

NetXMS Communication Protocol

Reference Guide

Version 0.2.22

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1. Introduction

NetXMS Communication Protocol (NXCP) is a protocol used by all NetXMS entities (server, agents, clients) for communications. Protocol is message-oriented and designed to work on top of TCP protocol.

2. Message Format

2.1. Message Structure

Message in NXCP consists of a header and an optional payload which follows header immediately. Padding bytes can be added at the end of a message to make it aligned to 8-bytes boundary. Here is general message structure:

Header 16 bytes	Payload 0 – 256K bytes	Padding 0-7 bytes
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2.2. Message Header

Header have the following format:

Field	Size (bytes)	Meaning
CODE	2	Command code. List of well-known command codes can be found in Appendix A.
FLAGS	2	Flags – see explanation below
SIZE	4	Size of a message in bytes, including header and padding
ID	4	Message identifier (usually used to match replies to requests)
DF_COUNT	4	Number of data fields or size of raw data, depending on flags

In the FLAGS field, the following bit flags (or combination of them) can be used:

Flag	Value	Meaning
BINARY	0x0001	Message contains raw binary data instead of structured data fields. If this flag is set, DF_COUNT contains size of raw data in bytes.
END_OF_FILE	0x0002	For file transfer operations, indicates that message contains last part of a file.
DONT_ENCRYPT	0x0004	Used internally by libnetxms to indicate that message should not be encrypted on sending. Has no meaning for the receiver.
END_OF_SEQUENCE	0x0008	Indicates that message contains last portion of data.
REVERSE_ORDER	0x0010	Indicates that data coming in a set of messages will arrive in reverse order (event log records, for example).
CONTROL	0x0020	Indicates control message. Control messages doesn't contain payload part, and header fields may have special meaning. See below for detailed control messages list.

All fields have network byte order.

2.3. Data Element (Variable)

Structured message's payload consist of one or more data elements, or variables. Each variable has the following structure:

Variable ID 4 bytes	Data Type 1 byte	Padding 1 byte	Data 0-256K bytes (depending on data type)	Padding 0-7 bytes
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Size of each element should be a multiplier of 8, so up to 7 padding bytes can be appended as necessary.

Variable ID is a unique identifier of a variable in a message scope. List of well-known message ID's can be found in Appendix B.

Data type can be one of the following:

Symbolic name	Value	Description
INTEGER	0	32-bit integer value
STRING	1	String value
INT64	2	64-bit integer value
INT16	3	16-bit integer value
BINARY	4	Raw binary data
FLOAT	5	64-bit floating point value

All numeric values have network byte order.

Actual format of data filed determined by variable's data type – see below.

INTEGER

Padding 2 bytes	Integer value (32-bit) 4 bytes
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STRING

Padding 2 bytes	Length 4 bytes	Content 0 – 256K bytes
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Strings encoded in two-byte UNICODE (UCS-2), with network byte order. Length specified in bytes.

INT64

Padding 2 bytes	Integer value (64-bit) 8 bytes
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INT16

Integer value (16-bit) 2 bytes

BINARY

Padding 2 bytes	Length 4 bytes	Content 0 – 256K bytes
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FLOAT

Padding 2 bytes	Floating point value (64-bit) 8 bytes
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3. Client-Server Communications

3.1. General Description

Communication session between client and server always initiated by client. All messages can be divided into three categories – request, response, and notification. Request messages sent by client to ask server for information or to instruct it to do something. Server replies with response messages, which usually contains request completion code and, depending on request, some additional data. If amount of data to be transferred is large, server may send many response messages to one request. Server may also send notification messages to inform client about various events – for example, change in object's status.

3.2. Typical client-server session scenario

Usually client-server communication session looks as following:

Client message	Server message
CMD_GET_SERVER_INFO	
	CMD_REQUEST_COMPLETED
CMD_LOGIN	
	CMD_LOGIN_RESP
Data request or command	
	CMD_REQUEST_COMPLETED
...	

3.3. Request messages

3.3.1. CMD_CONFIG_GET_CLOB

Get value of configuration variable containing large string.

Variables

Variable	Type	Description
VID_NAME	STRING	Variable name

Response: CMD_REQUEST_COMPLETED with VID_VALUE set to variable's value.

3.3.2. CMD_CONFIG_SET_CLOB

Set value of configuration variable containing large string.

Variables

Variable	Type	Description
VID_NAME	STRING	Variable's name.

VID_VALUE	STRING	Variable's value.
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Response: CMD_REQUEST_COMPLETED

3.3.3. CMD_GET_LAST_VALUES

Get latest values of all DCIs for given node.

Variables

Variable	Type	Description
VID_OBJECT_ID	INTEGER	Node's identifier.

Response: CMD_REQUEST_COMPLETED with appropriate variables set (see description for CMD_REQUEST_COMPLETED message for details).

3.3.4. CMD_GET_SERVER_INFO

Get server information.

Response: CMD_REQUEST_COMPLETED

3.3.5. CMD_KEEPALIVE

This message only cause server to immediatelly respond with successfull request completion message. It can be used to check connectivity with server or to prevent current connection from timing out.

Response: CMD_REQUEST_COMPLETED

3.3.6. CMD_LOGIN

Perform user login.

Variables

Variable	Type	Description
VID_LOGIN_NAME	STRING	Login name
VID_AUTH_TYPE	INT16	Authentication type: 0 for password authentication or 1 for authentication by certificate
VID_PASSWORD	STRING	Password (ignored if authentication type is 1)
VID_SIGNATURE	BINARY	User's signature – server's challenge encrypted with user's private key (ignored if authentication type is 0)
VID_CERTIFICATE	BINARY	User's certificate (ignored if authentication type is 0)
VID_CLIENT_INFO	STRING	Client application name and version
VID_OS_INFO	STRING	OS name and version (like WinNT 5.0)
VID_LIBNXCL_VERSION	STRING	Version of libnxcl

Response: CMD_LOGIN_RESP

3.3.7. CMD_WEBMAP_ADD

Create new webmap.

Variables

Variable	Type	Description
VID_NAME	STRING	New map name
VID_PROPERTIES	STRING	Properties for new map

Response: CMD_REQUEST_COMPLETED with CMD_MAP_ID set to new map id if creation was successful.

3.3.8. CMD_WEBMAP_DELETE

Delete webmap.

Variables

Variable	Type	Description
VID_MAP_ID	INTEGER	Map ID

Response: CMD_REQUEST_COMPLETED

3.3.9. CMD_WEBMAP_GET_DATA

Get data string for specific webmap.

Variables

Variable	Type	Description
VID_MAP_ID	INTEGER	Map ID

Response: CMD_REQUEST_COMPLETED with VID_MAP_DATA set.

3.3.10. CMD_WEBMAP_GET_LIST

Get list of available webmaps.

Response: CMD_REQUEST_COMPLETE with array of data started at VID_WEBMAP_LIST_BASE.

3.3.11. CMD_WEBMAP_UPDATE_DATA

Update webmap's data.

Variables

Variable	Type	Description
VID_MAP_ID	INTEGER	Map ID

VID_MAP_DATA	STRING	New data string
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Response: CMD_REQUEST_COMPLETED

3.3.12. CMD_WEBMAP_UPDATE_PROPS

Update properties of webmap.

Variables

Variable	Type	Description
VID_MAP_ID	INTEGER	Map ID
VID_PROPERTIES	STRING	New properties string
VID_NAME	STRING	New map name (title)

Response: CMD_REQUEST_COMPLETED

3.4. Response Messages

3.4.1. CMD_LOGIN_RESP

Response message for login request (CMD_LOGIN).

Variables

Variable	Type	Description
VID_RCC	INTEGER	Request completion code. For list of possible codes see Appendix C.
VID_USER_ID	INTEGER	User ID of logged in user.
VID_USER_SYS_RIGHTS	INTEGER	System-wide access rights for logged in user.
VID_CHANGE_PASSWD_FLAG	INT16	Password change flag – will be set to non-zero if user should change password.
VID_DBCONN_STATUS	INT16	Status of connection between server and backend database – will be set to non-zero value if backend database connection has problems.

3.4.2. CMD_REQUEST_COMPLETED

Generic response message – used as a response to most of the requests.

Variables

Variable	Type	Description
VID_RCC	INTEGER	Request completion code. For list of possible codes see Appendix C.
VID_LOCKED_BY	STRING	Current lock owner. Valid only if VID_RCC is set to RCC_COMPONENT_LOCKED.

In the following subsections described additional variables specific to request messages.

3.4.2.1. For CMD_CONFIG_GET_CLOB

Additional variables used only in response to CMD_CONFIG_GET_CLOB message

Variable	Type	Description
VID_VALUE	STRING	Configuration variable's value.

3.4.2.2. For CMD_CREATE_MAP

Additional variables used only in response to CMD_CREATE_MAP message

Variable	Type	Description
VID_MAP_ID	INTEGER	ID assigned to created map.

3.4.2.3. For CMD_GET_LAST_VALUES

Additional variables used only in response to CMD_GET_LAST_VALUES message

Variable	Type	Description
VID_NUM_ITEMS	INTEGER	Number of DCIs.
VID_DCI_VALUES_BASE		List of DCIs, see below.

Variables for DCI values starts at VID_DCI_VALUES_BASE and each DCI represented by 10 variables (i.e. first DCI data will start at VID_DCI_VALUES_BASE, second at VID_DCI_VALUES_BASE + 10, and so on). Structure of each 10-variables group is following:

Variable at offset	Type	Description
0	INTEGER	DCI ID
1	STRING	Name
2	STRING	Description
3	INT16	Source (origin)
4	INT16	Data type
5	STRING	Current value
6	INTEGER	Timestamp
7	INT16	Status
8..9		Reserved

3.4.2.4. For CMD_GET_SERVER_INFO

Additional variables used only in response to CMD_GET_SERVER_INFO message

Variable	Type	Description
VID_SERVER_ID	BINARY	8-byte server identifier.
VID_SERVER_VERSION	STRING	Server version string.
VID_PROTOCOL_VERSION	INTEGER	Client-server protocol version.

3.4.2.5. For CMD_WEBMAP_ADD

Additional variables used only in response to CMD_WEBMAP_ADD message

Variable	Type	Description
VID_MAP_ID	INTEGER	ID assigned to created map.

3.4.2.6. For CMD_WEBMAP_GET_DATA

Additional variables used only in response to CMD_WEBMAP_GET_DATA message

Variable	Type	Description
VID_MAP_DATA	STRING	Map's data string.

3.4.2.7. For CMD_WEBMAP_GET_LIST

Additional variables used only in response to CMD_WEBMAP_GET_LIST message

Variable	Type	Description
VID_NUM_MAPS	INTEGER	Number of maps.
VID_WEBMAP_LIST_BASE		List of maps, see below.

Variables for maps starts at VID_WEBMAP_LIST_BASE and each webmap represented by 10 variables (i.e. First webmap data will start at VID_WEBMAP_BASE, second at VID_WEBMAP_BASE + 10, and so on). Structure of each 10-variables group is following:

Variable at offset	Type	Description
0	INTEGER	Map ID
1	STRING	Map name (title)
2	STRING	Map properties
3..9		Reserved

Appendix A. Well-known Message Codes

Symbolic name	Value
CMD_LOGIN	0x0001
CMD_LOGIN_RESP	0x0002
CMD_KEEPALIVE	0x0003
CMD_EVENT	0x0004
CMD_GET_OBJECTS	0x0005
CMD_OBJECT	0x0006
CMD_DELETE_OBJECT	0x0007
CMD_MODIFY_OBJECT	0x0008
CMD_OBJECT_LIST_END	0x0009
CMD_OBJECT_UPDATE	0x000A
CMD_GET_EVENTS	0x000B
CMD_EVENT_LIST_END	0x000C
CMD_GET_CONFIG_VARLIST	0x000D
CMD_SET_CONFIG_VARIABLE	0x000E
CMD_GET_OBJECT_TOOLS	0x000F
CMD_EXECUTE_ACTION	0x0010
CMD_DELETE_CONFIG_VARIABLE	0x0011
CMD_NOTIFY	0x0012
CMD_TRAP	0x0013
CMD_OPEN_EPP	0x0014
CMD_CLOSE_EPP	0x0015
CMD_SAVE_EPP	0x0016
CMD_EPP_RECORD	0x0017
CMD_LOCK_EVENT_DB	0x0018
CMD_UNLOCK_EVENT_DB	0x0019
CMD_SET_EVENT_INFO	0x001A
CMD_EVENT_DB_RECORD	0x001B

CMD_LOAD_EVENT_DB	0x001C
CMD_REQUEST_COMPLETED	0x001D
CMD_LOAD_USER_DB	0x001E
CMD_USER_DATA	0x001F
CMD_GROUP_DATA	0x0020
CMD_USER_DB_EOF	0x0021
CMD_UPDATE_USER	0x0022
CMD_DELETE_USER	0x0023
CMD_CREATE_USER	0x0024
CMD_LOCK_USER_DB	0x0025
CMD_UNLOCK_USER_DB	0x0026
CMD_USER_DB_UPDATE	0x0027
CMD_SET_PASSWORD	0x0028
CMD_GET_NODE_DCI_LIST	0x0029
CMD_NODE_DCI	0x002A
CMD_NODE_DCI_LIST_END	0x002B
CMD_DELETE_NODE_DCI	0x002C
CMD_MODIFY_NODE_DCI	0x002D
CMD_UNLOCK_NODE_DCI_LIST	0x002E
CMD_SET_OBJECT_MGMT_STATUS	0x002F
CMD_CREATE_NEW_DCI	0x0030
CMD_GET_DCI_DATA	0x0031
CMD_DCI_DATA	0x0032
CMD_GET_MIB_TIMESTAMP	0x0033
CMD_GET_MIB	0x0034
CMD_REQUEST_NEW_LPP_ID	0x0035
CMD_OPEN_LPP	0x0036
CMD_CREATE_OBJECT	0x0037
CMD_GET_EVENT_NAMES	0x0038
CMD_EVENT_NAME_LIST	0x0039

CMD_BIND_OBJECT	0x003A
CMD_UNBIND_OBJECT	0x003B
CMD_GET_IMAGE_LIST	0x003C
CMD_LOAD_IMAGE_FILE	0x003D
CMD_IMAGE_LIST	0x003E
CMD_IMAGE_FILE	0x003F
CMD_AUTHENTICATE	0x0040
CMD_GET_PARAMETER	0x0041
CMD_GET_LIST	0x0042
CMD_ACTION	0x0043
CMD_GET_DEFAULT_IMAGE_LIST	0x0044
CMD_DEFAULT_IMAGE_LIST	0x0045
CMD_GET_ALL_ALARMS	0x0046
CMD_GET_ALARM	0x0047
CMD_ACK_ALARM	0x0048
CMD_ALARM_UPDATE	0x0049
CMD_ALARM_DATA	0x004A
CMD_DELETE_ALARM	0x004B
CMD_LOCK_ACTION_DB	0x004C
CMD_UNLOCK_ACTION_DB	0x004D
CMD_LOAD_ACTIONS	0x004E
CMD_ACTION_DB_UPDATE	0x004F
CMD_MODIFY_ACTION	0x0050
CMD_CREATE_ACTION	0x0051
CMD_DELETE_ACTION	0x0052
CMD_ACTION_DATA	0x0053
CMD_GET_CONTAINER_CAT_LIST	0x0054
CMD_CONTAINER_CAT_DATA	0x0055
CMD_DELETE_CONTAINER_CAT	0x0056
CMD_CREATE_CONTAINER_CAT	0x0057

CMD_MODIFY_CONTAINER_CAT	0x0058
CMD_POLL_NODE	0x0059
CMD_POLLING_INFO	0x005A
CMD_COPY_DCI	0x005B
CMD_WAKEUP_NODE	0x005C
CMD_DELETE_EVENT_TEMPLATE	0x005D
CMD_GENERATE_EVENT_CODE	0x005E
CMD_LOCK_TRAP_CFG	0x005F
CMD_UNLOCK_TRAP_CFG	0x0060
CMD_CREATE_TRAP	0x0061
CMD_MODIFY_TRAP	0x0062
CMD_DELETE_TRAP	0x0063
CMD_LOAD_TRAP_CFG	0x0064
CMD_TRAP_CFG_RECORD	0x0065
CMD_QUERY_PARAMETER	0x0066
CMD_GET_SERVER_INFO	0x0067
CMD_SET_DCI_STATUS	0x0068
CMD_FILE_DATA	0x0069
CMD_TRANSFER_FILE	0x006A
CMD_UPGRADE_AGENT	0x006B
CMD_GET_PACKAGE_LIST	0x006C
CMD_PACKAGE_INFO	0x006D
CMD_REMOVE_PACKAGE	0x006E
CMD_INSTALL_PACKAGE	0x006F
CMD_LOCK_PACKAGE_DB	0x0070
CMD_UNLOCK_PACKAGE_DB	0x0071
CMD_ABORT_FILE_TRANSFER	0x0072
CMD_CHECK_NETWORK_SERVICE	0x0073
CMD_GET_AGENT_CONFIG	0x0074
CMD_UPDATE_AGENT_CONFIG	0x0075

CMD_GET_PARAMETER_LIST	0x0076
CMD_DEPLOY_PACKAGE	0x0077
CMD_INSTALLER_INFO	0x0078
CMD_GET_LAST_VALUES	0x0079
CMD_APPLY_TEMPLATE	0x007A
CMD_SET_USER_VARIABLE	0x007B
CMD_GET_USER_VARIABLE	0x007C
CMD_ENUM_USER_VARIABLES	0x007D
CMD_DELETE_USER_VARIABLE	0x007E
CMD_ADM_MESSAGE	0x007F
CMD_ADM_REQUEST	0x0080
CMD_CHANGE_IP_ADDR	0x0081
CMD_REQUEST_SESSION_KEY	0x0082
CMD_ENCRYPTED_MESSAGE	0x0083
CMD_SESSION_KEY	0x0084
CMD_REQUEST_ENCRYPTION	0x0085
CMD_GET_ROUTING_TABLE	0x0086
CMD_EXEC_TABLE_TOOL	0x0087
CMD_TABLE_DATA	0x0088
CMD_APPLY_LOG_POLICY	0x0089
CMD_CHANGE_SUBSCRIPTION	0x008A
CMD_GET_SYSLOG	0x008B
CMD_SYSLOG_RECORDS	0x008C
CMD_GET_LPP_LIST	0x008D
CMD_OPEN_LOG_POLICY	0x008E
CMD_CLOSE_LOG_POLICY	0x008F
CMD_GET_OBJECT_TOOL_DETAILS	0x0090
CMD_LOCK_OBJECT_TOOLS	0x0091
CMD_UNLOCK_OBJECT_TOOLS	0x0092
CMD_UPDATE_OBJECT_TOOL	0x0093

CMD_DELETE_OBJECT_TOOL	0x0094
CMD_SETUP_PROXY_CONNECTION	0x0095
CMD_GENERATE_OBJECT_TOOL_ID	0x0096
CMD_GET_SERVER_STATS	0x0097
CMD_GET_SCRIPT_LIST	0x0098
CMD_GET_SCRIPT	0x0099
CMD_UPDATE_SCRIPT	0x009A
CMD_DELETE_SCRIPT	0x009B
CMD_RENAME_SCRIPT	0x009C
CMD_GET_SESSION_LIST	0x009D
CMD_KILL_SESSION	0x009E
CMD_GET_TRAP_LOG	0x009F
CMD_TRAP_LOG_RECORDS	0x00A0
CMD_START_SNMP_WALK	0x00A1
CMD_SNMP_WALK_DATA	0x00A2
CMD_GET_MAP_LIST	0x00A3
CMD_LOAD_MAP	0x00A4
CMD_SAVE_MAP	0x00A5
CMD_DELETE_MAP	0x00A6
CMD_RESOLVE_MAP_NAME	0x00A7
CMD_SUBMAP_DATA	0x00A8
CMD_UPLOAD_SUBMAP_BK_IMAGE	0x00A9
CMD_GET_SUBMAP_BK_IMAGE	0x00AA
CMD_GET_MODULE_LIST	0x00AB
CMD_UPDATE_MODULE_INFO	0x00AC
CMD_COPY_USER_VARIABLE	0x00AD
CMD_RESOLVE_DCI_NAMES	0x00AE
CMD_GET_MY_CONFIG	0x00AF
CMD_GET_AGENT_CFG_LIST	0x00B0
CMD_OPEN_AGENT_CONFIG	0x00B1

CMD_SAVE_AGENT_CONFIG	0x00B2
CMD_DELETE_AGENT_CONFIG	0x00B3
CMD_SWAP_AGENT_CONFIGS	0x00B4
CMD_TERMINATE_ALARM	0x00B5
CMD_GET_NXCP_CAPS	0x00B6
CMD_NXCP_CAPS	0x00B7
CMD_GET_OBJECT_COMMENTS	0x00B8
CMD_UPDATE_OBJECT_COMMENTS	0x00B9
CMD_ENABLE_AGENT_TRAPS	0x00BA
CMD_PUSH_DCI_DATA	0x00BB
CMD_GET_ADDR_LIST	0x00BC
CMD_SET_ADDR_LIST	0x00BD
CMD_RESET_COMPONENT	0x00BE
CMD_GET_DCI_EVENTS_LIST	0x00BF
CMD_CREATE_MGMT_PACK	0x00C0
CMD_INSTALL_MGMT_PACK	0x00C1
CMD_GET_TRAP_CFG_RO	0x00C2
CMD_SNMP_REQUEST	0x00C3
CMD_GET_DCI_INFO	0x00C4
CMD_GET_GRAPH_LIST	0x00C5
CMD_DEFINE_GRAPH	0x00C6
CMD_DELETE_GRAPH	0x00C7
CMD_GET_SYSTEM_DCI_LIST	0x00C8
CMD_ADD_CA_CERTIFICATE	0x00C9
CMD_DELETE_CERTIFICATE	0x00CA
CMD_GET_CERT_LIST	0x00CB
CMD_UPDATE_CERT_COMMENTS	0x00CC
CMD_QUERY_L2_TOPOLOGY	0x00CD
CMD_AUDIT_RECORD	0x00CE
CMD_GET_AUDIT_LOG	0x00CF

CMD_SEND_SMS	0x00D0
CMD_GET_COMMUNITY_LIST	0x00D1
CMD_UPDATE_COMMUNITY_LIST	0x00D2
CMD_GET_SITUATION_LIST	0x00D3
CMD_DELETE_SITUATION	0x00D4
CMD_CREATE_SITUATION	0x00D5
CMD_DEL_SITUATION_INSTANCE	0x00D6
CMD_UPDATE_SITUATION	0x00D7
CMD_SITUATION_DATA	0x00D8
CMD_SITUATION_CHANGE	0x00D9
CMD_CREATE_MAP	0x00DA
CMD_WEBMAP_ADD	0x00DB
CMD_WEBMAP_UPDATE_PROPS	0x00DC
CMD_WEBMAP_UPDATE_DATA	0x00DD
CMD_WEBMAP_DELETE	0x00DE
CMD_WEBMAP_GET_DATA	0x00DF
CMD_WEBMAP_GET_LIST	0x00E0
CMD_CONFIG_SET_CLOB	0x00E1
CMD_CONFIG_GET_CLOB	0x00E2

Appendix B. Well-known Variable Codes

Symbolic name	Value
VID_LOGIN_NAME	1
VID_PASSWORD	2
VID_OBJECT_ID	3
VID_OBJECT_NAME	4
VID_OBJECT_CLASS	5
VID_SNMP_VERSION	6
VID_PARENT_CNT	7
VID_IP_ADDRESS	8
VID_IP_NETMASK	9
VID_OBJECT_STATUS	10
VID_IF_INDEX	11
VID_IF_TYPE	12
VID_FLAGS	13
VID_CREATION_FLAGS	14
VID_AGENT_PORT	15
VID_AUTH_METHOD	16
VID_SHARED_SECRET	17
VID_COMMUNITY_STRING	18
VID_SNMP_OID	19
VID_NAME	20
VID_VALUE	21
VID_PEER_GATEWAY	22
VID_NOTIFICATION_CODE	23
VID_EVENT_CODE	24
VID_SEVERITY	25
VID_MESSAGE	26
VID_DESCRIPTION	27

VID_RCC	28
VID_LOCKED_BY	29
VID_IS_DELETED	30
VID_CHILD_CNT	31
VID_ACL_SIZE	32
VID_INHERIT_RIGHTS	33
VID_USER_NAME	34
VID_USER_ID	35
VID_USER_SYS_RIGHTS	36
VID_USER_FLAGS	37
VID_NUM_MEMBERS	38
VID_IS_GROUP	39
VID_USER_FULL_NAME	40
VID_USER_DESCRIPTION	41
VID_UPDATE_TYPE	42
VID_DCI_ID	43
VID_POLLING_INTERVAL	44
VID_RETENTION_TIME	45
VID_DCI_SOURCE_TYPE	46
VID_DCI_DATA_TYPE	47
VID_DCI_STATUS	48
VID_MGMT_STATUS	49
VID_MAX_ROWS	50
VID_TIME_FROM	51
VID_TIME_TO	52
VID_DCI_DATA	53
VID_NUM_THRESHOLDS	54
VID_DCI_NUM_MAPS	55
VID_DCI_MAP_IDS	56
VID_DCI_MAP_INDEXES	57

VID_NUM_MIBS	58
VID_MIB_NAME	59
VID_MIB_FILE_SIZE	60
VID_MIB_FILE	61
VID_PROPERTIES	62
VID_ALARM_SEVERITY	63
VID_ALARM_KEY	64
VID_ALARM_TIMEOUT	65
VID_ALARM_MESSAGE	66
VID_RULE_ID	67
VID_NUM_SOURCES	68
VID_NUM_EVENTS	69
VID_NUM_ACTIONS	70
VID_RULE_SOURCES	71
VID_RULE_EVENTS	72
VID_RULE_ACTIONS	73
VID_NUM_RULES	74
VID_CATEGORY	75
VID_UPDATED_CHILD_LIST	76
VID_EVENT_NAME_TABLE	77
VID_PARENT_ID	78
VID_CHILD_ID	79
VID_IMAGE_ID	80
VID_NUM_IMAGES	81
VID_COMMENTS	82
VID_IMAGE_FILE_SIZE	83
VID_IMAGE_FILE	84
VID_PARAMETER	85
VID_NUM_STRINGS	86
VID_ACTION_NAME	87

VID_NUM_ARGS	88
VID_IMAGE_ID_LIST	89
VID_CLASS_ID_LIST	90
VID_IMAGE_FORMAT	91
VID_NOTIFICATION_DATA	92
VID_ALARM_ID	93
VID_TIMESTAMP	94
VID_ACK_BY_USER	95
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