Agenda

History

Apple II and MacIntosh
MacOSX
NetRexx
Regina
ooRexx
ooRexx on MacOSX
porting
installer and installing
version 3.01 for Mac: available
perspectives on future use
MacOSX is Unix

Java for Mac OS X

Based on UNIX
Solid as a rock.
In 2004 REXX was still mentioned on this developer page.

UNIX foundation

With its Open Source, UNIX-based foundation, Mac OS X Panther lets you script with your choice of languages: Perl, PHP, Python, Rexx, Scheme, Tcl and more. You can work with built-in development tools such as gcc, gdb, vi, emacs and pico and take advantage of UNIX shell tools such as grep, chmod, ps, crontab, top and tail. If you’ve written utility software on another UNIX platform, you can quickly get it running in Mac OS X Panther.

In addition to leveraging the gamut of UNIX tools, you can easily extend the power of your software by using QuickTime’s complete multimedia architecture, including support for Flash 4, Cubic VR, RTP/RTSP video streaming, MPEG and a wide array of graphic file formats. New in Panther, you can script the Mac OS X graphics architecture, Quartz, with python.
With the introduction of Mac OSX Rexx was mentioned on a lot of these pages; gradually, for no apparent reason, Rexx started to disappear. This still has it, probably an oversight.

This is from the Norwegian language translation of the developer tools page, Apple - Mac OS X - Utviklerverktøy

We must find out why and see to it that it comes back.
Is Rexx on the Mac a marketable option?

A niche in a niche?

An April 2006 sample of Dice Board (www.dice.com) job postings was analysed.

So Rexx on Mac is a niche language on a niche platform, for business purposes.

But do not forget that these numbers do not tell all. For example, some developers on our “officially” Java on Windows project are in fact using NetRexx on Mac for most real, creative work. (The kind you need to do at home, with today’s ‘open plan’ offices).
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Is Mercedes-Benz a niche brand?

Marketing Issues

Apple’s consumer market share is larger than the number of developers indicates. The graphical- and design industry for example traditionally has a very large percentage of Mac users, in the high 60’s.

Music production is another field in which Macs are ubiquitous.
Is Mercedes-Benz a niche brand?

(It’s only got 2.5% market penetration, half that of Apple Macintosh’s 5%.)

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But wait:

- if MacOSX is Unix then the actual number must be 13153 + 6822 + 781?
- if NetRexx is Java then the actual number must be 20756 + 15138 + 75?
- now if BSF4Rexx would run on MacOSX the number will be ... enormous?
Current Porting Status

- An ooRexx 3.01 pre-beta for MacOSX on PPC is available since June 1st, 2005. (269 pageviews)

- It passes most Classic Rexx and Object Rexx tests
Problem Areas

BSD’s not Linux

pThread is not a pointer but a structure in BSD (and thusly in Mac OSX)

Some flags on fopen are different

Will be fixed when ooRexx 4.0 will be available
Working on testsuite
Uses OrxByEx examples
courtesy of J. Urbaniak

ooRexxUnit verification of Mac OSX port

```plaintext
::requires ooRexxUnit.cls
-- load the class
::class "orxbyEXAdvanc2.testUnit" subclass ooRexxBase

::method testStem
dog  = . Stem-NEW('The Dog Stem')
dog.2 = 'Red'
dog.1 = 'Chipper'
dog.1.breed = 'Mutt'
dog.2.breed = 'Collie'
dog.3 = 'Spike'
dog.3.breed = 'Lab-mix'
hound = .directory-NEW
hound-Irish = 'Irish Wolf Hound'
hound-Russian = 'Russian Wolf Hound'

/* assign the directory 'hound' to the slot */
dog.hound = hound

self-assertEquals("stemTest1", dog.hound)
self-assertEquals("stemTest2", dog.hound)
self-assertEquals("stemTest3", myarray[1])
self-assertEquals("stemTest4", myarray[2])
self-assertEquals("stemTest5", myarray[3])
self-assertEquals("stemTest6", myarray[4])
self-assertEquals("stemTest7", myarray[5])
self-assertEquals("stemTest8", myarray[6])
self-assertEquals("stemTest9", myarray[7])
self-assertEquals("stemTest10", myarray-"
```
Working on BSF4Rexx4Mac

Might be ready earlier than you think

But not only for GUI:
Totally integrates Java and Object Rexx
Can combine statically typechecked classes with Object Rexx’s dynamically added properties and methods
Use Java collection classes for speed, thread safety or just familiarity
Marries Object Rexx and NetRexx
Possibilities just boggle the mind - run INTERPRET on stuff returned from Java and send it back ...
Installer package
Welcome to the Open Object Rexx MacOSX Pre-Beta Installer

README

This is a build of the current CVS version of ooRexx 3.0.1 for MacOSX (June 1st, 2005), with one added patch for the loading of the rxutil api library. It is the first version that announces itself as Open Object Rexx for MacOSX.

Please use the standard SourceForge procedure for reporting problems.

René Vincent Jansen, rvjansen@xs4all.nl
Installer package

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Installer package

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Select a Destination

Select a destination volume to install the Open Object Rexx MacOSX Pre-Beta software.

- Macintosh HD
  93.0GB (9.8GB Free)
- Workspace
  2.4GB (275MB Free)

You have chosen to install this software on the volume "Macintosh HD."

Go Back Continue
The software was successfully installed
We need universal binaries to support new Apple hardware.

What’s an Intel chip doing in a Mac?
A whole lot more than it’s ever done in a PC.

ooRexx needs to be ported to the new Intel Macs also - and quickly.

An expanding universe of applications.

Transitions through Instruction Set Architectures
Currently moving to Intel - new porting issues
GCC compiler supports multiple target architectures
Regina on MacOSX

Great for Classic Rexx

AppleScript launcher by William Kleinwachter from Maui (one of the original JES2 developers)

MacOSX installer by yours truly (981 downloads on Sourceforge)

ANSI Rexx conformant and very stable
NetRexx on MacOSX

“Write once, run anywhere”

Java Support in MacOSX is excellent

There are no known differences in running NetRexx as compared to other platforms

When combined with an Interface painter a hard to beat development combo
Editor Support
You only need one of course
(see newsgroup alt.religion.emacs)

Emacs Classic Rexx and NetRexx modes are working unchanged due to being written in eLisp

There is no special ooRexx support, but this is being worked on

We need Eclipse support to be *en vogue* with the current generation of developers - it seems they cannot do without syntax/ library method completion
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```java
method add() returns String
    transaction = this.session_.beginTransaction()
    uri_ = UniformResourceLocator()
    if this.getSystemAddress() = null then this.setSystemAddress('localhost:8080/invoke/invoker/invoker')
    uri_.setPrimaryName("http://" + this.getSystemAddress() + ":8080/invoke/invoker/invoker")
    this.session_.save(uri_)
    sip = SystemImplementationService()
    if this.getPrimaryName= null then this.setPrimaryName('dummy name')
    sip.setPrimaryName(this.getPrimaryName())
    sip.setUniformResourceLocator(uri_)
    this.session_.save(sip)
    transaction.commit()
    say CRDutil.getUser() 'added a SystemImplementationService at' this
```
What does Emacs NetRexx mode support offer?

```
:concat
"options \(\(?\)|\(<\(no\)\))?"
"\(binary\)"
"c\(omments\)\(pact\)|\(nsole\)|\(rossref\)"
"d\(ecimal\)\(iag\)"
"explicit"
"java"
"format"
"logo"
"replace"
"s\(ave\)\(o\)ur\(c\)\(e\)d\(ir\)\(t\)\(r\)\(i\)\(ct\)\(\(a\)rgs\)\(assign\)\(case\)\(impor"
"trace\(\(\(1\)\)\(\(2\)\)\)"
"utf8"
"verbose\(\(\(0\)\)\(1\)\(2\)\(3\)\(4\)\(5\)\)"
```

What does Emacs NetRexx mode support offer?

Syntax Coloring
Index of methods in source code
Speedbar
JavaDoc support

Boilerplate Class generation
Do End, brace and parens matching
Auto Indentation
Auto-package statement

Rexx Mode by Anders Lindgren, Johan Bergkvist and James Perrin
NetRexx Mode by Arjan Bos - total rewrite from scratch, 2003
The \texttt{nrxsrv} NetRexx compiler server speeds up builds by keeping a VM around that does not need to reload Java and the NetRexx compiler.

It is a client/server program. The client (started from \texttt{make}) feeds the server the names of the files to compile. The resulting class files are written to disk.

Open source and downloadable. Cuts build time in half.
Build native code

```
all: libMacOSX_ppc_PlatformSecurity.jnilib

libMacOSX_ppc_PlatformSecurity.jnilib: MacPlatformSecurity.c
    cc -c -I/System/Library/Frameworks/JavaVM.framework/headers MacPlatformSecurity.c
    touch dummy.jnilib
    cp *.jnilib ../../../..
    rm ../../../../dummy.jnilib

.PHONY: clean
clean:
    rm -f *.jnilib
```

Turn it into shared library
Mac dependent methods can be implemented using C and need to go into a native shared library, just like an external Rexx function would.

```c
#include <jni.h>
#include <unistd.h>
#include <sys/types.h>
#include <pwd.h>

char *get_user_name();

char *get_user_name(){
    struct passwd *pass = NULL;
    char *name = NULL;
    uid_t id = getuid();
    pass = getpwuid(id);
    if (pass) {
        name = pass->pw_name;
    }
    return name;
}

JNIEXPORT jstring JNICALL Java_com_abnamro_midms_platform_Id(JNIEnv *env, jobject obj) {
    return (*env)->NewStringUTF(env, get_user_name());
}
```
## Future plans

| Port ooRexx 4.0 and integrate AppleScript support - automate applications | ooRexx support module for NetBeans and Eclipse |
| Second source NetRexx compiler - EU funding is underway | ooRexx - NetRexx *rapprochement*? Port BSF4Rexx - quickly |

But there is always other work, so don’t hold your breath ...
Future plans

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ooRexx - NetRexx rapprochement? Port BSF4Rexx - quickly

But there is always other work, so don’t hold your breath ...
Thanks for your attention!

Want to be involved in ooRexx-BSF4Rexx-NetRexx Mac work?

contact rvjansen@xs4all.nl