

NGU Subprograms and Dialogs

General Information

The NGU-prefixed subprograms and dialogs in library SYSTEM provide you with frequently needed functionality. You then only specify a CALLNAT or OPEN DIALOG statement in your event handler code, instead of having to program everything manually.

For your convenience, the local data areas NGULKEY1 and NGULFCT1 are automatically included in the list of local data areas used by any new dialog.

- NGULFCT1 lists the names of the subprograms and dialogs as such.
- NGULKEY1 lists reserved symbols to be used in any event handler code. This enables you to refer to certain attribute values by the more meaningful texts rather than by the integer values. It also enables you to use meaningful dialog element names as parameters in a CALLNAT to an NGU-prefixed subprogram or in an OPEN DIALOG to an NGU-prefixed dialog.

There are two types of names for the NGULFCT1 subprograms or dialogs:

- Long Name (explanatory) is the basis of the alphabetical list.
- Natural Object Name is the shorter name.

To call the subprograms, you can use either name in event handler code: you specify CALLNAT *subprogram-long-name/Natural-object-name parameter-name... .*

To call the dialogs, you can also use both types of names inside the OPEN DIALOG statement.

Note: The NGU subprograms and dialogs provided with Natural Version 2.1.3 have partly been replaced by corresponding PROCESS GUI statement actions. The old NGU subprograms and dialogs are compatible with this version. It is recommended that you replace the calls to the dialogs and subprograms with the corresponding PROCESS GUI statement actions. This will increase the performance of your applications.

NGULKEY1 Reserved Symbols

Color Symbols

DEFAULT (0)
WHITE (1)
BLACK (2)
LTGREY (3)
GREY (4)
DKGREY (5)
RED (6)
GREEN (7)
BLUE (8)
CYAN (9)
MAGENTA (10)
BROWN (11)
YELLOW (12)
LIGHTRED (13)
LIGHTGREEN (14)
LIGHTBLUE (15)
LIGHTCYAN (16)

LIGHTMAGENTA (17)
BRIGHTWHITE (18)
CUSTOM (50)

Dialog Element Types

BITMAP
CANVAS
COLUMNSPECIFICATION
CONTEXTMENU
CONTROLBOX
EDITAREA
FONT
GRAPHICTEXT
GROUPFRAME
INPUTFIELD
LINE
LISTBOX
LISTBOXITEM
MDICHILD
MDIFRAME
MENUBAR
MENUITEM
PUSHBUTTON
RADIOBUTTON
RECTANGLE
SCROLLBAR
SELECTIONBOX
SELECTIONBOXITEM
SUBMENU
TABLE
TIMER
TEXTCONSTANT
TOGGLEBUTTON
TOOLBAR
TOOLBARITEM
WINDOW

Event-Suppressing Symbols

NOT-SUPPRESSED
SUPPRESSED

Menu Item Style Symbols

MT-NORMAL
MT-SEPARATOR
MT-SUBMENU
MT-MDICASCADE
MT-MDITILE
MT-MDIARRANGE
MT-WINDOWMENU
MT-CUT
MT-COPY
MT-PASTE
MT-DELETE

MT-UNDO

Menu Item Symbols

UNCHECKED

CHECKED

Separator Symbols

END-OF-LINE

For details on END-OF-LINE, see the section NGU-MESSAGEBOX Dialog.

HORIZONTAL-TAB

For details on HORIZONTAL-TAB, see the section SET-TABS Action.

Tool Bar Symbols

TB-TOP

TB-BOTTOM

TB-LEFT

TB-RIGHT

NGU-CLIENT-ADVISE-HOT Subprogram

Natural Object Name

NGUCLADH

Description

Requests the server identified by DDE-VIEW.CONV-ID to advise the client as soon as new data are available. If so, the client will be advised of the new data. This will be specified in DDE-VIEW.ITEM. The data will then be sent automatically.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).

NGU-CLIENT-ADVISE-TERM Subprogram

Natural Object Name

NGUCLADT

Description

Requests the server to no longer advise the client of new data.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).

NGU-CLIENT-ADVISE-WARM Subprogram

Natural Object Name

NGUCLADW

Description

Requests the server identified by DDE-VIEW.CONV-ID to advise the client as soon as new data are available. If so, the client will only be advised of the new data. This will be specified in DDE-VIEW.ITEM. If the application wants the data, it will have to request the data.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).

NGU-CLIENT-CONNECT Subprogram

Natural Object Name

NGUCLCON

Description

This subprogram requests a conversation with a server providing the service DDE-VIEW.SERVICE on the topic DDE-VIEW.TOPIC. If an appropriate server can be found, this starts a conversation identified by a unique conversation ID, which is returned to DDE-VIEW.CONV-ID. If not, this field is empty on return of the request. If you plan on having more than one conversation, store the value of DDE-VIEW.CONV-ID as you will need it to identify conversations.

Before you execute this subprogram, you must assign the *DIALOG-ID system variable of the client dialog to DDE-VIEW.CONV-ID. You must also assign the string "DLGID" to DDE-VIEW.MESSAGE.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).

NGU-CLIENT-DISCONNECT Subprogram

Natural Object Name

NGUCLDIS

Description

Closes the conversation identified by DDE-VIEW.CONV-ID. The server will be advised of this.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).

NGU-CLIENT-EXECUTE Subprogram

Natural Object Name

NGUCLEXE

Description

Requests the server identified by DDE-VIEW.CONV-ID to execute a command. The field DDE-VIEW.DATA describes the command to be executed.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).

NGU-CLIENT-GET-DATA Subprogram

Natural Object Name

NGUCLGDA

Description

You must use this subprogram in the event handler of a DDE-client event to fill the DDE-VIEW parameter data area. You must then ensure that your event handler code acts on the value of DDE-VIEW.MESSAGE. The possible values of DDE-VIEW.MESSAGE are:

DISCONNECT	The server has terminated the conversation identified by DDE-VIEW.CONV-ID by unregistering the topic, or by exiting.
DATA	The server has sent data for DDE-VIEW.CONV-ID and DDE-VIEW.ITEM. The data are contained in DDE-VIEW.DATA. The length of the data will be contained in DDE-VIEW.DATALEN.
NOTIFY	The server has new data available for the conversation identified by DDE-VIEW.CONV-ID and DDE-VIEW.ITEM. The data are not sent at this point. You must request these data in your event handler. Only then the data will actually be received.
TIMEOUT	No server message has been received during the timeout period.

When DDE-VIEW.MESSAGE has the value DISCONNECT, DATA, or NOTIFY, the fields DDE-VIEW.SERVICE and DDE-VIEW.TOPIC are also set appropriately.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).

NGU-CLIENT-POKE Subprogram

Natural Object Name

NGUCLPOK

Description

Sends data to the server identified by DDE-VIEW.CONV-ID. These data will be specified in DDE-VIEW.ITEM. When sending data to the server, you must set DDE-VIEW.DATALEN to a value:

- If set to "0", the entire data will be sent; the server will send on return a value that indicates how many data were actually sent.
- If set to "-1", trailing blanks will be removed and the server will send on return a value that indicates how many data were actually sent.
- If set to a value greater zero, this amount of data is actually sent.

The data to be sent are contained in DDE-VIEW.DATA.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).

NGU-CLIENT-REQUEST Subprogram

Natural Object Name

NGUCLREQ

Description

Requests data from the server identified by DDE-VIEW.CONV-ID. These data will be specified in DDE-VIEW.ITEM. If data are available, the server will send them to the client.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).

NGU-CLIENT-STOP Subprogram

Natural Object Name

NGUCLSTP

Description

Terminates all DDE activity for the client. Any open conversations are terminated. This subprogram may be useful to handle an error returned from a client request.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).

NGU-COLOUR-SELECT Dialog

Natural Object Name

NGUCOSE1

Description

Provides a dialog box for selecting or creating a color.

OPEN DIALOG Parameters

Name/Data Type	Explanation
HANDLE OF parent	USING clause/Input The parent dialog.
Colour name (I4)	WITH clause/Output Returns a color.
Colour value (B3)	WITH clause/Output Returns an RGB-defined color.
Colour selected (L)	WITH clause/Output Indicates whether a color has been selected.
Style (A32)	WITH clause/Output Reserved for future use.

Example:

```
OPEN DIALOG NGU-COLOUR-SELECT
  USING #DLG$WINDOW
  GIVING #DLG /* The parent's handle value (I4)
  WITH #COLOUR-NAME #COLOUR-VALUE #COLOUR-SEL #STYLE
```

NGU-DIALOG-CLOSE-ALL Subprogram and Subroutine

Natural Object Names

NGUDICL1
 NGUDICLS

Description

Both the subprogram and the subroutine close all child dialogs of a given dialog. If you execute them, the close event occurs for all child dialogs. You can use them, for example, to close all MDI child dialogs in an MDI application. The difference between the two is that you use the NGUDICLS subroutine if you are accessing a global data area while closing all child dialogs. NGUDICLS is to be found in library SYSNGU. If the dialog calling this subprogram/subroutine is an MDI child dialog itself and all MDI child dialogs are to be closed, you must specify the parent of this dialog (the MDI frame dialog) as parameter. The MDI child dialog calling this subprogram/subroutine will then be the last to be closed.

Parameters

Name/Data Type	Explanation
HANDLE OF GUI	Input Handle of the dialog whose child dialogs are to be closed.
Response (I4)	Output Natural error (if applicable).

Examples:

```
CALLNAT NGU-DIALOG-CLOSE-ALL #MYDIA #RESPONSE /* NGUDICL1 subprogram
PERFORM NGU-DIALOG-CLOSE-ALL #MYDIA #RESPONSE /* NGUDICLS subroutine
```

NGU-FONT-SELECT Dialog

Natural Object Name

NGUFOSE1

Description

Provides the end user with a dialog box to select a font. To avoid problems, always ensure that you assign NULL-HANDLE to your font before you specify the OPEN DIALOG statement. Otherwise, an invalid font handle is assigned to the text(s) for which the end user has already selected a font.

OPEN DIALOG Parameters

Name/Data Type	Explanation
HANDLE OF GUI	USING clause/Input The parent dialog of the font selection dialog box.
HANDLE OF FONT	WITH clause/Output Returns a font.
Font selected (L)	WITH clause/Output Indicates whether a font has been selected.
Font string (A253)	WITH clause/Input/Output Input: preselected font, Output: font selected by end user.

Example:

```
#FONT-NEW:= NULL-HANDLE /*Recommended every time you use this dialog
OPEN DIALOG NGU-FONT-SELECT
  USING #DLG$WINDOW
  GIVING #DLG
  WITH #FONT-NEW #FONT-SEL #FONT-STRING
```

NGU-MESSAGEBOX Dialog

Natural Object Name

NGUMBDI1

Description

Displays a message box, for example with the title: "Dialog editor" and the message "Information message box" with an "OK" style push button that is selected by default. Please note that such a message box is modal (the end user can only leave it with a choice).

OPEN DIALOG Parameters

Name/Data Type	Explanation
HANDLE OF GUI	USING clause/Input The parent dialog of the message box.
Button (A1)	WITH clause/Output Returns the selected button (for possible output values, see below).
Message (A253)	WITH clause/Input (BY VALUE) Here you specify the message to be issued.
Title (A50)	WITH clause/Input (BY VALUE) Here you specify the message box title.
Style (A32)	WITH clause/Input (BY VALUE) The type of message box (for possible input values, see below).

"Button" Value	Selected Button
O	OK push button.
C	Cancel push button.
Y	Yes push button.
N	No push button.
R	Retry push button.

"Style" Value	Message Box Type
I	blue lower-case "i" in a round icon, Information Provides information about the results of a command. Offers no user choices; the user acknowledges the message by clicking the OK button.
!	exclamation mark, Warning Alerts the user to a condition or situation that requires the user's decision and input before proceeding, such as an impending action with potentially destructive, irreversible consequences.
S	stop sign, Critical Informs the user of a serious problem that requires intervention or correction before work can continue.
?	This sign is no longer recommended as it does not clearly represent a type of message. The system continues to support its inclusion only for backward compatibility.
may be combined with:	
O	OK push button (default).
OC	OK and Cancel push buttons.
YNC	Yes, No, and Cancel push buttons.
YN	Yes and No push buttons.
RC	Retry and Cancel push buttons until the end user responds to the message box.
may be combined with:	
1	Make the first push button the default.
2	Make the second push button the default.
3	Make the third push button the default.

Note: If the messagebox has the style "C", an OK button is generated because a messagebox with only a Cancel button is not supported.

Example:

```

OPEN DIALOG NGU-MESSAGEBOX
  USING NULL-HANDLE
  WITH #BUTTON
  'Do you want to save the changes ?' /* These parameters are
  'Exit editor' '?YNC1'             /* passed BY VALUE

```

Separator Keyword

END-OF-LINE

You use this keyword to force line breaks in message box texts when using the NGU-MESSAGEBOX dialog. To do so, first embed this keyword in the alphanumeric "Message" string using the COMPRESS statement, for example:

```
COMPRESS 'HELLO' END-OF-LINE 'THIS IS A MESSAGE' TO #MESSAGE
```

You should, however, only use this technique if the text of the message clearly breaks into more than one line, because this overrides system-provided formatting.

Usage in Enter or Leave Event Handlers

Before you open this dialog in an enter or leave event handler, you have to set the attributes SUPPRESS-ENTER-EVENT and SUPPRESS-LEAVE-EVENT to TRUE. This avoids an infinite loop on opening the dialog (when the messagebox appears, another enter and leave event occurs for the dialog or dialog element containing the enter or leave event handler). After the messagebox has been invoked, you modify the attributes to value FALSE again.

NGU-SERVER-DATA Subprogram

Natural Object Name

NGUSVDAT

Description

Sends the data for service DDE-VIEW.SERVICE, topic DDE-VIEW.TOPIC, conversation-ID DDE-VIEW.CONV-ID, and item DDE-VIEW.ITEM to the client.

The data to be sent are contained in DDE-VIEW.DATA and must have been requested by the client in a "Request" or "Advise" message. DDE-VIEW.ITEM must be set to the item that was requested. Note that even if the "Advise" message resulted in a warm link, the data should still be specified. Natural will then decide whether the data will actually be sent to the client.

When sending data to the client, you must set DDE-VIEW.DATALEN to a value:

- If set to "0", the entire data will be sent; the client will send on return a value that indicates how many data were actually sent.
- If set to "-1", trailing blanks will be removed and the client will send on return a value that indicates how many data were actually sent.
- If set to a value greater zero, this amount of data is actually sent.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).

NGU-SERVER-GET-DATA Subprogram

Natural Object Name

NGUSVGDA

Description

Lets the server retrieve data supplied with a message from some client. You must use this subprogram in the event handler of a DDE-server event. DDE-VIEW.MESSAGE will hold one of the values described below. You must then ensure that your event handler code acts on the value of DDE-VIEW.MESSAGE.

The possible values of DDE-VIEW.MESSAGE are:

CONNECT	On request by a client, a conversation has been established with the topic DDE-VIEW.TOPIC and the service DDE-VIEW.SERVICE. Topic and service must have been registered by the server. The value in DDE-VIEW.CONV-ID uniquely identifies this conversation.
DISCONNECT	On request by a client, the conversation identified by DDE-VIEW.CONV-ID has been closed.
REQUEST	The client of the conversation specified in DDE-VIEW.CONV-ID has requested data as specified in DDE-VIEW.ITEM.
ADVISE	The client of the conversation specified in DDE-VIEW.CONV-ID has requested a data link for the data specified in DDE-VIEW.ITEM. The DDE-server event handler must then use the NGU-SERVER-DATA subprogram whenever new data become available during the conversation.
UNADVISE	The client of the conversation specified in DDE-VIEW.CONV-ID has requested to close a data link for the data specified in DDE-VIEW.ITEM. (This data link was previously opened using "Advise".)
POKE	The client of the conversation specified in DDE-VIEW.CONV-ID has sent data as specified in DDE-VIEW.ITEM and DDE-VIEW.DATA. These data have the length of DDE-VIEW.DATALEN. DDE-VIEW.DATA should be chosen as appropriate for the expected conversations.
EXECUTE	The client of the conversation specified in DDE-VIEW.CONV-ID has requested the execution of the command specified in DDE-VIEW.DATA and DDE-VIEW.ITEM. The length of this command is held in DDE-VIEW.DATALEN.
TIMEOUT	A timeout has occurred. No client message has been received during a specified time interval.

When DDE-VIEW.MESSAGE has the value DISCONNECT, DATA, or NOTIFY, the fields DDE-VIEW.SERVICE and DDE-VIEW.TOPIC are also set appropriately.

The value in DDE-VIEW.TIMEOUT specifies the maximum number of milliseconds the server wants to wait for a message:

- If set to "-1", the server will wait indefinitely.
- If set to "0", a message will be returned immediately, if there is one pending, or "Timeout" will be returned.
- If set to any other value, the exact time that elapses before a message is returned can only be guaranteed to be no less than DDE-VIEW.TIMEOUT.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).

NGU-SERVER-WAIT Subprogram

Natural Object Name

NGUSVWAT

Description

Lets the server wait for data supplied with a message from some client. DDE-VIEW.MESSAGE will hold one of the values described below. You must then ensure that your event handler code acts on the value of DDE-VIEW.MESSAGE

The possible values of DDE-VIEW.MESSAGE are:

CONNECT	On request by a client, a conversation has been established with the topic DDE-VIEW.TOPIC and the service DDE-VIEW.SERVICE. Topic and service must have been registered by the server. The value in DDE-VIEW.CONV-ID uniquely identifies this conversation.
DISCONNECT	On request by a client, the conversation identified by DDE-VIEW.CONV-ID has been closed.
REQUEST	The client of the conversation specified in DDE-VIEW.CONV-ID has requested data as specified in DDE-VIEW.ITEM.
ADVISE	The client of the conversation specified in DDE-VIEW.CONV-ID has requested a data link for the data specified in DDE-VIEW.ITEM. The DDE-server event handler must then use the NGU-SERVER-DATA subprogram whenever new data become available during the conversation.
UNADVISE	The client of the conversation specified in DDE-VIEW.CONV-ID has requested to close a data link for the data specified in DDE-VIEW.ITEM. (This data link was previously opened using "Advise".)
POKE	The client of the conversation specified in DDE-VIEW.CONV-ID has sent data as specified in DDE-VIEW.ITEM and DDE-VIEW.DATA. These data have the length of DDE-VIEW.DATALEN. DDE-VIEW.DATA should be chosen as appropriate for the expected conversations.
EXECUTE	The client of the conversation specified in DDE-VIEW.CONV-ID has requested the execution of the command specified in DDE-VIEW.DATA and DDE-VIEW.ITEM. The length of this command is held in DDE-VIEW.DATALEN.
TIMEOUT	A timeout has occurred. No client message has been received during a specified time interval.

When DDE-VIEW.MESSAGE has the value DISCONNECT, DATA, or NOTIFY, the fields DDE-VIEW.SERVICE and DDE-VIEW.TOPIC are also set appropriately.

The value in DDE-VIEW.TIMEOUT specifies the maximum number of milliseconds the server wants to wait for a message:

- If set to "-1", the server will wait indefinitely.
- If set to "0", a message will be returned immediately, if there is one pending, or "Timeout" will be returned.
- If set to any other value, the exact time that elapses before a message is returned can only be guaranteed to be no less than DDE-VIEW.TIMEOUT.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).

NGU-SERVER-REGISTER Subprogram

Natural Object Name

NGUSVREG

Description

This subprogram makes it known that the server supports the service specified in DDE-VIEW.SERVICE and the conversations on the topic specified in DDE-VIEW.TOPIC. A client will not be able to establish a conversation with the server until this subprogram is executed. Your client should not try to register the name "Natural" because this is reserved.

Before you execute this subprogram, you must assign the *DIALOG-ID system variable of the server dialog to DDE-VIEW.CONV-ID. You must also assign the string "DLGID" to DDE-VIEW.MESSAGE.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).

NGU-SERVER-STOP Subprogram

Natural Object Name

NGUSVSTP

Description

Terminates all DDE activity for the server. Any topics registered for the service are unregistered and any open conversations are terminated. The server should not call any other DDE transaction after this subprogram has been executed.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).

NGU-SERVER-UNREGISTER Subprogram

Natural Object Name

NGUSVUNR

Description

Makes the topic DDE-VIEW.TOPIC unavailable. Any open conversations on that topic should be closed first.

Parameters

Name/Data Type	Explanation
1 DDE-VIEW	Input/Output PDA for DDE subprograms.
2 SERVICE (A20)	Service name.
2 TOPIC (A20)	Topic name.
2 CONV-ID (I4)	Conversation ID.
2 MESSAGE (A20)	Message information.
2 ITEM (A20)	Item of current conversation.
2 FORMAT (A20)	Format of data to be sent.
2 TIMEOUT (I4)	Time interval before the conversation is interrupted because there is no server message.
2 DATALEN (I2)	Length of data.
2 DATA-ARRAY (A1/1:V)	
1 Max-Index (I2)	Input Highest index of DATA-ARRAY; can be set to any I2 value.
1 Response (I4)	Output Natural error (if applicable).