  - If data, go to process the transactions (Step 12).
35. Process the block of data.
36. Issue a RECEIVE for another Type-08 response block, test if a CONFIRMATION is required and, if so, send the CONFIRMATION.

**EXEC CICS RECEIVE**

**CONVID(LU62-ID)  
INTO(BLOCK-08-RESPONSE-AREA)  
LENGTH(BLOCK-08-LENGTH)  
END-EXEC.**

**IF EIBCONF EQUAL HIGH-VALUES**

**EXEC CICS ISSUE CONFIRMATION**

**CONVID(LU62-ID)**

**END-EXEC.**

37. Determine whether the Type-08 block contains 'END' or data:
  - If 'END', go to end the session (Step 15).
  - If data, go to process the transactions (Step 12).
38. Build and send a Signoff (Type-90) block and wait for the Response (Type-91) block.
39. Free the session.

**EXEC CICS FREE SESSION(LU62-ID) END-EXEC.**

40. Terminate the program.

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