

## Robotics Service Bus - Bug #375

### Fragmentation: Do not transmit full Event Meta-data in all Notifications

06/20/2011 01:47 AM - J. Moringen

<b>Status:</b>	Resolved	<b>Start date:</b>	06/20/2011
<b>Priority:</b>	High	<b>Due date:</b>	
<b>Assignee:</b>	J. Moringen	<b>% Done:</b>	100%
<b>Category:</b>	Protocol	<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	rsb-0.7		
<b>Description</b>			
Problem			
Currently, multiple identical notifications (except for Notification.data_part and Notification.data) are sent, each containing the full set of meta-data.			
Implementation			
<ul style="list-style-type: none"><li>- Specify new behavior [[SpreadProtocol here]] □</li><li>- Make fields of Notification descriptor optional □</li><li>- Implement<ul style="list-style-type: none"><li>- C++ □</li><li>- Python □</li><li>- Java □</li><li>- Common Lisp □</li></ul></li></ul>			
<b>Related issues:</b>			
Related to RSBag - Tasks # 509: Create a protocol buffer message for serializ...		<b>Resolved</b>	<b>08/18/2011 08/22/2011</b>
Related to RSBag - Tasks # 520: Serialize RSB events including meta-data		<b>Resolved</b>	<b>08/23/2011</b>
Related to RSBag - Tasks # 684: Adapt to new event serialization IDL		<b>Resolved</b>	<b>10/27/2011</b>

#### Associated revisions

##### Revision 41188f30 - 10/27/2011 09:46 PM - J. Moringen

Improved documentation comments in rsb/protocol/\*.proto

refs #375

- rsb/protocol/FragmentedNotification.proto: added link to explanation of Spread-specific event <-> notification conversion
- rsb/protocol/Notification.proto.in: removed Spread-specific comments

##### Revision 3bed297a - 10/28/2011 03:07 AM - J. Moringen

Adapted event fragmentation in Spread transport to protocol changes

refs #375

- src/transport/spread/conditions.lisp (fragment-problem): adapted to changed names in rsb.protocol
  - (invalid-fragment-id): likewise
  - (duplicate-fragment): likewise
  - (fragmentation-problem): new condition; signaled when fragmentation-related problem are encountered
  - (insufficient-room): new condition; signaled when fragmentation fails due to insufficient room
- src/transport/spread/conversion.lisp (notification->event): adapted to changed names in rsb.protocol; simplified
  - (one-notification->event): likewise
  - (event->notifications): likewise; calculate individual fragment payload sizes by first determining the overhead; use

- 'fragmented-notification' instances for fragments
  - (make-notification): optionally set some notification fields
- src/transport/spread/fragmentation.lisp
  - (assembly-concatenated-data): adapted to changes in rsb.protocol
  - (add-fragment! assembly fragmented-notification): likewise; changed
  - specializer notification -> fragmented-notification
  - (merge-fragment pool fragmented-notification): likewise; changed
  - specializer t -> fragmented-notification
  - (delete-partial-assemblies): simplified
  - (fragment-data): removed; no longer needed
  - (make-data-fragment): new function; simple 'subseq' wrapper
- src/transport/spread/package.lisp (package rsb.transport.spread):
  - removed shadowing import for meta-data; added shadowing import for event-meta-data; added exported symbols fragmentation-problem, insufficient-room, fragmentation-problem-required and fragmentation-problem-available
- test/transport/spread/fragmentation.lisp
  - (test suite fragmentation-root): changed local function
  - make-notification > ~~make-fragment~~; added local function make-event\*
  - ~~(test fragmentation-root::assemble-smoke): adapted to fragmentation changes~~
  - ~~(test fragmentation-root::fragment-smoke): use~~
  - ~~'event->notifications'~~ instead of 'fragment-data'; check for 'insufficient-room' errors
  - (test fragmentation-root::roundtrip): use 'event-notifications' instead of 'fragment-data'; added test cases
  - (test fragmentation-root::warnings): adapted to changed fragmentation
  - (test::pruning-assembly-pool-root::prune): likewise
- test/transport/spread/package.lisp
  - (package rsb.transport.spread.test): qualified 'defpackage' form with cl package; removed additional 'in-package' cl-user form; removed imported symbol fragment-data; added imported symbol event->notifications
- cl-rsb.asd (system cl-rsb-and-cl-spread): added dependency of src/transport/spread/conversion.lisp on src/transport/spread/conditions.lisp (system cl-rsb-and-cl-protobuf): changed class of protocol module to protocol-buffer-descriptor-directory; changed files of the module Protocol.proto -> EventId.proto, EventMetaData.proto, Notification.proto and FragmentedNotification.proto

#### Revision 2fcc43ce - 10/28/2011 01:55 PM - J. Moringen

Adapted event to use RSB's serialization protocol

refs #375

- src/transform/rsb-event.lisp (rsb-event::holder): adapted to changes in rsb.protocol
- (encode rsb-event event): likewise
- (decode rsb-event simple-array): likewise
- cl-rsbag.asd (system cl-rsbag): changed class of protocol module to protocol-buffer-descriptor-directory; changed files of the module Protocol.proto -> EventId.proto, EventMetaData.proto,

**Revision bea5e593 - 10/28/2011 03:02 PM - J. Moringen**

Fixed conversion bugs in src/transport/spread/conversion.lisp

refs #375

- src/transport/spread/in-connector.lisp  
(message->event in-connector simple-array t): unpack as  
`fragmented-notification' instead of `notification'
- src/transport/spread/conversion.lisp (notification->event): retrieve  
notification from fragment for event conversion  
(event->notifications): cosmetic change

**Revision dc8eb96e - 10/28/2011 03:02 PM - J. Moringen**

Fixed conversion in src/transform/rsb-event.lisp

refs #375

- src/transform/rsb-event.lisp (encode rsb-event event): new data  
definition uses an `event-id' instance instead of sequence-number  
and sender-id fields

**Revision 14c281a2 - 10/28/2011 03:08 PM - J. Moringen**

Transcoded file test/data/single-event.tide

refs #375

- test/data/single-event.tide: transcoded for new event serialization  
format

**Revision 1a20e52d - 10/28/2011 05:08 PM - J. Wienke**

- adapted to new protocol files refs #375
- removed unused introspection stuff refs #682

**Revision 8e8bf0be - 10/28/2011 05:39 PM - J. Moringen**

Adapted to changes in rsb-protocol

refs #375

- setup.py: place file generated by protoc in rsb/protocol directory;  
added an *init.py* file there
- rsb/rsbspread/\_\_init\_\_.py: removed event <-> notification  
conversion; adapted fragmentation to new protocol
- rsb/rsbspread/conversion.py: new file; extracted and adapted event  
<-> notification conversion

**Revision 954c1b72 - 10/31/2011 02:53 PM - J. Moringen**

(Hopefully) fixed off-by-one error in src/rsb/transport/spread/OutConnector.cpp

refs #375

- src/rsb/transport/spread/OutConnector.cpp: the loop which constructs  
notification fragments for sending could go beyond the bounds of the  
input string by one

#### Revision b21c8a08 - 10/31/2011 03:01 PM - J. Moringen

Added comments in rsb/rsbspread/conversion.py

refs #375

- rsb/rsbspread/conversion.py: added some comments regarding the fragmentation of notifications

#### Revision 17bbaad5 - 10/31/2011 04:11 PM - J. Moringen

Fixed corner case in src/rsb/transport/spread/OutConnector.cpp

refs #375

- src/rsb/transport/spread/OutConnector.cpp: produce at least one notification fragment, even if the payload is empty; for example, the void wire-schema uses empty payloads

### History

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#### #1 - 07/19/2011 09:25 AM - J. Moringen

- Status changed from New to In Progress
- Assignee changed from J. Wienke to J. Moringen
- Priority changed from Normal to High

#### #2 - 07/20/2011 01:45 PM - J. Moringen

- Description updated

#### #3 - 07/21/2011 09:04 PM - J. Moringen

- Description updated
- % Done changed from 0 to 20

#### #4 - 09/12/2011 04:30 PM - J. Wienke

Now this even includes the cause vector.

#### #5 - 10/21/2011 04:48 PM - S. Wrede

- Target version changed from rsb-0.10 to rsb-0.7

#### #6 - 10/27/2011 02:05 PM - J. Wienke

I will do this now as otherwise there is no chance for me to implement the full transmission of RSB meta data in a convenient way for project:rsbtimesync

#### #7 - 10/27/2011 02:05 PM - J. Wienke

Or better said, I would like to do this now ;)

#### #8 - 10/28/2011 03:23 AM - J. Moringen

- Assignee changed from J. Moringen to J. Wienke
- % Done changed from 20 to 30

#### #9 - 10/28/2011 03:23 AM - J. Moringen

- Description updated

**#10 - 10/28/2011 05:08 PM - J. Wienke**

- *Description updated*
- *% Done changed from 30 to 40*

**#11 - 10/29/2011 03:56 PM - J. Moringen**

- *Description updated*
- *Assignee changed from J. Wienke to J. Moringen*
- *% Done changed from 40 to 90*

**#12 - 10/29/2011 03:57 PM - J. Moringen**

More Java changes in r3009

**#13 - 10/31/2011 04:11 PM - J. Moringen**

- *Description updated*

**#14 - 10/31/2011 04:36 PM - J. Moringen**

- *Description updated*
- *Status changed from In Progress to Resolved*
- *% Done changed from 90 to 100*