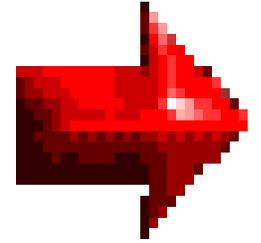


Rexx and Rexx extensions in a heterogeneous environment

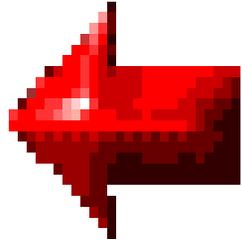


Rexx Symposium Jacksonville, Florida, USA
May 4, 1999

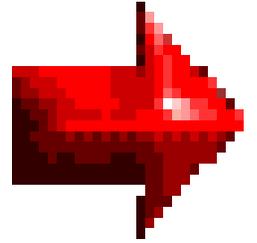
Mark Hessling

*QCOM Pty Ltd
Brisbane, Australia*

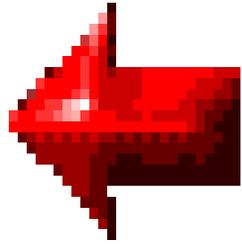
M.Hessling@qut.edu.au
<http://www.lightlink.com/hessling/>



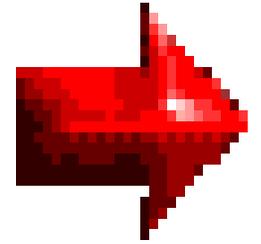
Rexx and Rexx extensions in a heterogeneous environment



-
- Developer tools
 - ◆ Rexx/Trans - build once; run on many Win32 interpreters
 - ◆ Rexx/Pack - external function packages made easy
 - Using Rexx extensions
 - ◆ Client/Server application using RxSock, Rexx/SQL, Rexx/Curses
-



Rexx/Trans build once; run on most Win32 interpreters



- Rexx/Trans and Rexx interpreters

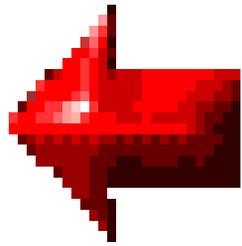
Supported

Regina
Object Rexx
WinRexx
Personal Rexx

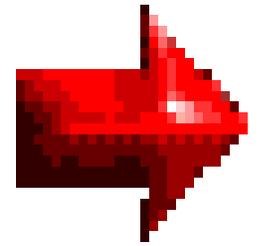
Not supported

uni-REXX

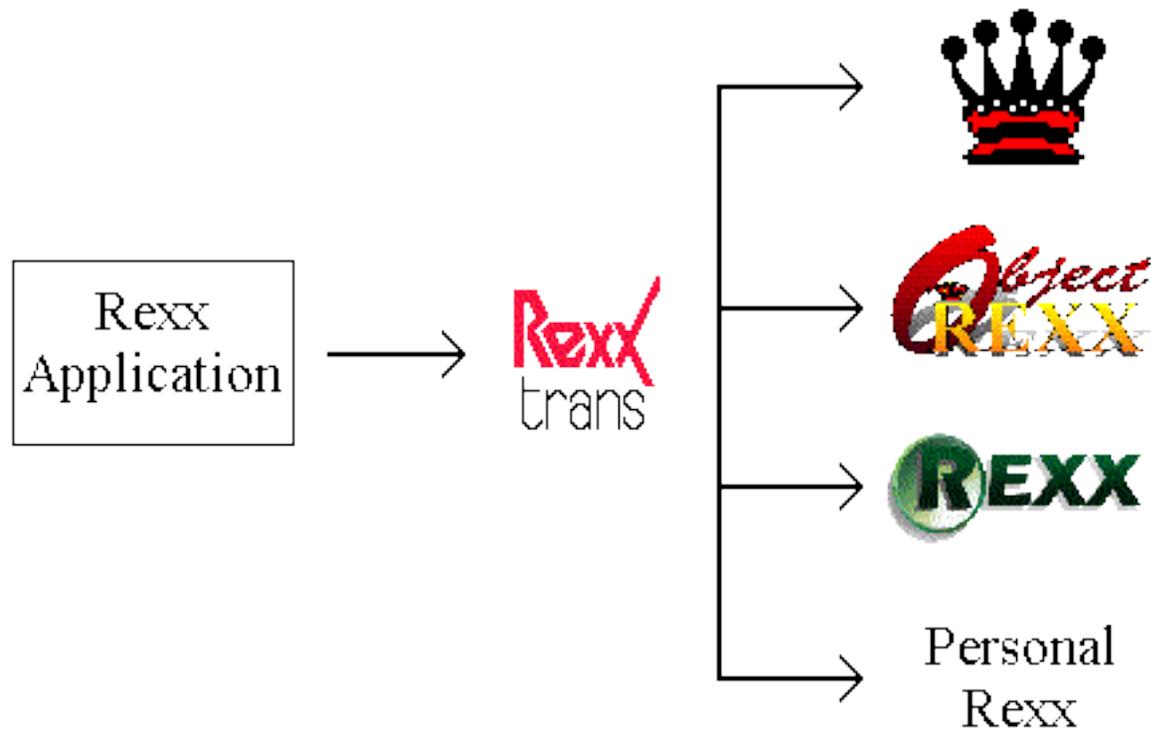
- What is it ?
- Why write it ?
- What's in it ?

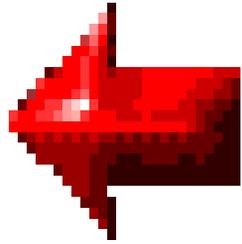


Rexx/Trans - What is it ?

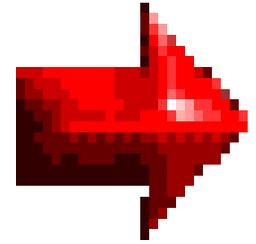


A Window 95/98/NT DLL that translates generic Rexx API calls into specific interpreter API calls.





Rexx/Trans - Why ?

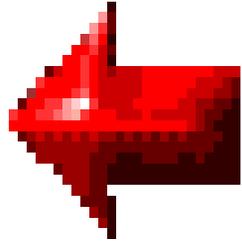


-
- THE for Win32 required 4 different versions.
 - Rexx/SQL 2.2 and 2.3 was released with 25 different DLLs

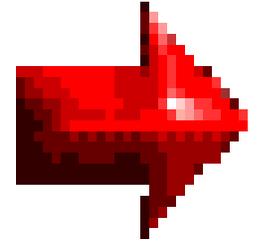
Regina
Object Rexx
WinRexx
Personal Rexx
uni-REXX

Oracle
DB2
ODBC
SQL Anywhere
Solid Server

- Reduces maintenance for any developer



Rexx/Trans - What's in it ?



-
- The runtime portion
 - ◆ *rexstrans.dll*
The translation DLL.
 - ◆ *rexstrans.ini*
A configuration file to control how the DLL determines which interpreter to use and for logging.
 - The development portion
 - ◆ *rexstrans.lib*
Import library for rexstrans.dll
 - ◆ *rexstrans.h*
Header file defining all Rexx API functions
 - Free; Distributed under GNU General License
 - *Demo of THE (different interpreters)*



Rexx/Pack - Features



Set of files that facilitate building of Rexx external functions

- Provides wrappers for *standard* Rexx API
 - ◆ WinRexx loads their DLL each time an external function is called; no persistence of data.
 - ◆ REXX/6000 uses different names for APIs

REXX/6000

RexxRegisterFunction

RexxRegisterFunctionPkg

Others

RexxRegisterFunctionExe

RexxRegisterFunctionDll

- ◆ Memory allocated by RexxVariablePool() needs to be deallocated differently

Interpreter	C Function	Platform
Regina	free()	All
Object Rexx	free()	AIX, Linux
Object Rexx	GlobalFree()	Win32
Object Rexx	DosFreeMem()	OS/2
WinRexx	GlobalFree()	Win32



Rexx/Pack - Features (cont.)



-
- GNU autoconf templates to build external function packages on Unix platforms with Regina, REXX/imc, Object Rexx, uni-REXX and REXX/6000
 - template makefiles for OS/2, Win32 (all interpreters and Rexx/Trans)
 - internal function package runtime debugging
 - a loader program to load the external function package as an executable program rather than a dynamic library.
 - ◆ Makes debugging easier
 - ◆ Provides access to function package on platforms that don't have dynamic loading capabilities. eg DOS, QNX
 - *Demo of THE (logging)*
-



Putting them together



Demo of client/server application written in Rexx using Rexx extensions.

- Client running on Win98 and updating a database (mSQL) on Linux.
- Client running on Linux and updating a database (SQL AnyWhere) on Win98.
- Client and server code on each platform identical.
- Multiple clients allowed.



What was used



-
- Server
 - ◆ RxSock - for communication
 - ◆ Rexx/SQL - to connect to, and update database
 - Client
 - ◆ RxSock - for communication
 - ◆ Rexx/Curses - Rexx interface to Curses text based library
-



Rexx/Tk



-
- First public release (beta) of Rexx/Tk 0.0.3 for Win32, Unix (X11)
 - Written by Roger O'Connor (also wrote XRexx)
 - Uses Rexx/Trans (on Win32) and Rexx/Pack
 - OS/2 port waiting for Illya Vaes to port Tk 8.0 (in alpha)
 - Mac port waiting for someone to port a suitable Rexx interpreter ;-)
 - Free; Distributed under GNU General License
 - Home page: <http://www.metronet.com/~ocon/rexxtk/>
 - SpecTcl/Tcl/Tk available from: <http://www.scriptics.com/>
-