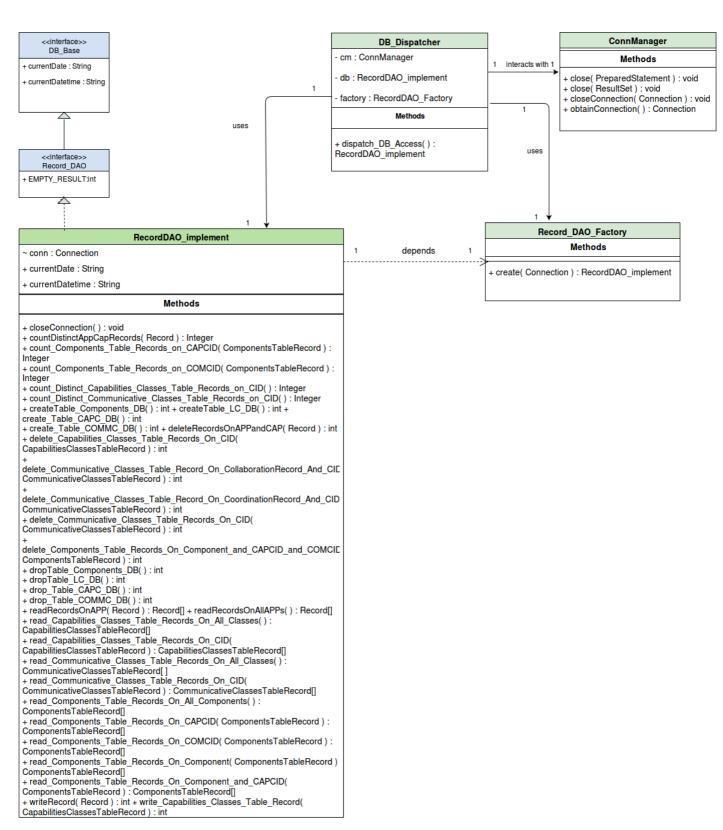
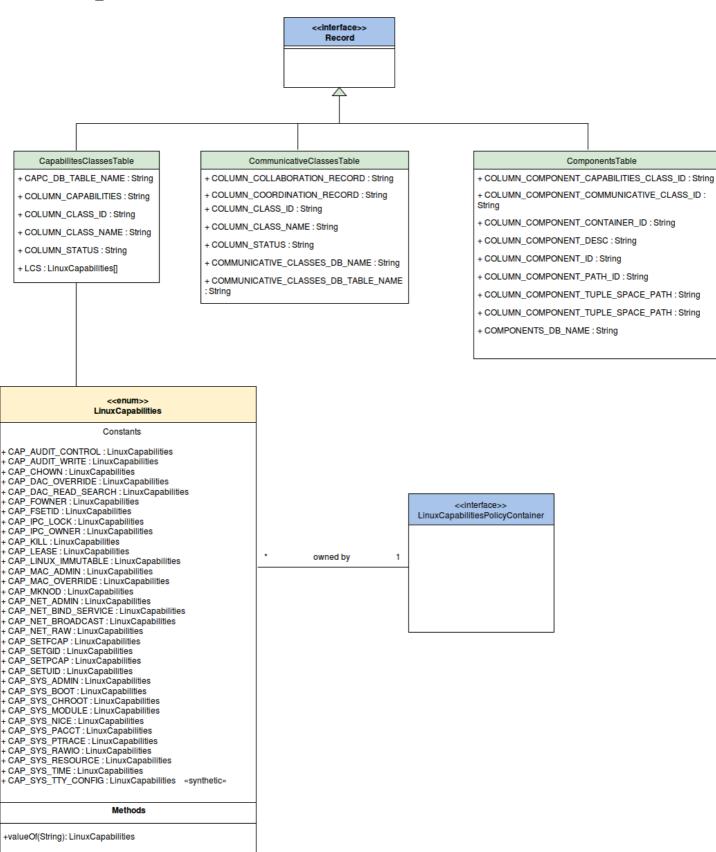
Lightweight Policy Machine for Linux (LPM) UML package

by Nimrata Singh

1. DAO_DB



+ values(): LinuxCapabilities[]





CapabilitesClassesTable

- COLUMN CAPABILITIES : String - COLUMN_CLASS_ID : String
- COLUMN_CLASS_NAME : String
- COLUMN_STATUS: String
- LCS : LinuxCapabilities[]
- UPDATE_COLUMN : String

Methods

- + add_CAPABILITY(String):void
 + check_if_COLUMN_CAPABILITIES_is_Empty():boolean
 + check_if_Capabilities_are_valid(String):int
 + check_if_Capabilities_are_valid(String):int
 + check_if_Capabilities_are_valid(String):int
 + check_if_Capabilities_are_valid(String):int
 + get_COLUMN_CAPABILITIES():String
 + get_COLUMN_CAPAS_ID():String
 + get_COLUMN_STATUS():String
 + get_COLUMN_STATUS():String
 + get_COLUMN_CAPABILITIES(String)
 + produce_CAPC_DB_DDL():String
 + produce_CAPC_DB_DDL():String
 + remove_CAPABILITIES(String):void
 + set_COLUMN_CAPABILITIES(String):void
 + set_COLUMN_CAPABILITIES(String):void
 + set_COLUMN_STATUS_Cating():void
 + set_COLUMN_STATUS_Cating():void

- + set_COLUMN_SIATUS_inactive(): void + set_LCS(LinuxCapabilities()): void + set_UPDATE_COLUMN_to_CAPABILITIES(): void + set_UPDATE_COLUMN_to_CLASS_ID(): void + set_UPDATE_COLUMN_to_CLASS_NAME(): void + set_UPDATE_COLUMN_to_STATUS(): void

CommunicativeClassesTableRecord

- COLUMN_COLLABORATION_RECORD : String
- COLUMN_COORDINATION_RECORD : String
- COLUMN_CLASS_ID : String
- COLUMN_CLASS_NAME : String
- COLUMN STATUS: String
- UPDATE COLUMN : String

Methods

- + check_if_COLUMN_COLLABORATION_RECORD_is_Empty():boolean + check_if_COLUMN_COORDINATION_RECORD_is_Empty():boolean + get_COLUMN_CLASS_ID():String + get_COLUMN_CLASS_NAME(): String

- String
 + get_COLUMN_COLLABORATION_RECORD(): String
 + get_COLUMN_CODENINATION_RECORD(): String
 + get_COLUMN_STATUS(): String
 + get_UPDATE_COLUMN(): String
 + set_COLUMN_CLASS_ID(String): int
 + set_COLUMN_CLASS_NAME(String): void
 + set_COLUMN_COLLABORATION_RECORD(String, String): int
 + set_COLUMN_COLLABORATION_RECORD(String, String): int
 + set_COLUMN_COORDINATION_RECORD(String, String): int
 + set_COLUMN_COORDINATION_RECORD(String): void
 + set_COLUMN_COORDINATION_RECORD(String): void
 + set_COLUMN_STATUS(String): void

- + set_COLUMN_STATUS(String):void
 + set_COLUMN_STATUS(String):void
 + set_COLUMN_STATUS_Active():void
 + set_COLUMN_STATUS_Active():void
 + set_UPDATE_COLUMN_To_CLASS_ID():void
 + set_UPDATE_COLUMN_To_COLLABORATION_RECORD():void
 + set_UPDATE_COLUMN_To_COLLABORATION_RECORD():void
 + set_UPDATE_COLUMN_To_COLLABORATION_RECORD():void
 + set_UPDATE_COLUMN_To_STATUS():void
- + set UPDATE COLUMN to STATUS():void

ComponentsTableRecord

- COLUMN_COMPONENT_CAPABILITIES_CLASS_ID : String
- COLUMN_COMPONENT_COMMUNICATIVE_CLASS_ID : String
- COLUMN_COMPONENT_CONTAINER_ID : String
- COLUMN_COMPONENT_DESC : String
- COLUMN_COMPONENT_ID : String
- COLUMN_COMPONENT_PATH_ID : String
- COLUMN_COMPONENT_TUPLE_SPACE_PATH: String
- COLUMN STATUS: String
- UPDATE COLUMN : String

Methods

- + get_COLUMN_COMPONENT_CAPABILITIES_CLASS_ID(): String + get_COLUMN_COMPONENT_COMMUNICATIVE_CLASS_ID(): String + get_COLUMN_COMPONENT_CONTAINER_ID(): String + get_COLUMN_COMPONENT_DESC(): String + get_COLUMN_COMPONENT_ID(): String + get_COLUMN_COMPONENT_ID(): String + get_COLUMN_COMPONENT_PATH_ID(): String

- + get_COLUMN_COMPONENT_PATH_ID(): String
 + get_COLUMN_COMPONENT_TUPLE_SPACE_PATH(): String
 + get_COLUMN_STATUS(): String + get_UPDATE_COLUMN(): String
 + set_COLUMN_COMPONENT_CAPABILITIES_CLASS_ID(String): void
 + set_COLUMN_COMPONENT_COMMUNICATIVE_CLASS_ID(String): void
 + set_COLUMN_COMPONENT_DESC_String): void
 + set_COLUMN_COMPONENT_DESC_String): void
 + set_COLUMN_COMPONENT_ID(String): void
 + set_COLUMN_COMPONENT_PATH_ID(String): void
 + set_COLUMN_COMPONENT_PATH_ID(String): void
 + set_COLUMN_STATUS(String): void
 + set_COLUMN_STATUS(String): void
 + set_COLUMN_STATUS(String): void
 + set_Status_Active(): void

- + set_COLUMN_STATUS(String):void + set_Status_Active():void + set_Status_Inactive():void + set_UPDATE_COLUMN_to_COMPONENT_CAPABILITIES_CLASS_ID():void + set_UPDATE_COLUMN_to_COMPONENT_COMMUNICATIVE_CLASS_ID():void + set_UPDATE_COLUMN_to_COMPONENT_PATH_ID():void
- + set_UPDATE_COLUMN_to_STATUS(): void

used by

RecordDAO_implement

by

- conn : Connection
- + currentDatetime : String

Methods

+ closeConnection(): void

- + closeConnection():void
 + countDistinctAppCapRecords(Record): Integer
 + count_Components_Table_Records_on_CAPCID(ComponentsTableRecord): Integer
 + count_Components_Table_Records_on_COMCID(ComponentsTableRecord): Integer
 + count_Distinct_Capabilities_Classes_Table_Records_on_CID(): Integer
 + count_Distinct_Capabilities_Classes_Table_Records_on_CID(): Integer
 + count_Distinct_Components_DB(): Int + create_Table_LC_DB(): Int + create_Table_CAPC_DB(): Int
 + create_Table_COMMC_DB(): Int + create_Table_LC_DB(): Int + create_Table_CAPC_DB(): Int
 + delete_Capabilities_Classes_Table_Records_On_CID(CapabilitiesClasses_TableRecord): Int
 + delete_Communicative_Classes_Table_Record_on_CollaborationRecord_And_CID(
 CommunicativeClasses_TableRecord): Int
 + delete_Communicative_Classes_Table_Record_On_CoordinationRecord_And_CID(
 CommunicativeClasses_TableRecord): Int
 + delete_Communicative_Classes_Table_Record_On_CollaborationRecord_And_CID(
 CommunicativeClasses_TableRecord): Int
 + delete_Communicative_Classes_Table_Record_On_COllaborationRecord_And_CID(
 CommunicativeClasses_TableRecord): Int
 + delete_Communicative_Classes_Table_Record_On_COllaborationRecord_And_CID(Components_Table_Record_On_Component_And_CAPCID_And_COMCID(Components_Table_Record): Int
 + delete_Components_Table_Record_On_Component_And_CAPCID_And_COMCID(Components_Table_Record): Int

Parser_Implement

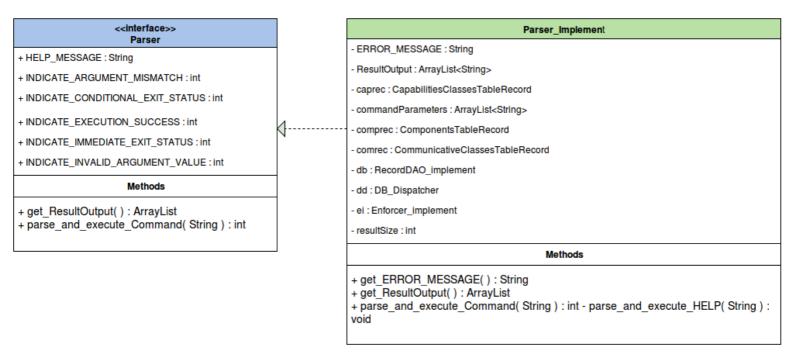
- ERROR MESSAGE : String - ResultOutput : ArrayList<String>
- caprec : CapabilitiesClassesTableRecord
- commandParameters : ArrayList<String>
- comprec : ComponentsTableRecord
- comrec : CommunicativeClassesTableRecord
- db:RecordDAO implement
- dd:DB Dispatche

resultSize : int

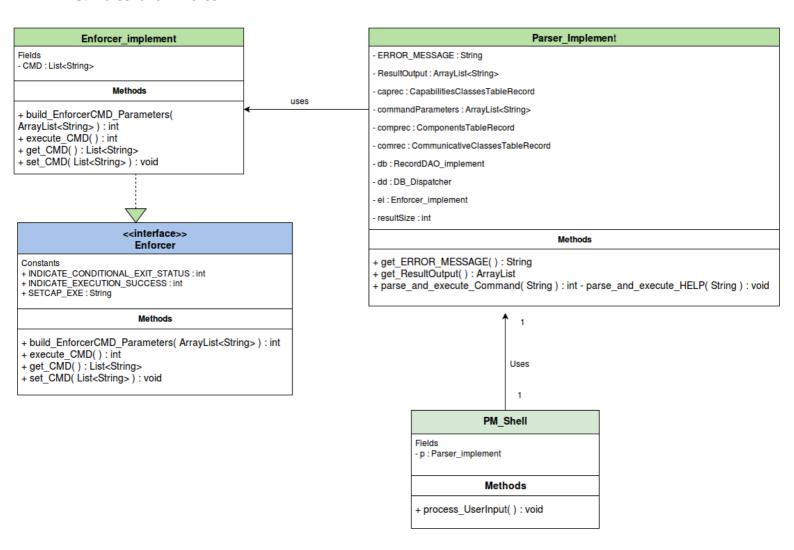
Methods

- + get_ERROR_MESSAGE(): String
- + get_ResultOutput(): ArrayList + parse_and_execute_Command(String): int
- + parse_and_execute_HELP(String) : void

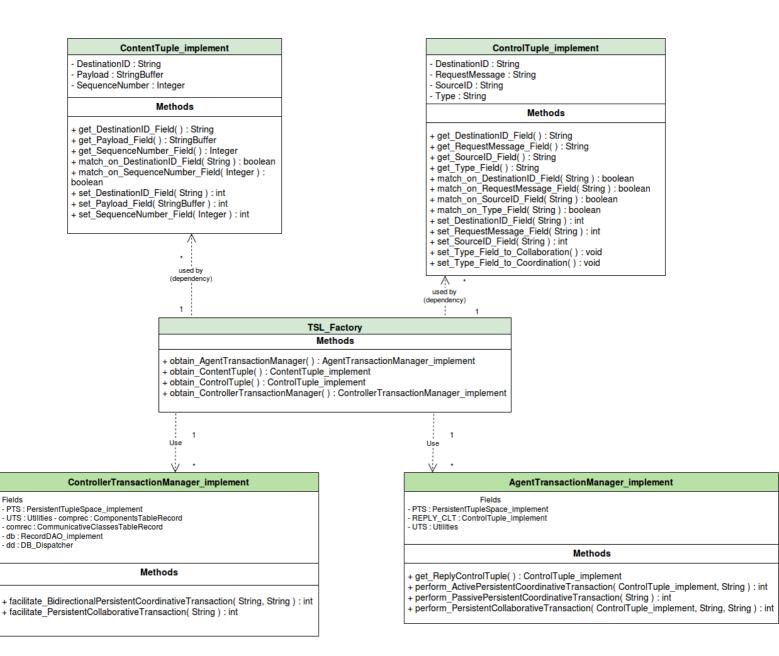
4. Parser



5. Parser and Enforcer



6. TSL_Factory



<<interface>> TransactionManager

Constants

- Constants

 + AGENT_SLEEP_INTERVAL:Int

 + CONTROLLER_SLEEP_INTERVAL:Int

 + INDICATE_APPEND_CONTENT_TUPLE_FAILED_STATUS:Int

 + INDICATE_APPEND_CONTROL_TUPLE_FAILED_STATUS:Int

 + INDICATE_CONDITIONAL_EXIT_STATUS:Int

 + INDICATE_CONTENT_TUPLE_NOT_PRESENT_STATUS:Int

 + INDICATE_CONTROL_TUPLE_NOT_PRESENT_STATUS:Int

 + INDICATE_CREATE_TUPLE_SPACE_FAILED_STATUS:Int

 + INDICATE_DELETE_TUPLE_SPACE_FAILED_STATUS:Int

 + INDICATE_EXCEPTION_OCCURRENCE_STATUS:Int

 + INDICATE_FIELDS_VALIDATION_FAILED_STATUS:Int

 + INDICATE_NOT_COLLABORATION_TYPE_FIELD_STATUS:Int

 + INDICATE_NOT_COORDINATION_TYPE_FIELD_STATUS:Int

 + INDICATE_NOT_COORDINATION_TYPE_FIELD_STATUS:Int

 + INDICATE_NOT_COORDINATION_TYPE_FIELD_STATUS:Int

 + INDICATE_NOT_COORDINATION_TYPE_FIELD_STATUS:Int

- + INDICATE_NOI_COORDINATION_TYPE_HELD_STATUS: int
 + INDICATE_OPERATION_SUCCESS: int
 + INDICATE_READ_CONTROL_TUPLE_FAILED_STATUS: int
 + INDICATE_REPLICA_ASSEMBLY_FAILED_STATUS: int
 + INDICATE_REPLICA_FRAGMENTATION_FAILED_STATUS: int
 + INDICATE_TAKE_CONTENT_TUPLE_FAILED_STATUS: int
 + INDICATE_TAKE_CONTROL_TUPLE_FAILED_STATUS: int
 + SHORT_SLEEP_INTERVAL: int



<<interface>> AgentTransactionManager

Methods

- + get_ReplyControlTuple(): ControlTuple_implement
- + perform ActivePersistentCoordinativeTransaction(ControlTuple_implement, String
- +perform_PassivePersistentCoordinativeTransaction(String): int
- + perform_PersistentCollaborativeTransaction(ControlTuple_implement, String, String): int



AgentTransactionManager_implement

Fields

- PTS : PersistentTupleSpace_implement
- REPLY_CLT: ControlTuple_implement
- UTS : Utilities

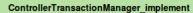
Methods

- + get_ReplyControlTuple(): ControlTuple_implement
- + perform_ActivePersistentCoordinativeTransaction(ControlTuple_implement, String):
- + perform_PassivePersistentCoordinativeTransaction(String) : int
- + perform_PersistentCollaborativeTransaction(ControlTuple_implement, String, String)

<<interface>> ControllerTransactionManager

Methods

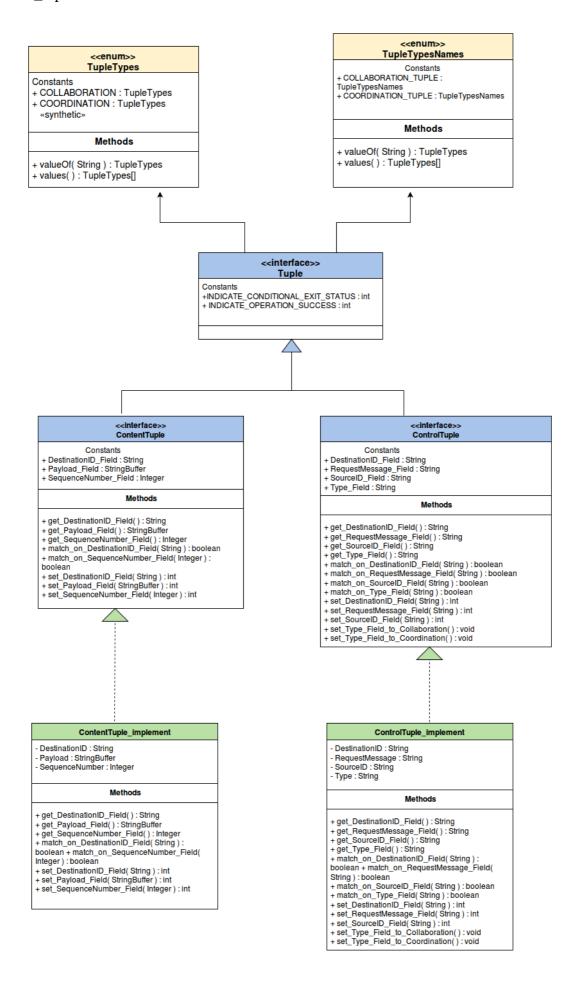
- + facilitate_BidirectionalPersistentCoordinativeTransaction(String, String):int
- + facilitate_PersistentCollaborativeTransaction(String): int



 \triangle

Fields

- PTS: PersistentTupleSpace_implement
- UTS : Utilities comprec : ComponentsTableRecord
- comrec : CommunicativeClassesTableRecord
- db: RecordDAO implement dd: DB_Dispatcher
- Methods
- + facilitate_BidirectionalPersistentCoordinativeTransaction(String, String): int
- + facilitate_PersistentCollaborativeTransaction(String): int



9. TSLib_tuplespace

<<interface>> **TupleSpace**

Constants

- + ContentTupleName : String
- + ControlTupleName : String
- + INDICATE_CONDITIONAL_EXIT_STATUS : int
- + INDICATE_CONTENT_TUPLE_EXISTS_STATUS: int + INDICATE_CONTROL_TUPLE_EXISTS_STATUS: int
- + INDICATE_EXCEPTION_OCCURRENCE_STATUS: int + INDICATE_OPERATION_SUCCESS: int + INDICATE_TUPLE_IS_NULL_STATUS: int
- +INDICATE_TUPLE_SPACE_DOES_NOT_EXIST_STATUS:int + INDICATE_TUPLE_SPACE_EXISTS_STATUS:int
- + INDICATE_TUPLE_SPACE_NOT_EMPTY_STATUS: int
- + TupleSpaceName : String

<<interface>> PersistentTupleSpace

Methods

- + append_ContentTuple(ContentTuple_implement, String):int
- + append_ControlTuple(ControlTuple_implement, String): int + count_ContentTuples(String): int
- + count_ControlTuples(String) : int
- + count_Tuples(String) : int + create_TupleSpace(String) : int
- + delete_TupleSpace(String) : int + read_ContentTuple(String) : ContentTuple_implement
- + read_ControlTuple(`String'): ControlTuple_implement
- + take_ContentTuple(String) : ContentTuple_implement
- + take_ControlTuple(String) : ControlTuple_implement

<<interface>> VolatileTupleSpace

Methods

- + append_ContentTuple(ContentTuple_implement) : int
- + append_ControlTuple(ControlTuple_implement): int
- + count_ContentTuples(): int + count_ControlTuples(): int + count_Tuples(): int
- + create_TupleSpace():int + delete_TupleSpace():int

- + take_ControlTuple() : ControlTuple_implement

PersistentTupleSpace_implement

Methods

- + append_ContentTuple(ContentTuple_implement, String): int
- + append_ControlTuple(ControlTuple_implement, String): int
- + count_ContentTuples(String) : int
- + count_ControlTuples(`String): int
- + count_Tuples(String) : int
- + create_TupleSpace(String):int
- + delete_TupleSpace(String):int
- + read_ContentTuple(String) : ContentTuple_implement
- + read_ControlTuple(String): ControlTuple_implement
- + take_ContentTuple(String) : ContentTuple_implement
- + take_ControlTuple(String): ControlTuple_implement

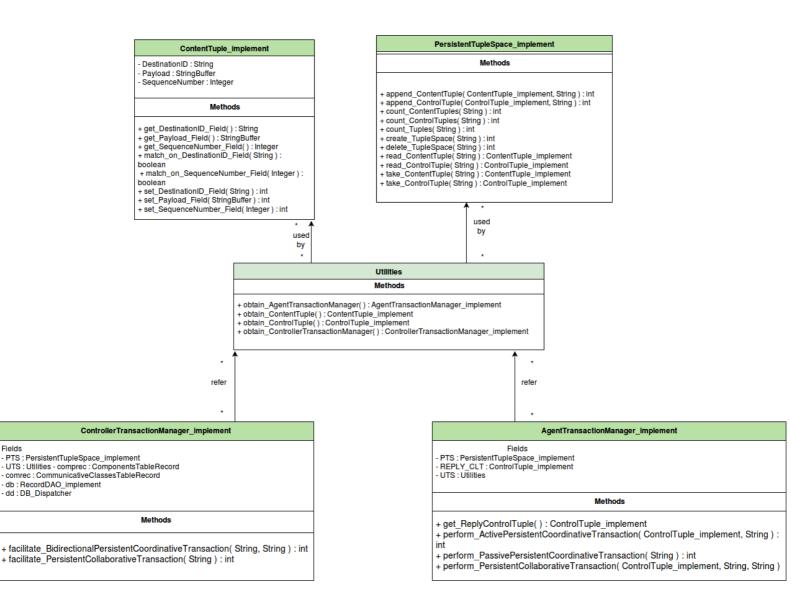
VolatileTupleSpace_implement

Methods

- + append_ContentTuple(ContentTuple_implement, String): int
- + append_ControlTuple(ControlTuple_implement, String): int + count_ContentTuples(String): int
- + count_ControlTuples(`String): int
- + count_Tuples(String) : int
- + create_TupleSpace(String):int
- + delete_TupleSpace(String):int
- + read_ContentTuple(String) : ContentTuple_implement
- + read_ControlTuple(`String`): ControlTuple_implement
- + take_ContentTuple(String) : ContentTuple_implement
- + take_ControlTuple(`String`): ControlTuple_implement

10. Utilities

Fields



<<interface>> ControllerTransactionManager

- + facilitate_BidirectionalPersistentCoordinativeTransaction(String, String): int
- + facilitate_PersistentCollaborativeTransaction(String): int

<<interface>> AgentTransactionManager

- + perform_ActivePersistentCoordinativeTransaction(ControlTuple_implement, String): int
- + perform_PassivePersistentCoordinativeTransaction(String) : int
- + perform_PersistentCollaborativeTransaction(ControlTuple_implement, String, String): int
- + get_ReplyControlTuple() : ControlTuple_implement