

Forth Day 2012



Topics

- Forth-2012 Public Review
- New stuff
- SwiftX-ARM for Linux boards
- Special Offer



Forth-2012 Public Review

- The first release candidate draft of the proposed Forth 2012 standard is now available for public review from the Forth200x web site.
- Review period is six months.
- Submit comments to Forth200x Group.
- Details on forth.com home page (left sidebar, “Forth Standard Review”)



New Stuff

- SwiftForth-i386 now on three popular platforms
 - Windows
 - Linux
 - Max OS X
- SwiftX MSP430 supports a bunch of new parts
 - MSP-EXP430FR5739 Experimenter Board
 - MSP-EXP430G2 LaunchPad (MSP430G2553)
- SwiftX ARM supports STM32F4 (Cortex-M4)
- SwiftX ARM runs on ARM-Linux boards



SwiftX-ARM for Linux Boards

- BeagleBone
- Raspberry Pi
- Technologic Systems (PC104)



SwiftX Interactive Development



SwiftX Cross-Target Link (XTL)

- Read memory
- Write memory
- Read registers
- Write registers
- Download code images
- Remote execution



XTL over TCP/IP

- Target board is XTL server
- Host development system is XTL client
- Host initiates and maintains TCP connection
- Target board processes host commands



Importing Library Functions

There are two simple steps to importing a library function:

1. Declare which library functions are to be imported from.
2. Define the function interface.



Declare Library

The word LIBRARY accomplishes the first step:

```
LIBRARY <filename>
```

Example:

```
LIBRARY libc.so.6
```



Import Functions

To make a Forth word that references a function in a library, use the form:

```
FUNCTION: <name> ( params -- return )
```

The left side of the Forth stack notation used mirrors the parameters in the C function prototype (usually listed on the function's man page). The right side should be a single item (the return value) or it may be empty (nothing returned).

Example:

```
FUNCTION: open ( pathname flags mode -- fd )
```



Threads

- Define a thread
n THREAD <name>
- Instantiate thread and assign behavior
ACTIVATE-THREAD

```
0 THREAD BEACON
```

```
: /BEACON ( -- )  
  BEACON ACTIVATE-THREAD  
  BEGIN  SOS  AGAIN ;
```



Special Offer

40% off new SwiftForth or SwiftX license

Use voucher code
FORTHDAY2012

