

#FABCONSQLCON2026

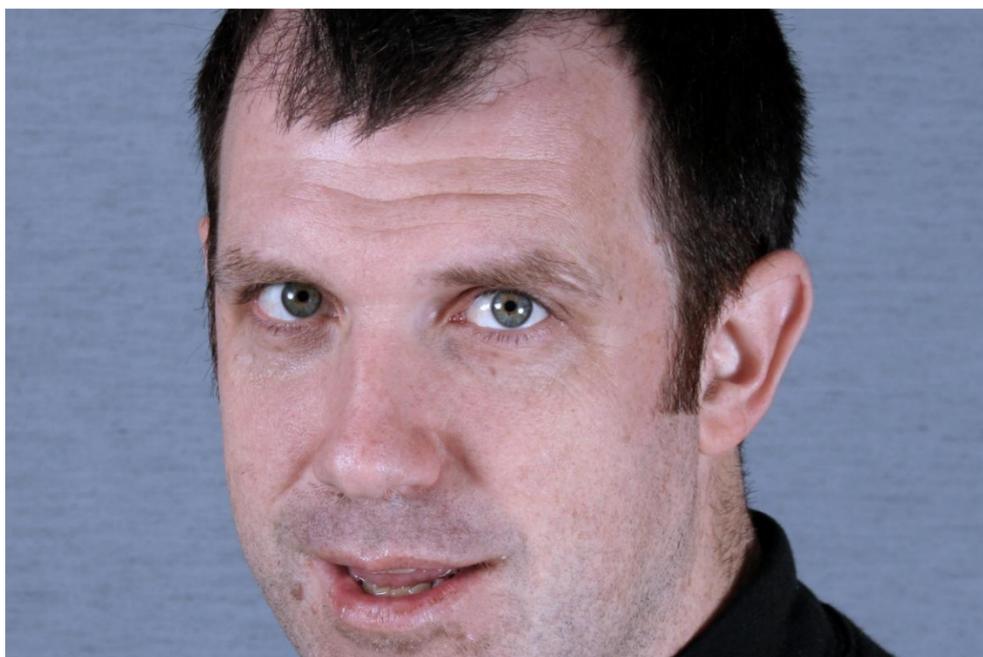
FABCON

Microsoft Fabric
COMMUNITY CONFERENCE

SQLCON

Microsoft SQL
COMMUNITY CONFERENCE

ATLANTA MARCH 16 - 20, 2026



Building the Well-Architected Framework for Microsoft Fabric

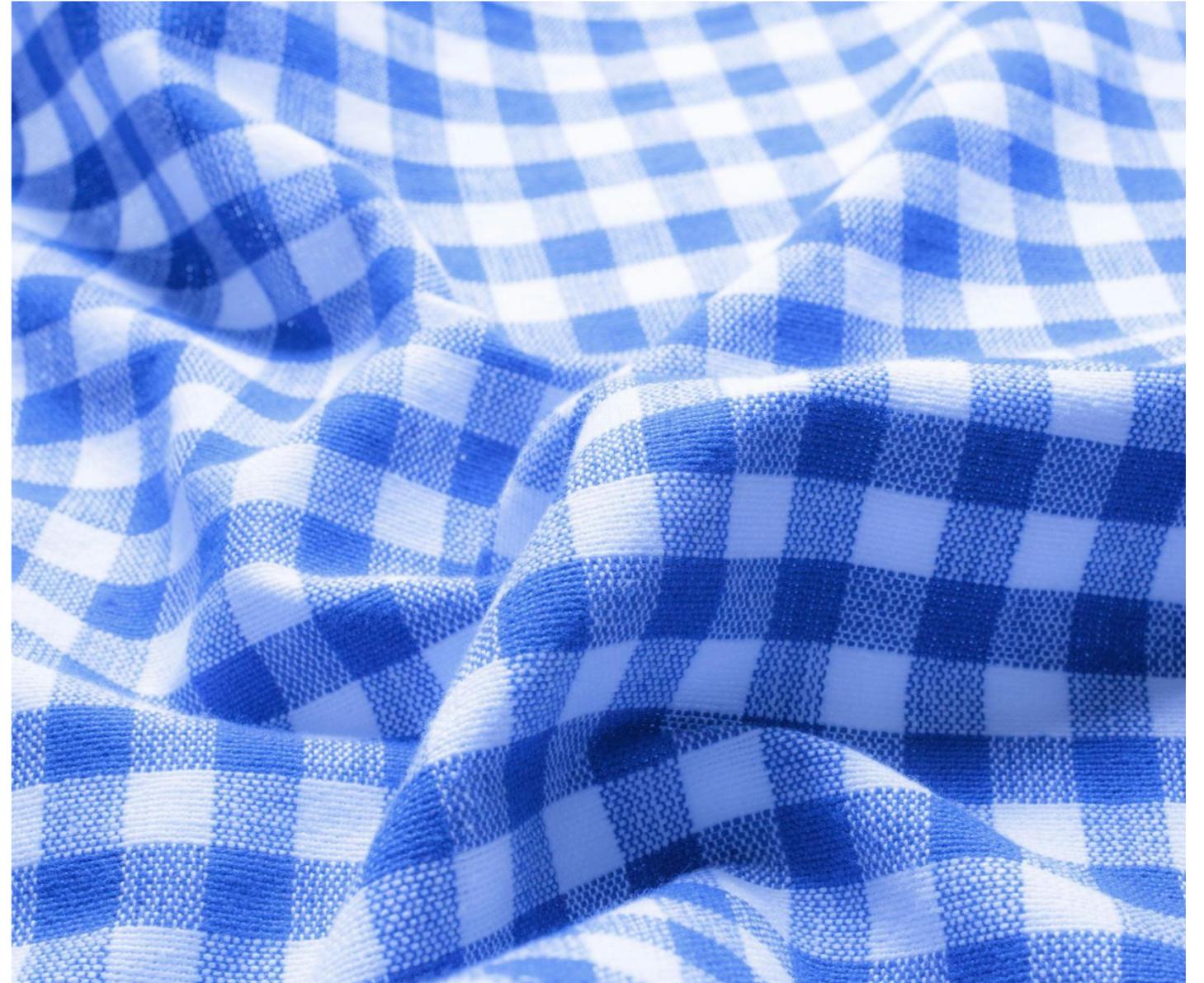
Joey D'Antoni

Joeydantoni.com

joey@joeydantoni.com

Why This Talk?

- Azure WAF is mature — Fabric is still the Wild West
- Fabric collapses compute, storage, and services into a single platform — different architectural thinking required
- Governance patterns that work in Azure don't translate 1:1



Azure Well-Architected Framework (WAF) Refresher: The Five Pillars



- Reliability, Security, Cost Optimization, Operational Excellence, Performance Efficiency
- Brief reminder of how these apply in Azure
 - Resource groups
 - Management Groups
 - Subscriptions
 - Policy
 - Role-based access control (RBAC)

Pillar 1: Operational Excellence

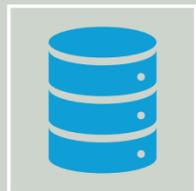
Capacity as the New Subscription



In Azure you segment by subscriptions and resource groups — in Fabric, the **capacity** is your primary unit of isolation



Capacities should be segmented by **business unit, function, and environment** (Dev / Test / Prod)



Example topology: Sales-Analytics-Prod, Finance-ETL-Dev, Marketing-Reporting-Test

Why Multi-Dimensional Capacity Segmentation Matters

- Performance isolation: a runaway Spark job in Dev shouldn't throttle Prod dashboards
- Cost attribution: chargeback/showback per business unit becomes possible
- Governance boundary: permissions and workspace assignment scoped per capacity



Naming Conventions

Establish a standard early: {BU}-{Function}-{Env}-{Region} (e.g., fin-dw-prod-eus)



Apply consistently across capacities, workspaces, lakehouses, warehouses, and pipelines



Fabric has **no policy engine** to enforce naming — discipline and automation are your only tools

Tagging

01

Tag capacities and workspaces with: Owner, Cost Center, Environment, Data Classification

02

Use tags to drive automation (e.g., auto-pause Dev capacities after hours)

03

Challenge: tagging support in Fabric is limited compared to Azure Resource Manager — supplement with a CMDB or metadata catalog

The Governance Gap: No Azure Policy for Fabric

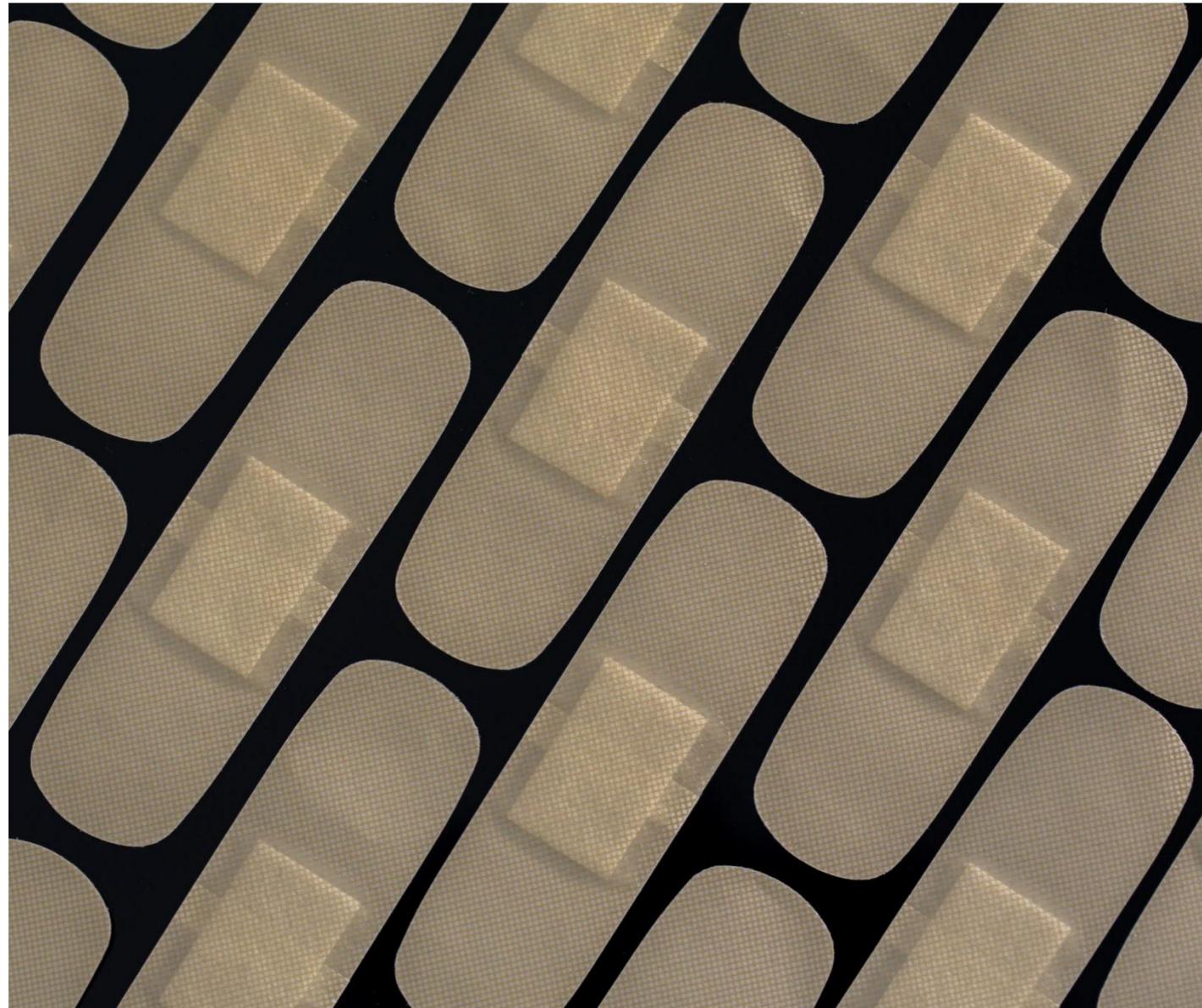


- Azure Policy can't enforce rules inside Fabric workspaces today
- No built-in guardrails for workspace creation, lakehouse proliferation, or configuration drift
- Mitigations: Fabric REST APIs + automation, admin monitoring APIs, and organizational process

Pillar 2: Security



RBAC: The Fabric Reality Check



- Azure has hundreds of granular built-in roles — Fabric has a handful (Admin, Member, Contributor, Viewer)
- Workspace-level RBAC is coarse; item-level permissions are limited and inconsistent across item types
- Plan for this: use workspace segmentation as a proxy for fine-grained access control

Identity and Access Patterns

Entra ID (Azure AD) is your identity plane — leverage Conditional Access and PIM, it's all you've got.

Service principals for automation and CI/CD, but be aware of current Fabric SP limitations

Minimize personal accounts in production workspaces

Private Networking & Data Exfiltration



Fabric supports Managed Private Endpoints and Private Link for inbound connectivity



Configure VNet data gateways for secure access to on-prem and IaaS data sources



Disable public access to capacities where compliance requires it



Challenge: not all Fabric experiences support private networking equally — know the gaps

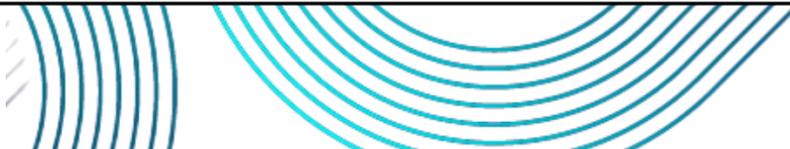
Audit & Compliance Shortfalls

Azure has Activity Log, Diagnostic Settings, Defender for Cloud — Fabric has the Admin Monitoring workspace and activity log APIs

Audit footprint is narrower: limited event types, no native SIEM integration out of the box

Recommendation: export Fabric activity logs to Log Analytics or Sentinel and build custom detection rules

Pillar 3: Reliability



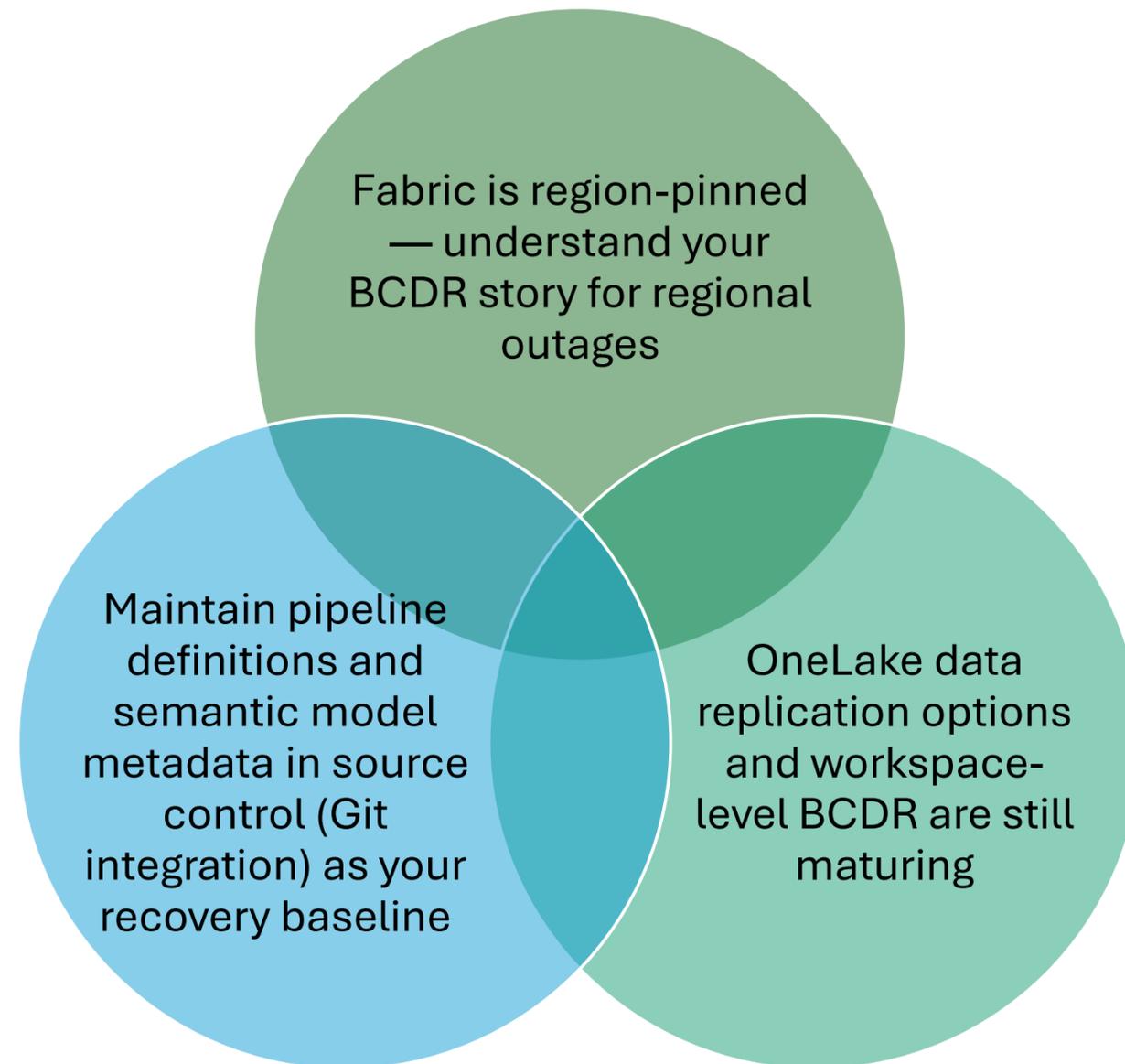
Capacity Reliability Considerations

Fabric capacities can throttle and even suspend under sustained overload — understand the smoothing and throttling model

Separate workloads by criticality: don't run exploratory notebooks on the same capacity as mission-critical reporting

This reinforces the BU / Function / Environment segmentation argument

Disaster Recovery & Business Continuity



Pillar 4: Cost Optimization



Understanding the Fabric Cost Model



Capacity Units (CUs) are your currency — consumed differently by Spark, SQL, Power BI, Data Pipelines



Segmented capacities make cost attribution straightforward via Azure Cost Management



Right-size capacities per environment: Prod might be F64, Dev might be F2

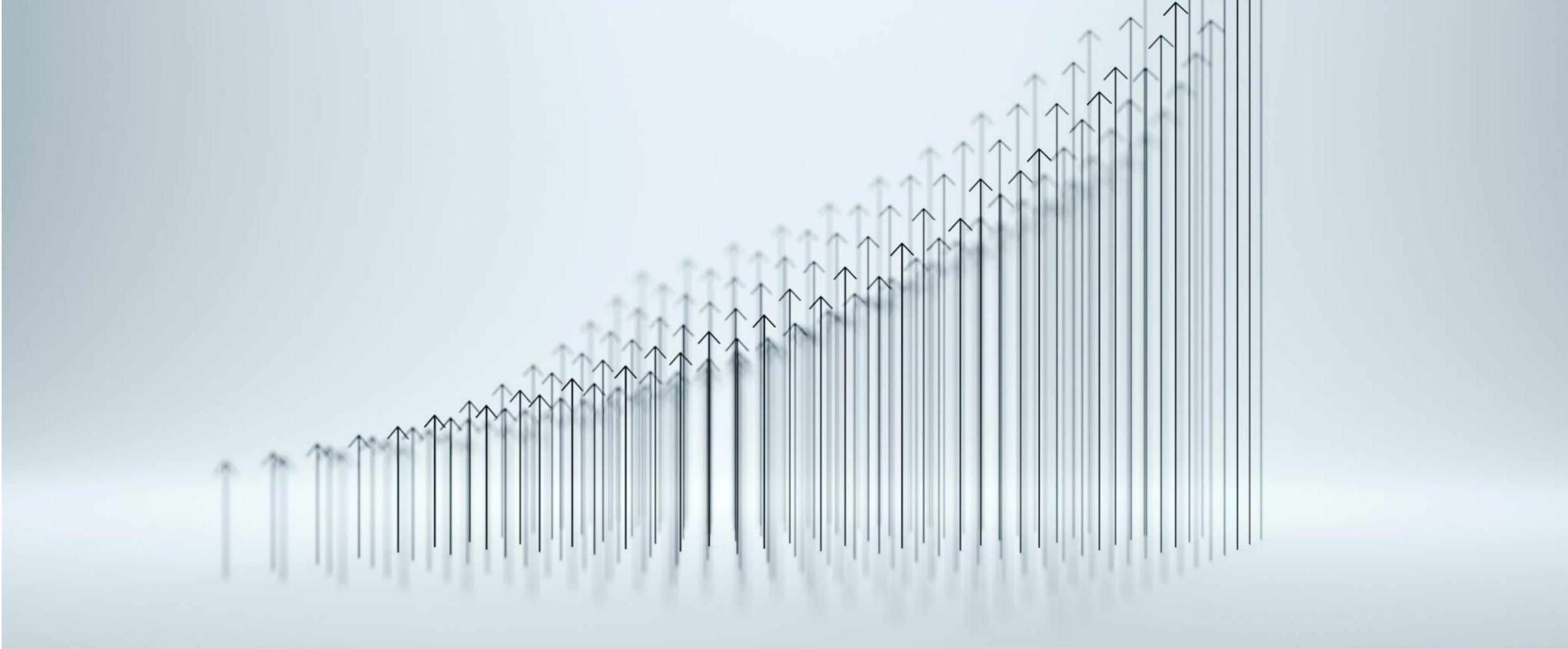
Cost Controls & Automation

Auto-pause / auto-scale strategies for non-production capacities

Monitor CU consumption with the Fabric Capacity Metrics app (or use FUAM)

Set budgets and alerts at the Azure resource level (the capacity itself is an ARM resource)

Pillar 5: Performance Efficiency



Workload Isolation = Performance Predictability

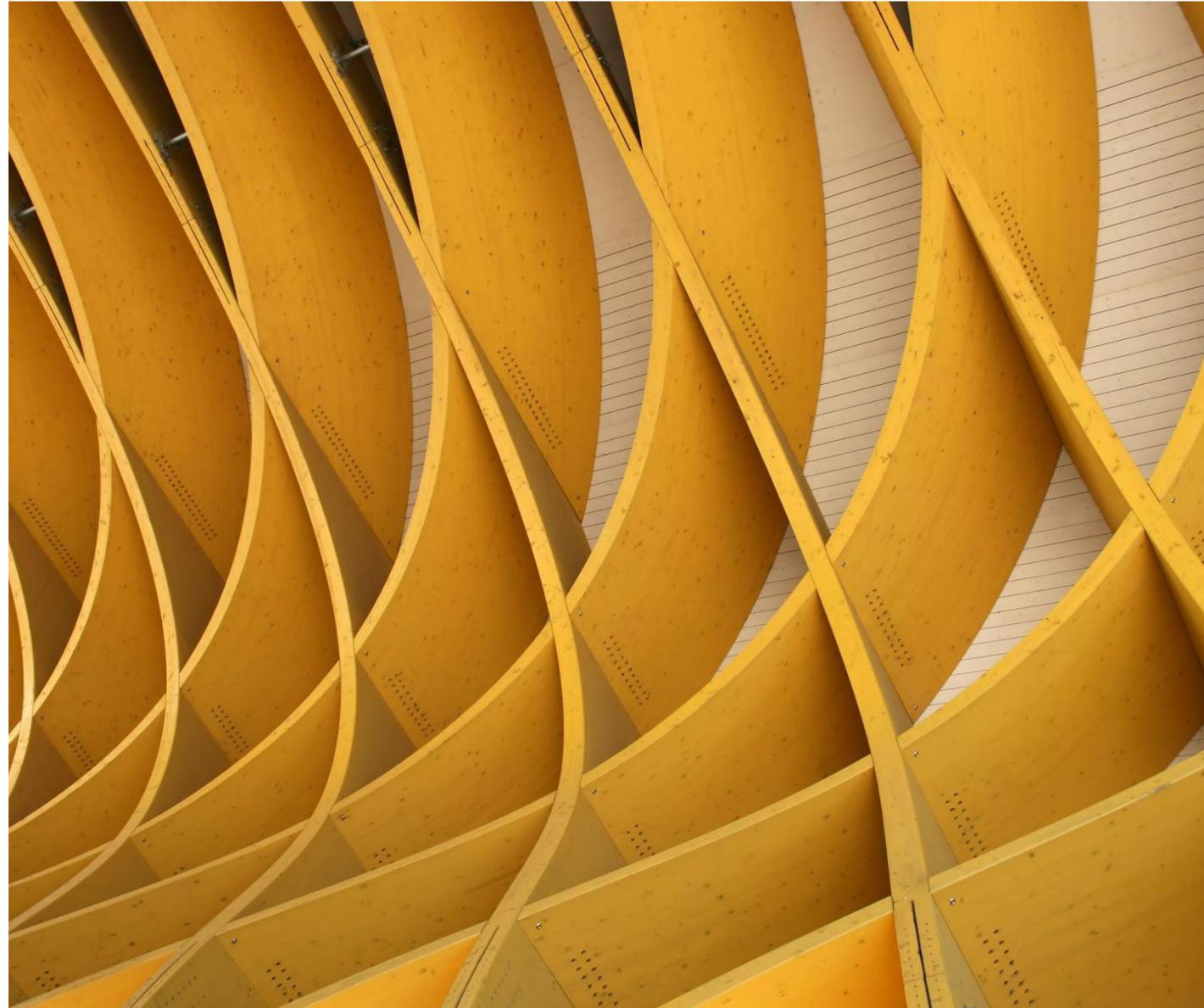
Co-located workloads compete for the same CU pool — isolation by capacity is your primary lever

Use capacity segmentation to guarantee SLAs for Prod analytics

Monitor for background operations (OneLake indexing, table maintenance) consuming capacity

Use Surge Protection to set a maximum capacity unit (CU) spend per workspace, expressed as a percentage, within a rolling 24-hour window.

Lakehouse & Warehouse Design Patterns

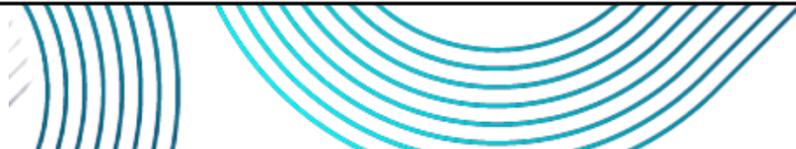


Medallion architecture
(Bronze/Silver/Gold) as an
organizational best practice

V-Order and file compaction for
read-optimized performance

Choose Warehouse vs.
Lakehouse based on query
pattern, not just habit

Bringing It All Together



Reference Architecture

Fabric Capacities segmented by Business Unit · Function · Environment

Microsoft Entra ID Conditional Access · PIM · Service Principals

Sales · Analytics · Prod F64 · East US

Sales DW
Lakehouse Warehouse
Pipeline Sem Model

Sales Reports
Sem Model Report
Report Dashboard

Sales SALES-001 Prod Confidential
BU · Cost Center · Env · Data Classification

Finance · ETL · Prod F32 · East US

Finance Ingest
Lakehouse Pipeline
Notebook Dataflow

Finance DW
Warehouse Sem Model
Report

Finance FIN-042 Prod Restricted
BU · Cost Center · Env · Data Classification

Right-size per workload: F2 for Dev sandboxes → F64+ for production analytics

Marketing · Reporting · Dev F2 · East US

Mkt Dev
Lakehouse Notebook
Report

Mkt Sandbox
Lakehouse Sem Model
Notebook

Marketing MKT-017 Dev Internal
BU · Cost Center · Env · Data Classification

Private Networking

Private Link
Inbound to Fabric endpoints
1 Corporate users

Managed Private Endpoints
Outbound to Azure PaaS services
1 Azure SQL · ADLS · Key Vault

VNet Data Gateway
On-prem & IaaS sources
1 SQL Server · Oracle · SAP

Not all Fabric experiences support private networking equally — know the gaps

Governance & Monitoring

Naming Standard
{BU}-{Fn}-{Env}-{Region}

Tagging
Owner · CC · Env · Class

API Automation
Enforce via CI/CD & scripts

Audit → Sentinel
Activity logs to Log Analytics

Gaps today: No Azure Policy · Coarse RBAC (Admin / Member / Contributor / Viewer) · Limited audit events

OneLake
Unified storage · Delta / Parquet · Shortcuts · V-Order optimized

Workspace ↔ Git sync **Git Integration & CI/CD** Pipeline definitions & models in source control

- Lakehouse
- Warehouse
- Pipeline / Notebook
- Semantic Model
- Report / Dashboard

What's Missing and What's Coming

Honest assessment: Fabric governance is still catching up to Azure

Key gaps to watch: granular RBAC, enhanced auditing, BC/DR maturity

Gaps to ask for: Azure Policy, Azure Monitor

The framework you build now positions you to adopt these features as they ship

It only took three years to get identity fixed

Key Takeaways



Treat capacities like subscriptions — segment deliberately by BU, function, and environment



Don't assume Azure governance patterns work in Fabric — know the gaps



Compensate with naming standards, tagging, automation, and monitoring



Build the framework now; the platform will grow into it

Q&A



Sound off.
The mic is all yours.
Influence the product roadmap.

Join the Fabric User Panel



Share your feedback directly with our
Fabric product group and researchers.

<https://aka.ms/JoinFabricUserPanel>

Join the SQL User Panel



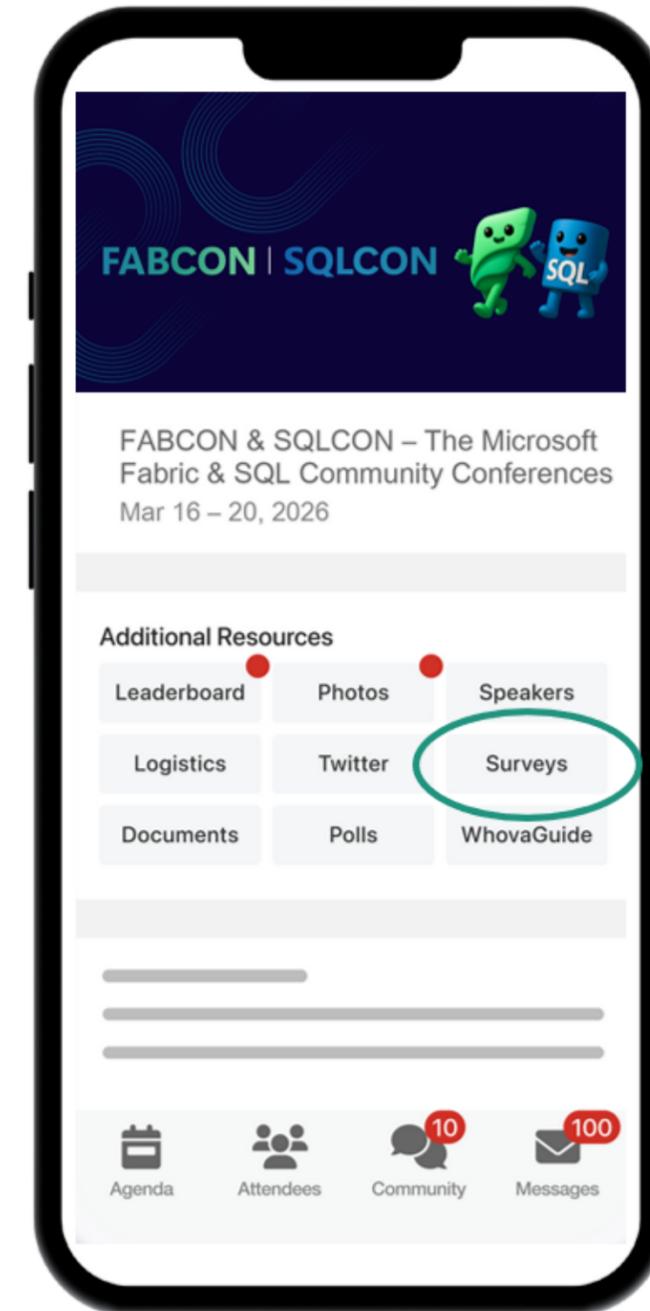
Influence our SQL roadmap and ensure
it meets your real-life needs

<https://aka.ms/JoinSQLUserPanel>

How was the session?



Complete Session Surveys in
Whova for your chance to WIN
PRIZES!



Sound off.
The mic is all yours.
Influence the product roadmap.

Join the Fabric User Panel



Share your feedback directly with our
Fabric product group and researchers.

<https://aka.ms/JoinFabricUserPanel>

Join the SQL User Panel



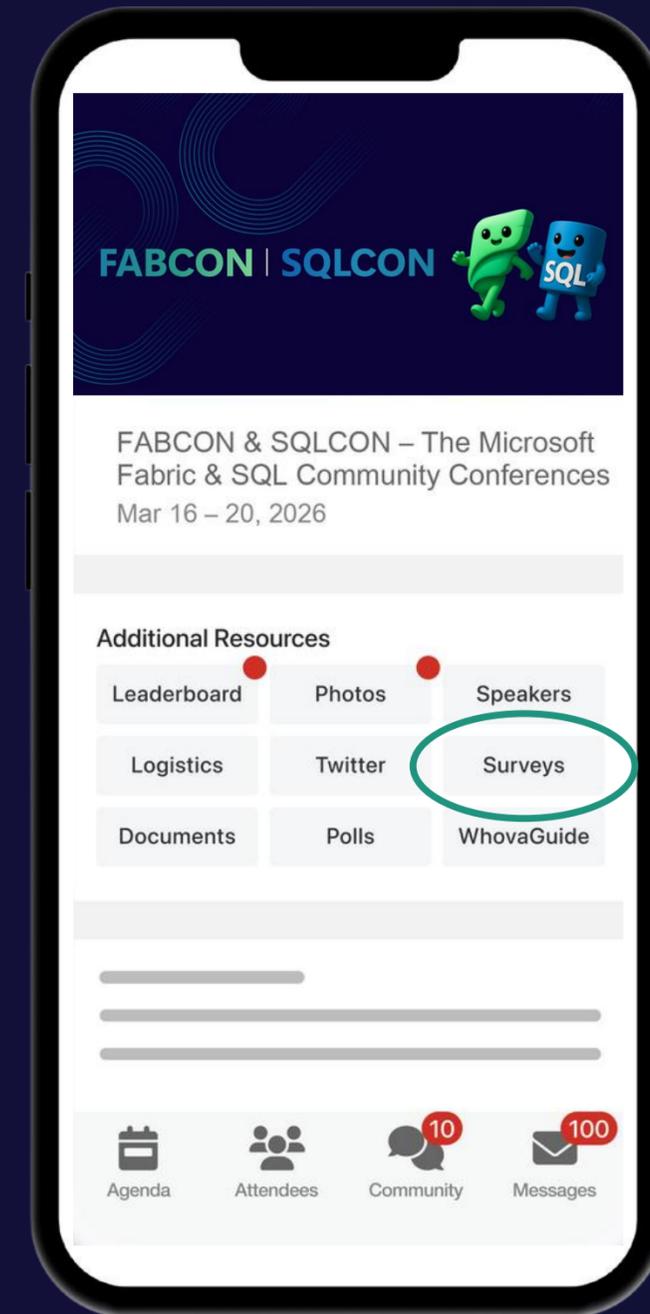
Influence our SQL roadmap and ensure
it meets your real-life needs

<https://aka.ms/JoinSQLUserPanel>

How was the session?



Complete Session Surveys in
Whova for your chance to WIN
PRIZES!



Get Two Fabric Certifications for FREE

Attendees of FABCON can take the Fabric Analytics Engineer or Fabric Data Engineer exam for free. Be part of the 2 fastest growing role-based certifications in Microsoft history.

Request your voucher by March 23, 2026.

<https://aka.ms/fabcon/cert100>

