

REXX at Simware

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Simware

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by

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Multiple Scripting Uses

- 2 products
A2B, REXXWARE
- 3 platforms
Windows, Macintosh, NetWare
- presentation, automation, reports

A2B BIFs

- terminal emulation
type, press, waitfor, checkfor, whenever
- views (presentation)
openview, closeview
addelement, additem
getelement, getitem
setelement, selectelement
readelement, writeelement

REXXWARE BIFs

- 140 calls into the CLIB interface
GetObjectID, GetVolumeInformation,
LoginObject, NWQAttachServer
- RCCs and client job scheduler
- utility functions
currentpath, listfile, readscreen

History of Development

- 18 months to develop a 4.0 kernel
- grammar defined with LEX/YACC
- written in 'C'
Microsoft C, MPW C, WATCOM C/386

Multiple Personalities

- ported to the Macintosh in days
- ported to NetWare in weeks
- abstraction of OS interfaces to file system and memory

Adapting REXX to an O/S

- Windows and Macintosh
hard issues to ADDRESS
- NetWare
a console and a prompt
- multi-threading
the infernal data queue

The Way to an Easy Port

- SIMWARE.h

```
typedef signed short    SHORT
typedef SHORT FAR      *gpSHORT
```

- SIMSTR.h

```
#define strupr(a,b)    AnsiUpper(a,b)
#define memcpy(a,b,c) _fmemcpy(a,b,c)
```

The Way to an Easy Port

- **SIMFILE.c**
fhOsOpen, fhOsClose
lOsRead, lOsWrite, lOsSeek...
- **SIMMEM.c**
OsGPtrAlloc, OsGPtrFree
- **#ifdef Hungarian_notation**

YACC... What Is This?

```
call :    RX_CALL symbol opt_blank parm_list
         {  if (fInterpret == TRUE)
             GenExternal(P_CL_OUT_SYM, $2, $4);
           else if (wLabel = wIsInternal($2))
             GenInternal(P_CL_INTERNAL, --wLabel, $4);
           else if (wRoutine = wIsBuiltin($2))
             GenBuiltin(P_CL_BUILTIN, wRoutine, $4);
           else
             GenExternal(P_CL_EXTERNAL, $2, $4);
           OsUPtrFree($2);
         }
```

- output is portable 'C' code

Simware Conventions

- pointers in REXX

passing a symbol as a literal

```
call GetObjectID "Luc", "OT_USER", "objectID"
```

- arrays in REXX

passing the name of a stem

```
call listscreen "array." /* array.0 holds count */
```

REXX at Simware

- commitment to REXX
 - substantial development investment
 - ANSI committee nomination
 - big push at Novell
- future directions
 - integration of products / third parties