

Who am I?  
Potted history

## Straw Poll – Getting to know each other





## Getting to know eachother

- Why are you here?
  - I have no homelab but want to learn more



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## Getting to know eachother

- Why are you here?
  - I have no homelab but want to learn more
  - My homelab is good, but looking for ideas
  - I have an awesome homelab and want to share

## On a scale of 1 to homelab...

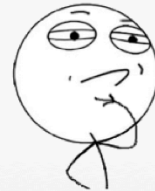
- What type of homelab?
  - Nested (vInception), cluster, hybrid, cloud



## The Challenge

- So many options
- Many different requirements
- We need to capture them!
- We need an algorithm!

**CHALLENGE CONSIDERED**

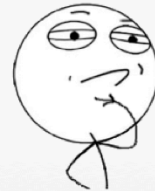


## The Challenge

- So many options
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**CHALLENGE CONSIDERED**

- ***DON'T FORGET THE WAF!***





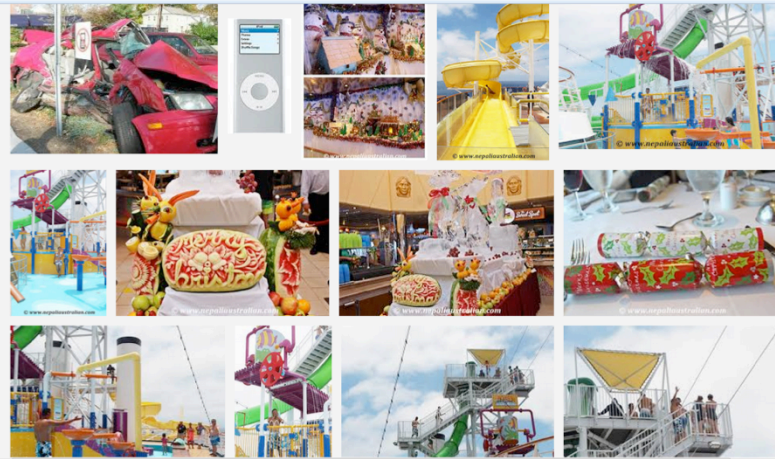
## Defining Terms

### Wife Acceptance Factor

*"design elements that increase the likelihood a wife will approve the purchase of expensive consumer electronics products"*

Wikipedia

## Partner Acceptance Factor





## The Solution – Crowdsourcing!



What are your requirements for your homelab?  
What do you use, and why do you use it?

## Warning!

I have MANY, MANY slides and I'm not afraid to use them!





## Requirements - What's it for?!



The IT industry is changing and roles are becoming more diverse – the VMware only admin barely exists

What are people using their homelabs for?

Mostly vSphere

Mostly other, e.g. Microsoft, Citrix, Load Balancers, etc

What about hyper-V? Openstack? Nesting hypervisors?

If you build your own, don't design for today, design for the next few years

## Power



Is it more cost effective to buy cheaper second hand kit, enterprise kit, etc and spend opex on power?

What if you can colo with your employer? – Location, Location, Location!

Also don't forget UPS!

Slight Fire hazard!

## Cooling and Noise!

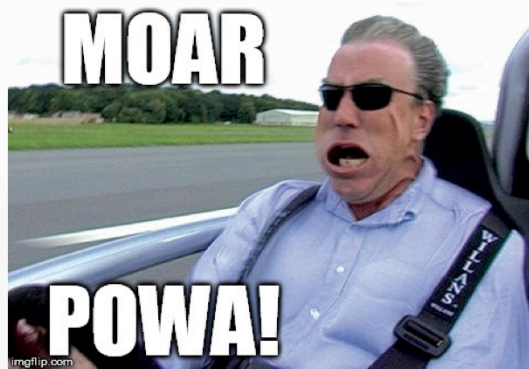


If you underspec your CPU & run hot, need more cooling, and generate more noise.

More powerful CPUs = more heat

Chassis size inversely proportional to heat exchange and noise

## Compute and RAM



AzureStack minimum 96GB RAM  
Cores are less important except for noise  
I3 vs i5 vs i7 - Gareth  
Homebuild / Whitebox  
Vendor tower (IBM / HP / Dell etc)  
Vendor rackmount (ebay)  
NUC



Is there a benefit in a homelab to running multiple NICs?

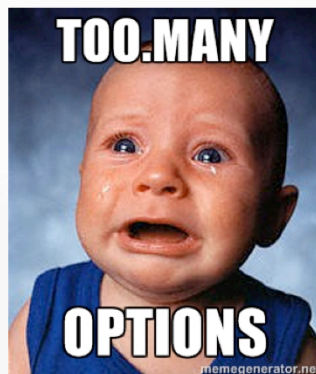
What about power and cooling? CCNA?

I run SSG 300-10 and -20

What are the use cases for running multiple 1Gbps links?

What about 10Gbps? Is there a real reason to use it except for fun?

Infiniband!



Synology, Qnap, local storage, iSCSI, NFS  
Flash vs spindle?  
VAAI  
What do you want to achieve from your storage?  
Can you separate your lab storage from your home storage?

## Hyperconvergence (HCI)



Is this the year of HCI? Do you want to run HCI in your home lab?

Nutanix CE

VSAN

HP StorVirtual

Atlantis

How many bays will your server support?

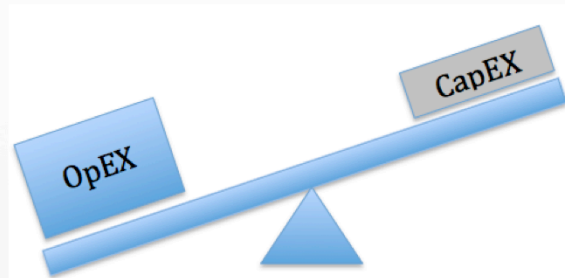
## Budget – Are you Annie or Daddy Warbucks?



Number one driver behind many homelab solutions



Budget - Cloud = OpEx





I love running my homelab locally there is just something about doing the install from the ground up on your own tin, BUT is there value in that?  
How much time do you spend in your homelab monthly?  
If you spend a grand on a homelab, is that money better spent over several years in AWS?

Amazon AWS Free Tier

Azure

GCP?

Ravello

Bare Metal Cloud – [baremetalcloud.com](https://baremetalcloud.com)



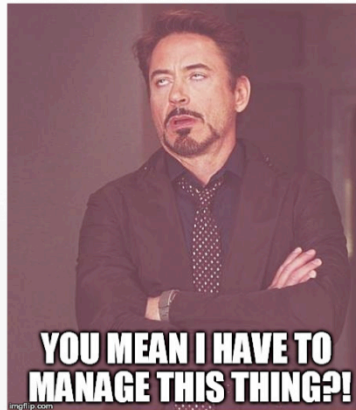
Have we reached a point where so many vendors have their own free online labs / solutions, that we no longer actually need to run homelabs?  
For example VMware HOL – you can go off piste!

## KISS



You don't want to spend all your time fixing issues in your lab, unless you want to learn from that!

## Boring Stuff!



Veeam NFR  
Rsync  
Application level backups

## Security & Remote Access



OpenVPN

## Backups



Veeam saved my ass!



AutoLab  
Ravello



## Patching



## Monitoring & Logging





## Load Balancing



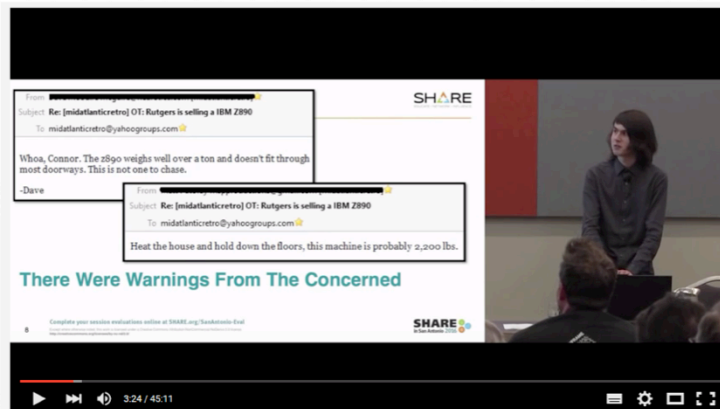
KEMP LB

## The Open Homelab Project

- Wiki?
- Volunteers?
- #openhomelab



And finally...



Here's What Happens When an 18 Year Old Buys a Mainframe

