

# OpenEAI EnterpriseObject and MOA Out of Sync or Compatibility Issue

## Summary

EnterpriseObjects are shared among all the services, while different services can use different version/build of the Moa. When EnterpriseObject are changed, but corresponding Moa are not changed, an "Out of Sync" issue will arise which can cause serious errors.

## Solution

- A) Use different version of EnterpriseObject when it needs to be changed
- B) Update all related services/clients for their corresponding Moa (keep all in sync)

## Example

When a max attribute was added to org.openeai.QueryLanguage, HipaaAuditLogService was updated to use latest openeai.jar. However, HalsViewer webapp threw the following exception when its openeai.jar (which has foundation openeai foundation moa) was not updated.

```
org.openeai.layouts.EnterpriseLayoutException: Error calling getter method for QueryLanguage/Max. Exception: org.openeai.moa.objects.resources.v1_0.QueryLanguage.getMax()
at org.openeai.layouts.EnterpriseLayoutManagerImpl.getValueFromObject(EnterpriseLayoutManagerImpl.java:676)
at org.openeai.layouts.XmlLayout.buildElement(XmlLayout.java:415)
at org.openeai.layouts.XmlLayout.buildElement(XmlLayout.java:558)
at org.openeai.layouts.XmlLayout.buildOutputFromObject(XmlLayout.java:140)
at org.openeai.moa.XmlEnterpriseObjectImpl.buildOutputFromObject(XmlEnterpriseObjectImpl.java:1187)
at org.openeai.moa.XmlEnterpriseObjectImpl.toXmlString(XmlEnterpriseObjectImpl.java:2090)
at edu.emory.oit.halsviewer.server.HalsViewerServiceImpl.getHalEntriesForFilter(HalsViewerServiceImpl.java:734)
at edu.emory.oit.halsviewer.server.HalsViewerServiceImpl.getHalEntryQueryResultForFilter(HalsViewerServiceImpl.java:632)
```

Question: was this caused by updating of QueryLanguageEO without updating of openeai.jar? Try to determine the exact compatibility.

Number	EO	MOA (.jar file)	Scenario	Result	
a	EO added optional attribute (QueryLanguage/Max)	moa not updated	Most common in ESB	Exception (#1) java.lang.NoSuchMethodException: org.openeai.moa.objects.resources.v1_0.QueryLanguage.getMax()	
b	EO not updated	moa added optional attribute	Often happens in Web app	Element disappeared when invoke moa.toXmlString()?	
c	EO removed optional attribute	moa not updated	same as b?		
d	EO not updated	moa removed optional attribute	same as a?		

2015-09-01 12:09:20,407 FATAL [Thread-38] - Error calling getter method for QueryLanguage/Max. Exception: org.openeai.moa.objects.resources.v1\_0.QueryLanguage.getMax()-XmlEnterpriseObjectImpl.toString2135  
org.openeai.layouts.EnterpriseLayoutException: Error calling getter method for QueryLanguage/Max. Exception: org.openeai.moa.objects.resources.v1\_0.QueryLanguage.getMax()  
at org.openeai.layouts.EnterpriseLayoutManagerImpl.getValueFromObject(EnterpriseLayoutManagerImpl.java:676)  
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at org.openeai.layouts.XmlLayout.buildOutputFromObject(XmlLayout.java:140)  
at org.openeai.moa.XmlEnterpriseObjectImpl.buildOutputFromObject(XmlEnterpriseObjectImpl.java:1187)  
at org.openeai.moa.XmlEnterpriseObjectImpl.toString(XmlEnterpriseObjectImpl.java:2090)  
at com.openii.openeai.toolkit.rdbms.persistence.hibernate.DefaultQueryLanguagePlugin.rebuildQueryXeo(DefaultQueryLanguagePlugin.java:164)  
at com.openii.openeai.toolkit.rdbms.persistence.hibernate.HibernateMoaPersistenceHelper.executeQuery(HibernateMoaPersistenceHelper.java:88)  
at com.openii.openeai.toolkit.rdbms.HibernateRdbmsRequestCommand.execute(HibernateRdbmsRequestCommand.java:206)  
at org.openeai.jms.consumer.PointToPointConsumer.handleRequest(PointToPointConsumer.java:519)  
at org.openeai.jms.consumer.PointToPointConsumer\$RequestTransaction.run(PointToPointConsumer.java:1122)  
at org.openeai.threadpool.ThreadPoolImpl\$PoolThread.run(ThreadPoolImpl.java:150)  
With root cause:  
java.lang.NoSuchMethodException: org.openeai.moa.objects.resources.v1\_0.QueryLanguage.getMax()  
at java.lang.Class.getMethod(Class.java:1605)  
at org.openeai.layouts.EnterpriseLayoutManagerImpl.getValueFromObject(EnterpriseLayoutManagerImpl.java:667)  
at org.openeai.layouts.XmlLayout.buildElement(XmlLayout.java:415)  
at org.openeai.layouts.XmlLayout.buildElement(XmlLayout.java:558)  
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at com.openii.openeai.toolkit.rdbms.persistence.hibernate.DefaultQueryLanguagePlugin.rebuildQueryXeo(DefaultQueryLanguagePlugin.java:164)  
at com.openii.openeai.toolkit.rdbms.persistence.hibernate.HibernateMoaPersistenceHelper.executeQuery(HibernateMoaPersistenceHelper.java:88)  
at com.openii.openeai.toolkit.rdbms.HibernateRdbmsRequestCommand.execute(HibernateRdbmsRequestCommand.java:206)  
at org.openeai.jms.consumer.PointToPointConsumer.handleRequest(PointToPointConsumer.java:519)  
at org.openeai.jms.consumer.PointToPointConsumer\$RequestTransaction.run(PointToPointConsumer.java:1122)  
at org.openeai.threadpool.ThreadPoolImpl\$PoolThread.run(ThreadPoolImpl.java:150)