



Experience Report: Porting Packages from Pharo to VA Smalltalk

John O'Keefe
Principal Smalltalk Architect
Instantiation, Inc.

Why should you care?

- The Smalltalk world is awash in open source packages
- Most of these packages are developed on Squeak or Pharo
- Squeak and Pharo are not VA Smalltalk
 - Some amount of work is required if you want to run these packages on VA Smalltalk

What's already done

- Portability layer packages
 - Grease-Core and Grease-<platform>
- Verification tool packages
 - Grease-Slime and Seaside-Slime
- Export tool package
 - VAPackageExporter and VAPatchsetExporter

What's left for you to do?

- Find a useful package
- Verify that it can be ported
 - Use `Slime` for checking and rewriting
- Export from Pharo in VA Smalltalk friendly format
 - Use `VAPackageExporter`
- Import into VA Smalltalk
- Test the result
 - Use `SUnit`
- ** Repeat until correct **
- Make the ported package available
 - Use `VASTGoodies.com`

Finding a useful package

- Google is your friend
- So is www.squeaksource.com
- So is www.sourceforge.net
- So is code.google.com

Use Slime

- Slime is a Smallint extension
 - Identifies non-portable classes
 - Identifies and rewrites non-portable methods
 - Identifies and rewrites deprecated Seaside idioms

Exporting from Pharo

- Tool is part of a package to export Monticello based Squeak source code to various other Smalltalk dialects
- `PackageExporter` originally written by Avi Bryant
- John O'Keefe made `VAPackageExporter` subclass
- Lukas Renggli and Adriaan van Os made `VAPatchsetExporter` subclass to export differences
 - No updates with unchanged code
 - No unnecessary scratch editions
- John O'Keefe did further enhancements

Approach

- Monticello organization based loosely on Package naming conventions
- VA Smalltalk organization based strictly on Application and Subapplications
- Mapping needed
 - Package becomes Application
 - All extension methods go here
 - Subpackages become Subapplications
 - All class definitions go here
 - #loaded and #removing methods generated

Using VAPackageExporter

- **Exporting full package**

```
VAPackageExporter  
    fileOutPackageName: aString
```

- **Exporting package delta**

```
VAPackageExporter  
    fileOutPackageName: aString  
    deltaFrom: aVersionString
```

- **Examples**

```
VAPackageExporter  
    fileOutPackageName: 'Grease-Core'
```

```
VAPackageExporter  
    fileOutPackageName: 'Grease-Core'  
    deltaFrom: 'obi.630'
```

Importing into VA Smalltalk

- Use Application Manager

Applications -> Import/Export -> File In ...

- Use a workspace script

```
EmFileOutInterface fileInSourceFrom:  
  (CfsReadStream open: 'aFilenameString')
```

Porting Problems

- Application prerequisites
 - Generated prerequisites may be incorrect
 - Look at the class `GRPpackage` for predefined dependencies
 - Look at `VAPackageExporter class>>prerequisites` for hardcoded prerequisites
 - Trial and error experimentation

Porting Problems (cont.)

- Handle incompatibilities
 - Example: `aNumber asInteger`
 - Squeak truncates
 - VA Smalltalk rounds (ANSI)
 - Possible solution: `aNumber rounded`

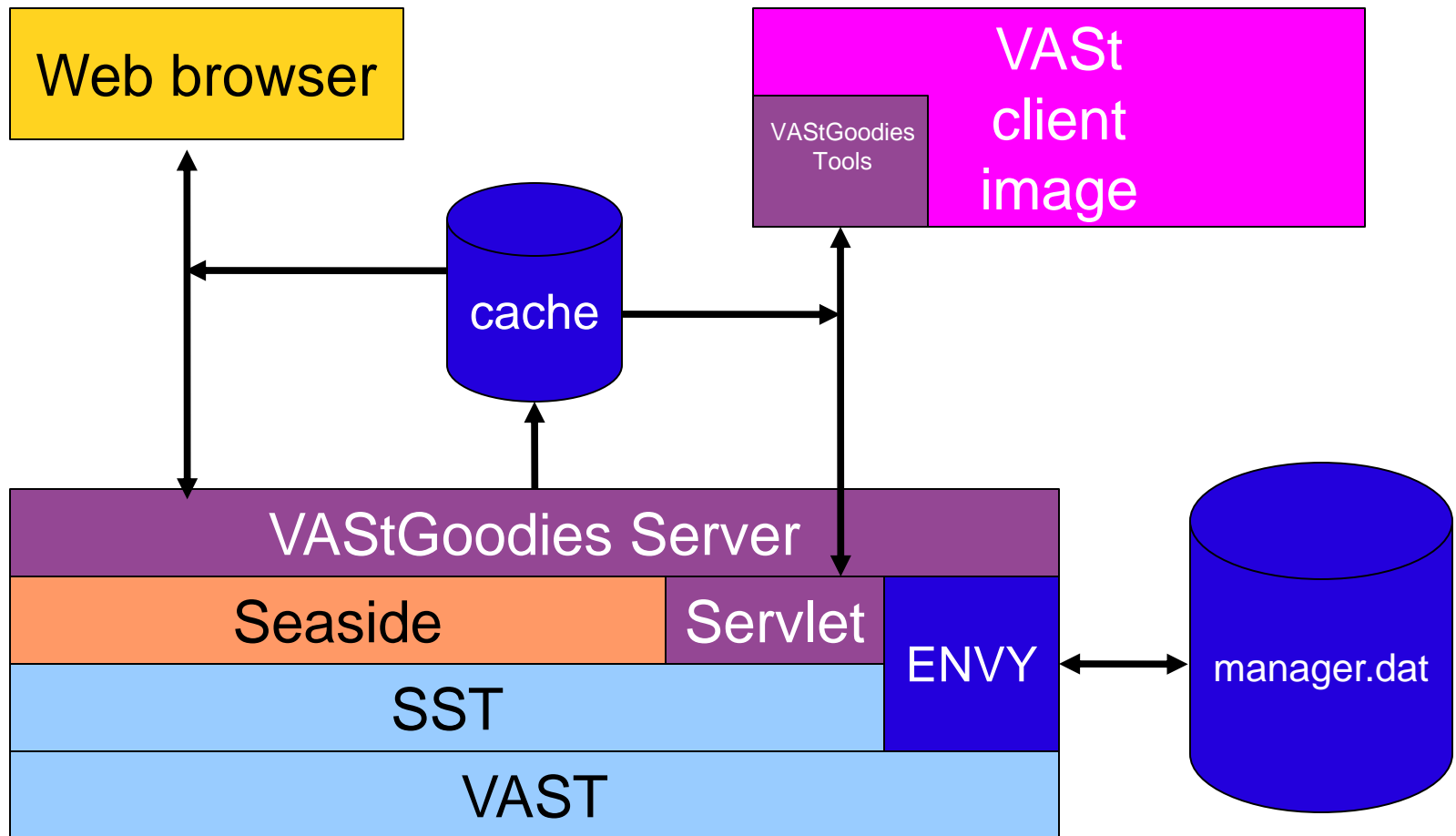
Porting Problems (cont.)

- If at all possible, fix the reference implementation
 - If you fix the port, you will have to remember to refix it again and again
 - Discuss with the maintainer
 - Do it yourself (it's open source, isn't it?)

Share your code

- VASStGoodies provides a VA Smalltalk code repository for Open Source projects
- First available VA Smalltalk Seaside application
 - Developed primarily by Adriaan van Os and Ernest Micklei
 - Hosted by Nationaal Spaarfonds (thanks to Louis Andriese)

VAStGoodies Structure



Inbox - casacolina.pdc@... VASTGoodies.com - VAST...
<http://vastgoodies.com/maps/VASTGoodies.com%20Tools>
 Add to Triplt International Suppor... MSDN Code Gallery ... Suggested Sites Web Mail Messages Web Slice Gallery Other bookmarks

VASTGoodies.com

(Beta version)
 Your VA Smalltalk OSS repository. Powered by **VASmalltalk** with **SEASIDE**.

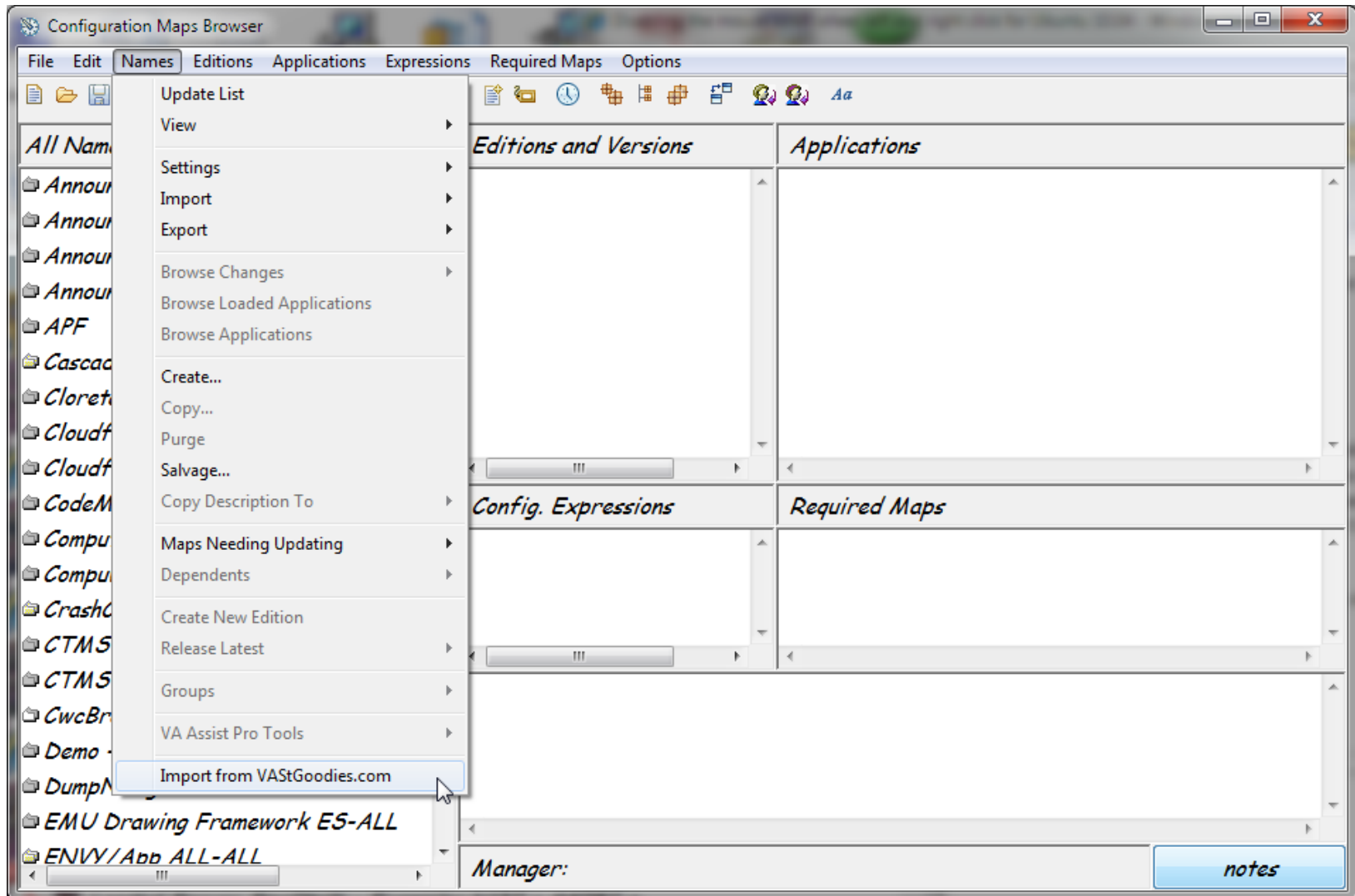
[Configuration Maps](#) | [Projects](#) | [Developers](#) | [Statistics](#) | [RSS](#) | [Disclaimer](#) | [About](#) | [Help](#)

Configuration Map Names MSKSQLiteWithTests MSKSyslog MSKSystemExtension MSKTestModel MSKTreBinding MSKTreBindingWithTests MSKUDPMulticast MSKUREWrapper MSKVectorExtension MSKVectorExtensionsWithTests Obdobion, EMan - Developer Obdobion, EMan - Distribution Obdobion, EMan - Examples Obdobion, EMan - Runtime Philemon Event Support Philemon TaggedData Philemon Tools Pier Pier Seaside Pier Seaside Tests Pier SIXX Persistence Pier Tests Raphaël - JavaScript Library Refactoring Browser Refactoring Browser Model RefactoryTesting Seaside GoogleChart SIXX SIXX Tests SpsPdfLib SpsPdfLib Development SUnit Browser SUnit Browser - Packagable Test Browser VASTGoodies.com Tools VBRegex	Versions Download AvO.18 AvO.17 AvO.16 AvO.15 AvO.14 emm.13 AvO.11 AvO.10 AvO.9	Applications Browse EnvySeasideBaseApp AvO.15 EnvySeasideClientViewApp AvO.22
	Config. Expressions	Required Maps Jump
	Notes	
	Comment	

Use the **VASTGoodies.com Tools** to submit your contributions.

New Session Configure Halos XHTML 0/0 ms

Import from VAStGoodies



Import from VAStGoodies (cont.)

Download from VAStGoodies.com

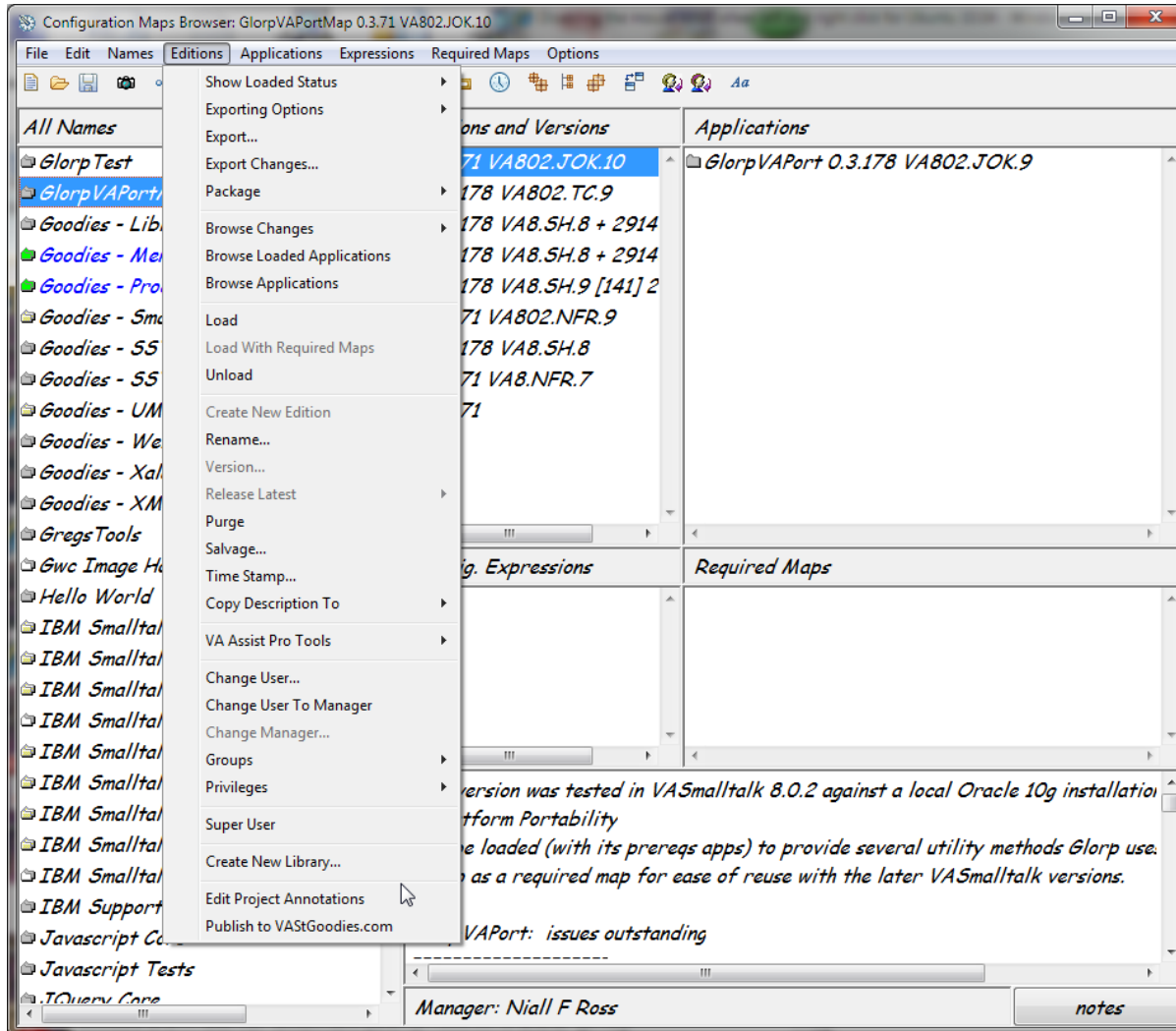
Configuration Maps	Versions	Selected Versions
JQuery-plugin Table Sorter	2.0.4 [already in library]	
JQuery-plugin Table Sorter Example	2.0.3-2 [already in library]	
JQuery/JQueryUI	2.0.3	
JQuery/JQueryUI Tests	2.0.1	
JSON	1.7	
Magritte	1.6	
Magritte Seaside	1.5	
Magritte Tests	1.2	
Mastering ENVY/Developer Refactoring E		
MetaTest Browser		
MethodPragmas		
MethodWrappers		
MethodWrappersBase		
MSKDiBase		
MSKDiBaseWithTests		
MSKFLLInterface		
MSKFreeImageWrapper		
MSKGeneralDatabase		
MSKGLibWrapper		
MSKGLibWrapperWithTests		

OK Cancel

Annotations

- Meta data of you project
 - License information
 - URLs to help to building a community around your project
 - Some additional information used to populate pages at VASGoodies.com
- Pay attention to the license
 - Be clear, or companies won't use it
 - Choose one, or companies won't use it
 - Keep it simple, choose MIT

Edit Project Annotations



Edit Project Annotations (cont.)

Edit Annotations for Philemon Event Support - emm.1

VASTGoodies.com

Developer Project

Philemon Event Support - emm.1

project	Event Trigger Support
projectUrl	
blogUrl	http://philemonworks.wordpress.com
discussionUrl	http://philemonworks.wordpress.com
emailAddress	ernest.micklei@gmail.com
licenceType	MIT
licenceUrl	
tags	event,trigger,notification,announcement

Description Wiki syntax is allowed here

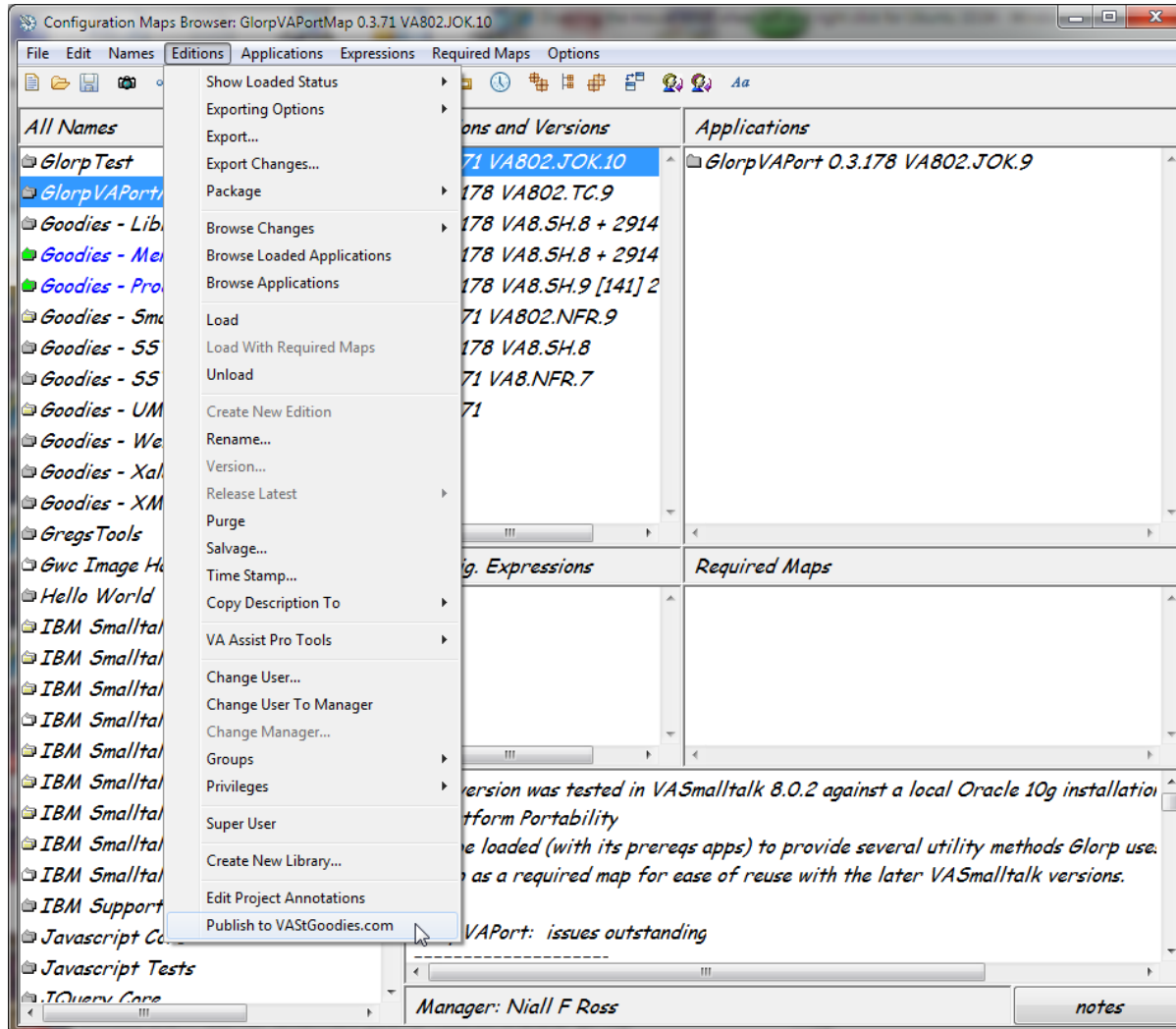
The application PhilemonEventTriggerSupport adds EventModel to the VA Smalltalk. Features include:

- adds Object>>when: anEventNameSymbol send: aSelectorSymbol to: anObject
- adds Object>>asValue returning a EventValueHolder that sends notifications on value change
- adds EventModel, EventValueHolder and InterfaceAdaptor
- policy based change notification

Ideas are based on the VisualWorks triggerEvent: mechanism.

Ok Cancel

Export to VASStGoodies



You're done!

- Pick another package and start porting it