Ruby - Feature #8119

more efficient version of Rinda::TupleSpaceProxy.take

03/19/2013 06:13 AM - vjoel (Joel VanderWerf)

Status:	Closed
Priority:	Normal
Assignee:	drbrain (Eric Hodel)
Target version:	

Description

=begin

The purpose of Rinda::TupleSpaceProxy is to avoid losing tuples when a client disconnects during a #take call. This is implemented by sending the result value ((*twice*)): first by pushing it to a client-side array, second by returning the result as a DRb response. If the first fails, then the #take is aborted, so that the tuple is not lost. In case of success, the client only uses the pushed value, not the response value.

This involves a total of ((*three*)) marshal operations by DRb: the push argument, the push return value (which is an array containing the push argument), and the #take return value. Only the first is necessary.

The following patch adds Rinda::TupleSpaceProxy#take_fast, which avoids the two redundant marshal operations. The unit tests in the ruby source pass when calling this method instead of #take.

The improvement is small when the object is simple. However, for complex objects, eliminating the redundant marshalling reduces network traffic and increases speed by a factor of 2. See the attached bench.rb.

diff --git a/rinda/rinda.rb b/rinda/rinda.rb
index 18e284a..5d280f4 100644
--- a/rinda/rinda.rb
+++ b/rinda/rinda.rb
@@ -206,6 +206,13 @@ module Rinda
# TupleSpaceProxy allows a remote Tuplespace to appear as local.

```
class TupleSpaceProxy
```

- class Port

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- end

Creates a new TupleSpaceProxy to wrap +ts+.

@@ -223,6 +230,17 @@ module Rinda

```
##
# Takes +tuple+ from the proxied TupleSpace.  See TupleSpace#take.
```

- **This is sometimes a bit faster than #take bacause it uses a version**

- **of TupleSpace#move that never marshals the result more than once.**

- def take_fast(tuple, sec=nil, &block)

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- end

Takes +tuple+ from the proxied TupleSpace. See TupleSpace#take.

```
def take(tuple, sec=nil, &block)
port = []
diff --git a/rinda/tuplespace.rb b/rinda/tuplespace.rb
index ba494aa..042c605 100644
--- a/rinda/tuplespace.rb
+++ b/rinda/tuplespace.rb
@@ -480,6 +480,43 @@ module Rinda
end
```

Moves +tuple+ to +port+, returning nil

- def move_fast(port, tuple, sec=nil)

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- end

• Moves +tuple+ to +port+.

    def move(port, tuple, sec=nil)

=end

Associated revisions

Revision e37f8c0f0b7e429f89d53d7f31318f0941f6b735 - 03/24/2013 10:09 PM - drbrain (Eric Hodel)

- lib/rinda/tuplespace.rb: Only return tuple entry once on move,
  either through port or regular return, not both. This results in a
  120% speedup when combined with #8125. Patch by Joel VanderWerf.
  [ruby-trunk - Feature #8119]

git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/trunk@39923 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

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History

#1 - 03/19/2013 06:23 AM - zzak (zzak _)

- Status changed from Open to Assigned

- Assignee set to seki (Masatoshi Seki)

#2 - 03/23/2013 04:40 PM - drbrain (Eric Hodel)

- Priority changed from 3 to Normal

I think [#8125](#) should be applied, then a new patch be generated for this issue.

#3 - 03/24/2013 11:20 AM - drbrain (Eric Hodel)

- File rinda.rb.8119.patch added

With [#8125](#), your benchmark is 40% faster +/- 2% at 95% confidence.

With [#8119](), your benchmark is ~120% faster, but the tests fail as #take calls #move with a port of nil, so local users of the TupleSpace will experience a behavior change.

I've updated your patch to have the same speed gains while maintaining backwards compatibility. The attached patch, compared to rinda in ruby 2.0.0p57 is 120% faster +/- 2.4% at 95% confidence.

#4 - 03/24/2013 06:15 PM - seki (Masatoshi Seki)

- Assignee changed from seki (Masatoshi Seki) to drbrain (Eric Hodel)

#5 - 03/24/2013 11:35 PM - naruse (Yui NARUSE)

Just FYI, you can use =begin ... =end for commenting out multiline

#6 - 03/25/2013 07:09 AM - drbrain (Eric Hodel)

- Status changed from Assigned to Closed

- % Done changed from 0 to 100

This issue was solved with changeset r39923.
Joel, thank you for reporting this issue.
Your contribution to Ruby is greatly appreciated.
May Ruby be with you.

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Files

bench.rb	1.14 KB	03/19/2013	vjoel (Joel VanderWerf)
rinda.rb.8119.patch	783 Bytes	03/24/2013	drbrain (Eric Hodel)