# Introduction

This report provides an overview of the changes and new additions that have been made to the Anzac airport network. The report includes a description of the new network architecture, the new equipment that has been installed, the two network designs, the services and applications that are now available, the number of servers and their hardware specifications, the operating systems that are used on the servers and workstations, and the status of the servers.

Deliverables

* A new network architecture has been designed and implemented.
* New equipment has been installed, including switches, routers, firewalls, and wireless access points.
* Two network designs have been created, one for the wired network and wireless network with two physical servers and one for three physical servers and one cloud server.
* A list of services and applications that are now available on the network has been created.
* The number of servers has been increased to two and eight virtual machines.
* The hardware specifications of the servers have been upgraded.
* The operating systems that are used on the servers and workstations have been updated.
* The status of the servers is now monitored and managed using VMware ESXi 8.0.

## Network

The new network architecture for the Anzac airport is a hierarchical design. The core layer of the network consists of one Router that provide high-speed connectivity between the different segments of the network. The firewall consists of one IPFire Office Appliance provide to connect to main switch. The distribution layer of the network consists of one switch that provide connectivity to the different departments and workstations in the airport.

* One Cisco Meraki MX 70.
* One Cisco CBS350-24P-4G switch for the distribution layer of the network.
* Three Access Points (Ubiquiti U6-Pro) for wireless connectivity.
* One IPFire Office Appliance

## Network Design

**Network design option 1**

The network design option 1 for Anzac airport, there two servers for implementing redundancy when one has failed. We are going to use hardware and software below:

* Two PowerEdge R750 Rack Servers
  + Eight Virtual Machines
* One Cisco Meraki Router
* One Cisco CBS350-24P-4G switch
* Three Access Points (Ubiquiti U6-Pro) for wireless connectivity.
* One IPFire Office Appliance
* Two VMware ESXi 8.0 Servers
* Microsoft Windows Server 2019 Standard
* Fedora Linux Server
* Rocky Linux
* Microsoft Windows 10 Pro

**Network design option 2**

The network design option 2 for Anzac airport, there four servers three servers are physical servers, and one is cloud server. We use hardware and software below:

* Three physical servers and one cloud server
  + One PowerEdge R750 Rack Server
  + Two PowerEdge R250 Rack Servers
  + One Cloud Server
* One Cisco Meraki Router
* One Cisco CBS350-24P-4G switch
* Three Access Points (Ubiquiti U6-Pro) for wireless connectivity.
* One IPFire Office Appliance
* Microsoft Windows Server 2019 Standard
* Fedora Linux Server
* Rocky Linux
* Microsoft Windows 10 Pro

## Services and applications

* Domain Controller
* Group Policy
* Windows Deployment Services
* Windows Server Update Services
* Windows Server Backup
* DHCP
* File sharing
* FTP service
* Email
* Web browsing
* Security monitoring

## Hardware

The number of servers in the Anzac airport network has been increased to two. The servers are all PowerEdge R750 Rack Server that are equipped with Intel® Xeon® Silver 4310 processors, 128GB of RAM, and 2TB 7.2K RPM NLSAS 12Gbps 512n 3.5in Hot-Plug Hard Drive (x4) of storage and 480GB SSD SATA Mix Use 6Gbps 512 2.5in Hot-plug AG Drive,3.5in HYB CARR, 3 DWPD (x1). The servers are running the VMware ESXi 8.0 operating system.

## Hardware specifications for AT2

* Printer Brother MFC-J890DW
* Computer Desktop Core i9 12Gen RAM 32GB SSD: 1.5TB
* TP-Link Router

## Operating Systems

* Server Windows Based: Microsoft Windows Server 2019 Standard
* Server Linux Based: Fedora server and Rocky Linux
* Workstations: Windows 10 Pro

# Status of the servers

The status of the servers in the Anzac airport network is now monitored and managed using VMware ESXi 8.0. This system allows the IT team to track the performance of the servers, identify any problems, and take corrective action as needed.

# Sign-off

I, the CEO of ANZAC Airport accepts that the above tasks have been done to the satisfaction of the company.

Signed: CEO Anzac Airport Date:

**To:** David Edwards (IT manager at Anzac Airport)

**From:** Thong Thao (Network Technician)

**CC:** Sharon Tate (CEO of Anzac Airport)

**Subject:** Report for IT infrastructure upgrade project at Anzac Airport

Dear David,

I hope this email finds you well.

I am writing to you today to provide an update on the status of the servers at Anzac Airport.

As you know, we recently completed a project to upgrade the network infrastructure at the airport. This included the installation of new servers, switches, routers, and wireless access points.

I am pleased to report that the new servers are fully operational and have been fully tested. They are meeting all of the airport's requirements for performance, reliability, and security.

I have also completed the clean-up and restoration of the worksite to your satisfaction. All of the old equipment has been removed and the area has been cleaned and swept.

I would like to thank you for your patience and cooperation during this project. I am confident that the new network infrastructure will provide you with the reliable and secure platform that you need to operate the airport efficiently.

Sincerely, Date: 1st September 2023

Thong Thao