#### Linux Desktop: From OS Install through **Running the Applications**

An IdoSphere webinar

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& Bill Malchisky BillMal Your Lotus Pal

psphere

#### About this session...



#### Finding Information in the Maz

#### Target audience:

- Completely new to / curious about linux
- Some experience w/ linux, want to see Lotus apps on linux
- Want to feel confident installing Virtual Machine (VM)
- Need to run Windows apps (like Designer) on linux
- Ready for the crazier things like VPN and remote access
- ...not so much if you compile your own O/S builds, debate finer points of Gnome vs KDE vs other window managers, etc.

#### Linux Desktop: From OS Install through Running the Applications

#### What we will cover in this Webinar

1	Why linux? (and why not?)
2	Ubuntu linux: download / install; what apps to use for tasks you'd want on any system
3	Installing / running Notes & Symphony in native Ubuntu
4	Install & configure a Virtual Machine to run Windows (and Designer / Administrator in Windows)
5	Connecting via Virtual Private Network (VPN)
6	Connecting to remote machines



Finding Information in the Maz

- Notes / Domino developer for 15 years
- IT guy for 25 years (VAX/VMS system manager, Voice Response developer on OS/2, various proprietary languages ...prepped me for Domino web dev :)
- Presented Java-related sessions at Lotusphere
- Wrote some for Lotus Advisor
- Linux user past 10 years
- Blog (not often enough) at <a href="http://www.joelitton.net/">http://www.joelitton.net/</a>
- Twitter: joelitton
- Email: jrlitton@gmail.com





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- Working with Notes since 3.0c, in 1993
- Architect, admin, auditor, trainer, process engineer, team lead, "reformed developer"
- Co-authored two IBM Redbooks on Linux; several publications
- Significant regulatory compliance and Domino specialty project experience
- Linux aficionado
- Blog at http://www.billmal.com/
- Twitter: billmalchisky
- Email: Bill@billmal.com



#### Why use linux?

#### (and why perhaps not)

#### Pros Cons FREE Free support at http://ubuntu.com/support , (download free but you'll need to buy support if you want to or buy a CD for about US\$6.50) be able to speak to support tech Easy to use Some apps (like Domino Designer) don't yet run on linux (so you still need a Windows Thousands of free apps license to run within a VM) Probably works with your existing machine Some devices can be harder to configure, or and peripherals (often more easily) you need to search for linux drivers Needs fewer resources vs proprietary O/S Fewer worries re viruses, etc See: http://tek.io/linuxRocks See: http://zd.net/linuxSucks

## Ubuntu: download, configure, run Download



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- Open a web browser and go to http://ubuntu.com
- Click the 'Download Ubuntu' button



#### Ubuntu: download, configure, run Download



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Click 'Start download'



### Ubuntu: download, configure, run Download



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- Specify where you want to save the file (and remember where you save it!)



Ubuntu: download, configure, run Create a bootable CD or USB drive



- Finding Information in the Maze
- Scroll down a little on the download page, select CD or USB
- Select your O/S and click 'Show me how'



Ubuntu: download, configure, run Create a bootable CD or USB drive



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 Detailed instructions with screenshots show how to create the bootable media, using the O/S you selected





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- Restart the target machine with your new bootable media in place (you may need to adjust BIOS for boot order)
- After a few moments...things start to load...





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• Patience is a virtue. The ubuntu logo soon displays...





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- Decide whether to TRY Ubuntu (no changes to hard drive), or install onto your hard drive (you may not get to MAKE the selection for a few moments)
- Note that wifi is automatically detected





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- You'll want to have an Internet connection for the install, so provide the wifi password if needed (or plug in your network cable)





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• Choose your password and enter it here...





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• If you didn't get to make your Try / Install selection earlier, now is the time...





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- This is why you need to remember your keyring password. If you've forgotten it, don't worry ...just restart the install





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- These screenshots are for an install to the hard drive
- You want to be connected to the Internet in order to automatically update Ubuntu during the install

Inst	all
Pre	paring to install Ubuntu
For be	st results, please ensure that this computer:
4	has at least 2.6 GB available drive space
4	is plugged in to a power source
4	is connected to the Internet
Ubunt hardw	wnload updates while installing u uses third-party software to display Flash, MP3 and other media, and to work with some wireless are. Some of this software is closed-source. The software is subject to the license terms included he software's documentation.
Flu	tall this third-party software endo MP3 plugin includes MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson. Quit Back Forward



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- I chose to use the entire disk, but you can install in a partition (a boot loader will automatically install for you, so you select your O/S at boot time)

🧧 Install	
Allocate drive space	
Install alongside other operating systems	
Erase and use the entire disk	
<ul> <li>Specify partitions manually (advanced)</li> </ul>	
	Quit Back Forward



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- This is your last chance to change your mind :)
- If ready to proceed, click 'Install Now'





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• Select your time zone





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• Select your Keyboard layout

Tanzania Thailand Turkey Turkmenistan <u>ISA</u> Jkraine Jnited Kingdom Jzbekistan Vietnam	USA - Alternative international (former us_intl) USA - Cherokee USA - Classic Dvorak USA - Colemak USA - Colemak USA - Dvorak USA - Dvorak USA - Dvorak international USA - Group toggle on multiply/divide key USA - International (AltGr dead keys) USA - International (with dead kevs)
Type here to test your keyboard	



- Finding Information in the Maze
- Designate your name, how you want this computer to be listed on your network, your username, and your password.

Your name:	joe			1
Your computer's name:	joe-laptop The name it uses when it tal	ks to other compute	rs.	
Pick a username:	joe 🖌			
Choose a password:	*********	Good password		
Confirm your password:		-		
	O Log in automatically	y		
	Require my passwork	rd to log in		
	Encrypt my home	folder		
			Back	Forward



- Finding Information in the Maze
- Ubuntu now has the info it needs, so kick back, grab some coffee, or read the screens to learn about Ubuntu while it installs





- Finding Information in the Maze
- Install is complete (well, for now), so click the 'Restart Now' button





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- The username you specified will be showing. If multiple users accounts are set up in the future, this is where you would select your account. Click your username and enter your password





- Finding Information in the Maze
- I suggest allowing Ubuntu to check for updates daily. With this first boot up, you will have a number of updates to install, so click 'Install Updates'





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- Ubuntu will require you to enter your password whenever you are updating software. This helps ensure that you realize that you are about to update your system.





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 The Update Manager will tell you when all updates have been applied. You may need to reboot one more time

😡 🖨 🕥 Update Manager					
Your system is up-to-date The package information was last updated less than one hour ago.					
The computer needs to restart to finish installing updates. Please save your work before continuing.	Restart Now				
There are no updates to install					
Description of update	🖉 Install Updates				
Settings	Close				



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- Many devices run easily with Ubuntu. My Canon printer needed a driver to work over wifi. I had to go to <u>http://support-my.canon-asia.com/contents/MY/EN/0100236502.html</u> to find the driver
- Ubuntu is based on 'Debian', so look for .deb install files





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 Downloaded files will typically be saved in your Downloads 'Place'...





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- Downloaded install files will typically be compressed archives. Double-click to open.





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- In this case, the archive included multiple 'packages'; I double-clicked the packages folder to open it





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- Finally the debian packages are available. When you double-click on a .deb file, the Package Manager will attempt to install the package (I did this once for each package)





- Finding Information in the Maze
- If this package were already installed, a 'Reinstall' button would display. Since this was the initial install of my printer drivers, I clicked the displayed 'Install' button (and entered my password when prompted)




- Finding Information in the Maze
- To complete the printer config, I clicked System > Administration > Printing

Applications Place	es System 🙋 🗐 🔯 🔄	<u>a</u> 💿
	Preferences	
	Administration	Additional Drivers
	Help and Support	🦂 Computer Janitor
	About GNOME	🧮 Disk Utility
	About Ubuntu	🔯 Language Support
		🖳 Log File Viewer
		🛒 Login Screen
		🖼 Network Tools
		Printing
		Startup Disk Creator Configure printers
		🗔 Synaptic Package Manager
		🔤 System Monitor
		System Testing



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 No printers were showing yet. Click 'Add' to add / configure a printer





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- The wireless printer was now available in the Network Printer section; when I selected it, the device URI displayed, and I clicked 'Forward'





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• Ubuntu searched for (and located) the drivers

Devices	Enter device URI
LPT #1 Other Network Printer Canon-MP560-series_00-1E-8F Find Network Printer	cnijnet:/00-1E-8F-CD-7F-B8
AppSocket/HP JetDire Internet Printing Proto LPD/LPR Host or Print Windows Printer via Sy	Searching Searching for drivers Cancel
•	



- Finding Information in the Maze
- The next dialog box required a name for the printer (it will make a suggestion), and optionally one can provide Description and Location fields. Click 'Apply' to save.

Describe Printer			
Printer Name			
Short name for this printer such as "laserjo	et"		
Canon-MP560			
Description (optional) Human-readable description such as "HP L	laserJet with D	uplexer"	
Canon MP560			
Location (optional) Human-readable location such as "Lab 1"			



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Print Test Page

- You can see the printer now listed. The only remaining step is to verify the installation by printing a test page.
- It's important to note that I usually have not had to go to this much trouble to install a new printer; usually Ubuntu sees it right away and I simply select the driver from a list of available drivers.

Connected to localhost



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- Tens of thousands of applications are available through the Ubuntu Software Center, located on the Applications menu





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- Before you select software, configure the software sources...





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• Select Edit > Software Sources...

80	🕒 Ubuntu Softwar	e Center		
File	Edit View Help			
▲ ■	Undo Redo	Ctrl+Z Shift+Ctrl+Z		
3	Cut	Ctrl+X		
	Сору	Ctrl+C		
	Copy Web Link	Shift+Ctrl+C	B	Developer Too
	Paste	Ctrl+V	_	
	Delete		-	Games
	Select All	Ctrl+A	2	Office
	Search	Ctrl+F		onice
	Software Sources	🍃 deo	÷	System
	=	🕥 Universal Access		



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 I typically select all options (except Source code). If there are copyright or other licensing issues, you can read about that in each app's listing.

Software Source	s			
Ubuntu Software O	her Software	Updates	Authentication	Statistics
Downloadable fro Canonical-supp Community-m Proprietary dr Software restr	m the Interne ported Open S aintained Oper ivers for device ricted by copyr	et ource soft n Source so es (restrict ight or leg	ware (main) oftware (universe) ed) al issues (multive	) rse)
Download from: Installable from C	Server for Un	ited State:	S	▼
Cdrom with U Officially supp Restricted cop	<b>Ibuntu 10.10 '</b> ported pyright	Maverick I	Meerkat'	
			Revert	Close



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 Similarly, on the 'Other Software' tab, I typically select all options. Click 'Close' to save your selections.

S	oftware Soui	rces			
Jbur	ntu Software	Other Software	Updates	Authentication	Statistics
	Canonical Pa Software pac	artners kaged by Canonic	al for thei	r partners	
<b>S</b>	Canonical Pa Software pag	artners (Source Co kaged by Canonic	ode) al for thei	r partners	
<b>S</b>	Independen Provided by t	<b>t</b> :hird-party softwa	are develop	bers	
	Independen Provided by t	<b>t</b> (Source Code) :hird-party softwa	are develop	bers	
	http://linux.	dropbox.com/ub	untu mavo	e <b>rick</b> main	
	Add	Edit Remo	ove	Add	Volume
				Revert	Close



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- To add applications, you can browse the categories, or if you know the name of an app, just type it in the search bar. The example here is Skype





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- Since I already had installed Skype, it the 'Remove' button is displayed instead of the 'Install' button.





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 As the install window told us, Skype can be found under Applications > Internet > Skype





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- Since I have a webcam, I followed the same procedure to install the 'Cheese' webcam app as I followed to install Skype.





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- Running 'Cheese' provides an easy way to test your webcam.



### Ubuntu: download, configure, run Some apps to consider...



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file explorer	Computer app, or Places
graphics, images manipulation	GIMP, Shotwell, Shutter
photo management	Picasa, Shotwell
web browser	Firefox, Chrome
chat	Pidgin, Skype, Gwibber
MP3 music & device management	Rhythmbox, gtkpod (iPod mgr)
screen grabs	Take Screenshot
Twitter, Facebook, LinkedIn	TweetDeck (install Adobe Air first)
text edit	gedit
backup	SpiderOak
file transfers	DropBox
calculator	Calculator
calculator   webcam	Calculator Cheese, Skype

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- Finding Information in the Maze
- The initial desktop background is kinda boring. To change the wallpaper, right-click on the desktop and select 'Change Desktop Background'





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- The Appearance Preferences dialog lets you select from
- pre-loaded images, add an image of your own, or browse the web for wallpaper.





- Finding Information in the Maze
- I clicked 'Add' and then selected an image that I'd downloaded in the past, and clicked 'Open' to save my

selection.

Search and wallpape	er					
🖋 🖣 joe	Pic	tures				
Places	A	Name 🔻	Size	Modified	A	
Q Search		📄 Webcam		12/29/2010		
Recently Used		Litton160x160.jpg	10.4 KB	Saturday		
<del>/</del> joe	Ξ	🔜 nino_guitar.jpg	149.3 KB	12/29/2010		$\sim$
🔲 Desktop					-	- Co-
File System					-	3
📄 backgrounds						1
Pictures						
Documents						
🐌 Music	-				J	
Add	/e					Images 🔻
					Cancel	Open 💦



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• Ahh...That's more like it :)





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To organize the icons on your Ubuntu desktop, right-click on the desktop Applications Places System ) S 🕸 🌱 🔍 🖉 🖾 📞 and select Screenshot.pnc 'Organize

Desktop by Name'





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 The icons will now be displayed in an orderly manner.





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- To customize the menu, select System > Preferences > Main Menu





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 To hide the Games menu, for example, uncheck Games and click 'Close'...





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- The Games menu is now hidden. You can likewise rearrange the position of menus, and add / remove / hide menu options as you like.





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- Download the IBM Lotus Symphony beta for Ubuntu at
- ...or search for "ibm lotus symphony beta for ubuntu" :)
- Be sure to select the version for Ubuntu

S	earch results					
	Name	Version	Туре	Release date	Size	Operating system
1.	Lotus Symphony 3 Beta Lotus Symphony 3 Beta is an early view of our next release of applications for creating, editing, and sharing word processing documents, spreadsheets, and presentations.	Beta 4	Beta	25 Aug 2010	249 MB	Linux, Red Hat Linux, SUSE Linux
2.	Lotus Symphony 3 Beta Lotus Symphony 3 Beta is an early view of our next release of applications for creating, editing, and sharing word processing documents, spreadsheets, and presentations.	Beta 4	Beta	25 Aug 2010	241 MB	Ubuntu
3.	Lotus Symphony 3 Beta Lotus Symphony 3 Beta is an early view of our next release of	Beta 4	Beta	25 Aug 2010	213 MB	Mac OS X



- Finding Information in the Maze
- Symphony is free. You can log in or create a new account, or enter as a Guest after selecting the desired download
- Download Director will typically result in faster downloads. Click
   'Download now' to start the download.

Download	S
Lotus Syr English 2010-08-2	nphony 3 Beta for Ubuntu 5
To downlo now'. <u>Lea</u> You can a	ad using Download Director, select the files you want below and click on 'Downloa <u>n more.</u> iso download the files <u>using http</u> .
Downloa	d using Download Director Download using http
	Lotus Symphony 3 Beta - Ubuntu, English symphony_3.0-1hardy1_i386.deb (266 MB)

il you use symptiony to save your lifes in FFT format and uo not save in the ODF format, your lifes



- Finding Information in the Maze
- By default, Download Director will create a folder under your home folder. Open the Computer app (or use the Places menu) to open your home folder, open the DownloadDirector folder, and look for the .deb file
- Double-click on the symphony install file (the .deb) to begin the install





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• Click 'Install' and the Package Manager will install Symphony (follow prompts to accept license agreement, etc)





- Finding Information in the Maze
- When the instal completes, IBM Lotus Symphony will be listed under Applications > Office

(it really is just that easy)





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- Only the Notes client is available to run in native Ubuntu. You need access to Passport Advantage or other legitimate media source. The file I downloaded was called notes852\_notes\_linux\_deb\_cd4\_prod.tar
- Navigate to the downloaded file. A '.tar' file is an archive, so double-click to open the archive
- Then double-click to allow the Package Manager to install ibm-lotus-notes-8.5.2.i586.deb
- Complete the install just as you would in Windows (provide server name, id file, etc)



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• Once you've configured Notes as you like, it looks pretty much the same as in Windows:



# Configure a Virtual Machine to run Windows apps



Finding Information in the Maze

- Domino Designer and some other applications only run in Windows. To do this with Ubuntu, install a Virtual Machine (VM), and run Windows within the VM
- The VM is just an app to Ubuntu
- You allocate disk and memory to the VM
- You can configure multiple VMs
- Various options exist; we will use VMWare Player

# Configure a Virtual Machine to run Windows apps



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- Go to <u>http://www.vmware.com/go/downloadplayer/</u> to get the VMWare Player
- Register for a free account & log in once registered
- Once logged in, the download page displays. Select the 32bit or 64-bit Linux .bundle file



# Configure a Virtual Machine to run Windows apps



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 Follow instructions at <a href="https://help.ubuntu.com/community/">https://help.ubuntu.com/community/</a> <a href="https://help.ubuntu.com/community/">VMware/Player</a>

to install the VMware Player on Ubuntu

 The first step is to select Applications > Accessories > Terminal to open a command prompt, and then issue this command (documented on the help page linked above): sudo apt-get install build-essential linux-headers-`uname -r`




- Finding Information in the Maze
- (The sudo command substitute user do ... or super user do allows you to run privileged commands; hence, you are prompted for your password)
- Ensure that the downloaded .bundle file is executable (rightclick on the file to open Properties)

Places 👻 🗱	Joe Download	s	
🚰 joe 📰 Desktop	errorente errorente	VMware-Playe	er-3.1.3-324285.i386.bundle Properties
<ul> <li>Network</li> <li>Trash</li> </ul>	VMware-Player-3.1. 3-324285.i386. bundle	Owner:	joe
Pocuments		Access:	Read and write 🔻
Music Pictures		Group:	joe 🔻
Downloads		Access:	Read-only 🔻
		Others	
		Access:	Read-only 🔻
		Execute:	Allow executing file as program
		SELinux contexts	unknown



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- Back at the Terminal prompt, navigate to the Downloads folder (the cd command takes you to your home folder; cd Downloads will then take you to Downloads)

joe@joe-laptop: ~/Downloads
File Edit View Search Terminal Help
joe@joe-laptop:~\$ cd Downloads
joe@joe-laptop:~/Downloads\$



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- Copy the name of the .bundle file from Downloads (may be easiest from the Computer app or Places)
- Then in the Terminal window, type gksudo bash ./ and use <Ctrl-Shift-V> ...or the menu ...to paste the name of the .bundle file after the typed text. Hit <Enter>



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 The VMware Player installer runs and will prompt you to allow checking for product updates. Follow the prompts





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- When done installing, the VMware Player will be available under Applications > System Tools > VMware Player (you can add this or any app to the top panel by right-clicking from the menu and selecting 'Add this launcher to panel')





- Finding Information in the Maze
- Start VMware Player, insert your Windows install media in the CD/DVD drive, and click to create a new Virtual Machine





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#### • Follow the prompts...

😣 New Virtual Machine Wizard		😣 New Virtual Machine V	Wizard	
Welcome to the New Virtual Machine Wizard A virtual machine is like a physical computer; it needs an operating system install the quest operating system?	. How will you	Name the Virtual Machine What name would you like	e to use for this virtual machine?	
Install operating system from: Install operating system from: Installer disc: Device: /dev/scd0 Image file (ISO):	Rescan disc (What's this?)		Virtual Machine Name Name: Windows XP Pro Location: /home/joe/vmware/Windows XP Pro	Browse
O I will install the operating system later. The virtual machine will be created with a b VMware* Player 3.1	lank hard disk.	v <sub>Mware</sub> Player 3.1	🔇 Cancel 🤇 Back	
Help Cancel	Back Next			



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#### • Follow the prompts...

#### 😣 🛛 New Virtual Machine Wizard

#### Specify Disk Capacity

**VMware**°

Help

Player 3.1

How large do you want this disk to be?

#### Disk Size

The virtual machine's hard disk is stored as one or more files on the host computer's physical disk. These file(s) start small and become larger as you add applications, files, and data to your virtual machine.

Maximum disk size (in GB): 40.0

Recommended	size for	Windows XP	Professional:	40 GB

Store virtual disk as a single file

Split virtual disk into multiple files

Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.

🔞 Cancel

Back
 Back

Next

#### New Virtual Machine Wizard

#### **Ready to Create Virtual Machine**

Click Finish to create the virtual machine and start installing Windows XP Professional and then VMware Tools.

#### The virtual machine will be created with the following settings:

Name:	Windows XP Pro
Location:	/home/joe/vmware/Windows XP Pro
Version:	Workstation 6.5-7.x
Operating System:	Windows XP Professional
Hard Disk:	40 GB
Memory:	256 MB
Network Adapter:	NAT
Other Devices:	CD/DVD, Floppy, USB Controller, Printer, Sound Card

Customize Hardware...

Automatically power on this virtual machine after creation.

#### <sup>VMware®</sup> Player 3.1

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😵 Cancel 🤇 Back 🗦 Finish



- Finding Information in the Maze
- VMware Player will begin installing Windows in a new VM.
   When prompted, enter the Windows product key

😣 New Virtual Machin	ne Wizard		
Easy Install Informatio	n		
This is used to install	Windows XP Profe	ssional.	
	Windows prod	uct key	
		0.000	
	Personalize W	indows	
	Full name:	Joe Litton	]
<u>⊾</u>	Password:		(optional)
	Confirm:		]
	📃 Log on a	utomatically (requires a password)	



- Finding Information in the Maze
- Windows will automatically start up in the new VM





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- Now comes the nasty part: regular install of Windows, with the many updates and restarts
- Good news is restarts are all in the VM, so very fast
- I suggest disabling automatic updates once Windows is fully updated
- Each VM you configure is stored as a folder in the vmware folder under your home folder





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- Once you have your VM configured the way you like, use File > Suspend and Quit to exit the VM. This will make restarting the VM much faster.





- Finding Information in the Maze
- From this point onward, installing, configuring, and running applications in your VM is the same as on any Windows machine.
- I suggest DropBox as an easy way to move files among physical and virtual machines





- Finding Information in the Maze
- If your VM is primarily for running Domino Designer and Administrator, you may wish to load parts of Notes whenever the VM loads

🛃 Lotus Notes 8.5.2 - Install Wizard	×	
Ready to Install the Program         The wizard is ready to begin installation.		
Click Install to begin the installation.		
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.		
Make Notes my default email program.		
🔲 Make Notes my default calendar program.		
Make Notes my default contacts program.		
✓ Launch parts of Notes when the operating system starts to enable faster Notes startup		
< Back Install Cancel		



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• Screen shot of Domino Designer running in VM





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Screen shot of Domino Administrator running in VM



## **Deep Dive**

## with Bill Malchisky

## Verifying Your Downloads



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### The powerful utility called md5sum

Computes and checks MD5 values (128-bit checksums) on files Syntax: md5sum [option] ... [File] ...

#### So, \$md5sum LotusTraveler\_852\_FP1.tar

#### Return value: 1d3538726b0d6077951ddfd995fb64f2

LotusTraveler 852 FP1.tar

### Verify this value against the value provided on the download site from your vendor

#### Linux Desktop: From OS Install through Running the Applications

#### What we will cover in this Webinar

1	Why linux? (and why not?)
2	Ubuntu linux: download / install; what apps to use for tasks you'd want on any system
3	Installing / running Notes & Symphony in native Ubuntu
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NetworkManager Applet Heart and Soul of GUI Connections



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### A great conceptual connection portal

• Stores Ethernet, WiFi, DSL, VPN, Mobile Broadband profiles

🗶 Network Connections 🐂		
🛃 Wired 👷 Wireless 🕅 Mo	bbile Broadband 🔞	VPN 🗗 DSL
Name	Last Used	Add
Wired connection 1	never	Edit
		Delete
		<u>C</u> lose

### What is the NetworkManager icon disappears?

\$sudo service network-manager restart

### Menu options to the rescue...

Main Menu

Wired Network

**Wireless Networks** 

VPN Connections > {Available options} Configure VPN \\ Disconnect VPN \\

**Righ-click Menu** 

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Enable Networking / Wireless Connection Info / Edit Connections...





## VPN Connections – Initial Considerations



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## Several VPN connection options

## Much easier to configure in Linux

Splitting traffic in two easy clicks

Easy management too -- via NetworkManager's VPN-aware menu branch

### Increasing your changes for success

Library version gap -- what you have installed and what the vendor provides What your admin allows -- they all allow Windows May need your key file for proper access

## VPN Connections – Getting Setup



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#### The most common modules are for

PPTP – Microsoft,primarily OpenVPN – Open VPN Server VPNC – Cisco VPN

## VPN Connections – Getting Setup



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#### Install the missing software

- •Need: pptp-linux, network-manager-pptp
  - •Note: the "-gnome" is optional, but easy to add
- Open the Ubuntu Software Center

•Type in the package name, if you see green check mark, move on, else, install



## VPN Connections – Getting Setup



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## You can also just type it on the command-line, if you prefer

\$sudo apt-get install network-manager-gnome
network-manager-openvpn network-manager-pptp
network-manager-vpnc

Here, network-manager-pptp will pull pptp-linux as a dependency, but you can add it to ensure success, if you wish

## VPN Connections – Adding Your Connection



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*NetworkManager* offers plugin support for VPN modules, so by installing things, you can get what you need sans additional files or patches later.

🗙 Network Connections		
🕞 Wired 👳 Wireless 🕅 Mob	oile Broadband 🔞	VPN 🗗 DSL
Name	Last Used	Add
Wired connection 1	never	Edit
		Delete
		<u>C</u> lose

## VPN Connections – Adding Your Connection



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### From VPN Tab, click Add

•Set type to PPTP

×	Network	Connections
	Wired	🥺 Wireless 🧖 Mobile Broadband ઉ VPN 🗊 DSL
	Name	Last Used Add
	×	
		Choose a VPN Connection Type
		Select the type of VPN you wish to use for the new connection. If the type of VPN connection you wish to create does not appear in the list, you may not have the correct VPN plugin installed.
		Point-to-Point Tunneling Protocol (PPTP) 🔹
		Compatible with Microsoft and other PPTP VPN servers.
		<u>C</u> ancel Create

## VPN Connections – Adding Your Connection



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### **Commence the data entry**

•Will need the NT Domain, and IP for Gateway

•Note: depending upon how your admin configured the NT server, may need to append ".local" – try both ways

Editing Test Connection 1
Connection <u>n</u> ame: Test Connection 1
Connect <u>a</u> utomatically
VPN IPv4 Settings
General
Gateway:
Optional
User name:
Password:
Show password
NT Domain:
Advanced
Available to all users <b><u>C</u>ancel</b> Apply

### VPN Connections – Advanced page



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### Lists all the CHAPs – MSCHAP, MSCHAPV2, and EAP inclusive

-	
Authenticati Allow the foll	on owing authentication methods:
PAP	~
🗹 СНАР	<b>-</b>
Security and	Compression
Use Poin	t-to-Point encryption (MPPE)
<u>S</u> ecurity:	All Available (Default) 🔻
🗌 Allow s	t <u>a</u> teful encryption
Allow <u>B</u> S	D data compression
Allow Det	flate data compression
🕑 Use TCP	<u>h</u> eader compression
Echo	
Send PPI	P <u>e</u> cho packets
	<u>C</u> ancel <u>O</u> K

PTP Advanced Options

### VPN Connections – Adding Routes



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- Windows does add routes, Linux does not
- You may need to add them yourself

**Click on the IP V4 tab** 

Editing VPN connection 1						
Connection <u>n</u> ame: VPN connection 1						
Connect <u>a</u> utomatically						
VPN IPv4 Settings						
Method: Automatic (VPN)						
Addresses						
Address Netmask Gateway Add						
Delete						
DNS servers:						
<u>S</u> earch domains:						
<u>R</u> outes						
Available to all users						

### VPN Connections – Adding Routes



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### Leave Method as "Automatic (VPN)" Click Routes...

Editing VPN connection 1					
Connection <u>n</u> ame: VPN connection 1					
Connect <u>a</u> utomatically					
VPN IPv4 Settings					
Method: Automatic (VPN)					
Addresses					
Address Netmask Gateway Add					
Delete					
DNS servers:					
Search domains:					
<u>R</u> outes					
Available to all users <b><u>C</u>ancel</b> Apply					

### VPN Connections – Adding Routes

Click Add Fill-in within each column, the appropriate values Click OK when done Keep metric to 1

Reboot! (Yes, you read that correctly.)

×	Editing IPv4 routes for VPN connection 1					
[	Address	Netmask	Gateway	Metric	Add	
	192.168.1.110	255.255.255.0	192.168.1.1	1	Delete	
<ul> <li>Ignore automatically obtained routes</li> </ul>						
	□ Use this connection only for resources on its network					
			<u>C</u> a	ancel	<u>о</u> к	

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### VPN Connections – Where Else to Go?



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#### If you need additional troubleshooting assistance...

•The main PPTP site is really good

•http://pptpclient.sourceforge.net/howto-diagnosis.phtml

#### Linux Desktop: From OS Install through Running the Applications

#### What we will cover in this Webinar

1	Why linux? (and why not?)
2	Ubuntu linux: download / install; what apps to use for tasks you'd want on any system
3	Installing / running Notes & Symphony in native Ubuntu
4	Install & configure a Virtual Machine to run Windows (and Designer / Administrator in Windows)
5	Connecting via virtual Private Network (VPN)
6	Connecting to remote machines

### **Alternate Access Mediums**



#### Finding Information in the Maze

### **RDP**

#### •Many wonderful applications...



### Look Inside TS Client for Ubuntu – Main Screen

🗙 🗕 Terminal Server Client					
Terminal Server Client					
<u>General</u> Display Local Res	ources <u>P</u> rograms Perf <u>o</u> rmance				
Logon Settings					
Type the name of the computer or choose a computer from the drop-down list.					
Compu <u>t</u> er:	10.10. <sup>34.171</sup>				
Pro <u>t</u> ocol:	RDP \$				
<u>U</u> ser Name:	malchiwo				
Pass <u>w</u> ord:	•••••				
Do <u>m</u> ain:	foo				
C <u>l</u> ient Hostname:					
Prot <u>o</u> col File:					
Quick Connect	• <u>O</u> pen Save <u>A</u> s				
About	<u>C</u> lose				



Finding Information in the Maze
### Look Inside TS Client for Ubuntu – Display Tab

🗶 💶 Termin	al Server Client		
	Terminal Server Client		
<u>G</u> eneral <u>D</u> i	splay Local <u>R</u> esources <u>P</u> rograms Perf <u>o</u> rmance		
Remote D	esktop Size		
Use default screen size			
0	Use specified screen size		
	640 x 480 pixels \$		
0	Operate in full screen mode		
	) Use alternate full screen switch (-F)		
Colors			
📑 🖷	Use default color depth		
	Use specified color depth		
	High Color (16 bit) 🗧		
Quick Connect			
	<u>A</u> bout <u>C</u> lose Connect		



#### Look Inside TS Client for Ubuntu – Local Resources

🗙 🗖 Terminal Server Client				
	Terminal Server Client			
<u>G</u> eneral	Display Local Resources Programs Performance			
Remote Computer Sound				
.5.	On the local computer			
30	<ul> <li>On the remote computer</li> </ul>			
	Do not play			
Keyboa	Do not pla			
	Apply Windows key combinations (for example ALT+TAB) (unsupported)			
	On the local computer \$			
	Use the following keyboard language (2 char keycode)			
Remotely map your disk drive				
	Add my local drive to the remote computer			
Quick Connect				
	<u>A</u> bout <u>C</u> lose Co <u>n</u> nect			



#### Look Inside TS Client for Ubuntu – Programs

🗙 🗕 Terminal Server Client				
	Terminal Server Client			
<u>G</u> eneral Start a	<u>D</u> isplay Local <u>R</u> esources <u>P</u> rograms Perf <u>o</u> rmance <b>Program</b>			
	Program path and filename			
	Start in the following folder			
Quick Co	nnect			



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#### Look Inside TS Client for Ubuntu – Performance

🗙 🗕 Terminal Server Client				
Terminal Server Client				
General Display Local Resources Programs Performance				
Optimize Performance				
Options available for optimizing performance				
Enable bitmap caching				
Do not send motion events				
Enable window manager's key bindings				
Hide window manager's decorations				
Attach to console				
Quick Connect				
<u>A</u> bout <u>C</u> lose Co <u>n</u> nect				



# Command line to the Rescue



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#### **Stubborn Network Recovery**

For Ethernet DHCP connections... Syntax: if[up down] <connection> example: \$sudo ifdown eth0 Will stop a network device



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**RTNETLINK** answers: No such process

There is already a pid file /var/run/dhclient.eth0.pid with pid 2470 killed old client process, removed PID file Internet Systems Consortium DHCP Client V3.1.3

Copyright 2004-2009 Internet Systems Consortium.

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For info, please visit https://www.isc.org/software/dhcp/

Listening on LPF/eth0/00:15:58:86:d2:55 Sending on LPF/eth0/00:15:58:86:d2:55 Sending on Socket/fallback DHCPRELEASE on eth0 to 192.168.1.1 port 67

#### Ifup eth0 Screen Output



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Internet Systems Consortium DHCP Client V3.1.3 Copyright 2004-2009 Internet Systems Consortium. All rights reserved. For info, please visit https://www.isc.org/software/dhcp/

Listening on LPF/eth0/00:15:58:86:d2:55 Sending on LPF/eth0/00:15:58:86:d2:55 Sending on Socket/fallback DHCPDISCOVER on eth0 to 255.255.255.255 port 67 interval 6 DHCPDISCOVER on eth0 to 255.255.255.255 port 67 interval 13 DHCPOFFER of 192.168.1.188 from 192.168.1.1 DHCPREQUEST of 192.168.1.188 on eth0 to 255.255.255.255 port 67 DHCPACK of 192.168.1.188 from 192.168.1.1 bound to 192.168.1.188 -- renewal in 16939 seconds.

### Ifconfig eth0 Output



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eth0 Link encap:Ethernet HWaddr 00:XX:XX:XX:XX inet addr:192.168.1.188 Bcast:192.168.1.255 Mask:255.255.255.0 inet6 addr: fe80::215:58ff:fe86:d255/64 Scope:Link UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1 RX packets:108041 errors:0 dropped:0 overruns:0 frame:0 TX packets:134470 errors:0 dropped:0 overruns:0 carrier:0 collisions:0 txqueuelen:1000 RX bytes:73456524 (73.4 MB) TX bytes:20617289 (20.6 MB)

Memory:ee000000-ee020000

#### Ifconfig Output -- Part I



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eth0 Link encap:Ethernet HWaddr 00:XX:XX:XX:XX:XX inet addr:192.168.1.188 Bcast:192.168.1.255 Mask:255.255.255.0 inet6 addr: fe80::215:58ff:fe86:d255/64 Scope:Link UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1 RX packets:108041 errors:0 dropped:0 overruns:0 frame:0 TX packets:134470 errors:0 dropped:0 overruns:0 carrier:0 collisions:0 txqueuelen:1000 RX bytes:73456524 (73.4 MB) TX bytes:20617289 (20.6 MB) Memory:ee000000-ee020000 10 Link encap:Local Loopback inet addr:127.0.0.1 Mask:255.0.0.0 inet6 addr: ::1/128 Scope:Host UP LOOPBACK RUNNING MTU:16436 Metric:1 RX packets:1065001 errors:0 dropped:0 overruns:0 frame:0 TX packets:1065001 errors:0 dropped:0 overruns:0 carrier:0

collisions:0 txqueuelen:0

RX bytes:168517072 (168.5 MB) TX bytes:168517072 (168.5 MB)

#### Ifconfig Output -- Part II



- vmnet1 Link encap:Ethernet HWaddr 00:50:56:c0:00:01 inet addr:192.168.115.1 Bcast:192.168.115.255 Mask:255.255.255.0 inet6 addr: fe80::250:56ff:fec0:1/64 Scope:Link UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1 RX packets:0 errors:0 dropped:0 overruns:0 frame:0 TX packets:605 errors:0 dropped:0 overruns:0 carrier:0 collisions:0 txqueuelen:1000 RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)
- vmnet8 Link encap:Ethernet HWaddr 00:50:56:c0:00:08 inet addr:192.168.236.1 Bcast:192.168.236.255 Mask:255.255.255.0 inet6 addr: fe80::250:56ff:fec0:8/64 Scope:Link UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1 RX packets:2649 errors:0 dropped:0 overruns:0 frame:0 TX packets:605 errors:0 dropped:0 overruns:0 carrier:0 collisions:0 txqueuelen:1000 RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)



#### Reverse IP Lookup (getting the hostname for the IP)

dig +short -x <ip\_address>

imac:~ tux\$ dig +short -x 70.84.139.138
lincoln.websitewelcome.com.

#### Package Management Contrasting



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### New to Ubuntu? Here's a table to ease the translation from other Linux distros

Red Hat	Ubuntu	Comments
yum	apt-get	<pre>sudo apt-get install <package_name></package_name></pre>
rpm	dpkg	sudo dpkg -i <package_file>.deb sudo dpkg -r <package_name></package_name></package_file>
sysvinit	upstart	No /etc/inittab Not ready for primetime
rpm –qi	dpkg-deb	<pre>dkpg-deb -I <package_file; archive=""></package_file;></pre>
rpm –q	dpkg-query	dpkg-query -l <pattern> -L <pkgname> -S <pattern></pattern></pkgname></pattern>

### Linux Provides Some Command-Line Assistance



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#### Typing along, then you utilize an uninstalled command – Ubuntu tells you and makes a suggestion:

tux@sardi:~\$ jnettop
The program 'jnettop' is currently not installed.
You can install it by typing:
 sudo apt-get install jnettop

#### **Dynamic Application** Installation



```
tux@sardi:~$ sudo apt-get install jnettop
[sudo] password for tux:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  jnettop
0 upgraded, 1 newly installed, 0 to remove and 5 not upgraded.
Need to get 39.3kB of archives.
After this operation, 152kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu/ lucid/universe jnettop 0.12.0-4 [39.3kB]
Fetched 39.3kB in 0s (49.2kB/s)
Selecting previously deselected package jnettop.
(Reading database ... 222940 files and directories currently installed.)
Unpacking jnettop (from .../jnettop 0.12.0-4 amd64.deb) ...
Processing triggers for man-db ...
Processing triggers for menu ...
Setting up jnettop (0.12.0-4) ...
```

## **THANK YOU!**

# **Any Questions?**

Your Logo

# SkiLUG Is Almost Here! 25-27 Feb Sunday River Resort Join us!

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