ONYX DATA

FabOps™ Intelligence Platform

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FabOps™ Intelligence Solution

- **Comprehensive telemetry collection** across 200+ metrics
- **AI-powered insights** with Azure OpenAI integration
- **Real-time monitoring** and performance optimization
- **Enterprise governance** with automated compliance
- **Advanced analytics** for cost optimization and modernization

Developed by Onyx Data - Your Microsoft Fabric Intelligence Partner

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The Problem

Limited Visibility: Manual governance audits and fragmented insights

Performance Issues: Refresh failures and capacity bottlenecks go undetected

Cost Overruns: No visibility into capacity consumption patterns

Modernization Gaps: Slow adoption of Direct Lake and advanced features

Compliance Risks: Manual tenant settings management and policy violations

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3

Market Need

- **78% of organizations** struggle with Fabric governance at scale
- **6 hours weekly** spent on manual capacity management per admin
- **30% capacity waste** due to poor optimization and oversight
- **Organizations expect** AI-driven insights and automated optimization
- **Modern enterprises demand** comprehensive analytics platform visibility

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4

Solution

- **AI-Powered Analytics**: Advanced telemetry processing with 200+ metrics
- **Unified Dashboard**: Complete Fabric environment visibility in one place
- **Advanced Search**: Quick workspace, dataset, and performance analysis
- **Secure Web Access**: Available anywhere with enterprise-grade security
- **Azure-Native**: Scalable, reliable, and Microsoft-compliant architecture

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Architecture

Frontend: Modern web application (Flask, Azure App Service)

Backend: Fabric Lakehouse for secure telemetry storage

Data Engine: Microsoft Fabric notebooks for collection & processing

Security: Azure AD integration with role-based access

AI Layer: Azure OpenAI for intelligent insights and recommendations

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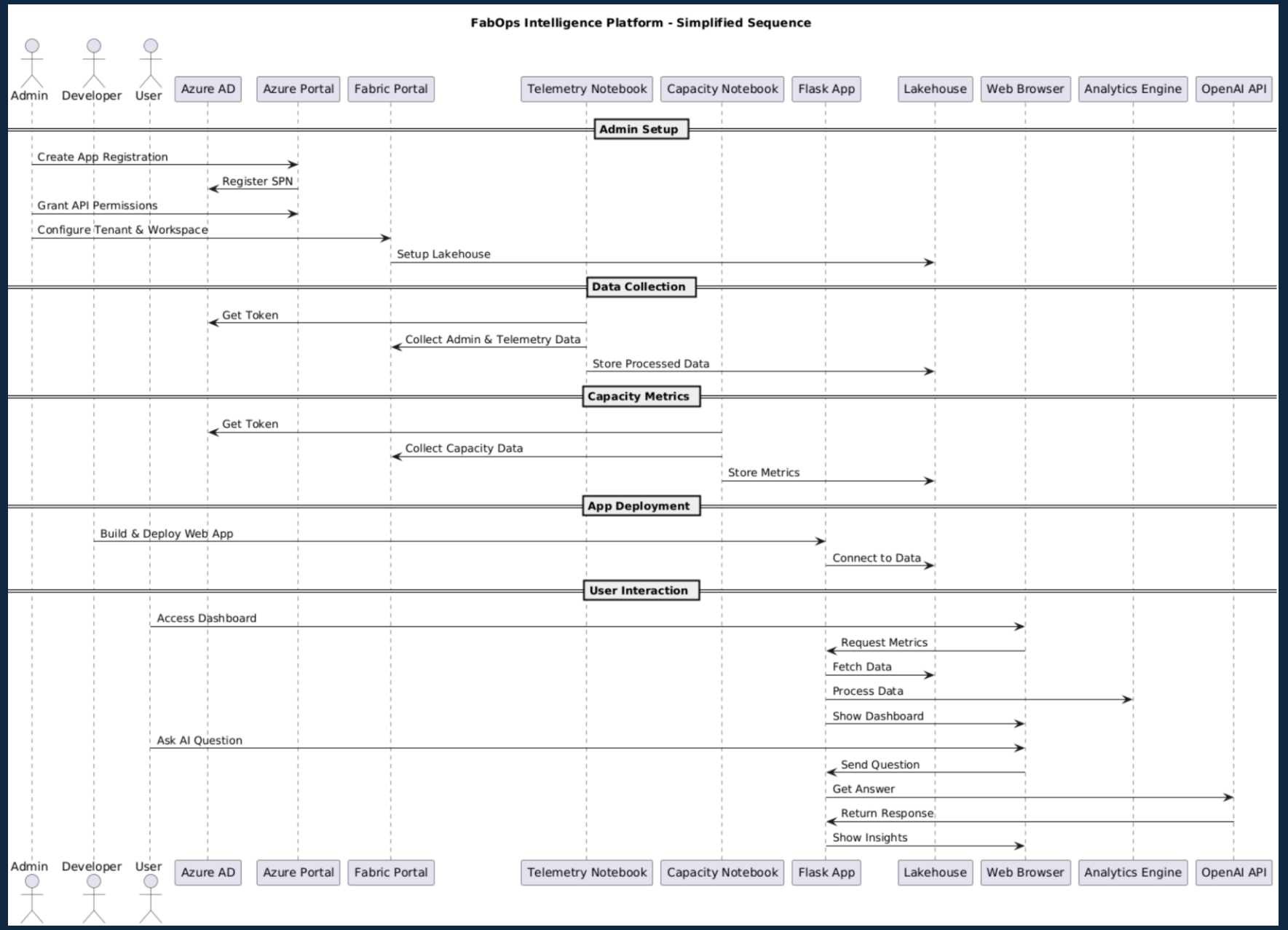
Architecture



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7

Data Collection Framework

Administrative Data: Workspaces, capacities, users, domains, tenant settings

Performance Metrics: Refresh history, success rates, duration analysis

Dependency Mapping: Cross-workspace relationships and data lineage

Modern Features: Lakehouses, warehouses, Direct Lake adoption tracking

Capacity Analytics: CU consumption, throttling, and cost allocation

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Advanced Analytics Engine

200+ Metrics Across 8 Categories

Governance Excellence: Domain coverage, Git integration, compliance scoring

Performance Optimization: Refresh success rates, optimization opportunities

Modernization Progress: Direct Lake adoption, feature utilization tracking

Security Posture: Tenant settings compliance, sharing analysis

Cost Efficiency: Capacity utilization, waste identification, optimization

Collaboration: Workspace access patterns, user engagement analytics

Data Quality: BPA compliance, model health scoring

Operational Excellence: System uptime, error tracking, maintenance alerts

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AI-Powered Insights

Natural Language Queries: "How can I improve my refresh performance?"

Intelligent Recommendations: Prioritized optimization opportunities

Contextual Analysis: AI understands your specific Fabric environment

Continuous Learning: Recommendations improve with usage patterns

Real-time Responses: Instant insights from your telemetry data

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10

Dashboard & Visualization

- **Enterprise Readiness Score**: 0-100 rating across 8 dimensions
- **Interactive Dashboards**: Overview, governance, performance, cost analytics
- **Data Explorer**: 50+ tables with advanced filtering and search
- **Time-series Analysis**: Trend visualization with anomaly detection
- **Drill-down Capabilities**: From high-level metrics to detailed analysis

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Azure Infrastructure Costs Overview

Core Infrastructure Components:

Azure App Service (B2 Plan): ~$73/month

Microsoft Fabric Capacity (F8): ~$1,267/month

Azure OpenAI Service: ~$50-200/month (usage-based)

Total Estimated Monthly Cost: $1,390 - $1,540

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Microsoft Fabric Capacity Breakdown

F8 Capacity - Recommended for Production

- **Capacity Details:**
- **8 Compute Units (CUs)**
- **Pay-as-you-go**: $0.18/CU/hour
- **Monthly calculation**: 8 CUs × $0.18 × 730 hours = **$1,051/month**
- **Reserved (1-year)**: 40% discount = **$631/month**
- **Reserved (3-year)**: 60% discount = **$420/month**

Alternative Options:

- **F2 (Development)**: $263/month PAYG, $158/month reserved
- **F4 (Small Production)**: $526/month PAYG, $316/month reserved
- **F16 (Large Production)**: $2,102/month PAYG, $1,261/month reserved

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Azure App Service Costs

Web Application Hosting

- **B2 Plan (Recommended):**
- **2 vCores, 3.5GB RAM**
- **Monthly Cost**: $73.00
- **Features**: Custom domains, SSL, auto-scaling
- **99.95% SLA**

Alternative Plans:

- **B1 (Basic)**: $36.50/month - 1 vCore, 1.75GB RAM
- **S1 (Standard)**: $73.00/month - Same as B2 but with staging slots
- **P1v2 (Premium)**: $146.00/month - Enhanced performance

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Benefits & ROI

For IT Administrators:

- 40-60% improvement in refresh performance
- 30% reduction in capacity waste
- 80% reduction in manual governance tasks

For Business Users:

- Faster report performance and availability
- Reduced downtime and service interruptions
- Enhanced data quality and reliability

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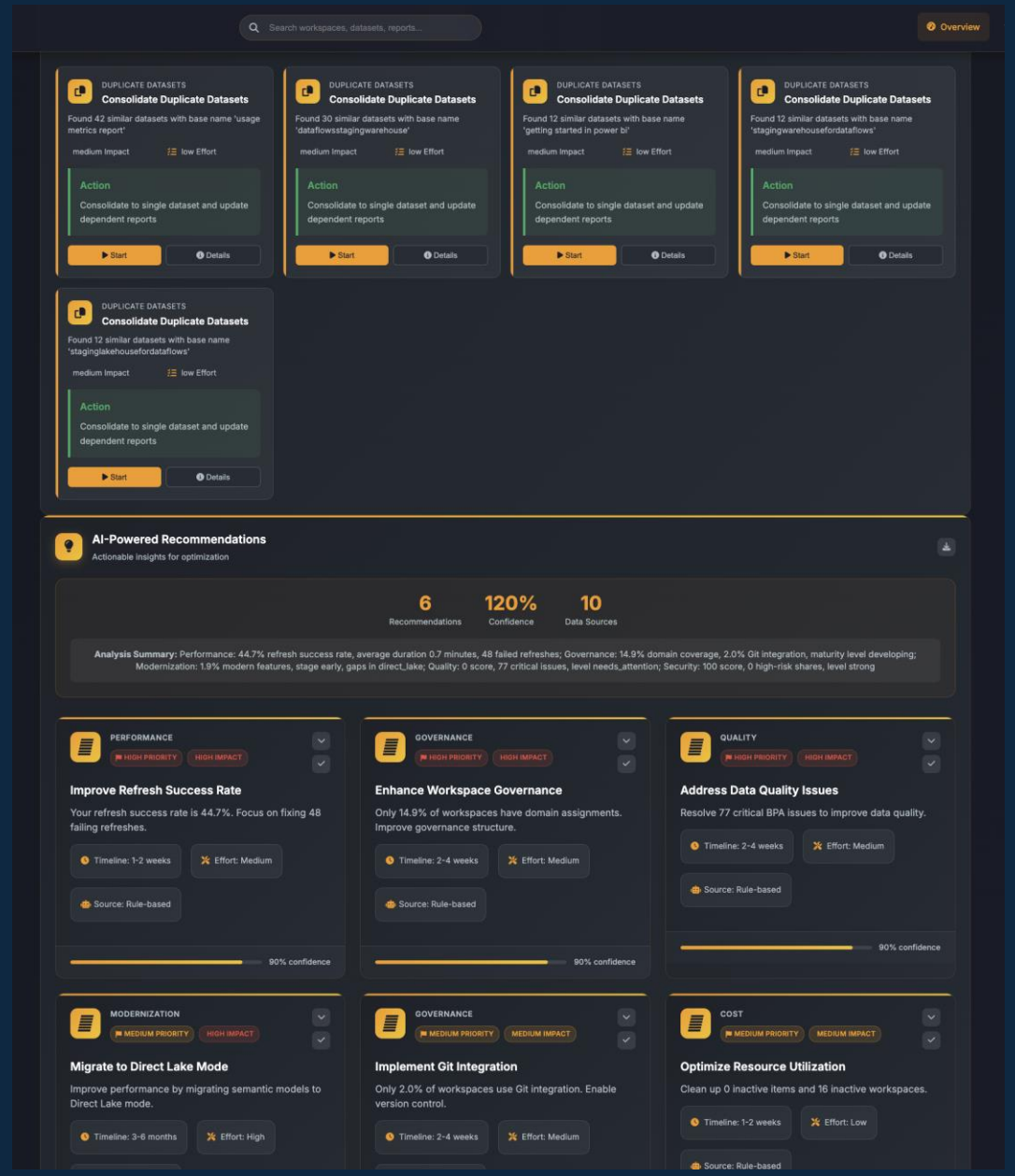
Overview Tab



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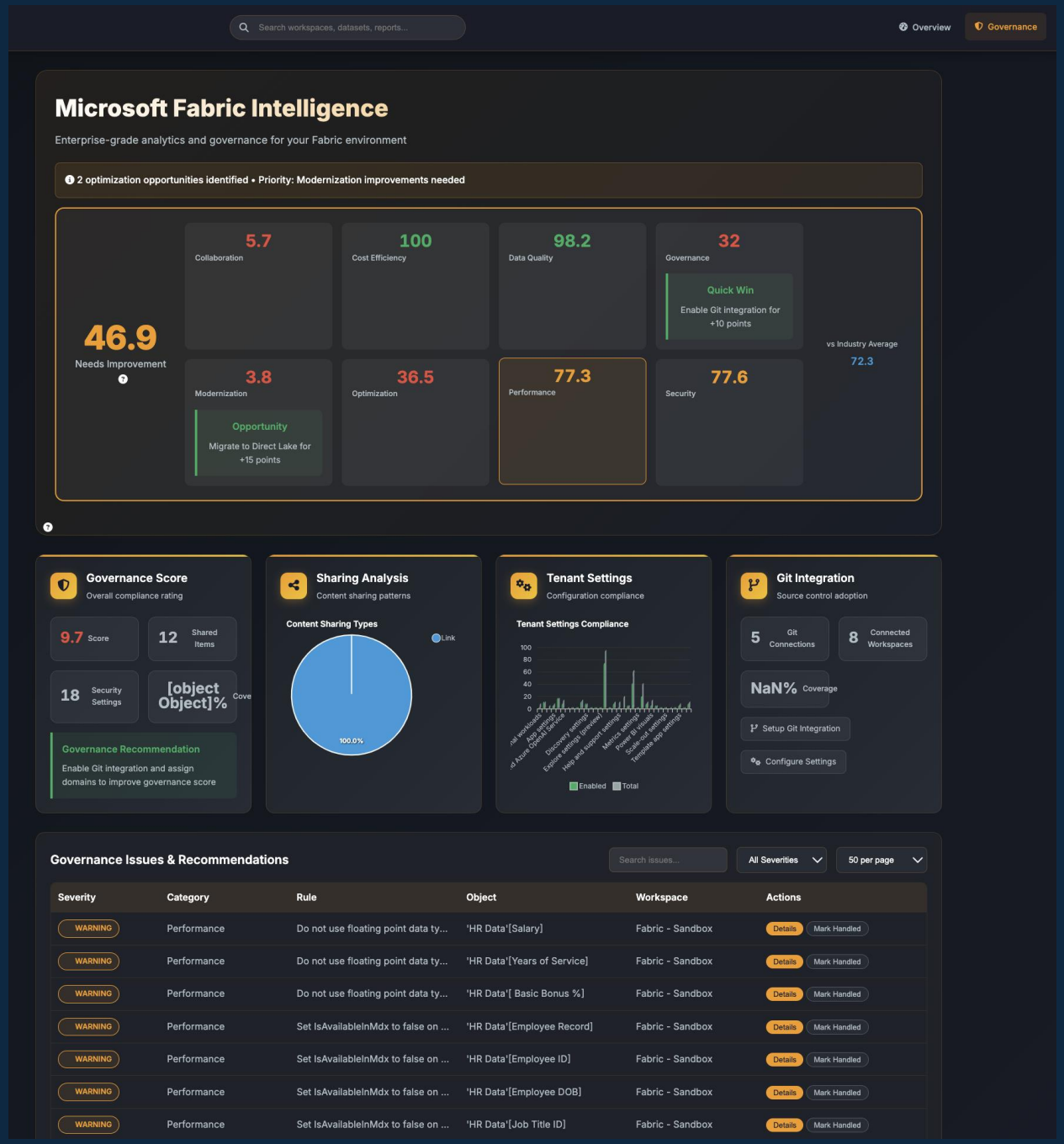
Governance Tab



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Performance Tab

Microsoft Fabric Intelligence

Enterprise-grade analytics and governance for your Fabric environment

2 optimization opportunities identified • Priority: Modernization improvements needed

46.9
Needs Improvement

5.7 Collaboration	100 Cost Efficiency	98.2 Data Quality	32 Governance	
			Quick Win: Enable Git integration for +10 points	
3.8 Modernization	36.5 Optimization	77.3 Performance	77.6 Security	
Opportunity: Migrate to Direct Lake for +15 points				

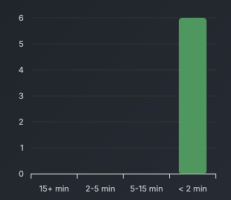
vs Industry Average 72.3

Performance Overview
System health metrics

44.7% Success Rate
0.7 Avg Duration (min)
114 Total Refreshes
42.1% Failure Rate

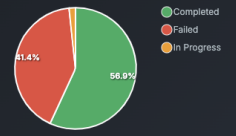
Refresh Trends
Performance over time

Refresh Duration Distribution



Failure Analysis
Error patterns and trends

Refresh Status Distribution



Dataset Efficiency
Size and usage optimization

77.2 Quality Score
245 Total Errors
100% Collection Success

Refresh Performance Details

Search refreshables... | All Status | 50 per page

Item Name	Status	Duration	Last Refresh	Workspace	Actions
Housing Intelligence Report	FAILED	--	--	None	Details Retry
Sales_Ledger_Report_v1	FAILED	--	--	None	Details Retry
Prediction report for ML - Webinar Deploye...	FAILED	--	--	None	Details Retry
Onyx Data Global Sales Demo	FAILED	--	--	None	Details Retry
Onyx Data - Product Performance Report ...	FAILED	--	--	None	Details Retry
Power BI PyCaret Demo	FAILED	--	--	None	Details Retry
Regression report for Housing Price Test[H...	FAILED	--	--	None	Details Retry

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Costs Tab

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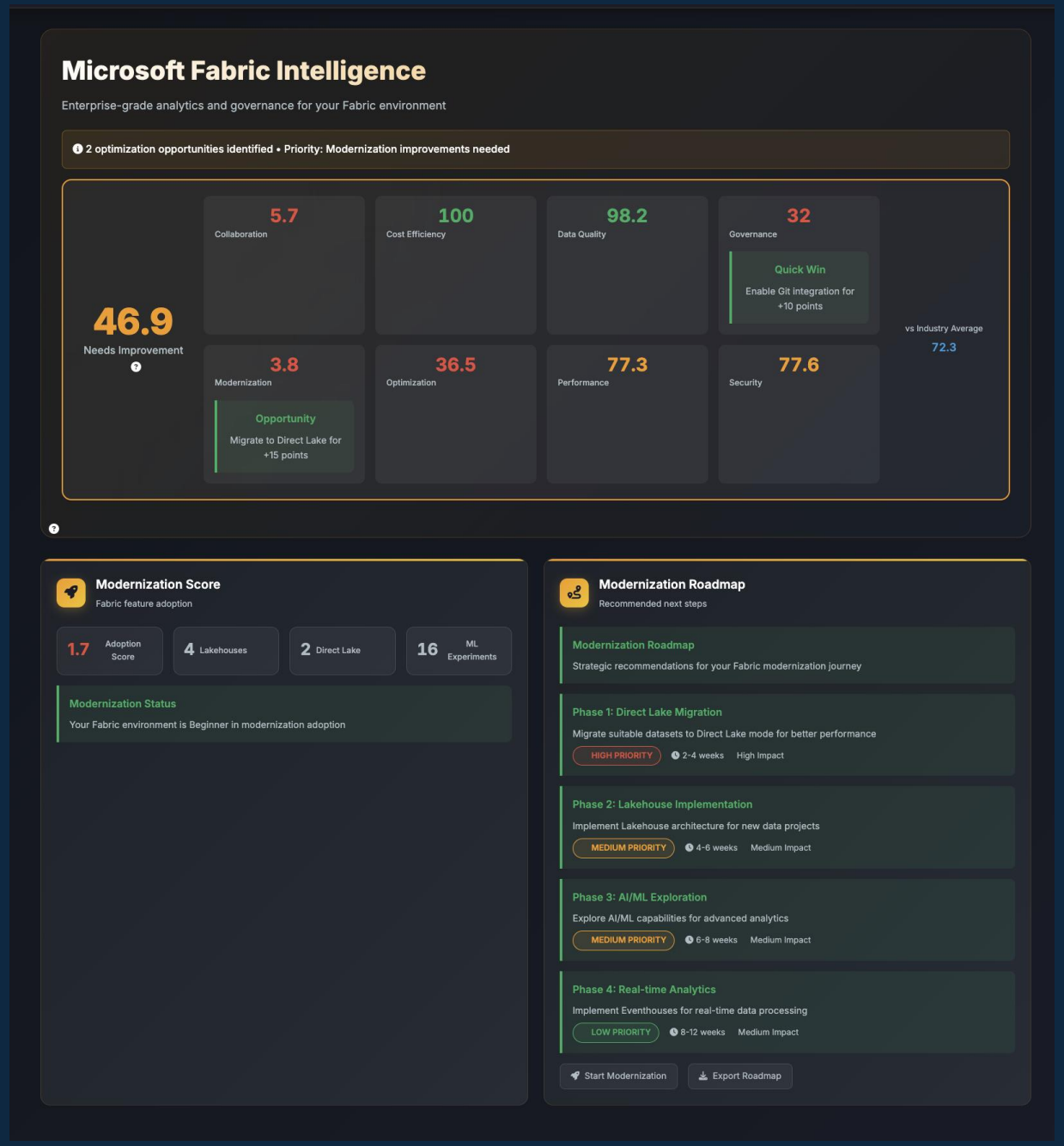
Modernization Tab



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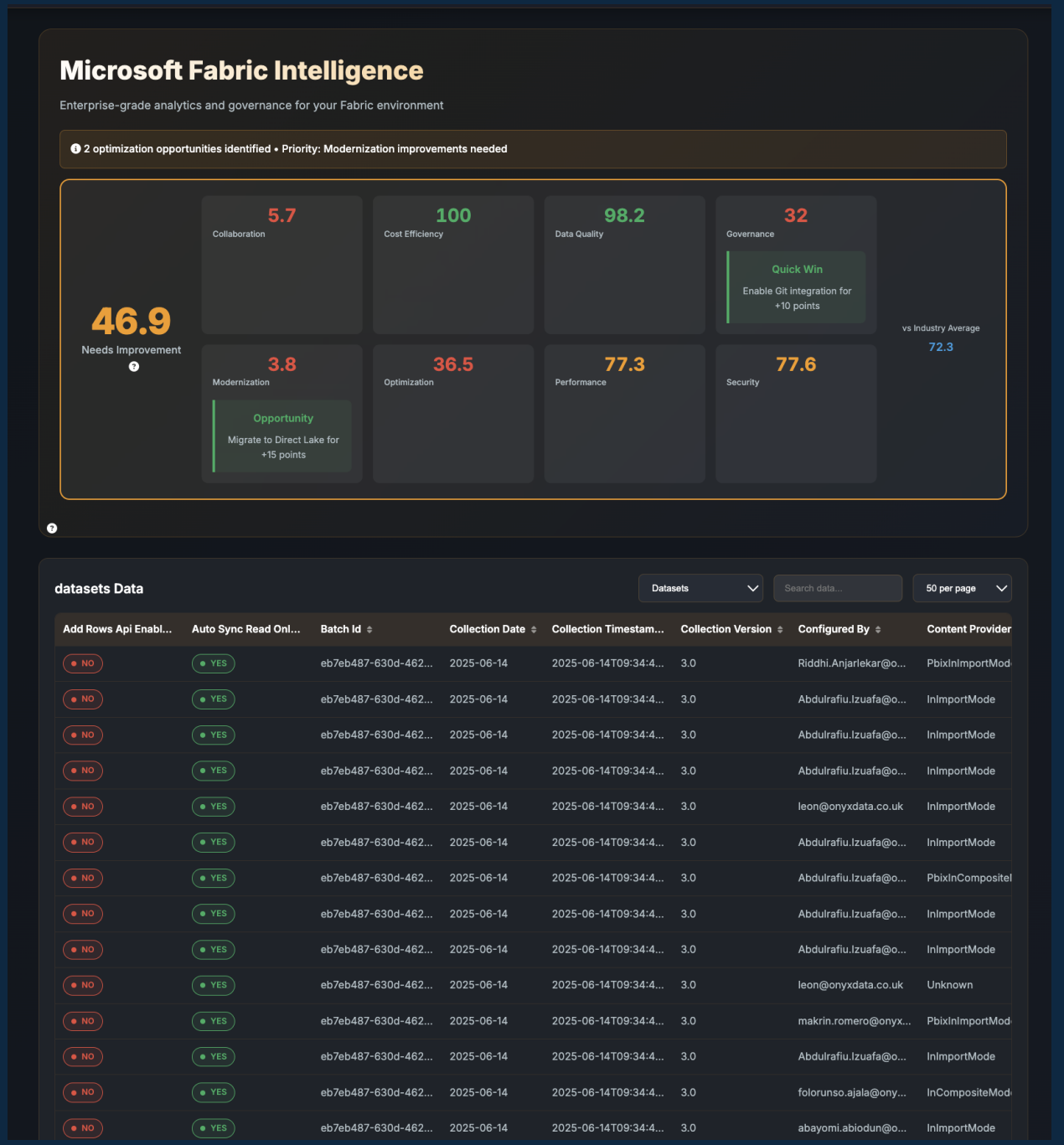
Explorer Tab



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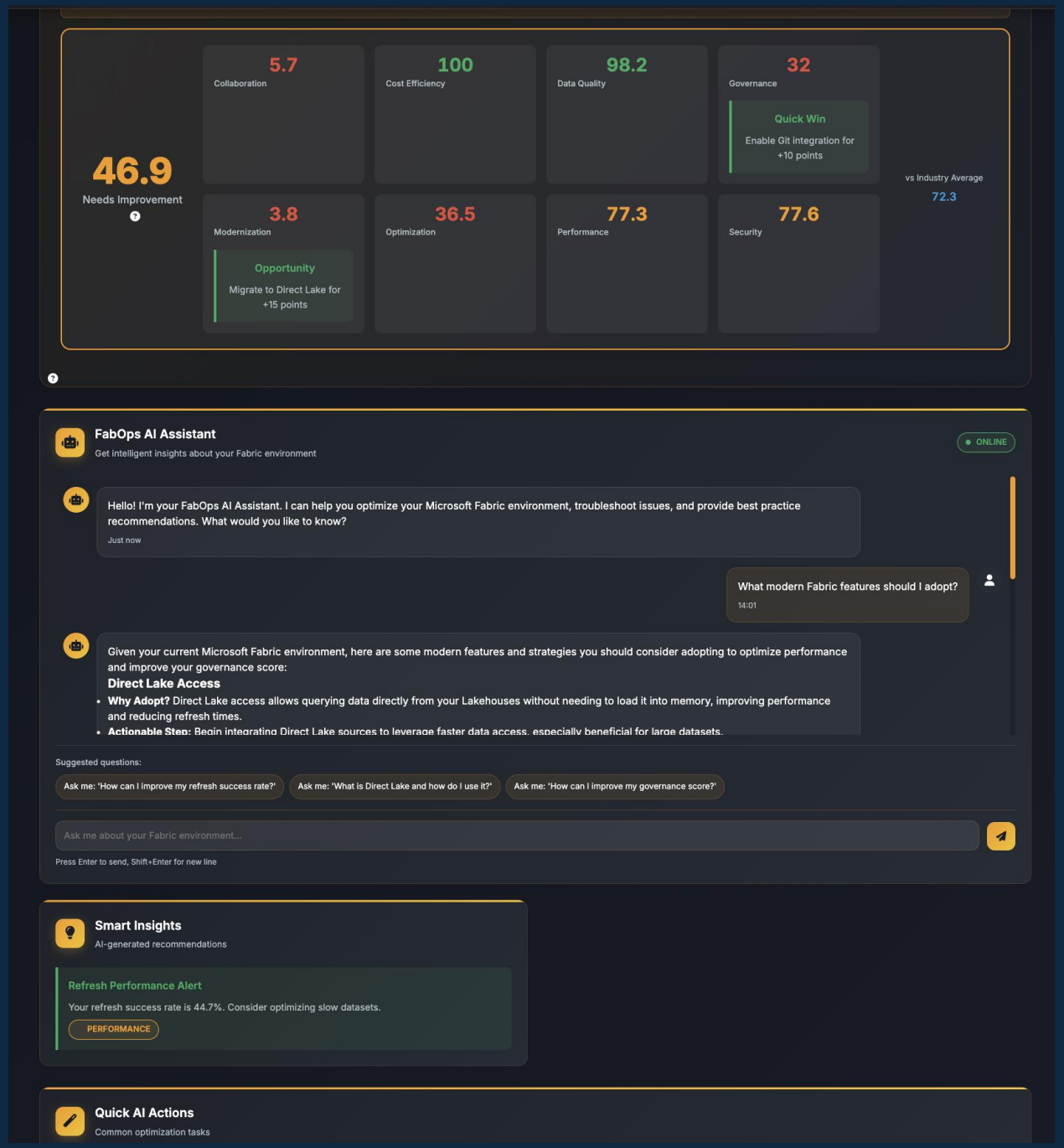
AI Chat Tab



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Thank You