Hidden Corners of Regina

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Virtual

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Hidden Corners of Regina

- Invoking Regina: rexx vs regina
- Constant Variables
- BIFs
- Queues
- Address...With
- Callbacks
- Generic Call Interface (GCI)

Hidden Corners of Regina

- Language Support for error messages
- Static dynamic loading
- Zsh module

rexx vs regina

- rexx executable
  - no support for external function packages
  - Slightly faster
- regina executable
  - Supports external function packages
  - Slightly slower

Constant Variables

- Platform-specific constants:
  - .LINE – line number in Rexx program
  - .FILE – file name of running Rexx program
  - .ENDOFLINE – end of line sequence; *LF, CRLF*
  - .DIRSEP – directory separator; / or \

BIFs

- Some Regina specific builtin functions:
  - PoolId()
  - GetCaller()
  - GetCallStack()
  - RxFuncErrMsg()

Queues

- Queue Names
- External Queues
  - Queues managed by an external process
- Internal Queues
  - Queues managed by the running process
- rxstack, rxqueue and rxqueue()

Queue Names

- Syntax:

    - [queue][@machine[:port]]

- queue – can be blank

- machine – the IP address of server running rxstack; default 127.0.0.1

- port – TCP/IP port that rxstack listens on; default 5757

External Queues

- Managed by external process: rxstack
- Communication between processes over TCP/IP
- Communication between machines
- Slower, but should not be that slow!
- Requires rxstack process running

Internal Queues

- Internal to Regina process
- Faster
- Does not require rxstack process running
- OPTION INTERNAL_QUEUES overrides queue name rules

rxstack

- By default listens for a connection from the local host on port 5757

- Change listening port
  - -p, --port port

- Allow world access – be careful!
  - -w, --world

rxqueue

- Works as a filter; input from stdin
- Switches:
  - -D, --debug
  - -t, --text "text to place on queue" → instead of stdin
- Actions:
  - /delete – delete the queue
  - /queued – return number of lines on queue
  - /pull – pull lines from queue and display on stdout
  - /list – display list of queues held by rxstack
  - /clear – remove all lines in queue

rxqueue()

- Timeout (T) option
  - Wait specified number of milliseconds for something to appear on the queue
  - Specify 0 to wait forever

Address...With

- FIFO and LIFO extensions to INPUT and OUTPUT
- NOEOL extension to INPUT

Callbacks

- Enable Rexx code to be executed on an event
- Requires RexxCallback() API
- Several external function packages require this
  - Rexx/CSV
  - Rexx/CURL
  - Rexx/DW
  - Rexx/WPi

Generic Call Interface (GCI)

- Enables any entry point in any DLL/shared library to be treated as a Rexx function

- Treat as experimental

Language Support

- Error messages in specified language
    - .de, en, es, no, pl, pt, sv, tr
    - REGINA_LANG environment variable
    - REGINA_LANG_DIR to specify location

Static Dynamic Loading

- Dynamic Loading
  - External function packages usually loaded from DLL/shared library at runtime
  - Not supported on some platforms; DOS, QNX
  - Load via RxFuncAdd()
- Static Dynamic Loading
  - Loaded at build time and statically linked
  - Load via RxFuncAdd()
  - Available on all platforms

Zsh module

- Unix/Linux shell zsh module

- Build zsh from source with Regina module

- Allows shell environment; current working directory and environment variables to be set by Regina program and "stick"

- Invoked by zsh "builtin" command; zregina

Questions

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