MultiBase Cosmos

Notes to version 8.0

Index

NTCO80

1. Implementations

1.1 Development environment

In the information window of a control, in addition to the controls, the variable associated with the control and its name will be displayed.

1.2 CTSQL

- TTBACKUPDB. A new parameter «maxtries» has been implemented for this command. This parameter will indicate the maximum number of retries to be performed before continuing with the hot backup.

1.3 Rutime

- As of version 8.0 of Cosmos, it will be possible to export the content of a list to a «PDF» file without having to have the OpenOffice suite installed, as was the case in previous versions.
- The FtpPutFileEx method allows uploading a file to an FTP server with SFTP protocol.
- Possibility to create, delete, list directories of an FTP server. In addition, you can rename and delete files. The UrlSendCommand method has been implemented in the Module class.
- Possibility to check if the Cosmos runtime that is running is 32 or 64 bits. The IsX64Runtime method of the Module class has been implemented.
- Possibility of searching for a text in the report preview window.
- Possibility of using scrollable cursors in an ODBC connection to PostgreSQL.

1.4 Cosmos Webserver.

Version 8.0 of Cosmos allows the installation, startup, shutdown and removal of the service silently and in the log4j file, with the trace in DEBUG mode, it will be possible to consult the parameters that are sent in the request.

In versions prior to 8.0, if many threads were running simultaneously, Cosmos WebServer would crash. To solve this problem, the possibility of modifying the number of «acceptors» and «selectors» of Jetty with an environment variable has been implemented. The environment variable is "com.base100.cosmos.server.threadacceptorselector", which is defined in the [Java] section of the CWS configuration.

Example:

    -Dcom.base100.cosmos.server.threadacceptorselector=10,100

    The maximum number of the sum of the 2 elements cannot exceed 180.

1.5 API TTCHARTDLL

Implementation of the ChartLegendSetXShift and ChartGraphSetXShift functions to be able to define the position of the legends and graphs, and avoid the overlapping that sometimes occurs.

Implementation of polar and radar charts.

1.6 API TTXMLDLL

- As of version 8.0 of Cosmos, this API allows, in addition to parsing files in «XML» format, files in «HTML» format. The functions that must be used in this case to open the file are: TTXmlOpenHtmlDoc or TTXmlOpenHtmlBuffer. The difference between these two functions is that the first receives as a parameter a char object with the path of the HTML file and the second receives as a parameter a char object with the content of the «HTML» file.
- It will be possible to consult the value of the encoding property opened with the TTXmlOpenDoc function in files with «XML» format. The new function is called TTXmlGetDocEncodingString. In addition, the TTXmlGetCharsetIdFromString and TTXmlGetCharsetStringFromId functions have been implemented to obtain the ID of the character set from the name and vice versa.
- A new function has been implemented that allows to know if the TTXmlGetNextNode and TTXmlGetFirstChildNode functions return a node of type «TEXT_NODE», code (3), without value.

1.7 API COSCOMPRESSDLL

Possibility to compress and decompress files with password.

2. New methods and functions

2.1 API COSCOMPRESSDLL

CosCosmpressSetPasword

Allows you to assign a password to the archive.

Syntax:

```
[Access] dll "coscompressdll.dll" CosCompressSetPassword (zipId as integer,
password as char) return integer
```

Parameters:

zipID	Compressed file identifier.
password	File password.

Returns:

0	Successful execution.
-3	The archive identifier is not correct.

CosCosmpressExtractEx

Allows you to extract the content of a password-protected archive.

Syntax:

```
[Access] dll "coscompressdll.dll" CosCompressExtractEx(compressedFile as char,
outputFolder as char, format as char, showProgressWindow as boolean, password
as char) return integer
```

Parameters:

compressedFile	Full path of the compressed file.
outputFolder	Full path of the folder where the file will be extracted. The folder must exist.
format	Compressed file format. Allowed values: "ZIP" and "7Z".
showProgressWindow	Show progress window. Allowed values: TRUE, FALSE.
password	Compressed file password.

Returns:

0	Successful execution.

-12   Unable to create output file. File already exists or you do not have write permission
           to the specified folder or the password is incorrect.

-16   Input file not found.

-18   The user has canceled the process.

-19   Some required parameter is missing.

-20   The output folder does not exist.

2.2   API TTCHARTDLL

ChartGraphSetXShift

Allows you to move the graph to the left (negative value) or to the right (positive value) with respect
to its default position within the control window.

Syntax:

```
[Access] dll "ttchartdll.dll" ChartGraphSetXShift (hWindow as integer, xShift
as decimal) return boolean
```

Parameters:

hWindow   32-bit integer that corresponds to the handle of the control win-
                       dow where the graph is located.

xShift   Horizontal offset on the X axis.

Returns:

1   Successful execution.

0   There is no chart control associated with the hWindow parameter.

ChartLegendSetXShift

Allows you to move the legend to the left (negative value) or right (positive value) with respect to its
default position within the control window.

Syntax:

```
[Access] dll "ttchartdll.dll" ChartLegendSetXShift(hWindow as integer, xShift
as decimal) return boolean
```

Parameters:

hWindow   32-bit integer that corresponds to the handle of the control win-
                       dow where the legend is located.

xShift   Horizontal offset on the X axis.

Returns:

    1   Successful execution.

    0   If there is no chart control associated with the hWindow.

ChartGraphRadarSetScaleType

This function indicates what will be the magnitude of the scale that will be used when drawing each of the elements of the graph.

Syntax:

```
[Acceso] dll "ttchartdll.dll" ChartGraphRadarSetScaleType(hWindow as integer,
scaleType as integer) return boolean
```

Parameters:

hWindow	32-bit integer that corresponds to the handle of the control window.
scaleType	Allowed values:

                            1. The scale of all the axes is defined by putting as maximum value the maximum value of all the elements of all the layers. 2. The scale of each axis is defined by putting as maximum value the maximum value of the elements in that axis of all the layers.

                            If this function is not executed, the default operating mode is 1.

    Returns:

    1   Successful execution.

    0   If there is no chart control associated with the hWindow parameter or if the scaleType parameter has not been assigned a correct value (1 or 2).

2.3   API TTXMLDLL

TTXmlIsBlankNode

Detects if the node text has no value.

This function must be used when the TTXmlGetNextNode and TTXmlGetFirstChildNode functions return a node of type «TEXT_NODE», code 3, to check if the text property has a value.

Syntax:

```
[Access] dll "ttxmldll.dll" TTXmlIsBlankNode(Doc as integer, node as integer)
return boolean
```

Parameters:

Doc   Document identifier.

node   Node identifier.

Returns:

TRUE if the text type node has no value, that is, it is a blank node.

FALSE if the text type node has value.

TTXmlGetDocEncodingString

Allows you to query the character set of an XML file opened with the TTXmlOpenDoc function.

Syntax:

```
[Access] dll "ttxmldll.dll" TTXmlGetDocEncodingString(doc as integer) return
char
```

Parameters:

Doc   Document identifier.

Returns:

A string of characters with the value of the encoding of the XML file.

TTXmlGetCharsetIdFromString

It allows obtaining the encoding identifier from the string of characters that it receives as a parameter.

Syntax:

```
[Access] dll "ttxmldll.dll" TTXmlGetCharsetIdFromString(encodingString as
char) return integer
```

Parameters:

encodingString   String of characters with the value of the encoding.

Returns:

Encoding identifier.

TTXmlGetCharsetStringFromId

It allows obtaining the identifier string of the encoding value from the identifier that it receives as a parameter.

Syntax:

```
[Access] dll "ttxmldll.dll" TTXmlGetCharsetStringFromId(encoding as integer)
return char
```

Parameters:

> encoding   Encoding identifier.

Returns:

> String of characters with the value of the encoding.

TTXmlOpenHtmlDoc

Allows you to open and load an existing HTML file.

Syntax:

```
[Access] dll "ttxmldll.dll" TTXmlOpenHtmlDoc(htmlDocName as char) return
integer
```

Parameters:

> htmlDocName   Name of the HTML document that you want to open. It must in-
> clude the full path of the document.

Returns:

> Returns the identifier of the open HTML document. If the return value is 0, it indicates that the document cannot be found or cannot be opened.

TTXmlOpenHtmlBuffer

Allows an object of type char to be loaded in HTML format and to be handled as if it were an HTML document opened with the TTXmlOpenHtmlDoc function.

Syntax:

```
[Access] dll "ttxmldll.dll" TTXmlOpenHtmlbuffer(bufferHtml as char) return
integer
```

Parameters:

> bufferHtml   String of characters in HTML format.

Returns:

> Returns the identifier of the open HTML buffer. If the value it returns is 0, it indicates that it has not been possible to load the buffer.

2.4 Module Class

IsX64Runtime

It allows to know the type of architecture of the runtime that is being executed.

Syntax:

```
IsX64Runtime() return boolean
```

Returns:

TRUE, if the runtime architecture is x64.

FALSE, if the runtime architecture is x86.

UrlSendCommand

Allows you to create, delete, list FTP server directories. In addition, you can rename and delete files.

Syntax:

```
UrlSendCommand(remoteHost as Char ,remoteHostPort as Integer ,remoteHostUser
as Char ,remoteHostPassword as Char ,command as Char ,VAR retCommand as Char)
```

Parameters:

remoteHost	IP address or server name.
remoteHostPort	FTP port number.
remoteHostUser	User name.
remoteHostPassword	User password.
command	Name of the command to execute on the FTP server.
retCommand	Character string returned by the FTP/SFTP server.

Returns:

a) a) The FTP error codes are as follows:

Code	Description
100	The requested action is starting, please wait for another response before continuing with a new command.
110	Restart marker replay . In this case, the text is exact and not left to the particular implementation; it must read: MARK yyyy = mmmm where yyyy is User-process data stream marker, and mmmm server's equivalent marker (note the spaces between markers and "=").
120	Service ready in nnn minutes.
125	Data connection already open; transfer starting.
150	File status okay; about to open data connection.
200	The requested action has been successfully completed.
202	Command not implemented, superfluous at this site.
211	System status, or system help reply.
212	Directory status.
213	File status.

Code	Description
214	Help message. Explains how to use the server or the meaning of a particular non-standard command. This reply is useful only to the human user.
215	NAME system type. Where NAME is an official system name from the registry kept by IANA.
220	Service ready for new user.
221	Service closing control connection.
225	Data connection open; no transfer in progress.
226	Closing data connection. Requested file action successful (for example, file transfer or file abort).
227	Entering Passive Mode (h1,h2,h3,h4,p1,p2).
228	Entering Long Passive Mode (long address, port).
229	Entering Extended Passive Mode (|||port|).
230	User logged in, proceed. Logged out if appropriate.
231	User logged out; service terminated.
232	Logout command noted, will complete when transfer done. Alternatively: User logged in, authorized by security data exchange.
234	Specifies that the server accepts the authentication mechanism specified by the client, and no security data needs to be exchanged.
235	Specifies that the server accepts the security data given by the client, and no further security data needs to be exchanged.
250	Requested file action okay, completed.
257	"PATHNAME" created.
300	The command has been accepted, but the requested action is on hold, pending receipt of further information.
331	User name okay, need password.
332	Need account for login.
334	Specifies that the server accepts the authentication mechanism specified by the client, but some security data needs to be exchanged.
335	Specifies that the server accepts the security data given by the client, but further security data needs to be exchanged.
350	Requested file action pending further information
400	The command was not accepted and the requested action did not take place, but the error condition is temporary and the action may be requested again.
421	Service not available, closing control connection. This may be a reply to any command if the service knows it must shut down.
425	Can't open data connection.
426	Connection closed; transfer aborted.
430	Invalid username or password
434	Requested host unavailable.
450	Requested file action not taken.
451	Requested action aborted. Local error in processing.
452	Requested action not taken. Insufficient storage space in system. File unavailable (e.g., file busy).
500	Syntax error, command unrecognized and the requested action did not take place. This may include errors such as command line too long.

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Code	Description
501	Syntax error in parameters or arguments.
502	Command not implemented.
503	Bad sequence of commands.
504	Command not implemented for that parameter.
530	Not logged in.
532	Need account for storing files.
534	Request denied for policy reasons.
550	Requested action not taken. File unavailable (e.g., file not found, no access).
551	Requested action aborted. Page type unknown.
552	Requested file action aborted. Exceeded storage allocation (for current directory or dataset).
553	Requested action not taken. File name not allowed.
600	Replies regarding confidentiality and integrity
631	Integrity protected reply.
632	Confidentiality and integrity protected reply.
633	Confidentiality protected reply.
10000	Common Winsock Error Codes.
10054	Connection reset by peer. The connection was forcibly closed by the remote host.
10060	Cannot connect to remote server.
10061	Cannot connect to remote server. The connection is actively refused by the server.
10065	No route to host / DNS cannot be resolved.
10066	Directory not empty.

b)   The SFTP error codes and their descriptions are as follows:

Code	Description	Code	Description
0	No error has occurred	46	Código obsoleto
1	Unsupported protocol	47	Number of redirects hit maximum amount
2	Failed initialization	48	An unknown option was passed in to libcurl
3	URL using bad/illegal format or missing URL	49	Malformed telnet option
4	A requested feature, protocol or option was not found built-in in this libcurl due to a build-time decision.	50	Código obsoleto
5	Couldn't resolve proxy name	51	SSL peer certificate or SSH remote key was not OK
6	Couldn't resolve host name	52	Server returned nothing (no headers, no data)
7	Couldn't connect to server	53	SSL crypto engine not found
8	FTP: weird server reply	54	Can not set SSL crypto engine as default
9	Access denied to remote resource.	55	Failed sending data to the peer
10	FTP: The server failed to connect to data port Fallo al conectar al puerto	56	Failure when receiving data from the peer
11	Password desconocida. FTP: unknown PASS reply".	57	Código obsoleto

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Code	Description	Code	Description
12	Time out	58	Problem with the local SSL certificate
13	FTP: unknown PASV reply	59	Couldn't use specified SSL cipher
14	Formato 227 respuesta desconocida. FTP: unknown 227 response format	60	Peer certificate cannot be authenticated with given CA certificates
15	FTP: can't figure out the host in the PASV response	61	Unrecognized or bad HTTP Content or Transfer-Encoding
16	Error in the HTTP2 framing layer	62	Invalid LDAP URL
17	FTP: couldn't set file type	63	Maximum file size exceeded
18	Transferred a partial file	64	Requested SSL level failed
19	FTP: couldn't retrieve (RETR failed) the specified file	65	Send failed since rewinding of the data stream failed
20	Código obsoleto	66	Failed to initialise SSL crypto engine
21	Quote command returned error	67	Login denied
22	HTTP response code said error	68	TFTP: File Not Found
23	Failed writing received data to disk/application	69	TFTP: Access Violation
24	Código obsoleto	70	Disk full or allocation exceeded
25	Upload failed (at start/before it took off)	71	TFTP: Illegal operation
26	Failed to open/read local data from file/application	72	TFTP: Unknown transfer ID
27	Out of memory	73	Remote file already exists
28	Timeout was reached	74	TFTP: No such user
29	Código obsoleto	75	Conversion failed
30	FTP: command PORT failed	76	Caller must register CURLOPT_CONV_ callback options
31	FTP: command REST failed	77	Problem with the SSL CA cert (path? access rights?)
32	Código obsoleto	78	Remote file not found
33	Requested range was not delivered by the server	79	Error in the SSH layer
34	Internal problem setting up the POST	80	Failed to shut down the SSL connection
35	SSL connect error	81	Socket not ready for send/recv
36	Couldn't resume download	82	Failed to load CRL file (path? access rights?, format?)
37	Couldn't read a file.	83	Issuer check against peer certificate failed
38	LDAP: cannot bind	84	FTP: The server did not accept the PRET command.
39	LDAP: search failed	85	RTSP CSeq mismatch or invalid CSeq
40	Código obsoleto	86	RTSP session error
41	A required function in the library was not found	87	Unable to parse FTP file list
42	Operation was aborted by an application callback	88	Chunk callback failed
43	A libcurl function was given a bad argumen	89	The max connection limit is reached

Code	Description	Code	Description
44	Código obsoleto	**90**	SSL public key does not match pinned public key
45	Failed binding local connection end		

Summary:

FTP	SFTP	Description
530	**67**	Invalid user or password
550	**21**	Error in command

2.5   Clase SimpleControl

ExportToPDFEx

It allows the export to PDF of the content of a list control.

Syntax:

```
ExportToPDFEx(fileName as Char ,width as Smallint ,height as Smallint) return
boolean
```

Parameters:

FileName   Output file name.

Width   A smallint number indicating the width of the PDF page, in pixels.

Allowed values:

Value: -1. The width of the page will be at least 794 pixels, that is, A4 at 96dpi.

If not all of the columns in the list will fit, the page width will automatically expand to fit.

Value: > 0. Width in pixels of the page.

Only columns that fit within the indicated page width will be displayed.

Height   A smallint indicating the height of each page in the PDF, in pixels.

Allowed values:

Value: -1. The height of the page will be 1123 pixels, that is, A4 at 96dpi.

Valor > 0. The height of the page will be as indicated.

Returns:

TRUE, if the export was successful.

FALSE, if there was an error in the export, the control is not a list type or the output file could not be created (permissions, existing file and opened by another application, etc).

3. Bug fixes

3.1 Runtime

- Export to EXCEL. The file with the xlsx extension was not generated if the path of the destination file contains the character ñ or the character ± .
- Export to PDF. As of Cosmos version 7.8, exporting to PDF of lists with many controls and many pages was slower.
- ODBC connections:
    - PostgreSQL, scrollable cursors (FetchLast, FetchFirst, FetchPrevious, FetchNext) didn't work.
    - Excel, on x64 architecture, displayed non-printable characters.
- JSON class.
    - When adding a decimal without decimal digits as the value of an array element, it added a comma and a non-printable character.
    - If the JSON file contained quoted strings, calling the SaveToFile method would produce an incorrect JSON file.
- LoadSelect method did not load the list if the select statement contained the word "limit*" and the list was ordered with the SetOrderBy method.
- Ordered lists (SORT flag). If a list with more than 888 elements was sorted, the Reset method was executed and then reloaded with the same elements, not all the elements were loaded and the ordering was not correct.

3.2 Development environment

- The option to add libraries or includes to a module from the "Multi Select" option did not work correctly if a label was defined in the module name.

3.3 Compiler

- A memory error occurred when compiling a module with lines larger than 1024 characters.

3.4 Cosmos WebServer

- It did not work correctly when the response occupies more than 32767 bytes and the request is made from an external server through a browser with Javascript.
- CWS would crash if many threads were running simultaneously.
- The service was not started if within the [Java] section of the configuration file there was a line that begins with a semicolon or with a hash mark. It did not support commented lines in this section of the configuration file.

3.5 ODBC

- When creating a linked server with SQL Server, the names of the databases and tables were showing duplicates. In addition, the data of some queries was not displayed.

3.6 COSPRJ

- The «-imp» parameter did not support the «ñ» character in the name of the project nodes to import.

3.7 COSREP

- Sometimes, when creating a linked column, in the table to choose list, all the tables in the repository did not appear nor were they displayed in alphabetical order.

3.8 COSCOMPRESSDLL

- Directories whose names began with the character «.» were not compressed.

3.9 COSHTTPDLL.

- It did not correctly calculate the value of the «content-length» property when a binary file was sent in the body of the REST request.

3.10 TTXMLDLL

- On some occasions, when traversing an XML, the TTXmlGetNextNode and TTXmlGet-FirstChildNode functions returned nodes of type «TEXT_NODE» code (3) with no value. See TTXmlIsBlankNode function.

3.11 TTCHARTDLL.

- The text of the tooltip was not displayed in the curved line type charts (ChartLayerSetCurvedLine) when it had negative values.

3.12 CTSQL

- TTBACKUPDB. In Windows 10, if at the beginning of the database backup process there was an active CTSQL process, the backup did not finish until the CTSQL process finished the transaction it was performing at that moment.
- On some occasions, it did not correctly update the «n_indexes» field in «systables» after deleting the primary key of a table.
- TRIGGERS. A communication error with CTSQL occurred when launching a stored procedure from an after/before update trigger.

3.13 Monitor

- On some occasions, when running «monitor -start» on the Windows operating system, the monitor would not start.