## **Robotics Service Bus**

|  | 2021-12 |        |       |      | 2022-1 |   |   |   |   | 2022-2 |   |   |   | 2022-3 |    |    |    |    | 2022-4 |    |    |    | 2022-5 |    |    |  |
|--|---------|--------|-------|------|--------|---|---|---|---|--------|---|---|---|--------|----|----|----|----|--------|----|----|----|--------|----|----|--|
|  |         | 9 50   |       | 52   |        | 2 | 3 | 4 | 5 | 6      | 7 | 8 | 9 | 10     | 11 | 12 | 13 | 14 | 15     | 16 | 17 | 18 | 19     | 20 | 21 |  |
| Robotics Service Bus                               | R       | obotio | s Ser | vice | Bus    |   | • | • |   | •      | • | • | • | •      | •  |    | •  | •  | •      |    |    |    |        |    |    |  |
| Add Conditional Parsing for User Data in ()        |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| State model/checking for modifications on ()       |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Unify exception handling                           |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Specify barricade strategy for passed arguments    |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Support QoS in Spread connector                    |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Generate and export API Documentation              |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Timestamp compatibilty to ROS and YARP             |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Use RST IDL Type for Protocol Buffer Tutorials     |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Test / Reconsider Distributed Logging              |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Check usage and reduce number of dynamic ()        |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Consider introduction of lock-free queues          |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Hierarchical Event Fusion                          |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Ideas for Recording Data on a Resource-Constrained | ()      |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| rsb-java does not shutdown properly if a ()        |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Create an in process example                       |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Allow regex-based converter selection for ()       |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Move Figures to Top-Level Folder                   |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Improve documentation for debian package ()        |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| VERSION_SUFFIX should be configurable              |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Socket transport in Python silently drops ()       |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Matlab Installation Doc                            |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Better handling of dependencies without pc ()      |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| rsb matlab interface not fully working with ()     |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Encode version in library name                     |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| pkg-config test fails in integration test          |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Support common installations (to simlify ()        |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |
| Allow (optional) parallel method calls             |         |        |       |      |        |   |   |   |   |        |   |   |   |        |    |    |    |    |        |    |    |    |        |    |    |  |

05/13/2024 1/6

added WireSchemaFilter + FilterCombination
Compilation of RSB Tools fails on MacOS 10.10
Setters for TimesyncStrategy options
Uniformed path for System-Config in Windows
Robotics Service Bus - rsb-0.18

Introspectable Configuration Options (...)

Introspectable Configuration Options (...)

Introspectable Configuration Options (...)

C++ Spread: Transport-level errors are (...)

**Revise Converter Selection Mechanism** 

**Move Spread Transport into separate (...)** 

**Document Connector Extension Point** 

Converters for Fundamental Types are (...)

Data handlers cannot deal with unexpected (...)

Implement ErrorHandler subsystem in (...)

Add Transport class [C++]

Implement error handling subsystem

Implement error handling subsystem

Specify disconnect protocol for socket (...)

Allow checking if handlers are registered (...)

Document programmatic configuration (...)

Really support wire-types other than (...)

Use better wire-type for binary blobs

Add a CMake macro for RSB plugins

Document plugin mechanism

Document Java plugin mechanism

**Document Python plugin mechanism** 

Document Common Lisp plugin mechanism

Python socket transport swallows missing (...)

Document receiving and processing using (...)

Document writing converters in manual

Describe Recommend Way of using Domain (...)

Allow easy debugging of RSB configuration

Implement configuration inspector (...)

rsb-0.18 30%

In Progress 80%

In Progress 50%

In Progress 50%

New 20%

New 100%

In Progress 60%

New 0%

In Progress 80%

New 0%

New 0%

In Progress 50%

New 0%

In Progress 30%

In Progress 50%

Feedback 0%

In Progress 20%

New 0%

New 0%

Feedback 0%

In Progress 25%

New 0%

New 0%

New 0%

New 0%

New 0%

In Progress 30%

New 0%

In Progress 90%

In Progress 50%

05/13/2024 2/6

| Improve termination of python processes             | New 0%          |
|---|-----------------|
| Provide better interface for parameterless ()       | New 0%          |
| Transports returned by ParticipantConfig::getTransp | New 0%)         |
| Improve event type handling and converter ()        | New 0%          |
| Prevent termination of BusServer when ()            | New 0%          |
| setup.py should specify the protobuf ()             | New 50%         |
| Configurator can't check if connector ()            | New 0%          |
| Export default plugin folder                        | Feedback 50%    |
| Highlight interesting things in logger/bag-cat ()   | In Progress 30% |
| Add commandline options to exclude scopes ()        | In Progress 60% |
| Add intermediate results to request-reply ()        | In Progress 10% |
| Finalize introspection implementation               | New 16%         |
| Provide introspection functionality ()              | Feedback 0%     |
| Enable introspection senders by ()                  | In Progress 60% |
| Rebuild introspection database ()                   | In Progress 50% |
| Reference documentation in error reports            | In Progress 70% |
| Reference documentation in conditions               | In Progress 70% |
| Call tool does not complain if it can't ()          | Feedback 30%    |
| Document void -> void RPC in the troubleshooting (  |                 |
| Documentation should include an example ()          | New 0%          |
| Extend documentation on using and writing ()        | New 0%          |
| Document converter disambiguation (programmatic     | New 0%          |
| Listener state changes are not synchronized, ()     | New 0%          |
| Handling of missing/not-encodable Hostname ()       | New 0%          |
| Allow constructing scopes from a list ()            | New 0%          |
| Provide simple API to programmatically ()           | Feedback 70%    |
| Specification of preferred converters ()            | New 0%          |
| Remove rsb.wire-schema property from ()             | New 0%          |
| Visual indication when rsb-logger* (or ()           | New 0%          |
| Use sphinx.ext.ifconfig for version-dependent ()    | New 0%          |
| Socket Server Deadlock                              | New 0%          |
| Wait for confirmation when joining Spread ()        | In Progress 60% |
| Wait for confirmation when joining ()               | New 0%          |
| Wait for confirmation when joining ()               | New 0%          |

05/13/2024 3/6

**Unexpected Exception about introspection** Graph for introspection web interface Improve frequency calculation Scope-specific max-depth overrides for (...) Add average rate field to logger styles Unable to play large tide file when (...) In addition to DISPLAY NAME, the introspection (... CL tools sometimes fail to connect to (...) Release version 0.18 **Introspection Bugs** Robotics Service Bus - rsb-1.0 **Implement Distributed Namingservice Pull-style Event Receiving Pull-style Event Receiving Support URIs for Participant Configuration Support URIs for Participant Configuration Interaction with Foreign Nameservice** Handling of sendTime in Informer Multi-Connector Setups lead to duplicate (...) Logo Design Support for RPC clients which do not (...) Refactor rsb.transport.converter Module Language-specific configuration Evaluate whether we want to move to (...) Name resolution does not work with absolute (...) Scope renaming Specify scope renaming Scope renaming (C++) Scope renaming [Java] Scope renaming [Python] Scope renaming [Common Lisp] Make causes semantically identifiable Replace ProtoBuf Serialization of RSB (...) "auto" server mode is inefficient

New 0% In Progress 50% New 0% New 0% New 0% New 0% In Progress 0% New 0% In Progress 90% New 0% rsb-1.0 16% Feedback 0% New 0% New 0% New 0% New 0% In Progress 50% New 0% In Progress 20% Feedback 70% New 0% In Progress 30% Feedback 0% New 0% Feedback 0% New 0% In Progress 20% New 0%

05/13/2024 4/6

Implement communication with congestion (...) Test examples as part of unit tests Test examples as part of unit tests Participant-wise configuration Sphinx-based documentation for rsb-matlab Use Iparallel futures if possible Common Lisp logger stumbles upon wrong (...) Add data type to all participants, especially (...) Separate Converter selection strategies (...) "Auto" mode of the socket transport (...) Evaluate Boost.Exception for dealing (...) Deliver binaries with pre-warmed PCL (...) Change and/or enforce naming conventions (...) Implement introspection event receiver (...) Implement introspection event receiver (...) Implement introspection event receiver (...) Include environment variables in introspection (...) Reader does not work with multi-connector (...) **Support URIs for Participant Configuration** merge URI spec into ParticipantConfig allow shallow data copy for converter (...) Qt-based graphical event logger Check that RemoteServer instances delete (...) Provide Contrib Library or Folder for (...) Consider using git subtrees instead (...) Symlinks/Aliases for Scopes RSB XML Support Robotics Service Bus - rsb-0.18 Add a plugin which registers the (...) **RSBag** Robotics Service Bus - rsb-0.18 Which timestamps should be set (...) Newer tool versions should be able (...) Computation of channel format is (...)

In Progress 10% New 0% New 0% New 0% New 0% In Progress 30% New 0% In Progress 80% Feedback 80% New 0% In Progress 80% New 0% New 0% New 0% Feedback 0% RSB XML Support rsb-0.18 30% Feedback 50% **RSBag** rsb-0.18 30% In Progress 30% In Progress 50% New 0%

05/13/2024 5/6

Extend Elan backend Support proper temporal intervals (...) Support linked media files (...) Allow limiting recording time bag record: Make status output (...) Minimal support for ROSbag file (...) Support explicit backend selection Store start and end timestamp of (...) bag record: Start timestamp for (...) Allow to deduplicate participants (...) Bag as bus server crashes in case (...) Events with same timestamps are (...) Flush indices based on combined (...) show-progress online help doesn't (...) Allow to specify output stream (...) Robotics Service Bus - rsb-1.0 Verify Elan backend Use data type definitions stored (...) Rename bag-merge -> bag-transform Support C++ as a client language Support Java as a client language Document C++ client API **Document Java client API** Add TYPE block to TIDELog backend Add META block to TIDELog backend

In Progress 20% New 0% In Progress 40% New 0% In Progress 50% In Progress 60% New 0% New 0% New 0% New 0% New 0% In Progress 20% New 0% New 0% New 0% rsb-1.0 16% New 0% In Progress 30% In Progress 60% In Progress 50% New 0% New 0% New 0% In Progress 20% In Progress 20%

05/13/2024 6/6