

Robotics Service Bus - Feature #1869

Feature # 44 (Resolved): Implement basic introspection support

Realize ProcessInfo and HostInfo Backend in Java

04/30/2014 06:34 PM - S. Wrede

Status:	Resolved	Start date:	04/30/2014
Priority:	Normal	Due date:	
Assignee:	J. Wienke	% Done:	100%
Category:	Introspection	Estimated time:	0.00 hour
Target version:	rsb-0.11		
Description			
<p>We need to consider a solution for getting the low-level or OS-specific platform properties required for introspection. Ideally, we should add a simple interface for getting this information as it will be platform-specific in any case:</p>			
ProcessInfo			
<ul style="list-style-type: none">- PID- Program name (On POSIX systems, <code>argv⁰</code>)- Command line arguments (On POSIX systems, does not include <code>argv⁰</code>, i.e. <code>argv[1:]</code>)- Start time of the process encoded as a timestamp in UTC in microseconds since UNIX epoch.			
HostInfo			
<ul style="list-style-type: none">- HostID- Hostname			
Linux strategy for HostID:			
<ul style="list-style-type: none">** contents of <code>/etc/machine-id</code> (excluding whitespace characters)** contents of <code>/var/lib/dbus/machine-id</code> (excluding whitespace* characters)** Return value of POSIX <code>gethostid</code> function in hexadecimal base** Hostname			
<p>ProcessInfo and HostInfo should be realized as singletons as the information should only be collected once during factory initialization. The singleton may also instantiate the platform-specific implementation classes of these interfaces.</p>			
Related issues:			
Related to Robotics Service Bus - Feature # 2122: Implement OS-specific Insta...		Resolved	12/04/2014

Associated revisions

Revision c6b8ec33 - 12/04/2014 07:25 PM - S. Wrede

- added enum for machine types to HostInfo base
- added method to guess machine types in a portable way
- changed OSDetector's enum values to match introspection keys for OS specification
- added super calls to Portable and LinuxHostInfo classes to initialize machine types and software type in HostInfo
- added software version and machine type to serialization of Hello message if not unknown
- refs #1869

Revision 87607069 - 12/06/2014 08:24 PM - S. Wrede

- initial implementation of PortableProcessInfo based on pure Java functionality (has limitations, but at least provides pid, starttime, java version and vm arguments)
- tested on MacOS, should work on Windows on most JVM implementations
- refs #1869

Revision 6296a4a7 - 12/06/2014 09:17 PM - S. Wrede

- initial implementation of PortableHostInfo with pure java means
- extracted and renamed OSFamily enum from OSDetector
- use OSFamily enum in HostInfo classes
- adapted serialization in protocol handler
- refs #1869

Revision 418c9921 - 12/08/2014 03:45 PM - S. Wrede

- initial implementation of PortableProcessInfo based on pure Java functionality (has limitations, but at least provides pid, starttime, java version and vm arguments)
- tested on MacOS, should work on Windows on most JVM implementations
- refs #1869

Revision 8676f361 - 12/08/2014 03:45 PM - S. Wrede

- initial implementation of PortableHostInfo with pure java means
- extracted and renamed OSFamily enum from OSDetector
- use OSFamily enum in HostInfo classes
- adapted serialization in protocol handler
- refs #1869

Revision 8abc8f82 - 12/11/2014 01:07 PM - J. Wienke

Implement introspection support

Implements introspection support for java.

fixes #1742

fixes #1869

refs #1978

refs #1837

refs #1823

History

#1 - 09/14/2014 01:00 PM - J. Moringen

- *Category changed from Java to Introspection*

#2 - 11/23/2014 05:57 PM - S. Wrede

- *Description updated*

#3 - 12/03/2014 11:18 PM - S. Wrede

- *Status changed from New to In Progress*

- *% Done changed from 0 to 30*

Reviewed, refactored and extended Suchit's PortableHostInfo class to a Linux-specific implementation of the HostInfo interface. Available in the wip branch. Still lacks more and automated testing but should be more robust now.

#4 - 12/04/2014 12:29 AM - S. Wrede

- *% Done changed from 30 to 50*

Added and enabled a slightly refactored and extended implementation of the ProcFS-based ProcessInfo class written by Suchit. It works on my machine, but needs a further review.

#5 - 12/04/2014 12:32 AM - S. Wrede

- *Related to Feature #2122: Implement OS-specific Instantitation of Process and Host Info backends added*

#6 - 12/06/2014 08:26 PM - S. Wrede

- *% Done changed from 50 to 70*

Initial proposal for portable process info implementation available.

#7 - 12/06/2014 09:18 PM - S. Wrede

- *Status changed from In Progress to Feedback*

- *Assignee changed from S. Wrede to J. Wienke*

- *% Done changed from 70 to 100*

Initial portable and linux implementation of process and host info available.

#8 - 12/11/2014 01:12 PM - J. Wienke

- *Status changed from Feedback to Resolved*

Applied in changeset commit:rsb-java|8abc8f82fb2108e09e62cc842b7ca472b10d23e4.