Robotics Service Bus - Tasks #243

Tasks # 240 (Resolved): Refactor C++ Implementation to 2011-04-13 Domain Model

Improved converter selection

04/13/2011 06:27 PM - J. Wienke

Status:	Resolved		**Start date:**	04/13/2011
Priority:	Normal		**Due date:**	
Assignee:	J. Moringen		**% Done:**	100%
Category:	C++		**Estimated time:**	2.00 hours
Target version:				

Description

Note

It has been decided that the implementation of this proposal will be delayed until
1. Representation and semantics of types in the RSB context is better understood
2. The current design actually proves insufficient

Tasks

- Make converter repository globally accessible.
  - no singleton but method for global repository in converter namespace
- Create DeserializationSelectionStrategy interface
- Create SerializationSelectionStrategy interface
- Implement WireSchemaStrategy -> DeserializationSelectionStrategy: selects converters based on wire schema (resembles current behavior)
- Implement DataTypeStrategy -> SerializationSelectionStrategy: selects converters based on RTTI data type (resembles current behavior)

[De]serializationSelectionStrategy:

Rationale:
Selection of converters may depend on
- use cases of the framework
- the transport::connector
- the wire schema

Responsibility:
Use-case dependent selection of converters.

Associated revisions

Revision 5368e380 - 05/04/2011 03:02 AM - J. Moringen

Added converter configuration to ParticipantConfig::Transport

refs #243

- src/rsb/ParticipantConfig.{h,cpp}: added data member

    ParticipantConfig::Transport::converters;

    ParticipantConfig::Transport is now responsible for handling its

    options including the new converter configuration; changed printing

    of ParticipantConfig::Transport to use rsc::runtime::Printable

Revision 590a2e58 - 05/04/2011 03:16 AM - J. Moringen

Added unit test for parsing of converter configurations

refs #243

- test/rsb.conf-for-smoke-test: added converter configuration
- test/rsb.conf-semantic-errors-6: new file; test for handling of

    malformed converter configuration

- test/rsb/ParticipantConfigTest.cpp: check expected converter configuration and process test/rsb.conf-semantic-errors-6 in test case testFromFile

Revision 5ae96780 - 05/04/2011 03:20 AM - J. Moringen

Made inprocess connectors issue a warning when they receive a converter configuration

refs #243

- src/rsb/transport/inprocess/InConnector.cpp: issue a warning when constructor arguments include a converter configuration since it makes no sense for inprocess connectors
- src/rsb/transport/inprocess/OutConnector.cpp: likewise

Revision bbe3e351 - 05/04/2011 04:14 AM - J. Moringen

Additional lookup methods in src/rsb/converter/Repository.h

refs #243

- src/rsb/converter/Repository.h: added methods for looking up multiple converters by their common WireType or common DataType

Revision 79fc6166 - 05/04/2011 04:18 AM - J. Moringen

Added base classes for converter selection in connector classes

refs #243

- src/CMakeLists.txt: added files src/rsb/transport/ConverterSelecting{,In,Out}Connector.h
- src/rsb/transport/ConverterSelectingConnector.h: new file; base class ConverterSelectingConnector which handles converter caching and lookup initiating
- src/rsb/transport/ConverterSelectingInConnector.h: new file; base class ConverterSelectingInConnector which handles converter lookup and disambiguation based on WireSchema
- src/rsb/transport/ConverterSelectingOutConnector.h: new file; base class ConverterSelectingOutConnector which handles converter lookup and disambiguation based on DataType

Revision 8b90f776 - 05/04/2011 04:29 AM - J. Moringen

Adapted spread connectors and rsb::Factory to new converter configuration mechanism

fixes #243

- src/rsb/Factory.{h,cpp}: if applicable, take converter configuration from transport configuration and inject into connector construction properties
- src/rsb/transport/spread/InConnector.{h,cpp}: added base class ConverterSelectingInConnector; pass this to ReceiverTask :(
- src/rsb/transport/spread/OutConnector.{h,cpp}: added base class ConverterSelectingOutConnector
- src/rsb/transport/spread/ReceiverTask.{h,cpp}: use pointer to InConnector to obtain Converters
- src/rsb/transport/spread/SpreadConnector.{h,cpp}: removed converter repository since the connectors manage converters themselves now

History

#1 - 05/03/2011 01:47 PM - J. Wienke

Now that we have a ParticipantConfig, why not add the desired set of converters to this configuration. Rationale: ParticipantConfig is the only user-level class that goes down to the transport layer. Hence, it would form a coherent extension to only specify settings for this level in this class.

Jan?

#2 - 05/03/2011 10:35 PM - J. Moringen

- Status changed from New to In Progress

- Assignee changed from S. Wrede to J. Moringen

#3 - 05/04/2011 04:30 AM - J. Moringen

- Status changed from In Progress to Resolved

- % Done changed from 0 to 100

Applied in changeset r802.