

tStomp / large scale Tcl Development

10th European Tcl/Tk User Meeting in Munich

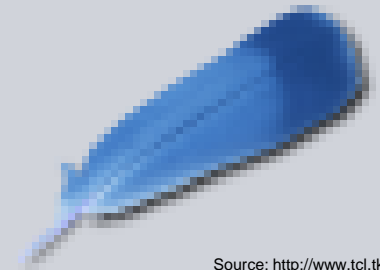
July 8th 2012

New Siemens Open Source Contribution for Tcl: tStomp Messaging library.

Why and how to use Tcl in a very large scale Software Development

Author:

Derk Muenchhausen / Stephan Linkel



Source: <http://www.tcl.tk>



Who we are!

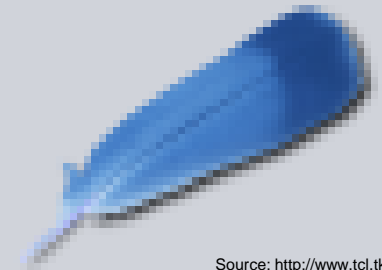
What are we doing?



“The language is for commands. Almost all Tcl “programs” will be short, many only one line long. Most programs will be typed in, executed once or perhaps a few times, and then discarded.

This suggests that the language should have a simple syntax so that it is easy to type commands. “

“Tcl: An Embeddable Command Language”, John K. Ousterhout, 1990,
<http://www.stanford.edu/~ouster/cgi-bin/papers/tcl-usenix.pdf>



Source: <http://www.tcl.tk>

Why is Tcl the right language for us?

Why Tcl:

Stability – since 93

Glue

Beautiful – few syntactic rules

Extremely Simple

We just need the core

Platform independence

Interpreter features

Business friendly license

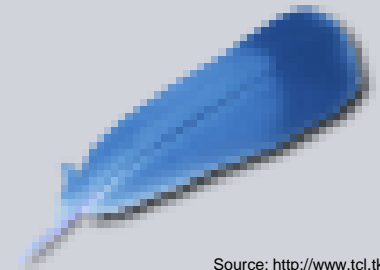
Why not:

Refactoring is hard

Threading

Closures

Object Orientation



Source: <http://www.tcl.tk>

Large Scale Tcl Development?

Yes!

Idea:

Split into Appl Dev + Plat Dev

Appl Dev = DSL like

DB centric

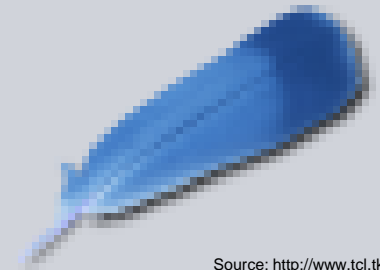
Important algorithms are implemented as service in compiled languages

No?

Discipline required

More Guidance required:

- good framework
- good patterns to reuse
- good structure



Source: <http://www.tcl.tk>

What is Stomp?

LF	= <US-ASCII new line (line feed) (octet 10)>	client-command	= "SEND" "SUBSCRIBE" "UNSUBSCRIBE" "BEGIN" "COMMIT" "ABORT" "ACK" "NACK" "DISCONNECT" "CONNECT" "STOMP"
OCTET	= <any 8-bit sequence of data>		
NULL	= <octet 0>		
frame-stream	= 1*frame		
frame	= command LF *(header LF) LF *OCTET NULL *(LF)	server-command	= "CONNECTED" "MESSAGE" "RECEIPT" "ERROR"
command	= client-command server-command		
		header	= header-name ":" header-value
		header-name	= 1*<any OCTET except LF or ":">
		header-value	= *<any OCTET except LF or ":">

Stomp as BNF

Source <http://stomp.github.com/stomp-specification-1.1.html>

tStomp – a Stomp library for Tcl

Why?

We needed ActiveMQ

No Tcl impl found (!)

Stomp Standard is perfectly simple

Other scripting languages like Python, PHP, Perl went also this way

We prefer a platform independent, pure Tcl impl.

Why not?

ActiveMQ for C++ native exists

Why Open Source?

Required:

non differentiating
benefits of publication
low risks

License:

BSD is good!

Which library next?

tStomp API

API

```
class tStomp {
  constructor {brokerHost port}

  public method connect {_onConnectScript}

  public method send {args}
  args:
  ?-correlationId <correlationId>?
  ?-replyTo <replyTo>?
  ?-headers [list <name> <value> ...]?
  dest msg

  public method subscribe {destName
    callbackscript}
  public method unsubscribe {destName}

  public method disconnect

  proc setDebugCmd {script}
}
```

Echo Example

```
package require tStomp

proc stompcallback {messageNameValueList} {
  array set message $messageNameValueList
  ::s send /queue/JMeterSubscriber \
    $message(messagebody)
}

tStomp ::s localhost 61613
::s connect {
  ::s subscribe /queue/JMeterPublisher {
    stompcallback $messageNvList
  }
}

vwait forever
```

Get it!

<https://github.com/siemens/tstomp>

Tcl wishes

Advertise the beauty of this language!

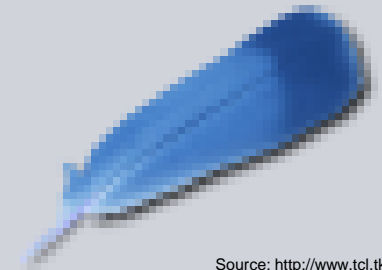
Improved Threading

Closures

Dynamic IncrTcl

rename arrays to maps

Messaging 😊



Source: <http://www.tcl.tk>