The 2014 Edition of BSF4ooRexx (for Windows, Linux, MacOSX)

http://sourceforge.net/projects/bsf4ooorexx/files/

The 2014 International Rexx Symposium

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Agenda

• Purpose of BSF4ooRexx
• Changes to BSF4ooRexx since Aruba-Symposium
• Changes to the upcoming 2014 version of BSF4ooRexx
• Roundup and outlook
Purpose of BSF4ooRexx, 1

• Java
  – Available on practically all computers
  – Java's runtime environment (JRE)
    • A huge class library, available for all operating systems
      – Java classes (and programs) run everywhere, even GUIs!
      – Practically every relevant software problem/challenge solved
    • Constantly updated to the latest technologies
  • Used for
    – Java applets running in web browsers
    – Used for stand-alone, fully fledged professional applications
Purpose of BSF4ooRexx, 2

• BSF4ooRexx
  – Make all of Java (classes and the runtime) available to ooRexx
  – Instead of Assembler or C(++) external function libraries for special needs, *all of Java is made available as a huge external function (and class) library!*
    • One size fits all ;-) 
      – No need anymore to create separate external function libraries for specific functionality one is seeking!
    – *Make it easy* for ooRexx programmers to take advantage
      • *Camouflage all of Java as ooRexx!*
Purpose of BSF4ooRexx, 3

- **BSF4ooRexx**
  - ooRexx code can be even used instead of Java code!
    - Interface methods
      - Often used for callback functionality, e.g. in Java GUI classes
    - Abstract methods
  - Java/NetRexx code can control invocation of Rexx scripts
    - Allows ooRexx to be used as a macro language for Java apps!
      - Can create and use arbitrary many ooRexx interpreter instances
    - Can interact with individual ooRexx objects
      - Send oo-Rexx messages with or without arguments
      - Fetch return values from ooRexx scripts
• Rexx exits and Rexx command handlers
  – Allow to implement Rexx exits in Java/NetRexx/BSF4ooRexx
    • RXOFNC, RXEXF, RXFNC, RXCMD, RXMSQ, RXSIO, RXNOVAL, RXVALUE, RXHLT, RXTRC, RXINI, RXTER
  – Allow to implement Rexx command handlers in Java ...
  – BSF4ooRexx samples
    • samples/Java/handlers/exitHandlers
    • samples/Java/handlers/commandHandlers

➔ Cf. 2013 International Rexx Symposium
Changes to the upcoming 2014 version of BSF4ooRexx, 1

• Installation
  – Improve Windows installer
    • Windows XP “runas” does not work in latest versions of Windows
    • Use elevation introduced with Vista
  – Improve MacOSX installer
    • Supply ooRexx 4.2.0
    • Circumvent a bug in AOO 4.0.x (PATH not set)
    • If possible, do not preload awt-related classes as AOO 4.0.x and 4.1.x cannot dispatch internal ooRexx macros under certain circumstances
Changes to the upcoming 2014 version of BSF4ooRexxx, 2

- New „ooRexxTry.rxj”
  - Enhances existing ooRexxTry.rxj
    - Undockable windows
    - More configuration features
  - Distinguishes between regular and trace output
  - Bachelor paper by Gerald Leitner, work in progress, slated for end of May
Changes to the upcoming 2014 version of BSF4ooRexx, 3

• “Auto-attach” to appropriate Java environment
  - Currently: ooRexx multithreading
    • Save thread ID that can interact with Java
    • Each ooRexx thread needs to use BSFAttachToTID(tid)
      – ooRexx programmer must somehow communicate the tid to use in new ooRexx threads
    • Each ooRexx thread should then use BSFDetach()
  - Cumbersome, hence also error-prone
  - Future:
    • BSF4ooRexx will automatically attach and detach
    • Implementation will be simplified, possibly speed improved
Changes to the upcoming 2014 version of BSF4ooRexx, 4

- Method resolution
  - Change resolving Java methods
    - Allow default interface methods in Java 8 to become accessible
    - Simplifies Java method lookup
    - May improve speed of Java method lookup
Roundup and Outlook

• **Roundup**
  – Improved installation for Windows and MacOSX
  – New “ooRexxTry.rxj”
  – New “auto-attach” feature
  – Improved Java method resolution

• **Outlook**
  – Start work on JSR-223 interface for BSF4ooRexx