

## Robotics Service Bus - Tasks #176

### Add Metadata Support to Event Notifications

01/17/2011 02:35 PM - S. Wrede

<b>Status:</b>	Resolved	<b>Start date:</b>	01/17/2011
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	J. Wienke	<b>% Done:</b>	100%
<b>Category:</b>		<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	0.3		
<b>Description</b>			
Atcuallly, we need to agree what information is mandatory metdata. Examples include:			
<ul style="list-style-type: none"><li>- Sender and receiver URIs (once we defined the URI scheme)</li><li>- Timing</li><li>- TTL</li></ul>			
I'd like to represent this information explicitly in the IDL and a metadata domain object.			

#### Associated revisions

##### Revision 00ffc447 - 05/27/2011 06:25 PM - J. Wienke

add a dedicated meta-data object

refs #176

##### Revision 2ff7dd1f - 05/28/2011 09:19 PM - J. Moringen

Added MetData protocol buffer descriptor in rsbprotocol/MetaData.proto

refs #176

This change should be backwards-compatible.

- CMakeLists.txt: added file rsbprotocol/MetaData.proto
- rsbprotocol/MetaData.proto: new file MetaData protocol buffer descriptor; this implements the notification side of <https://code.cor-lab.de/projects/rsb/wiki/Events#Meta-Data>
- rsbprotocol/Notification.proto: import MetaData.proto; added meta\_data field of type MetaData

##### Revision 7f3e6b66 - 05/28/2011 09:49 PM - J. Moringen

Find protocol buffer descriptors using wildcard in build.xml

refs #176

- build.xml: changed protocol target to use apply with wildcard filesets instead of individual arg elements within exec

##### Revision 32be4265 - 05/28/2011 11:22 PM - J. Moringen

Made receiver side timestamps optional in rsbprotocol/MetaData.proto

refs #176

- rsbprotocol/MetaData.proto: made receive\_time and deliver\_time optional; there will be no need to transmit these over the network in most scenarios

**Revision 21cc2729 - 05/31/2011 02:40 AM - J. Moringen**

Fixed MetaData unit test in test/rsb/MetaDataTest.cpp

refs #176

- test/rsb/MetaDataTest.cpp: in test case testComparison do not expect two fresh MetaData objects to be identical since each of them generates a random sender id

**Revision 1289b11d - 05/31/2011 02:52 AM - J. Moringen**

Store sender ID compactly in src/rsb/transport/spread/OutConnector.cpp

refs #176

- src/rsb/transport/spread/OutConnector.cpp: store sender UUID as an array of 16 bytes instead of as its string representation

**Revision b4d9e008 - 05/31/2011 03:25 AM - J. Moringen**

Extended explanatory comment in rsbprotocol/MetaData.proto

refs #176

- rsbprotocol/MetaData.proto: mention that the sender's UUID should be stored in the sender\_id field as an array of 16 bytes (as opposed to the string representation of the UUID)

**Revision 4e2d1f6a - 05/31/2011 09:37 AM - J. Wienke**

Ensure that connectors provide the required meta data

refs #176

**Revision f78100ad - 05/31/2011 10:50 AM - J. Wienke**

update protocol and meta data representation in C++ according to ticket

fixes #337 #339

refs #176

**Revision a4e400b1 - 05/31/2011 10:50 AM - J. Wienke**

update protocol and meta data representation in C++ according to ticket

fixes #337 #339

refs #176

**Revision 450f5716 - 06/01/2011 08:50 AM - J. Moringen**

Added Participant base class in rsb/\_\_init\_\_.py

refs #176 (since we need a sender id)

- rsb/\_\_init\_\_.py: added class Participant; Informer and Listener are now derived from Participant

**Revision ebe0fed5 - 06/01/2011 09:25 AM - J. Moringen**

Added MetaData class in rsb/\_\_init\_\_.py

refs #176

- rsb/\_\_init\_\_.py: added MetaData class; added MetaData class to Event class

**Revision 1274d85f - 06/01/2011 09:43 AM - J. Moringen**

Converted to new notification protocol buffer descriptors

refs #176

- rsb/\_\_init\_\_.py: store participant id as sender id in Informer.publishEvent
- rsb/util.py: added utility functions timeToUnixMicroseconds and unixMicrosecondsToTime
- rsb/rsbspread/\_\_init\_\_.py: use Protocol protocol buffer instead of Notification protocol buffer; adapted things accordingly
- test/rsbspreadtest.py: added sender ids to created event objects

**Revision 780f5dc9 - 06/05/2011 09:00 AM - J. Moringen**

Fixed compilation of src/rsb/MetaData.java

refs #176

- src/rsb/MetaData.java: added member variables userTimes and userInfos; fixed missing method bodies and return values; added toString method

**Revision 1c1380d4 - 06/05/2011 10:48 AM - J. Moringen**

Improved meta-data client interface in rsb/\_\_init\_\_.py

refs #176

- rsb/\_\_init\_\_.py: accept user-times and user-infos as keyword parameters in Event constructor; accept user-times and user-infos as keyword parameters in Informer.publishData method

**Revision 38e7f4b4 - 06/05/2011 10:23 PM - J. Wienke**

Finalize MetaData class for Java

refs #176

**Revision 873e3d05 - 06/06/2011 10:40 AM - J. Wienke**

introduce a Participant baseclass for informer and listener to have an Id for each participant

refs #176

**Revision eb93c819 - 06/06/2011 02:14 PM - J. Wienke**

Handle MetaData for events

refs #176

**Revision abfea2cb - 06/06/2011 05:20 PM - J. Wienke**

fixed and tested metadata support

fixes #176

**Revision 5c8f9694 - 06/06/2011 05:46 PM - J. Wienke**

fix sending and receiving of user times across spread

refs #176

**Revision a1bb6f13 - 06/06/2011 06:37 PM - J. Moringen**

Use System.currentTimeMillis instead of System.nanoTime

fixes #176

- src/rsb/MetaData.java: Use System.currentTimeMillis instead of System.nanoTime which does not yield absolute time measurements
- test/rsb/MetaDataTest.java: likewise
- test/rsb/eventprocessing/EventProcessorTest.java: likewise
- test/rsb/transport/spread/SpreadPortTest.java: likewise

## History

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**#1 - 02/28/2011 12:13 PM - S. Wrede**

- *Category set to Protocol*

**#2 - 02/28/2011 03:13 PM - J. Wienke**

I agree with the explicit representation. The variable metadata collection may still be useful.

**#3 - 05/26/2011 03:15 PM - J. Wienke**

- *Project changed from RSB XCF Adapter to Robotics Service Bus*
- *Parent task deleted (#173)*

**#4 - 05/26/2011 03:16 PM - J. Wienke**

- *Target version set to 0.3*

**#5 - 05/27/2011 03:21 PM - J. Wienke**

- *Status changed from New to In Progress*
- *Assignee set to J. Wienke*

I will integrate it for Python, Java and C++

**#6 - 06/05/2011 12:49 PM - J. Moringen**

- *% Done changed from 0 to 70*

**#7 - 06/06/2011 05:30 PM - J. Wienke**

- *Status changed from In Progress to Resolved*

- *% Done changed from 70 to 100*

Applied in changeset r1398.