

# ISO/IEC JTC 1/SC 32 N 1756

Date: 2008-05-27

REPLACES: \_\_\_\_\_

## ISO/IEC JTC 1/SC 32

### Data Management and Interchange

Secretariat: United States of America (ANSI)  
Administered by Farance Inc. on behalf of ANSI

<b>DOCUMENT TYPE</b>	Disposition of Comments
<b>TITLE</b>	Disposition of comments in 32N1624 Summary of Voting on CD3 20944-3 - Information technology - Metadata Registry Interoperability and Bindings (MDR-IB) Part 3: API bindings
<b>SOURCE</b>	WG2 - Frank Farance - Project Editor
<b>PROJECT NUMBER</b>	1.32.17.01.03.00
<b>STATUS</b>	Disposition of comments in 32N1624 (comments on CD3 20944-3 ballot 32N1571). This accompanies FCD 20944-3 sent to NBs for 4 month letter ballot
<b>REFERENCES</b>	
<b>ACTION ID.</b>	FYI
<b>REQUESTED ACTION</b>	
<b>DUE DATE</b>	
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## Approved Canadian Comments on SC32 N1571 CD3 20944-3

### Template for comments and secretariat observations

Date: 2007-06-27

Document: ISO/IEC CD3 20944-3

1	2	(3)	4	5	(6)	(7)
MB <sup>1</sup>	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table /Note (e.g. Table 1)	Type of comment 2	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
CA 01	6.2.1	Synopsis	te	The parameters to <code>mdrib_connect</code> are of datatype String (defined in 20944-1 3.7.5.1), but the parameters to <code>mdrib_open</code> (in 6.2.3) are characterstring (defined in 20944-1 3.7.5.2. If there is a reason for the distinction, it should be stated, otherwise they should be made consistent.	Either state the reason for the distinction in the choice of datatype, or be consistent, and still state the rationale for the chosen type.	Changed datatype to characterstring consistently.
CA 02	6.2.1	Synopsis	te	The format of the 'target' parameter is not specified. Is this implementation defined? Could it be standardized? [This comment is Bugzilla issue <a href="#">257</a> .]	Specify the format of the target parameter.	Currently, "target" is implementation-defined. It might be possible to discuss standard string formats in time for closing the FCD ballot.
CA 03	6.2.1 <i>and more</i>	Synopsis and Example	te	The options parameter is specified to be: a whitespace-separated list of name-value pairs that describe an implementation-defined set of connection options.  The example shows the whole list being enclosed in double quotes. No means is provided for including whitespace in the values. Compare XML attributes which are also a whitespaced list of name value pairs, but where the double quotes are used around individual values, allowing those values to include white space. [This comment expands on Bugzilla Issue <a href="#">256</a> .]	Change the format to follow that used for XML attributes, such that the double quotes enclose individual attributes. If there is a good reason not to implement the above change, then the rationale for the chosen approach should be explained, and an alternate approach to including whitespace in the parameter values should be specified.  The resolution should be applied to all other similar parameters throughout the document.	Added provision that whitespace inside double quotes is escaped.
CA 04	6.2.3	Description	te	Further to comment CA03, the options parameter of <code>mdrib_open</code> is described as a 'list of name-value pairs', but the listed options and examples show only values, with no associated name.	Make the description and the examples consistent.	The example shows: name="option_x", value="j k" name="option_y", value="q" name="option_z", value=""
CA 05	6.2.3 <i>and more</i>	Description	te	The options parameter specifies access rights being requested. This will affect subsequent operations. If a subsequent operation is attempted which requires greater access rights than were requested, what exceptions will be thrown. [This comment is related to Bugzilla issue <a href="#">258</a> .]	Each service should specify the access rights that it needs, and as many exceptions as possible should be standardized.	In this case of increasing access credentials, the application returns the exception with a response authorization.

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CA 06	6.3.1	Description	te	The terms 'node path' and 'default node path' are not defined. 'node' is defined in CD3-20944-1 3.7.9.1. 'access path' is defined in CD3-20944-1 3.14.3.13. The examples seem to specify nodes. In what sense are nodes considered to be paths? [This comment is related to Bugzilla issue <a href="#">259</a> .]	Define the terms, or use already defined terms. Include examples of paths that span multiple nodes.	The node path is implementation-defined, i.e., you need to ask the repository owner what path to view (no different than needing to know which URL to load when viewing a website).
CA 07	6.4.1, 6.4.2	Synopsis	te	In 6.4.1, the datatype of auth_type is characterstring, but in 6.4.2 the datatype of auth_type is string. [This comment is Bugzilla issue <a href="#">260</a> .]	Make the datatypes consistent.	Will fix.
CA 08	6	All	te	The various parameters to each service need to be individually described and explained. [This relates to part of Bugzilla issue <a href="#">261</a> .]	Add explanations of each parameter. The syntax of the allowed parameter values for labels or types, and the syntax of property lists should be defined, either as implementation specific or actually defined correctly as a restricted list of values.	Will fix.
CA 09	6.5.1, 6.5.3	Example	te	mdrib_make_type is used but not specified. [This relates to part of Bugzilla issue <a href="#">261</a> .]	Add a specification for mdrib_make_type	The service "mdrib_make_type" was unnecessary and it was removed.
CA 10	6.6	Sub-clause headings	ed	The headings of sub-clauses 6.6.1, 6.6.2, 6.6.3, 6.6.4 end with the word 'message'. Why use 'message'? C.f. previous sub-clauses, which use 'services' in the group sub-clause, but no equivalent term for the sub-clause which describe individual services. [This relates to part of Bugzilla issue <a href="#">262</a> .]	Remove all use of the word message in these sub-clause headings. Add the word 'services' to the 6.6 sub-clause heading. i.e. Miscellaneous services.	Everything is changed to "service".
CA 11	11.5.6	Sub-clause headings	ed	The headings of sub-clauses 11.5.6.1, 11.5.6.2, 11.5.6.3, 11.5.6.4 end with the word 'message'. Why use 'message'? [This relates to part of Bugzilla issue <a href="#">262</a> .]	Remove all use of the word message in these sub-clause headings. Add the word 'services' to the 11.5.6 sub-clause heading. i.e. Miscellaneous services.	See above.
CA 12	12.5.5	Sub-clause headings	ed	The headings of sub-clauses 12.5.5.1, 12.5.5.2, 12.5.5.3, 12.5.5.4 end with the word 'message'. Why use 'message'? [This relates to part of Bugzilla issue <a href="#">262</a> .]	Remove all use of the word message in these sub-clause headings. Add the word 'services' to the 12.5.5 sub-clause heading. i.e. Miscellaneous services.	See above.

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Document: ISO/IEC CD3 20944-3

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CA 13	13.5.5	Sub-clause headings	ed	The headings of sub-clauses 13.5.5.1, 13.5.5.2, 13.5.5.3, 13.5.5.4, 13.5.5.4 end with the word 'message'. Why use 'message' ? [This relates to part of Bugzilla issue <a href="#">262</a> .]	Remove all use of the word message in these sub-clause headings. Add the word 'services' to the 13.5.5 sub-clause heading. i.e. Miscellaneous services.	<a href="#">See above</a> .
CA 14	New	New	te	There should be a service to retrieve information on the mdrib API itself. [This comment is Bugzilla issue <a href="#">265</a> .]	A suggested mdrib_get_info function is described in Bugzilla issue <a href="#">265</a> . Basic system properties available for all implementations should be defined for easier portability between implementations.	<a href="#">Added mdrib_system_info service</a> .
CA 15	New	New	te	There should be a service to set information on the mdrib API itself. [This comment is Bugzilla issue <a href="#">266</a> .]	Provide an mdrib_set_info function similar to the proposed mdrib_get_info function.	<a href="#">Added mdrib_configure service</a> .
CA 16	New	New	te	There seems to be missing some routines for retrieving information and setting information in the registry, unless these were deliberately left out. For example, using the XMLSchema terms:  <ul style="list-style-type: none"> <li>- anyURI</li> <li>- dateTime</li> <li>- time</li> <li>- date</li> <li>- duration</li> </ul> The bindings would be programming language specific, but we think it could be a good idea nonetheless, since these types are widely used .  [This comment is Bugzilla issue <a href="#">267</a> .]	None provided.	<a href="#">Unclear what change is being requested</a> .

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CA 17	6.2	Various	te	<p>We request clarification of the definition and usage of a session handle from mdrib_connect and from mdrib_open. These things seem to be quite distinct according to the existing documentation, but both functions return mdrib_handle.</p> <p>As we understand the document:</p> <p>mdrib_connect() returns a connection handle to a database/registry.</p> <p>mdrib_open() returns a handle to a session to an object in the registry.</p> <p>Please validate whether this interpretation is true. Either way, additional explanation is needed.</p> <p>[This comment is Bugzilla issue <a href="#">277</a>.]</p>	<p>Add text to explain the handles and their usage. The editor did respond to the comment in Bugzilla, but has not added any explanation to the text.</p>	<p>The connect creates a session, yet the session does not have access. The open gives additional capabilities to the new session (which is derived from the connect session).</p>
CA 18	6.5.3	Example	ed	<p>In the second line of the example, the first use of MDRIB is capitalize, which it is not in the Synopsis.</p> <p>[This comment is Bugzilla issue <a href="#">279</a>.]</p>	<p>Change MDRIB to mdrib.</p>	<p>Will make change.</p>

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CA 19	6	All	te	<p>CD3 20944-1 4.3 states that " A strictly conforming implementation shall not exceed limits or smallest permitted maximum values specified by the controlling normative document". However, these documents do not appear to specify either limits or smallest permitted maximum values. Examples of limits could include:</p> <ul style="list-style-type: none"> <li>- Maximum object identifier length</li> <li>- Maximum complete node path length</li> <li>- Maximum objects per-non terminal node</li> <li>- Maximum number of simultaneous opened sessions</li> <li>- Allowed object identifier characters</li> </ul> <p>The standards should specify smallest permitted maximum values for each of these and other potential limits.</p> <p>[This comment is Bugzilla issue <a href="#">273</a>.]</p>		<p>These will need to be established via suggestions to the FCD ballot.</p>

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CA 20	New	New	te	<p>The specification of possible causes of errors in the binding are limited or non-existent. All possible error conditions should be defined for each API binding to facilitate portability across implementations.</p> <p>[This comment is Bugzilla issue <a href="#">280</a>.]</p>	<p>This could be reflected by a new service to get the last error code on bindings that do not support exceptions (C), and exception codes or types for language binding that do support exceptions.</p> <p>The following error conditions have been identified as possible in the current API bindings:</p> <ul style="list-style-type: none"> <li>- ERR_ACCESS Permission denied executing operation</li> <li>- ERR_AGAIN Resource currently unavailable in specified mode due to locking mechanism, try again later.</li> <li>- ERR_BADH Invalid session or connection handle</li> <li>- ERR_INVALID The value of one of the options contains illegal syntax, or the target parameter syntax is invalid.</li> <li>- ERR_IO I/O Error when executing operation</li> <li>- ERR_ILLHANDLE The connection handle is invalid</li> <li>- ERR_NOENT The specified target or path does not exist.</li> <li>- ERR_NOMEM Insufficient memory to open connection</li> <li>- ERR_NOSPC No more space to create specified repository.</li> <li>- ERR_NOTOBJ A component of the path does not point to a data element</li> <li>- ERR_NOSUP Operation not supported</li> <li>- ERR_TIMEDOUT Time out while executing operation</li> <li>- ERR_MAXHANDLE Maximum number of open connections allowed reached</li> <li>- WRN_INVALID One of the parameters passed was invalid and was ignored</li> </ul>	<p><a href="#">Will incorporate proposed change.</a></p>

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CA 21	12	All	te	<p>The java bindings do not conform to the Java coding style:</p> <ol style="list-style-type: none"> <li>1. The method names should conform to standard Java conventions (for example:  mdrib_link_object() should become instead linkObject().</li> <li>2. The Javabeans model is not respected at all for get and set methods. For example: mdrib_get_value_as_int8() should be come getByte(),</li> <li>3. There is no need to prefix everything with mdrib, since this will be identified by the class name.</li> <li>4. What about using some of the same API's such as in JDBC (same method names at least) to be more consistent? Or it should be based on the Properties file API?</li> </ol> <p>[This comment is Bugzilla issue <a href="#">281</a>.]</p>	Make appropriate changes to the text.	The purpose is to be consistent within the API framework across bindings, not necessarily to be consistent with service names for other Java bindings.
CA 22	6.5.4	Synopsis	te	<p>In 20944-3, section 6.5.4 the typed put value returns data, but it is not explained what value is returned. Is this a copy and paste error from 6.5.3 typed_get_value?</p> <p>Compare, the C API Bindings in 11.5.5.4 always returns an int. What version is the correct one? Normally, the value returned should be a success or failure flag, just as in the C version.</p> <p>[This comment is Bugzilla issue <a href="#">282</a>.]</p>	Make appropriate changes to the text.	Could not find problem, need clarification.

**ISO**

**International Organization for Standardization**



**ISO/IEC JTC 1/SC 32  
Data Management and Interchange  
WG 2  
Metadata**

**Title:** Japan Ballot Comments on ISO/IEC CD3 20944-3

**Status:** Document to accompany ballot response

**Author:** Hajime Horiuchi

**References:**

[1] 32N1571, ISO/IEC CD 20944-3, Information technology — Metadata Registries Interoperability and Bindings(MDR-IB): Part□: API bindings

SEQ #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
<b>ISO/IEC 2<sup>nd</sup> CD 19763-1</b>						
001	JPN-P01-001		General	General	This project consolidation and its CD ballot resolution are grounded on only the WG2 resolutions at Huntsville, which have not yet authorized by the SC32 level resolution. So, this consolidated project is not yet initiated and cannot go to the CD stage. So, this CD ballot is void. See 6.2.2.1 and Item 3, 12.5.7, ISO/IEC JTC1 N8105 ISO/IEC JTC 1 Directives, 5th Edition, Version 1.0	Resolved at 2007-07 WG2 meeting
002	JPN-P01-002		General	General	32N1571B-ballot for CD3 24944-3 says "Date of circulation: 2007-04-20, Closing date: 2007-07-15". However, 9.4.1, ISO/IEC JTC1 N8105 ISO/IEC JTC 1 Directives, 5th Edition, Version 1.0 says "In the case of CDs/PDAMs/PDISPs/PDTRs, this date should be no less than three months from the date of notification of issue." So, the closing date shall be after 2007-07-20.	Resolved at 2007-07 WG2 meeting.

End of Paper

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GB	General		te	There are a number of incorrect references to 'PHP' that need to be amended (to ECMAScript?).		Change to ECMAScript.
GB	1		ed	'This Part of this International Standard specifies provisions that are common across API bindings for the 20944 family of standards, and this Part provides the individual API bindings themselves.' This sentence needs rewriting to improve understanding.		Need help in understanding what is unclear.
GB	2		te	The references for the C, Java and ECMAScript standards should be included.		Will add.
GB	4		ed	This clause should be included in the Scope clause (Clause 1).		This is purpose wording scope wording.
GB	10		ed	This is a placeholder that should be removed.		Needed for future editing
GB	11,12,13		te	There should be an explicit statement that the C, Java and ECMAScript datatypes are specified in the respective standards.		Will incorporate wording
GB	12		te	The symbol "--" is used without explanation. Its significance should be explicitly explained.		Will add.

1 MB = Member body (enter the ISO 3166 two-letter country code, e.g. CN for China; comments from the ISO/CS editing unit are identified by \*\*)

2 Type of comment: ge = general te = technical ed = editorial

NOTE Columns 1, 2, 4, 5 are compulsory.

**US Comments on CD3 Text For: ISO/IEC 20944, Information technology — Metadata Registries Interoperability and Bindings (MDR-IB) — Part 3: API bindings**

Date: 2007-06-13

Document: **xxx**

0	1	2	(3)	4	5	(6)	(7)
#	NB <sup>1</sup>	Clause No./ Subclause No./ Annex	Paragraph/ Figure/Table / Note #	Comment type <sup>2</sup>	Comment (justification for change) by the NB	Proposed change by the NB	Proposed Disposition of Comments
0001	US	general		te	The 20944 parts 2, 3, and 4 should describe the minimum expected limits that are supported across all implementations. For example, when storing an 11179 attribute via 20944, what size should be accepted on all implementations: 1KB, 1MB, 1GB, or somewhere in between?		See resolution in 20944-2.
0002	US	general		te	Explain the rationale for multiple language bindings, e.g., why isn't LDAP + XML enough?		Multiple languages are necessary because no singular programming language is in use.
0003	US	general		te	The int-based encoding of success/failure is not so common in Java, as it is in C. The binding of state(success,failure) in Java should instead be boolean, success=true, failure=false.		Will investigate.
0004	US	general		te	The API should support both a state-ful and state-less style of interaction (e.g., only calling mdrib_get with a on-the-fly handle).	<p>Add a helper function that creates handles for state-less style access.</p> <p>Redefine the semantics of connect (validates a registry exists and is reachable), open (validates access to a registry), get/put (access the registry), close (tell the registry I'm no longer accessing it), disconnect (tell the registry it can safely assume I don't exist anymore).</p> <p>Thus, there are no longer explicit states between the calls connect, open, get, but explicit dependencies that can be accomplished one at time (connect, then open, then get) or all at one (handle helper function, then get).</p> <p>Change the examples to reflect the revised API</p>	Will investigate.
0005	US	general		te	The 20944-3 draft uses a synchronous calling paradigm (i.e., the response to the request is		Will investigate.

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<sup>2</sup> **Type of comment:** **ge** = general **te** = technical **ed** = editorial **NOTE** Columns 1, 2, 4, 5 are compulsory. *ISO electronic balloting commenting template (enhanced 2002-08)*

**US Comments on CD3 Text For: ISO/IEC 20944, Information technology — Metadata Registries Interoperability and Bindings (MDR-IB) — Part 3: API bindings**

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					available when the call returns). Other call paradigms, such as asynchronous callback, asynchronous polling, and asynchronous event/interrupt-based, are possible. The standard should note that either (1) only synchronous calling paradigms are supported, or (2) provide services to support asynchronous paradigms, e.g., set_event_handler(handle, type, handler), set_poll(handle). Our preference is for #2.		
0006	US	general		te	The 20944-3 draft assumes that the whole object in a get() or put() can be transferred in a single call. This might not be possible for large objects, such as descriptive documents stored in a metadata registry. The concern is: the 20944-3 (and to some extent 20944-4) does not handle flow control. The standards should not that either (1) no flow control is used and objects can only be transferred atomically, or (2) flow control should be supported for both get() and put() via, say, some partial data transfer (e.g., only send/receive the first 1K bytes) and/or exceptional returns (e.g., partial data transfer) and their restarting (e.g., continue data transfer starting in the middle). Our preference is for #2.		Will investigate.

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<sup>2</sup> **Type of comment:** **ge** = general **te** = technical **ed** = editorial **NOTE** Columns 1, 2, 4, 5 are compulsory. *ISO electronic balloting commenting template (enhanced 2002-08)*