The Benefits of Open-Source Migration

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HP WORLD 2003
Solutions and Technology Conference & Expo

Who Is In Our Audience?

- Where you come in:
  - IT manager?
  - Product-line manager?
  - Software developer?
  - Other?
- Do you **employ** open source today?
- Can open source help drive **profitability**?

IT Infrastructure Needs

- **Lower cost** of:
  - Operations
  - Ownership
  - Management
  - Maintenance
- **Higher return** on existing investments
- Provide **more services** with less personnel
- Move to **standard**, commodity components
- **Integrate** with customers, field, etc.

IT Key Characteristics

- Relatively few new **purchases**

- Less key **personnel**

- **Outsourcing** standardized services

- Still asked to provide **new services**

- Technology **churn** is still a problem

- Responsible for corporate **revenues**

- Are there other topics for your organization?

Can Open Source Help?

- Need a **model** to:
    - **Evaluate** open source
    - **Analyze** user requirements
    - **Quantify** tangible benefits
    - Outline investments and **ROI**
    - **Choose** pilots carefully
- Success is critical
- Services must fit in easily
- Can't spend a lot of money

Characteristics of Open Source

- Started in 1971 (**Richard Stahlman** at MIT)
- Turned into **GNU** project, **FSF**
- **GPL** (Gnu Public License) and others
  - Rights to modify
  - Source must be made available
  - No single owner
- Focus on **standards**, technologies, enabling systems
- **Linux** was a result, not the starting point
  - **Kernel** was key piece that wasn't finished
  - GNU compilers, libraries, tools were ready
- Not just Linux

Open Source Today

- Tens of thousands of projects
  - Freshmeat, SourceForge, Gnu, …
- All aspects of **system** available
  - Kernel
  - System tools
  - Applications
  - Custom programming
  - Service and support
- Virtually all **platforms**
  - PDA, PC, Workstations, Servers, Embedded

How Can This Benefit IT?

- Network **consolidation**
- Industry **standard** technology
- Ability to view implementations
- **Low cost**
- Service and **support** available
- Wide range of **expertise** in market
- Ability to **modify** source code

Hurdles To Overcome

- Different **desktop**

- Need to **retrain**

- Port internal applications

- **Office** environment still evolving

- **Concerns**:
  - Stability
  - Support
  - Applications and porting
  - Solutions

- NOTE: all of these concerns are being addressed today

Model For Evaluating Open Source

- Outline and weigh **pros vs. cons**
- **Cost** comparison
  - Licenses
  - Support / Maintenance
  - Training
  - Upgrades
  - Management
- **Functionality** chart
- **Analyze** user requirements
- **Quantify** tangible benefits

The Pilot Project

- **Identify best fit** business functions
  - Good candidates for open source:
    - Call center
    - Manufacturing
    - Many engineering organizations
    - Web hosting
    - Technical service providers
  - Less attractive are:
    - Administration
    - Executive management
    - Sales
- Look for groups with **unmet requirements**

The Pilot Project (cont.)

- Define key **success factors**

- Identify key **personnel**

- Implement **data migration** before pilot starts

- Make **help desk** available

- Define **fallback** plan
  - Still can be open source

- Put simple **metrics** in place
  - quantify results

High-Performance Clusters

- Started as **Beowulf** Project (Linux based)
- Commodity-based systems
- High-speed interconnect
- Low-cost alternative to **supercomputers**
- First decade focused on **engineering** problems
- Moving into **commercial** space
- **Oracle9i** RAC
- **Web**-server environments
- HP, Dell, IBM, Sun have all adopted cluster **strategies**

Linux and Clusters

- Linux is easily **tailored** to clusters
- **Vendors** investing in Linux **kernels**
- High-performance **applications**
  - **Engineering**: Gov., research
  - High-speed **database** transactions
  - **Search**: Financial, high-volume (i.e. Gov.)
  - **Web farms**: hosting, larger corporations
  - **Graphics**: rendering, visualization
  - **Custom** applications: i.e. manufacturing
- **Scalability** – rapid market growth
- Leverage domain **expertise**

Business Solutions

- Manufacturing

- Digital Content Creation

- Financial Services / Investment Banking

- PS: Many more than these…

Manufacturing Solution

- Lithonia Lighting: America's largest lighting builder

- **Requirements**:
  - Lower unit costs
  - Produce orders at very high speed
  - Rapid delivery, manage complex distribution
  - Leverage technology to reduce costs

- Moved to **clustered Linux** operating environment

- Focus on **scalability**

- **Client-server** applications

- **Integrate** order processing with manufacturing

Digital Content Solution

- **DreamWorks®** uses Linux **cluster** technology
- Legacy systems no longer met performance demand
- **ToonShooter™** application creates movies
- Matched IT resources (consolidation)
- Servers, workstations, **clusters**
- **Rendering** farm
- High-**performance** goals
- Nightly and real-time "builds" of **animations**
- **Client-server graphics** environment

Financial Services Solution

- Reuters Market Data System (RMDS)
- Real-time market data to corporations
- Reduce total cost of ownership (**TCO**)
- **Improve** service
- Easier and more **integrated** management
- **Open** APIs
- Push toward web and **wireless** applications
- **Connectivity** to corporations (their way)

Summary

- Open source **IS** ready for **prime time**
- Linux is entrenched in the **data center**
- Office environments work today, for some
- **High-performance clusters** are becoming mainstream
- Need **technology partners**
- Use **pilots** to foster success

Open (source) discussion

- Questions
- What about your company?
- What holds you back today?

Benefits of Open-Source Migration

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