

Sharing System Resources Between Machines

by

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Not a Cluster Talk

- While I think Compute clusters are cool
- While I think a massive parallel system is neat
- My Discussion Tonight is on Sharing a different system resource



KVM Devices

- Very convenient if you have multiple computers
- Minimize desktop congestion
- Allow the use of a common mouse, keyboard and graphics adapter
- Reasonable in cost
 - Scott Alcock used an inexpensive KVM at the August Lug Meeting
 - Cost \$65 for a 4 port device at Best Buy



In the Beginning

- During the 2.2 and early 2.4 linux kernel days several KVM switch complaints
- Sometimes they would hang the system
- Sometimes they forgot which display you needed
- Problems were sporadic, inconsistent, and most probably based on system configuration instead of kernel



Today

- Many people use KVM switches without problem
- Problems that do exist aren't being reported any more @ kernel level

Good Case Closed

Well Not so fast

- KVM's while solving many problems have one problem.....



They cost Money

- Scott's KVM cost \$65
- Prices range from say \$65 to a few hundred dollars
- I like free..... I like open Source..... and I'm easy not cheap... Sorry cheap not easy....
- I want to show you a simple sharing solution you might want to try....



Synergy: A KM Solution

- Shares mouse and keyboard just fine
- Synergy isn't capable of sharing video adapters, but it does allow cut/paste buffer sharing between computers
- Its free
- Its open Source
- Its operational in 30 minutes if you build and install from scratch.....



Synergy: Step 1

- Download the code
- Synergy website can be found at <http://synergy2.sourceforge.net>
- I like bleeding edge so I download the current development version 1.1.8
- File name is synergy-1.1.8.tar.gz



Synergy: Step 2

- Drop the tar.gz file in any directory you want
- run `tar zxvf synergy-1.1.8.tar.gz` then run `cd synergy-1.1.8`
- run the configure tool:
 - `./configure --prefix=/opt`
 - the prefix value is the location you want to store the binary. Common values are `/opt` or `/usr/local`



Synergy: Step 3

- After the configuration of the makefile has completed, you need to build
- Build by typing: `make`
- When `make` finishes with no errors type “`make install`”
- With no errors from the installation you are now finished.....



Synergy: Step 4

- Now we need to create a custom synergy config file on the server...
- Use your editor du jour
- Create a file called `~/.synergy.conf`
- or -
- Called `/etc/synergy.conf`. The latter will require root access



Synergy: Example Configuration Layout

- In this example we have three machines
 - Zurg / Zotz / Zipp



Synergy: /etc/Synergy.conf

```
section: screens
```

```
  zurg:
```

```
  zotz:
```

```
  zipp:
```

```
end
```

```
section: links
```

```
  zurg:
```

```
    right = zotz
```

```
  zotz:
```

```
    left = zurg
```

```
  zipp:
```

```
    left = zotz
```

```
    right = zurg
```

```
end
```



Synergy: Server Start

- If you are like me then you most definitely misread the configuration information
- fix your config file
- perform a test start
 - `/opt/bin/synergys -f`
 - -f says don't start as a daemon
 - this statement presumes the config is stored as `~/.synergy.conf` or `/etc/synergy.conf`



Synergy: Client Start

- Assuming you followed the same build procedures as the server, run....
- `/opt/bin/synergyc -f server-name`
 - Ex. `/opt/bin/synergyc -f zurg`
- If you see no execution errors then try moving your mouse from one screen to another.
- If this worked, duplicate on the final client Zipp



Synergy: Complete

- In practice you will want to start both the client and server in daemon mode
 - `/opt/bin/synergys --daemon`
 - `/opt/bin/synergsc -daemon --camp server-name`
- Create a script that could runs the client/server start commands remotely
- You could start both the server and client in the `.xsessions` file



Synergy: Feature Summary

- its cheap
- allows you to work between multiple hardware/OS architectures
 - linux
 - unix
 - macOs
 - Windows
- Provides a common cut/paste buffer between all shared desktops !!!!!



Questions.....

- If not thanks for the time!!!!

