CriTcl – Introduction 1

- Invented by Jean-Claude Wippler
- Tcl Operation & Use → 2 Levels
  - Script – Glue, Policy
  - System – Speed, Hiding, Bindings to externals
- C extensions – Easy to use, complex to write
  - Configure/autoconf, Make, Boilerplate C code, …
- C Runtime In Tcl – DSL using Tcl's strengths
  - Text processing, Templates, Glue to external cmds
  - Collects C code, arranges for compile on-demand (Tcl autoload facilities)
CriTcl – Introduction II

- Initial design geared towards dev system
  - C compiler needed at runtime
- Deployment to customers – Oops
  - Require C compiler on production system 😞
  - Rewrite to regular extension 😞
- Leverage Tcl again 😊
  - Read the input files as usual, force an immediate compile & link cycle, deploy the resulting library & package
  - ♫ You now have a build system
CriTcl – New Work

• Mainly keep the course
  • Lighten the burden of the developer
  • Reduce overhead
  • Automate

• Via
  • Add-on packages to handle specific common situations
  • Enhancements to the Critcl core
CriTcl – Core Enhancements

- Meta Data
- Stub Table Support
- Optional and Variadic Arguments (cproc)
- Custom Argument Types
- Capturing Output
- Code Location Management
CriTcl – Add-ons

• Generators
  • Ekeko's (Tcl_{Set|Get}AssocData)
  • String Pools – Custom Literal Tables
  • Enumerations
  • Mapping External Enumeration
  • Mapping External Bitsets / Flags
• Classes & Objects
• Build utilities
CriTcl – Location

- We are @ github
  - https://andreas-kupries.github.com/critcl
  - https://github.com/andreas-kupries/critcl
CriTcl – Ahead

• Possible DSL enhancements
  • Named parameters / options
  • Support for upvar
  • Parameterized types
    – list<T>, list<list<T>>
    – &T – See above, upvar
    – int[0..256], int [-1..1], …
    – …

• More packages
  • Useful C code fragments (Alloc, Trace, …)
  • …
CriTcl – Ahead

- **Slice & Dice branch**
  - Slice 150K monolithic core into pieces
    - Easier to understand and maintain
    - Better internal APIs
    - Encapsulate CC access apart from general management
      - Add `tcc4tcl` support
CriTcl – Future Ahead