IBM

Service request number 85778 000 778

Title Annotation and Interceptor with Web Services in WAS
Status Open
Product WebSphere Application Server Network Deployment V8.5~5724H88~850
Component WebSphere Application Server Network Deployment 8.5.0 [5724H8800] [850]
Agreement 0001843 [Malaysia]
Contact Daniel Ang
Severity 3
How is this problem impacting your business? We would like to develop and control a common logging mechanism outside the actual web services without having major impact on the actual functional code. In absence of inbuilt mechanism it would take time and effort to build the feature
System is down No
Request type Software Defect Support
Operating system Windows (Microsoft)
Customer tracking ID
File attachments

File name	Date	Size (KB)	Submitter
TestCDIWSEAR.ear	12/31/2012	7.11	Daniel Ang
trace.log	01/02/2013	85.24	Daniel Ang

Service request update history
PRUDENTIAL ASSURANCE MALAYSIA BHD Update 31/12/12 04:10

```
*** Electronic submission by customer via SR tool, version 2.5
*** Preferred contact method: Email-address.
*** Customer contact full name: Daniel Ang
*** Telephone: 60383143628
*** Email: daniel.ang.swie.kheong@prudential.com.my


.
Problem Details
.
Product or Service: WebSphere Application Server Network Deployment
8.5.0
Component ID: 5724H8800
.
Operating System: Windows (Microsoft)
.
Problem title
Annotation and Interceptor with Web Services in WAS

.
Problem description
We are developing Web Services and are using CDI and Interceptors for
different functionalities. One of them is for logging to indicate the
entry, exit and recording of other execution steps of a Web Service.

We have developed one interceptor for the same and indicated
"@AroundInvoke" before the method in the Web Service.

Following are our observations
a) For Web Services "@AroundInvoke" is not working.
b) For managed bean without singleton indication (@Singleton),
"@AroundInvoke" call is working properly.
c) For managed bean with singleton indication (@Singletone),
"@AroundInvoke" call is not working properly.

Additionally we found the reference of IBM APAR which highlighted that
for EJB container, @AroundInvoke is not functioning properly.
http://www-01.ibm.com/support/docview.wss?uid=swg1PM53989

The fix was address in IBM WAS v8 Fix Pack 3.

Is the behaviour that we are observing for Web Container, related to

the behaviour observed for EJB for "@AroundInvoke" functionality, which
was addressed subsequently in fix pack for IBM WAS?
```

For demonstration purpose, we have developed a sample, web services and
utility class (complete ear which includes source code is attached with
this PMR).

In this
com.test.TestCDI is the web service class. This web service class will
use com.test.Utility class, injected by WebSphere.
Both TestCDI and Utility are annotated by @Logged

Furthermore, Utility is annotated by @Singleton. com.test.cdi.Logging
is the interceptor.
As of now, only PostConstruct for Utility is being printed.

Please advise appropriately

.
Business impact (BusImpact)
We would like to develop and control a common logging mechanism outside
the actual web services without having major impact on the actual
functional code. In absence of inbuilt mechanism it would take time and
effort to build the feature
.
*** --- FOR SR USE ONLY ---
*** XRQXSRprNode27261356923557981
*** CAG748379 ENG Y
*** MTS
*** 5724H88:850 /5724H8800:850 (PREF)
IBM Update 31/12/12 04:12
Material received from FTP Server and stored in ECuRep:
Directory: /ecurep/pmr/8/5/85778,000,778/2012-12-31
File: 85778.000.778.TestCDIWSEAR.ear   7282 bytes
IBM Update 31/12/12 05:56
ECuRep Mail Gateway - Received Mail and stored in ECuRep

Mail From: websphere_support@ecurep.ibm.com
/ecurep/pmr/8/5/85778,000,778/mail20121231-065634-websphere_support
File: mail.html   2957 bytes
------------------------- EMAIL TEXT START -------------------------
This email was also sent to: daniel.ang.swie.kheong@prudential.com.my
Also copied: ongsb@sg.ibm.com
Hello Daniel,
.
We have received PMR 85778,000,778 and I would be assisting you on
this PMR.
.
In the meantime, could you pls provide the following information to
proceed investigation:
1) Business impact of this issue;
2) Preferred mode of contact: email or phone
.
3) Version and fixpack of the WAS that you have deployed the test
sample EAR file (TestCDIWSEAR.ear) in order to re-create the issue.
.
4) Steps on how to invoke the application to re-create the issue.
.
5) Pls collect and provide the WAS logs for further investigation:
a) All WAS logs from the profile home (SystemOut.log, SystemErr.log,
native_stderr.log, native_stdout.log, startServer.log and
stopServer.log)
for the appserver involved. By default, those logs can be found in
<Profile_Home>/logs folder
b) Copy and paste of the error encountered.
c) Screenshot of the issue encountered, if any.
.
The data can be uploaded to the PMR via the IBM FTP server:
http://www-01.ibm.com/support/docview.wss?rs=180&uid=swg21153852

OR via: http://www.ecurep.ibm.com/app/upload
The PMR number is 85778,000,778
.
Thank you,

Soh Bin
------------------------- EMAIL TEXT END ----------------------------
IBM Update 31/12/12 09:40
ECuRep Mail Gateway - Received Mail and stored in ECuRep

Mail From: websphere_support@ecurep.ibm.com
/ecurep/pmr/8/5/85778,000,778/mail20121231-104007-websphere_support
File: mail.html   4732 bytes
------------------------- EMAIL TEXT START -------------------------
This email was also sent to: daniel.ang.swie.kheong@prudential.com.my
Also copied: ongsb@sg.ibm.com
Hello Daniel,
.
Could you also pls reference this link:
Troubleshooting contexts and dependency injection
http://pic.dhe.ibm.com/infocenter/wasinfo/v8r0/topic/com.ibm.websphere.e
xpress.doc/info/exp/ae/tweb_troubleshoot_cdi.html
.
Should the issue persist, pls provide
1) Version and fixpack of the WAS that you have deployed the test
sample EAR file (TestCDIWSEAR.ear) in order to re-create the issue.
.
2) Steps on how to invoke the application to re-create the issue.
.
3) Pls collect and provide the WAS logs for further investigation:
a) Data as per:
MustGather: CDI problems for WebSphere Application Server
http://www-01.ibm.com/support/docview.wss?uid=swg21595319
.
For the traces specification:
====================
Record what is in the trace specification so you can restore it later,
 replace it with the following trace specification:
=info:JCDI=all:com.ibm.ws.webbeans=all:org.apache.webbeans*=all
.
Note: If debugging interaction with Java EE injection and/or the EJB
container add: EJBContainer=all:MetaData=all:Injection=all
.
Note: If debugging interaction with web-related scopes and/or life
cycles add: all:com.ibm.ws.wswebcontainer*=all
Click Apply, and Save.
====================
.
b) Copy and paste of the error encountered.
c) Screenshot of the issue encountered, if any.
.
Thank you,
Soh Bin
------------------------- EMAIL TEXT END ----------------------------
IBM Update 02/01/13 04:28
ECuRep Mail Gateway - Received Mail and stored in ECuRep
Mail From: daniel.ang.swie.kheong@prudential.com.my
/ecurep/pmr/8/5/85778,000,778/mail20130102-052806-daniel.ang.swie.kheong
File: mail.html   7640 bytes
File: mail.wri   4687 bytes
IBM Update 02/01/13 04:37
Update #
=========
Hi Soh Bin,
Thanks for your kind assistance on the PMR.
.
Allow me to copy Amit and Hari who would be assisting with the PMR.
.
Thanks.
Best regards,

Daniel Ang
Mobile: +6012 325 2926
============
.
cc: amit.malhotra@aworkflow.com, hariprasad.ks@aworkflow.com,
kim.chan.gan@prudential.com.my

PRUDENTIAL ASSURANCE MALAYSIA BHD Update 02/01/13 08:15

```
*** Electronic submission by customer via SR tool, version 2.5
*** Preferred contact method: Email-address.
*** Customer contact full name: Daniel Ang
*** Telephone: 60383143628
*** Email: daniel.ang.swie.kheong@prudential.com.my


*** Updated by: Daniel Ang
*** Email: daniel.ang.swie.kheong@prudential.com.my


.
Additional comments
Hi Soh Bin

I am Victor, the developer who faces this issue. Below are answers to
your question.

1) IBM WebSphere Application Server Network Deployment 8.5.0.0

2) The web service WSDL is located at the following URL

    http://localhost:9080/TestCDIWS/TestCDIService?wsdl

   Invoke the operation "test". You can pass any string value to the
operation.

3)

a) development environment
b) Network Deployment
c) recommended fixes
d) first time attempted the failing scenario
e) feature development and testing
f) yes, able to consistently make the problem happen
g) invoke the web service
h) No, there is no error in SystemOut or SystemErr
i) Yes. No information is found.
j) No step is taken
k) Yes, this is related to the Interceptor feature of CDI

I have attached the trace log, trace.log. There is one line in the
trace log, which I have extracted below:

[1/2/13 15:52:54:950 SGT] 0000009e InterceptorDa 2 InterceptorDataImpl
createNewInstance > com.test.Utility@7eea1788 org.apache.webbeans.
context.creational.CreationalContextImpl@54ba550f webBeansInterceptor:
[class com.test.cdi.Logging] aroundInvoke  [null] aroundTimeout [null]
postConstruct [public void com.test.cdi.Logging.postConstruct(javax.
interceptor.InvocationContext)] preDestroy    [null] postActivate
[null] prePassivate  [null]

As you can see from the trace entry, "com.test.Utility" does not have
any "aroundInvoke" associated with the class, even though the class has
been annotated with @Logged, which is an InterceptorBinding. This class
is actually injected to the Web Service, and its method is called in
the Web Service.

I have included source code in the EAR file, so that you can have a
look at them.


Regards
Victor
.
```

IBM Update 02/01/13 08:17

```
Material received from FTP Server and stored in ECuRep:
Directory: /ecurep/pmr/8/5/85778,000,778/2013-01-02
File: 85778.000.778.trace.log                          87288 bytes
```

IBM Update 02/01/13 10:12

```
Pls see the answers to the MustGather information requested:
http://www-01.ibm.com/support/docview.wss?uid=swg21595319
.
```

a) What kind of environment is this: production/test/development/etc.?
 a) development environment
.
b) What is the packaging of your WebSphere Application Server: Network
Deployment/Base/Express/eWAS/etc.?
 b) Network Deployment
.
c) Are you running the recommended or latest fix pack for WebSphere
Application
Server?
 c) recommended fixes
.
.
Answer the following questions about the problem:
----
d) Was this working before without any issues and now something has
changed or is
this the first time you have attempted the failing scenario?
 d) first time attempted the failing scenario
.
e) What activities were taking place when the problem was noticed?
(Application
Deployment, interaction with other Java EE producers, etc.)
 e) feature development and testing
.
f) Are you able to consistently make the problem happen or is there no
apparent
trigger or timing?
 f) yes, able to consistently make the problem happen
.
g) Describe the steps you would take to try and recreate the issue.
 g) invoke the web service
.
h) Are there messages you can point us to in the SystemOut.log, or
something else
like a screen shot that has a timestamp of the problem? If not, please
provide
your best estimate of the date/time and where (what JVM) the problem
occurred.
 h) No, there is no error in SystemOut or SystemErr
.
i) Have you used the WebSphere Application Server Support Portal to
research this
problem?
 i) Yes. No information is found.
.
j) Have you taken any steps to try and resolve this issue? If so what
steps did you take?
 j) No step is taken
.
k) Are you sure the issue is related to CDI? Check the troubleshooting
web
applications section of the WebSphere Application Server Information
center.
 k) Yes, this is related to the Interceptor feature of CDI

.
.
Hi L2,
The source code has been uploaded in:
/ecurep/pmr/8/5/85778,000,778/2012-12-31/85778.000.778.TestCDIWSEAR.ear

.
Could you pls advise on this issue of v8.5 Annotations and Interceptor
feature of CDI?
.
Thanks, Soh Bin
IBM Update 02/01/13 10:14
No hits found. Escalating to wotweb,103 for CDI
IBM Update 02/01/13 12:37
Assigned to WRH
IBM Update 02/01/13 13:19

ECuRep Mail Gateway - mail from support
 (websphere_support@ecurep.ibm.com)
/ecurep/pmr/8/5/85778,000,778/mail20130102-141848-websphere_support

IBM Update 02/01/13 13:25

 Passback Queue and center:,WOTWEB ,103 š<--L3 please return to this Q
š**Clearly update PMR with needs from L3**š
šEnsure the following are correct and complete...š
 FA 1601:,x   Compid/Release:,x
 L3 MustGather Collected:,   Problem type:,x Question   , Code Defect
 Problem Statement:,Will PM73513 resolve this issue for this client?
 Recreated (y/n):,y If yes, by:,y Customer ,n Level 2
 Did this ever work for customer (y/n):,n (if yes, explain in text)
 Searched:,x APARs ,x PMR ,x Cruise ,x DCF ,x InfoCenter ,x PRB ,x Other
 Arguments used in search:,CDI aroundInvoke
 Location of docs:,see PMR for link
 Name of Teamlead/SME/L3 rep who OK'd xfer:,Bill
 For JAVA,244:
 OS Platform:,   OS Version:,
 JAVA -fullversion:,

IBM Update 02/01/13 13:26

Action Taken: I reviewed the PMR and searched for other APARs/PMRs via
wellspring for "CDI aroundInvoke" 43289,999,616 looked close but had a
weird close...
http://eclient.lenexa.ibm.com:9082/search?fetch=source/PMR/11258,075,724
%20O12/09/17
Is where I had level 3 create PM73513 I am not sure if it applies to
this case or not. The client is at 8.5.0.0 so they do not have this
fix. Here is a link to the clients code:

https://ecurep.mainz.de.ibm.com:/rest/download/85778,000,778/2012-12-31/
85778.000.778.TestCDIWSEAR.ear

I sent the following email...
=-
To: daniel.ang.swie.kheong@prudential.com.my
Hello Daniel,

I am Bill Holtzhauser on the WebSphere Application Server webcontainer
and security level 2 team and will be taking ownership of this PMR.
Normally I work from 7:00 AM to 3:30 PM Eastern (USA).

I have asked our level 3 team to look at this, it may be that APAR
PM73513 would resolve this... and it is scheduled to be released in
8.5.0.2 (expected to be released in mid April)... but I would like my
level 3 team to review this and respond back... when they do respond we
will let you know the results.

Regards,
Bill Holtzhauser
=-

action plan: WOTWEB,103 will await a response from WL3CDI,103
a personal follow up will be set for 1/9

IBM Update 03/01/13 01:55

ECuRep Mail Gateway - Received Mail and stored in ECuRep
Mail From: daniel.ang.swie.kheong@prudential.com.my
/ecurep/pmr/8/5/85778,000,778/mail20130103-025456-daniel.ang.swie.kheong
File: mail.html   7242 bytes
File: mail.wri   2934 bytes

IBM Update 03/01/13 03:36

Email #
========
Hi Bill,
.
Thanks for keeping us posted.
.
From our end, Amit and Hari are assisting on this PMR. Appreciate if you
could copy them in future communication.
.
Appreciate your kind assistance.
.

Thanks.
Best regards,
Daniel Ang
Mobile: +6012 325 2926
==========
.
Pls keep following in CC:
amit.malhotra@aworkflow.com, hariprasad.ks@aworkflow.com,
kim.chan.gan@prudential.com.my
IBM Update 03/01/13 03:37
Inform L2
IBM Update 03/01/13 04:53
Set delay for Bill's attention
IBM Update 03/01/13 18:06
Action Taken: I reviewed the update, there does not appear to be any
technical update only another request to have more than a contact or
alternate contact... Right now I see Daniel is the contact... I do not
see anyone listed as the alternate contact... Daniel must choose which
of the names listed will be the alternate contact. I refer to ...

IBM Software Support Handbook
http://www14.software.ibm.com/webapp/set2/sas/f/handbook/getsupport.html

----
When communicating with a software support specialist, you should also
mention the following items if they apply to your situation:

You are under business deadline pressure.
Your availability (i.e. when you will be able to work with IBM Software
Support).
Alternate ways to reach you, more than one phone number, pager, email
address
You can designate a knowledgeable alternate contact with whom we can
speak.

The RETAIN system is not setup to have more than a single contact and
single alternate contact.

I sent the following email...
=-
To: daniel.ang.swie.kheong@prudential.com.my
Hello Daniel,

Thanks for responding, the PMR is still with our level 3 team.
When they update it we will let you know.

With respect to your request to have Amit, Hari and (Kim?) copied on
this PMR emails. Our system is setup to have a single contact and one
alternate contact. Can you tell me which of those you would like to be
the alternate contact? It would then be the responsibility of the
contact or alternate contact to keep others at your end informed about
the activity in the PMR. Please refer to ...

IBM Software Support Handbook
http://www14.software.ibm.com/webapp/set2/sas/f/handbook/getsupport.html

----
When communicating with a software support specialist, you should also
mention the following items if they apply to your situation:

You are under business deadline pressure.
Your availability (i.e. when you will be able to work with IBM Software
Support).
Alternate ways to reach you, more than one phone number, pager, email
address
You can designate a knowledgeable alternate contact with whom we can
speak.

Regards,
Bill Holtshousen

Bill Holtznauser
=-
action plan: WOTWEB,103 will await an update from WL3CDI,103 about the
technical aspect of the PMR, there is a chance we will also see an
update from the client from their review of my previous email, a
personal follow up for 1/9 is already set.

IBM Update 03/01/13 18:07
ECuRep Mail Gateway - mail from support
 (websphere_support@ecurep.ibm.com)
/ecurep/pmr/8/5/85778,000,778/mail20130103-190234-websphere_support

IBM Update 03/01/13 20:55
I believe the problem here is that the
WebServices container is not obtaining context references from CDI,
therefore interceptors and decorators are not applicable.
Please see the following snippets from JSR 299 section 7.2:

"
When the application invokes:
? a method of a bean via a contextual reference to the bean, as defined
in Section 6.5.3, ?Contextual reference for a
     bean?, or
? a business method of a session bean via an EJB remote or local
reference,
the invocation is treated as a business method invocation.
...
If, and only if, an invocation is a business method invocation:
? it passes through method interceptors and decorators, and
? in the case of a session bean, it is subject to EJB services such as
declarative transaction management, concurrency, se-
     curity and asynchronicity, as defined by the EJB specification.
"

So, the reason this is working:
" b) For managed bean without singleton indication (@Singleton),
"@AroundInvoke" call is working properly. "

is because the @Singleton is enabling the EJB logic to us a contextual
reference, but without that then
it is up to WebServices to obtain the contextual reference or not. As
to if WebServices (jax-ws) should or
should not support this is not a question I can answer.

IBM Update 04/01/13 03:18
ECuRep Mail Gateway - Received Mail and stored in ECuRep
Mail From: daniel.ang.swie.kheong@prudential.com.my
/ecurep/pmr/8/5/85778,000,778/mail20130104-041808-daniel.ang.swie.kheong
File: mail.html   10675 bytes
File: mail.wri   3962 bytes

IBM Update 04/01/13 03:39
Update #
==========
Hi Bill,
.
Thanks for your clarification.
.
Appreciate if you could assign Amit (amit.malhotra@awpl.co) as the

primary contact for this PMR and me as the alternate.
.
Thanks.
Best regards,
Daniel Ang
Mobile: +6012 325 2926
==========

IBM Update 04/01/13 03:44
A/T: Updated primary contact to Amit
A/P:
Hi L2,
L3 has responded. Pls advise.
.
Thanks, Soh Bin

IBM Update 04/01/13 13:39
ECuRep Mail Gateway - mail from support

Ecurep Mail Gateway -- Mail from Support
  (websphere_support@ecurep.ibm.com)
/ecurep/pmr/8/5/85778,000,778/mail20130104-143948-websphere_support

IBM Update 04/01/13 13:40
Action Taken: I sent the following email...
=-=
To: amit.malhotra@aworkflow.com,daniel.ang.swie.kheong@prudential.com.my
Hello Amit/Daniel,

Our level 3 team for CDI issues has responded with...

I believe the problem here is that the
WebServices container is not obtaining context references from CDI,
therefore interceptors and decorators are not applicable.
Please see the following snippets from JSR 299 section 7.2:

"
When the application invokes:
? a method of a bean via a contextual reference to the bean, as defined
in Section 6.5.3, ?Contextual reference for a
     bean?, or
? a business method of a session bean via an EJB remote or local
reference,
the invocation is treated as a business method invocation.
...
If, and only if, an invocation is a business method invocation:
? it passes through method interceptors and decorators, and
? in the case of a session bean, it is subject to EJB services such as
declarative transaction management, concurrency, se-
   curity and asynchronicity, as defined by the EJB specification.
"

So, the reason this is working:
" b) For managed bean without singleton indication (@Singleton),
"@AroundInvoke" call is working properly. "

is because the @Singleton is enabling the EJB logic to us a contextual
reference, but without that then
it is up to WebServices to obtain the contextual reference or not.   As
to if WebServices (jax-ws) should or
should not support this is not a question I can answer.

If this helps... great. If the question is should jax-ws support this
or not... I will need to involve the webservices team.

Regards,
Bill Holtzhauser
=-=
action plan: WOTWEB,103 will await a response from the client to the
previous email, a follow up will be set for 1/11
PRUDENTIAL ASSURANCE MALAYSIA BHD Update 04/01/13 14:31
*** Electronic submission by customer via SR tool, version 2.5
*** Preferred contact method: Email-address.
*** Customer contact full name: Daniel Ang
*** Telephone: 60392143600

*** Updated by: Daniel Ang
*** Email: daniel.ang.swie.kheong@prudential.com.my

.
Additional comments
We would require assistance in getting appropriate feedback from the
Web Service Team as to why the injection is not working.
.
IBM Update 07/01/13 01:55
Hi L2,
.
Pls see customer's feedback:

We would require assistance in getting appropriate feedback from the

Web Service Team as to why the injection is not working.

.
Thanks, Soh Bin
IBM Update 07/01/13 19:28
Action Taken: I reviewed the PMR it seems that WL3CDI,103 has been
engaged on this and provided a response but the client wants to pursue
this from the webservices perspective... so I will send this back to
WL3CDI,103 for them to work with the webservices level 3 team directly
(Per our process). I was pursuing through the level 3 website that had
the queue contact information in it and it looks to me like a good place
to start would be with WL3WSE.

Action Plan: WL3CDI,103 to work with webservices level 3 to see if this
should be supported or not. Respond back to WOTWEB,103
IBM Update 08/01/13 20:35
I spoke with a WebServices developer and they confirmed that WebServices
does not obtain context references from CDI, and therefore the
customer's scenario is not working how they desire.
IBM Update 09/01/13 12:58
ECuRep Mail Gateway - mail from support
 (websphere_support@ecurep.ibm.com)
/ecurep/pmr/8/5/85778,000,778/mail20130109-135812-websphere_support
IBM Update 09/01/13 12:59
Action Taken: I sent the following email...
=-=
To: amit.malhotra@aworkflow.com,daniel.ang.swie.kheong@prudential.com.my
Hello Amit/Daniel,

Our CDI level 3 team has confirmed with the webservices level 3 team
that the webservices container does not obtain context references from
CDI, therefore your scenario will not work as you were expecting.
You could request that this feature be added to the product via...

IBM Request for Enhancement (RFE) Community
https://www.ibm.com/developerworks/rfe/

Regards,
Bill Holtzhauser
=-=
action plan: WOTWEB,103 will await a response from the client to the
previous email, a follow up will be set for 1/16
IBM Update 10/01/13 14:57
ECuRep Mail Gateway - Received Mail and stored in ECuRep
Mail From: daniel.ang.swie.kheong@prudential.com.my
/ecurep/pmr/8/5/85778,000,778/mail20130110-155642-daniel.ang.swie.kheong
File: mail.html   6553 bytes
File: mail.wri   2506 bytes
IBM Update 11/01/13 01:50
Update #
=========

Thanks, Bill.
.
Best regards,
Daniel Ang
Mobile: +6012 325 2926
========