Setting the Standard for Utility Computing

Welcome and Introductions

Marc Andreessen, Chairman, Opsware Inc.
October 14, 2003
TCP/IP

• Before TCP/IP…
• Tower of Babel
  – IBM SNA, DEC DECnet, Microsoft NetBEUI, Novell IPX, Mac Appletalk, Lotus Notes, …
  – No universal language

• TCP/IP came along and boom, Internet
• Common language unleashed latent power
• Now everything speaks TCP/IP
• Before HTML…
• Tower of Babel
  – Gopher, FTP, Adobe Postscript, Microsoft Word, Apple Hypercard, Lexis/Nexis, Dialog, Quark, …
  – No universal language

• HTML came along and boom, Web
• Common language unleashed latent power
• Now everything speaks HTML
Fast forward to today

• 8 years into 25-year shift to web architecture
• 700M Internet users; 1B PC’s sold in 8 years

• Explosion of technology and complexity in the datacenter
  – Servers: 5M shipped this year; up 10x in 8 years
  – Web applications everywhere
  – New technologies: Linux, Intel, Java, BEA, …
  – An enormous amount & diversity of stuff
The new Tower of Babel

• The new Tower of Babel is the datacenter
  – Thousands of components
  – Jumble of technologies
  – Constant change
  – Very expensive
  – Hard to secure
  – Virtually impossible to make reliable
DCML

• Data Center Markup Language
• DCML does for the datacenter…
  – What TCP/IP did for networking
  – What HTML did for content
• Universal language for the datacenter
What DCML is

• **XML-based language**
  – Describes datacenters and their component parts
• **Open**; anyone can adopt it
• **Answers three big datacenter questions:**
  – How do you know what you have
  – How do those things know about each other
  – How do you change it or rebuild it
• **Common language** for all elements of a modern datacenter
DCML makes things easy

- Examples:
  - Security patches
  - Scaling
  - Creating new systems quickly
  - Rolling out a new monitoring system
  - Pushing code across lots of servers
  - Recovery from mistakes and bugs
  - Disaster recovery
DCML unleashes potential

- **Servers** easy to provision, secure, scale
- **Applications** easy to roll out, change, recover
- **Datacenters** easy to run, consolidate, move, and recover
- **Web technology** easy to field
  - However you want, whenever you want

- Latent potential is there
- DCML unleashes it
DCML turbocharges industry trends

• DCML enables Linux and Intel-based servers
• DCML enables utility computing
• DCML enables “best of breed”
  – TCP/IP made networking lock-in impossible
  – HTML made content lock-in impossible
  – DCML makes datacenter lock-in impossible
• DCML doesn’t require massive investment
  – Existing hardware, software, datacenters
  – From lots of different vendors
  – From “toe in the water” to “total immersion”
What you’ll see coming out

• DCML specification
  – Already in development; complete early 2004
• DCML open source reference implementation
• DCML open source reference descriptions of common datacenter components
  – Server hardware, OS’s, app servers, …
• Support of DCML in commercial products from DCML partners throughout 2004
  – E.g. DCML-compliant Opsware in early 2004
• 25 companies here today; more will join
Where are the other players?

• Big companies adopt standards late
  • IBM
    – “Everything from IBM” vs “best of breed”
    – We believe they’ll adopt in response to customer demand – like they did with TCP/IP & HTML
  • HP
    – Already getting DCML via Opsware & BEA
  • Microsoft
    – Focused on SDM – Windows-only
    – We believe they’ll adopt to bridge to the rest of the world – like they did with TCP/IP & HTML
The thing about standards

• What’s Not
  – X.500
  – X.400
  – COTS
  – OSI
  – CMIP
  – DCE
  – CORBA
  – OpenDOC
  – OSF Unix
  – Telescript
  – ASN.1

• What’s Hot
  – TCP/IP
  – HTML
  – HTTP
  – LDAP
  – SMTP
  – IMAP
  – SSL
  – SNMP
  – NNTP
  – SQL
  – XML
How successful standards happen

“We reject kings, presidents and voting. We believe in rough consensus and running code.”

– Dave Clark, IETF
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Jeff Heller, President & COO, EDS
October 14, 2003
Partnerships the Produce Results

• DCML initiative based on partnerships
  – Concept authored by EDS and Opsware
  – Specification evolving through the collection of leading utility computing vendors

• Open industry effort
  – Initiative focused on evolving the DCML specification
  – Organization formed by industry leaders
  – Open membership and participation
  – Royalty-free intellectual property rights for members
Innovating Solutions

• Assembled group committed to innovation
• Take past experiences and knowledge… combine with new points of view
• Time to innovate this solution is now
• Clients already demanding returns on the utility promise
DCML Organization Members

Governing Members
- OPSware Inc
- EDS
- Computer Associates

Founding Members
- bea
- Mercury Interactive
- Micromuse
- TIBCO
- netIQ
- Infranetworks
- Akamai
- Tripwire
- ITM
- Marimba
- Inflow
- BladeLogic

General Members
- Consera Software
- AlterPoint
- Centrata
- Configuresoft
- Ejasent
- RELICORE
- Blue Titan
- Racemi
- Euclid
Vivek Ranadive
Chairman & CEO
MERCURY INTERACTIVE

Oren Ariel
Chief Technology Officer
Agenda

- 9:30 a.m. – 10:15 a.m. – Welcome and Introductions

- 10:15 a.m. – 10:45 a.m. – Evolution to the Real-Time Infrastructure
  - Donna Scott, Gartner Inc.

- 10:45 a.m. – 11:05 a.m. – Customer Drivers for DCML
  - Jeff Kelly, Executive Vice President, EDS Infrastructure Services
  - Larry Lozon, Global Offering Executive, EDS Hosting Services

- 11:05 a.m. – 11:15 a.m. – Break

- 11:15 a.m. – 11:45 a.m. – DCML Technical Overview
  - Tim Howes, CTO, Opsware Inc.
  - Darrel Thomas, Chief Technologist, Web & Application Hosting, EDS

- 11:45 a.m. – 12:30 p.m. – Partner Panel
  - Moderator: Donna Scott, Gartner Inc.
  - Governing Members and Founding Members executives

- 12:30 p.m. – 3:00 p.m. – Lunch / Media room
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