Software defined Data Centres – the UQ story…

Building a Data Centre Architecture using Cisco's SDN – the Future?

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The Data Centre Problem!

2008 Environment

- Slow to provision services due to lots of people and teams

- The design was network and infrastructure centric
- Restricted by static configuration

- Load balancer out of support
- Firewalls were too small and limited

The Data Centre Problem!

The world changed...

- The whole “as a service” philosophy became a reality with SaaS, IaaS, PaaS
- AWS started to become viable in 2012 with the launch of the Australian node

The Data Centre Problem!

The Application Teams

- Became increasingly difficult to hold back the applications developers and we asked ourselves why are we holding them back? How can we help them?
- We needed to fit into what the application teams needed and work together

The New World Vision

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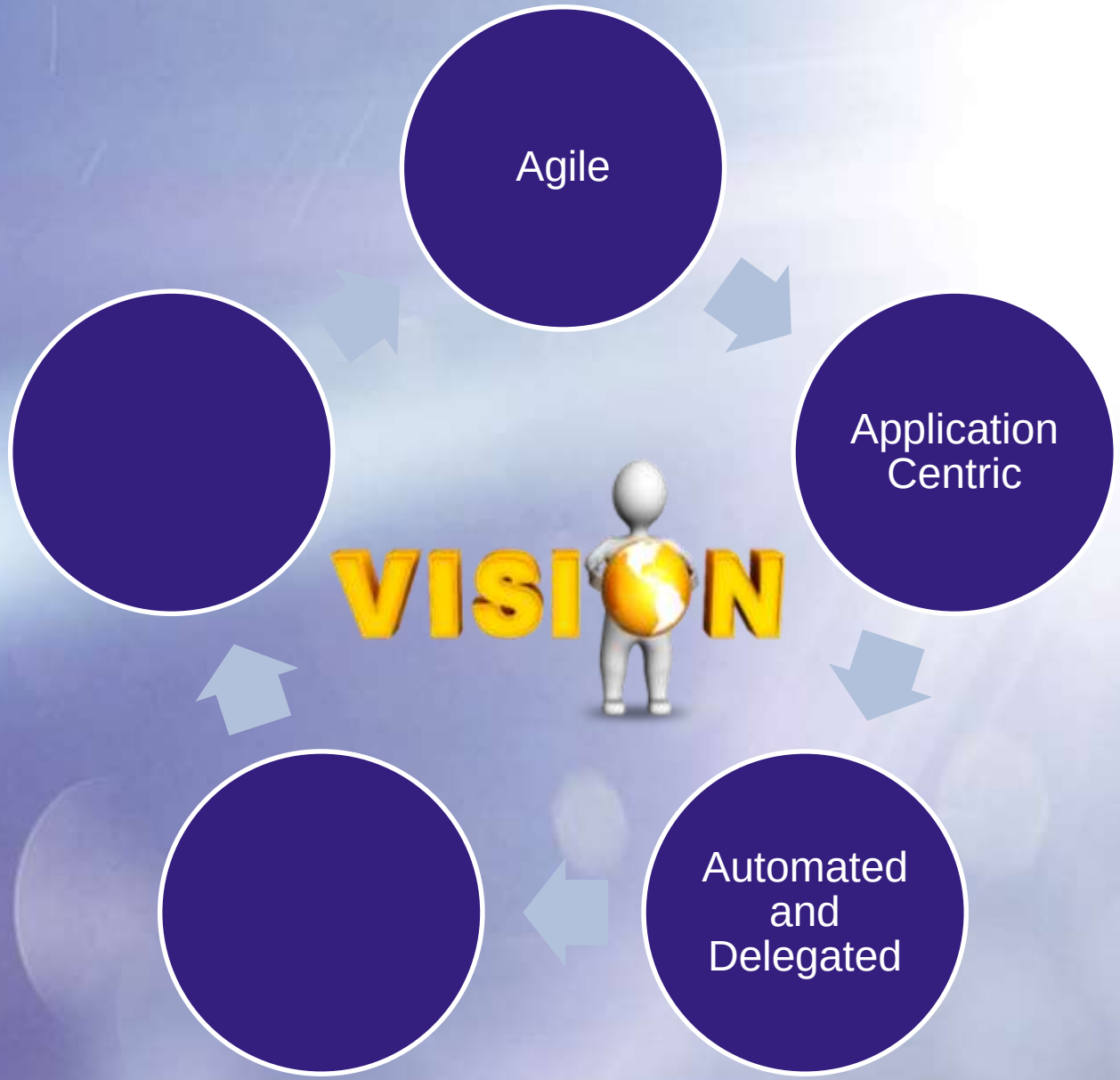

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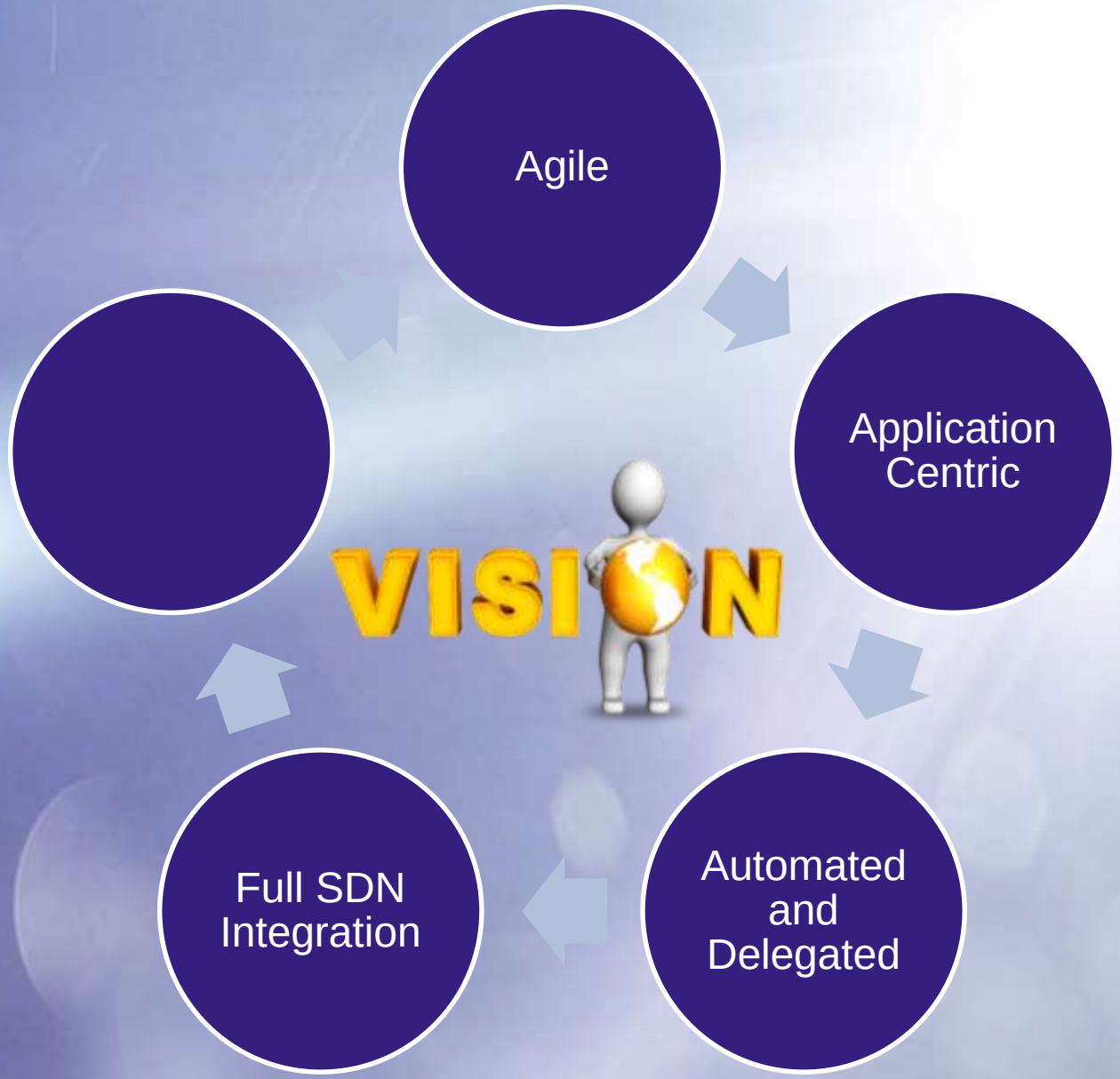

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Background……

This is a new data centre fabric

Background…...

This is a new data centre fabric

Existing data centre locations at St. Lucia & Herston

Background…...

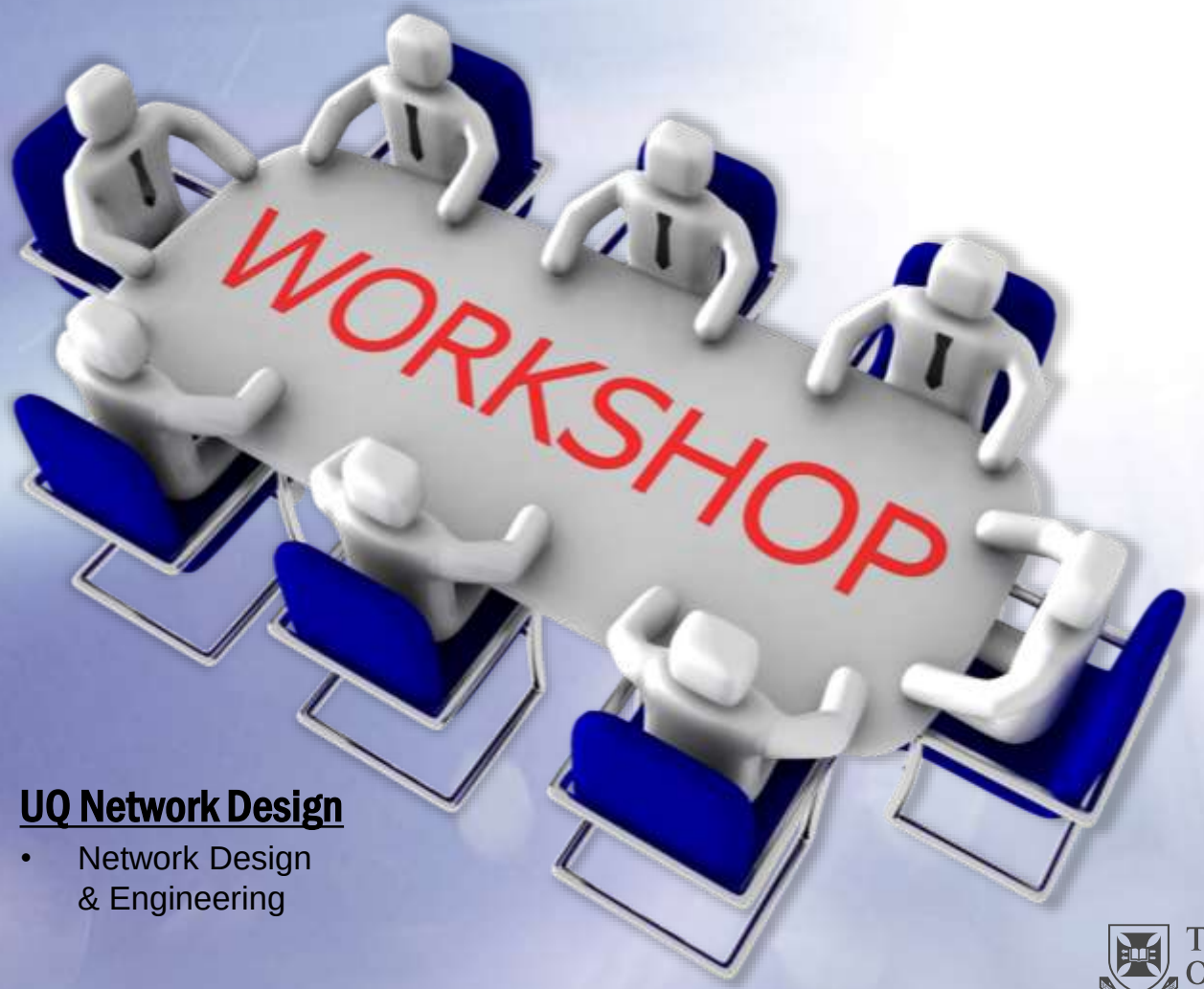
This is a new data centre fabric

Existing data centre locations at St. Lucia & Herston

Would run in parallel with existing data centre fabric

The Actors

The Actors



UQ Network Design

- Network Design & Engineering

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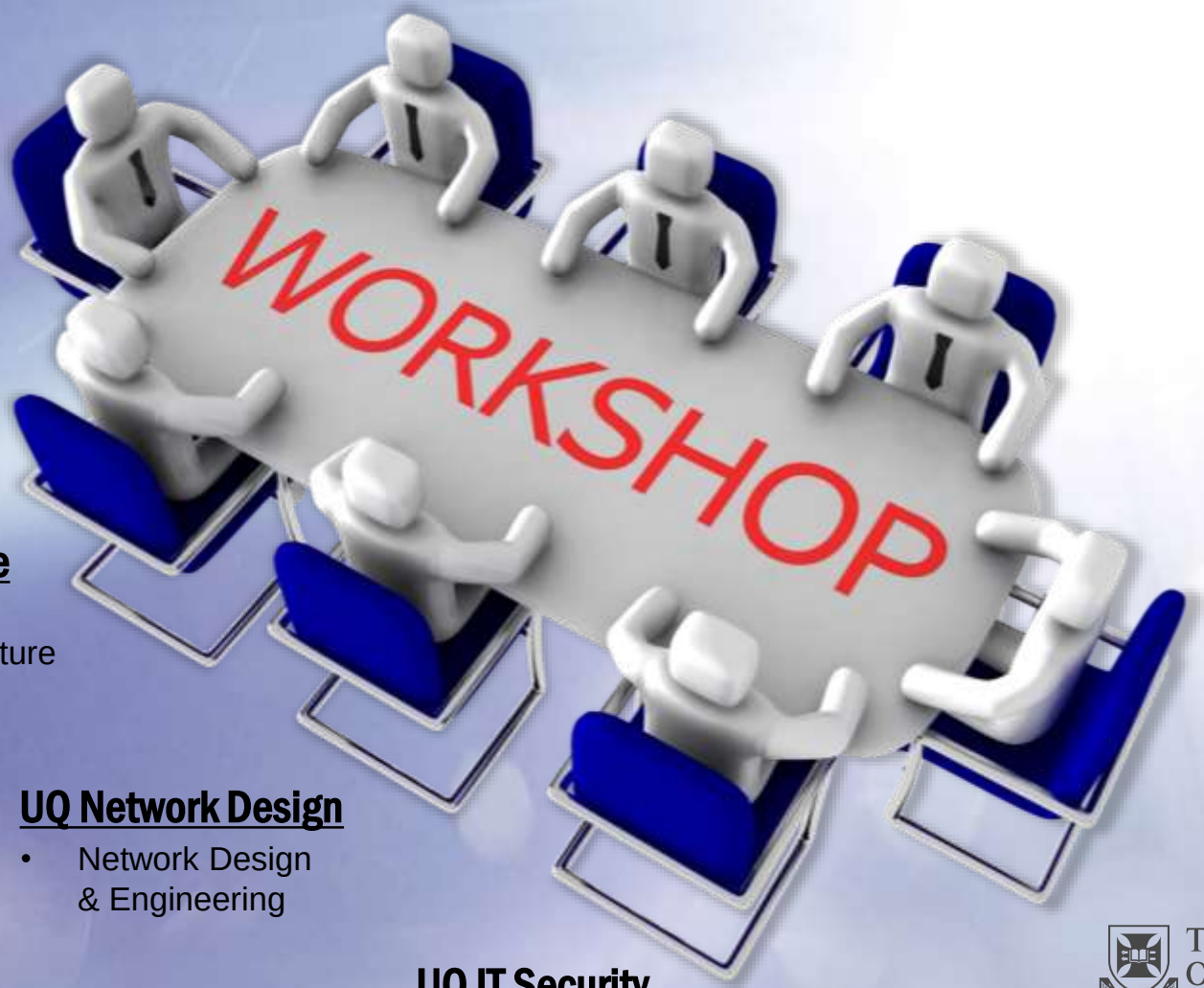
The Actors



UQ Infrastructure

- Virtualisation
- Core Infrastructure
- OS

UQ Network Design

- Network Design & Engineering

UQ IT Security

- Incident Response Team

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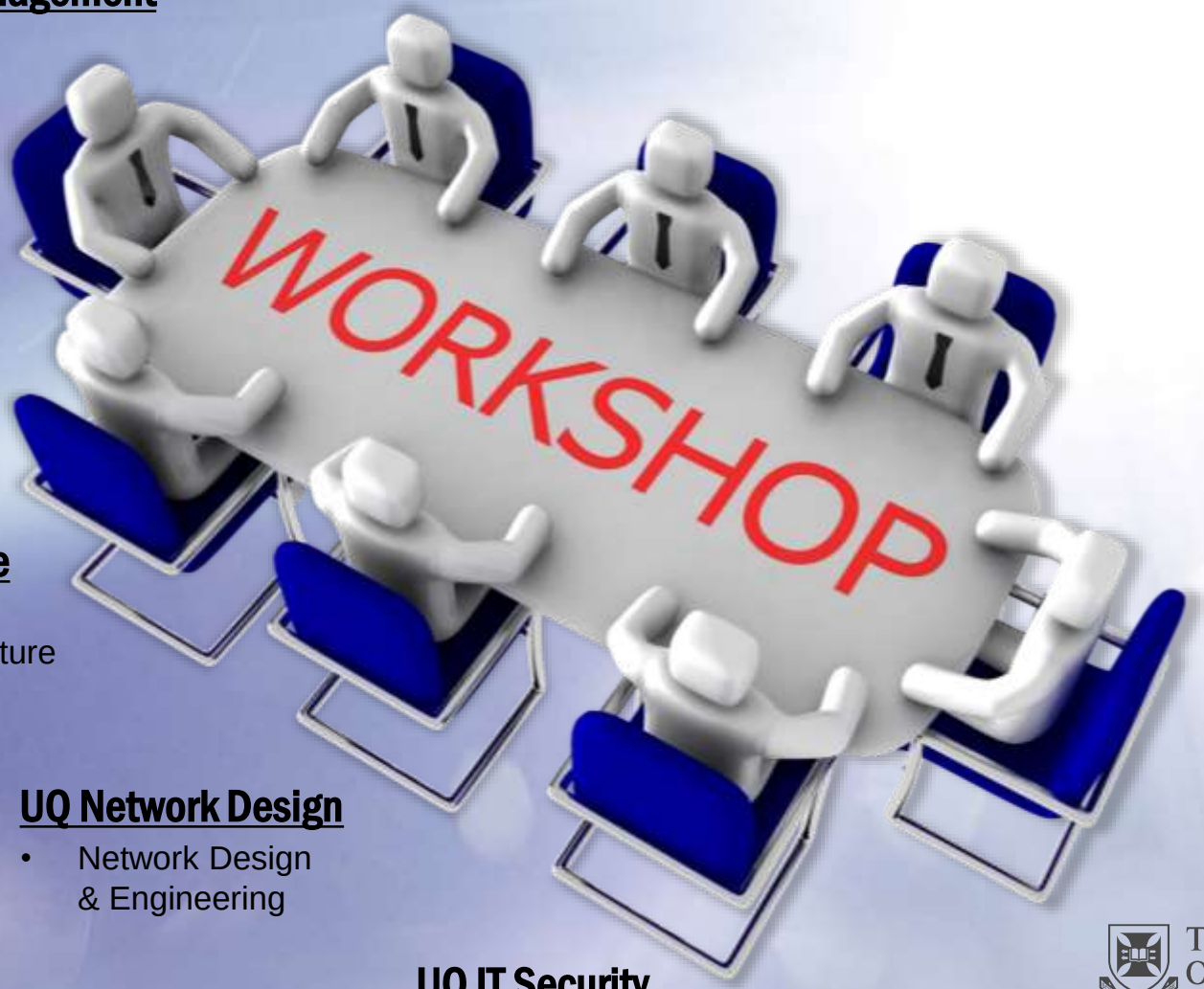
The Actors

UQ Project Management

Keeping it real!



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Cisco

Software Defined Network with ACI.

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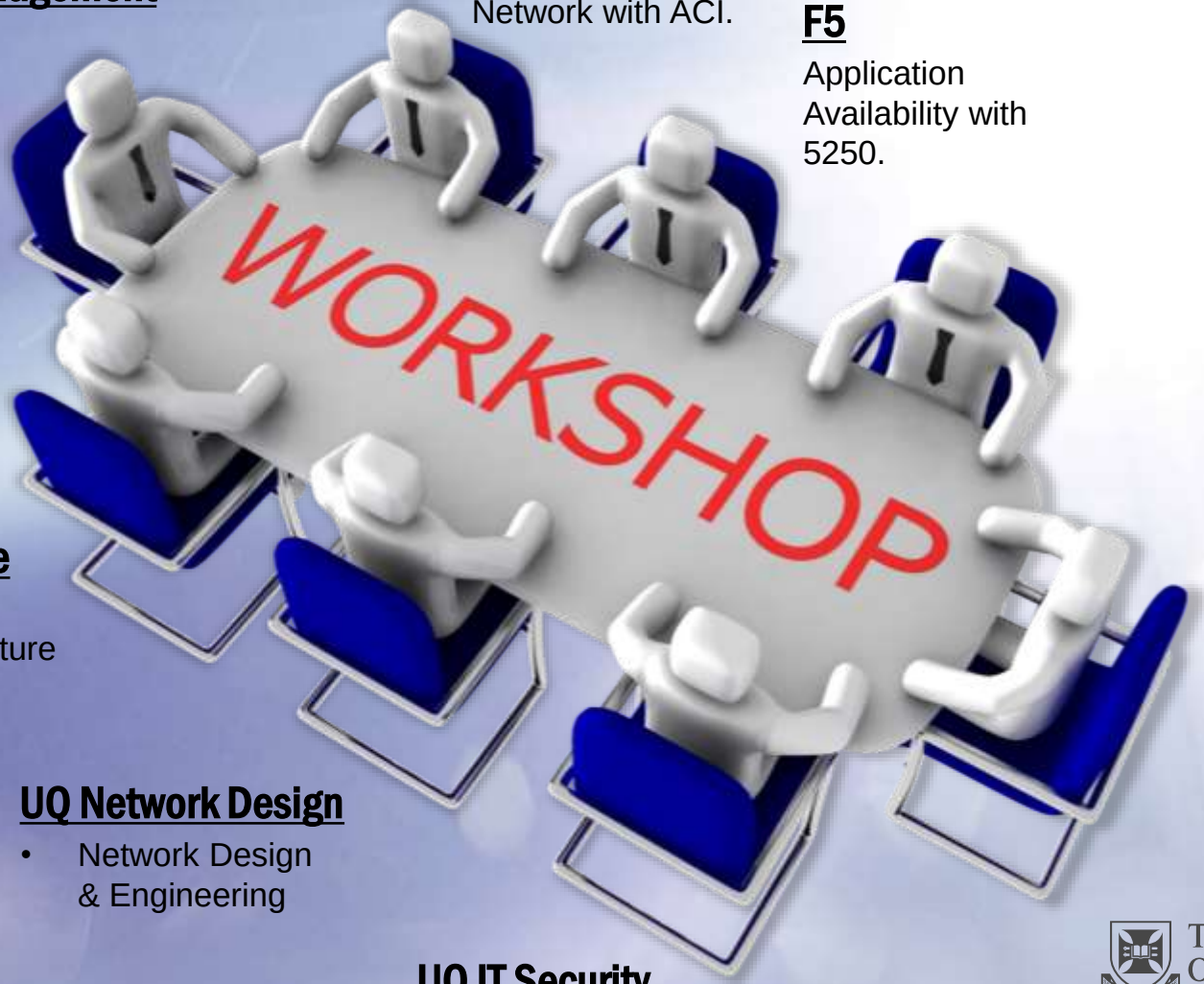
Application Availability with 5250.



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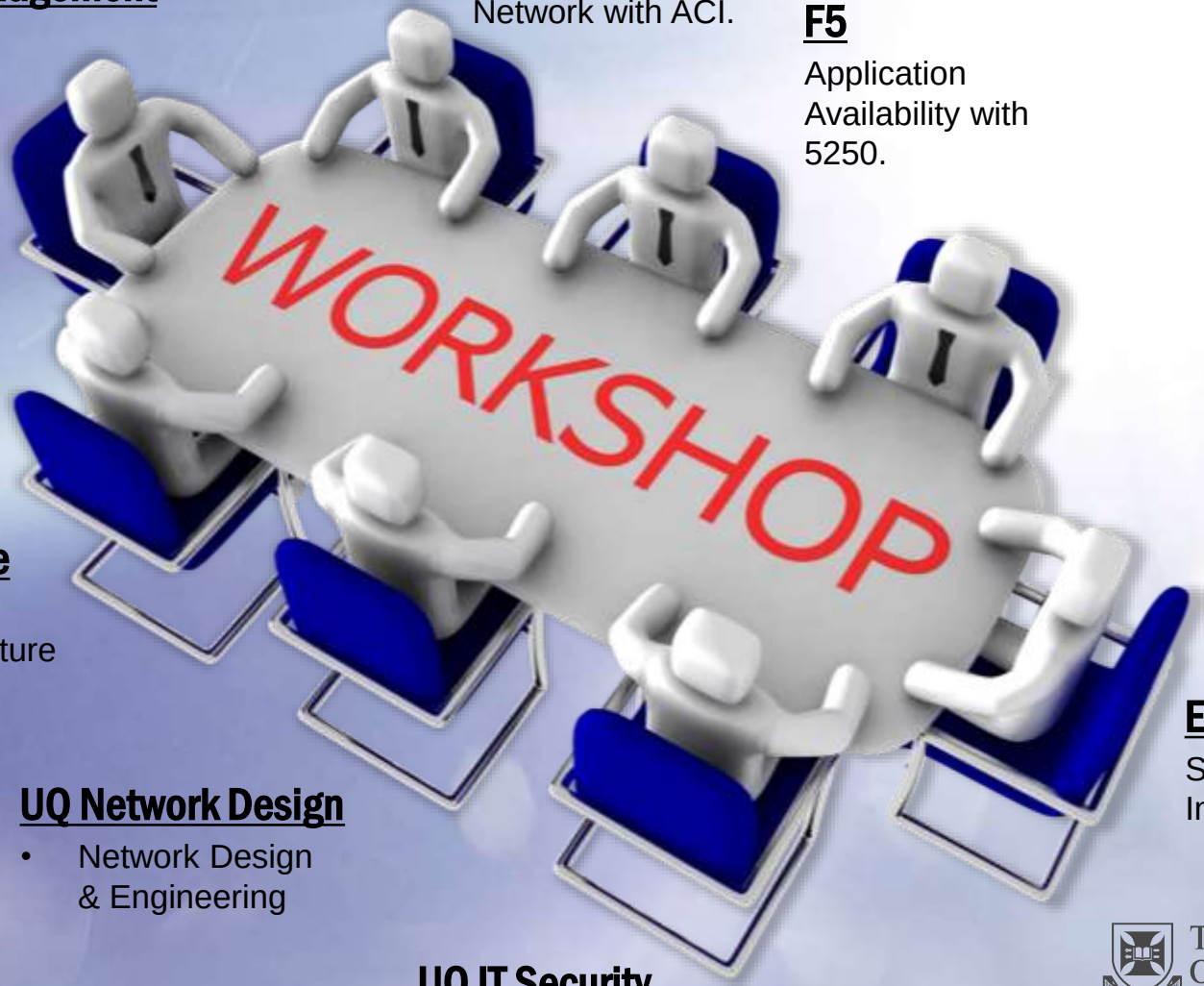

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UQ Network Design

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Enosys

Solution Design & Integration.

UQ IT Security

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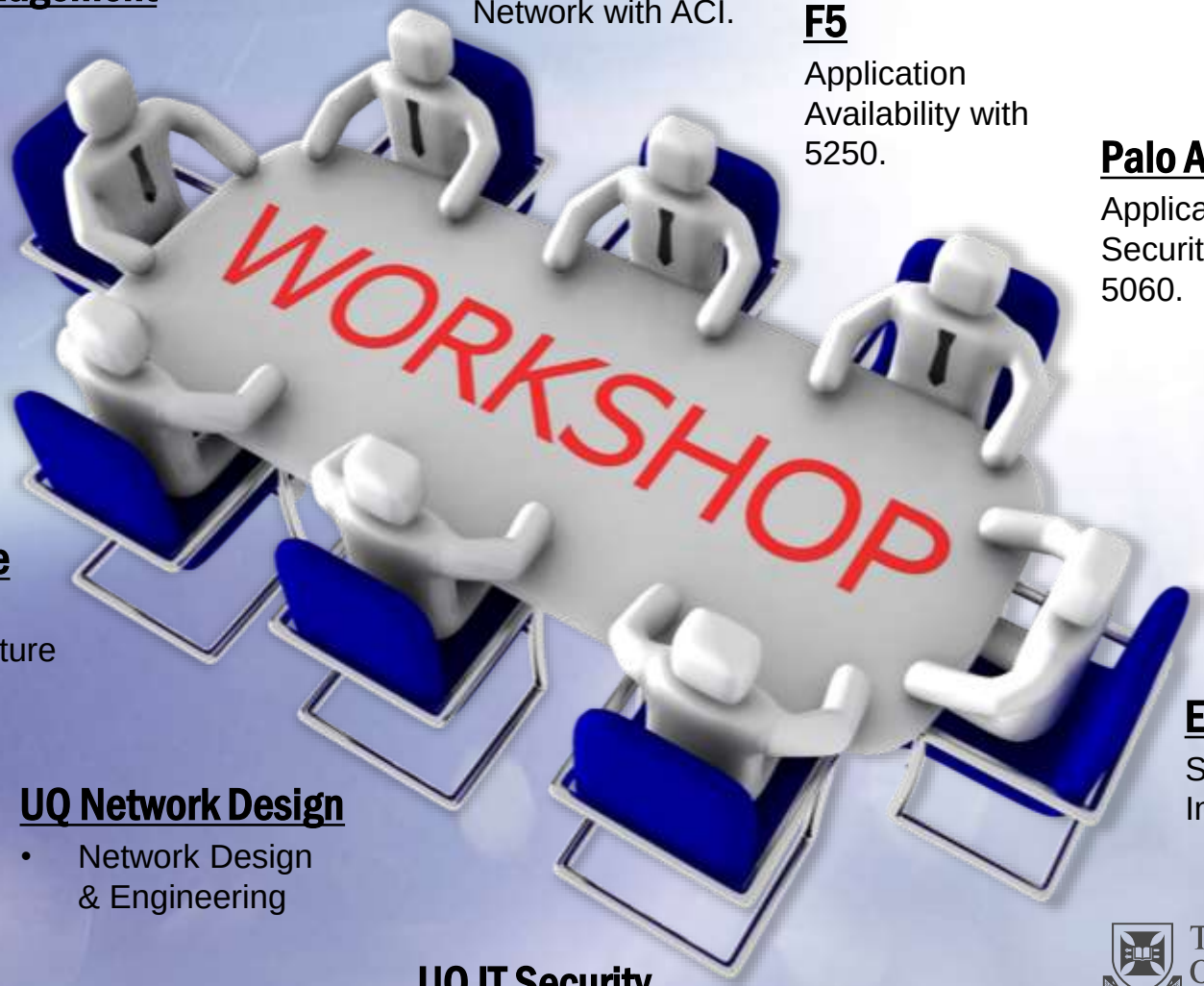
Application Availability with 5250.

Palo Alto

Application Security with 5060.



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The journey

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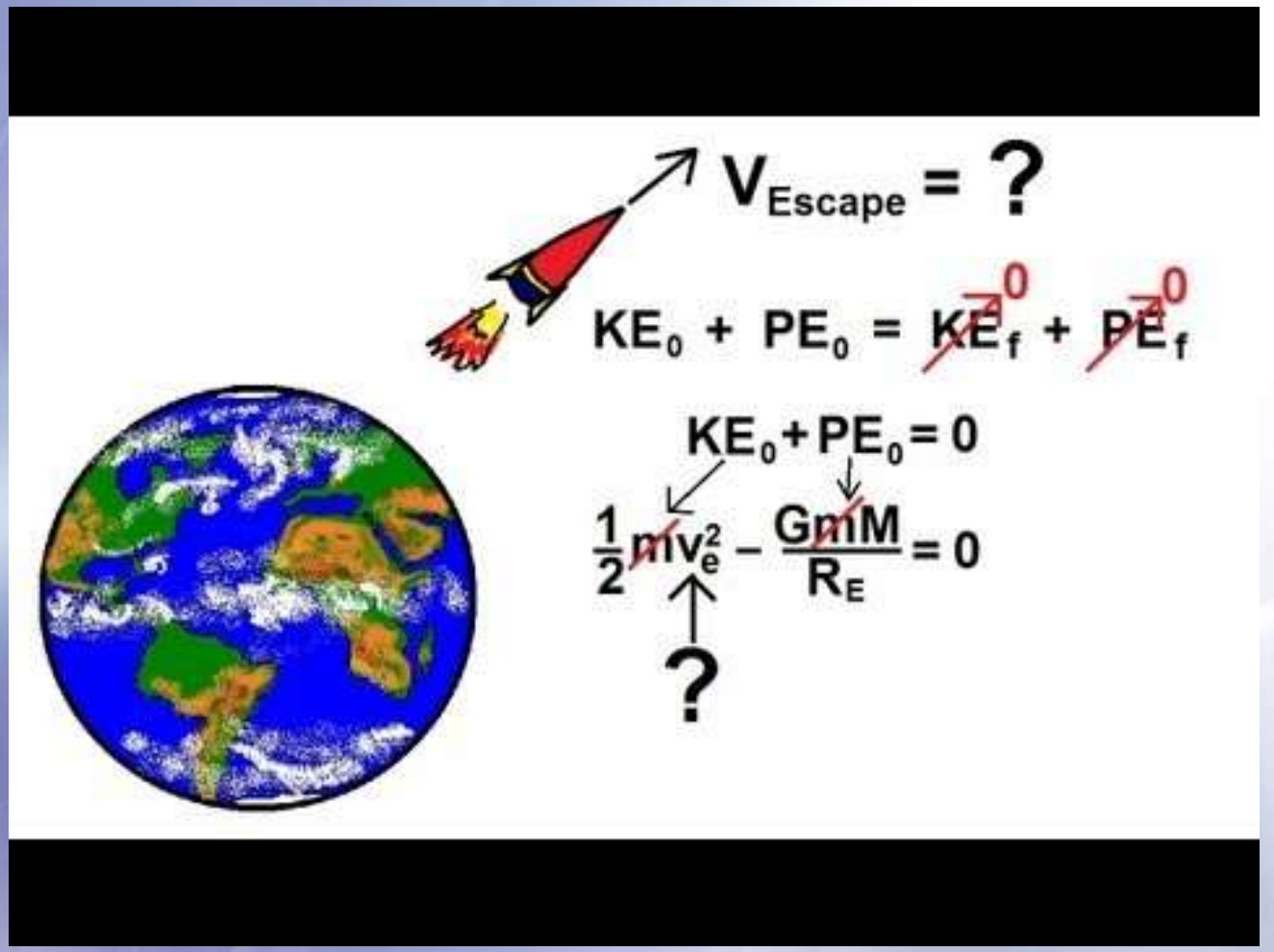
Why?



What's next…..

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Your Logo

What's next…..

Configuration

Configure the Application Availability and Application Security into the ACI environment.

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Your Logo

What's next…..

Testing

Build test applications and measure performance.

Configuration

Configure the Application Availability and Application Security into the ACI environment.

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What's next…..

Glue

Start writing scripts to transition to operational status.

Testing

Build test applications and measure performance.

Configuration

Configure the Application Availability and Application Security into the ACI environment.

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What's next…..

Evaluate Automation

Evaluate CliQr and other automation tools.

Glue

Start writing scripts to transition to operational status.

Testing

Build test applications and measure performance.

Configuration

Configure the Application Availability and Application Security into the ACI environment.

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Where to from there……

Cost for on-premise infrastructure may be cheaper

- Or is it – do we really understand the costs?

No on-premise option maybe available for many applications in the future

- E-Learning Systems as SaaS only

What about

- IoT
- Building Management Systems
- Security systems

Hybrid systems

- the best (or worst) of both worlds

Realise the benefits

- Agility
- Features

Would we do it again?

- Yes
- ..with Cisco
- ..with F5
- ..with Palo Alto
- ..with Enosys

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Questions

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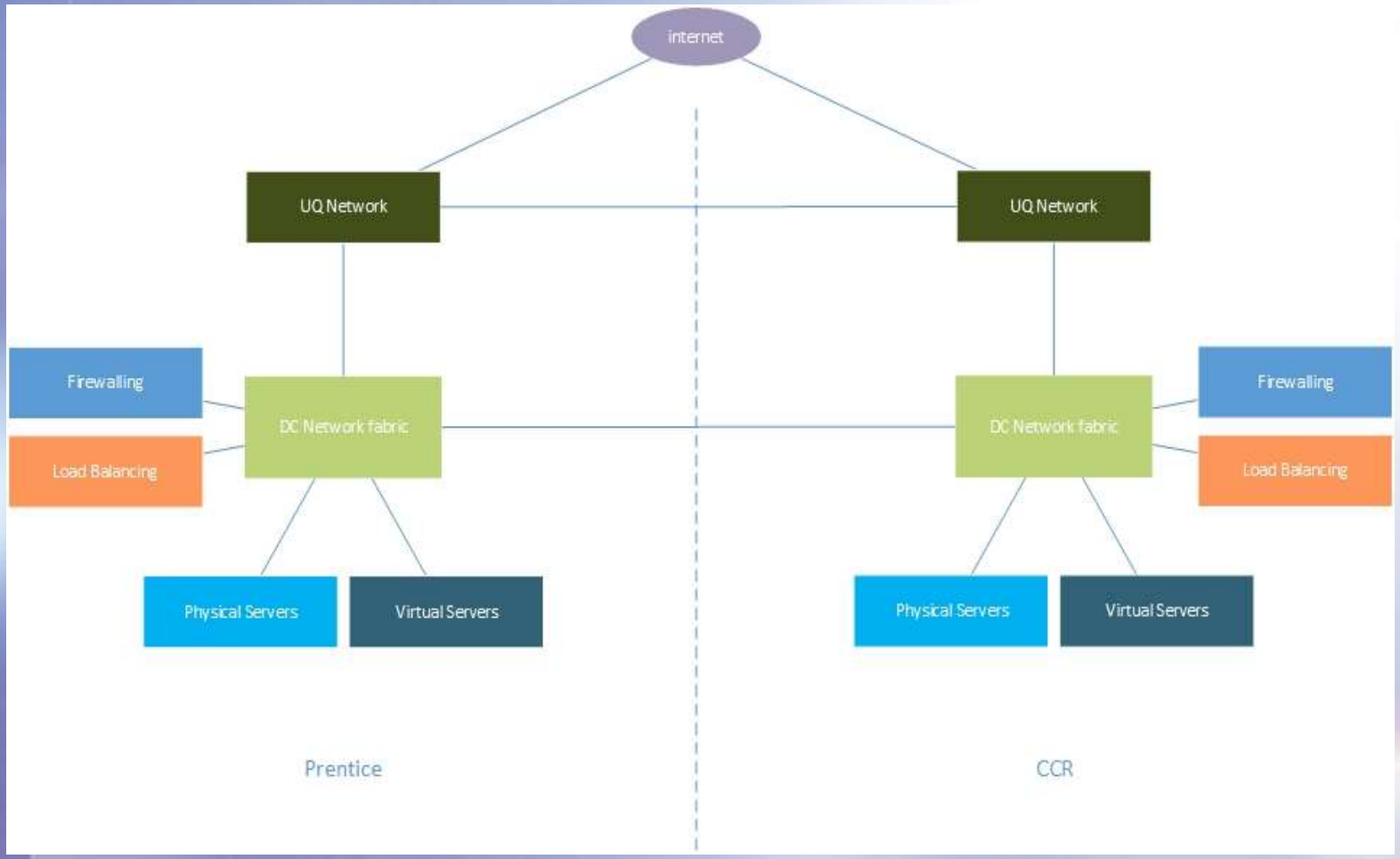
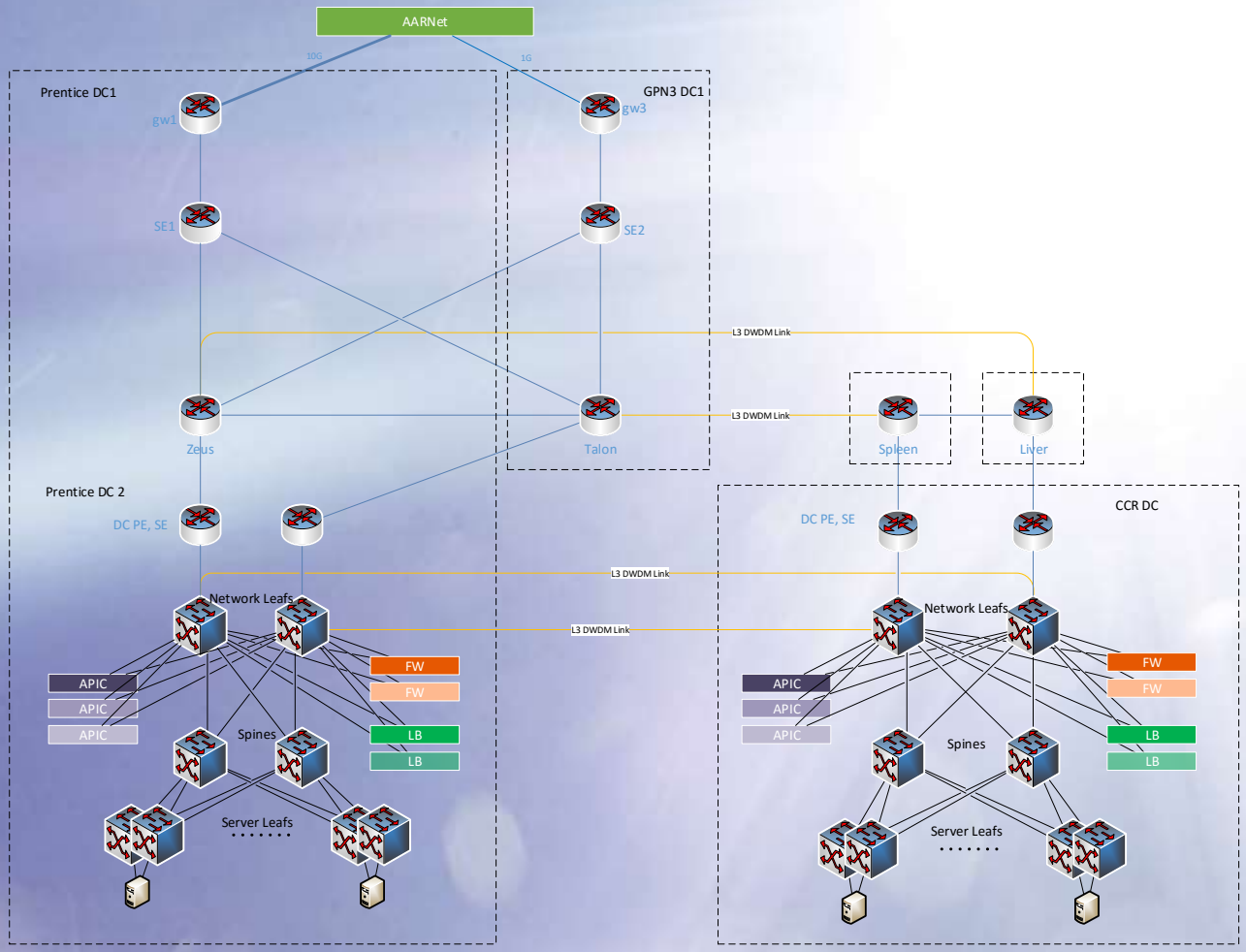
Overview Topology



Network Fabric Topology



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