

# Belfast School Migration Project for Fusion Networks

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## ABSTRACT

To meet the need of a continuously evolving education industry, having a highly accessible and flexible infrastructure is critical is business continuation. The Ministry of Education and Network for Learnings implementation of the long-term programme of information technology support called Te Mana Tūhono (MacKinnon, 2021). The intention of this programme is to provide a centrally managed fit-for-purpose information technology systems that prioritises reliability, resilience, safety, and security (MacKinnon, 2021). The objective of the project was to support the development and implementation of cloud-based services to migrate users from an onsite Windows based infrastructure.

**Keywords:** Azure, SAML Sync, SSO, GCPW, Endpoint manager,

## 1. INTRODUCTION

Fusion Networks is a networking and telecommunications service provider, operating throughout New Zealand. They work in both the private and public sector (Fusion Networks, 2021). Belfast primary school is a school based in Christchurch, New Zealand. They were the client for this migration project.

Fusion Networks also works in the education industry and is partnered with Manaiakalani, Ministry of Education and Network for Learning. They currently operate in over 105 schools in New Zealand providing service management. (Fusion Networks, 2021).

This paper describes the change process made collaboratively between Fusion Networks and Department of Business and Digital Technology at Ara Institute of Canterbury Ltd (Ara Institute of Canterbury, 2022).

## 2. BACKGROUND

The author's main objective is to show their preparedness to transition into a professional environment. To demonstrate this the author applied their technical knowledge of information technology to a real-life project that included three hundred industry and one hundred and fifty academic hours.

Belfast Primary School is building new primary school campus that will dedicated to their year five to year 8 students (Elley, 2021). This will physically sperate staffing resources and infrastructure. There was a need for the migration from deprecated and poorly managed onsite infrastructure to a cloud-based environment to enable better access to resources and a unified management on systems.

The author's role in this project was to migrate their schools on-premises services to the cloud. This intended to coincide with the Ministry of Education and Network for Learnings current the long-term program of information technology support called Te Mana Tūhono (MacKinnon, 2021).

### 3. PROJECT METHOD

The author divided the project into six logical sections.

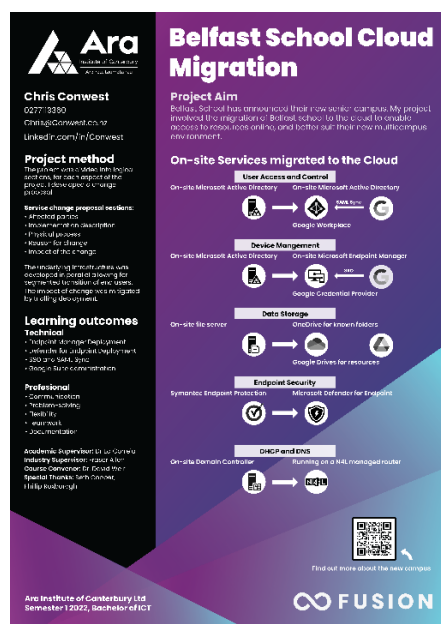
### 3.1 Project Management

A critical requirement to mitigate risk and success of a project is an effect change management plan. The author created a change management plan for each logical section of the project.

Service change proposal sections:

- Parties affected by the change proposed.
- A description of what the implementation involves.
- A step-by-step guide describing the physical process that will take place.
- The reason for change
- The author determined who will be impacted by the change proposed.

The purpose of this process was to minimize the impact and risks associated with change management.



**Figure 1 – Poster for Fusion Networks**

## 3.2 Implementation

The author developed the underlying infrastructure was independently alongside the current running infrastructure. This enabled the parallel deployment of all aspects of the project with minimal impact by the end user.

The use of a test devices and use of a trial deployment enabled the mitigated the impact of each service change.

The author implemented Microsoft Azure Active Directory alongside Microsoft Endpoint manager to supersede the Microsoft Active Directory service. The author utilized these services to effectively manage both users and devices.

The author established a SAML Synchronization was between Google Workplace and Microsoft Azure Active Directory for user provisioning and licensing. The author installed Google Credential Provider for Windows on each device to enable the use of Google credentials at Windows operating system login screen.

The author created Google Drives to coincides with the current running infrastructure. Then the author created Google security groups with each group given permission to their associated drive. The author used this to enabled automatic user permissions on school owned resources based upon the Belfast Primary Schools requirements.

The author implemented Microsoft Defender for Endpoint using auto provisioning. Then the author implemented the best practises described by Microsoft Defender for Endpoint to create a better security position for Belfast Primary School.

## 4. LEARNING OUTCOMES

The project concluded with the successful implementation of the following deliverables.

### Industry outcomes:

- Device management using Azure Endpoint Manager.
- Device compliance using Azure Defender for Endpoint.
- Account provisioning using SAML Sync used for SSO and licensing.
- Google Suite administration for data provisioning and user permissions through security groups.

### Personal outcomes:

The author utilized effective communication throughout the project to apply their logical deduction. This applied to the multifaceted problems exhibited throughout this project. The author created highly specific documentation to mitigate the risks associated with change management.

## 5. CONCLUSIONS

This complex project allowed the author to gain useful experience. The author learnt the importance of mitigation of impacts of change along with application of communication throughout each section of the project. They also learnt that external impacts are common with the application of projects.

## 6. REFERENCES

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