VA Smalltalk Update

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Agenda

- Company Update
- Current Release Content
- Next Release Candidates
- Q&A

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Company Updates
Non-Development Activity

- ## User Outreach
  - ### Conference sponsors and participants
    - ESUG, STIC, Smalltalks
  - ### Supporting new Smalltalk Foundation
    - CEO Mike Taylor joined Board of Directors
    - CTO John O'Keefe joined the Advisory Board
  - ### VA Smalltalk Google Group
    - Aggregated on **[Smalltalk]** http://forum.world.st
    - Old forum content (prior to May, 2011) still available (readonly)

- ## "Videos and Podcasts" pages on website
  - http://www.instantiations.com/resources/st4u_videos.html
  - http://www.instantiations.com/resources/videos.html

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New Release

V8.6.1 available soon!

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V8.6.1 Content
Base Class Libraries

- Zip/Unzip available on all supported platforms
- Complete Base64 Encode/Decode replaces ad-hoc encoding/decoding
- Portable Color class replaces CgRGBColor class for GUI
- TranslucentColor class added to handle alpha channel
- NumberParser framework added to replace ad-hoc parsing

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V8.6.1 Content
Graphics Framework Improvements

- Increased performance of the event dispatching loop
  - filter out non-keyboard events early before attempting to detect accelerators and traversal keys
- Dead-Key character support used for non-English keyboard layouts

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V8.6.1 Content
Text Editor Improvements

- Entire Scintilla 3.4.4 API supported

- All Scintilla API calls use Direct-Access instead of the windows message queue

  - up to 25x communication performance improvement

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V8.6.1 Contents
General Browser Enhancements

- Better looking default browser and code fonts

- Improved progress bar
  - Use native progress bar on Windows
  - Use emulated control on UNIX

- Reduced ENVY calls needed to produce browser decorations
  - Important for high-latency network and/or large managers

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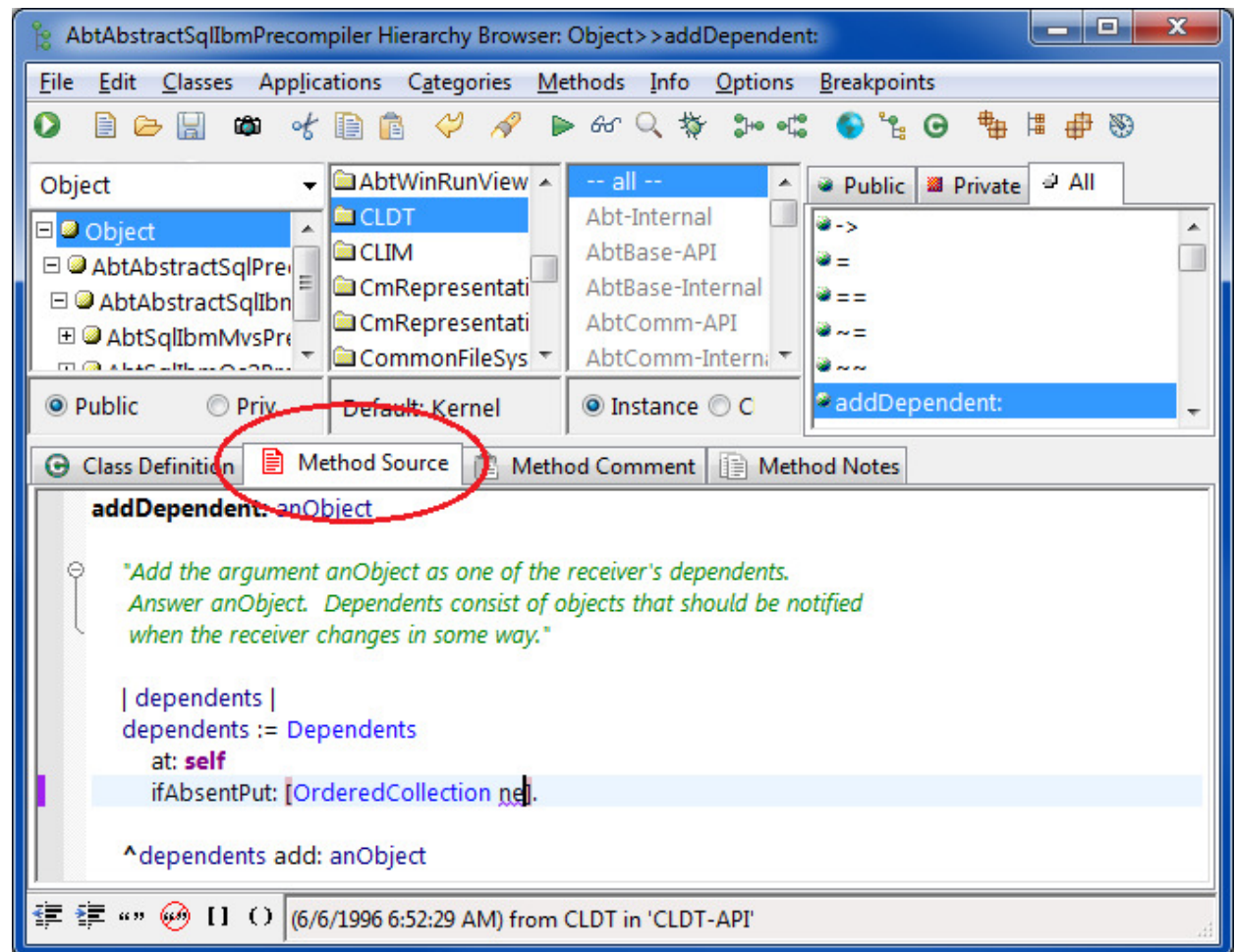# V8.6.1 Contents
Application Manager

- New virtual "-- all --" category to show methods from all categories
- "--all--" is the default

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V8.6.1 Contents
Tabbed Browsers

Method browser tabs show dirty state by changing the color of the tab icon

State maintained so undo can reach clean state
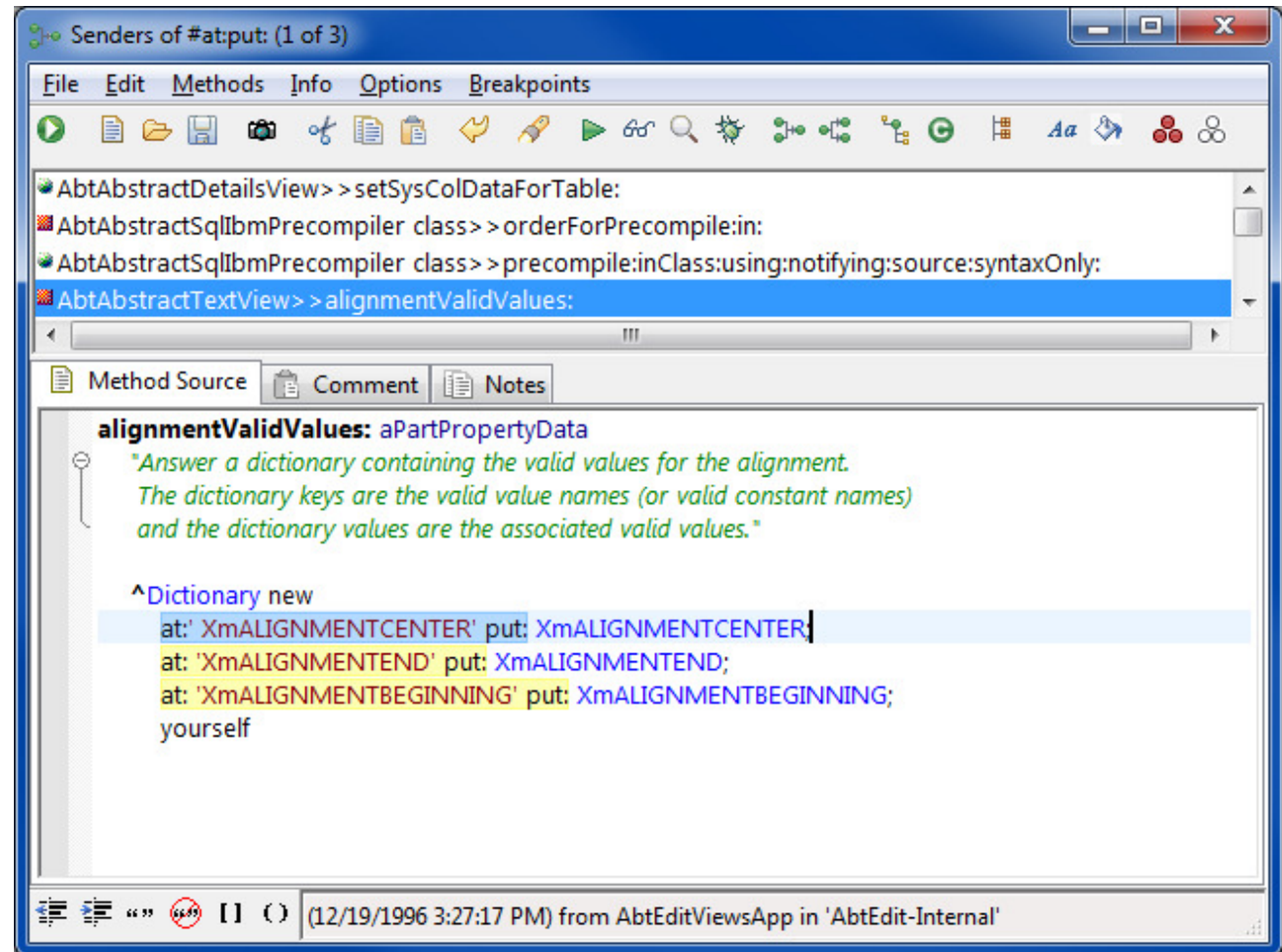
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V8.6.1 Contents
Highlighting Browsers

Highlight uses context-sensitive algorithms

  Browsing senders of a selector will not highlight all strings and substrings that match the selector name, just the method selectors
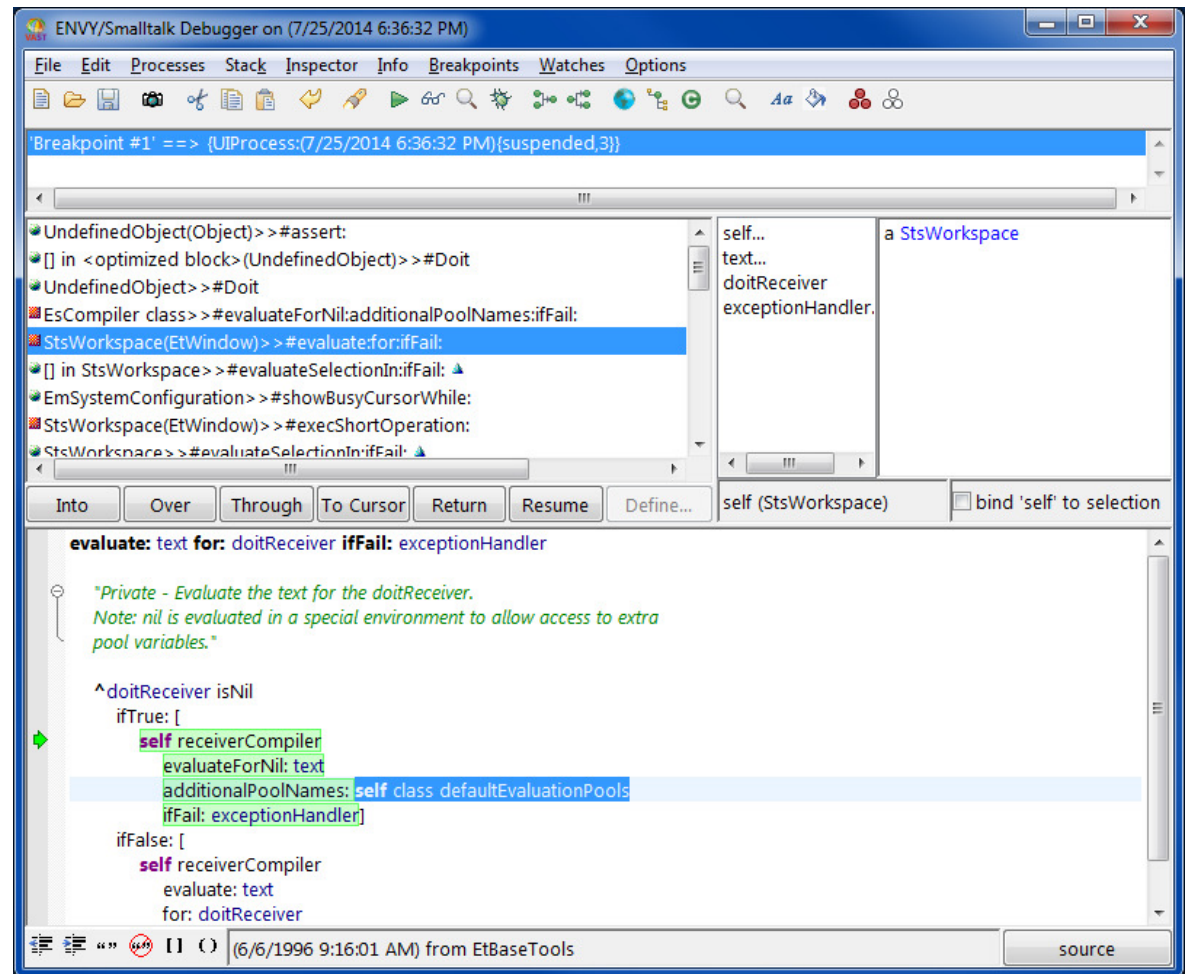
Enhanced with Scintilla visual effects

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V8.6.1 Contents
Inspector Enhancements

- Major performance improvement to inspectors on large keyed collections

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V8.6.1 Contents
Debugger Enhancements

Enhanced with
Scintilla visual effects

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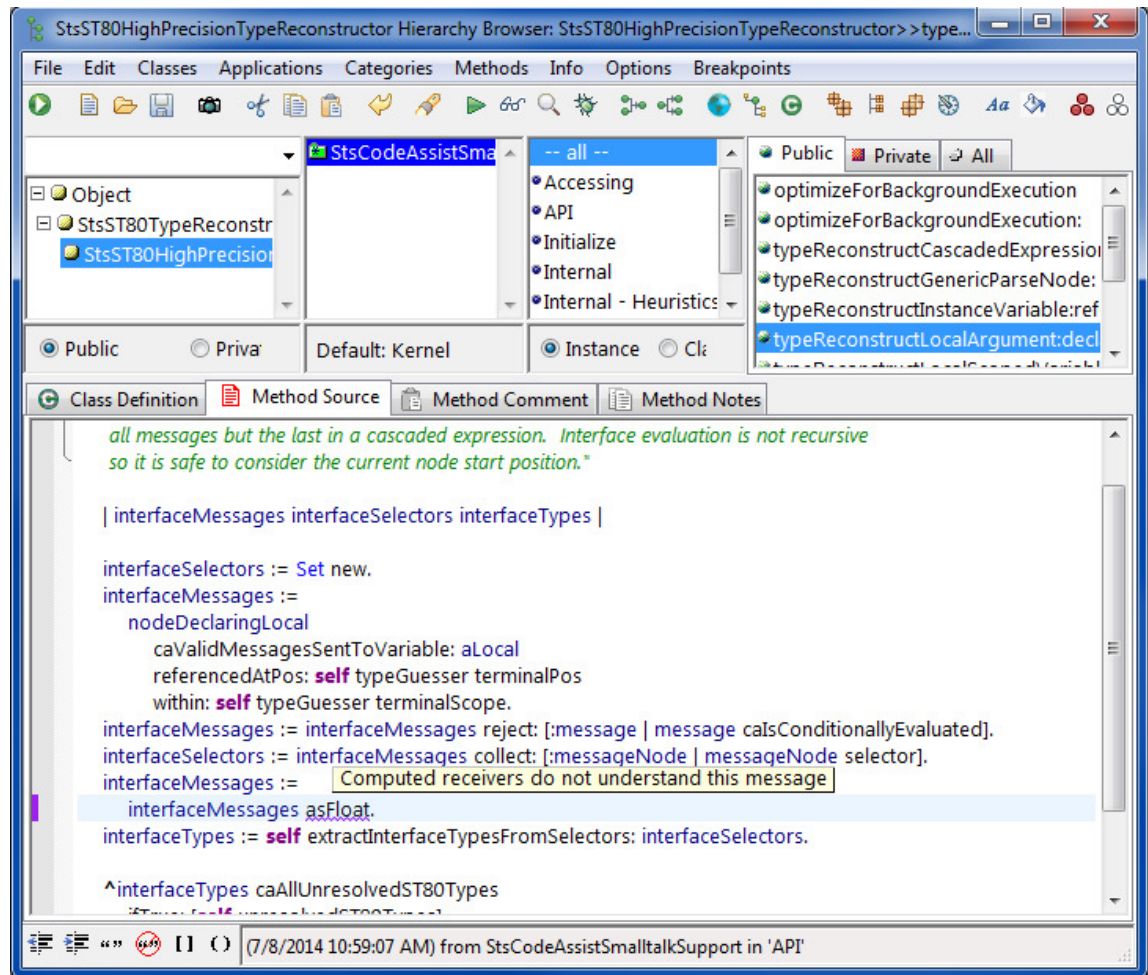**VA Smalltalk**

V8.6.1 Contents
Code Assist Enhancements

Code Completion

Added "Define Accessor" suggestions to produce definition of getter and setter

Comment Folding with support for Auto-Collapse

Type Checker

Background task works to type receivers of method sends to help discover errors early

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V8.6.1 Contents
Code Assist Enhancements

- ## Bracket Highlighting
  - Uses indicator underlays as default making them easier to see
  - Draws a margin marker on the line of a matched bracket when that bracket is off-screen (in either the x,y direction)

- ## Action-List Calltips
  - Calltips can uncollapse to produce a list of actions (i.e. refactoring, correct spelling...) that can be selected by the user

- ## Margin Markers to help identify the location of errors and warnings

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V8.6.1 Contents
Interactive Refactoring

- Common refactoring that can be performed in an interactive manner without popups
  - Visualizations are used to show feedback and conflict detection
  - Local Variable Rename
  - Push-Down Temp
  - Declare Temp
  - Remove Unused Temps (supports batch mode)

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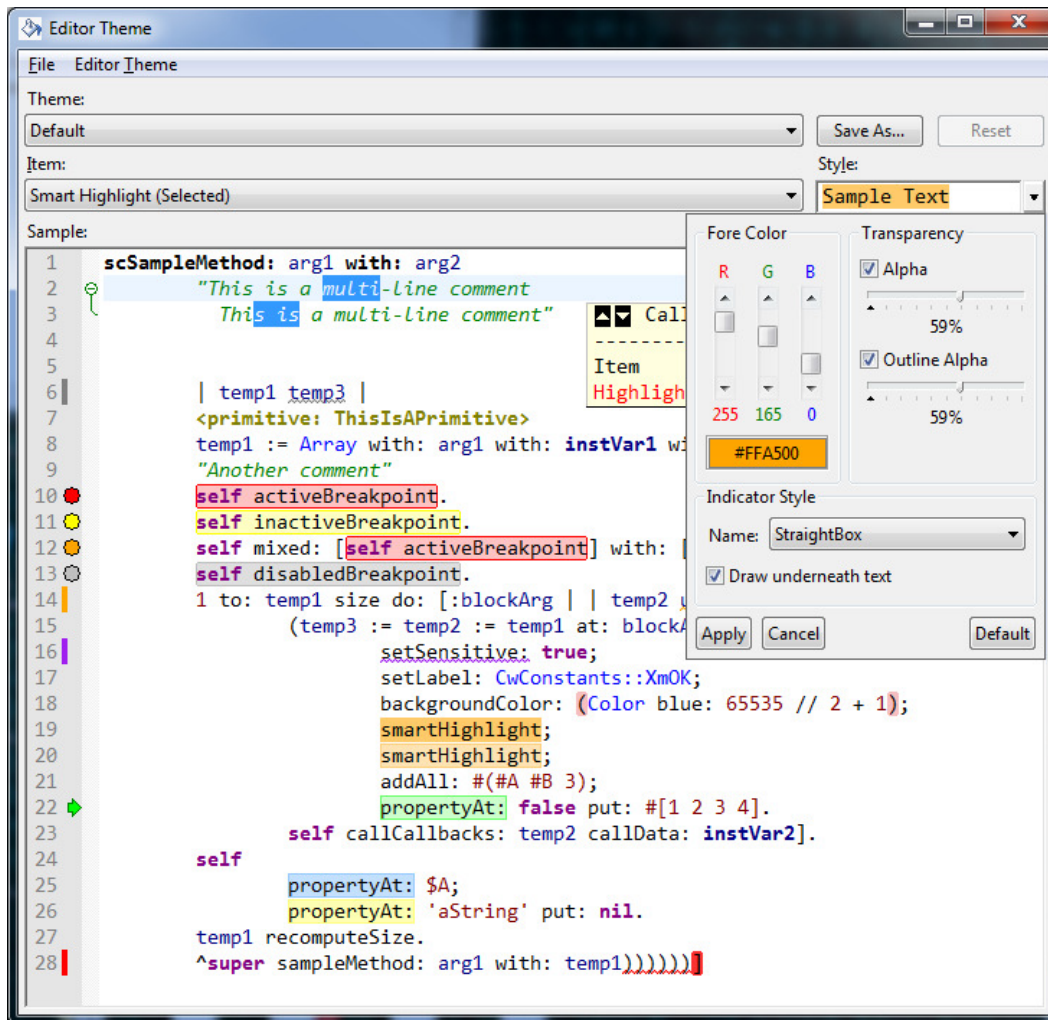VA Smalltalk

V8.6.1 Contents
Lint Checker

- Background task performs lint checks on the code you write, as you write it
  - Prerequisite visibility - Identifies refs and methods that are not visible in prereq chain. Helps with packaging and general code base organization and maintainability
  - Unused temp (with option to invoke refactoring and remove it)
  - temp read before written, temp written but never read
  - temp could be pushed to inner scope (with option to invoke refactoring and push it to the preferred scope)
  - Misspelled selectors (with option to correct spelling)
  - Undefined temp (with option to define it at a scope of your choice using interactive refactoring)

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V8.6.1 Contents
Editor Theme Management

Every visual effect used in the code editor is customizable through an easy-to-use UI

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Come to Seth Berman's "Pushing the VA Smalltalk Editor Onward and Upward" session @ 12:00 Friday for details and demo

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V8.6.1 Contents
Monticello Importer Improvements

- Monticello Importer available on all supported platforms
- Better prerequisite guessing for imported apps
- Improved class comment handling

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V8.6.1 Contents
ENVY Manager Library

- ## EMSRV for Windows
  - Warning when running on multiprocessor hardware removed

- ## EMSRV for UNIX
  - Filesystem limitations removed - all filesystems supported

- ## EMSRV for Linux
  - 16GB manager library supported (was 2GB)

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V8.6.1 Contents
Seaside and Grease

- New port levels available
    - Grease 1.1.6
    - Seaside 3.1.1 (plus a few 3.1.2 fixes)
- Mostly small bug fixes
- Configuration maps identify the Metacello package version used for the port:
    - `ConfigurationOfGrease-DiegoLont.254`
    - `ConfigurationOfSeaside3-JohanBrichau.151`

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V8.6.1 Contents
Web Services Updates

- Web Services framework will now deploy WSDL containing SOAP 1.2 bindings
  - Both 1.1 and 1.2 bindings into the same container
  - Web service namespace was previously a global value
    - Each web service now queries its bindings to determine whether to use the 1.1 or 1.2 namespace
    - You must still set the soap envelope style for each service using SstWSService>>sstSoapEnvelopeNamespace:
- AbxXmlBasicTools Enhancements
  - Generate classes from WSDL containing schemas that define anonymous complex types

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V8.6.1 Contents
WebConnection Updates

- Updated WebConnection binaries
  - MSVC compatible sources and makefiles
  - Updated binaries built using MSVC

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V8.6.1 Contents
GLORP

- GLORP port updated to 7.10.1-3

  - Was 7.9.1-4 in V8.6

- GLORPTest port updated to 7.10.1-1

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V8.6.1 Contents
SQLite

- Full support for SQLite3
  - 2 new loadable features
    - Database, SQLite
    - Database, SQLite Testing
  - Integrated with VA Smalltalk database framework
  - Access SQLite databases in memory or on disk
  - Runs on all supported platforms

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V8.6.1 Contents
Windows Installer

- Location of the library manager is selectable

    - Default is the same as in 8.6

- Checkbox for selecting Environments desktop shortcut now a separate dialog

- Directories whose content is version-specific have version name included (ex: nls861)

- Upgrade from 8.6 to 8.6.1

    - Installer detects 8.6 and perform an upgrade

    - Will run importer tool to upgrade existing manager or install new manager

    - Important 8.6 directories are retained

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V8.6.1 Contents
UNIX Installers

- New headless installer (.deb and .rpm) for Linux
- Separate packages for client/manager and documentation
- AIX and Solaris Installers unchanged

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V8.6.1 Contents
Environments Management Tool

- Support for side-by-side Environments

- Detect/avoid data collisions when running multiple copies of Environments

- Selectively refresh all files for the chosen Environment (not just the image file)

- Import Environment folders that are not currently defined to Environments

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V8.6.1 Content
Documentation

- Getting Started Completely rewritten to show
  - how to launch the product
  - how to save your work
  - simple VA Smalltalk code examples (in addition to the visual programming examples)
  - introduction to available tools
  - introduction to VA Smalltalk concepts
  - next steps to more in depth information

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V8.6.1 Content
New Platforms

- Fedora 20
- Ubuntu 14.04

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Looking to the Future

Future Releases

- Release schedule is about once a year
  - Depends on volume of content
  - Current content information in Product Roadmap
    - http://www.instantiations.com/products/roadmap.html
- Content based on requirements from:
  - Direct customer interactions
  - Forums
  - Support cases
  - Internals

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Next Release
Candidate Items

- ## Internationalization
  - ### Full Unicode/UTF-8 (including VM and system APIs)
    - Based on International Components for Unicode (ICU) module

- ## Web interface
  - ### Seaside 3.x
  - ### Continuation support

- ## Infrastructure
  - ### Announcements (needed for Roassal)
  - ### Full inflate/deflate support (needed for .PNG)

- ## Middleware
  - ### Postgres   –or-
  - ### MongoDB

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Next Release
Candidate Items

- GUI Look-and-Feel
  - Common Widgets Application Window framework
    - Used by SUnit, Seaside, and Roassal
  - Icon/image support enhancements
    - Support for alpha-channel (blending)
    - Support for .PNG file (R/W)
  - Windows Common Controls
    - TreeView improvements

- Server
  - Easy to use server farms

- Installation
  - Headless install for AIX and Solaris

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Next Release
Candidate Items

- ## Development Tools
  - Roassal
  - WAN gateway for EMSRV

- ## Security
  - 'Basic' security framework (consolidate existing OpenSSL wrappers and update to OpenSSL 1.0.2 or later)

- ## Performance and Scalability
  - Incremental garbage collection
  - 64-bit Smalltalk

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Dino2 32/64 Bit VM Project
Process

- Kiln replaces image as code repository
- GCC replaces platform-specific compilers
- CodeBlocks replaces Smalltalk as IDE
- CMAKE/CTEST/CDASH replaces ad-hoc build system for CI builds of VM
- Incremental development
  - Shimming to make the new 32-bit VM always runnable
- Continuous improvement process
  - Fixes back-ported to current VM
  - Some improvements back-ported to current VM

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Dino2 32/64 Bit VM Project
Results

- Existing VM is 90% Smalltalk Model -> ASM
- New VM is rework of existing VM to 99.998% C
- LIBFFI for external callout and callin
- New 32-bit VM
  - Fully functional and fully compatible with current VM
- Image is 32/64 bit transparent
  - Smart structures support auto-alignment by platform
- New 64-bit VM (simply recompiled 32-bit VM)
- Completely new 32/64 bit JITter
- New bytecode set (32/64 bit transparent?)

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How Do You Get VA Smalltalk?

- Download evaluation copy
  - http://www.instantiations.com/products/vasmalltalk/download.html
- Buy development licenses
  - http://www.instantiations.com/products/purchase.html
- Download development build
  - Announced in VA Smalltalk Google Group
- Be a committer on an Open Source project
  - http://www.instantiations.com/company/open-source.html
- Work for an educational institution
  - http://www.instantiations.com/products/academic-license-program.html

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Contact us

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Thank you for your attention

Questions?

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