PACNOG 2015

BLUESKY SAMOA UPDATES

AGENDA

- **Existing Infrastructure**

- **WiFi Services**

- **IPTV Services**

- **Vitualisation**

- **DRP Network**

Existing Systems/Infrastructure

- **IP Network**
  - ✓ Deployed on a combination of fibre (single mode) and radio links (IPTV, 3G/HSPA+)
  - ✓ Fibre capacity (96-Core, 48-Core, 24-Core, 12-Core, 8-Core)
  - ✓ Fibre coverage: 270km of fibre in Upolu Island, 50km in the big Island of Savaii
  - ✓ Between Upolu and Savaii Islands
    - ▪ 3x Radio Links – TDM and IPs (200Mbps)
    - ▪ Fully diversity
  - ✓ International
    - ▪ Samoa – American Samoa (SAS) Submarine Cable
    - ▪ American Samoa – Hawaii (ASH) Submarine Cable
    - ▪ Part of the upcoming new Government Submarine Fibre (Fiji)
- **All Services Moving to Digital/IP**
  - ▪ Migration from legacy exchange to full IP Core Switch (Metaswitch), in progress
  - ▪ IP-based distribution network (MSAN)
  - ▪ Triple-Play Services for POTS, Broadband, IPTV

bluesky samoa

WiFi Technology
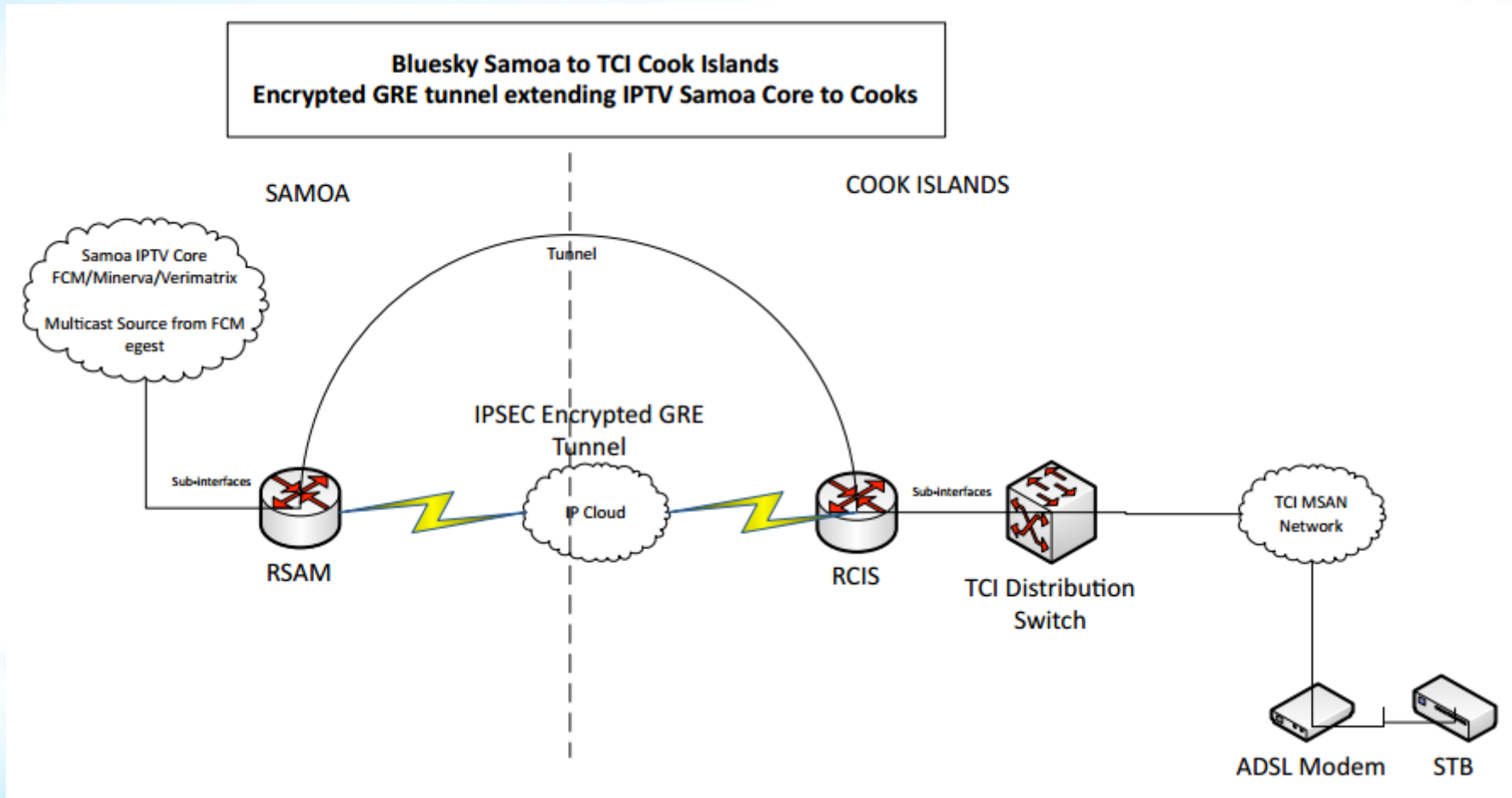
- **WiFi Expansion**
  - ✓ Have expanded hotspot network
  - ✓ Provide Support/Infrastructure for Big Events: AB vs Manu
- **Technology in use now**
  - ▪ ADSL2+ (Expanding)
  - ▪ Fibre to Businesses
  - ▪ PPPoE over WiFi
  - ▪ Expanding IPTV Coverage

IPTV Service – Expansion

IPTV Service

- 3x Years old in Samoa

- Connection: MSAN Node, or Direct IP Radio or Fibre to remote locations (Corporate Customers)

- Local expansion – more IP-based MSANs

- Recently extended to Cook Islands – encrypted GRE tunnel
  - All Core/Head-end equipment localised to Samoa
  - Only client side equipment required in Cook Islands is the STB (Set Top Box)
  - Content can be provided over multiple distribution networks (ADSL, Fibre, WiFi etc).

IPTV Service – Expansion

Bluesky Samoa to TCI Cook Islands
Encrypted GRE tunnel extending IPTV Samoa Core to Cooks

SAMOA

COOK ISLANDS

Samoa IPTV Core
FCM/Minerva/Verimatrix

Multicast Source from FCM
egest

Tunnel

IPSEC Encrypted GRE
Tunnel

Sub-interfaces

IP Cloud

RSAM

Sub-interfaces

RCIS

TCI Distribution
Switch

TCI MSAN
Network

ADSL Modem

STB

Virtualisation

- **Saving Hardware Cost**
  - ✓ Cost of purchasing physical hardware for every user, agent, has been greatly reduced
  - ✓ Virtual Desktop Infrastructure (VDI) – implemented in Bluesky Customer Call Center
  - ✓ Maintenance/Cost reduced
  - ✓ Part of Power Usage Reduction Strategies

Virtualisation

Bluesky Current Setup

- 3 Tier Storage directly connected via Fiber Channel (Fabric Layer)

- 3 Node cluster with a High Availability (HA) and vMotion capability

- Virtual switching HA

AMS2500 SAN

Directly Attached Fiber(DAS)

3 node VM Cluster
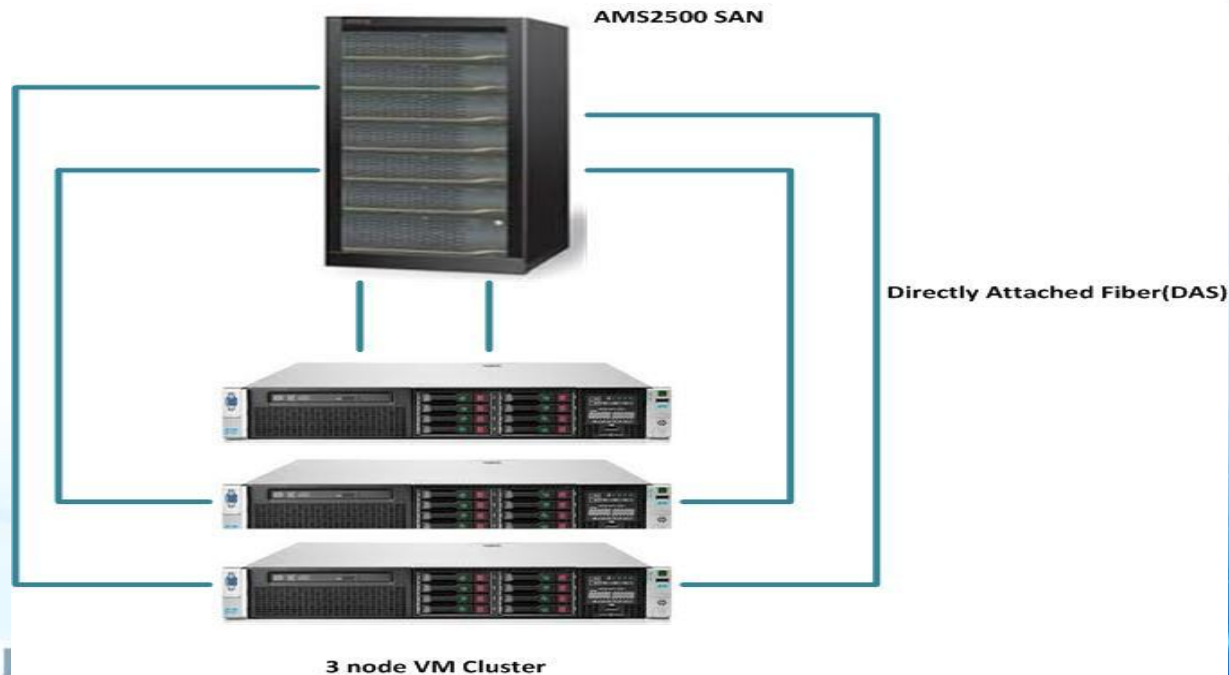
Virtualisation

Benefits to Bluesky

- High Availability with the use of the 3 nodes ensure services remain operational for both internal and external resources

- vMotion allows real time migration without outage, allowing peak hour upgrades

- High Level Security with built in VMware tools.

Disaster Recovery (DR) Set Up

HP DL380p VMware Cluster

AMS 2500 SAN

BlueSky Network

Bluesky Disaster
Recovery- Off site
Location
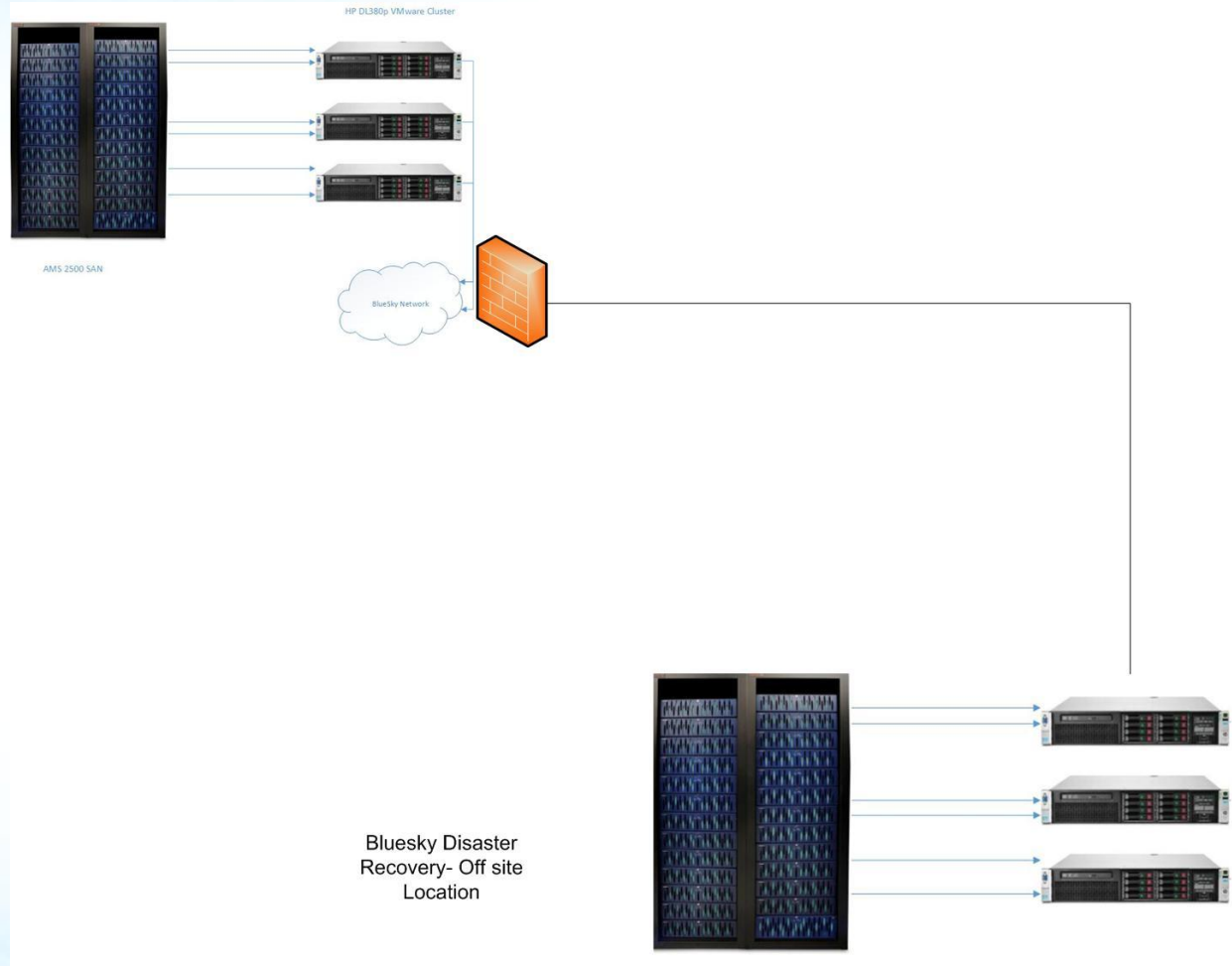
Disaster Recovery (DR)

- Bluesky DRP Site: *(6km from Maluafou Main Office, 75m above Sea Level)*

- Offsite replication to ensure company's RPO/RTO is met

- Ensure security and compliance policies are met.

- Storage and virtual environment replication to ensure to critical infrastructure is restorable in case of a disaster

THANK YOU