Microsoft

Manage and Govern Your Data with Microsoft Fabric and Microsoft Purview

Microsoft Fabric e-book series volume 3

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Modern approach to effective data governance

In today's data-driven world, organizations are both excited and overwhelmed by the opportunities and difficulties that come with handling large amounts of data. Data is a strategic asset that can drive innovation, decision making, and advancements in AI. However, as data grows in volume and becomes more important to various roles across the organization, the issue of governance becomes increasingly complex.

Adding to this complexity is the shift to multicloud environments, scattering data across different platforms and leading to an increase in the number of data silos. This makes data governance increasingly difficult, escalating risks related to data breaches, unauthorized access, and failure to comply with regulations. Moreover, the data and AI market is massively fragmented with hundreds of vendors and thousands of services. Organizations must stitch together a complex set of disconnected services from multiple vendors and incur the cost and burden of making these services function together and governing them.

Effective governance is more than avoiding risks—it's a strategic advantage. Managing data well can offer organizations a competitive edge, fostering innovation and making operations smoother. Staying ahead means adapting to and anticipating changes. In an era where innovation is relentless, it's crucial for businesses to have a holistic approach to data governance, which often means simplifying the set of tools and solutions they've adopted over time. Microsoft Fabric and Microsoft Purview stand out as practical tools to address these issues, simplifying the complexities of today's data world.

> According to IBM's 2021 Cost of a Data Breach Report, the average cost of a data breach globally was $4.24 million, a 10% increase over the previous year.[1]
>
> **—IBM Report: Cost of a Data Breach Hits Record High During Pandemic**

> Data governance has emerged as a top priority for 93% of Chief Information Officers (CIOs), with an overwhelming 85% acknowledging challenges in managing data across platforms, according to an IDC report from 2022.[2]
>
> **—The State of Data Governance Report, IDC, 2022**

1 IBM Report: Cost of a Data Breach Hits Record High During Pandemic
2 The State of Data Governance Report, IDC, 2022

Data analytics and governance with Microsoft Fabric

Microsoft Fabric is an end-to-end, unified analytics platform that brings together all the data and analytics tools that organizations need. Fabric integrates technologies such as Azure Data Factory, Azure Synapse Analytics, and Power BI into a single unified product, empowering data and business professionals alike to unlock the potential of their data and lay the foundation for the era of AI. To fully understand how Fabric can transform how organizations manage and employ data, it is essential to explore the significance of data-driven transformation in greater depth.

Importance of data-driven transformation

Data has revolutionized how organizations operate, driving unprecedented transformations and positioning itself as the backbone of modern enterprise strategy. As organizations venture into a landscape shaped by digital innovations, the importance of data cannot be overstated, especially when it comes to empowering decision makers. Instead of relying on intuition or anecdotal evidence, today's leaders can rely on actionable insights gleaned from rigorous data analytics to make informed choices on the efficacy of products, departments, and operations. This iterative learning, adapting, and innovating process creates a dynamic cycle that ensures organizations aren't just reacting to market changes but emerging as pioneers of innovation.

"Data-driven businesses are 58% more likely to exceed revenue targets and 16 times more likely to greatly surpass them compared to less data-focused peers."

—BARC, Data, BI & Analytics Trend Monitor 2021

Advanced features such as real-time analytics, machine learning, and natural language processing shape a world where AI-driven insights guide organizational strategies. Data analytics and AI convergence create an ecosystem where businesses are reactive and proactive, anticipating market trends, consumer behaviors, and operational challenges. Understanding and using data becomes beneficial and essential for sustained success in this evolving landscape.

Yet, the significance of data extends beyond transformations and innovation; it is intrinsically tied to governance. In the contemporary digital landscape, where concerns about data breaches and compliance loom large, embedding governance into every facet of data management is crucial. Instead of viewing governance as a siloed task or an afterthought, modern organizations integrate governance from data ingestion to reporting and analytics. Such an integrated approach ensures compliance, minimizes risks, and fortifies data security—aspects indispensable in today's data-rich environment.

Setbacks resulting from governance concerns

Navigating modern data estates presents a myriad of governance challenges. As organizations increasingly rely on data to drive decisions and innovation, IT teams are burdened with the responsibility of ensuring that data is not only accessible but also reliable, secure, and compliant with ever-evolving regulations.

One of the primary challenges is the vastness and complexity of the modern data landscape. With the proliferation of data and data sources, from on-premises systems to various cloud platforms and third-party integrations, IT teams grapple with data sprawl. This decentralization of data often leads to inconsistencies, redundancy, and fragmentation, making it difficult to have a single source of truth.

Security and compliance pose yet another layer of complexity. As data breaches become alarmingly frequent and regulations such as GDPR and CCPA impose stringent requirements, IT teams must ensure data protection while also granting timely access to authorized personnel. Balancing accessibility with security, especially in a dynamic environment where roles and needs might change rapidly, is no small feat.

Getting governance right is paramount for organizations. Effective data governance ensures that data remains a valuable asset rather than a liability. Microsoft Fabric was created to help organizations tackle these issues effectively. Fabric unifies data and analytics in a single SaaS platform to make effective data governance easier. It also natively integrates with Microsoft Purview, the Microsoft multicloud and hybrid solution for security, compliance, privacy, and data governance. Together, Fabric and Microsoft Purview offer a straightforward solution to help organizations use their data safely and effectively.

Govern the data estate with Microsoft Fabric and Microsoft Purview

Moving through the world of data and governance can be tricky. That's where Microsoft Fabric and Microsoft Purview come in. Fabric is an end-to-end data platform that reshapes how organizations access, manage, and act on data and insights by connecting every data source and analytics service together. Microsoft Purview is a comprehensive solution that helps keep data safe and governed with unified data governance, information protection, and risk and compliance solutions. By bringing these solutions together, organizations can stay ahead with data insights while ensuring proper data governance, security, and a balance between understanding data and keeping it safe.

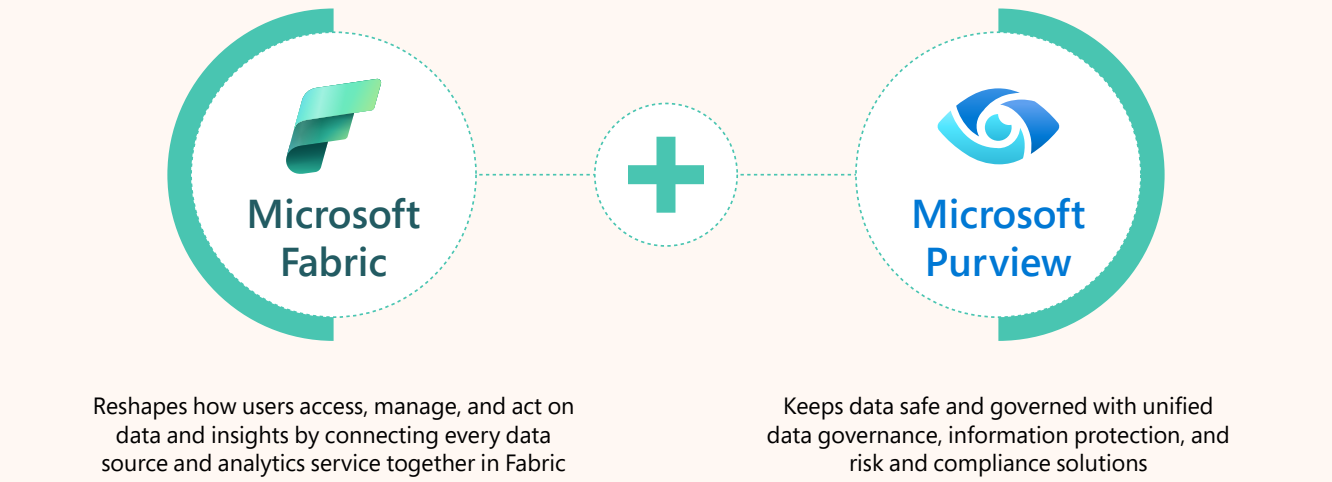


Figure 1: Unified analytics and governance with Microsoft Fabric and Microsoft Purview

Explore the Microsoft Fabric ecosystem

Microsoft Fabric is a testament to the rapid evolution and integration of analytics services. As depicted in *Figure 2*, Fabric reshapes how businesses perceive and utilize data-driven insights.

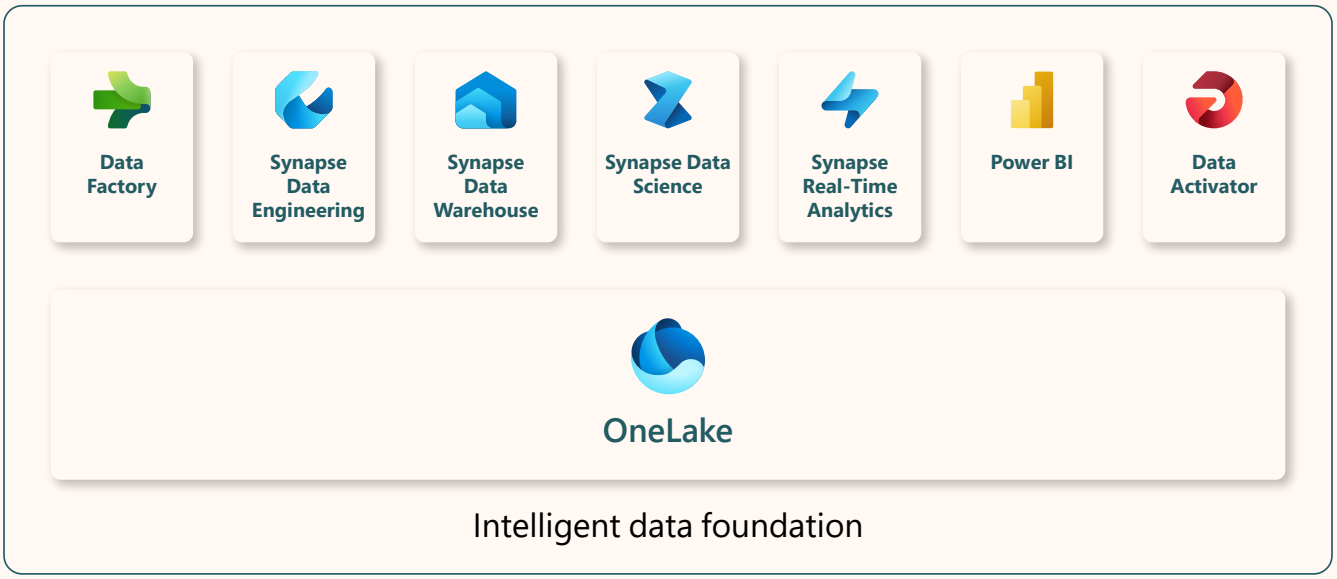


Figure 2: An overview of the components of Microsoft Fabric

Fabric converges the functionalities of Azure Data Factory, Azure Synapse Analytics, and Power BI to build a single, unified SaaS platform. With seven distinct yet interconnected workloads, the Fabric platform is meticulously designed for varied personas and tasks, simplifying what was once a complex data estate.

- **Data Factory:** Begin with integrating various data sources seamlessly
- **Synapse Data Engineering:** Process and prepare data for advanced analysis
- **Synapse Data Warehouse:** Store vast volumes of structured data ready for queries
- **Synapse Data Science:** Dive deeper into data with machine learning and AI-driven insights
- **Synapse Real-Time Analytics:** Receive immediate insights from live data streams
- **Power BI:** Visualize data and uncover hidden trends and patterns
- **Data Activator:** Create a system of detection and alerts over data to take automated or manual actions at the right time

Additionally, the Fabric platform offers a unified billing and capacity model, integrated governance features, and the convenience of SaaS, making analytics more accessible and manageable.

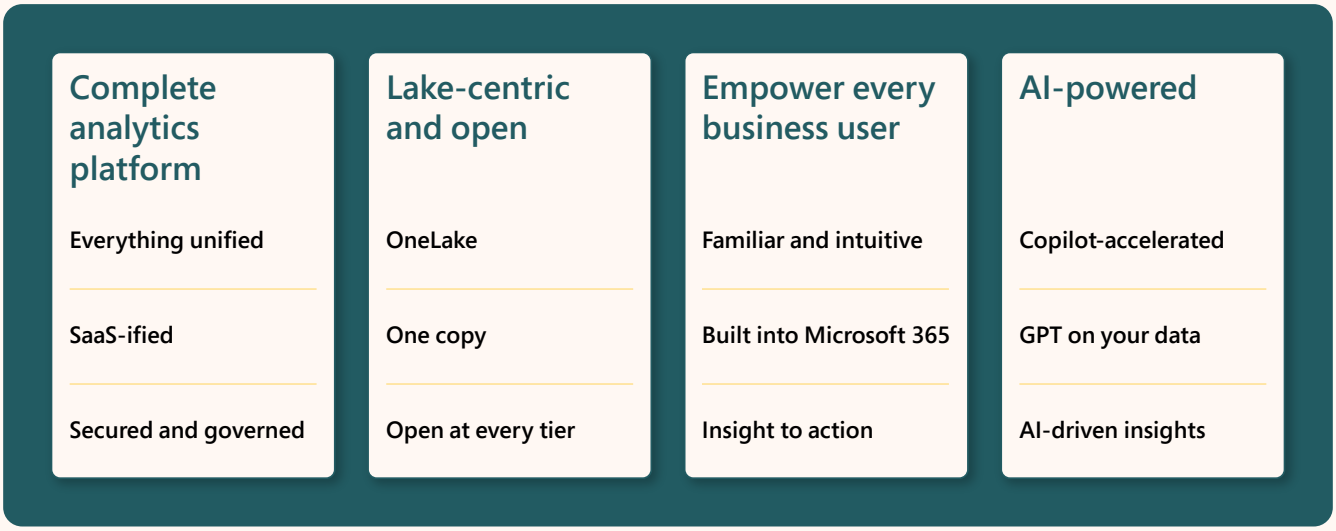


Figure 3: Data analytics for the era of AI

Let's take a closer look at the characteristics of the Fabric ecosystem.

- **Lake-centric and open:** Fabric takes a lake-centric approach, represented by OneLake. This unified, multicloud data lake is integrated into every Fabric workload. OneLake reduces data duplication and promotes the principle of "one copy data." It aims to get the most value possible out of a single copy of data without data movement or duplication. Fabric also offers shortcuts to virtualize data from various sources, such as Azure Data Lake Storage Gen2 and Amazon S3. This means organizations no longer need to copy data just to use it or to break down silos so they can analyze the data with data from other sources.

- **Empowers every business user:** Fabric offers end-to-end capabilities, transitioning smoothly from the data lake straight to the business user. With Fabric, insights gleaned can easily be integrated into everyday Microsoft 365 applications such as Microsoft Teams, Outlook, PowerPoint, and Excel. This integration not only improves decision making but significantly drives business impact.

- **AI-powered:** Fabric has AI infused at every layer to help data professionals get more done, faster. With Copilot in Microsoft Fabric, data professionals can use natural language to create dataflows and pipelines, write SQL statements, build reports, and even develop machine learning models. Fabric also directly integrates with Azure AI Studio to help organizations build their own organization-specific and team-specific generative AI solutions.

In conclusion, Fabric isn't just a SaaS analytics platform. It promises businesses a future where data isn't just seen but understood and where insights aren't just gleaned but acted upon. With built-in enterprise-grade governance and compliance capabilities, powered by Microsoft Purview, organizations can integrate Fabric into their overall business strategy.

Native governance and security features in Fabric

Microsoft Fabric offers a unified experience and architecture to simplify data governance and security across analytics workloads. Fabric has an array of native administrative, governance, and security capabilities to help provide visibility across an organizations' tenants, insights into usage and adoption, and tools to secure and govern data end to end.

Fabric offers a comprehensive set of features to manage, secure, and monitor data analytics processes. The admin portal centralizes governance, allowing organizations to oversee tenant settings and capacity configurations. The Microsoft Farbric Capacity Metrics app gives insights into the use of resources, helping organziations make informed decisions on scaling. Domains and workspaces extend Power BI roles to Fabric artifacts, enhancing control over data access. The universal security model ensures consistent permissions across services. Metadata scanning allows organizations to automate the retrieval of information about data artifacts, aiding in custom analytics. The Microsoft Purview hub integrates with Fabric for advanced governance, allowing easy navigation and management of data assets. These features combine to create a robust, user-friendly environment for data analytics and governance.

Data governance is not a one-size-fits-all venture; it's a labyrinth of complexities. Regulatory compliance, data security, data silos, and dark data discovery are significant challenges organizations face. Each of these challenges requires a unique, effective solution to enable responsible and optimized data use. By neglecting these aspects, organizations not only risk potential legal ramifications but also miss out on valuable business insights.

The integration of Fabric with Microsoft Purview offers a solution that is greater than the sum of its parts. Fabric brings its strengths in data analytics and infrastructure, while Microsoft Purview brings extensive governance capabilities. *Figure 4* presents a high-level overview of the governance and security features that are integrated into Fabric, as well as how they complement the offerings of Microsoft Purview to provide comprehensive visibility and control over the data landscape.

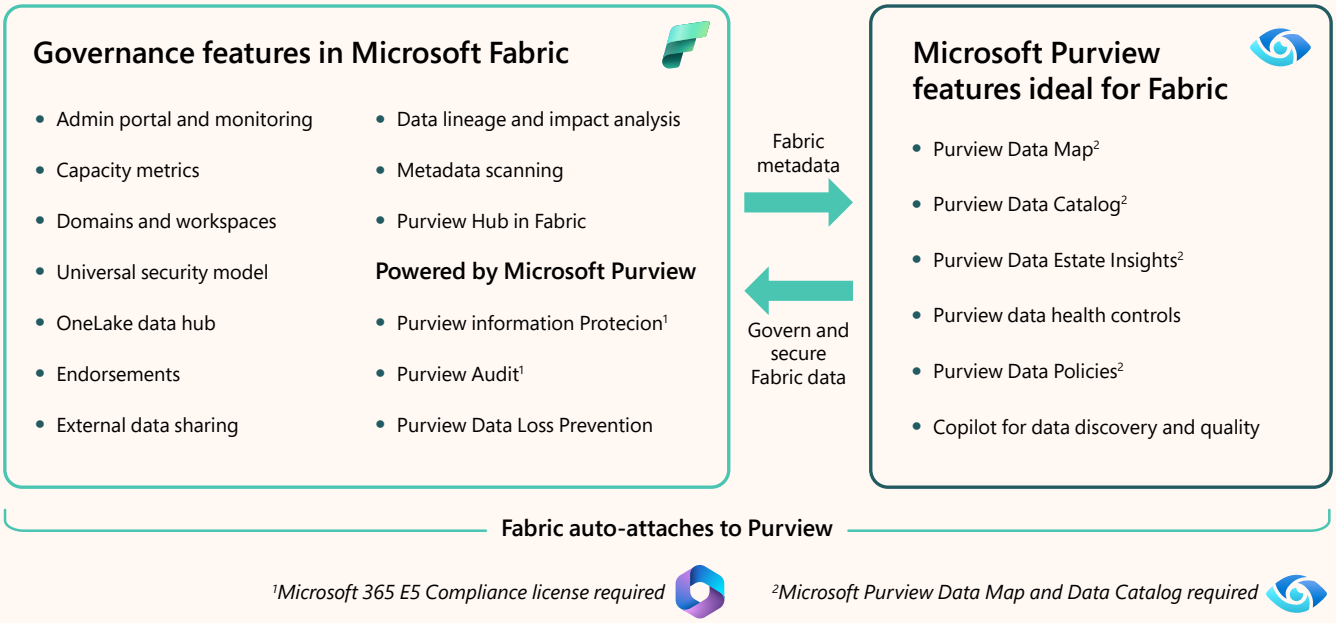


Figure 4: Governance and security features in Microsoft Fabric

Native features within Fabric facilitate data management and analytics, from administrative monitoring to the innovative Microsoft Purview experiences customized for Fabric. Moreover, Microsoft Purview enriches Fabric with advanced security, compliance, and governance functionalities. These tools work together effortlessly to optimize operations and fortify data security, strengthening an organization's data governance framework.

Moreover, the Fabric architecture integrates with leading third-party governance tools, such as Informatica, enabling businesses to harmonize capabilities in Fabric with existing workflows. For organizations with bespoke in-house governance systems, the Fabric framework provides necessary support and connectivity. This dual compatibility ensures that businesses can optimize their data management and analytics while preserving established governance practices, offering a holistic approach to data strategy and execution.

What is Microsoft Purview?

Microsoft Purview is a family of data governance, risk, and compliance solutions that can help organizations govern, protect, and manage their entire data estate. Microsoft Purview solutions provide integrated coverage and help address the recent increases in remote user connectivity, the fragmentation of data across organizations, and the blurring of traditional IT management roles.

But Microsoft Purview goes beyond mere security; it embodies modern data governance by facilitating seamless governance processes designed to empower an organization. Equipped with robust capabilities, Microsoft Purview enables organizations to actively manage critical risks while adhering to regulatory requirements actively, thereby fortifying an organization's risk and compliance posture. Microsoft Purview is not just a tool; it's a strategic asset that brings security, governance, and compliance into a unified framework, helping businesses unlock their data's true potential responsibly.

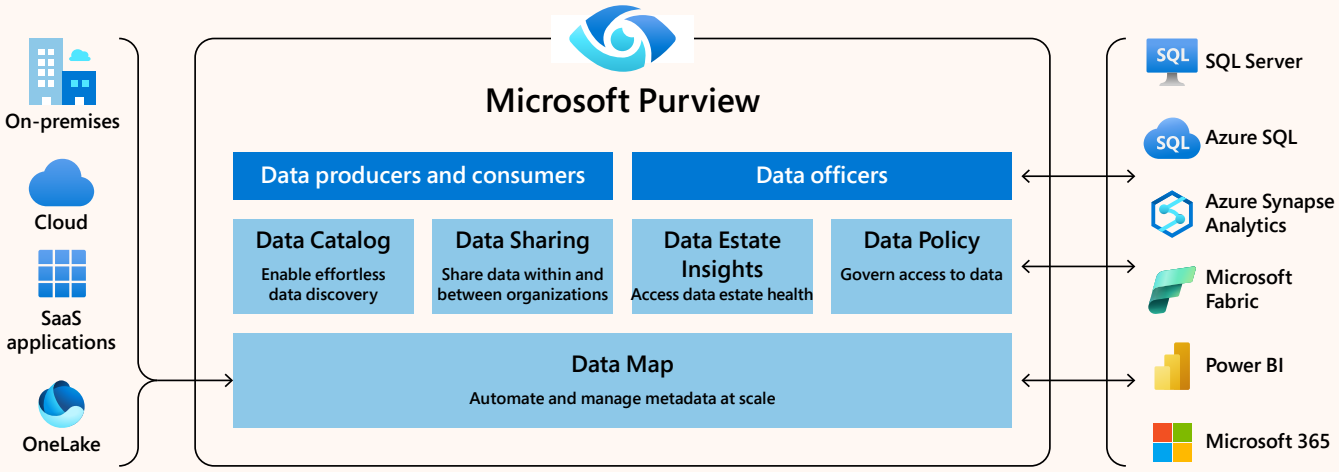


Figure 5: The core building blocks of Microsoft Purview

The vision that fuels Microsoft Purview

Microsoft Purview aims to be the de facto solution for federated data governance, offering a one-stop shop for managing data across multicloud environments. Its architecture and features are designed to cater to a diverse range of enterprise functions and users. Embracing Microsoft Purview is more than just technology adoption; it's a strategic alignment with a future-proof, business-centric vision for data governance. Microsoft Purview serves as a crucial empowerment tool, meeting the complex demands of modern data management while turning data from a potential liability into an invaluable asset. In doing so, it marks a milestone in the journey toward intelligent, enterprise-wide governance, striking a fine balance between adaptability, control, security, and usability. This is not merely the future of data governance; it's data governance designed for the future.

Bring Microsoft Fabric and Microsoft Purview together for advanced governance and protection

The recent advancements in data governance and security are exemplified by an enhanced collaboration between Microsoft Fabric and Microsoft Purview. Fabric lets organizations manually classify sensitive data through Microsoft Purview Information Protection sensitivity labels. This feature mirrors the functionality already widely utilized by Microsoft 365 users to categorize critical data. Fabric also integrates sensitive information types (SITs) and data loss prevention (DLP) policies from Microsoft Purview, enabling administrators to detect the upload of sensitive data and trigger alerts.

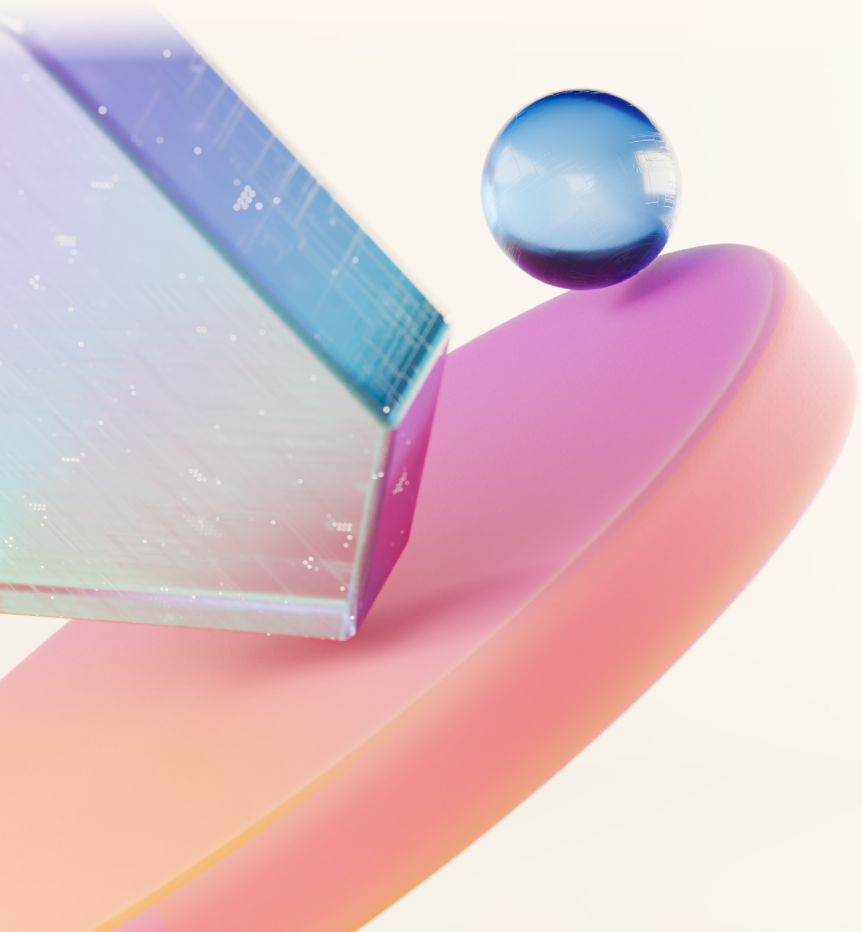
Moreover, audit processes have been streamlined by the automatic logging of both user and system actions directly into Microsoft Purview audit logs, enriching oversight capabilities. Beyond embedding Microsoft Purview features within Fabric, the converse integration is also in progress. The automatic connection of each Fabric instance to a preview iteration of Microsoft Purview grants users early access to the elite data management experience Microsoft Purview provides. This integration enables a seamless transition of Fabric artifacts into the extensive Microsoft Purview data catalog, facilitating their management and searchability in concert with other data assets throughout an organization's comprehensive data estate.

For streamlined access to these Microsoft Purview functionalities, the Purview hub has been established. Currently in public preview, this centralized portal functions as a nexus to the entirety of Microsoft Purview services, offering insights into data inventories, identification of sensitive data, and system endorsements.

Architect success with Microsoft Fabric and Microsoft Purview

The symbiotic relationship between Microsoft Fabric and Microsoft Purview provides a robust framework for transforming data into a strategic enterprise asset. From fostering data democratization to enhancing data governance, this partnership equips business decision makers with the toolkit they need for driving business transformation.

Navigating through complex governance, compliance, and operational scenarios becomes manageable, agile, and intuitive. This makes Fabric and Microsoft Purview not just software solutions but strategic allies in an organization's quest for excellence. With Fabric and Microsoft Purview, organizations not only keep pace with the present but also build for the future.



Next steps

- Experience Microsoft Fabric and Microsoft Purview hands-on. Try setting up a demo environment or join a live webinar to watch these tools in action
- Engage in Microsoft Fabric Community and Microsoft Purview Community forums, webinars, and workshops to further your learning and troubleshoot challenges
- Find the right partner for the technical expertise, services, and solutions you need to transform your business
- Start your journey today by exploring learning paths and modules for Microsoft Fabric and Microsoft Purview
- Discover more about the Microsoft Fabric integrated analytics platform. Read Vol 1, Microsoft Fabric: The Essential Guide for Decision Makers
- Learn how to analyze data for actionable insights. Read Vol 2, Modern Analytics: A Foundation to Sustained AI Success

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