ActiveState

Dynamic Tools for Dynamic Languages

The (Active) State of Tcl

15th Annual Tcl Conference (2008)
Jeff Hobbs
Director, Languages
ActiveState Corporation

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Agenda

- Introduction
- What has happened…
- Developments in the Tcl community
- The Active State
- Developments of the Tcl/Tk core
- Future directions

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About ActiveState

- **ActiveState Software Inc.**
  - Over 10 years focusing on open source dynamic languages
  - Independent again since February, 2006
- **ActiveState provides multi-language, cross-platform software & services**
  - Tcl, Perl, PHP, Python, Ruby
  - AIX, HP-UX, Linux, Mac OS X, Solaris, Windows, …
- **Comprehensive Software Stacks for Dynamic Languages**
  - Make programming easier using dynamic languages
  - Active distributions
  - Software development tools (IDEs, Dev Kits)
  - Programmer resources (ASPN)
  - Enterprise support & OEM redistribution

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History of Tcl

1. **Tcl created** as general-purpose command/scripting language by John Ousterhout

4. **Scriptics formed**:
- Evolve and extend Tcl platform
- Create development tools

7. **ActiveState** introduces Tcl support and services

6.0 Sept | 7.0 Sept | 7.4 July | 7.6 Oct | 8.0 Aug | 8.1 Apr | 8.3 Feb | 8.4 Sept

1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 …

8.2 Aug

5. **Tcl Core Team** formed (August)

8.3.5 EOL Oct

2. **Open source distributions** from U.C. Berkeley:
- Easy GUIs under Unix
- Extensible applications

6. **Scriptics/Ajuba Acquired** by Interwoven (Nov)

3. **Tcl enhanced at Sun Microsystems**:
- Windows, Macintosh ports
- Web/Internet support
- Java support

8. **ActiveState acquired** by Sophos (Sept)

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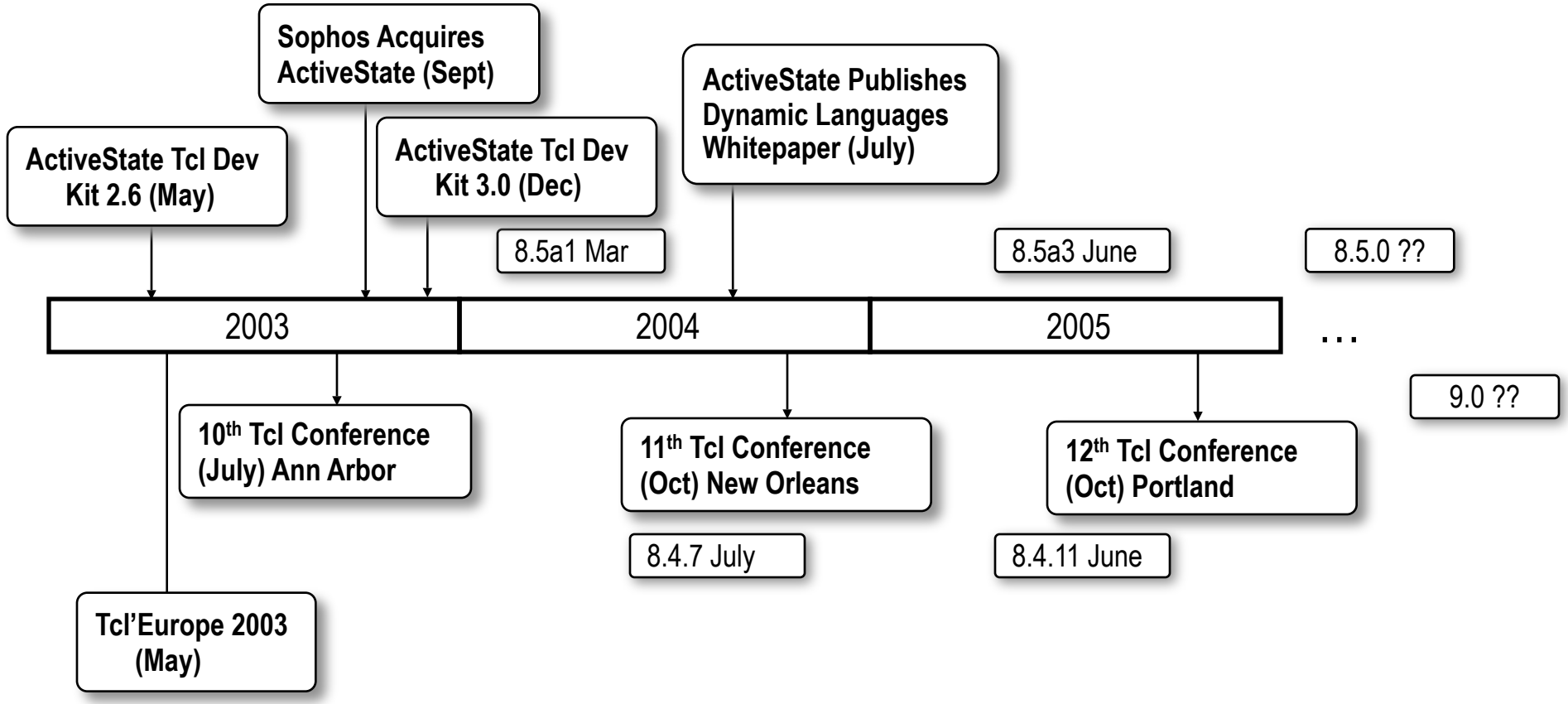
Recent History of Tcl



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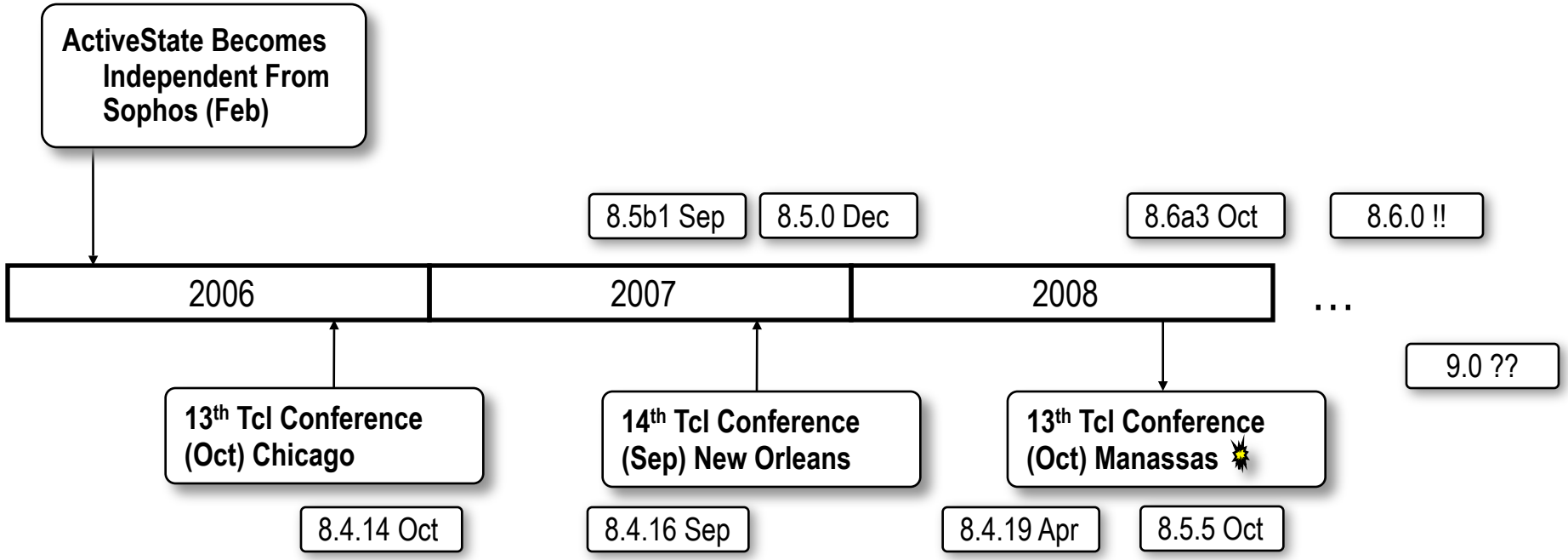
Recent History of Tcl



You are here

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Status as of Tcl'2007

- **September 24-28 New Orleans**
  - Mmm mmm good
- **Tcl/Tk 8.4.16 was the standard stable version**
  - Further stabilization
  - 8.4 now base standard in all distros
  - 5 years since 8.4.0
  - Numerous enhancements and additions
  - Getting long in the tooth ...
- **8.5b1 released**
  - Focus on putting 8.5 to bed
  - 8.6 vs. 9.0
- **Primary topics …**
  - 8.5 finalization
  - Food

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Tcl Core Team

- **Formed in August 2000 with 14 charter members**
  - Elected by community vote
  - Collectively manage development of the core
  - Now at 16 members

Mo DeJong	Andreas Kupries
Donal Fellows	Karl Lehenbauer
Mark Harrison	Joe English (2005)
D. Richard Hipp	Jan Nijtmans
Jeffrey Hobbs	John Ousterhout
George Howlett	Don Porter
Jim Ingham	Brent Welch
Kevin Kenny (2001)	Miguel Sofer (2004)

TCT: TIP Initiatives

- **TIP page for Tcl**
  http://tip.tcl.tk/
- **TIPs are intended to guide and document development on the core**
  - They focus on new or changing features, not bugs
  - Voted on by the TCT following community discussion using the TYANNOTT process
- **Currently 335 TIPs**
  - Divided into process, informational & project TIPs
- **TCT discussion is open on the public mailing list:**
  tcl-core@lists.sourceforge.net

Tcl/Tk Maintainers

- Tcl/Tk maintainers are separate from the TCT
- Maintainers oversee a specific area of the core, as defined in TIP #16 (Tcl) and TIP #23 (Tk)
- They assist, but are not solely responsible for, fixing bugs and adding docs in their area
- They are responsible for reviewing code and approving code changes to their area
- Open to anyone willing to learn the core
- New volunteers always welcome

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The Maintainers…

Tcl (TIP #24):

Daniel Steffen	Jim Ingham	Kevin Kenny	Jeff Hobbs
Miguel Sofer	Andreas Kupries	Rolf Schroedter	Vince Darley
Don Porter	Jan Nijtmans	Donal Fellows	Mo DeJong
Pat Thoyts	Joe Mistachkin	Pavel Goran	

Tk (TIP #30):

Allen Flick	Peter Spjuth	Todd Helfter	Jeff Hobbs
George Smith	Frédéric Bonnet	Kevin Griffin	Vince Darley
Chengye Mao	Jan Nijtmans	Donal Fellows	Mo DeJong
Joe English	Daniel Steffen	Ben Riefenstahl	Miguel Bañón

Always open for new recruits …

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Tcl @ ActiveState

- **ActiveState established 1997**
  - "Dynamic Tools for Dynamic Languages"
  - Used to be Perl specific
    - Well known ActivePerl distribution
  - Added Python and XML/XSLT expertise in 2000
- **Jeff Hobbs & Andreas Kupries hired in 2001**
  - Other knowledgeable Tcl'ers on staff
- **Wealth of scripting knowledge at ActiveState**
- **Acquired by Sophos in September 2003**
- **Freed from Sophos in February 2006**
- **ActiveState remains dedicated to dynamic languages**

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ActiveState and Tcl

- **ActiveState provides the Tcl community with…**
  - Improvements to open source Tcl core
  - Host of the Tcl Developer Xchange
  - Enterprise support infrastructure
  - Professional services for Tcl
  - High quality development tools
    - ActiveTcl
      - Batteries-Included free distribution
    - Komodo IDE
      - Professional IDE with extensive Tcl support
    - Tcl Dev Kit
      - Essential tools for Tcl programmers
    - ActiveTcl Pro Studio
      - Tcl Dev Kit, Komodo IDE, Safari Online

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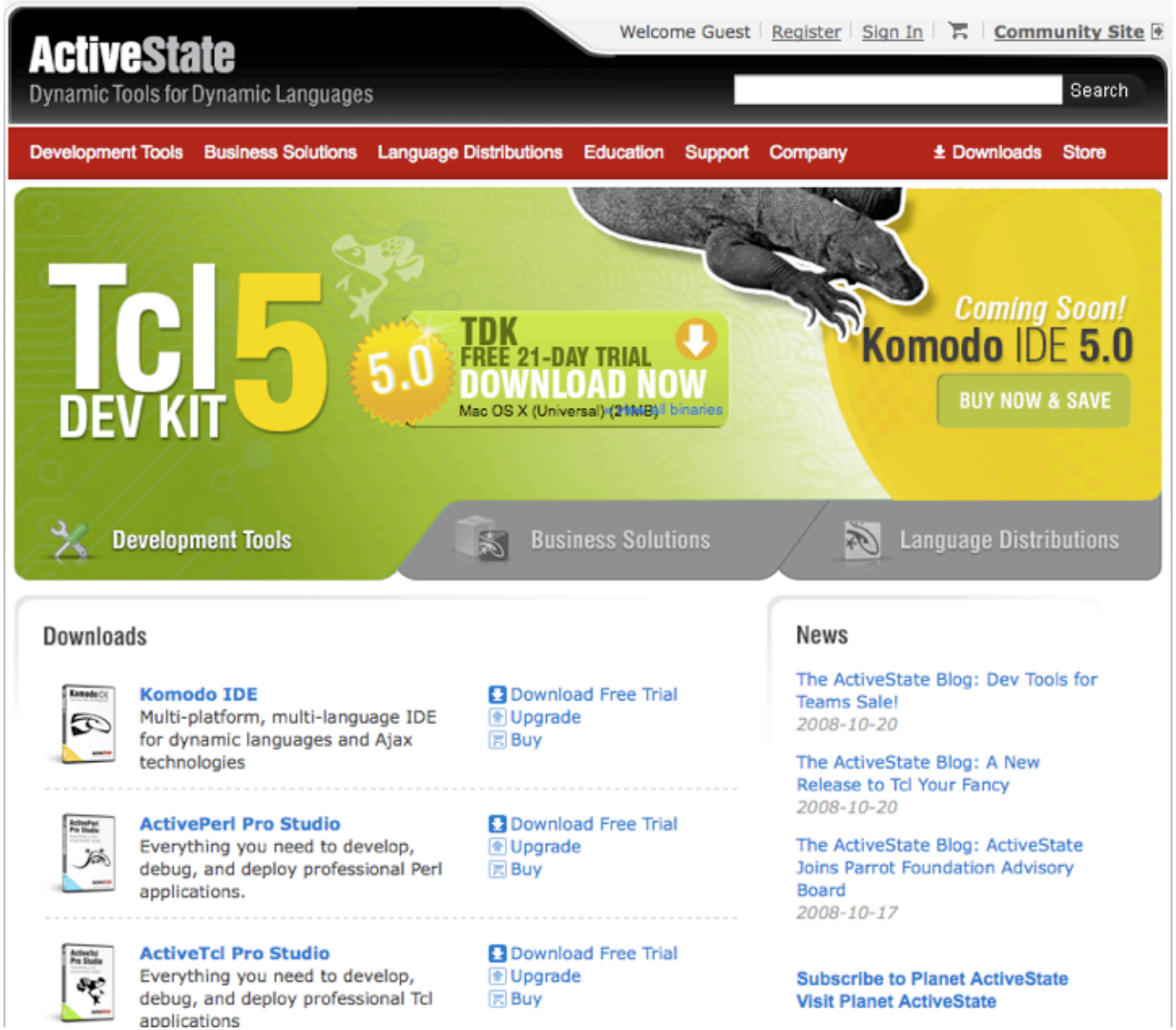

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Tcl Cookbook on new ASPN

ActiveState docs | code | community | mailing lists | downloads | planet | bugs | safari bookshelf

Hello, **Jeff Hobbs** | Account settings | Sign out

ActiveState Code

My recipes | Add a recipe | Recipes | Languages | Tags | Authors | Search

Recipe 528899: Script checking availability of network servers

Script checking availability of network servers If the server is not accessible, starts action The necessary data are read from a text file

The file of the data contains lines of a kind:

smtp_server:25:any_executed_program:my_smtp_server httpd_daemon:80:ps:corp_web_server

« Prev Next »

languages: Tcl
posted: Mon, 27 Aug 2007
by: Alex Khokhlov
rev: 2 (1 year, 1 month ago)
rating: no votes
Rate it: -1 +1

Comment on this recipe
Download this recipe

Tags

sysadmin

Tcl

```tcl
#!/bin/sh
#the next line restarts using tclsh\
exec tclsh8.4 "$0" "$@"

set msg "is down"
set file "hostslist"
set hf [open $file r+ 440]
set glist []
foreach line [split [read $hf] \n]  {
        set ls [split $line :]
        lappend glist $ls
}
close $hf
set fd [open logfile w+ 440]
puts $fd $glist
close $fd
```

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ActiveTcl 8.4.19.0

- **Based on the 8.4.19 Tcl core**
  - Released September 2008
- **Enhanced with many popular extensions**
  - XOTcl, [incr Tcl], TclX, expect, tcllib, tklib, Bwidgets, iwidgets, tktable, tkcon, tile, SQLite, …
  - 300+ packages in all
- **A standard batteries-included distribution for Tcl users**
  - Available for AIX, HP-UX, Linux, Mac OS X (universal), Solaris (x86 and sparc), Windows
    - Windows and OS X builds are fully threaded
  - Other platforms supported in Enterprise Edition
- **TEApot code repository via `teacup`**

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ActiveTcl 8.5.5.0

- **Based on the 8.5.5 Tcl core**
  - Released October 2008 – on your USB key
- **Distributed with fewer extensions**
  - Can utilise the 8.4 extension set
  - 90+ packages - the rest available via `teacup`
- **Considered the default download**
  - An enhancement to the stable 8.4 distribution
  - Available for AIX, HP-UX, Linux, Mac OS X, Solaris, Windows
    - All builds are fully threaded (including known pthread/fork issues)
- **What are you missing?**

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ActiveTcl 8.6.0.0 Beta 1

- **Based on 8.6a3 Tcl core**
  - Not yet released - on your USB key
- **Similar to ActiveTcl 8.5 extension set**
- **More discussion on 8.6 to follow**

The TEApot

- Binary code repository in the style of ActivePerl's PPM
- Fully populated for ActiveTcl platforms
- Makes use of Tcl module system
  - Allows zip archives with special teapot.txt
- Repository is web visible, but rough

- Downloads index – local searches
- Integrated with TclApp package searching (TDK 5)

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ActiveTcl Pro Studio

- **Formerly ASPN Tcl**
- **Introduced December 2001**
- **Professional Tools for Tcl Developers**
  - Tcl Dev Kit 5.0
  - Komodo Pro IDE 4.4 (5.0 now in beta)
  - Safari Bookshelf online books

Tcl Dev Kit 5

- **5.0 released October 2008**
  - Added 8.6 support
  - Enhanced static syntax analysis
  - Supports multi-architecture starkits, x-platform starpacks

- **Includes the traditional TclPro tools, revamped:**
  - *Debugger*: source-level debugger with GUI
  - *Checker*: find errors without running application
  - *TclApp (Wrapper)*: create self-contained applications for distribution
  - *Compiler*: protect your source code
  - Enhanced features and UIs for original tools
  - Version independent from ActiveTcl

Tcl Dev Kit 5

- **Additional tools**
  - *Coverage*: coverage and hot-spot analysis built into the Debugger
  - *TclSvc*: create and manage Tcl scripts as Windows NT services
  - *TclApp*: rewrite of the wrapper based on VFS and starkit architecture, cross-platform wrapping
  - *Inspector*: runtime Tcl application browser to complement the Debugger
  - *X-ref*: examine dependencies in your code
  - *VFS Explorer*: examine starkits/starpacks

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Komodo 5

- **Professional IDE for dynamic languages**
  - Professional IDE features
  - Integration with Tcl Dev Kit
  - Unique Tcl editing features
  - Cross-platform (Windows, Linux, & OS X)
  - Also supports Perl, Python, PHP, Ruby and more
- **New in 5.x ...**
  - Added support for git, hg, bazaar (4.x had cvs, p4, svn)
  - Code formatting tool hooks
  - Multiple toplevel windows
  - Faster and slicker UI
  - Performance improvements and bug fixes

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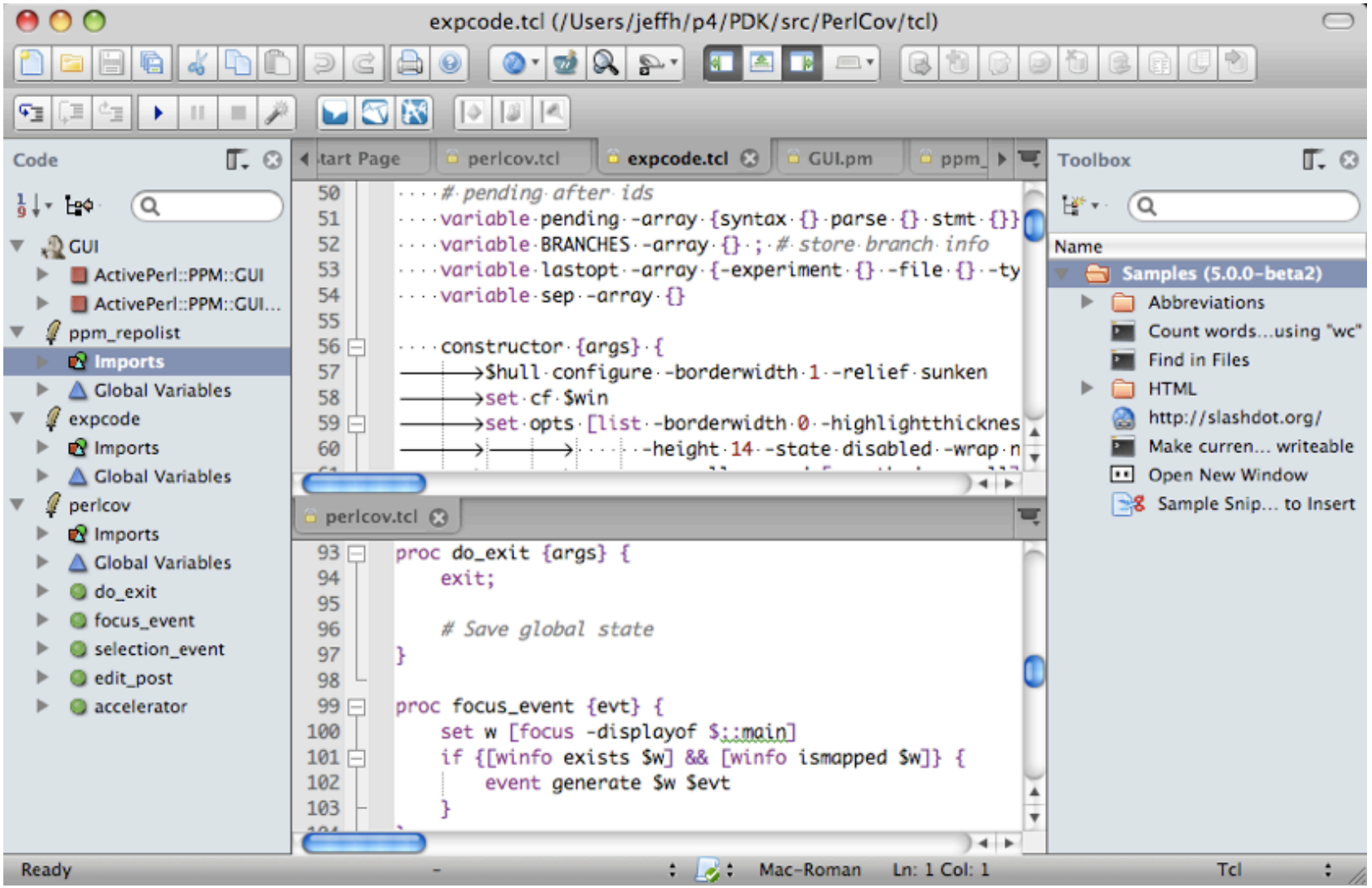
Komodo 5



In the Community…

- **The Tcl Developer Xchange:**
  - http://www.tcl.tk/ aka http://tcl.ActiveState.com/
  - Official home page for Tcl and Tk
  - Formal front-end, downloads, advocacy, history, …
- **The Tcl'ers Wiki has ~22,000 pages now:**
  - http://wiki.tcl.tk/
  - Wiki chat has constant traffic
    - HTTP-based with IRC bridge
  - Primary discussion forum
  - Community contributed and maintained
- **Tcl-URL! continues to provide weekly news:**
  - Posted weekly on news:comp.lang.tcl
  - Or subscribe: tcl-announce@listserv.activestate.com

Tcl/Tk Dev Online

- **SourceForge is for developers:**
  - http://tcl.sourceforge.net/
  - Bug and patch database
  - Mailing lists
  - CVS repositories
  - File server
    - Has Tcl sources back to Tcl 2.1
  - Developer web pages
- **Managed by TCT and Tcl/Tk maintainers**
- **Used by many other Tcl/Tk extensions and applications**

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Tcl Developer Xchange

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Tcl'ers Wiki

Welcome to the Tclers Wiki!

wiki.tcl.tk

Recent changes
Help

Search in titles
Search in pages

Getting started
- What is Tcl?
- What is Tk?
- Getting Tcl/Tk
- Getting help
- Learning Tcl
- The Tcl Dev Xchange
- About the Wiki

Community
- Advocacy
- Conferences
- Chat, news, lists
- History
- Humor
- People
- Tcl websites

Reference
- Companies
- Getting help
- Online books
- Online tutorials
- Manual pages
- Tcl roadmap
- Acronyms

Tcl software
- Applications

Aloha!! Thanks for visiting the **Tcler's Wiki**

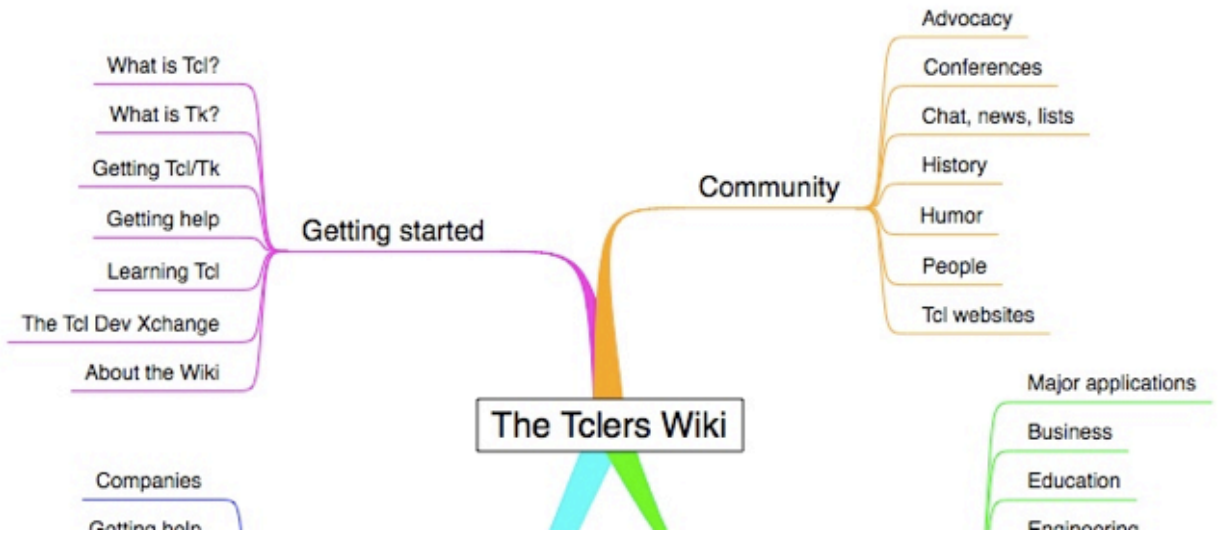
This is a collaboratively-edited area on the web, dedicated to the Tcl programming language and it's extensions, including the Tk graphical toolkit.

What is Tcl?

Tcl is a simple-to-learn yet very powerful language. Its syntax is described in just a dozen rules, but it has all the features needed to rapidly create useful programs in almost any field of application - on a wide variety of international platforms

What is Tk?

Tk is a graphical toolkit for Tcl. It allows you to develop graphical applications that run on Windows, Linux, MacOS X and many other platforms. And not just from Tcl - Tk can be used from many languages including C, Ruby, Perl, Python and Lua.



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Tcl @ SourceForge

SF Tcl | SF Tk | Tcl/Tk FAQs | Tcl Dev Xchange

Hosted by SOURCEFORGE.net

Welcome to Tcl/Tk @ SF

This is the *core development* home for Tcl (Tool Command Language, pronounced *tickle*) and the Tk toolkit. The TEA (Tcl Extension Architecture) sample extension and Thread extension are part of the SF Tcl project.

Tcl / Tk project resources at SF:

- File Distributions Get all source releases!
- Browse CVS Repositories: Tcl Tk
- Assorted Tcl/Tk FAQs
- Notes on SourceForge features
- Tcl Logos
- Tcl Engineering Manual *(PDF)*

And elsewhere:

- The Tcl'ers Wiki
- Pointers to Tcl extensions in CVS (with snapshots)

Tcl	Tk
Tracker	Tracker
- Bugs (**311 open / 3616 total**) Bug Tracking System	- Bugs (**337 open / 2133 total**) Bug Tracking System
- Patches (**96 open / 501 total**) Patch Tracking System	- Patches (**61 open / 239 total**) Patch Tracking System
- Feature Requests (**176 open / 460 total**) Feature Request Tracking System	- Feature Requests (**93 open / 182 total**) Feature Request Tracking System
Doc Manager	Doc Manager
Mailing Lists (**6** mailing lists)	Screenshots
CVS Tree (**7967** commits, **215** adds)	CVS Tree (**4352** commits, **221** adds)
FTP Released Files	FTP Released Files

Directly jump to a project's bug or patch by number:

Tcl Developer Xchange (http://www.tcl.tk/)

This is the primary information site for Tcl users of all levels. There is lots of information there (docs, resource center, howtos, ...). The place to download sources is the File distributions area.

A lot of Tcl discussion also occurs on the news:comp.lang.tcl newsgroup. If you do not have newsgroup access, this

Tcl/Tk 8.4

- **8.4.19 released April 2008**
  - At end of development life
  - 8.5 is now considered the stable line
- **Several core feature enhancements**
  - Virtual File System (VFS)
  - `lset`, `lsearch`, `trace` command, …
  - 64-bit integer and file-system support
  - Improved locale support in Tk
- **Significant work on performance**
  - 20+% performance improvement over 8.3
  - Near or better than 8.0, but now Unicode aware and thread-safe
- **New Tk core widgets and enhancements**

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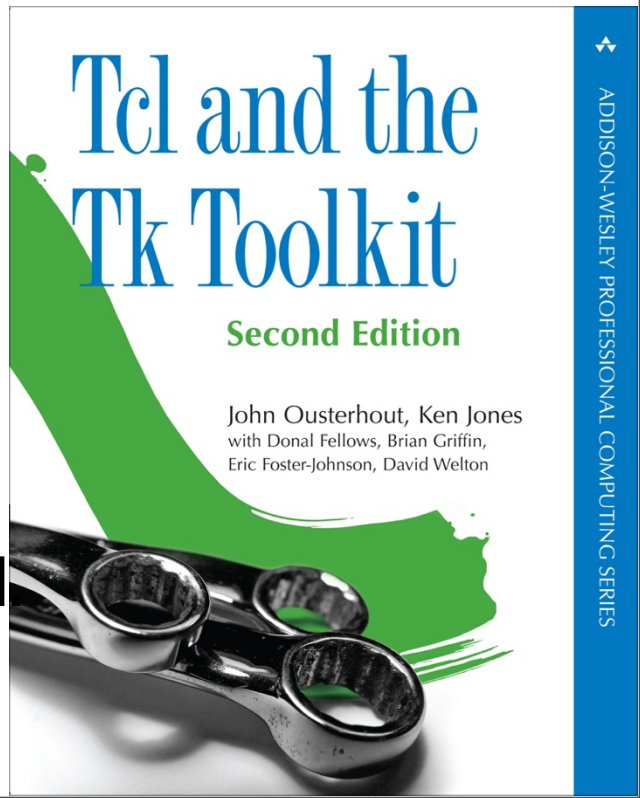
Tcl/Tk 8.5

- **Finished after almost 4 years in development**
  - 8.5a1 released March 2004
  - 8.5.0 final December 2007
  - 8.5.5 released October 2008
  - 8.6a1 development initiated April 2008
- **8.5 is 99.99% backwards compatible with 8.4 at the Tcl level**
  - Exceptions are in error cases
  - Bytecodes have changed, watch version compatibility
- **Over 100 TIP features included in 8.5**
- **Coming soon ... Tcl & Tk Toolkit, 2nd ed**



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Tcl 8.5 expand and dict

- **New `{*}$aList` expansion operator**
  - Replacement for oft-misused `eval`

```
    eval exec [auto_execok start] [list $url]
=> exec {*}[auto_execok start] $url
```

- **New `dict` data structure**
  - Order-preserving key/value pairs kept as Tcl_Objs
  - More efficient and nestable
  - Close pairing with `[array get]` and lists
  - Can replace any use of TclX keyed lists
  - Numerous subcommands for filtering, updating data
  - Some operations byte-coded
  - 8.4 emulated version in ActiveTcl

Tcl 8.5 expr

- **New `expr` operators**
  - `**` (exponentation), `min`, `max`, `isqrt`, `bool`, `entier`
  - `in` (in list) `expr {"b" in {a b c}} => 1`
  - `ni` (not in list), replaces use of `lsearch != -1`
- **New `::tcl::mathfunc` namespace for functions**
  - Define `expr` functions at the Tcl level
- **New `::tcl::mathop` namespace for operations**
  - Allows importing as procs for prefix math
  - All functions are byte-compiled
- **No more integer overflow because of bignums**

Tcl 8.5 bignums

- `expr 2 ** 1024`
  - 179769313486231590772930519078902473361797697894230657273430081157732675805500963132708477322407536021120113879871393357658789768814416622492847430639474124377767893424865485276302219601246094119453082952085005768838150682342462881473913110540827237163350510684586298239947245938479716304835356329624224137216
- **Every single bit hand-verified by Kevin Kenny**
- **Work continuing on performance of bignums**
- **Bignums available for all expressions, but most indexing is still limited to 32-bit values (ie: `string index`, `lindex`)**
- **Floating point handling improved to reduce rounding errors**

Tcl 8.5 list ops

- **Added `lrepeat`, `lassign`, `lreverse`**
  - `lassign` is as taken from TclX
  - `lrepeat number element1 ?element2 element3 ...?`
- **Extended `lsort`, `lsearch`**
  - lsearch -index -nocase -subindices
  - lsort -nocase -indices
- **List indices now support `int[+-]int` and `end[+-]int` syntax**

Tcl 8.5 namespaces

- **`namespace ensemble` (ensemble commands)**
  - Adopted from [incr Tcl], useful for subcommand-style procedures
  - `[::carrot::foo] == [::carrot foo]`
- **`namespace unknown` (per-namespace unknown control)**
- **`namespace path` (name resolution control)**
- **`namespace upvar` (namespace var efficiency)**

Tcl 8.5 clock

- **Completely revamped `clock` command**
  - 64-bit, new parser, ensemble-based
  - No more Y2038 issues, even on 32-bit systems
  - Full localization support
- **Several new subcommands**
  - **`clock add`**
    - Simplifies date math operations
  - **`clock microseconds|milliseconds`**
    - Improved resolution
- **Clock `scan` and `format` updated**
  - User-specifiable scan formats
  - Full set of Olsen timezone data

Tcl 8.5 interp

- **Resource limiting with `interp limit` command**
  - Time and command count based
- **Improved background error handling with `interp bgerror`**
- **Enhanced debugging with `info frame`**
  - Returns current command location and information
  - Understands origin (`source`, `proc`, `eval`, `precompiled`)
- **New `chan` command to consolidate channel operations**
  - Subsumes most `f*` file id manipulation commands
  - Channel reflection exposed at the Tcl level (`chan create`)
  - `chan truncate` added

Tcl 8.5 packaging

- **Enhanced `package` versioning**
  - Understand `a`, `b` designation in version number (`8.5a5`)
  - Allow for bounded version ranges
  - Control preference for stable or latest version available
- **Tcl Modules (`.tm`) package handling**
  - Intended to improve packaging long term
- **`tclsh` and `source -encoding` option**
- **`encoding dirs`**
  - Tcl level control of where to find encodings

Tcl 8.5 extras

- **Enhanced `catch` and `return`**
  - Make pure Tcl control structures more powerful
- **New `apply` operator for anonymous procedures (lambda)**

```
apply {x {expr {$x*$x}}} 5   =>  25
```

- **Several new `binary` format codes and improved unsigned value support**
  - `%t` (tiny/short), `%n` (normal/int), `%m` (wide), `%r/R` (single precision real), `%q/Q` (double precision real), `%u` (unsigned)
- **`scan` and `format` have `%llx` modifiers**
- **New `tcl_platform(pointerSize)` element**

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Tcl 8.5 switch and string

- `switch -regexp` can provide submatch information

```
switch -matchvar foo -indexvar bar -regexp -- $string {
   {\w*(e)\w*} {
      puts "matched [lindex $foo 0] with 'e' at \
            [lindex $bar 1 0]"
   }
   ...
```

- `switch` added a `-nocase` option
- New `string is list|wideinteger` classifications
- New `string reverse` subcommand

Tcl 8.5 gotchas

- **`global varName(elemName)` raises an error now**
  - Also for `upvar 0 x(1) y(1)`
  - Was previously an impotent operation that created inaccessible variables
- **Don't rely on integer overflow - shouldn't happen**
- **`list` properly quotes the # char**
- **`tcl_precision` now defaults to 0**
- **Auto-initialize for `incr`**
  - Previously an undefined var would cause an error
  - Gains semantic parity with `append`, `lappend`

Tk 8.5

- ***Themed* Widgets!**
  - Based on tile 0.7.8 work by Joe English
    - Identifies as tile 0.8.0
  - Complements of most classic Tk widgets
  - Some new widgets
    - notebook, combobox, progressbar, separator, treeview
- **Enhancements to existing widgets and dialogs**
  - Peering and smooth-scrolling text widgets
  - Tri-state checkbutton
  - panedwindow `-stretch` and `-hide` options
- **Standardized font names**
- **Xft support in X11 (anti-alias fonts)**
  - Requires recent Linux distro

Tk 8.5 extras

- **Enhanced `wm` commands**
  - More toplevel attribute control
  - Photo images for icons
  - Dockable windows (reparenting of frames)
- **Cubic Bezier curves on the canvas**
- **Improved grid geometry management**
  - `row|columnconfigure` by widget name
  - Overall grid anchoring
- **Virtual event user data (`%d`)**
- **Control over idle (activity) timer**
- **Enhanced demos**

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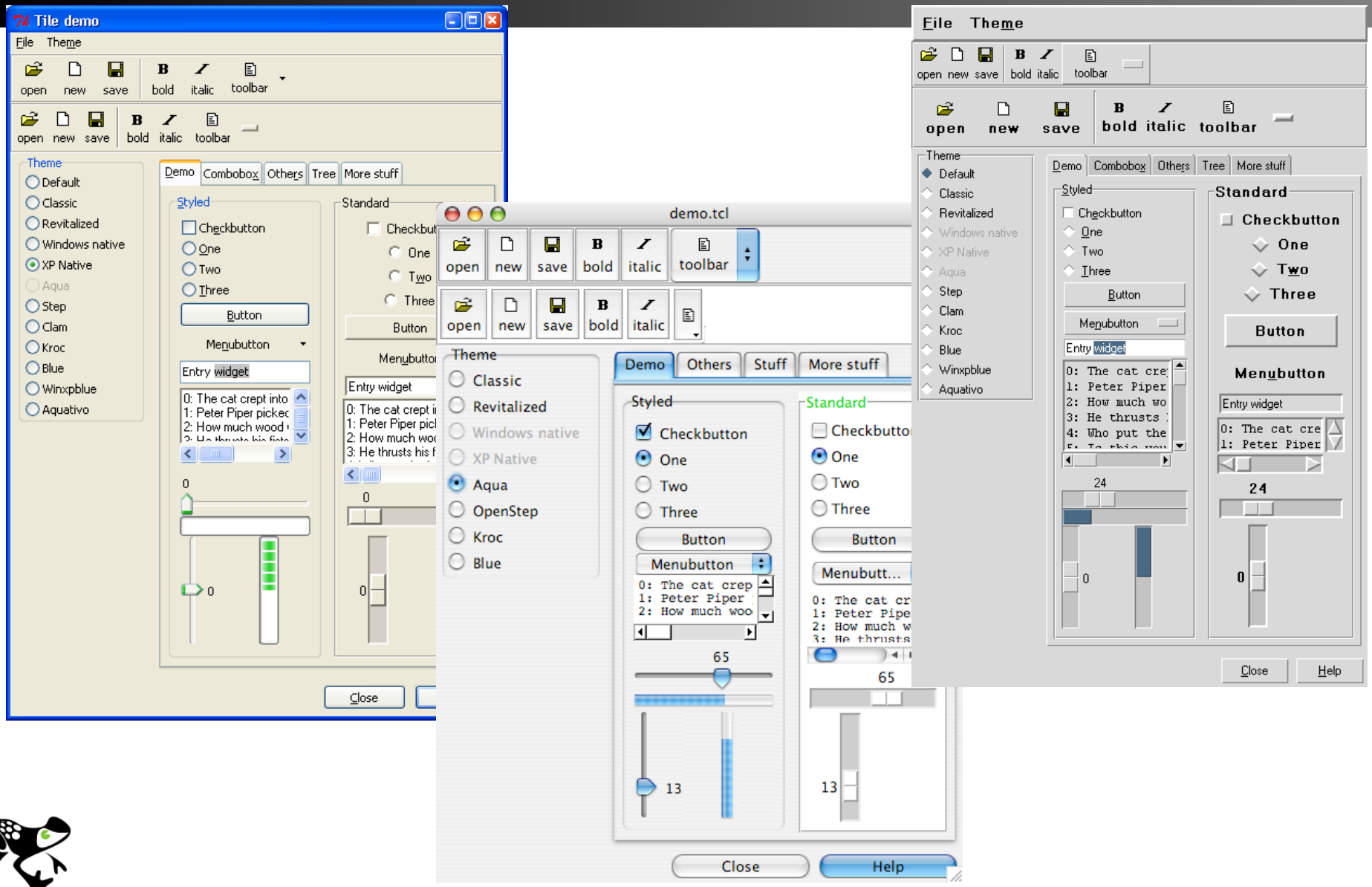
Tk 8.5: The Future is Now!



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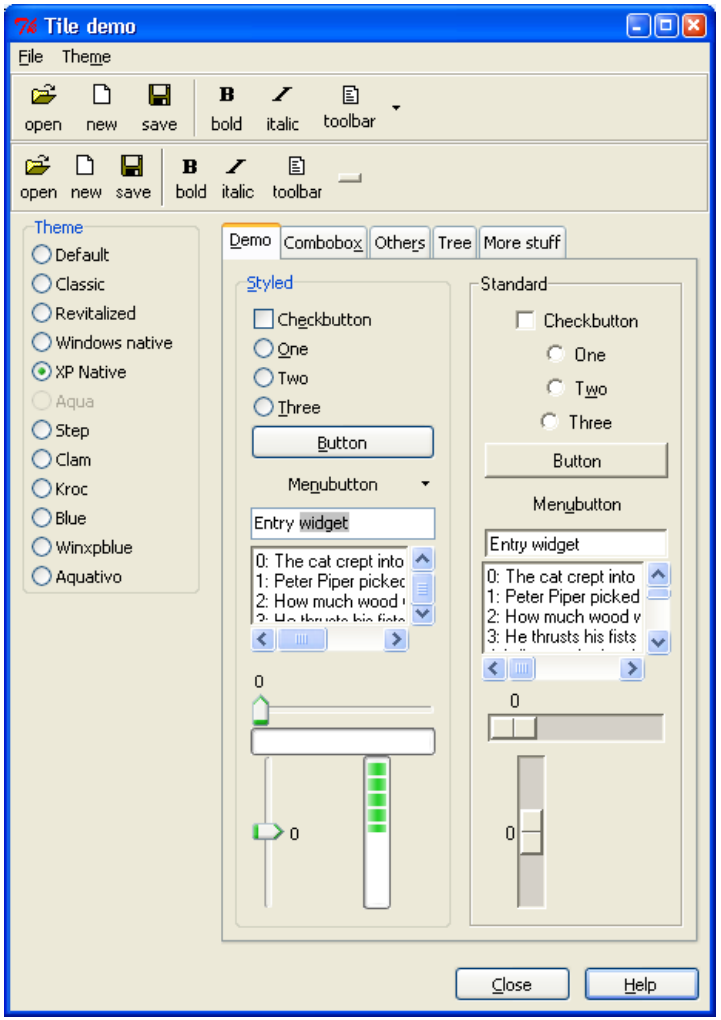
Tk 8.5: Ttk

- **Improved standard Tk look and feel**
  - New look for widgets on X
  - Improved bindings behavior
  - Restorable with
    `tk::classic::restore`
- **Themed Tk widgets (Ttk)**
  - Non-default alternative in 8.5
  - Default in 9.0
  - Includes new widgets
  - Classic Tk in `tk::*`
    - `tk::button` …
  - Ttk in `ttk::*`
    - `ttk::button` …
  - Tk and Ttk are complementary, not mutually exclusive



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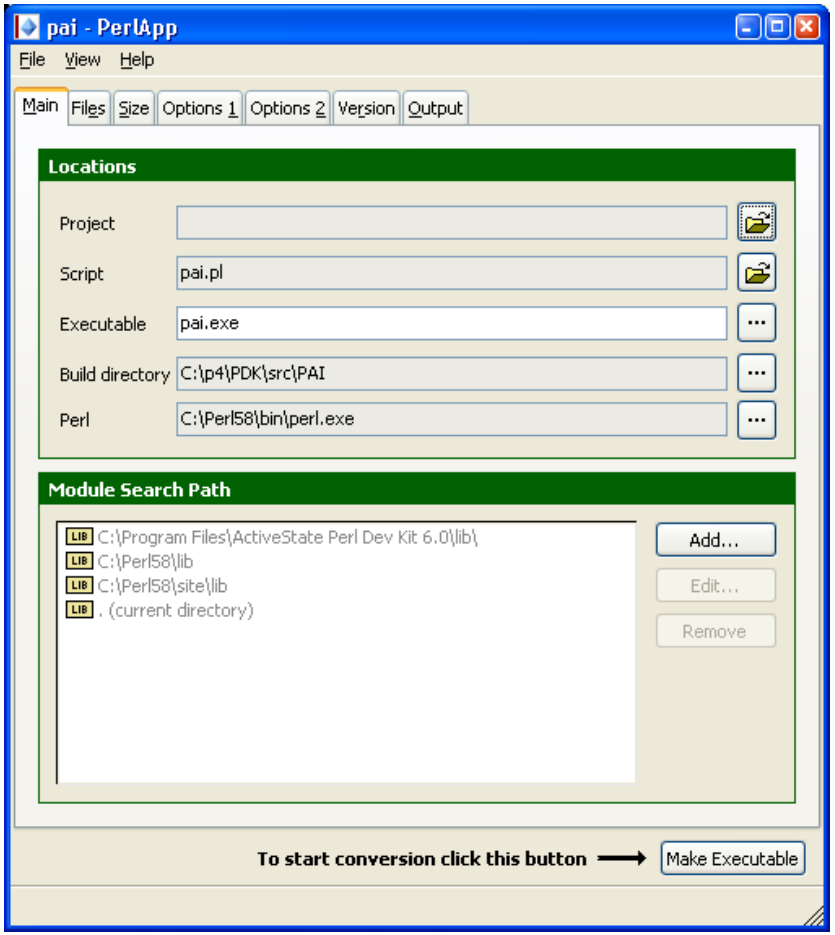
Tk Revitalization at Work

- ActiveState Perl Dev Kit 6.0
- First commercial use of tile
- First use of Perl Tcl::Tk
- First use of DLL tclkit

- Pushing the envelope for Tk into revitalization



Tcl/Tk 8.6

- **Currently in (very) active development**
  - 8.6a3 released October, 2008
- **Release schedule towards feature complete finalized**
  - 8.6b1 (feature freeze) for early December 2008
  - 8.6.0 targeted for March 2009
- **Numerous TIPs already targeting 8.6**
  - 21 TIPs final
  - 71 TIPs still targeting 8.6 (in draft state)
    - Most unlikely to make 8.6 final
  - TIP review to follow
- **Community input is important**

Tcl 8.6 features

- **Core OO!** (TIP#257, TIP#320)
  - Major effort by Donal Fellows
  - Foundational OO system inspired by XOTcl and snit
  - `oo::class`, `oo::define`, `oo::copy`, `oo::object`, ...
  - Class-based object system with dynamic redefinition allowed
  - Per-object customization with filters, mixins and more
- **New non-recursive bytecode engine by Miguel Sofer**
  - Enables coroutines (TIP#328), aka generators
  - Proper tailcalls (TIP#327)
- **New `binary encode|decode` with base64** (TIP#317)
- **Simplified Tcl and C option parsing** (TIP#195, TIP#265)
- **Ability to cancel script evaluation** (TIP#285)

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Tcl 8.6 features

- **Enhanced `chan` command**
  - Anonymous pipes (TIP#304) as **`chan pipe`**
  - Tcl level channel transformations (TIP#230) **`chan push|pop`**
- **Find insertion point in sorted list** (TIP#313)
- **Add `tcl_platform(pathSeparator)` key**
- **Unicode aware `string trim*`** (TIP#318)
- **Grouped sort with `lsort -stride`** (TIP#326)
- **No more `interp->result`** (TIP#330)
  - Use **`Tcl_GetStringResult(interp)`** instead
- **Allow `lset` to extend lists** (TIP#331)
  - **`lset myList end+1 foo`** equivalent to **`lappend myList foo`**

Tk 8.6 features

- **New `tk busy` adapted from BLT's busy** (TIP#321)
- **Absolute position of canvas items** (TIP#236)
- **Lots of open TIPs targeting Tk ...**
  - Any volunteers?

Tcl/Tk 9.0

- **Still in the wishlist stage**
  - Rationalize C APIs
    - Fewer string APIs?
    - Only bytecode eval paths?
  - Possible restructuring of Tcl level commands and global data
  - More OO / encapsulation features in the core
  - Remove octal support
  - Tcl_Obj improvements (hydra vs. stork, immutability?)
- **Tcl 9 experience must not be like Perl 6 (or Tcl 8.5?)**
  - Once started, we must dedicate effort to Tcl 9
  - We cannot rush it though …

Ideas in the Pipeline

- Refactored bytecode engine
- Core .zip support (234)
- Process control / bgexec (240)
- Smaller, modular core
- Try/Catch/Finally (329)
- IPv6 sockets (162)
- Enhance load (239)
- Improve process control
- TDBC
- …

- Drag & Drop
- Printing support
- Rotate canvas items (164)
- Megawidget framework (180)
- More core widgets
  - treectrl, table, opengl, …
- Shaped windows
- Fine-tuned font control
- Core tooltip support
- Enhanced photo manipulation
- …

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User Polls

- **Versions in use**
  - Pre-8.0
  - 8.0-8.3
  - 8.4
  - 8.5
  - 8.6 (alpha)
- **Develop / Deploy:**
  - Windows
  - Macintosh OS X
  - Linux
  - Solaris
  - HP-UX
  - Other …

- **Response**

- **Develop / Deploy:**

Future Directions

- **The core is guided by community input**
  - Anyone can write a TIP
  - Anyone can be a core maintainer
  - 8.4 nearing end of “development” life
  - 8.5 current stable version
  - 8.6 near escape velocity
    - Looking for assistance at all levels
  - 9.0 on the drawing board
- **What issues are most pressing?**
- **ActiveState remains committed to Tcl**
  - Working with the Tcl community
  - Focus on Tk revitalization

Q & A

? ? ? ? ? ? ? ? ?

Next ... the TEApot

TEAPOT

- Binary code repository in the style of ActivePerl's PPM
  - http://teapot.activestate.com/
- Fully populated for ActiveTcl platforms
  - AIX, HP-UX, Linux, Mac OS X, Solaris, Windows
- Makes use of Tcl module system
- Repository is web visible, but rough
- Downloads index – local searches

TEAPOT Applications

- **All are starpacks**
  - No external dependencies
- **Command line only, no GUI (yet)**
- **Builds on Tcl package generation**
  - Requires TIP #268 (package versioning)
- **General**
  - Server
  - 2 Clients, User & Admin
- **SQLite database used as meta data store**

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TEAPOT User Client

- **Query “opaque” and “transparent” repositories**
- **Install packages in “transparent” repository**
  - From queried repositories
  - Package files directly
- **Manage repositories to query, install to**
- **Package operations**
  - install, remove, get, describe, list, search, keys, profiles
- **Archive operations**
  - default; archive add|remove|list; setup

TEAPOT Communication

- **HTTP is basic client - server protocol**
- **Payload:**
  - HTML, for browsers
  - Tcl lists embedded in HTML comments, for the client
- **No upload through web protocol**
  - Might change, with careful safeguards

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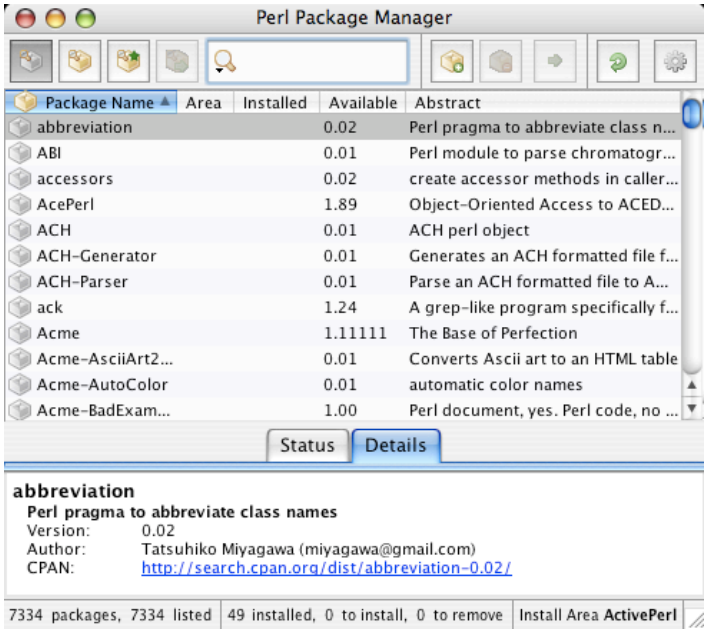
TEAPOT Future

- **Store other types of data**
  - Sources
  - Documentation
  - Applications
    - Example: Basekits for TclApp
  - X-Ref Information
    - I.e. Code Intelligence Data
  - Checker Packages
    - I.e. Syntax definitions for static checker
- **Simple UI front-end**
- **Possible distribution changes**
  - Make ActiveTcl have preloaded repositories
- **Update of binaries from a repository?**
    - Quick deployment of bug fixes