

Core ZipVFS

Adding Zip file support to vanilla Tcl Shells

What did we do?

- Adapted ZipVFS (used in FreeWrap and MkTclApp) for use in Tcl8.6
- Linked ZipVFS.c to the Tclsh built by the core
- Added pure-tcl packages that utilize the functions in ZipVFS and the Tcl8.6 core

ZipVFS.c

- Originally developed by Richard Hipp
- Adds read-only Zip VFS support in a single C source file

ZipVFS.c

- Loads the table of contents in RAM
- Reads files from zip archive on demand

tclZipVFS.c

- Made several modifications to remove compiler warnings
- Integrated the work of Dennis LaBelle
 - (Although the ability to encrypt an archive is not implemented in the Core version)
- Fixed Glob handling on Windows

tclZipVFSBoot.c

- Adds a set of standard behaviors for shells to follow at startup
- Looks for a Zip archive attached to shell executable
- If present, the zip archive is mounted as a VFS

tclZipVFSBoot.c

- Mounts the vfs as **/zvfs**
- Looks for the contents of **tcl_library** under **/zvfs/boot/tcl**
- Looks for the contents of **tk_library** under **/zvfs/boot/tk**
- Looks for a startup script at **/zvfs/main.tcl**

Tk Support

- Static Builds with ZipVFS work
- Dynamic Tk shells... don't
- Long story short, the ZipVFS system needs more from the Tcl library than is exported via stubs

Tk Support

- All is not lost!
- We can just stuff **tk.dll** (or .so or .dylib) into the shell's VFS
- (along with a ***package ifneeded*** pointing to the right location)

Modifications to the Core

- Added 2 C files
- Modified tclAppInit.c and tkAppInit.c
- Added several files to the **/library** tree (for pure-tcl zip/unzip)
- A new VFS builder script in **/tools**
- Added targets to the Tcl and Tk Makefiles

How to get it?

- Checked into the fossil repositories at <http://core.tcl.tk>
- Grab the **core_zip_vfs** branch.
- The code is merged with **trunk** periodically

Safety Features

- Modified shell is disabled by default
- Modifications to the bootstrap are activated with the **TCL_ZIPVFS** define.
- To build the modified shell call **make tclzsh**

Safety Features

- Currently only modified shells are supported
- This is to prevent having to modify the stubs table
- When we go to tcl [incr 8.6] these features will be added to the Tcl C library itself

Safety Features

- The ZipVFS implementation now has thread mutexes around the key points in the code
 - Mounts/Unmounts
 - Reading files inside of the Zip archive