# Novell® Migration
## from Windows to Linux

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# In Conclusion...

Go from this...

to this

In an hour!



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# Novell at a glance

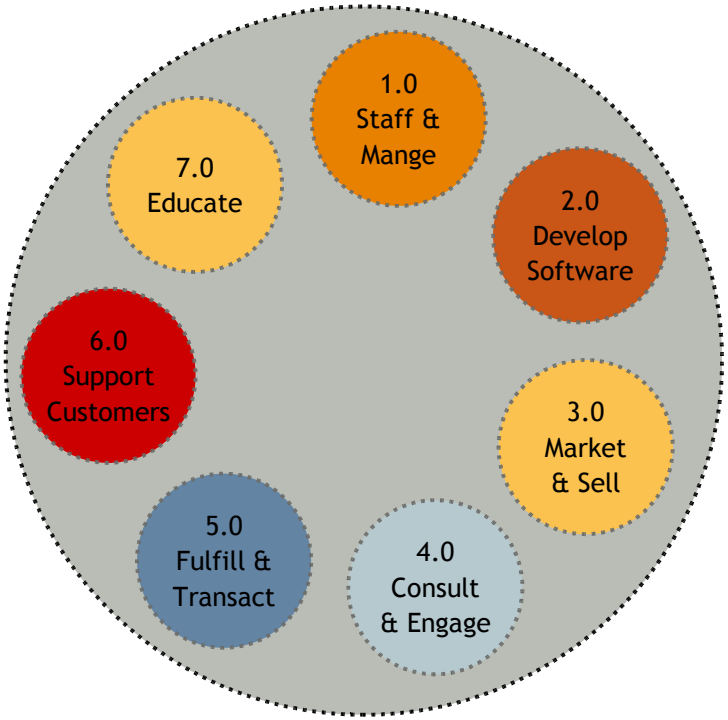
## Novell

- 5,800 people in our workforce
- 100+ locations
- 5 Geographies
- 42 Countries

## IT

- 210 people
- Organization
  - Applications
  - Geo support
  - Infrastructure

Key Processes



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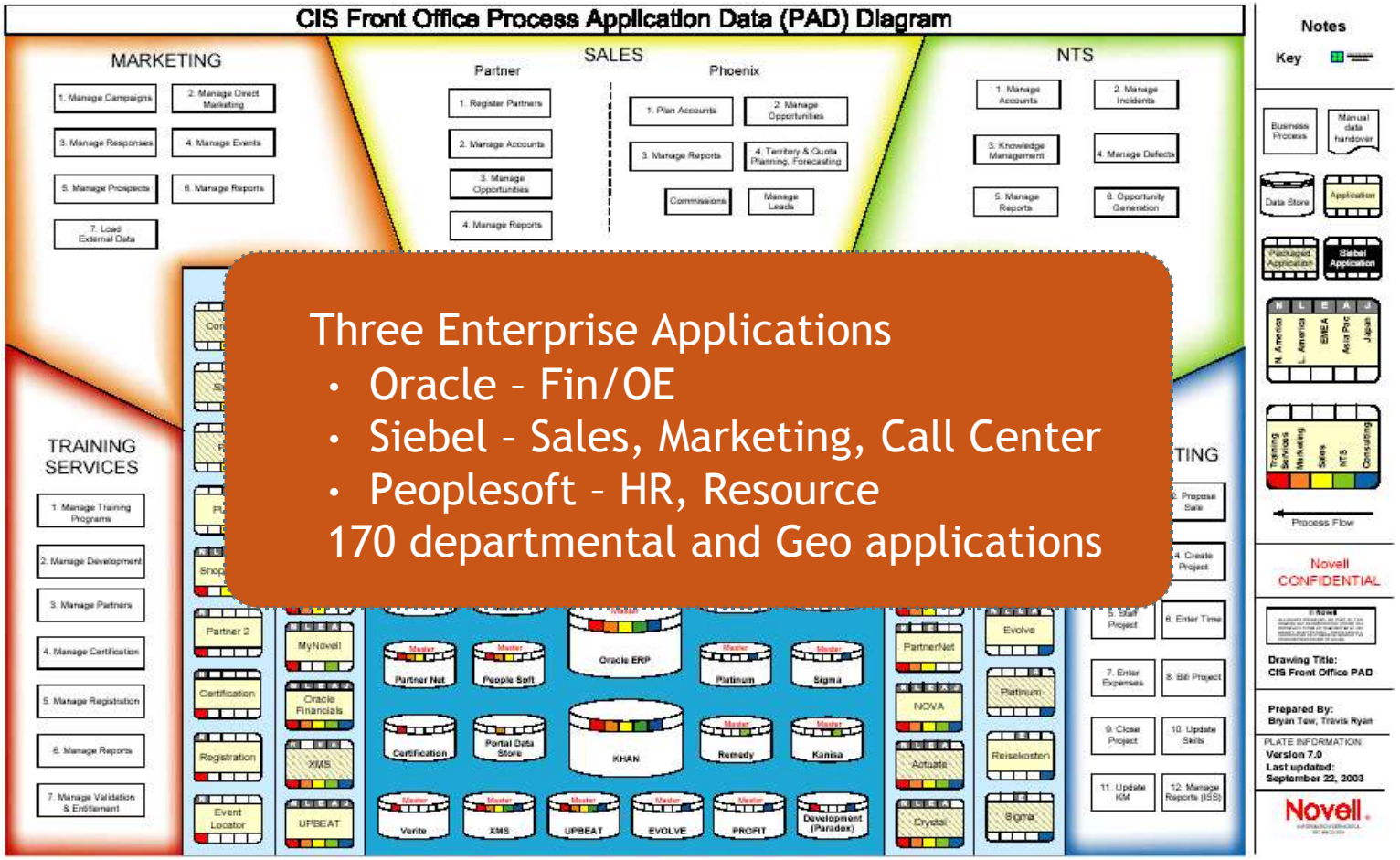
# Vital statistics - applications



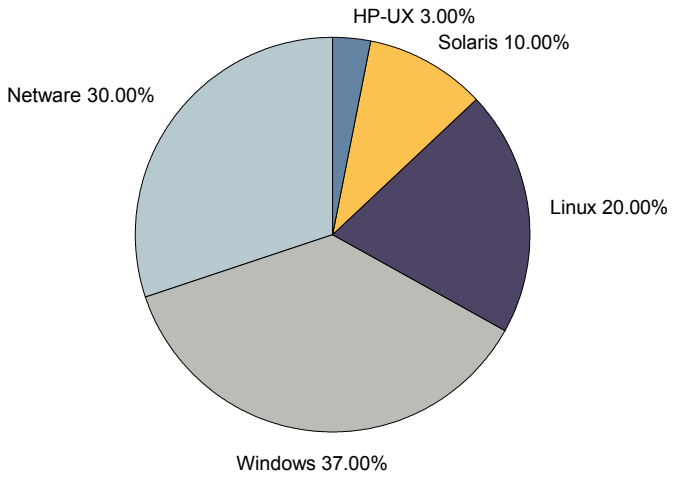
# Vital statistics - data

## Data centers

- Eight data centers in five countries

- 700 servers
- 20 TB data backed up on a daily basis

### Distribution of OS Platforms




## SUSE® Linux

140 servers in the data center (20 percent); 3rd behind NW and Windows

40 percent of web servers; 50 percent of eDirectory servers



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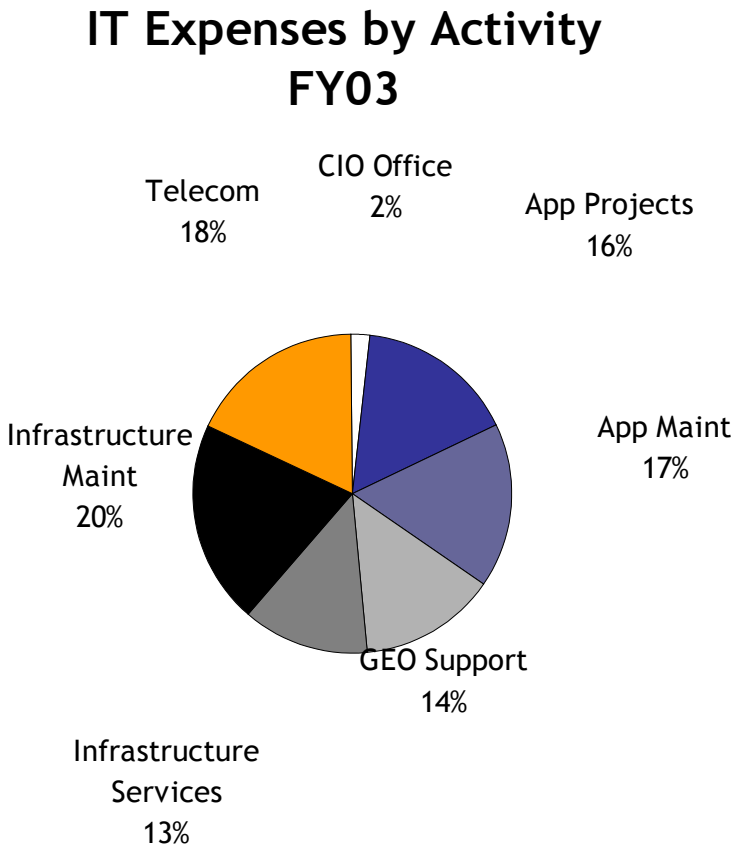
# Vital statistics - budget

FY04 Budget - $49M

*IT budget has dropped more than 25 percent in the last three years*

Key areas of savings

- Voice & data
- Automation in the data center (ZEN® for Servers/Red Carpet®)
- Provisioning / identity management
- Infrastructure and desktop?



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# The Novell Move to Linux

**March 2002 Linux Project Commenced**

- Investigate viability
- Potential uses

**August 2003 – Novell Purchases Ximian**

- Gnome desktop

**November 2003 – Novell Purchases SuSE**

- SLES
- SuSE Desktop



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# Creating an Open Source Enabled Enterprise

## Why we're moving to open source – it makes business sense

- Benefit to the bottom line - approximately $900K expense reduction per year vs prior desktop OS and office applications
- A good investment – Rapid ROI
- Security – not the current target of choice;
- Control – easy to lock down; simple software updates
- Showcase – driving how fast we migrate, not *if* we migrate

## How we're moving to open source – a phased approach

- Phase One – License Management
- Phase One – migrate the workforce to OpenOffice on Windows
- Phase Two – migrate the workforce to Novell Linux Desktop


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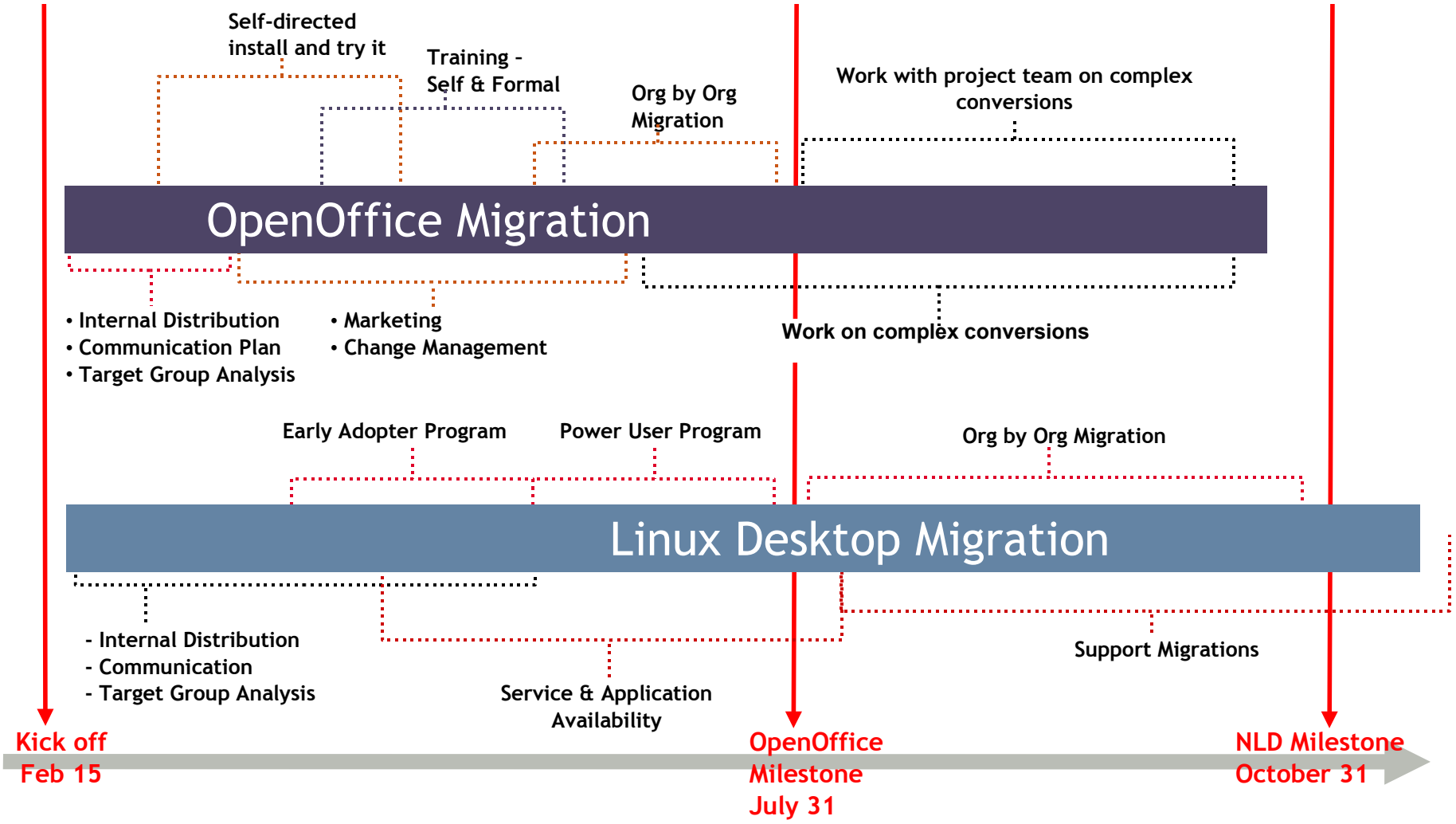
# High Level Timeline



# Phase One – OpenOffice Migration

**Mission: Move 90 percent of the workforce to OpenOffice by July 31, 2004**

**Our Strategy:**

- Migrate users to OpenOffice on Windows as a first step to an open desktop
  - It's easy to install and start using – very low technology and initial use barriers
  - Focus on user training and document conversion
- Make sure everyone has the same version (Internal distribution vs. open download)
- Recruit advocates from the business as change leaders for their organization
- Inventory and categorize documents  for managed conversion
- Aggressively address perceived limitations in the OpenOffice tool set
- Do a controlled move by organization and role
- Determine file format standards
- Retain some copies of MS Office for compatibility and business need



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# Phase One – OpenOffice Migration

**The Project Team:**

- Business – Leadership, Advocates, Corporate Communications, SME's
- IT – Desktop, Support, Business Analyst, Reporting, PM, Training, SME's, SWAT

**The Results**

- 85 percent of the workforce using OO routinely as their office productivity tool
- Remaining workforce blocked by a few key inhibitors


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# Phase One – OpenOffice (OO) Migration

## Lessons Learned

- OO is feature rich - macro's, database connections, pivot tables, transitions, indexing
- OO isn't MS Office – animations, VB, embedded video, application integration
- Training
  - Its a reason everybody fears moving; but very few will want it
  - There are a lot of resources out there – quick reference, books, web sites, CBT
- Get the software in people's hands – it will accelerate the pace of group migration
- You will find extremely sophisticated spreadsheets that are really small applications
- Document conversion falls into three buckets – just open it (95 percent); need some help (four percent); shift to work around (less than one percent)
- The best way to get people to move is to put executive documents in OO – target these
- There are hard blocks for a few cases
  - Spreadsheets over 32K rows
  - Direct application plug-ins (e.g., analytics tools)
  - High iteration external documents – conversions seem to decay
- Keep your workforce informed


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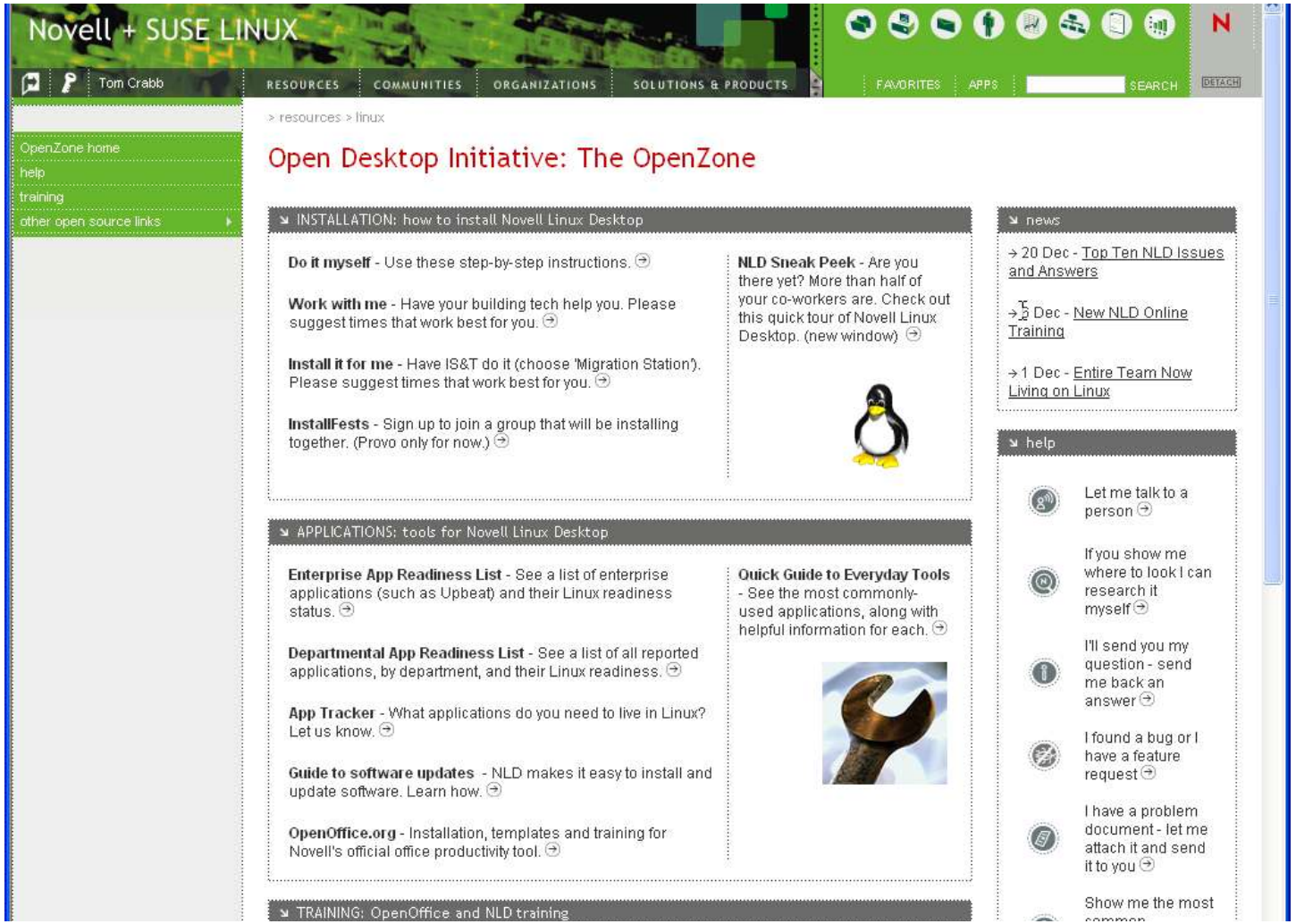
# The OpenZone



# Phase Two – Linux Desktop Migration

Goals must be clearly set and driven by company leadership

IT must lead by example

- 50% on single boot Linux machine by Feb. 28
- 80% on single boot Linux machine by May 31

Remainder of Novell

- 10% on single boot Linux machine by Feb. 28
- 30% on single boot Linux machine by May 31
- 50% on single boot Linux machine by Aug. 31
- 80% on single boot Linux machine by Oct. 31
  - *100% of employees to have Linux installed and experiencing it on a regular basis by May 31*



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# Phase Two – Linux Desktop Migration

**Our Strategy:**

- Use Red Carpet to manage software updates
- Recruit early adopters from each organization – technical pioneers
- Start business analysis early – identify roles and role requirements by organization
- Deliver applications in the browser where possible
- Recruit power users from each organization to help with transition
- Target migration by role and organization; be ready to manage the one-off's
- Provide options for migration (do it yourself, work with me, do it for me)
- Make it quick and easy to move – back to work the same day; back to normal in a week
- Offer dual boot as a safety net early in the migration, then move to single boot


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# Phase Two – Linux Desktop Migration

**The Work in IT**

- Services – Make services Linux-ready (file, print, email, VPN, authentication)
- Business Analysis – map applications to roles and organizations; assess business readiness
- Applications – find the right model(s) for application delivery
    - *Native – easiest for web applications (that don't use Active x)*
    - *Emulation – WINE implementation CrossOver Office*
    - *Terminal Services – light client option works well with Linux and Mozilla*
- Applications – update/upgrade where required or find an alternative
- Training – FAQ, quick Reference, lunch and learn, webcast, classroom, executive
- Desktop
    - *Migration tools – instructions & scripts for do it yourself users*
    - *HW assessment, standards, images*
    - ***Migration Station***


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# Phase II – Linux Desktop Migration

Goals of the Migration Station

- Migrate user from Windows to a Dual Boot configuration in one hour or less
  - preserve user data
  - boot into Linux or Windows
  - preserve preferences by retaining user's environment
- Initial target was laptop users
- Major corporate sites with large user populations were targeted first


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# Phase II – Linux Desktop Migration

## Migration Station Configurations

### Desktop

- HP EVO D530
- Dell Optiplex GX270
  - both machines were P4 3Ghz, 80GB HD, Tower Case
  - two separate machines to overcome compatibility issues with HD controllers

### Laptop

- IBM Thinkpad T40p
  - Drive bay adapter (replaces optical drive), external USB drive adapter

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# Phase II – Linux Desktop Migration

Migration Station Software Considerations

- Symantec Ghost v8.0
- Acronis True Image v7.0
  - ability to handle file systems (NTFS, EXT3, Reiser)
  - licensing

Our experience...



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# Phase Two – Linux Desktop Migration

## The Work in the Business

- Early adopters – work with IT to see if their organization can function on Linux
- Power users – validate applications and be a resource for their organization
- Leadership – model the way; decide when their organization will move
- Corp Comm - Corp Comm – Market the benefits, tools, resources, results
- Everybody – take the time to make the jump

## The Results

- 60+ percent of the workforce running Novell Linux Desktop
- Enterprise applications available and tested on the Linux desktop
  - Many departmental applications work native with no change (delivered via browser)
  - Crossover Office used for some applications
  - Terminal server retained for existing terminal server applications
  - One application rewritten; several upgraded


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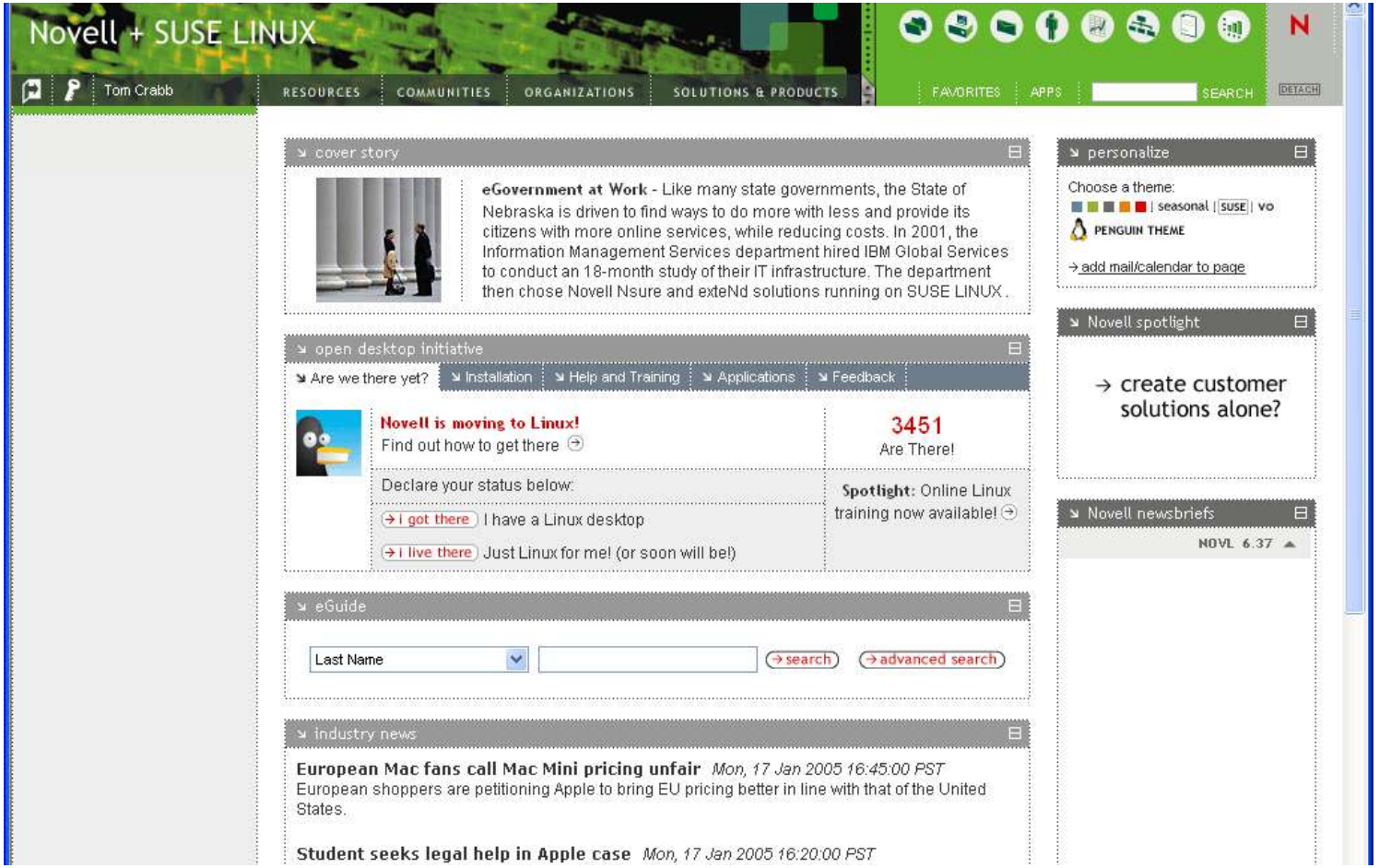
# Phase Two – Linux Desktop Migration



# Phase Two – Linux Desktop Migration

## Lessons Learned So Far

- Desktop
  - Linux HW support is advancing extremely fast; the major players standard HW works
  - The farther you move from mainstream HW, the harder it will be to run Linux
  - Linux desktops require the same level of HW as MS desktops
- Migration tools
  - Migration station addresses user fears (we hold a copy of the data for a few days)
  - Avoid the worst case scenario – data loss
- Services
  - Address email first, then file and print; understand where VPN is needed
- Applications
  - Web-delivered applications will be easier to migrate
  - Use terminal server as a bridge technology – it can be expensive as a sole option
  - Upgrade to Mozilla-ready versions before migration starts (Mozilla runs on Windows)
  - Make sure you don't spend more on emulation than you save on Windows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# Phase Two – Linux Desktop Migration

## Lessons Learned So Far

- Training – train users on the Linux desktop (how do I do my job); not on Linux
- Early adopters
  - Give the technical enthusiasts an outlet; they'll work hard to get their business moved
  - Early adopters will become effective advocates and resources during migration
- Power users
  - Pick business enthusiasts instead of technical; they'll help make it real
  - Make sure you find change leaders – not just the people who aren't busy
- General
  - Address the casual use policy early (e.g., what about my digital photo tools)
  - Practice, practice, practice with your Customer Support organization
  - Get IT there first
  - Understand change management and the stages of mourning
  - Find a way to align with the corporate culture or imperatives; it will be work


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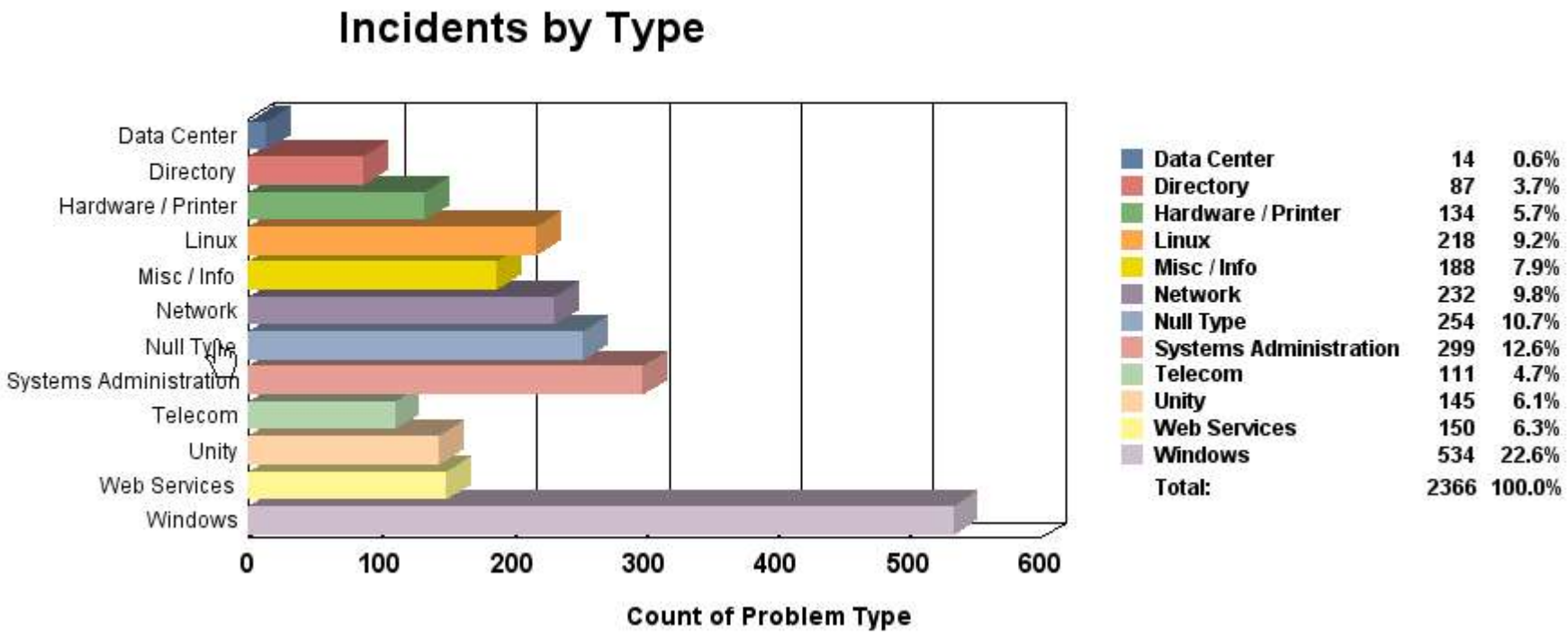
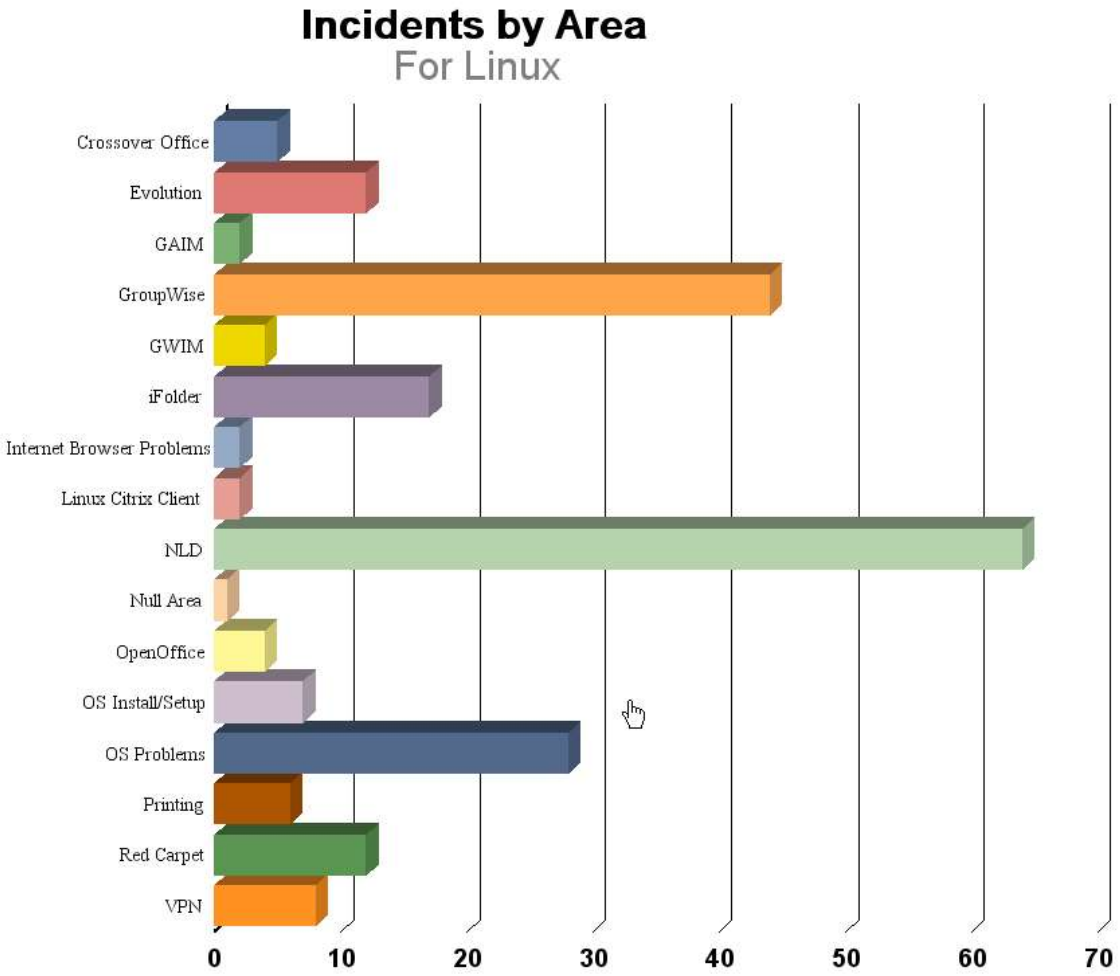
# Phase Two – Linux Desktop Migration

From: 1/1/2005 to 1/15/2005 **Help Desk Incident Report** Report Run: 1/17/2005 at 10:30:09PM

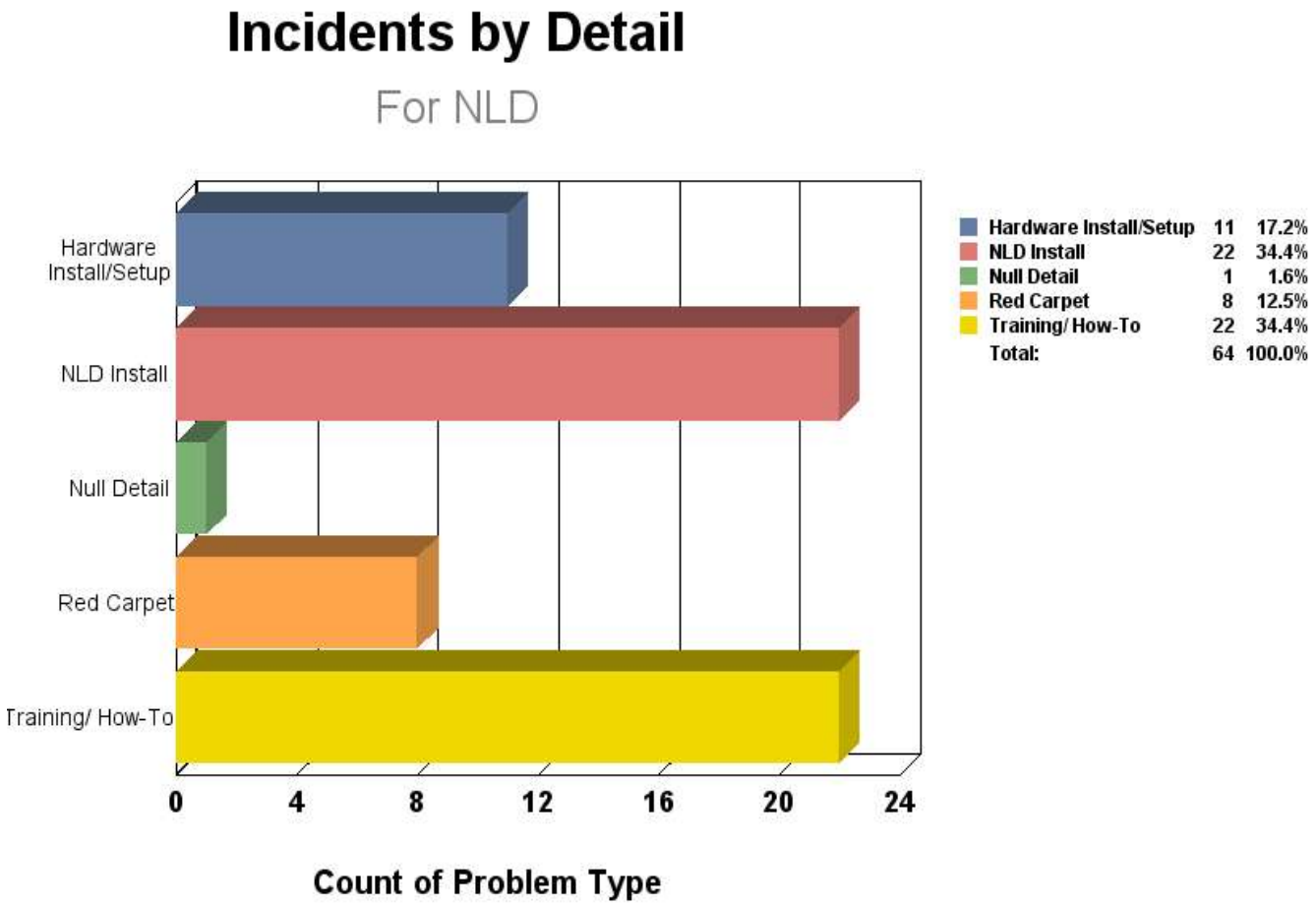



| | | |
|---|---|---|
| Data Center | 14 | 0.6% |
| Directory | 87 | 3.7% |
| Hardware / Printer | 134 | 5.7% |
| Linux | 218 | 9.2% |
| Misc / Info | 188 | 7.9% |
| Network | 232 | 9.8% |
| Null Type | 254 | 10.7% |
| Systems Administration | 299 | 12.6% |
| Telecom | 111 | 4.7% |
| Unity | 145 | 6.1% |
| Web Services | 150 | 6.3% |
| Windows | 534 | 22.6% |
| Total: | 2366 | 100.0% |

# Phase Two – Linux Desktop Migration



# Phase Two – Linux Desktop Migration



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# Question & Answer

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