

Migration from XAL to Open XAL

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Migration Overview

- **Two Distinct Scenarios**
 - **Source Code Porting**
 - Typically straight forward
 - **Don't forget Scripts**
 - Mostly fixing compiler warnings
 - About two days per application
 - **Legacy Compatibility**
 - Documents
 - Optics Files
 - Preferences
 - Services

Source Code Porting

- **Compiler Warnings**
- **Package Names**
- **Preferences**
- **API Changes**
- **Menu Definition Dot Notation**
- **Special Care for Scripts**

Compiler Warnings

- **Eliminate all warnings with lint for JDK 6 and 7**
 - **Fix warnings when possible** or suppress
 - **Most Common**
 - Raw types
 - Unchecked
 - Cast
 - Serialization ID
 - **Careful to keep code JDK 6 compatible for now**
 - Java 7 adds typing to several swing classes (e.g. JList)
- **Time Intensive to Fix Correctly**

Package Name Mapping

Most Common

XAL	Open XAL
gov.sns.xal	xal
gov.sns	xal
gov.sns.apps	xal.app
gov.sns.xal.model.scenario	xal.sim.scenario

Class Mapping

XAL	Open XAL
gov.sns.tools.apputils.iconlib.IconLib	xal.tools.IconLib
gov.sns.ca.BatchGetRequest	xal.ca.BatchGetValueRequest

API Changes

- **Source Code Porting**
- **Data Adaptor**
- **Model Scenario**
- **Trivial Exercise**

Data Adaptor

- *childAdaptorIterator* methods gone
- **Replace with associated *childAdaptors* methods**

Model Scenario

XAL	Open XAL
<pre>final EnvTrackerAdapt tracker = new EnvTrackerAdapt(sequence); final Probe probe = ProbeFactory.getEnvelopeProbe(sequence, tracker);</pre>	<pre>final EnvelopeTracker tracker = AlgorithmFactory.createEnvelopeTracker(sequence); final Probe probe = ProbeFactory.getEnvelopeProbe(sequence, tracker);</pre>

Menu Definition Dot Notation

- **Source Code Porting**
- **XAL has legacy underscore notation but supports newer dot notation**
- **Most SNS XAL Applications already Ported**
- **Trivial Exercise**

Example: Menu Definition Port

XAL	Open XAL
<pre># customize the menubar for the demo by adding a Special menu menubar = file edit view accelerator knobs window help # define the Special menu items knobs_menu = makehorzbumps makevertbumps - makeproportional # define the Special menu label knobs_label = Knobs # define the Knobs menu item labels makehorzbumps_label = Make Horizontal Bumps makevertbumps_label = Make Vertical Bumps makeproportional_label = Proportional Coefficients # define the menu item actions makehorzbumps_action = make-horizontal-bumps makevertbumps_action = make-vertical-bumps makeproportional_action = make-proportional-coefficients</pre>	<pre># customize the menubar for the demo by adding a Special menu accelerator.after = knobs # define the Special menu items knobs.menu = makehorzbumps makevertbumps - makeproportional # define the Special menu label knobs.label = Knobs # define the Knobs menu item labels makehorzbumps.label = Make Horizontal Bumps makevertbumps.label = Make Vertical Bumps makeproportional.label = Proportional Coefficients # define the menu item actions makehorzbumps.action = make-horizontal-bumps makevertbumps.action = make-vertical-bumps makeproportional.action = make-proportional-coefficients</pre>

Special Care for Scripts

- **No compiler warnings**
- **Find and Replace to address API changes**
- **Validate scripts on all code paths**

Legacy Compatibility

- **Preferences**
- **Services Compatibility**
- **Document Compatibility**
- **Optics Compatibility**

Preferences

- **Legacy Compatibility**
- **Based on Package Names**
- **Time Intensive Change**
- **Manually Regenerate Preferences**

Services

- **Live Legacy Compatibility**
- **Communication Protocol**
 - XAL uses XML-RPC
 - Open XAL uses JSON-RPC
- **Service Type**
 - Fully qualified interface
 - XAL and Open XAL have different package names
- **Probably will never Interoperate**

Document Compatibility

- **Legacy Compatibility**
- **Depends on Optics Compatibility due to accelerator reference**
 - Somewhat alleviated by symbolic links to accelerator
- **Must review all applications for custom compatibility**

Optics Compatibility

- **Legacy Compatibility**
- **Implementation (sns.impl)**
 - Could add a class to class mapping
- **Probe**
 - Not really used anyway
- **Model Parameters (model.params)**
 - New Tables
 - Old files will cause incomplete probe and tracker initialization
- **Manually Modify Optics as Needed**

Summary

- **Porting code is straight forward**
- **Supporting legacy documents is a challenge**
- **Legacy services not supported**