Blueprint for Microsoft Fabric Implementation

By Unvired Inc.

Introduction

In today's digital era, businesses are generating massive volumes of data every second. But data without context or insights is just noise. With fragmented data systems, siloed analytics teams, and complex integrations, businesses often struggle with high costs, poor collaboration, and slow decision making.

Microsoft Fabric addresses these challenges with a unified SaaS-based data platform. It streamlines the entire data lifecycle—from ingestion to insight—by bringing together all essential data and analytics capabilities into a single, unified environment.

This blueprint provides a **step-by-step guide to implementing Microsoft Fabric**, including setting up domains, workspaces, user access, governance practices, licensing, and real-world scenarios.

This document is prepared based on Unvired's successful customers implementations and best practices.

1. Microsoft Fabric: Solution Overview

Microsoft Fabric consolidates key data workloads— data integration, data engineering, data warehousing, data science, real-time analytics, business intelligence, and governance—into one integrated platform. At its core, the key capabilities of Fabric includes:

- **SaaS Simplicity:** Fabric is a fully managed SaaS solution—no infrastructure provisioning, patching, or tuning required.
- **OneLake – Unified Storage:** All data workloads connect to OneLake, a single logical data lake with native support for the Delta format.
- **DirectLake Mode:** Power BI can directly query OneLake without having to import data, reducing latency and improving performance.

- **Copilot Integration:** AI-powered Copilot helps users build flows, write SQL queries, and generate reports using natural language.
- **Built-in Governance & Security:** With Purview Hub, enforce data policies, manage lineage, and control access at granular levels.
- **End-User Experience:** Admins can publish Fabric Apps for business users with curated views and governed access—making insights easily consumable on desktop or mobile.

Key Concepts:

- **Domains:** Logical groupings for business functions (e.g., Supply Chain, Production).
- **Workspaces:** Collaborative environment for teams within each domain.
- **OneLake:** Unified storage layer
- **Fabric Items:** Lakehouse, Warehouse, Pipelines, Dataflows, Models, Reports

2. Foundation Setup

Active Directory (AD) Group Creation

Create AD groups aligned with roles and responsibilities. These groups control access to workspaces and artifacts.

Sample Groups:

- `FabricAll_Admin`
- `FabricAll_Developer`
- `FabricAll_DataScience`
- `FabricSCMBuilder`, `FabricSCMViewer`, etc.
- `FabricProductionAdmin`, `FabricProductionViewer`

Best Practice: Use Azure AD group-based access with Single Sign-On (SSO) and role-level permissions.

3. Domain & Workspace Structure

Each **domain** aligns with a line of business or department. Within each domain, create workspaces for different stages or teams (e.g., Dev, Main, Sandbox).

Example 1: Supply Chain Management (SCM) Domain

- **SCM_Data** – Development workspace
- **SCM_Main** – Production workspace
- **SCM_Sandbox** – Test/POC environment

Example 2: Production Domain

- **Prod_Data**
- **Prod_Main**
- **Prod_Sandbox**

Each workspace may include:

- Lakehouse (Tables, Files)
- Data Warehouse (Schemas, Tables)
- Data Pipelines, Notebooks, Dataflows
- Power BI Reports, Dashboards, Apps

Fabric encourages unified storage and compute across workspaces via **OneLake**.

4. Security & Access Control

Role-Based Access Model:

Role	Permissions
Admin	Full control of domain/workspace
Developer	Build pipelines, data models, reports
Data Scientist	Train models, access ML items
Viewer	View dashboards and reports only

Use **Azure Active Directory** to assign users to appropriate AD groups.

Examples:

- `FabricAll_Developer`: Granted build permission to shared items
- `FabricSCMViewer`: Read-only access to reports in SCM_Main
- `FabricAll_DataScience`: Access to ML tools, no admin rights

5. Workspace Permission Assignment

Permissions should be defined at the item level in each workspace:

Item Type	Suggested Permissions
Lakehouse	Build (Dev), View (Viewer)
Warehouse	Build (Dev), View (Viewer)
Semantic Models	Build (Power users), View
Reports	View only (Viewers), Build (Devs)

Use inherited permissions when possible to simplify maintenance.

6. Governance with Microsoft Purview

Enable **Purview Hub** to enforce governance across Fabric:

- Automated scanning & classification
- Data lineage tracking
- Ownership & accountability
- Sensitivity labeling
- Policy enforcement

Governance is crucial for organizations concerned with security, compliance, and AI safety.

7. Power BI and Microsoft Fabric Licensing Options

Power BI Licensing

Plan	Cost/User	Notes
Pro	$14/month	Required to create/share reports
PPU	$24/month	Enhanced features & sharing

Fabric Capacity Licensing

SKU	Example Use	Viewer License Requirement
F2–F32	Dev/Test	All users need license
F64+	Production	Viewers do **not** need license

Fabric Cost ranges from $300/month (F2) to $328,000/month (F2048). Choose based on data size and concurrency needs.

Note:

Viewer Access:

- If workspace uses F64 or higher capacity → Viewers do NOT need paid license
- If workspace uses below F64 → Viewers NEED Pro or PPU license

Pro & PPU Only (No Capacity Assignment)

- Only Power BI models and reports can be created & shared
- All users must have matching Pro or PPU licenses

8. Implementation Milestones & Responsibilities

ID	Task	Prerequisite	Responsible
1	Create AD groups	—	IT Admin
2	Name & document AD groups	1	Architect

3	Assign Power BI licenses	2	Admin
4	Create Production domain	—	Data Lead
5	Create workspaces	—	Data Lead
6	Assign workspaces to domain	4, 5	Data Lead
7-12	Set group permissions for items	1, 6	Developer/Admin

Repeat a similar workflow for each domain (e.g., SCM, Sales, Finance).

9. Sample Scenarios & Solutions

Scenario	Action
A new data scientist joins multiple teams	Add to `FabricAll_DataScience` group
A department needs its own domain	Create domain, assign internal admin
Business user wants report access only	Add to domain-specific `Viewer` group
Analyst needs sandbox access for testing	Grant build in Sandbox workspace only

Keep domain ownership within business units and enforce separation of duties for Dev/Main.

10. Change Management Best Practices

- Create workspace provisioning checklist
- Maintain mapping of AD groups to roles
- Use audit logs and governance reports
- Review access quarterly
- Train internal Fabric champions

11. How Unvired Can Help You Implement Microsoft Fabric?

At Unvired, we have proven experience in helping customers implement Microsoft Fabric and define data governance strategies. Our deep expertise in enterprise data platforms and consulting enables us to support your entire data transformation journey—from planning and architecture to implementation and optimization. We can help you with:

- Blueprint accelerators
- Domain/workspace templates
- AD group provisioning scripts
- Best practices for governance
- Cost optimization strategies

Need Help?

Whether you're exploring Microsoft Fabric for the first time or ready to roll it out at scale, we can help. Contact Unvired today to schedule a free consultation or request a customized demo.

Let's build your intelligent data future—together.

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