

TIBCO Staffware Process Objects (SPO) C++ Client Object Model

Table of Contents

1 Object Keys and Class IDs

2 Enterprise

SWEnterprise
SWEntUser
SWLog
SWNodeInfo

3 Node Statistics

SWNodeInfoEx
SWClientInfo
SWActiveUser
SWConfigInfo
SWSALInfo
SWQSessionInfo
SWThreadInfo

4 Node

SWNode
SWAttribute
SWExtWorkItem
SWGroup
SWListValidation
SWOSUser
SWRole
SWTable
SWTableField
SWProcGroup

5 User

SWUser
SWAutoFwd

6 Work Queue

SWWorkQ
SWWorkItem
SWCaseDataQParamDef
SWCaseDataQParam
SWFwdItem

7 Case 1

SWCase
SWEAStep
SWEventStep
SWExtProcess
SWSubProcStep
SWDynamicSubProcStep
SWOutstandingItem
SWGraftStep
SWTransControlStep

8 Case 2

SWCase
SWAuditStep
SWField

9 Procedure

SWProc
SWAccessUserRef
SWProcAudit

10 Step

SWStep
SWAccessUserRef
SWAddressUserRef
SWAction
SWCommand
SWConditional
SWDeadline
SWDeadlineValue
SWMarking
SWPermission
SWPriority
SWPublicField

11 Form

SWForm
SWFConditional
SWFMarking
SWFRow
SWFont
SWLabel

12 Admin

SWAdmin
SWAWorkQ
SWParticipation
SWRedirection
SWDate

13 Prediction

SWPredictedItem
SWCasePredictQParam
SWDuration
SWDurationValue

14 Lists

SWList
SWLocList
SWView
SWXList
SWSortField

15 XList Criteria

SWCriteriaC
SWCriteriaWI
SWCriteriaP
SWSortField

16 Stateless

SWNode

17 Error Codes 1

18 Error Codes 2

19 Index

**Object
Keys**

| Class: | Key: |
|----------------------|--|
| SWAction | StepName Type |
| SWActiveUser | Name |
| SWAttribute | Name |
| SWAuditStep | Name (ListIndex: 1 to n) |
| SWAutoFwd | HostingNode ProcName StepName |
| SWWorkQ | Name@HostingNode |
| SWCase | ComputerName ProcNode CaseReference |
| SWCaseDataQParam | FieldName |
| SWCaseDataQParamDef | FieldName |
| SWCasePredictQParam | FieldName |
| SWClientInfo | Name |
| SWConditional | StepName Condition |
| SWConfigInfo | Name |
| SWDeadlineValue | (Expressed in text: Minutes, Hours, Days, Weeks, Months, Years, Date, Time) |
| SWDurationValue | (Expressed in text: MicroSeconds, Seconds, Minutes, Hours, Days, Weeks, Months, Years) |
| SWDynamicSubProcStep | ProcName StepName CaseNumber |
| SWEAStep | ProcName StepName CaseNumber |
| SWEntUser | Name |
| SWEventStep | ProcName StepName CaseNumber |
| SWExtProcess | ExtProcessName |
| SWFConditional | IfRow |
| SWField | Name |
| SWFMarking | Name Row Column |
| SWFRow | RowNumber |
| SWFwdItem | QName@HostingNode QueueType (QueueType: T=Test or R=Release) |
| SWGraftStep | ProcName StepName CaseNumber |
| SWGroup | Name |
| SWLabel | Row Column |
| SWListValidation | Name |
| SWMarking | Name |
| SWNode | ComputerName NodeName IsDirector InstanceNumber |
| SWNodeInfo | ComputerName NodeName IsDirector InstanceNumber |
| SWOSUser | Name |
| SWOutstandingItem | WorkQName MailID |
| SWParticipation | "Participation"<Index + 1> |
| SWPredictedItem | ProcName StepName AddrToName |
| SWProc | HostingNode Name ProcMajorVer ProcMinorVer |
| SWProcAudit | Integer [ListIndex: 1 to n] |
| SWProcGroup | HostingNode Name |
| SWPublicField | Name |
| SWQSessionInfo | ClientName |
| SWRole | Name |
| SWSALInfo | UserName |
| SWSortField | FieldName |
| SWStep | Name |
| SWSubProcStep | StepName SubCaseNumber |
| SWTable | Name |
| SWTableField | Name |
| SWThreadInfo | ID |
| SWTransControlStep | ProcName StepName CaseNumber |
| SWUser | Name |
| SWWorkItem | AddrToName MailID |
| SWWorkQ | Name@HostingNode Mode (Mode: T=Test or R=Release) |

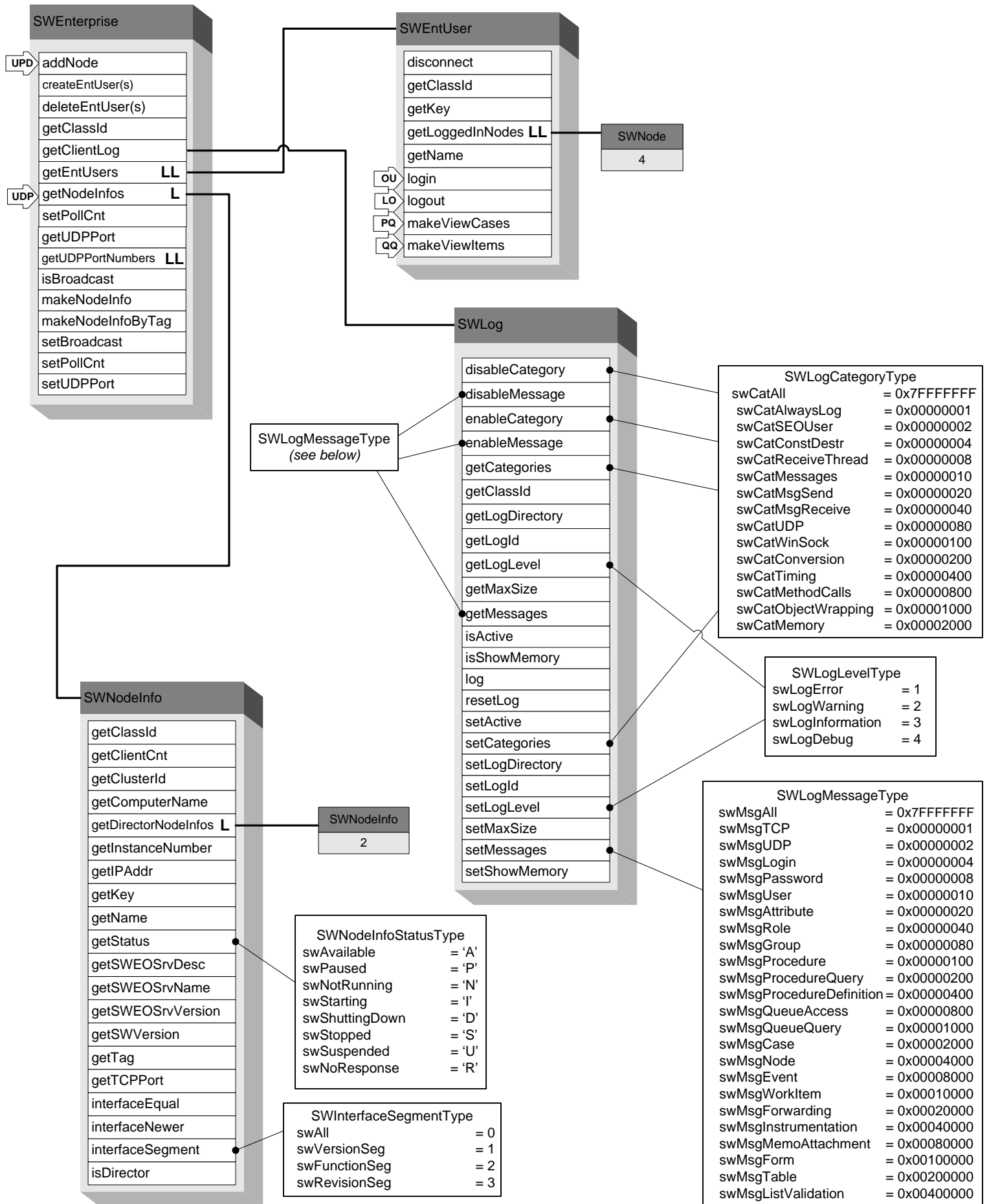
Class ID's

| | | | |
|-------------------|------|------------------------|------|
| swNodeInfoID | = 1 | swAddressUserRefID | = 40 |
| swUserID | = 2 | swLogID | = 41 |
| swRoleID | = 3 | swJavaExcpID | = 42 |
| swProcID | = 4 | swFMarkingID | = 43 |
| swAttributeID | = 5 | swFConditionalID | = 44 |
| swGroupID | = 6 | swFRowID | = 45 |
| swWorkQID | = 7 | swLabelID | = 46 |
| swBstrID | = 8 | swFontID | = 47 |
| swAutoFwdID | = 9 | swListValidationID | = 48 |
| swFwdItemID | = 10 | swTableID | = 49 |
| swFieldID | = 11 | swTableFieldID | = 50 |
| swStepID | = 12 | swDateValueID | = 51 |
| swAuditStepID | = 13 | swTimeValueID | = 52 |
| swOSUserID | = 14 | swNumericValueID | = 53 |
| swNodeID | = 15 | swFormID | = 54 |
| swConfigInfoID | = 16 | swXListID | = 55 |
| swSALInfoID | = 17 | swCriteriaWIID | = 56 |
| swClientInfoID | = 18 | swCriteriaCID | = 57 |
| swThreadInfoID | = 19 | swAdminID | = 59 |
| swQSessionInfoID | = 20 | swWorkQID | = 60 |
| swActiveUserID | = 21 | swParticipationID | = 61 |
| swSortFieldID | = 22 | swRedirectionID | = 62 |
| swMarkingID | = 23 | swCaseDataQParamDefID | = 64 |
| swEntUserID | = 24 | swCaseDataQParamID | = 65 |
| swActionID | = 25 | swPublicFieldID | = 66 |
| swConditionalID | = 26 | swOutstandingItemID | = 67 |
| swDeadlineValueID | = 27 | swSubProcStepID | = 68 |
| swCaseID | = 28 | swPredictedItemID | = 69 |
| swWorkItemID | = 29 | swCasePredictQParamID | = 70 |
| swEnterpriseID | = 30 | swDurationID | = 71 |
| swNodeInfoExID | = 31 | swDurationValueID | = 72 |
| swViewID | = 32 | swCriteriaPID | = 73 |
| swListID | = 33 | swExtWorkItemID | = 74 |
| swLocListID | = 34 | swProcAuditID | = 76 |
| swDeadlineID | = 35 | swProcGroupID | = 77 |
| swCommandID | = 36 | swGraftStepID | = 78 |
| swPermissionID | = 37 | swEAStepID | = 79 |
| swPriorityID | = 38 | swEventStepID | = 80 |
| swAccessUserRefID | = 39 | swDynamicSubProcStepID | = 81 |
| | | swExtProcessID | = 82 |
| | | swTransControlStepID | = 83 |

Legend

L List
 LL Local List
 VL View List
 XL XList

SWProc Object Reference
 9 Page Number



SWNode

4

assignAttribute
 closeByCriteria
 createAttribute
 createGroup
 createRole
 createUser
 deleteAttribute(s)
 deleteGroup(s)
 deleteRole(s)
 deleteUser(s)
 getAdmin
 getAttributes L
 getClassId
 getComputerName
 getExtWorkItem
 getGroups L
 getGroupsX XL
 getKey
 getListValidations L
 getLoggedInUser
 getName
 getNetworkNodeNames L
 getNodeInfo
 getNodeInfoEx
 getOSUsers L
 getOSUsersX XL
 getProcs L
 getProcGroups L
 getRoles L
 getTables L
 getUsers L
 getUsersX XL
 getWorkQs L
 getXList XL
 getXListPredict XL
 isUserPwdExp
 make<Object>*
 makeXListPredict XL
 moveSysInfo
 purgeByCriteria
 resetLog
 setLogCategories
 setLogLevel
 setLogTrace
 setMaxLogSize

SWNodeInfo

2

SWNodeInfoEx

getClassId
 GI getClientInfos LL
 getComputerName
 GI getConfigInfos LL
 getCurVCCnt
 OU getDateFormat
 OU getDateSeparator
 OU getDecimalSymbol
 getFILVersion
 OU getGroupingSymbol
 getIPAddr
 getLinkDate
 getLogonLicenseCnt
 getLogonsAvailableCnt
 getLogonsExternalCnt
 getLogonsSharedCnt
 getLogonsTotalCnt
 getName
 getOSProvider
 getOSVersion
 getPartNumber
 getPeakVCCnt
 getPID
 getPlatform
 getProcessorCnt
 GI getSALInfos LL
 getSALVersion
 getServerTime
 getServerTimeZone
 getStaleVCCnt
 getStartup
 getSWEOSrvVersion
 getSWVersion
 getTCPPort
 GI getThreadInfos LL
 OU getTimeSeparator
 getTotBytesRxCnt
 getTotBytesTxCnt
 getTotTransCnt
 getTotUDPCnt
 getTotVCCnt
 getUDPPort
 getUDPRxCnt
 getUDPTxCnt
 getUpTime
 rebuild

SWClientInfo

GI getActiveUsers LL
 getBytesRxCnt
 getBytesTxCnt
 getClassId
 getInterfaceVersion
 getKey
 getName
 getSocket
 getTimeConnected
 getTimeLastTran
 getTransactionCnt

SWActiveUser

getClassId
 getKey
 getMenu
 getName

SWConfigInfo

getClassId
 getKey
 getName
 getValue

SWSALInfo

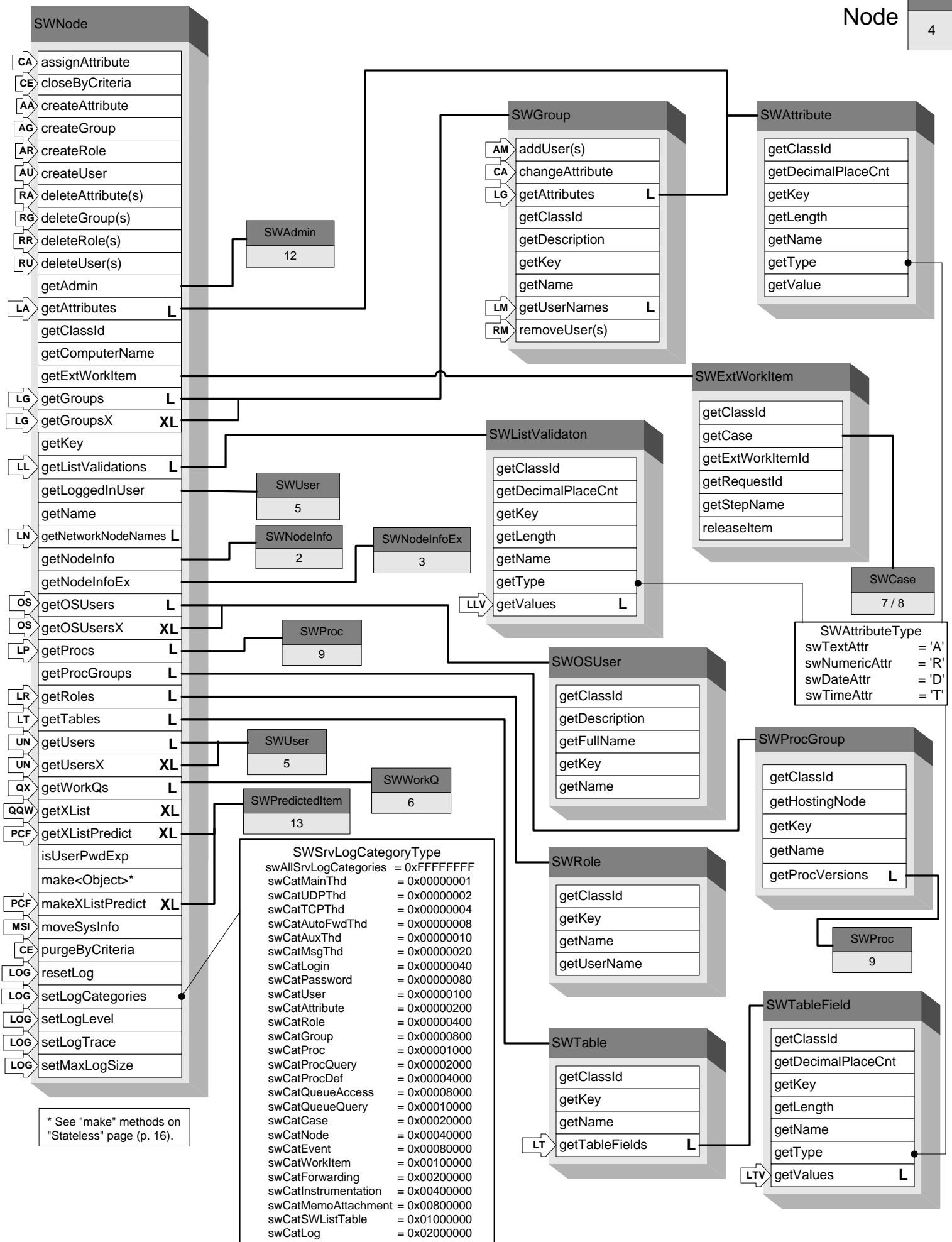
getClassId
 getKey
 getLastUsed
 GI getQSessionInfos LL
 getTimeCreated
 .getUserName
 isInUse

SWQSessionInfo

getClassId
 getClientName
 getKey
 getPersistenceId
 getTimeCreated
 getViewId
 getWorkQName

SWThreadInfo

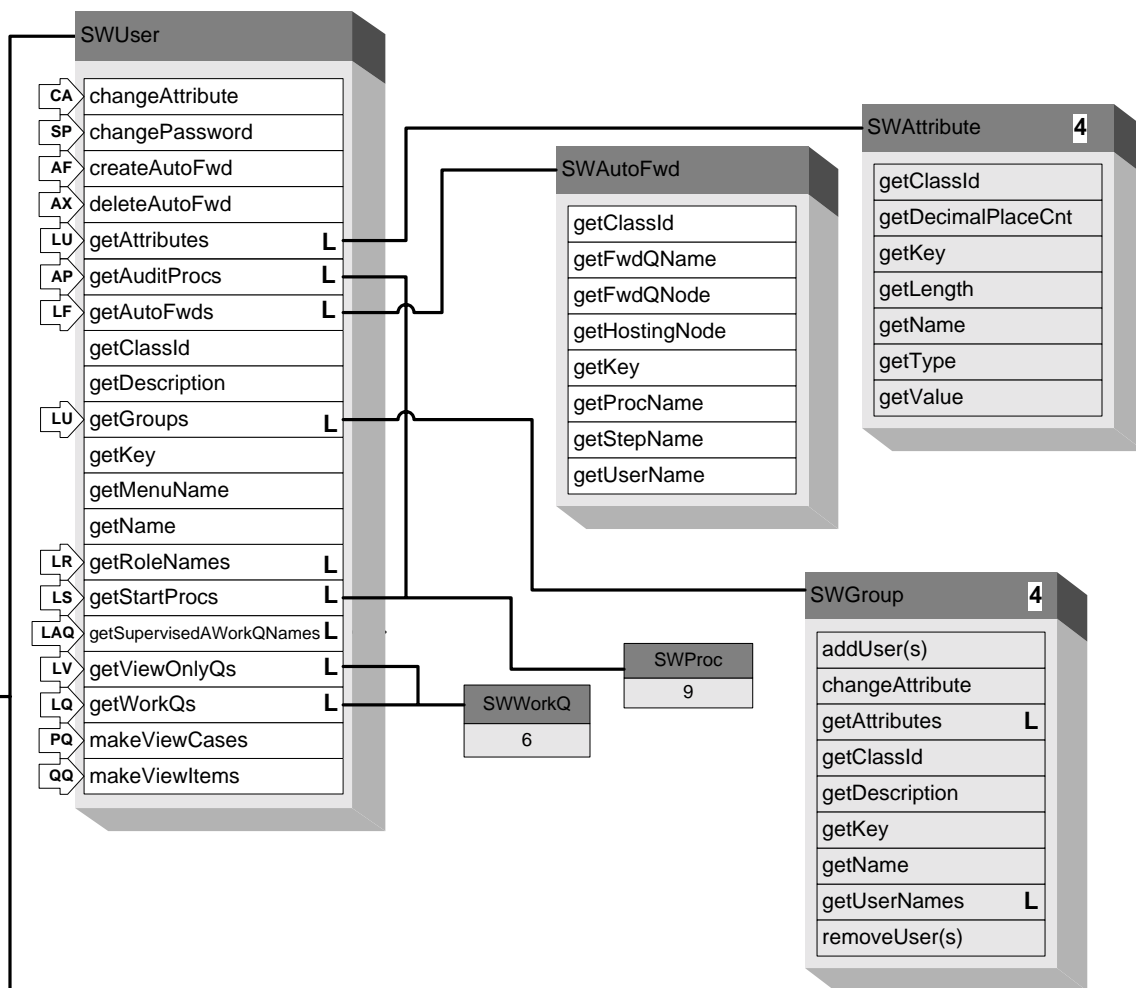
getBytesRxCnt
 getBytesTxCnt
 getClassId
 getCPUMsCnt
 getID
 getIOCompletionCnt
 getKey
 getLongestTran
 getShortestTran
 getTransProcessedCnt

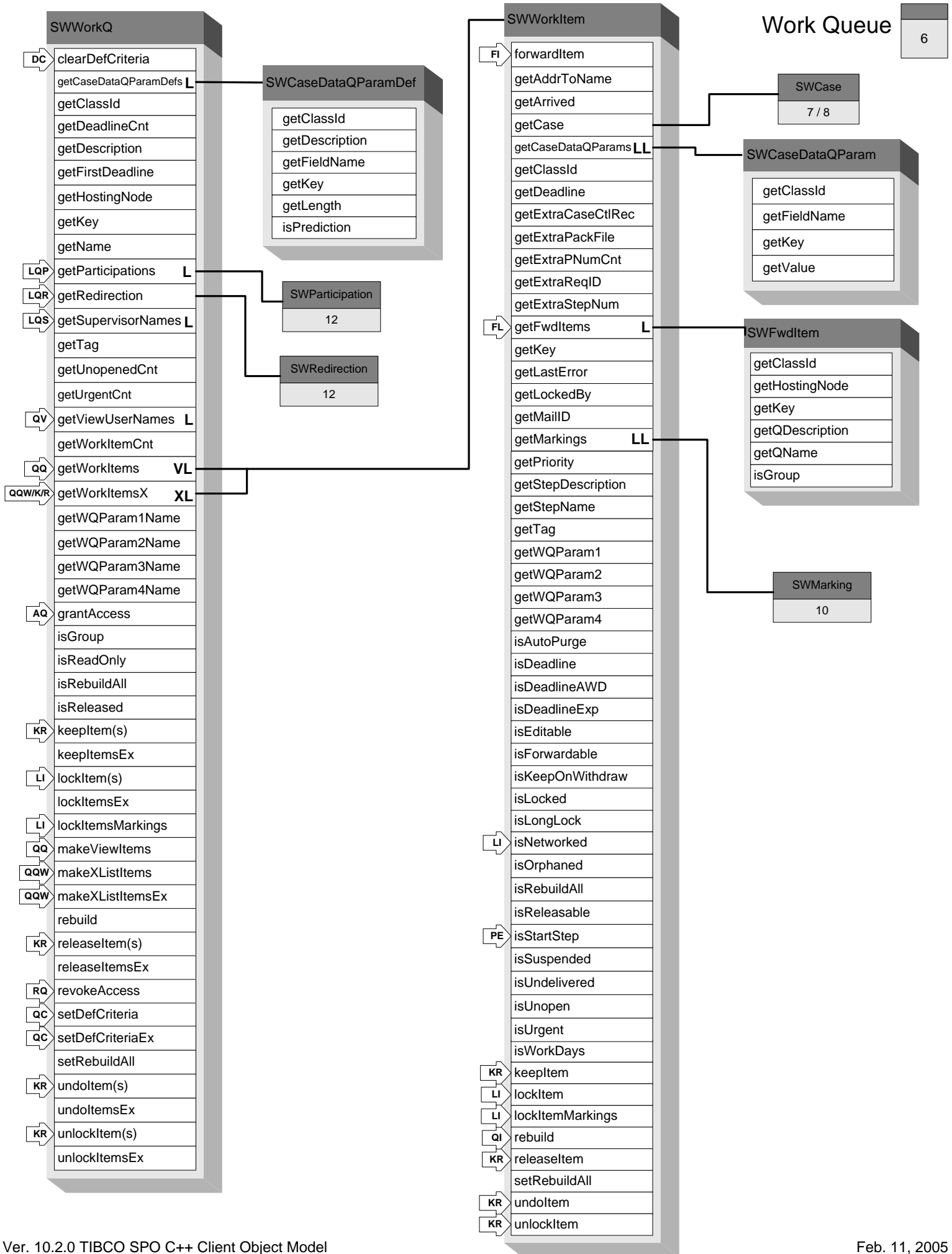


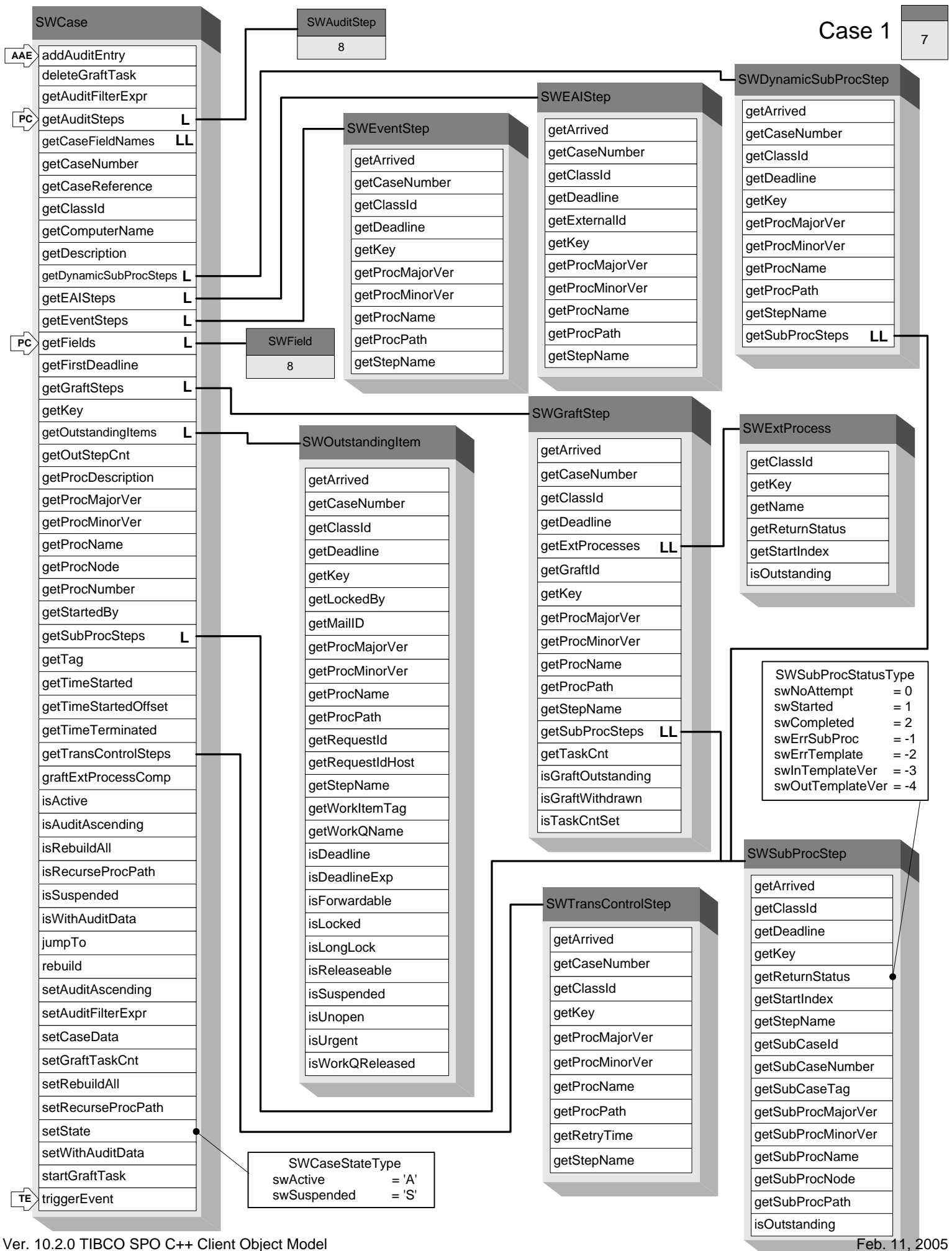
SWNode 4

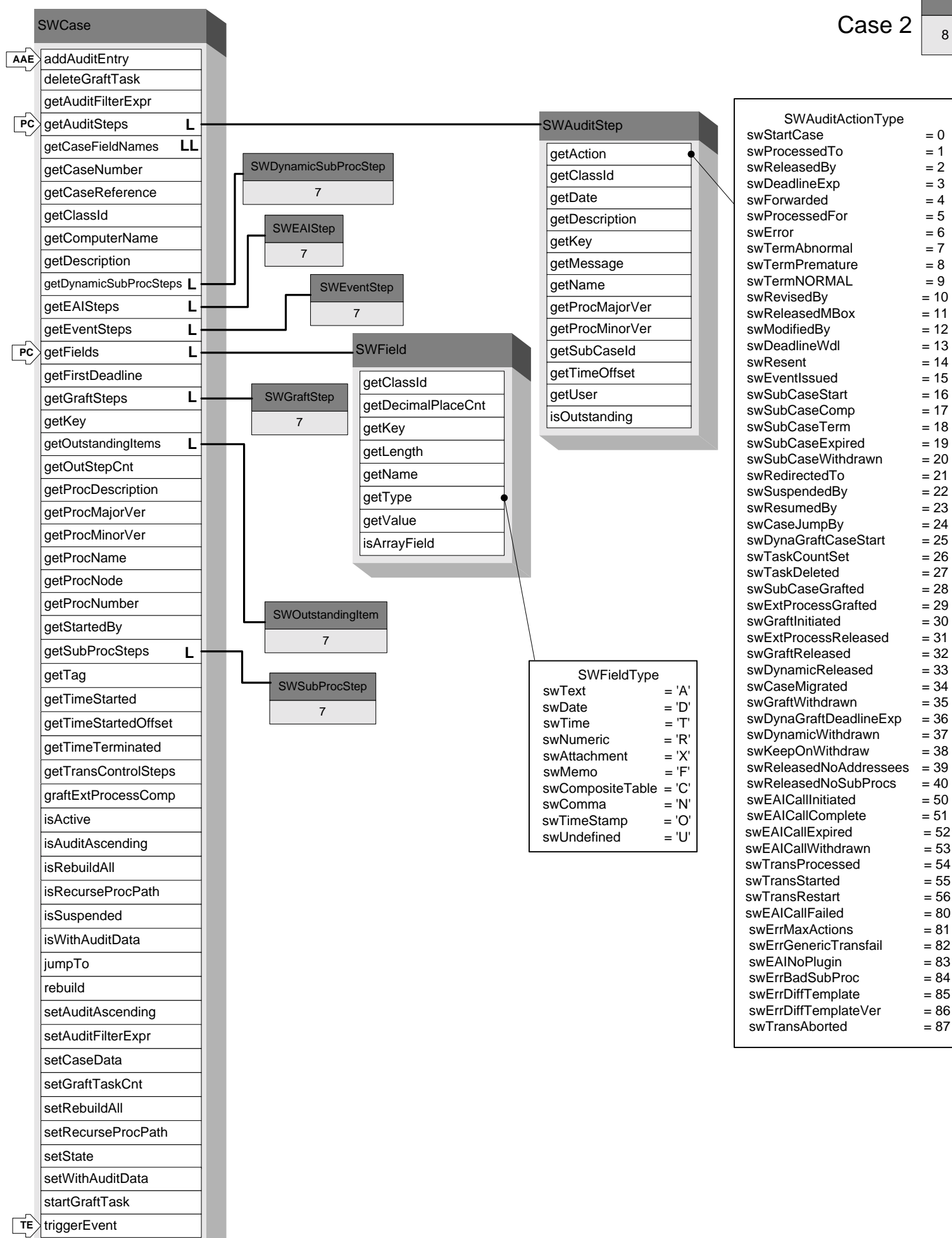
| |
|-----------------------|
| assignAttribute |
| closeByCriteria |
| createAttribute |
| createGroup |
| createRole |
| createUser |
| deleteAttribute(s) |
| deleteGroup(s) |
| deleteRole(s) |
| deleteUser(s) |
| getAdmin |
| getAttributes L |
| getClassId |
| getComputerName |
| getExtWorkItem |
| getGroups L |
| getGroupsX XL |
| getKey |
| getListValidations L |
| getLoggedInUser |
| getName |
| getNetworkNodeNames L |
| getNodeInfo |
| getNodeInfoEx |
| getOSUsers L |
| getOSUsersX XL |
| getProcs L |
| getProcGroups L |
| getRoles L |
| getTables L |
| getUsers L |
| getUsersX XL |
| getWorkQs L |
| getXList XL |
| getXListPredict XL |
| isUserPwdExp |
| make<Object>* |
| makeXListPredict XL |
| moveSysInfo |
| purgeByCriteria |
| resetLog |
| setLogCategories |
| setLogLevel |
| setLogTrace |
| setMaxLogSize |

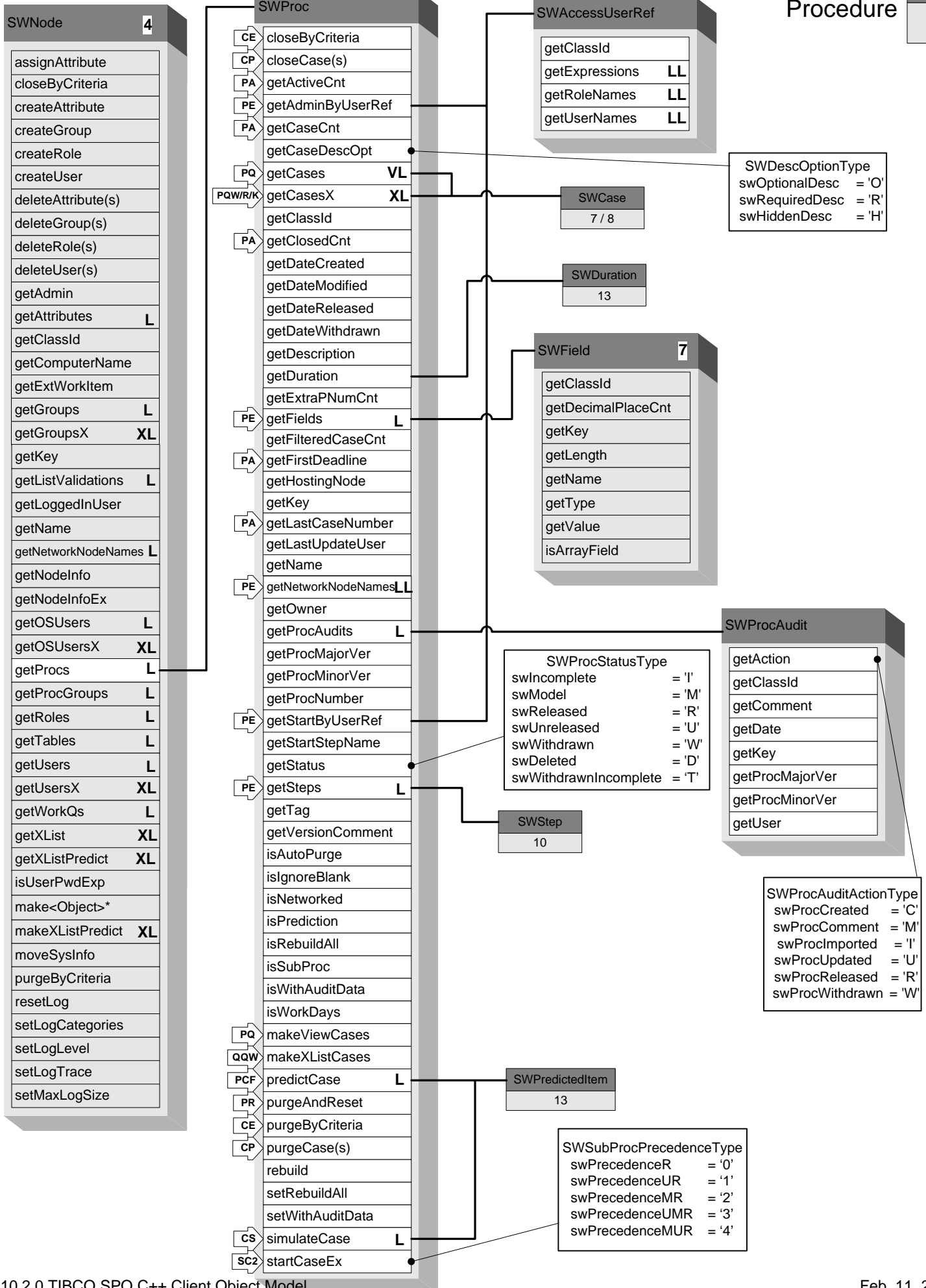
User 5

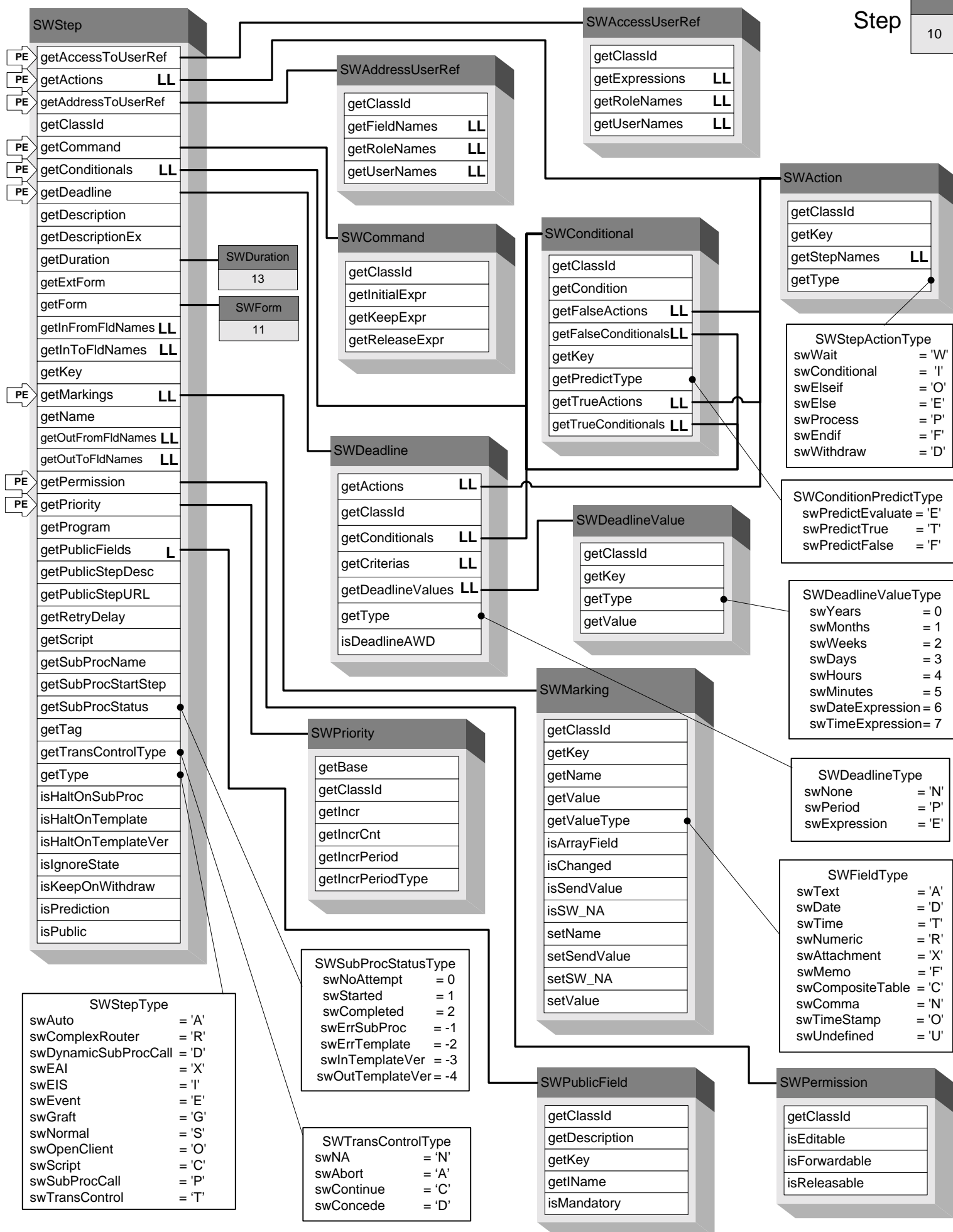


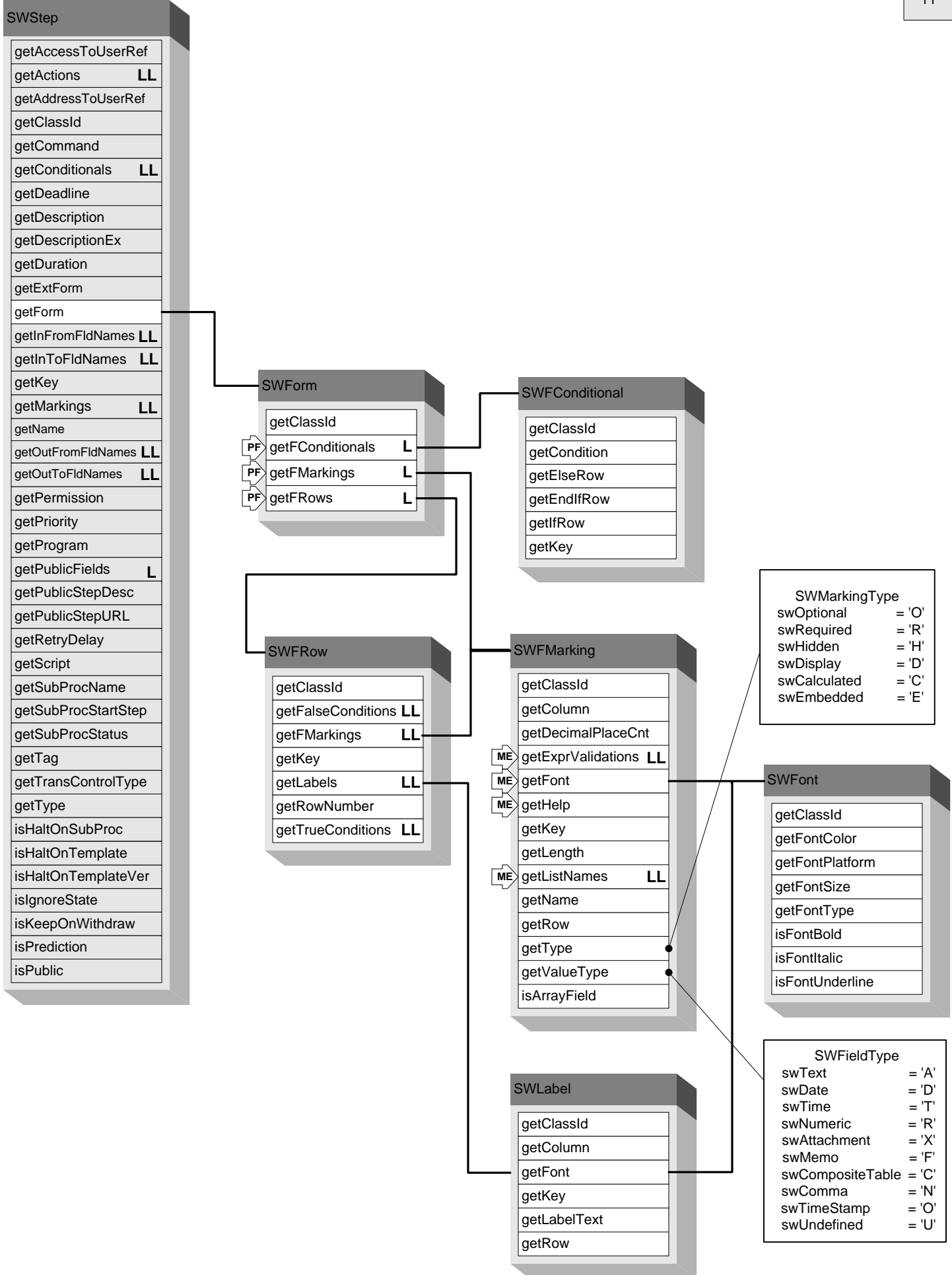


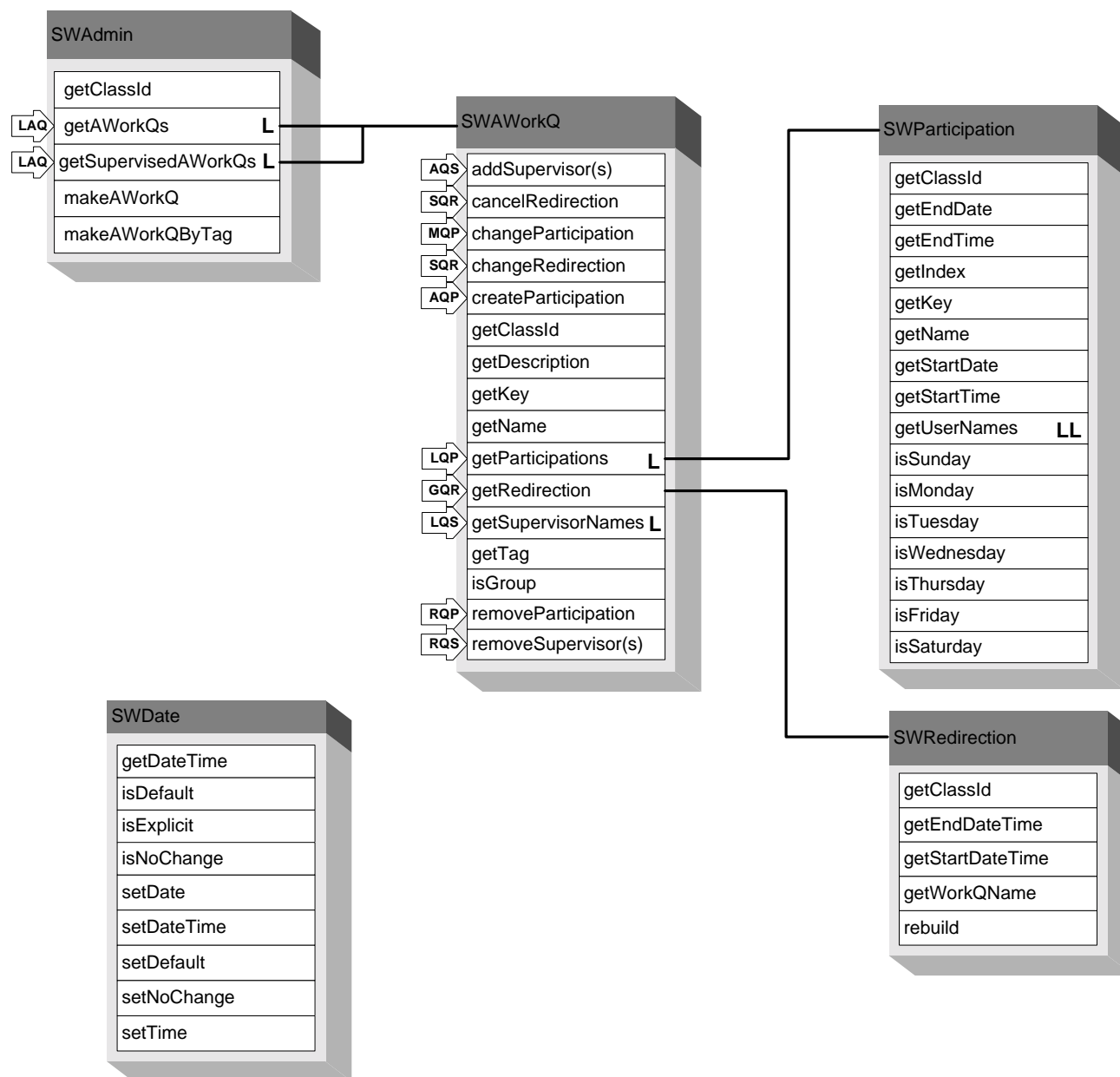




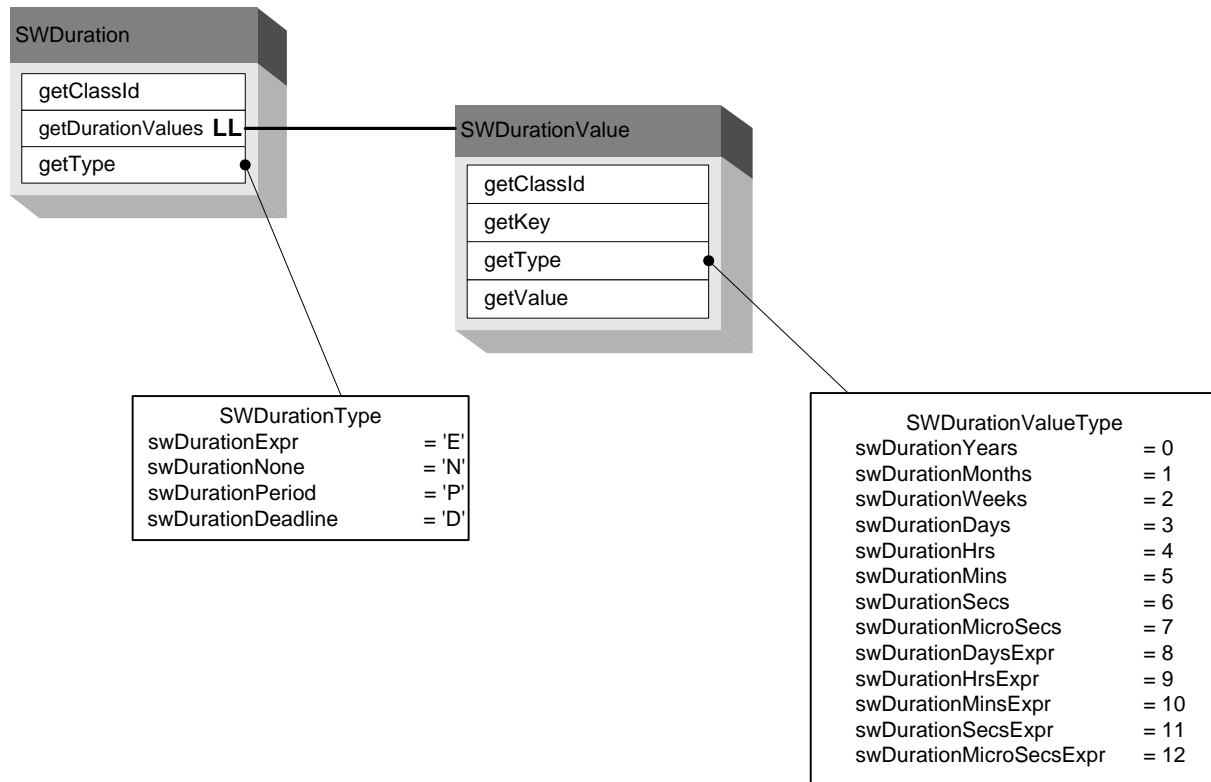
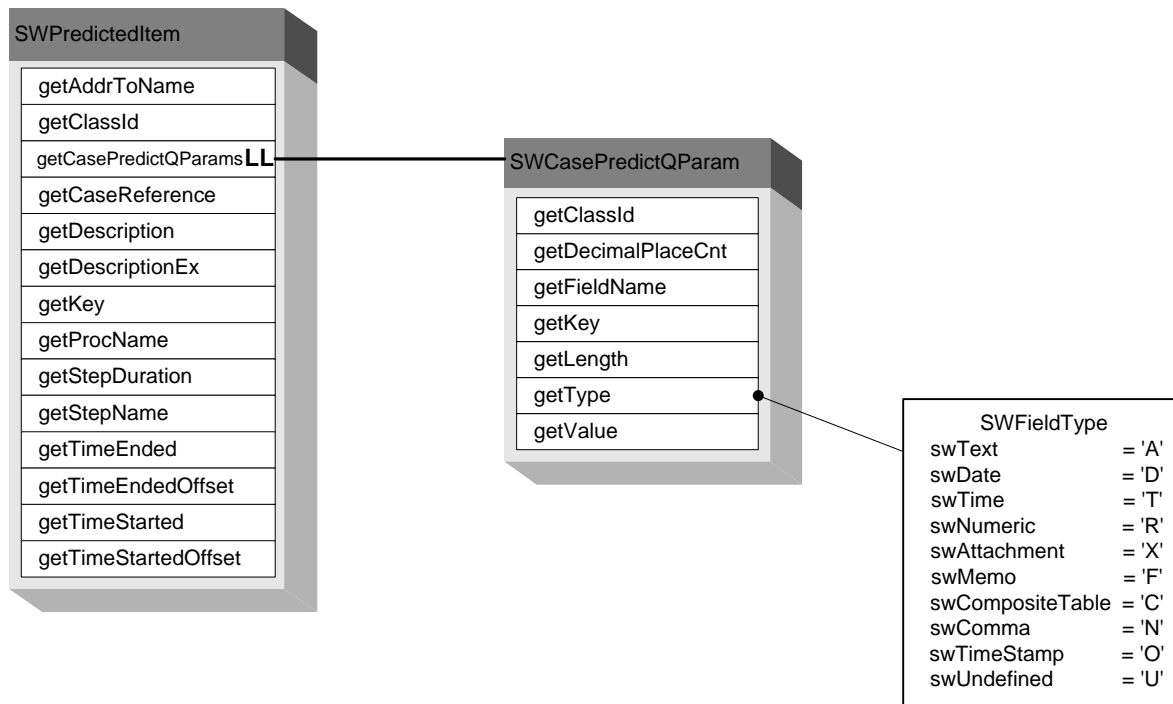








The SWDate object is used in the implementation of participation and redirection schedules.



The following enumerations are returned in the Type property to identify the type of objects in the list, local list, or view.

Object ClassId:

Objects on SWLists

| | | | |
|--------------------|------|------------------------|------|
| swNodeInfoID | = 1 | swDateValueID | = 51 |
| swUserID | = 2 | swTimeValueID | = 52 |
| swRoleID | = 3 | swNumericValueID | = 53 |
| swProcID | = 4 | swWorkQID | = 60 |
| swAttributeID | = 5 | swParticipationID | = 61 |
| swGroupID | = 6 | swCaseDataQParamDefID | = 64 |
| swWorkQID | = 7 | swPublicFieldID | = 66 |
| swBstrID | = 8 | swOutstandingItemID | = 67 |
| swAutoFwdID | = 9 | swSubProcStepID | = 68 |
| swFwdItemID | = 10 | swPredictedItemID | = 69 |
| swFieldID | = 11 | swProcAuditID | = 76 |
| swStepID | = 12 | swProcGroupID | = 77 |
| swAuditStepID | = 13 | swGraftStepID | = 78 |
| swOSUserID | = 14 | swEAIStepID | = 79 |
| swFMarkingID | = 43 | swEventStepID | = 80 |
| swFConditionalID | = 44 | swDynamicSubProcStepID | = 81 |
| swFRowID | = 45 | swTransControlStepID | = 83 |
| swListValidationID | = 48 | | |
| swTableID | = 49 | | |
| swTableFieldID | = 50 | | |

Objects on SWLocLists

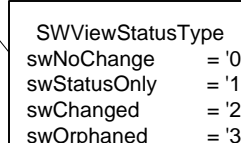
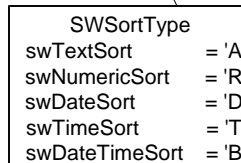
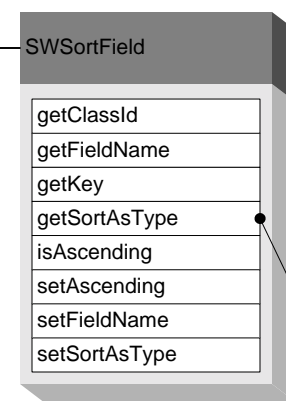
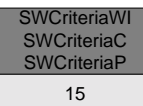
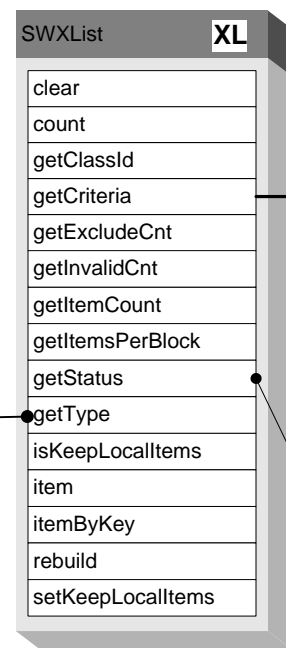
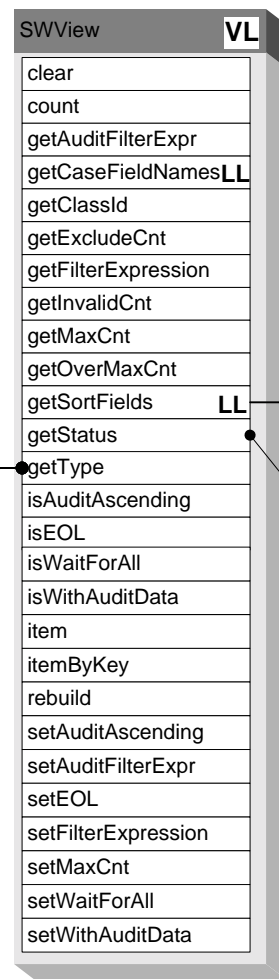
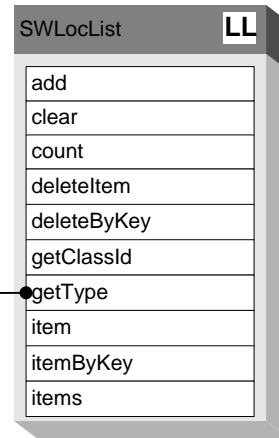
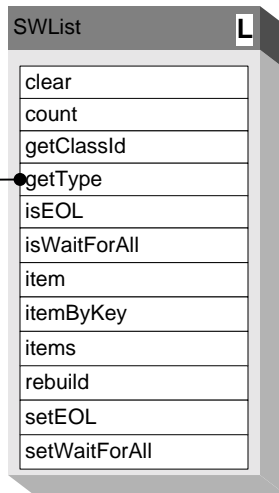
| | | | |
|------------------|------|-----------------------|------|
| swBstrID | = 8 | swActionID | = 25 |
| swNodeID | = 15 | swConditionalID | = 26 |
| swConfigInfoID | = 16 | swDeadlineValueID | = 27 |
| swSALInfoID | = 17 | swFMarkingID | = 43 |
| swClientInfoID | = 18 | swLabelID | = 46 |
| swThreadInfoID | = 19 | swCaseDataQParamID | = 65 |
| swQSessionInfoID | = 20 | swSubProcStepID | = 68 |
| swActiveUserID | = 21 | swCasePredictQParamID | = 70 |
| swSortFieldID | = 22 | swExtProcessID | = 82 |
| swMarkingID | = 23 | | |
| swEntUserID | = 24 | | |

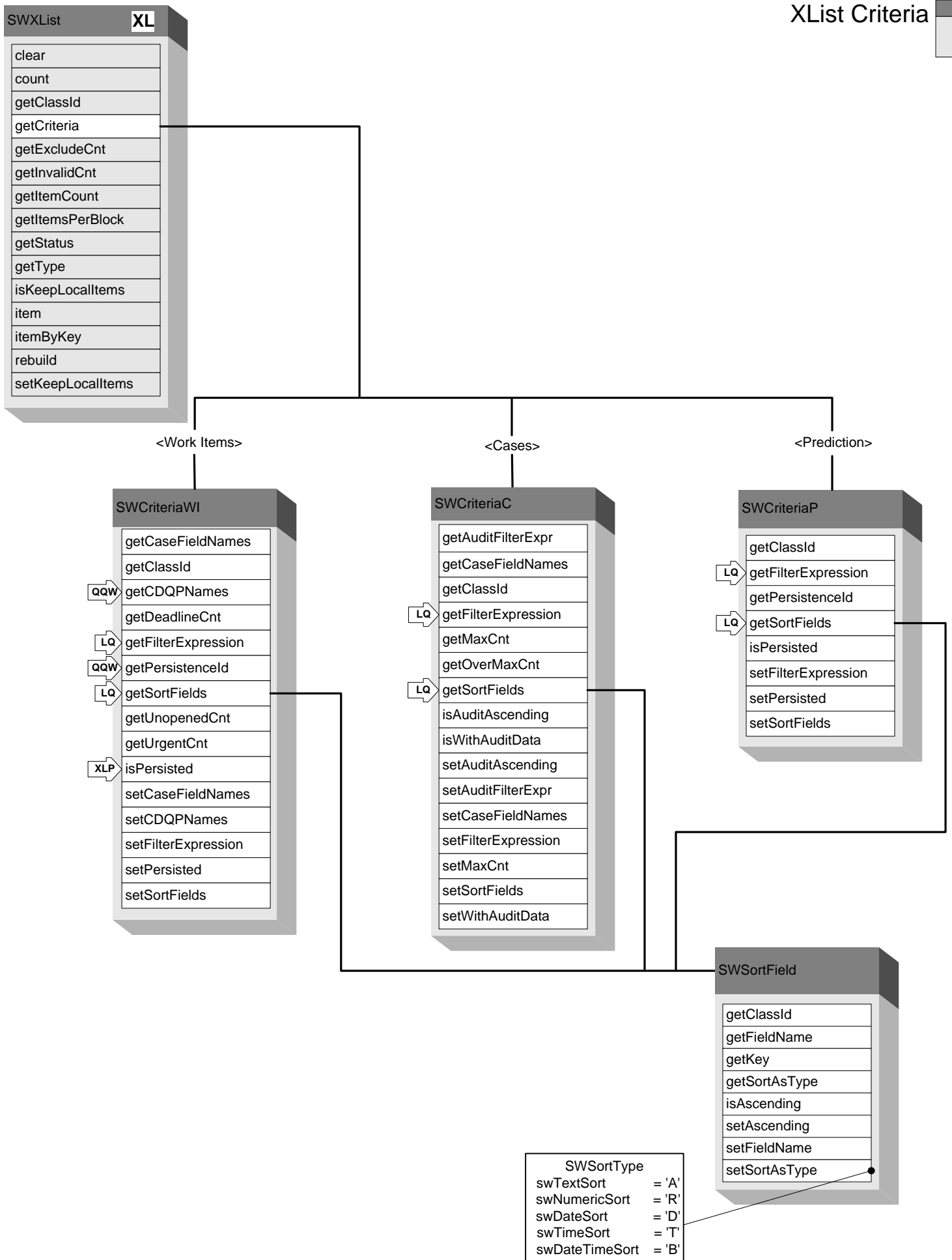
Objects on SWViews

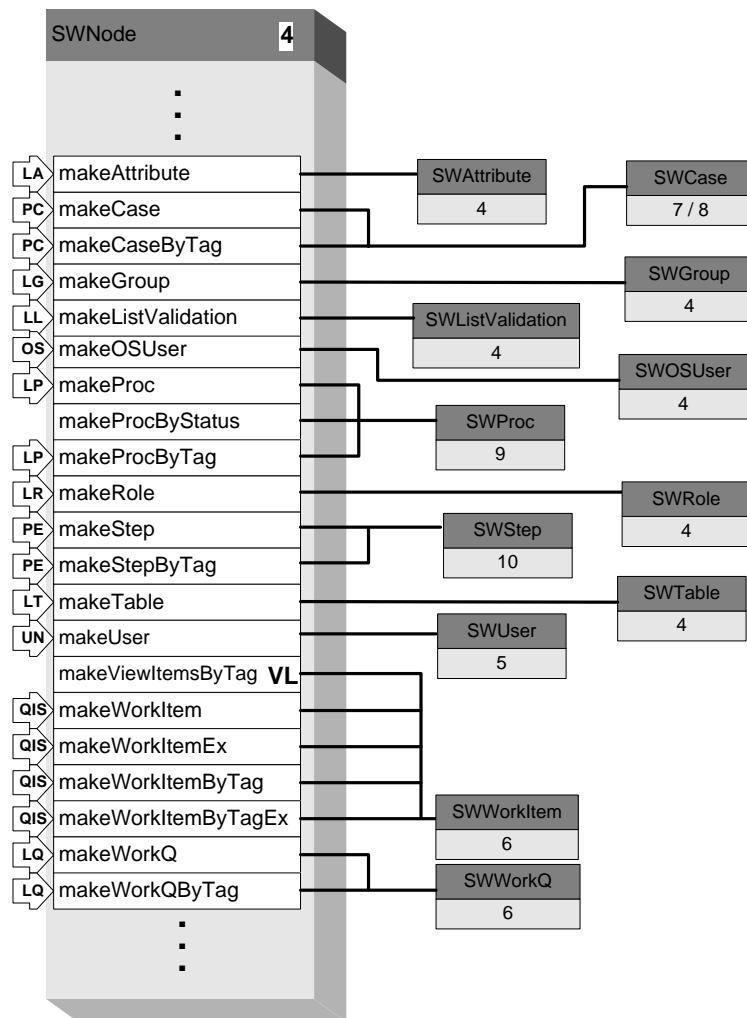
| | |
|--------------|------|
| swCaseID | = 28 |
| swWorkItemID | = 29 |

Objects on SWXLists

| | |
|-------------------|------|
| swUserID | = 2 |
| swGroupID | = 6 |
| swOSUserID | = 14 |
| swCaseID | = 28 |
| swWorkItemID | = 29 |
| swPredictedItemID | = 69 |







This illustration shows only the "make" methods used in stateless processing. See page 4 for the entire SWNode object.

SPO Server Error Constants

| Dec | Hex | Constant | Description | Dec | Hex | Constant | Description |
|-----|--------|-------------------------|---|-----|--------|----------------------|--|
| 0 | 0x0000 | ER_SUCCESS | Success | 85 | 0x0055 | ER_MSB_MAXLOOPS | Maximum prediction loop count exceeded. |
| 1 | 0x0001 | ER_SAL_ERROR | General Staffware error | 86 | 0x0056 | ER_MSB_LOGGEDIN | Prediction service failed to login user. |
| 2 | 0x0002 | ER_SAL_SYSTEM | SAL system error | 87 | 0x0057 | ER_MSB_NOTEXT | Undefined prediction error. |
| 3 | 0x0003 | ER_SAL_HANDLE | Bad SAL/FIL session handle | 88 | 0x0058 | ER_MSB_OVERFLOW | The text string was longer than the passed in buffer size. |
| 4 | 0x0004 | ER_SAL_PARAM | Bad SAL/FIL function parameter. | 90 | 0x005A | ER_MSB_EOL | Beyond list or invalid index. |
| 5 | 0x0005 | ER_SAL_FLOCKED | SAL internal locking error | 92 | 0x005C | ER_MSB_QERR | Invalid query string passed to find future workitems. |
| 6 | 0x0006 | ER_SAL_RLOCKED | Error locking work queue item | 93 | 0x005D | ER_MSB_SORTERR | Invalid sort parameter. |
| 7 | 0x0007 | ER_SAL_TOOBIG | Internal SAL data too big or truncated | 94 | 0x005E | ER_MSB_SUBPROC_DEPTH | Sub procedure depth exceeded. |
| 8 | 0x0008 | ER_SAL_DUPLICATE | Duplicate data | 95 | 0x005F | ER_MSB_NOSAL | No SAL session handle. |
| 9 | 0x0009 | ER_SAL_DEMO | More than 20 cases started with demo license. | 96 | 0x0060 | ER_MSB_NOCASEREF | No case reference passed for a live case. |
| 10 | 0x000A | ER_SAL_MALLOC | SAL internal memory allocation failure | 97 | 0x0061 | ER_MSB_NOSTEP | Outstanding step passed in isn't in procedure. |
| 11 | 0x000B | ER_SAL_NOTFOUND | Item not found | 98 | 0x0062 | ER_MSB_STEPNOTFOUND | Cannot find step in procedure in cc_exec_proc. |
| 12 | 0x000C | ER_SAL_SEQUENCE | Internal sequencing error in SAL. | 99 | 0x0063 | ER_MSB_NOTMAIN | Sub-procedure name invalid for simulate case. |
| 13 | 0x000D | ER_SAL_DATEINIT | Date/time format error | 100 | 0x0064 | ER_USERNAME | Invalid username. |
| 14 | 0x000E | ER_SAL_APPNOTFOUND | Application not found | 101 | 0x0065 | ER_SWDIR | No/invalid SWDIR install directory |
| 15 | 0x000F | ER_SAL_INVALID_PLATFORM | Staffware function is not supported on this platform | 102 | 0x0066 | ER_QINIT | Error establishing queue session |
| 16 | 0x0010 | ER_SAL_OSTYPE | MACINTOSH : Invalid OStype | 103 | 0x0067 | ER_QREFRESH | Error performing queues update |
| 17 | 0x0011 | ER_SAL_NO_APPLE_EVENTS | Apple Events are not Supported on this platform | 104 | 0x0068 | ER_NODENAME | Node name invalid or not found |
| 18 | 0x0012 | ER_SAL_SHUTDOWN | Work queue shutdown | 105 | 0x0069 | ER_PROCNAME | Procedure name invalid or not found |
| 19 | 0x0013 | ER_SAL_FILEIO | Internal SAL file I/O error | 106 | 0x006A | ER_PROCPATH | Unable to create procedure definition path. |
| 20 | 0x0014 | ER_SAL_FILEPERMS | Internal SAL file permissions error | 107 | 0x006B | ER_FILEOPEN | File open failed |
| 21 | 0x0015 | ER_SAL_QDISABLED | User no longer has administration access to queue | 108 | 0x006C | ER_FILECLOSE | File close failed |
| 22 | 0x0016 | ER_SAL_RPC | RPC Failure | 109 | 0x006D | ER_FLDTYPE | Invalid data for field type |
| 23 | 0x0017 | ER_SAL_REGISTRY | Data in registry incorrect | 110 | 0x006E | ER_NOFIELD | Field name not found |
| 24 | 0x0018 | ER_SAL_UNKNOWN | Unknown SAL error | 111 | 0x006F | ER_CASEREQD | Case description required. |
| 25 | 0x0019 | ER_SAL_REDIRECT | Queue has been redirected and item is unavailable | 112 | 0x0070 | ER_SYNTAX | Error in expression syntax |
| 26 | 0x001A | ER_SAL_NOT_SUPPORTED | Function not supported | 113 | 0x0071 | ER_QUEUENAME | Queue name not found |
| 27 | 0x001B | ER_SAL_EXISTS | Attempt to add data that already exists. | 114 | 0x0072 | ER_MEMREALLOC | Error in reallocating system memory |
| 28 | 0x001C | ER_SAL_MBOXSET | Failed while initializing MBOX set session | 115 | 0x0073 | ER_NOUSER | Username not found. |
| 29 | 0x001D | ER_SAL_FORMAT | Error in processing format of the package | 116 | 0x0074 | ER_USEREXISTS | Username already exists |
| 30 | 0x001E | ER_SAL_MOREDATA | Error in processing format of the package | 117 | 0x0075 | ER_NOATTR | Attribute not found |
| 31 | 0x001F | ER_SAL_TIMEOUT | Generic timeout error | 118 | 0x0076 | ER_ATTREXISTS | Attribute already exists |
| 32 | 0x0020 | ER_SAL_SUSPENDED | Request denied - WorkItem is suspended | 119 | 0x0077 | ER_INVATTRTYPE | Invalid attribute type specified |
| 33 | 0x0021 | ER_SAL_INV_DATA | Pack data has been updated while keeping/releasing item | 120 | 0x0078 | ER_GRPXISTS | Group already exists |
| 34 | 0x0022 | ER_SAL_INV_VALUE | Invalid process attribute value | 121 | 0x0079 | ER_NOGRP | Group not found |
| 35 | 0x0023 | ER_SAL_INV_FILTER | Invalid filter | 122 | 0x007A | ER_NOEVENT | Event not found in procedure |
| 36 | 0x0024 | ER_SAL_XACT_ABORT | Global transaction has been aborted | 123 | 0x007B | ER_NOCASE | Case number not found |
| 37 | 0x0025 | ER_SAL_COMPLEX | Filter is too complex | 124 | 0x007C | ER_DATECONV | Error in SAL date conversion |
| 50 | 0x0032 | ER_SAL_SECDISABLED | Password checking is disabled | 125 | 0x007D | ER_TIMECONV | Error in SAL time conversion |
| 51 | 0x0033 | ER_SAL_SECBADUSER | Username is invalid | 126 | 0x007E | ER_ACTION | Invalid action code (keep/release/undo/close/purge) |
| 52 | 0x0034 | ER_SAL_USERDISABLED | User account is disabled or expired | 127 | 0x007F | ER_MARKINFO | Error in sal_form_markinfo call |
| 53 | 0x0035 | ER_SAL_SECEXPRIED | Password is expired | 128 | 0x0080 | ER_MARKCOUNT | Error in sal_form_markcount call |
| 54 | 0x0036 | ER_SAL_SECBADSEED | Not used | 129 | 0x0081 | ER_NOMARK | Fieldname not found as a form marking. |
| 55 | 0x0037 | ER_SAL_SECBADPSWD | Unknown username or bad password | 130 | 0x0082 | ER_PUTDATA | Error in sal_frm_putdata call. |
| 56 | 0x0038 | ER_SAL_SECBADNEWPSWD | New password is invalid (too short or history conflict) | 131 | 0x0083 | ER_FRMKEEP | Error keeping form data |
| 57 | 0x0039 | ER_SAL_SECMAXCHANGES | Too many failed attempts to change password | 132 | 0x0084 | ER_FRMRELEASE | Error releasing form data |
| 58 | 0x003A | ER_SAL_SECPWDINVALID | Not used | 133 | 0x0085 | ER_MANDMARK | Mandatory marking not specified |
| 59 | 0x003B | ER_SAL_SECBADWKSTN | User not allowed to log on to this workstation. | 134 | 0x0086 | ER_BADORIGIN | Marking has incorrect origin |
| 60 | 0x003C | ER_SAL_SECBADHOURS | User account logon time restriction violation | 135 | 0x0087 | ER_PROCNUM | Error in proc_num call |
| 61 | 0x003D | ER_SAL_SECBADPERMS | User account does not have proper privilege | 136 | 0x0088 | ER_NOPROC | Procedure name not found |
| 62 | 0x003E | ER_SAL_SECLCKOUT | User account locked out due to max bad pwd change attempts | 137 | 0x0089 | ER_AUTHENFAIL | Authentication request failed |
| 63 | 0x003F | ER_SAL_SECBADMATCH | Not used | 138 | 0x008A | ER_NOTAUTH | User not authorized to perform request |
| 64 | 0x0040 | ER_SAL_SECUNKNOWN | Unknown security error | 139 | 0x008B | ER_NOROLE | Role not found |
| 65 | 0x0041 | ER_SAL_SECCANTCHNG | Can't change user password (too recent, account restrictions, etc.) | 140 | 0x008C | ER_STARTCASE | Error starting case |
| 66 | 0x0042 | ER_MSB_NONE | No future workitems found or no deadline info found | 141 | 0x008D | ER_BADVALUE | Bad value specified |
| 67 | 0x0043 | ER_MSB_SUBPROC | Sub-proc step type found. | 142 | 0x008E | ER_SWENTOBJEOF | No more session handles |
| 68 | 0x0044 | ER_MSB_ERR | General error. | 143 | 0x008F | ER_FLAGINIT | Error in flag_init lock. |
| 69 | 0x0045 | ER_MSB_NOSW | Staffware server unavailable. | 144 | 0x0090 | ER_NODELIMETER | No delimiter in input buffer |
| 70 | 0x0046 | ER_MSB_BADAUTH | User has no access to start proc. | 145 | 0x0091 | ER_DBS | Error converting DBS name. |
| 71 | 0x0047 | ER_MSB_BADPWD | Username or password is incorrect. | 146 | 0x0092 | ER_BUFFERFLUSH | Error writing data to client |
| 72 | 0x0048 | ER_MSB_INVSTEP | Invalid Step. | 147 | 0x0093 | ER_TRIGGERPRIV | User does not have event trigger privilege |
| 73 | 0x0049 | ER_MSB_INVPROC | Invalid Procedure. | 148 | 0x0094 | ER_BADOLDPASS | Bad old password |
| 74 | 0x004A | ER_MSB_INVFORM | Invalid form. | 149 | 0x0095 | ER_BADNEWPASS | Bad new password |
| 75 | 0x004B | ER_MSB_NOPROC | Couldn't find procedure. | 150 | 0x0096 | ER_CANTCHNGPASS | Can't change password |
| 76 | 0x004C | ER_MSB_NOFIELD | Couldn't locate named field. | 151 | 0x0097 | ER_SECUNK | Unknown security error |
| 77 | 0x004D | ER_MSB_EXTERNAL | Error from External elink call. | 152 | 0x0098 | ER_BADISTEST | Bad queue is test (released/unreleased flag) |
| 78 | 0x004E | ER_MSB_INVSESS | Invalid session handle. | 153 | 0x0099 | ER_CRITERIASAVE | Error persisting queue access criteria |
| 79 | 0x004F | ER_MSB_NOPARAM | Invalid parameter. | 154 | 0x009A | ER_CRITERIALOAD | Error loading queue access criteria |
| 80 | 0x0050 | ER_MSB_PROCNOPEN | Procedure is not open. | 155 | 0x009B | ER_NULLVALUE | Parameter was empty |
| 81 | 0x0051 | ER_MSB_OUTOFRANGE | Request is out of range. | 156 | 0x009C | ER_REGBADDFA | Bad regular expression DFA |
| 82 | 0x0052 | ER_MSB_LOCKFAIL | Failed to lock session. | 157 | 0x009D | ER_LICENSE | Cannot log user in - exceeds license |
| 83 | 0x0053 | ER_MSB_SESSFAL | Failed to allocate session. | 158 | 0x009E | ER_ACQUIRE | Error acquiring a user's mutex and SAL session |
| 84 | 0x0054 | ER_MSB_WAITING | Waiting on other steps to execute. | 159 | 0x009F | ER_OPENSEM | Error opening semaphore |
| | | | | 160 | 0x00A0 | ER_SEMWAIT | Error waiting for semaphore |
| | | | | 161 | 0x00A1 | ER_SEMTIMEOUT | Timed-out waiting for semaphore |
| | | | | 162 | 0x00A2 | ER_SEMRELEASE | Error releasing semaphore |

SPO Server Error Constants (Cont.)

| Dec | Hex | Constant | Description |
|-----|--------|--------------------|---|
| 163 | 0x00A3 | ER_SEM_CLOSE | Error closing semaphore |
| 164 | 0x00A4 | ER_AUDITFLAG | Invalid audit flag |
| 165 | 0x00A5 | ER_DBREG | Error getting clsid for SWEntObjDB |
| 166 | 0x00A6 | ER_DBCOCREATE | Error creating instance of SWEntObjDB |
| 167 | 0x00A7 | ER_OPENDB | Error opening autofwd/qview database |
| 168 | 0x00A8 | ER_NOTABLES | No tables in autofwd/qview database |
| 169 | 0x00A9 | ER_CREATEDSN | Error creating data source name |
| 170 | 0x00AA | ER_ADDRECORD | Error adding record to autofwd/qview database |
| 171 | 0x00AB | ER_DUPRECORD | Duplicate record in autofwd/qview database |
| 172 | 0x00AC | ER_UPDRECORD | Error updating record in autofwd/qview database |
| 173 | 0x00AD | ER_NORECORD | Record not found in autofwd/qview db |
| 174 | 0x00AE | ER_LISTRECORD | Error listing records in autofwd/qview db |
| 175 | 0x00AF | ER_UNKNDBERR | Unknown exception from SWEntObjDB. |
| 176 | 0x00B0 | ER_NOQUEUE | Queue not found |
| 177 | 0x00B1 | ER_NOMEMBER | No member in group queue |
| 178 | 0x00B2 | ER_NOCHANGE | Queue has not changed |
| 179 | 0x00B3 | ER_NOITEM | Queue item not found |
| 180 | 0x00B4 | ER_DEMOEXCEEDED | Attempted to open > 20 cases on demo system |
| 181 | 0x00B5 | ER_SALGETDATA | Error getting SAL form data |
| 182 | 0x00B6 | ER_FRMTERM | Error in newsal_frm_term |
| 183 | 0x00B7 | ER_NOTLOCKED | Work item is not locked by user |
| 184 | 0x00B8 | ER_CSPRIV | User does not have privilege to start case. |
| 185 | 0x00B9 | ER_NOTFWDABLE | Item is not forwardable |
| 186 | 0x00BA | ER_USRFRWDPRIV | User does not have forward privilege for this work item |
| 187 | 0x00BB | ER_PREVLOCKED | Work item already locked by someone else. |
| 188 | 0x00BC | ER_TCPMAXCLIENT | Connection refused - TCPMaxClients exceeded |
| 189 | 0x00BD | ER_LIDAEMON | Error communicating with Staffware login daemon. |
| 190 | 0x00BE | ER_QUEUEINFO | Error in sal_queues_getqueue_info function. |
| 191 | 0x00BF | ER_STATUSONLY | Internal error for status only |
| 192 | 0x00C0 | ER_MULTIAUTHENUser | already logged in on another client |
| 193 | 0x00C1 | ER_QOPEN | Error in salq_list_open when accessing a work queue |
| 194 | 0x00C2 | ER_SALEXCEPT | SAL/FIL threw an exception; see SPO server log file |
| 195 | 0x00C3 | ER_NOTSUPPORTED | Message code or option not supported in this version of the server |
| 196 | 0x00C4 | ER_LISTINDEX | Internal list indexing error |
| 197 | 0x00C5 | ER_TRUNCATED | Value was truncated |
| 198 | 0x00C6 | ER_INDIEXCEPT | IndiForm threw an exception |
| 199 | 0x00C7 | ER_NOSWLIST | Staffware list not found. |
| 200 | 0x00C8 | ER_NOSWTABLE | Staffware tables not found. |
| 201 | 0x00C9 | ER_INVALIDID | Unable to find work queue session for given persistence ID. |
| 202 | 0x00CA | ER_NOSTEP | Step name not found. |
| 203 | 0x00CB | ER_NOPARTICSH | Unable to find work queue participation session. |
| 204 | 0x00CC | ER_NOSUPERVISOR | User is not a Queue Supervisor of this queue. |
| 205 | 0x00CD | ER_NOPARTICREC | This Participation Record has been modified or removed by another Supervisor. |
| 206 | 0x00CE | ER_MAXSUPLST | The Supervisor List you have specified exceeds 255 characters. |
| 207 | 0x00CF | ER_PARTICTIME | A StartTime and EndTime must be specified. |
| 208 | 0x00D0 | ER_NOCDQPDF | Unable to obtain Case Data Queue Parameter definitions for work queue. |
| 209 | 0x00D1 | ER_NO_SERVERS | No SPO Servers are currently available |
| 210 | 0x00D2 | ER_UPDATE_MEMO | Error updating memo field value. |
| 211 | 0x00D3 | ER_INVALIDPID | Unable to find prediction session for given persistence ID. |
| 212 | 0x00D4 | ER_NODEPROC | Invalid Node and/or Procedure name. |
| 213 | 0x00D5 | ER_NOSUBPROC SIM | Unable to Simulate a Sub Procedure, a Main Procedure must be used. |
| 214 | 0x00D6 | ER_INVALIDWUID | Invalid Unique ID for External WorkItem. |
| 215 | 0x00D7 | ER_NOEXTWUID | Unable to find outstanding work item for the given External WorkItem ID. |
| 216 | 0x00D8 | ER_GET_MEMO | Unable to get memo value. |
| 217 | 0x00D9 | ER_INVALIDCONID | Invalid Connection ID. |
| 218 | 0x00DA | ER_USERNOTAUTH | Unable to perform Login as User has not been authenticated. |
| 219 | 0x00DB | ER_NOTAUTHUSER | User for authenticated token does not match login user. |
| 220 | 0x00DC | ER_INVALIDGRAFTID | Invalid Graft Id. |
| 221 | 0x00DD | ER_EXTPROLEN | External Process name exceeds 30 characters. |
| 222 | 0x00DE | ER_PROCCASE | The SAL returned ER_PROC. There is a problem with the procedure or the case may be invalid. |
| 223 | 0x00DF | ER_BUFFEROVERRUN | Internal SPO buffer too small. |
| 500 | 0x01F4 | ER_LI_NODEMON | Login daemon on server not responding |
| 501 | 0x01F5 | ER_LI_LOGGEDIN | Someone else is logged in with that name |
| 502 | 0x01F6 | ER_LI_MAXUSR | Max number of concurrent users reached |
| 503 | 0x01F7 | ER_LI_LCNEXPIRED | Staffware license has expired |
| 504 | 0x01F8 | ER_LI_DISABLED | Logins are currently disabled |
| 505 | 0x01F9 | ER_LI_NOBG | Background shutting / already shutdown. |
| 506 | 0x01FA | ER_LI_DOINGBKP | Staffware backup in progress |
| 507 | 0x01FB | ER_LI_DOINGRST | Staffware Restore in progress |
| 508 | 0x01FC | ER_LI_DOINGUPD | Staffware data upd (del node) in progress |
| 509 | 0x01FD | ER_LI_BADPASSWD | Password Required, given passwd invalid |
| 510 | 0x01FE | ER_LI_BADBGCREATE | Can't create perms chk file in BG |
| 511 | 0x01FF | ER_LI_BADFGCREATE | Can't create perms chk file in FG |
| 512 | 0x0200 | ER_LI_BADBGPERMS | User creating with bad perms in BG |
| 513 | 0x0201 | ER_LI_BADFGPERMS | User creating with bad perms in FG |

SPO Server Error Constants (Cont.)

| Dec | Hex | Constant | Description |
|-----|--------|----------------------|------------------------------------|
| 514 | 0x0202 | ER_LI_ORACLEERR | Oracle Initialization failed. |
| 515 | 0x0203 | ER_LI_INFORMIXERR | Informix initialization failed |
| 516 | 0x0204 | ER_LI_NOTWINDUSER | User is not registered for S4W |
| 517 | 0x0205 | ER_LI_BADNODE | Node name has been changed |
| 518 | 0x0206 | ER_LI_ONGOPASSWD | OnGo passwd different to Staffware |
| 519 | 0x0207 | ER_LI_NOTOOLHELP | Unable to load TOOLHELP.DLL |
| 520 | 0x0208 | ER_LI_CLIENT_TOO_OLD | Client is too old for the server |
| 521 | 0x0209 | ER_LI_SERVER_TOO_OLD | Server is too old for client |

SPO Client Error Constants

| Dec | Hex | Constant | Description |
|------|-------|---------------------|---|
| 2048 | 0x800 | E_Win32_Error | Win32 Error |
| 2049 | 0x801 | E_Invalid_Method | Invalid method for this list. |
| 2050 | 0x802 | E_Srv_Disconnect | SPO Server disconnected. |
| 2051 | 0x803 | E_WINSOCK | Winsock problem, see Client log. |
| 2052 | 0x804 | E_Invalid_Param | Invalid Parameter |
| 2053 | 0x805 | E_Not_Found | Item not found. |
| 2054 | 0x806 | E_No_Memory | Memory Allocation Error. |
| 2055 | 0x807 | E_Login_Fail | Logins failed on. |
| 2056 | 0x808 | E_DelEntUsr_Fail | Must be logged out of all nodes (see LoggedInNodes). |
| 2057 | 0x809 | E_No_NodeInfo | NodeInfo not found in SWEnterprise.NodeInfos. |
| 2058 | 0x80A | E_View_Err | View Errors Occurred. |
| 2059 | 0x80B | E_Bad_Key | Invalid key in array. |
| 2060 | 0x80C | E_Bad_Node | Node key not found. |
| 2061 | 0x80D | E_Passwd_Length | Password too long. |
| 2062 | 0x80E | E_LLDup | Item already exists in the list. |
| 2063 | 0x80F | E_TimeOut | Timeout - No response from SPO server. |
| 2064 | 0x810 | E_Item_Err | One of the items in the array returned an error. |
| 2065 | 0x811 | E_Seg_Not_Found | Message segment not found |
| 2066 | 0x812 | E_Not_Supported | This functionality is not supported. |
| 2067 | 0x813 | E_Not_On_This_Step | Property not supported on this step type. |
| 2069 | 0x815 | E_System_Err | Unrecoverable system error, see SPO Client log. |
| 2070 | 0x816 | E_SubProc_Method | Invalid method for Sub-procedure. |
| 2075 | 0x81B | E_Unrecoverable_Err | Unrecoverable error detected - Call Staffware - Key is invalid. |
| 2077 | 0x81D | E_Invalid_Key | Key is invalid. |
| 2078 | 0x81E | E_Not_Director | Not a Director node. |

SPO C++ Client Object Model Index

| Object | Page # | Object | Page # |
|---------------------------|---------------|------------------------|----------------|
| SWAccessUserRef..... | (9),10 | SWFRow..... | (11) |
| SWAction..... | (10) | SWFwdItem..... | (6) |
| SWActiveUser..... | (3) | SWGraftStep..... | (7) |
| SWAddressUserRef..... | (10) | SWGGroup..... | (4),5,16 |
| SWAdmin..... | 4,(12) | SWLabel..... | (11) |
| SWAttribute..... | (4),5,16 | SWList..... | (14) |
| SWAuditStep..... | (8) | SWListValidation..... | (4),16 |
| SWAutoFwd..... | (5) | SWLocList..... | (14) |
| SWAWorkQ..... | (12) | SWLog..... | (2) |
| SWCase..... | 6,(7, 8),9,16 | SWMarking..... | 6,(10) |
| SWCaseDataQParam..... | (6) | SWNode..... | 2,3,(4),5,9,16 |
| SWCaseDataQParamDef..... | (6) | SWNodeInfo..... | (2),3,4 |
| SWCasePredictQParam..... | (13) | SWNodeInfoEx..... | (3),4 |
| SWCIClient..... | (14) | SWOSUser..... | (4),16 |
| SWClientInfo..... | (3) | SWOutstandingItem..... | (7) |
| SWCommand..... | (10) | SWParticipation..... | 6,(12) |
| SWConditional..... | (10) | SWPermission..... | (10) |
| SWConfigInfo..... | (3) | SWPredictedItem..... | 4,9,(13) |
| SWCriteriaC..... | 14,(15) | SWPriority..... | (10) |
| SWCriteriaP..... | 14,(15) | SWProc..... | 4,5,(9),16 |
| SWCriteriaWI..... | 14,(15) | SWProcAudit..... | (9) |
| SWDate..... | (12) | SWProcGroup..... | (4) |
| SWDeadline..... | (10) | SWPublicField..... | (10) |
| SWDeadlineValue..... | (10) | SWQSessionInfo..... | (3) |
| SWDuration..... | 10,(13) | SWRedirection..... | 6,(12) |
| SWDurationValue..... | (13) | SWRole..... | (4),16 |
| SWDynamicSubProcStep..... | (7) | WSALInfo..... | (3) |
| SWEAIStep..... | (7) | WSortField..... | (14),15 |
| SWEnterprise..... | (2) | WStep..... | 9,(10),11,16 |
| SWEntUser..... | (2) | WSubProcStep..... | (7) |
| SWEventStep..... | (7) | WTable..... | (4),16 |
| SWExtWorkItem..... | (4) | WTableField..... | (4) |
| SWExtProcess..... | (7) | WThreadInfo..... | (3) |
| SWFConditional..... | (11) | WTransControlStep..... | (7) |
| SWField..... | (8),9 | WUser..... | 4,(5),16 |
| SWFont..... | (11) | WView..... | (14) |
| SWForm..... | 9,(11) | WWorkItem..... | (6),16 |
| SWFMarking..... | (11) | WWorkQ..... | 4,5,(6),16 |
| | | WXList..... | (14),15 |

Note - The page number in parentheses indicates the primary reference.