
Technical Proposal

OSOS Migration to WATech Tenant – Feasibility Study

Submitted by



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Note: The logo and name State of Washington, Office of the Secretary of State (OSOS) are used in this document only to reflect Digitech Labs’ proposal. We acknowledge that the logo is the IP and property of WA State/respective WA State agencies.

1. Technical

Project Approach/Methodology

About Digitech Lab’s and our Microsoft Solutions Associate Company Proarch

We, LaSai Technologies, LLC. DBA Digitech Labs, www.digitechlabs.com, are a new-age business and technology consulting firm founded by industry veterans. We focus on consulting, designing and delivering digital solutions by paying careful attention to our customer's business needs and expected strategic outcomes. We are headquartered in Redmond, WA. We are in our 7th year of operations (incorporated in 2017) and are a Women-led, Minority-owned Small Business. We are a Microsoft 360° partner besides SAP, AWS, Google and Sales Force Platforms. Open-source technology-based integration, solutioning is a core area of our competence. We have delivered >70 engagements across industry verticals with are 80+ employees strong as we prepare this proposal.

We recognize that the OSOS Migration to WaTech Tenant – Feasibility Study is a cutting edge and challenging opportunity. To present a proposal focused on enabling ‘Customer Success’ on this project, we will leverage the deep technology expertise of our **Microsoft Solutions Associate Company, Proarch**, based in Atlanta, Georgia. Proarch was founded in 2006 and is a Top Microsoft Solutions Partner. With over 350 clients and nearly 500 employees, Proarch is a Recognized Microsoft Gold Partner in the U.S. and India.

Proarch’s Microsoft Credentials



Gold
Microsoft
Partner

Microsoft Gold
Partner



2021 Microsoft Top
350 U.S. Partners















2019 CRN Managed
Services Provider 500



2019 & 2018 Top 200 Public
Cloud Managed Services
Provider

Proarch’s Microsoft Certifications





Between us and our proposed partner/sub-contractor, we bring >2000 person years of experience in enabling consultative approaches to implement digital transformation for corporations globally.

Our Understanding of the Proposed Project

Based on the inputs provided in the RFP and the response to questions, we understand that the Office of the Secretary of State (OSOS) is seeking a qualified third-party consulting firm to conduct a feasibility study for migrating all OSOS Active Directory Domain Services (ADDS) domains and forests, Entra ID/365 Services, and Azure environments to Washington Technology Solutions (WATech) Enterprise Active Directory (EAD) and Entra ID/Azure Washington State Executive (WSE) tenants.

Along with our proposed partner, we are well positioned to support the requirements of the OSOS Migration RFP. We have extensive experience migrating ADDS Forests, Domains, Entra ID, M365 suite, and custom-built and maintained applications. As a quick synopsis, the figure below outlines our understanding of the requirements for mitigation and highlights significant areas of risks to be resolved during the feasibility study.

These are based on our current knowledge the existing setup and the clarity provided by OSOS teams during the Q&A.

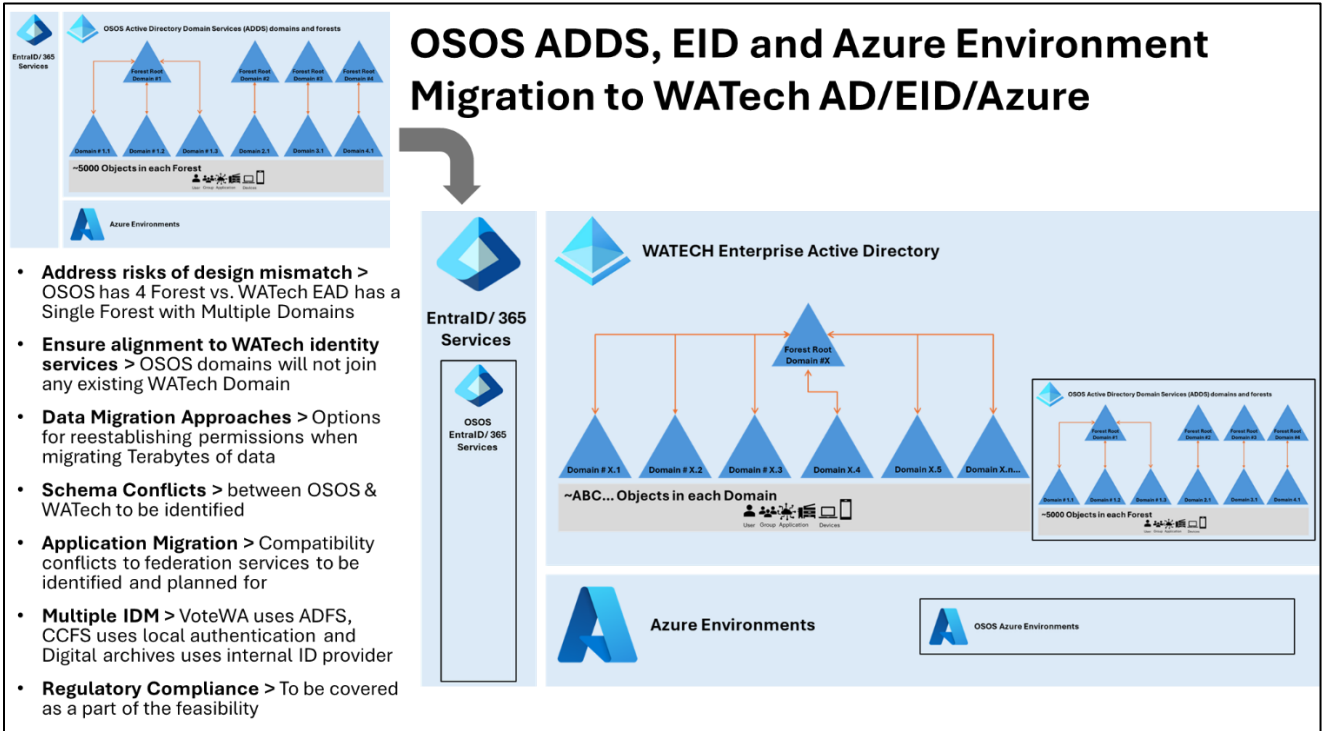


Figure 1: Our understanding of the scope of the feasibility study, highlighting the Risks

We understand that the feasibility study shall provide a clear roadmap for enabling OSOS with actions, plans, risks, timelines, dependencies, and resources for the migration. With the understanding that the Future State would require these deliverables to be developed in coordination with WATech’s migration team. This would require specific approvals related to,

- WATech Enterprise Active Directory Policy Framework alignment,
 - Policy / Configuration restrictions on WATech Enterprise Active Directory (EAD), EntraID (EID), and Azure Environments.
 - Configuration, naming convention, or policy conflicts that would hinder or impede the migration.
 - Identification and planning for AD Group Policy Objects (GPOs) that exist in EAD that the OSOS domain would inherit.
 - List of existing federations/enterprise apps in the OSOS tenant that are incompatible or blacklisted with the shared tenant.
- Continuity checks for,
 - Suitability analysis of existing tools in the future environment (E.g., Veeam 365, our 365-backup provider is not allowed, etc.).
 - Security considerations like Rapid 7 and CrowdStrike also consider a shared tenant model with Enterprise Apps, Single Sign On, and multi-agency delineation.
 - Analysis of the impact of migrating established OneDrive, SharePoint, and Teams environments, considering staff impact, file integrity, etc.
- Constraints related to WATech’s Shared tenant architecture and its impacts on,
 - Exchange Online Global Address List synchronization.
 - Enterprise Identity Infrastructure security controls.
 - Azure Subscription Policy Management impact.
 - User and group management with 3rd party utilities.
- Permissions for network connectivity,
 - Establish direct connectivity between the Virtual Routing and Forwarding (VRF) in the SGN and the WATech VRF.
 - Addressing networking for the 5 domains not on the State Government network (SGN).

Based on the clarity provided on the scope of coverage for this migration, we would like to reiterate this to ensure we are against any ambiguities. These include,

- Sizing for Migration
 - Number of active users > 350-400
 - Number of users and non-user mailboxes > 560
 - Data Volume for these mailboxes > ~5TB
 - Number of SharePoint Sites > 320 with ~1TB of data

- e. Number of MS Teams Licenses

>

147
- f. Number and types of workloads in Azure

>

~1400 objects in the tenant root
- g. Number of Files in Azure Files

>

~18 million (besides Blob storage)
- h. Number of Servers on premise

>

~600
- i. Unique Objects in each Forest

>

~5000
- j. Domain Controllers

>

19 in multiple environments
- k. Data Volumes

>

~100 TBs, including Azure Files
- b. Applications in scope

a. Five critical systems that would be impacted by the migration to WATech’s shared tenant: VoteWA, Corporations & Charities Filing System (CCFS), Digital Archives (DA), Payment/revenue management system, and the Combined Fund Drive (CFD).

b. These systems are hosted on Windows Server operating systems and reside in the WATech State Data Center (SDC) and in OSOS facilities. Some systems run in a PaaS environment in Azure. There are some Linux resources, though they are not domain-joined.

c. MDM – Mobile Device Management – Intune

We have referred to the scope above to arrive at the cost for the feasibility study. Any changes to the same, would be handled through a Change Request process.

Our Project Methodology

We propose using the Proarch project methodology, our proven and practical framework for delivering high-quality results in complex and dynamic environments. This methodology consists of four main phases: discovery, assessment, documentation, and delivery. Each phase has a specific purpose, scope, deliverables, and milestones. The following is a brief overview of each phase and how we plan to execute it.

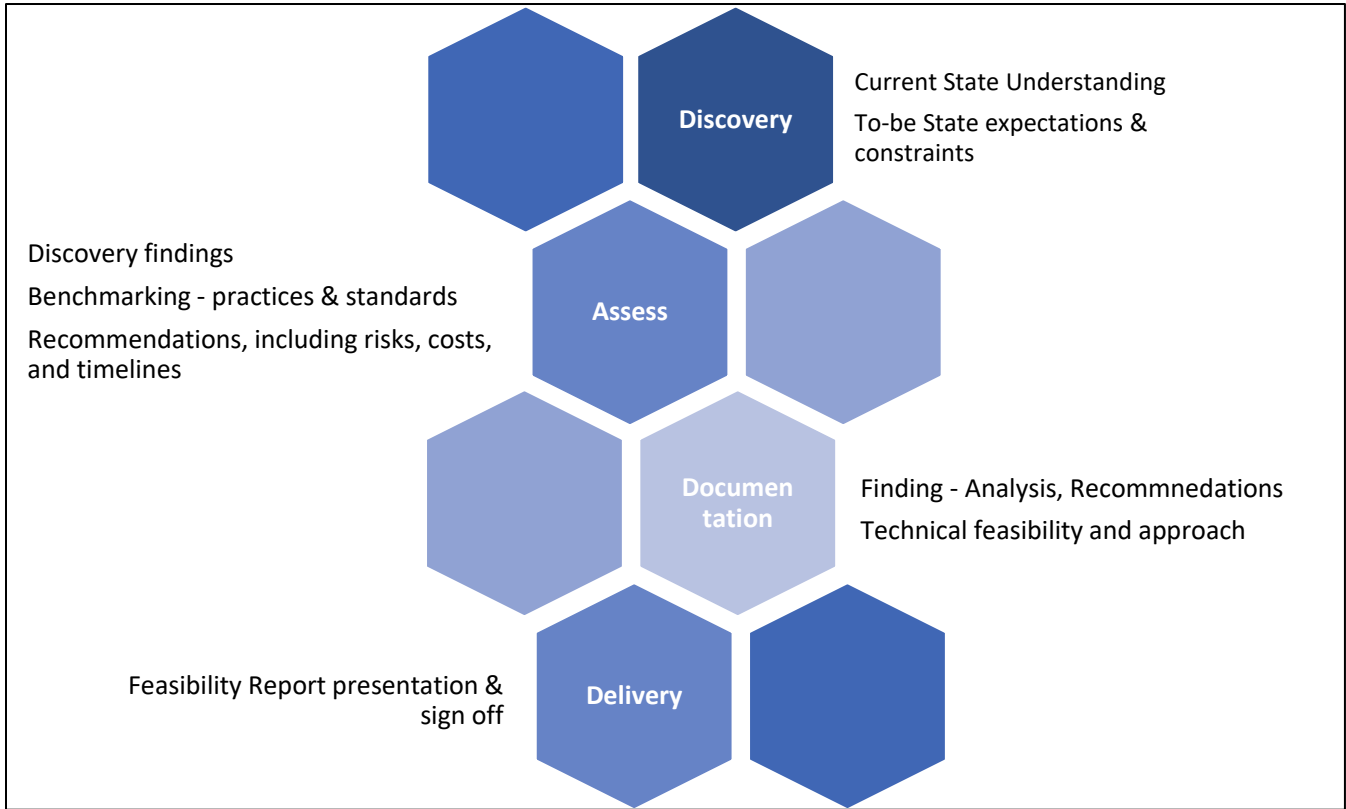


Figure 2: Our Feasibility Advisory Services Methodology

Discovery Phase

The purpose of the discovery phase is to thoroughly understand the OSOS and its stakeholders' current state, needs, challenges, and opportunities. In this phase, we will conduct the following activities:

- Kick-off meeting:** We will hold a kick-off meeting with the OSOS project team and key stakeholders to introduce ourselves, review the project objectives, scope, timeline, and expectations, confirm roles and responsibilities, and establish communication protocols.
- Stakeholder interviews:** We will conduct interviews with various stakeholders, such as OSOS and WATech staff, customers, partners, vendors, and regulators, to gather their input, perspectives, and feedback on the current and desired state of the OSOS services and processes.

- **Data collection and analysis:** We will collect and analyze relevant data and information, such as OSOS strategic plans, policies, procedures, reports, surveys, metrics, performance indicators, systems, technologies, etc., to understand the current situation and identify gaps, issues, and areas for improvement.

Assess Phase

The purpose of the assessment phase is to evaluate the findings from the discovery phase, benchmark against best practices and industry standards, and formulate recommendations and solutions for the OSOS. In this phase, we will conduct the following activities:

- **Gap analysis:**

We will perform a gap analysis to compare the current state of the OSOS services and processes with the desired state and identify the strengths, weaknesses, opportunities, and threats (SWOT) that affect the OSOS performance and outcomes. This would include the following environmental areas.

- An Executive Summary of the gap analysis and best practice research.
- A Policy and Configuration Analysis of the potential conflicts and issues between the OSOS and WATech environments, such as AD, EID, Azure, GPOs, etc.
- A Staff Impact Analysis of how the migration would affect the OSOS staff productivity, communication, and collaboration, such as OneDrive, SharePoint, Teams, etc.
- An Application Compatibility Analysis of how the migration would affect the OSOS-hosted applications, both on-premises and in Azure and how to resolve any incompatibilities or blacklisted apps.
- A File System Permission Analysis of how the migration would affect the OSOS file system data, both on-premises and in Azure, and how to reassign permissions, user accounts, etc.
- A Federation and Enterprise App Analysis of how the migration would affect the OSOS federations and enterprise apps, such as Adobe SSO, and how to ensure their functionality and security.
- An Application Impact Analysis of the downtime and identity issues for all OSOS applications and databases, both on-premises and in Azure and how to mitigate them.
- A Shared Tenant Architecture Analysis of the benefits and restrictions of using WATech's shared tenant, compared to a dedicated tenant, for example, in terms of Exchange Online, Enterprise Identity, Azure Policy, and User and Group Management.

These will be done using the **risks outlined in the previous section and driven by the policy frameworks drawn from WATech's guidelines.**

- **Best practice:**

We will conduct best practice analysis to identify the leading practices and successful examples of other similar organizations in the public and private sectors, both nationally and internationally, and determine how they can be adapted and applied to the OSOS context and needs.

- **Solution Requirements:**

We will document the solution requirements for the OSOS migration project, which will include the following components:

- **Vision and goals:**

We will define a clear and compelling vision and set of goals for the OSOS migration project that align with its mission, values, and strategic direction and reflect the expectations and needs of its stakeholders.

- **Strategy and roadmap:**

We will document the strategy and roadmap for the OSOS migration project, which outlines the key objectives, priorities, initiatives, and actions to achieve the vision and goals and provide a realistic and feasible timeline, budget, and resource allocation for the implementation.

- **Processes and procedures:**

We will document the processes and procedure requirements for the OSOS migration project that streamline, standardize, and simplify the workflows, tasks, and activities and ensure quality, efficiency, and effectiveness.

- **Systems and technologies:**

We will evaluate and specify the appropriate systems and technologies in the OSOS migration project that support and enable the processes and procedures and provide the necessary functionalities.

- **Data migration and re-permissioning approach:**
Options for reestablishing permissions when migrating Terabytes of data.

Documentation Phase

The documentation phase aims to produce and deliver a comprehensive and detailed technical feasibility assessment that summarizes and presents the findings, analysis, recommendations, and solutions of the previous phases. In this phase, we will conduct the following activities:

- **Feasibility Assessment writing:**

We will write a clear, concise, and compelling feasibility assessment that covers all the required elements and follows the format and guidelines specified by the OSOS. The feasibility assessment will include the following sections:

- **Executive summary:**
We will briefly overview the feasibility assessment's main points and highlights, such as the project background, objectives, scope, methodology, findings, recommendations, solutions, benefits, risks, costs, timeline, etc.
- **Project approach/methodology:**
We will describe the project methodology we used and explain how it ensured a rigorous, systematic, and collaborative approach to understanding, analyzing, and solving the OSOS challenges and opportunities.
- **Work plan:**
We will present the work plan we developed for the project and show how it addressed all the requirements and the proposed tasks, services, activities, etc., necessary to accomplish the project's scope. We will also indicate any required involvement of OSOS staff and any creative approaches we applied or suggested.
- **Solution design:**
We will elaborate on the solution design we created for OSOS and provide the details and specifications of each component, such as the vision and goals, strategy and roadmap, processes and procedures, systems and technologies, etc. We will also demonstrate how the solution aligns with the OSOS mission, values, and strategic direction and meets the expectations and needs of its stakeholders.
- **Project schedule:**
We will provide a project schedule that shows the milestones, deliverables, and timelines for each phase and task of the project and ensure a timely and successful completion of the project within the agreed budget and scope.
- **Project team:**
We will introduce the project team assigned to the project and provide their profiles, qualifications, experience, roles, and responsibilities. We will also explain how we ensured the project team's availability, continuity, and quality throughout the project.
- **Project management:**
We will describe the project management practices and tools that we used for the project and explain how they ensured a smooth, efficient, and effective execution and delivery of the project. We will also describe how we managed communication, coordination, and collaboration with the OSOS project team and other stakeholders and how we handled the risks, issues, and changes that arose during the project.
- **Feasibility assessment review:**
We will review the feasibility assessment with stakeholders (specifically for Acceptance by WATech) to ensure its accuracy, completeness, consistency, and quality and make any necessary revisions and improvements. We will also solicit and incorporate feedback from the OSOS project team and other relevant stakeholders to ensure their satisfaction and approval of the feasibility assessment.

Delivery Phase

The purpose of the delivery phase is to submit and present the feasibility assessment to the OSOS and obtain its acceptance and signoff. In this phase, we will conduct the following activities:

Feasibility assessment submission:

We will submit the final version of the technical feasibility assessment to the OSOS and WATech stakeholders according to its instructions and deadline. We will also provide any supporting documents or materials that the OSOS requires or requests.

Feasibility assessment presentation:

We will prepare and deliver a professional and persuasive feasibility assessment presentation to the OSOS and WATech evaluation teams and key decision-makers. The presentation will highlight our proposed solution's main features and benefits and address any questions or concerns that the OSOS / WATech may have. We will also demonstrate our confidence, competence, and commitment to delivering the project successfully and meeting the project expectations and needs.

Work Plan

Tools and Accelerators

To facilitate the feasibility assessment, we have a set of tools and accelerators that can help with various aspects of the project, such as data collection, analysis, visualization, and reporting. The following list presents some potential tools and accelerators that have been leveraged across similar projects, along with a brief description of their functions and benefits. However, as experts, we reserve the right to choose from this set or include other tools and accelerators after the engagement has begun to ensure the best possible results for the feasibility study.

Note: Our internally developed scripts and tools that are proprietary and therefore are not included in the below list. However, we will leverage these during the proposed engagement. These tools and scripts are customized and fine-tuned for each project based on the specific requirements and objectives. We will share more details about these tools and scripts during the project execution phase.

1. Migration Assessment and Planning

Tools

- [Azure Migrate](#): Facilitates assessment and migration of on-premises workloads to Azure. It addresses, technical and business insights into infrastructure, databases, and applications.
- [ShareGate](#): Simplifies the migration of SharePoint, OneDrive, and Microsoft Teams environments.
- **Quest On Demand Migration**: Streamlines Office 365 tenant-to-tenant migrations, including Exchange, OneDrive, SharePoint, and Teams.

Accelerators

- **Microsoft FastTrack**: Provides guidance, tools, and resources to help migrate to Microsoft 365.
- **Microsoft Cloud Adoption Framework (CAF)**

2. Policy and Configuration Analysis

Tools

- [Azure Policy](#): Helps enforce and assess compliance with corporate standards and service-level agreements.
- [Policy Analyzer](#): Analyzes Group Policy Objects (GPOs) and provides insights into conflicts and configurations.
- [Netwrix Auditor](#): Provides visibility into configurations, security settings, and changes in Active Directory, Azure AD, and other environments.

Accelerators

- **Microsoft Compliance Manager (Purview)**: Assists in assessing the configuration of Microsoft 365 services and managing compliance.

3. Stakeholder Engagement

Tools

- [Microsoft Teams](#): Facilitates communication and collaboration among stakeholders.
- Microsoft Forms: Collects feedback and insights from stakeholders.

Accelerators

- **Microsoft Project Online**: Manages project tasks, schedules, and resources to engage stakeholders effectively.

4. Cost Estimation and Analysis

Tools

- [Azure Pricing Calculator](#): Estimates costs of Azure services and configurations.
- [Microsoft Cost Management](#): Helps manage and optimize Azure spending.

Accelerators

- **Azure Migrate**: Provides detailed cost analysis and insights.

5. Tool and Compatibility Analysis

Tools

- **Veeam Backup & Replication**: Analyzes backup compatibility and provides data protection.
- [Enterprise Mobility + Security \(EMS\)](#): Evaluates compatibility and integration of enterprise apps and security.

Accelerators

- **Microsoft Defender for Identity**: Analyzes identity and security issues in migrations to shared tenant models.

6. File System and Application Impact Analysis

Tools

- [Robocopy](#): Analyzes file system data and permissions.
- **TreeSize Pro**: visualizes and analyzes storage usage on local and network drives, helping to identify large files, folders, and unused space.

- [FSLogix](#): Manages user profiles and file system data during migrations.

Accelerators

- **Windows Admin Center**: Provides management capabilities for on-premises servers and Azure services.

7. Documentation and Reporting

Tools

- **Copilot for Microsoft 365**: Organizes and manages documentation and reports.
- [Power BI](#): Visualizes data and creates detailed reports.

Accelerators

- **Microsoft Word/PowerPoint Templates**: Provides templates for feasibility reports and executive summaries.

8. Security and Compliance

Tools

- **Azure Sentinel**: Monitors security vulnerabilities and compliance.
- [Qualys](#): Analyzes security threats and compliance issues

Accelerators

- **Microsoft Defender for Cloud**: Provides unified security management and threat protection across hybrid environments.

Project Requirements

The project requires the Contractor to conduct a feasibility study for migrating all OSOS Active Directory Domain Services (ADDS) domains and forests, Entra ID/365 Services, and Azure environments to Washington Technology Solutions (WATech) Enterprise Active Directory (EAD) and Entra ID/Azure Washington State Executive (WSE) tenants.

The proposed feasibility study aims to evaluate the OSOS's current and future needs for transition to the WATech EAD, EID and Azure. This will encompass online services, current service usage, required workloads, migration approach, and desired end state. The assessment will include a gap analysis, a requirements analysis, a cost-benefit analysis, and a risk analysis. We will also recommend the best options and strategies for migrating the OSOS's online services to the target environment, considering the technical, financial, and operational aspects.

Our team brings extensive expertise drawn from over 30 engagements and over 100 consultants, in conducting comprehensive feasibility studies, particularly in Active Directory, Office 365, application assessments, and cloud technologies. We deeply understand how to evaluate complex IT environments, migrate Active Directory services, and integrate Office 365 functionalities to enhance organizational efficiency and security.

Our proficiency includes assessing existing applications for compatibility and performance within cloud-based infrastructures, identifying potential conflicts, and ensuring seamless transitions to new environments. With a robust background in cloud technologies like Microsoft Azure and Entra ID, we excel in crafting strategic roadmaps that address technical and business requirements, mitigate risks, and optimize resource utilization.

Our approach is driven by thorough impact analyses, cost evaluations, and stakeholder engagement, ensuring that our feasibility studies deliver actionable insights and align with the client's objectives.

Proposed tasks, services, and activities:

The Contractor will perform the following tasks, services, and activities to complete the feasibility assessment:

Kick-off meeting:

The Contractor will meet with the OSOS project team and other stakeholders (including from WATech, to confirm the project scope, objectives, deliverables, roles and responsibilities, communication plan, and timeline.

Data collection and analysis:

The Contractor will collect and analyze relevant data and information from the OSOS, such as the current online service usage, customer feedback, system architecture, security standards, budget constraints, and future goals and priorities. The Contractor will also conduct a gap analysis to identify the current and potential gaps in the OSOS's online service offerings and capabilities.

Requirements Analysis:

The Contractor will conduct a requirements analysis to review and compare the online service solutions and best practices of other states and countries and the available products and vendors in the market. The Contractor will evaluate the suitability, feasibility, and affordability of the target online service options for the OSOS, considering the OSOS's specific needs, preferences, and constraints.

Cost-benefit analysis:

The Contractor will conduct a cost-benefit analysis to estimate and compare the costs and benefits of different online service options, both qualitative and quantitative. The Contractor will consider the initial and ongoing costs, potential savings, revenues, efficiencies, and customer satisfaction outcomes.

Risk analysis:

The Contractor will conduct a risk analysis to identify and assess the potential risks and challenges associated with implementing and maintaining different online service options, such as technical, financial, legal, operational, and reputational risks. The Contractor will also propose mitigation strategies and contingency plans for each risk.

Recommendations:

Based on the data collection and analysis, market scan, cost-benefit analysis, and risk analysis, the Contractor will provide recommendations on the best options and strategies for improving and expanding OSOS's online services. The Contractor will also provide a high-level implementation plan, including the scope, timeline, budget, resources, and success criteria for each recommended option.

Deliverables:

The Contractor will provide the following deliverables to the OSOS:

Deliverable	Description	Value to Client
Gap Analysis Report	A comprehensive report that identifies and evaluates the discrepancies between the OSOS's current state and the desired future state (mapped to the WATech EAD, EID and Azure Environments) of their operations and services. This includes assessing existing systems, processes, and technologies against industry standards and best practices. The report details specific gaps, their impact on the client’s operations, and areas needing improvement or enhancement.	Value: It provides a clear understanding of the current shortcomings and areas for improvement, enabling the client to prioritize efforts and resources effectively. It serves as the foundation for planning upgrades or migrations by highlighting critical gaps that must be addressed to achieve the desired operational state.
Requirements Analysis Report	A detailed report outlines the requirements to bridge the gaps identified in the gap analysis. This includes technical, functional, and business requirements for potential solutions. The report evaluates industry best practices, benchmarks against peer organizations, and considers the client’s unique operational needs and strategic goals.	Value: Ensures that all necessary criteria and requirements for new solutions are clearly defined and aligned with the client’s business objectives. This report guides the selection and design of solutions that meet the client’s needs, minimizing the risk of scope creep and ensuring alignment with industry standards.
Cost-Benefit Analysis Report	An analytical report that provides a detailed comparison of the costs and benefits associated with various proposed solutions. This includes initial investment costs, ongoing operational costs, potential savings, and each solution's qualitative and	Value: It assists the client in making informed financial decisions by clearly illustrating the return on investment (ROI) and cost-effectiveness of different options. It lets the client weigh financial implications against expected benefits,

	quantitative benefits. The report consists of scenarios and financial projections to support decision-making.	facilitating strategic budgeting and resource allocation.
Risk Analysis Report	A risk analysis report that identifies and evaluates potential risks associated with each proposed solution. This includes technical, operational, financial, and compliance risks. The report outlines risk levels, potential impacts, and likelihood of occurrence and proposes specific mitigation strategies and contingency plans for each risk.	Value: It provides the client with a clear understanding of potential risks and their implications, allowing proactive risk management. Highlighting risks and mitigation strategies helps the client prepare for and minimize disruptions, ensuring smoother implementation and operation of the chosen solutions.
Recommendations Report	A recommendations report that consolidates findings from the gap, requirements, cost-benefit, and risk analyses. It provides strategic recommendations on the best action, detailing which solutions to implement, how to approach the migration, and steps for optimizing current systems. The report includes prioritized action items and suggested timelines.	Value: It offers actionable insights and strategic direction, helping the client choose the most effective and efficient solutions. It aligns proposed actions with the client’s goals, providing a clear path forward and facilitating executive decision-making with a well-supported rationale.
Final Feasibility Assessment Report	A feasibility report that integrates all previous deliverables into a cohesive summary. It provides a final assessment of the project's feasibility, including overall conclusions, a summary of analyses, recommendations, implementation plans, and projected outcomes. The report serves as a strategic document for stakeholders, summarizing the project’s findings and proposed next steps.	Value: It delivers a holistic view of the feasibility study, enabling stakeholders to understand the overall viability and expected impact of the proposed changes. It is a definitive guide for the implementation phase, ensuring alignment among all stakeholders and providing a clear, actionable roadmap for achieving the project’s objectives.

Example Deliverables

The following thumbnail images provide some examples of deliverables we have produced for similar projects. These examples are meant to illustrate the quality and style of work that planned to be delivered. However, these are not exhaustive or representative of all the deliverables that OSOS would receive as part of this project. We will tailor the deliverables to the specific needs and expectations of OSOS, following the agreed-upon scope, format, and standards.

NOTE: To preserve the contractor’s clients' privacy and adhere to all NDAs, these documents have been scrubbed and contain only fictitious companies and names.

Security Best Practices for Active Directory

ProArch looked at best practices for authentication services and domain controller configuration. The table below outlines the security hardening best practices and whether Contoso complies with them.

Name	Description	Compliant	Priority	Remediation
Deploy Domain Controllers of Server 2016 or newer OS.	Best practices recommend deploying only supported OS to allow security updates and patching.	Not Compliant	1	Deploy new Windows Server 2022 DC to replace all Windows Server 2008R2 Standard DC servers.
Deploy Read-Only Domain Controllers (RODC)	Where physical security cannot be guaranteed, deploy an RODC.	Not Compliant	4	Deploy RODC at each branch location.
Combine DNS role and Domain Controller Role.	Best practices recommend that the domain controller and DNS roles be run on the same servers. This allows for internal communication between the components	Compliant	N/A	Not applicable
Domain Controller should not run roles other than DNS	Best practices recommend that the domain controller not run any other roles within the organization other than DNS.	Not Compliant	2	Move DHCP, File Services (DFS Share) and IIS roles to non-Domain controller servers.
Restrict Administrator group membership and administration scope	To safeguard the domain and the security of it, best practices should include minimal domain administrators and enterprise administrators.	Not Compliant	1	Remove unneeded domain admins and normal user accounts and service accounts. The "Contoso Users" group is part of the Administrators group, and there are currently (48) Domain Admins.

Group Policy Observations

One hundred twenty-eight (128) Group Policy Objects exist within the Contoso domain.

Although the policies are close to the objects they are intended to affect, they are overly specific in the settings they implement. A better balance should be struck between too many policies with too few settings and too few policies with too many settings. The best practice is to create GPOs that group similar settings under a single policy.

Broken Group Policies

Group Policies are stored in two places: Active Directory (metadata) and SYSVOL (content). Since these are managed and replicated in different ways, it is possible for them to become out-of-sync due to different issues.

Summary of Broken/Orphaned Group Policies:

- Group Policies on SYSVOL, but no details in AD: **6**
- Group Policies in AD, but no content on SYSVOL: **2**
- Group Policies that could not be assessed due to permissions issues: **2**

Update: 8/30/2022

Summary of Broken/Orphaned Group Policies:

- Group Policies on SYSVOL, but no details in AD: **1**
 - policy definitions-20H2
- Group Policies in AD, but no content on SYSVOL: **0**
- Group Policies that could not be assessed due to permissions issues: **0**

Group Policy Owners

By default, GPO creation is usually maintained by Domain Admins or Enterprise Admins. When a GPO is created by Domain Admins or Enterprise Admins group members, the GPO Owner is set to Domain Admins. When a GPO is made by a member of Group Policy Creator Owners or another group has delegated rights to create a GPO, the owner of that GPO is not the Domain Admins group but is assigned to the relevant user.

GPO Owners should be Domain Admins or Enterprise Admins to prevent abuse. If that is not so, it means the owner can fully control GPO and potentially change its settings in an uncontrolled way. During the creation of a



Additional Active Security Recommendations

- Review enabled accounts for inactivity (last login>90 days) and either disable or delete the accounts.
- Review computer accounts for unused devices and either disable or delete the accounts.
- Implement least privilege delegation of Active Directory permission for administrators/technicians.
- Leverage security group nesting to reduce administrative overhead.

Core Services

Core services allow network clients to access and find network resources. While simple services, their organizational design tends to become less defined and meaningful over time, and they need to be reviewed and "cleaned up" to properly support the networking infrastructure.

Domain Name Services (DNS)

DNS Overview

The Domain Name Service (DNS) is a hierarchical structure that uses names to represent computers and services on a TCP/IP-based network. It does so by maintaining and querying a series of databases called zones. Each zone consists of a series of entries called records. These records consist of a hostname and an IP address, providing the ability to find machines and services on the network.

Windows DNS can dynamically update a DNS server with its IP address and hostname. This allows clients to announce their presence to the network dynamically and removes the administrative burden from network administrators. For network hosts that cannot dynamically update the DNS database, a Windows DNS server can integrate with the DHCP service to proxy registrations for these clients.

The Microsoft Windows DNS service maintains a master-master database replication model, allowing each DNS server to modify the database and replicate the changes to the other DNS servers without causing conflicts. It can also replicate incremental changes in the database through the same replication streams used for replicating Active Directory content, minimizing the amount of replication traffic on the network.

DNS name resolution and registrations are critical to a Windows environment's successful operation and user experience. The close integration of network services with Active Directory has made the delegation of the AD namespace to the Windows DNS a universally accepted best practice.

DNS Observations

The DNS zone for Active Directory is Contoso.fcu.org

Name	MAR-COST	MAR-GDC02	NAV-GDC01
Authentication	Compliant	Compliant	Compliant
Active Directory-integrated	Compliant	Compliant	Compliant
DCs are DNS servers.	Compliant	Compliant	Compliant

Review the following OU: Computer Accounts GPOs for relevancy, security settings, Computer vs. User Configuration, and Loopback requirement.

- Adobe Reader User Preferences
- CU Wide Print Server
- Desktop Security Policy
- Google Chrome Policy
- Internet Explorer Policy
- Marketing Dept Printer
- Mortgage Dept Printers
- PCAIMS Install
- Power Management Policy
- Screensaver 60min Policy
- Contoso Email Template
- Sempl Preferences
- TightVNC Settings
- Workstation Policy
- Zoom Client

Group Policy User GPOs Findings Summary

Review the following OU: User Accounts for relevancy, security settings, Computer vs. User Configuration

- Desktop Redirection
- High-Level Software Restrictions
- Internet Explorer Policy
- Microsoft Office
- My Documents Redirector

Best Practices for Group Policy

Name	Description	Compliant	Priority	Remediation
Design an OU structure that supports Group Policies	Create an OU structure that supports the organization's group policy requirements. Separation by role/division/location/object type	Not Compliant	1	Reorganize the OU structure to accommodate the GPO policy hierarchy.
Isolation of Administrator Resources	Allows for delegation and exclusions of specific GPOs that may interfere with Administrator needs	Not Compliant	1	Reorganize the OU structure to accommodate the GPO policy hierarchy.
Keep GPO consistent with OU names and the purpose of GPO	When linking GPOs within OUs, keep the name consistent in the GPO to ensure that miss-linking does not occur	Not Compliant	2	Separation of policies into GPOs with consistent naming conventions can allow a quick scan to see where a GPO is linked

File Storage

File Storage Observations

A file analysis tool was run in the environment to determine how files are stored and consumed within the environment. The following tables outline the data that was captured

Summary

Total number of paths scanned	6
Total number of files scanned	671,310
The total size of all files scanned	1.05 TB

Paths Scanned

File Path	No. of Files	Capacity of Files
DFS01 E:\(DATA)	349,638	328.40 GB
DFS01 F:\(User Data)	237,544	471.19 GB
DFS01 G:\(VM_Storage)	3,297	77.80 GB
DFS01 H:\(Store_Images)	188	451.82 GB
DFS02 E:\(Data)	80,588	3.72 GB
DFS02 U:\(User Profile Disks)	55	40.09 GB

DFS01 File Server Summary

Data Growth Rate – DFS01

Year	No. of New Files	Total Capacity of Files	Growth Rate
4 years or more	162,853	207.52 GB	0 %
3 - 4 years ago	117,571	301.86 GB	45 %
2 - 3 years ago	54,596	356.08 GB	18 %
1 - 2 years ago	201,203	969.26 GB	172 %
Now until 1 year ago	54,444	1.30 TB	37 %

Optimal Future State

By leveraging a cloud-first approach to technology, Frank's Hot Subs will realize reduced risk, increased management, and flexibility. The first step in a cloud transformation would be leveraging cloud services such as Microsoft Azure and Office 365 to provide existing services handled today by the physical servers, storage, and colocation facility. Microsoft Azure is an open and flexible cloud platform that enables the organization to quickly build, deploy, and manage applications and services across a global network of Microsoft Data Centers. Microsoft operates Office 365 using Microsoft Azure Data Centers and delivers Office 365 services from it for the world's largest email and collaboration platform.

The following table outlines the current state of Frank's Hot Subs IT components and the Future State Recommendations that are based on a Cloud First approach.

Component	Current State	Future State
Colocation Local Area Network	HP Switch, located in the colo facility, provides Local Area Network to connect servers and applications together. Leveraged by Hyper-V servers and management interfaces.	Azure provided highly available Local Area Network
Colocation Wide Area Network	The colocation provider provides the Internet. Single FortiGate Firewall provides the HQ and Store access to applications and services.	Azure Internet. Virtual FortiGate Firewalls, in high availability in Azure, provide HQ access. Stores no longer require VPNs.
HQ Local Area Network	HP Switch provides access to workstations and printers	N+1 Managed Switches, reuse HP datacenter switch
HQ Wide Area Network	Single FortiGate Firewall provides access to servers at Colo	Redundant FortiGate Firewalls and high availability Internet. Managed by Forti Manager
Store Local Area Network	Inconsistent deployment of single FortiGate Firewalls and switches provide access to POS.	Single FortiGate Firewall, Fortinet Switch and network segmentation for services
Store Wide Area Network	Single FortiGate Firewall provides access to Internet and Colo server. Single Internet provide	Single FortiGate Firewall with redundant internet connections
Network Management	None	Managed with FortiManager located in Azure
Physical Servers	3 whitebox physical servers and desktop hardware at HQ used	Azure Platform provides all underlying hardware

Cloud Security

Responsibility around cybersecurity is always going to be shared when using cloud computing. In all instances, the cloud vendor will handle physical security. When using IaaS (virtual machine) services, the host and physical network infrastructure are maintained by the provider, leaving the customer to manage the access to virtual servers and virtual network controls and all other aspects of security.

Utilization of PaaS cloud services, the cloud vendor additionally handles all network controls and shares the responsibility for the application and identity control management levels with the customer.

Software as a Service (SaaS) relieves the customer of all responsibilities except for shared control of identity and access, client and end-point protection, and data classification and accountability.

Responsibility	On-Prem	IaaS	PaaS	SaaS
Data classification & accountability				
Client & end-point protection				
Identity & access management				
Application level controls				
Network controls				
Host infrastructure				
Physical security				

Please see <https://azure.microsoft.com/en-us/blog/microsoft-incident-response-and-shared-responsibility-forcloud-computing/> for more details.

Total Cost of Ownership Overview

What is It?

TCO stands for total cost of ownership, a concept developed and popularized by Gartner Research. It is a methodology for analyzing the actual cost of owning and operating IT and other business solutions. In the context of enterprise management, TCO is defined as the sum of network infrastructure acquisition costs (CapEx) and the operating costs (OpEx) associated with supporting that infrastructure over its useful life.

Why does TCO Matter?

Every business, no matter what industry they are in, has a process for evaluating technology investments. TCO analysis gives the customer an estimate of quantifiable business benefits that can be expected from an investment. A thorough understanding of TCO for any technology platform allows decision-makers to answer questions about:

- Return on investment (ROI) - how much will it cost them? What kind of return is expected on their investment? When will they start seeing positive return?
- Strategic relevance - how does the investment complement the strategic goals of the company?

Thus, a TCO-based approach allows decision makers to evaluate technological benefits considering financial and strategic incentives.

Specific Direct (CapEx) and On-going (OpEx) Costs included in Model

ProArch has included the following direct and on-going costs associated with implementing the outlined strategy. The TCO model includes a comparison of costs between on-premises and cloud. Both solutions ultimately allow a resolution of risks to the organization and allow modernization to occur.

On-Premises Data Center Hardware

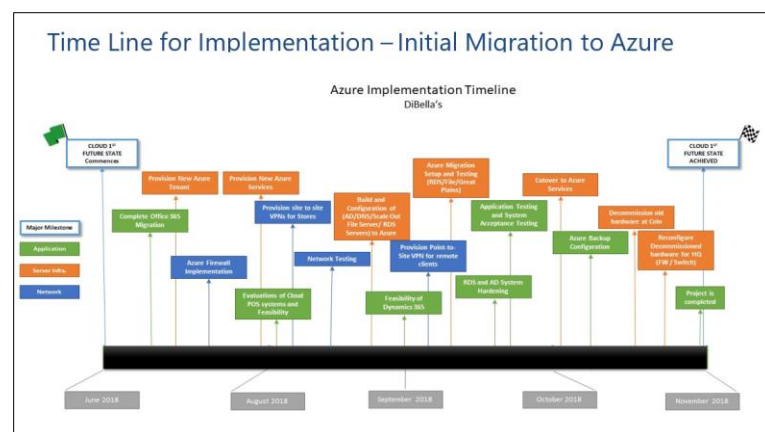
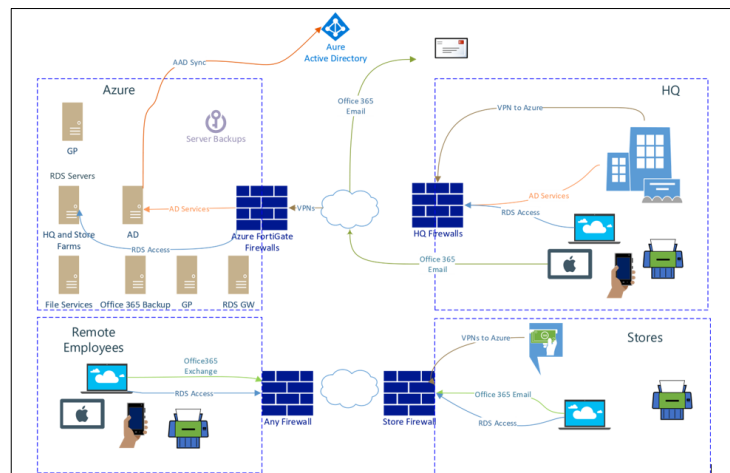
The table below includes all recommended hardware for the replacement of existing Hyper-V Hosts (Line 1), a new storage area network (SAN) (Line 2), network infrastructure including load balancers, a second firewall for HQ WAN/Core/SAN Switching (Line 3), a network attached storage (NAS) for backups (Line 4), Offsite storage for Veeram Backups (Line 5), and Desktop lifecycle hardware for the stores and HQ (Line 6).

Additional costs not considered in this TCO model are the colocation contracts currently in place. The contract rate is \$1574.00 per month with the contract set to expire on 7/31/2019. Colocation costs are \$18,888 per year, with a 5-year spend of \$94,400

Hardware	Year 1	Year 2	Year 3	Year 4	Year 5	Total (\$)
1- Servers - (210P Servers)	\$ 34,111					\$ 34,111
2- Storage Area Network (SAN)	\$ 44,099					\$ 44,099
3- Network Infrastructure (Load Balancers, Firewalls, WAN/Core/SAN Switches)	\$ 15,070					\$ 15,070
4- NAS Appliances for Onsite Backups	\$ 17,080					\$ 17,080
5- Azure Storage for Onsite Cloud Backup	\$ 5,400	\$ 5,400	\$ 5,400	\$ 5,400	\$ 5,400	\$ 27,000
6- Desktop Lifecycle - Corporate and Stores (5 in Year 1, 55 in Year 2, 14 in Year 3, 25 after)	\$ 4,500	\$ 49,000	\$ 12,600	\$ 22,000	\$ 22,500	\$ 111,600
Total	\$ 126,180	\$ 54,000	\$ 18,000	\$ 27,000	\$ 62,011	\$ 288,191

Azure IT Services

The migration to Azure will require professional services to migrate workloads and perform setup and configuration (Line 1). Active Directory Hardening and Configuration is recommended to ensure proper security of the core services in the environment (Line 2). Line 3 outlines the costs for performing the migration to Office 365 from the current on-premises environment. Special consideration must be made for the migration as data is not centrally located on the Exchange server. Line 4 estimates the setup of a second firewall at HQ, repurposing of the current datacenter switch to HQ and configuration of the WAN switches. Line 5 estimates assistance in configuring the gold store design, it has been estimated that 4 hours per store for configuration is needed and



Overall Comparison of TCO for On-Premises vs Azure

This number does not reflect costs that might be associated with the colocation facility, Microsoft Dynamics 365, Point of Sale replacement, existing support contracts, new projects, or other software licenses.

On-Premises Data Center	Year 1	Year 2	Year 3	Year 4	Year 5	Total (\$)
Includes Hardware, Software & Maintenance, and One-Time Fees	\$ 328,268	\$ 168,114	\$ 100,907	\$ 95,959	\$ 182,430	\$ 875,678

This number does not reflect costs that might be associated with the existing colocation contract, Microsoft Dynamics 365, Point of Sale replacement, existing support contracts, new projects or other software licenses.

Azure Cloud Data Center	Year 1	Year 2	Year 3	Year 4	Year 5	Total (\$)
Includes Hardware, Software & Maintenance, One-Time Fees, and Ongoing Support	\$ 172,028	\$228,284	\$ 92,154	\$ 78,094	\$ 78,094	\$ 648,654

Figure 3: Compendium of Deliverable Samples - Screenshots

Final Feasibility Assessment Report:

We will prepare and submit a comprehensive and concise report that summarizes the findings and recommendations of the feasibility assessment, as well as the methodology, data sources, assumptions, and limitations. The report will include an executive summary, an introduction, a background, a gap analysis, a requirements analysis, a cost-benefit analysis, a risk analysis, a recommendations section, a conclusion, and appendices. The report will be written in clear and professional language.

Project Schedule

Project Schedule Assumptions

The following assumptions were used to create the proposed project schedule:

- OSOS will provide timely and accurate information about their current and desired state of operations and services and their objectives, constraints, challenges, and opportunities.
- We will have access to relevant data sources, such as current documentation, network diagrams, current costs, and stakeholder interviews, to conduct the requirements and cost-benefit analyses.
- We will use appropriate and validated tools and methods to analyze the data and assess the feasibility of different options for the client.
- We will communicate regularly with the client and solicit feedback on the draft deliverables and interim findings.
- We will adhere to the profession's and the contract's quality standards and ethical principles.
- There will be no significant changes in the project's scope, requirements, or timeline due to unforeseen circumstances or external factors.

Proposed Project Schedule

The proposed project schedule is as follows:

S.No	Phase & Activity	Deliverables	Digitech Labs / Proarch	OSOS Stakeholders	WK1	WK2	WK3	WK4	WK5	WK6	WK7	WK8	WK9	WK10	WK11	WK12	WK13
1.0	Discovery - Feasibility Assessment		AE, PM, SSA, SSC, CE	PS, PM, Tech, Policy, RM, SM													
	Kick Off		AE, PM, SSA, SSC, CE	PS, PM, Tech, Policy, RM, SM													
	1.1 Conduct a gap analysis of the current and desired state of the client's operations and services	Gap Analysis Report	PM,SSA, SSC	PM, Tech, Policy													
	1.2 Conduct requirements analysis with mapping to potential solutions and best practices in the industry	Requirements Analysis Report	PM,SSA, SSC	PM, Tech, Policy													
2.0	Cost-benefit analysis and risk analysis																
	2.1 Estimate the costs and benefits of implementing different solutions based on the requirements analysis and the client's requirements and constraints	Cost-benefit analysis Report	PM,SSA, SSC	PM, Tech, Policy, RM, SM													
	2.2 Identify and assess the risks associated with each solution and propose mitigation strategies	Risk Analysis Report	PM,SSA, SSC	PM, Tech, Policy, RM, SM													
3.0	Recommendations and final report																
	3.1 Develop and prioritize recommendations for the client based on the findings and results of the previous phases	Recommendations Report	PM,SSA, SSC														
	3.2 Prepare and submit the final feasibility assessment report that integrates all the deliverables and provides a clear and concise summary of the project	Final Feasibility Assessment Report	AE, PM, SSA, SSC, CE	PS, PM, Tech, Policy, RM, SM													
Legend																	
Digitech Labs / Proarch Delivery Team			OSOS / WATech teams														
AE	Account Executive		PS	Project Sponsor													
CE	Client Relationship Executive		Tech	Technology Team													
PM	Project Manager (both parties)		Policy	Policy Team													
SSA	Strategic Solutions Architect / Senior Consultant		RM	Risk Management Team													
SSC	Strategic Solutions Consultant		SM	Supplier Management Team													

Figure 4: Proposed Project Schedule

Phase 1: Feasibility assessment Discovery (6 weeks)

Task 1.1: Conduct a gap analysis of the current and desired state of the client's operations and services (4 weeks)

Deliverable 1.1: Gap analysis report

Task 1.2: Conduct requirements analysis with mapping to potential solutions and best practices in the industry (2 weeks)

Deliverable 1.2: Requirements analysis report

Phase 2: Cost-benefit analysis and risk analysis (4 weeks)

Task 2.1: Estimate the costs and benefits of implementing different solutions based on the requirements analysis and the client's requirements and constraints (2 weeks)

Deliverable 2.1: Cost-benefit analysis report

Task 2.2: Identify and assess the risks associated with each solution and propose mitigation strategies (2 weeks)

Deliverable 2.2: Risk analysis report

Phase 3: Recommendations and final report (3 weeks)

Task 3.1: Develop and prioritize recommendations for the client based on the findings and results of the previous phases (1 week)

Deliverable 3.1: Recommendations report

Task 3.2: Prepare and submit the final feasibility assessment report that integrates all the deliverables and provides a clear and concise summary of the project (2 week)

Deliverable 3.2: Final feasibility assessment report

Table summary of the project schedule:

Phase	Task	Duration	Deliverable
Discovery Phase: Feasibility assessment Discovery	Conduct a gap analysis of the current and desired state of the client's operations and services	4 weeks	Deliverable 1.1: Gap analysis report
	Conduct requirements analysis of potential solutions and best practices in the industry	2 weeks	Deliverable 1.2: Requirements analysis report
Assess Phase: Cost-benefit analysis and risk analysis	Estimate the costs and benefits of implementing different solutions based on the requirements analysis and the client's requirements and constraints	2 weeks	Deliverable 2.1: cost-benefit analysis report
	Identify and assess the risks associated with each solution and propose mitigation strategies	2 weeks	Deliverable 2.2: Risk analysis report
Documentation Phase: Recommendations and documentation	Develop and prioritize recommendations for the client based on the findings and results of the previous phases.	1 weeks	Deliverable 3.1: Recommendations report
Delivery Phase: Delivery of final report	Prepare and submit the final feasibility assessment report, which integrates all the deliverables and provides a clear and concise summary of the project.	2 weeks	Deliverable 3.2: Final feasibility assessment report

Deliverables

Our teams will provide the deliverables to OSOS according to the following time frame:

1. Gap Analysis Report

- **Description:**
 - **Scope:** The Gap Analysis Report will provide an in-depth examination of the client's current operations, services, and IT infrastructure, focusing on Active Directory (AD), Office 365, and cloud environments. The report will identify discrepancies between the current and desired states as outlined by OSOS and industry best practices.
 - **Content:**
 - **Executive Summary:** Overview of key findings and significant gaps identified.
 - **Current State Assessment:** Detailed analysis of existing systems, processes, and configurations, including technical specifications and operational workflows.
 - **Desired State Definition:** Outline the desired operational and technical state based on OSOS's goals and industry standards.
 - **Gap Identification:** Specific areas where current systems and processes fall short, categorized by criticality and impact.
 - **Impact Analysis:** Evaluation of how each gap affects OSOS's operations, security, compliance, and overall efficiency.
 - **Value:** Provides a foundational understanding of current deficiencies, helping OSOS prioritize areas for improvement and align strategies with organizational goals.
- **Estimated Timeframe:** End of Week 4

2. Requirements Analysis Report

- **Description:**
 - **Scope:** The Requirements Analysis Report will delineate the technical, functional, and business requirements to address the identified gaps. It will explore potential solutions and benchmark them against industry best practices to ensure they meet OSOS's strategic objectives.
 - **Content:**
 - **Executive Summary:** Summary of essential requirements and their alignment with project objectives.
 - **Requirements Identification:** Detailed description of technical and functional requirements necessary to achieve the desired state.
 - **Best Practices Review:** Comparison of potential solutions against industry standards and best practices, highlighting advantages and disadvantages.
 - **Stakeholder Input:** Integration of feedback from OSOS stakeholders to refine and validate requirements.
 - **Feasibility Considerations:** Assessment of the feasibility of implementing each requirement, considering technical constraints and organizational capabilities.
 - **Value:** Ensures that all necessary criteria for successful solution implementation are identified, facilitating informed decision-making and minimizing the risk of scope creep.
- **Estimated Timeframe:** End of Week 6

3. Cost-Benefit Analysis Report

- **Description:**
 - **Scope:** The Cost-Benefit Analysis Report will evaluate the financial implications of implementing various solutions. It will compare the costs (initial and ongoing) with the expected benefits, providing a clear financial outlook for each option.
 - **Content:**
 - **Executive Summary:** Overview of cost-benefit findings for each proposed solution.
 - **Cost Analysis:** Detailed breakdown of all costs associated with each solution, including hardware, software, implementation, and ongoing operational costs.
 - **Benefit Analysis:** Identify tangible and intangible benefits, including efficiency gains, cost savings, risk reductions, and compliance improvements.
 - **Financial Projections:** Scenario-based financial projections and ROI calculations for each solution.
 - **Comparative Analysis:** Side-by-side comparison of costs versus benefits for each solution, including sensitivity analysis for critical variables.

- **Value:** Provides a comprehensive financial assessment to support strategic investment decisions, ensuring the chosen solution offers the best value.
- **Estimated Timeframe:** End of Week 8

4. Risk Analysis Report

- **Description:**
 - **Scope:** The Risk Analysis Report will identify and assess potential risks associated with each proposed solution. It will propose mitigation strategies to manage these risks effectively throughout the migration process.
 - **Content:**
 - **Executive Summary:** Summary of critical risks and proposed mitigation strategies.
 - **Risk Identification:** A comprehensive list of potential risks categorized by type (technical, operational, financial, compliance).
 - **Risk Assessment:** Evaluation of each risk's likelihood, impact, and severity using qualitative and quantitative measures.
 - **Mitigation Strategies:** Specific actions and contingency plans to address each identified risk, including roles and responsibilities.
 - **Monitoring Plan:** Framework for ongoing risk monitoring and management, including key metrics and reporting mechanisms.
 - **Value:** Provides a proactive approach to risk management, helping OSOS mitigate potential issues before they affect project outcomes, thus ensuring smoother implementation.
- **Estimated Timeframe:** End of Week 10

5. Recommendations Report

- **Description:**
 - **Scope:** The Recommendations Report will synthesize the findings from the previous analyses into a set of actionable recommendations. It will outline the best courses of action for OSOS to achieve the desired state, including specific steps, timelines, and resource requirements.
 - **Content:**
 - **Executive Summary:** Summary of recommended actions and their expected benefits.
 - **Detailed Recommendations:** Specific, prioritized actions for addressing identified gaps and implementing solutions, including timelines, responsible parties, and required resources.
 - **Implementation Roadmap:** Step-by-step plan for executing recommendations, with milestones and deliverables.
 - **Alternative Options:** Discuss alternative solutions with a rationale for the chosen recommendation.
 - **Expected Outcomes:** Anticipated benefits and improvements resulting from implementing recommendations.
 - **Value:** Provides a clear, actionable plan for OSOS, aligning with organizational goals and ensuring a structured approach to achieving the desired operational state.
- **Estimated Timeframe:** End of Week 11

6. Final Feasibility Assessment Report

- **Description:**
 - **Scope:** The Final Feasibility Assessment Report will integrate all previous deliverables into a comprehensive project summary. It will provide an overall assessment of the feasibility, impacts, and recommended actions for migrating OSOS systems to the WATech shared tenant.
 - **Content:**
 - **Executive Summary:** High-level summary of feasibility findings and overall conclusions.
 - **Integrated Analysis:** Cohesive presentation of findings from the gap, requirements, cost-benefit, and risk analyses.
 - **Final Recommendations:** Consolidated recommendations, including the implementation roadmap and expected benefits.
 - **Feasibility Conclusion:** Overall assessment of the feasibility of the migration project, considering technical, financial, and operational perspectives.
 - **Next Steps:** Outline the immediate steps for OSOS to initiate the migration, including key activities and timelines.

-
- **Value:** Provides a comprehensive and final evaluation of the migration project's feasibility, enabling OSOS to make informed decisions and proceed confidently with implementation plans.
 - **Estimated Timeframe:** End of Week 13

Outcomes and Performance Measurement

The Digitech Labs team proposes to achieve the following impacts and outcomes because of the delivery of the feasibility study for migrating OSOS systems to the WATech shared tenant:

- **Comprehensive Current State Assessment:** Conduct a thorough evaluation of OSOS's current Active Directory Domain Services (ADDS), Entra ID/365 Services, and Azure environments. This assessment will include configuration, security, governance, data, usage, and compliance with current OSOS standards.
- **Detailed Migration Roadmap:** Develop a realistic and detailed roadmap for migrating to the WATech shared tenant. This roadmap will outline the migration phases, scope, timeline, costs, benefits, risks, dependencies, and necessary steps, including Timeframes, skillsets, and dependencies, in coordination with WATech's migration team.
- **Conflict and Compatibility Analysis:** Analyze and identify existing policy and configuration restrictions between the OSOS and WATech environments. This includes evaluating AD Group Policy Objects (GPOs), user impact, application compatibility, and any potential conflicts with WATech's standards, policies, and naming conventions.
- **Optimization Recommendations:** Provide a set of best practices and recommendations for optimizing the performance, security, and compliance of the OSOS systems within the WATech shared tenant, aligned with OSOS's business needs and goals.
- **Cost and Impact Analysis:** Conduct a thorough analysis of the projected costs associated with the migration. This includes licensing, user count costs, labor required, and any savings from eliminating currently utilized tools or labor. The analysis will also cover impacts on OSOS-hosted applications and critical systems such as VoteWA, CCFS, Digital Archives, and other services.
- **High Stakeholder Engagement and Satisfaction:** Ensure high levels of engagement and satisfaction among OSOS stakeholders, including IT architects, division leadership, executive leadership, and WATech policy leaders. This will ensure that the feasibility study meets the expectations and requirements of all involved parties.

Monitoring, Measurement, and Reporting:

The Digitech Labs team will monitor, measure, and report these outcomes using the following methods:

- **Regular Meetings and Communications:** Establish a schedule for regular meetings and communications with the OSOS project team and key stakeholders. These sessions will provide updates on the feasibility study's progress, findings, and deliverables, ensuring alignment with project goals.
- **Quality Assurance Reviews and Feedback Sessions:** Implement periodic quality assurance reviews and feedback sessions with the OSOS project team. These sessions will ensure that the feasibility study adheres to the agreed standards and specifications, providing a basis for continuous improvement.
- **Surveys and Interviews with OSOS Users:** Conduct surveys and interviews with OSOS users to gather feedback and insights on the current and future state of the Active Directory and Azure environments. This will help assess the impact and usability from the users' perspective.
- **Comprehensive Final Report and Presentation:** Prepare a final report and presentation summarizing the results and recommendations of the feasibility study. This will highlight the impacts, outcomes, and any conflicts or risks identified, providing a clear roadmap and actionable insights for OSOS.
- **Stakeholder Engagement Documentation:** Document and analyze stakeholder engagement efforts and feedback throughout the project. This will include interactions with OSOS IT architects, division leadership, executive leadership, WATech policy leaders, and technical resources to ensure thorough understanding and alignment on the feasibility study's methodology and outcomes.

Risks

1. Lack of Data Availability or Quality:

- **Risk Description:** The feasibility study relies heavily on accurate and comprehensive data from OSOS and other sources to evaluate the migration's current state and potential impacts. Insufficient or low-quality data can lead to inaccurate assessments and flawed recommendations.
- **Mitigation Strategies:**
 - Establish precise data requirements and validation criteria at the project's inception.
 - Implement data quality checks and validation processes to ensure accuracy and completeness.
 - Develop contingency plans for scenarios where critical data is unavailable, including data approximation methods or alternative data sources.

2. Changes in Scope, Requirements, or Expectations:

- **Risk Description:** Shifts in project scope, requirements, or expectations from OSOS or stakeholders can result in project delays, conflicts, or the need for rework. Such changes can impact the feasibility analysis, timelines, and project deliverables.
- **Mitigation Strategies:**
 - Define and clearly document project scope, requirements, and expectations in the initial phase.
 - Establish a formal change management process to assess, approve, and communicate any changes to scope or requirements.
 - Regularly review project goals and stakeholder expectations to identify and address evolving needs.

3. Technical Challenges or Limitations:

- **Risk Description:** The project may face technical challenges or limitations related to compatibility, integration, or performance within the WATech shared tenant environment. These challenges could hinder the Contractor's ability to meet OSOS's standards or deliver the required services.
- **Mitigation Strategies:**
 - Conduct a thorough technical assessment early in the project to identify potential challenges and limitations.
 - Develop and test proof-of-concept solutions for critical technical components to ensure feasibility.
 - Maintain a flexible approach to accommodate unforeseen technical issues, including backup plans and alternative solutions.

4. Communication or Coordination Issues:

- **Risk Description:** Ineffective communication or coordination with OSOS, WATech, or other parties can disrupt project progress, compromise quality, or misalign project outcomes. This can occur due to unclear roles, conflicting priorities, or inadequate communication channels.
- **Mitigation Strategies:**
 - Define clear communication protocols and establish regular communication channels with all stakeholders.
 - Assign dedicated liaisons for each major stakeholder group to facilitate effective coordination and issue resolution.
 - Schedule regular status updates, progress meetings, and stakeholder reviews to ensure alignment and address any coordination challenges promptly.

Additional Specific Risks:

5. Regulatory Compliance Issues:

- **Risk Description:** Changes or updates to regulatory requirements or compliance standards during the project could necessitate additional work or modifications to the feasibility study, impacting timelines and deliverables.
- **Mitigation Strategies:**
 - Stay informed about relevant regulatory updates and integrate compliance checks into the project plan.
 - Collaborate closely with OSOS's compliance team to ensure all regulatory considerations are addressed.

- Build flexibility into the project timeline to accommodate potential compliance-related adjustments.

6. Impact on Critical Systems:

- **Risk Description:** The migration could adversely affect critical OSOS systems such as VoteWA, CCFS, and Digital Archives, leading to service disruptions, data integrity issues, or operational challenges.
- **Mitigation Strategies:**
 - Conduct a detailed impact analysis for each critical system to understand potential risks and mitigation measures.
 - Develop and test migration plans to minimize downtime and ensure data integrity.
 - Establish contingency plans and rollback procedures to address potential system issues during migration.

7. Stakeholder Resistance:

- **Risk Description:** Stakeholders may resist changes due to concerns about disruption, unfamiliarity with new systems, or perceived impacts on their workflows, which can affect project acceptance and success.
- **Mitigation Strategies:**
 - Engage stakeholders early in the project to understand their concerns and expectations.
 - Provide training, support, and clear communication about the benefits and impacts of migration.
 - Involve key stakeholders in decision-making processes to increase buy-in and acceptance.

8. Resource Constraints:

- **Risk Description:** Limited availability of critical resources, such as personnel with required technical expertise or access to necessary tools and infrastructure, could delay or affect the project's quality.
- **Mitigation Strategies:**
 - Identify and allocate necessary resources during the planning phase and ensure their availability throughout the project.
 - Develop resource management plans to address potential constraints, including contingency plans for reallocation or augmentation.
 - Establish partnerships or subcontracting arrangements to fill resource gaps if needed.