My Experience - Virtualization and Clustering at RUB

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Setup - need to think - my case?

- Services (HDD, Memory, etc.) are running?
- Hardware Servers currently being used?
- Desktop computer is being used as server?
- Is backup plan available?
- If services (types) are down - offline duration
- Can services be kept always up 24/7?
- What happens if directory server (e.g. LDAP / Active Directory) down?

Why I went for Virtualization and Clustering?

Optimize Resource

Maintain uptime 24/7

Service Recovery

My Experience

NSRC - DEA - Year 2013

Tried it out on three Desktop machines

A week

Thrice crashed

Tried it out on three Desktop machines

A week

Migrated to Live Server

After Successful implementation

CNR

CLCS

GCIT

What and Why I used (software) for the Virtualization and Clustering?

What and Why I preferred (software) for Virtualization and Clustering?

- Ummm….. Money? Reliability? Level of production?

- University??

- KVM… KVM… KVM. Open Source Software

- Open Source Software (e.g. KVM) Vs Commercial (e.g. VMWare)

- KVM - simple to use and deploy
- Gets development attention (NSRC)
- To begin with, good choice (NSRC)
- So far, no major problem. Managing those remotely - Directly ssh to College server - less bandwidth

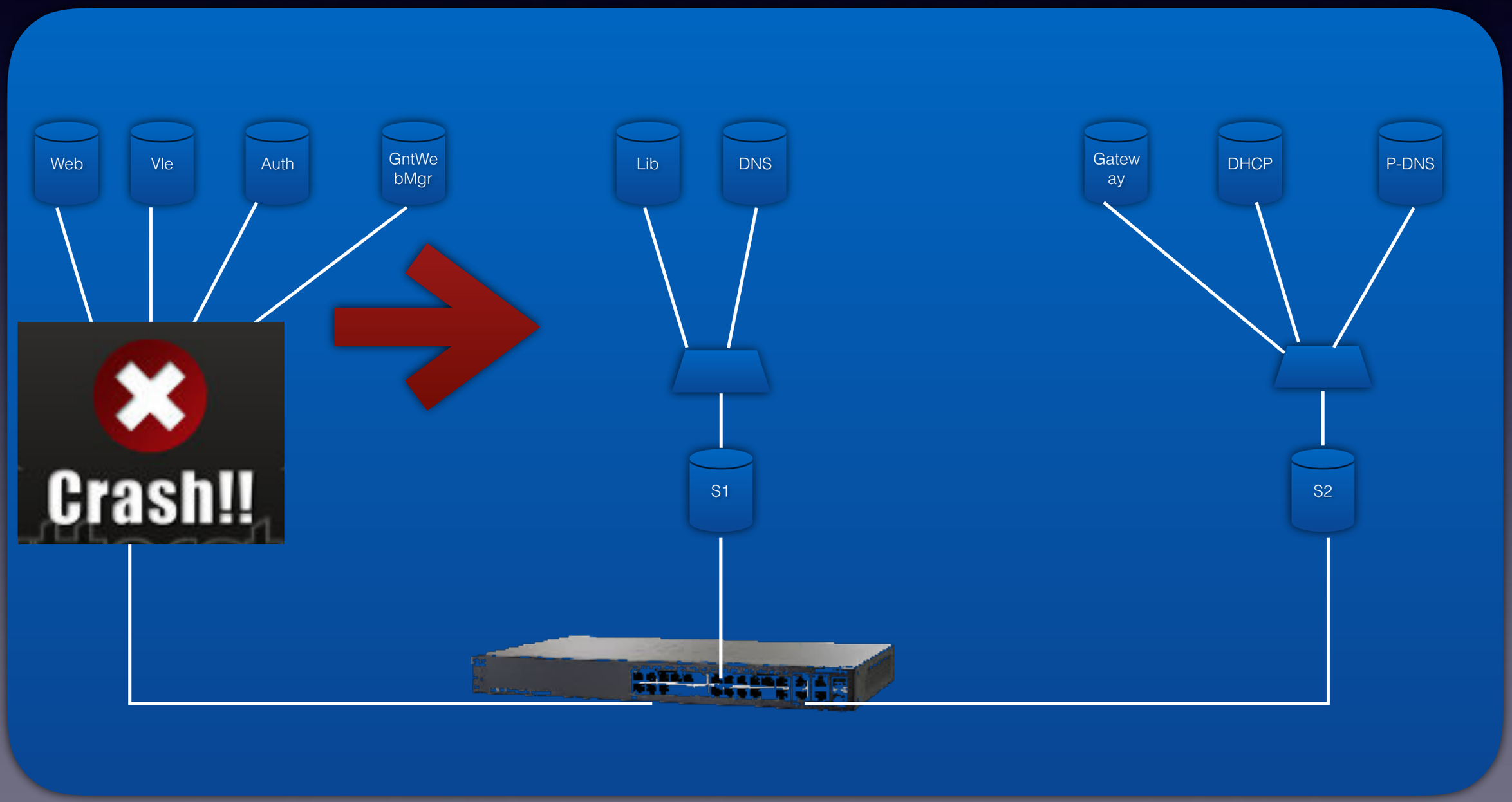
Remember before setup?

- At least 16 GB with 1 or 2 TB HDD server. Highly recommend for 10G NIC
- At least 3 required. Two can work but three will be better for the Clustering. Can work if two real hardware servers and one Desktop computer.

- Type of Visualization software  ?

- Deploy open source clustering (Ganeti + KVM). Installation and Configuration is not that difficult.

Virtualization and Clustering at OVC



Current Setup

Instance	Hypervisor	OS	Primary_node	Status	Memory
admission	kvm	noop	masterovc.rub.edu.bt	ADMIN_down	-
authentication	kvm	noop	secovc2.rub.edu.bt	running	1.0G
eduroam	kvm	noop	secovc2.rub.edu.bt	running	2.0G
gntwebmgr	kvm	noop	masterovc.rub.edu.bt	running	3.0G
library	kvm	noop	masterovc.rub.edu.bt	running	2.5G
pfsense	kvm	noop	masterovc.rub.edu.bt	running	3.0G
privatedns	kvm	noop	secovc1.rub.edu.bt	running	4.0G
publicdns	kvm	noop	secovc1.rub.edu.bt	running	512M
vle	kvm	noop	masterovc.rub.edu.bt	running	2.0G
web	kvm	noop	secovc1.rub.edu.bt	running	2.5G

Benefits

Flexibility and Stability

Can add VM at any time
Easy to manage - less hardware and power
Less inventory / investment in servers hardware
Create and destroy VM as per our convenience
Idle for the development / trial purpose - isolation

Other features

Easy to Migrate, backup VM at any time
Support various OS

Tashi Delek