

# MacTcl/TkAqua BOF

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# TkAqua Cocoa

- Current TkAqua port based on Carbon API
  - Carbon is deprecated since Mac OS X 10.4
  - no new functionality being added
  - not available on 64bit architectures
  - Mac OS X ecosystem migrating quickly to all 64bit
- Cocoa is the modern Mac OS X ObjectiveC-based GUI API
  - fully available on 64bit as of Mac OS X 10.5

# TkAqua Cocoa

- Cocoa port in development since Sept 08
  - developed against Tk HEAD in github repository
    - <http://github.com/das/tcltk/tree/de-carbon>
  - backport to Tk 8.5 branch also available
- Feature complete as of April 09
- Integration into mainline planned for Tk 8.6
  - new minimum system requirement: Mac OS X 10.5
    - current minimum is Mac OS X 10.3

# TkAqua Cocoa

- Current integration plan is to freeze existing TkAqua source
  - move to new tk source subdirectory `macosx-legacy`
  - add configure switch `--enable-cocoa` (on by default)
  - if cocoa disabled, fallback to `macosx-legacy`
- Same approach would be possible for Tk 8.5
  - `--enable-cocoa` off by default
  - unclear if this is a good idea/if there is a demand for this?

# TkAqua Cocoa Changes

- In general no script visible changes
  - distinguish from Carbon TkAqua via `[wininfo server]`
- A few obsolete TkAqua specific bits removed
  - `tk::mac::useCGDrawing`
  - some args to `tk::unsupported::MacWindowStyle`
- Signature changes to platform-specific APIs in stubs tables
  - almost all are platform pointer types changed to `void*`
- Various platform-specific stubs API are now NOPs

# TkAqua Cocoa Changes

- Tk Extensions that use only public Tk API work unchanged
  - same for generic internal Tk API
- Tk Extensions will likely need to be ported if they
  - use platform-specific internal Tk API
  - make assumptions about the inner workings of TkAqua
    - e.g. presence of QuickDraw, current QD port
  - use Carbon API to draw

# TkAqua Cocoa Additions

- Button metrics: identical to Carbon TkAqua by default
  - `set tk::mac::useCompatibilityMetrics 0`
    - more native-looking button spacing
- Access to native image types via native bitmaps
  - any image format readable by `NSImage`
  - native bitmap names via `[tk::mac::iconBitmap]`
  - c.f. `tk/macosx/README`
- Access to native image types via `@cursor` names

# TkAqua Cocoa Additions

- Sheet (i.e. modeless resp. window-modal) versions of standard Tk file & messagebox dialogs:
  - new `-command` argument
    - command prefix evaluated when dialog closes
    - dialog command returns empty result
  - if `-parent` also present
    - dialog is sheet attached to parent window
    - dialog command returns immediately

# TkAqua Cocoa Additions

- Standard Cocoa About panel
  - `tk::mac::standardAboutPanel`
  - automatically populated with info from .app bundle
- Standard platform menus
  - `.apple`, `.window`, `.help`
  - add to menubar before configuring as toplevel menu
- 3 argument form of  
`tk::unsupported::MacWindowStyle style window ?class? ?attributes?`

# TkAqua Cocoa Additions

- New magic `tk::mac::` proc name
  - `tk::mac::ShowHelp`
- Existing `tk::mac::` handlers:
  - `ShowPreferences, OpenApplication, ReopenApplication, OpenDocument, PrintDocument, Quit, OnShow, OnHide`
- Existing magic name in global namespace:
  - `tkAboutDialog`

# Thanks

<http://categorifiedcoder.info/>