

# "Server Replacement on a Shoe String Budget"

Michael Lueck, IT Director  
Christians in Recovery  
mlueck@lueckdatasystems.com

International Conference on Computing and Mission  
June 18 - 22, 2010  
Taylor University

# CIR Server Brief History...

- Really a “*over glorified mini-tower machine*” that no one happens to sit at.
- The most recent server machine at CIR had finally become RAID protected as far as the DASD was concerned.
- Was running Debian Linux, and was configured very similarly to the server at our location, though our server had SCSI RAID 5, and and and... making it a true server.

# The Director's Requirements...

- ✓ *Small* and *Lightweight*
- ✓ *Fast!!!*
- ✓ *Reliable*
- ✓ *Quiet... “No, no, SILENT!”*
- ✓ *Lower Power* Consumption



# TFM's at ICCM 2007

This year there was a presentation relating how a crew of IT people went on a Mission trip poised to deploy lots of technology for a remote LAN network... and they ended up implementing a firmware based Linux / Samba server using USB HDD's as DASD.

*“Lord, that certainly fits the director's requirements, but is so different than the technology I am accustomed to using. Are You directing me to 'fork the standards'? eeekkk!!!”*

# CIR 2009

- *Old server ended up dieing during the remote Summer / VPN-less mode.*
- *Fortunately the director had purchased several 500GB USB HDD's, one of which ended up being "the server drive" for nearly a year!*
- *The server at our location was about six to seven years old... much older than the server which died.*
- *Used available parts to prototype a suitable server replacement, migration procedure, etc... at our location.*

# The new CIR Server...

- Intel D945GCLF2D Boxed Motherboard
- Intel Atom CPU, Dual Diamondville 330, 1.6 GHz
- Crucial / Micron 2GB RAM
- Antec NSK 1380 "Shoebox" Case
- Two Hitachi DeskStar 1TB Drives - 5Yr Warranty
- 3ware 8006-2LP SATA RAID Controller
- Lite-On CD-RW / DVD-RW SATA Combo Drive
- Ubuntu Server 9.10

# Server Construction



**DSCF0042**

Date: 12/14/2009  
Views: 10



**DSCF0043**

Date: 12/14/2009  
Views: 8



**DSCF0044**

Date: 12/14/2009  
Views: 8



**DSCF0045**

Date: 12/14/2009  
Views: 11



**DSCF0046**

Date: 12/14/2009  
Views: 5



**DSCF0047**

Date: 12/14/2009  
Views: 5



**DSCF0048**

Date: 12/14/2009  
Views: 5



**DSCF0049**

Date: 12/14/2009  
Views: 4



**DSCF0050**

Date: 12/14/2009  
Views: 8

# Thank You / Tänan!

- Shawn Parrish and Tim Young – For suggesting hot glue to keep SATA connectors attached.
- Tim Young – For making time available for a Skype afternoon when suddenly the CIR server would not boot to the login screen. A work-around was found that afternoon! A permanent solution came prior to Summer / VPN-less mode.
- To God – Network printing “was going nuts”... Google, first link had the answer posted four hours earlier specifically for this older model printer!