IBM Linux and the Thin Client: New Opportunities and Solutions

November 3, 2004 Teleconference
Host: Brian Fullington, IBM WW Linux Client Project Office

Teleconference Agenda:

- **Thin Client Market Dynamics:**
  - **Brian Fullington, IBM WW Linux Client Project Office**

- **Neoware Thin Clients:**
  - **Charlie Quinn – Director, IBM Business Development, Neoware**

- **IBM Kiosks:**
  - **Bruce Rasa – Kiosk Marketing Manager, IBM Retail Store Solutions**

- **Questions and Answers**

Thin Client Market Dynamics

- Desktops predicted to be less than 50% of client devices by 2008*
  - Thin Clients, cell phone devices and PDA's
- "Because of management, security, and operational and cost issues, more enterprise customers will deploy server based solutions"*
  - Server based computing will grow 2x rate of desktops through 2007*
- Linux will account for 20% of thin client OS's by Y/E 2004**
- 54% of IBM thin client sales ship with Linux
- Thin clients are often a great alternative where end users don't need all the features and functions of a full blown office machine.

•*Gartner report "What's Ahead for Desktop PCs in 2004" – Dec. 2003
•** "IDC Enterprise Thin Client Q-View, Q2 2004"

Think Thin with Linux from Neoware

IBM/Neoware Thin Client Alliance
Mike Mullen, Alliance Manager
mullenm@us.ibm.com

Increased Adoption of Thin Client Devices

- **Gartner Group – Mgmt Update** 12/10/03
  - **Prediction on Thin Client Devices**
    - **Will continue to grow by addressing issues of**
      - harsh environmental conditions
      - space and power limitations
      - manageability
      - most important, security
- **IDC Q1 2004 Enterprise Thin Client View**
  - **Linux on 21.7% of thin client shipments in Q1**
  - **Thin Client Linux year-on-year growth at 64.9%**
  - **40% of Neoware's business is Linux, twice industry average**

Thin Clients in the IBM Sales Kit

- Complements a full line of PCD offerings
  - Servers - Notebooks - Desktops - Thin Clients
- Provides an opportunity to sell other options
  - Flat Panel Displays, Monitors
  - Keyboard
  - Software - NetVista Migration, IBM 3270/5250
- Compensates the participants
  - PCD, Client teams and Neoware compensated on IBM part numbers – Siebel input for Linux reps
- Offers fulfillment choices
  - Partner Choice, PC Direct, LE Direct
- Opens the door to new resellers
  - Server partners, Neoware resellers

HP

Thin Clients

- **Benefits of Adopting Thin Clients**
  - Built-in Security
    - Information access controlled at server, by administrator
  - Centralized management of desktop devices
    - Controlled distribution of new apps, up-dates and snap-ins
  - Minimization of desktop viruses
    - Read only file system
  - Extended useful life
    - Rugged, steel case, no moving parts, upgradeability of OS
  - Lower TCO
    - Lower acquisition, service/support/energy costs
- **Areas of Use**
  - Remote offices, multiple locations
    - retail store, insurance offices, nursing stations, banks
    - Ease of installation and support
  - Structured, transaction-based environments
    - Call centers, Kiosks, Work-at-home
    - Control and availability of required information
  - Fixed function environments
    - Shop floor, fax server
    - Reliability with no moving parts
  - Green Screen Replacement
    - 3270/5250 emulation, x-terminal
    - Transition to windows or web-based applications
  - Existing or New Citrix Customers
    - Server-based Windows applications
    - Opportunity for cost savings

- **Opportunity Segments**
  - Healthcare/Government/Education
    - Private Hospitals, State Hospitals, VA Hospitals, Hospital Management Cos., K-12 Education, Higher Ed, County Govt's, State Corrections Facilities, State Healthcare Services, Pharmaceuticals
  - Distribution Sector
    - Regional, National and International Retailers, National Grocery Chain, International Airline
  - Industrial Sector
    - Automobile Manufacturers, Home/Garden Appliance Companies, Aviation Manufacturers, National Tire Companies, Textile Companies
  - Communications Sector
    - Cable Companies, Regional Telephone Companies
  - Finance Sector
    - Insurance Firms, Local, Regional, National and International Banking Companies
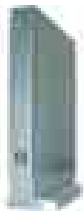
Thin Client Solutions

- Offering functionality and quality at every price point:
  - **Choice of form factor**
    - CapioOne – price/performance
    - Eon e100 – high performance
    - Eon e300 – all-in-one design
  - **Choice of operating system**
    - NeoLinux, WinCE, WinXP Embedded
  - **Disk-on-Module** (Flash, upgradeable)
    - Operating System – CE, XPe, NeoLinux
    - Browser – WinIE, Netscape, Mozilla
    - Emulators – TeemTalk, IBM 5250/3270
    - Windows Clients – ICA, RDP
    - Management – ezRemote Manager

- **New From Neoware – the 8th Fastest Growing Company** (Fortune Magazine)
  - **Acquisition of Visara Thin Client**
    - **Formerly known as Memorex Telex**
    - **Acquired thin client business**
      - **Thin client assets, license to intellectual property, customer lists**
  - **Benefit to IBM**
    - **Linux-based coax technology**
    - **Linux-based twinax technology**
    - **Mobile computing tablets**

Capio One　　**Eon e100**　　**Eon e300**

Thin Client Solutions

- **Open Management**
  - **ezRemote Manager is based on open, industry standard protocols**
  - **Neoware is the first to extend choice, flexibility and investment protection by extending its management software to include compatibility with**
    - IBM Tivoli
    - Altiris Deployment Server
  - **Neoware's Open Management eliminates the most significant issue inhibiting enterprise customers from adopting thin client appliances**

IBM/Neoware Alliance

- **IBM Brings to the Table**
  - A single point of contact for a complete solution offering
    - Logistics Management
    - Financing
    - Installation Services
    - Additional Service and Support capabilities; e.g. On-site, 24x7
  - An entrée into additional areas of IBM to enhance the thin client solution
    - IBM Tivoli Endpoint Agent

    - IBM eSeries Servers
    - IBM Workplace
    - IBM Linux
    - IBM Kiosks

- **Neoware Brings to the Table**
  - Focus entirely on the thin client marketplace
    - Dedicated software development effort
      - emphasis on Linux
    - Ownership of and on-going enhancements for TeemTalk
      - the leading thin client emulation software
    - Ownership of and on-going enhancements for ThinPC
      - a software solution for converting PCs into secure, managed appliances
    - Delivery of Open Manage solutions
      - ezRemote Manager
      - IBM Tivoli
      - Altiris Deployment Solution
    - Provides the capability to tailor a specific solution to a specific account requirement

Linux in the Kiosk Market

Bruce Rasa
IBM Kiosk, Offering Marketing Manager
brasa@us.ibm.com

Kiosk Market Definition & Key Trends

- Definition –
  - *kiosk is a self-service platform to deliver info and services*
- $7.9B WW opportunity over next 3 years, growing 12% CAGR
- IBM participation in the market – over 15 years and many thousands of deployments
- Top 5 Trends in Kiosk market -
  - 1. Self service becoming "goodness"
  - 2. Multiple consumer touchpoints in the store
  - 3. Kiosks as portals vs. single app
  - 4. Smaller, appliance-type footprint
  - 5. Open systems

Key Solution Areas Driving Smaller, Pervasive Kiosks

Solution	Description	Value Proposition
Product Preview	In-aisle solution to provide pertinent information on product or service.	- help to make a better purchase decision - improved service level - faster transactions
CD/DVD Preview	In-aisle solution to enable preview and recommendation	- entertainment - upsell from deep catalog - don't leave empty handed
Self Order	Enables customers to place food (or non-food) order themselves. Payment options vary.	- improved order accuracy - consistent cross/up sell - faster transactions
Virtual Concierge	In room portal to promote hotel amenities and make it easier to take advantage of them.	- communication portal to guest - easier to consume property services
Hotel Guest Check-in	Enables guest to check in and receive room key.	- speed up check in process - enable simple room changes - improved service level

Why Linux is an <u>ideal</u> Kiosk solution

- Low TCO
- High reliability / availability –
    - - 24/7 operation, public access environment
- Small software footprint
- Customizable/brandable – ex. retailers
- Fewer productivity app. compatibility requirements
- Long installed life – ex. 5-7 years
- No need for frequent migration to OS upgrades
- Security

Kiosk Appliances Will Solve Many Problems

- Takes up too much space
- Costs too much to have many touchpoints
- Doesn't hold up to rough customer treatment
- Can be dead end platforms
- Destroys customer value when not functioning properly
- Isn't always closely monitored for problems by store personnel
- Difficult to install and maintain
- Based on desktop PC technology
- Hard to manage/route cables
- Costly to brand

Additional Information

- **Linux ISV**
  - APunix   www.apunix.com
    - IBM's leading pure Linux kiosk provider.

- **IBM**
  - www.pc.ibm.com/store/products/kiosk