On-Demand computing with REXX

Rexx Symposium 2004

Michael Beer
mbeer@m-dc.com
Agenda

- on-demand overview
- personal experience
- CRM
- ASP
Michael Beer

CEO of m-dc market development consulting

**current focus:**
- Business development
  - Product innovation management
  - Sales & Marketing
- ASP

**previous roles:**
- IBM marketing manager
  - application development
    - (e.g. Launch of VisualAge for Java)
  - eServer (e.g. CRM on S/390)
- programming, consulting, sales.
What is e-business?

e-business = WEB + IT
(early IBM definition)
Business Drivers for "on-demand"

- reduce costs (e.g. server utilization)
- better customer service
- reduction of risk
- improve speed
on-demand stages

Access
Connect to the Internet...

Enterprise Integration
Buying, not browsing... working, not surfing

On Demand
Optimize operations...

Access
Publish
Transact
Integrate Internally
Integrate Externally
Adapt Dynamically

static pages
queries

buy, book
eLearning

automated business processes

on-demand business

- Responsive:
  - Able to sense changes in the environment
  - and to respond dynamically to unpredictable situations
- Variable:
  - Able to adapt cost structures
  - and business processes flexibly
  - to reduce risk
- Focused:
  - Committed to concentrating on core competencies
  - and differentiating tasks and assets
  - able to use tightly integrated strategic partners (Outsourcing)
- Resilient:
  - Prepared for changes and threats like computer viruses, earthquakes, or sudden spikes in demand.
translates into

● flexible infrastructure
  ■ workload
  ■ connectivity

● faster application development
  ■ frameworks
  ■ rapid prototyping
  ■ productivity tools
Why REXX?

&TRACE OFF
&TYPE HELLO
&EXIT 0
Why REXX?

&TRACE OFF
&TYPE HELLO
&EXIT 0

EXEC2 - IBM, late 70s.
SC24-5219 Virtual Machine/System Product EXEC 2 Reference.
Superseded by REXX.

http://oop.rosweb.ru/Other/650.html
Further reasons

- use it for
  - batch
  - scripting
  - prototyping
  - applications

- platforms
  - PC -> mainframe
  - many different operating systems
Mission critical applications

Which one would you choose?

A)
..has been designed with just one objective. It has been designed to make programming easier than it was before

B)
developed as a platform-independent language aimed at allowing entertainment appliances such as video game consoles and VCRs to communicate
Mission critical applications

Which is which

A: REXX
..has been designed with just one objective. It has been designed to make programming easier than it was before

B: OAK
developed as a platform-independent language aimed at allowing entertainment appliances such as video game consoles and VCRs to communicate
Influences

APL
ALGOL
PL/I

Mike Cowlishaw: The REXX Language, New Jersey 1985
on-demand evolution

Server: Mainframe
Client: 3270 Terminal
on-demand evolution

1981

Server: Mainframe                 N/A
Client:   3270 Terminal           PC
on-demand evolution

1981

Server: Mainframe  N/A  PC Server
Client: 3270 Terminal  PC  PC
on-demand evolution

Server: Mainframe
Client: 3270 Terminal
N/A
PC
PC Server
many/large Servers

1981

Web browser
### on-demand evolution

<table>
<thead>
<tr>
<th>Year</th>
<th>Server</th>
<th>Client</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>Mainframe</td>
<td>3270 Terminal</td>
</tr>
<tr>
<td>2004</td>
<td>PC Server</td>
<td>many/large Servers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>N/A</th>
<th>PC</th>
<th>PC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Web browser</td>
</tr>
</tbody>
</table>
Personal experience

TOOLS ADMINISTRATION (IBM Austria)

internal IBM Host-Systems (Menus, printing, quality forms...)

VM/CMS fax server (PROFS)

ATLAS (Austrian Airlines/Swissair/IBM)

CRM - Software

HTTP-Server
Current focus & REXX

- ASP
- Marketing
- Communications
Goals scientific work

- The structure of electronic newsletters
- Criteria for successful/unsuccessful newsletters and websites
  - "successful"
  - Measurement
  - Relevant variables
- Hypothesis:
  - There are measurable success factors
- What is the difference between successful and unsuccessful organizations?
ASP

- Application Service Providing (ASP)
- Software As A Service (SAAS)
- Key for on-demand success

On-demand software
<table>
<thead>
<tr>
<th>Key Player</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appshop Enterprise</td>
<td>ASP</td>
</tr>
<tr>
<td>Atomz Enterprise</td>
<td>ASP</td>
</tr>
<tr>
<td>BlueStar Solutions Enterprise</td>
<td>ASP</td>
</tr>
<tr>
<td>Concur Web service vendor, enterprise</td>
<td>ISV</td>
</tr>
<tr>
<td>Corio Enterprise</td>
<td>ASP</td>
</tr>
<tr>
<td>CrownPeak Web service vendor, enterprise</td>
<td>ASP</td>
</tr>
<tr>
<td>Employease Web</td>
<td>service vendor business service provider</td>
</tr>
<tr>
<td>Intacct Web</td>
<td>service vendor</td>
</tr>
<tr>
<td>LivePerson Web</td>
<td>service vendor</td>
</tr>
<tr>
<td>NetLedger Web</td>
<td>service vendor</td>
</tr>
<tr>
<td>Outtask Enterprise</td>
<td>ASP</td>
</tr>
<tr>
<td>RightNow</td>
<td>Web service vendor, enterprise ISV</td>
</tr>
<tr>
<td>Salesforce.com</td>
<td>Web service vendor</td>
</tr>
<tr>
<td>Salesnet</td>
<td>Web service vendor</td>
</tr>
<tr>
<td>Surebridge Enterprise</td>
<td>ASP</td>
</tr>
<tr>
<td>UpShot</td>
<td>Web service vendor</td>
</tr>
<tr>
<td>USiEnterprise</td>
<td>ASP, application infrastructure provider</td>
</tr>
<tr>
<td>Vocus</td>
<td>Web service vendor</td>
</tr>
<tr>
<td>WebEx</td>
<td>Web service provider</td>
</tr>
<tr>
<td>WebSideStory</td>
<td>Web service provider</td>
</tr>
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(www.aspnews.com/top20/article/0,,10341_753371_2,00.html, 2003-10-28)
ASP Solutions

ISVs

New Entrants

ASPs

Infrastructure (ISPs)

Non-IT: eg TelCo
Consequences

- Unknown Suppliers
- New companies
- Alliances with
  - Software
  - Hardware
  - Infrastructure
Inhibitors

- End of Internet-Hype
  - nearly no Venture Capital in Europe
- Basel II
  - nearly no support from Banks
- "ASP"
  - unknown
  - ASP -> SAAS
- low penetration
- BUT:
- e-business & on-Demand well known
- wide usage of ASP-applications
Who uses ASP?

Willingness to outsource applications

(c) IDC
## Web Usage SMB

<table>
<thead>
<tr>
<th>Service</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web</td>
<td>63%</td>
</tr>
<tr>
<td>E-Mail</td>
<td>77%</td>
</tr>
<tr>
<td>Homepage</td>
<td>54%</td>
</tr>
<tr>
<td>E-Commerce</td>
<td>20%</td>
</tr>
</tbody>
</table>
SMB decision criteria

- quick to deploy
- easy to use
- low cost

VS

Large Accounts

- TCO
- LONG TERM STRATEGY
- INTEGRATION / MIGRATION
ASP Phase II

Phase I

Technology Trigger
Peak of inflated expectations
Through of disillusionment
Slope of enlightenment
Plateau of productivity

Phase II

(adopted from Gartner)
Growth

16.5 % CAGR

Software as a Service

(c) IDC, 2003
Development Phases

idea | plan | develop | deploy
---|---|---|---
Check Business idea | Business plan | Sales partner Marketing
Finance plan | Marketing plan | 
Development plan | Infrastructure | 
Tools | Programming | Support Hosting/Housing
Test | Documentation | Security 24x7
FINANCE

BUSINESS

SYSTEM
ASP Distribution

ASP Supplier                        Customer
DISTRIBUTION                  SALES
POP3
port 110

command

response

Mail List Manager

RDR

SPOOL

VM/CMS

POP3

- Query LIST
- Read RETR
- Purge DELE
Systems Design

- POP3
  - port 110
  - command
  - response

- HTTP
  - port 80, ...

User functions

Support functions

Mail List Manager

CMS

HTTP Server
Systems Design

POP3
port 110

HTTP
port 80,...

command response

User functions

Support functions

Mail List Manager

Applications

CMS

HTTP Server
Communications

sendmail
to service engine
cmd
parameters

REL NL1 IMM
ADD NL1 NEWUSER

Applications

User functions

Support functions

CMS

HTTP Server

Mail List Manager
HTTP Functions

- socklisten
- sockaccept
- data=readfile(fn)
- ret=output(client,data)
HTTP Functions
HTTP requests

socklisten
sockaccept

data=readfile(fn)
ret=output(client,data)

HTTP 1.0:
GET
POST
HEAD
OPTIONS
HTTP Functions

```
socklisten
sockaccept

s="data="||pgm||"(data)"
interpret s

ret=output(client,data)
```

external function (pgm)
parameters

html

request

response

browser
/* fun1 */
parse arg buf

email=getvar(buf,"EMAIL")
s="<html><head></head><body>"
s=s||"<h1>....."

return s
/* fun2 */
parse arg buf

sid =dsnew() /* new session id */

data=dsget(sid,"EMAIL") /* get data from user datastore */

data=dsput(sid,"EMAIL","a@b.com")

ret=dskill(sid) /* kill sessionid & datastore */

s="<html><head></head><body>"
s=s||"<h1>.....

return s
<html>
<head>
</head>
<body>
<h1>test</h1>

REXX:
- statement
- external function
**CMS**

- **logic**
- **layout**

- **RSP** lead role
- **REX** lead role
CMS

RSP: lead role

REX: lead role

CMS: lead role

logic

layout

config
REXX VISION 1

REXX client

REXX Server

REXX OS
Summary

- REXX/REGINA ideal for web applications
- fast execution
- wishlist
  - preload of external functions
  - instorage files ("RAM disk")
  - constants (eg CRLF or EOF)
  - RSP standard
Thank you for listening

Mike Cowlishaw
- REXX
- TOOLS

Mansfield Software Group

REGINA-Team