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Teradata Vantage for Azure
Cloud-power your analytics for impactful insights

Abstract

Enterprises want to do more with data via analytics, machine learning (ML), and artificial intelligence (AI). They're looking for ways to turn data into real, actionable business insights. Teradata Vantage for Azure can help. This white paper will show you how you can use Teradata as part of your hybrid cloud strategy to realize the most value from all your data. These insights are based on Teradata's decades of analytics expertise, coupled with the flexibility and global footprint of Microsoft Azure infrastructure.

Introduction

Teradata Vantage is *the* platform for pervasive data intelligence. This means Vantage customers can analyze all their data at any time, no matter where it resides, using their preferred analytic languages and tools to reach data insights faster.

Teradata Vantage customers, both on-premises and in the cloud, know there is a world of opportunity to do more with data via analytics, ML, and AI. With Vantage for Azure, you can experience another level of advanced analytics to turn all your data into real, actionable business insights. Reaching this "ideal state" of data-driven business is complex, but Teradata has the products, expertise, and successful track record to get you there. Leveraging decades of analytics experience with the flexibility and global footprint of Microsoft Azure infrastructure, Teradata can help modern enterprises realize the most value from all their data.

Determining what's possible

Teradata Vantage and Microsoft Azure individually have their own unique set of features and benefits, and combined they are more than just the sum of their parts. The challenge and opportunity are utilizing both Vantage and Azure together to perform data analytics in the cloud in the most efficient way possible.

Many enterprises today are struggling to utilize data and analytics as a driver for business impact. In a recent worldwide survey, research firm Gartner discovered that 91 percent of organizations have not yet reached a

"transformational" level of maturity in data and analytics, despite this being a high priority initiative for CIOs.[1]

According to the Gartner methodology, being at this "ideal state", or "transformational" level of maturity, means that data and analytics are central to business strategy, and that the value of data influences investment decisions. As the data landscape evolves, it's imperative that companies work towards better data analytics and utilization of those answers.

There is no one-size-fits-all solution. The large enterprise customers that Teradata serves have specific needs that cannot be met with a run-of-the-mill solution. To get to a more "ideal state" using Teradata on Azure, customers must first carefully assess their needs.

Knowing what to use and how to use it

The concept of running analytics in the cloud is still relatively young, and many organizations are still learning how to marry their analytics ecosystem with the cloud. A recent study conducted by BARC Research found that only 23 percent of organizations are currently using cloud Business Intelligence (BI) for advanced and predictive analytics.[2] While utilization is still relatively low, the outlook for the near future suggests that having analytics in the cloud is a top business priority. The same BARC Research study found that 53 percent of organizations are planning to start using cloud BI for advanced and predictive analytics. The need for cloud analytics has been recognized, but few organizations have found out how to meet that need.

Customers can get more value from their data by using Teradata Vantage for Azure. For enterprise customers to benefit from this, three key things must happen. First, they must understand how they're currently using Teradata software. Second, they must ascertain if they are using Azure, and how. Finally, they must determine how the two can work best together.

[1] *Gartner: Gartner Survey Shows Organizations Are Slow to Advance in Data and Analytics, 2018*

[2] *BARC Research: BI and Data Management in the Cloud: Issues and Trends, 2017*

1. Understand how you use Teradata

The first step in realizing the value of Vantage for Azure is to understand how you are currently using Teradata software. It's essential to know the structure of your environment where Teradata is located. You could be using it purely on-premises, as part of a hybrid IT strategy with resources both on-premises and in the cloud, or completely in the cloud.

If you're like most Teradata customers, you'll want to take advantage of enterprise-scale analytics as a part of a hybrid cloud strategy. Many organizations are choosing to operate in a hybrid environment, as it allows them to capitalize on their existing IT infrastructure while having the scalability and flexibility of the cloud at their disposal. According to 451 Research, more than 60% of organizations have already deployed hybrid cloud or are actively deploying pilots.[3] It's clear that organizations are looking to the cloud for present and future agility, but they will also continue to utilize their investments in on-premises infrastructure for as long as it makes sense.

Additionally, you'll want to know what kind of analytic jobs you run with Teradata software. Here, you want to be very thorough about what exactly you do with Teradata. Your everyday workloads are easy to identify, but there may be discrete workloads you run only on occasion. It's important to accurately capture the things you use Teradata for now, so you can ensure you are set up to perform the analytic workloads you want in the Azure environment. It may be helpful to check your Teradata logs for past analytic jobs to help inform what you will need in the cloud when using Vantage for Azure.

2. Assess your current use of Azure

Step two toward realizing the value of Vantage for Azure involves assessing your current use of Azure. If you aren't yet using Azure, then you'll need to determine whether you want to manage your Azure resources yourself or if you want Teradata to manage them for you. If you have an Azure account, then you'll want to consider how you currently use it, and what that will look like once Vantage is in your environment. It's useful to look at how things will change once you are using Vantage, so we recommend engaging both your Azure and Teradata account managers for an assessment of the options.

3. Determine how Teradata Vantage and Azure will work best for you

For step three, you need to determine how Vantage and Azure together can work best for you. There are multiple options for companies to run enterprise analytics on Azure. As previously mentioned, you must identify your wants and needs first, so that you can better evaluate the available options for your analytics solution with Vantage for Azure. You'll also want to think about which Vantage workloads you want to keep on-premises and which you'll want to migrate to Vantage for Azure based on your business strategy.

[3] 451 Research: Going Hybrid: What Enterprises Want from Cloud Service Provide, 2018

Deploying Teradata Vantage for Azure

Together, Vantage and Azure enable advanced analytics for enterprise customers. Teradata, utilizing its partnership with Azure, has made it easier than ever for you to perform advanced analytics in the cloud with two options to deploy: As-a-service and Do-it-yourself. With these two deployment options, you can run Teradata for Azure in the way that best suits your specific needs and business objectives.

Figure 1 demonstrates the basic solution architecture of Teradata for Azure, illustrating both As-a-Service and Do-it-yourself deployment options. As-a-Service is the way to go if you want analytic capabilities without worrying about the details of provisioning and managing the system. Conversely, for those who wish to customize their Teradata software and have more control, the Do-It-yourself model may be the best path forward. Either way, you'll enjoy the same feature-rich Teradata software.
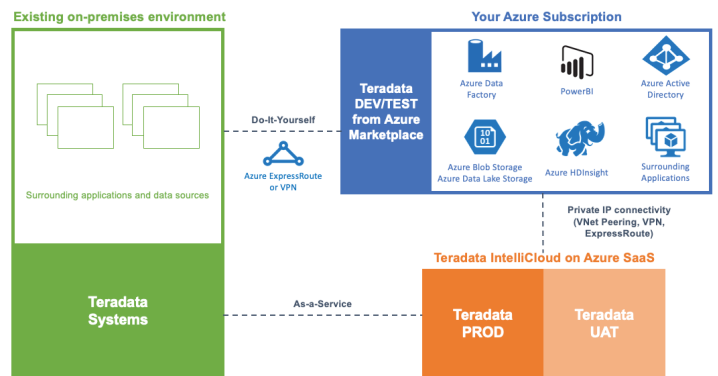

Figure 1: Teradata Vantage on Azure solution architecture

Migrating your workloads

Once you've deployed Vantage for Azure, you'll want to determine which workloads to migrate to Azure first. Here, we recommend starting by migrating one of your non-mission-critical workloads. Ideal workloads to migrate first would be testing and development as well as discovery analytics, as these are often transient workloads that are only needed for a prescribed period. Anything else that isn't business critical, customer-facing, or persistently used would also be suitable. Migration of these workloads carries the lowest risk and will prevent you from spending more time and money than you need to while getting familiar with the capabilities and performance of Vantage for Azure.

Once you verify that your first workloads are functioning properly and that they are secure and performing as you expect, you should start planning the migration of other use cases. As you get more comfortable and see your first workloads run successfully in Azure, you can then start to gradually move your larger, more mission-critical workloads to Azure on a timeframe that suits your business requirements.

Adding value to data with Teradata and Azure

With the cloud-powered analytics of Teradata Vantage for Azure, the possibilities to utilize all your enterprise data are endless. Some of the most common use cases include customer journey analytics, churn prediction and prevention, supply chain optimization, and risk mitigation. New use cases are being discovered all the time as more customers take advantage of Vantage's enhanced capabilities when working in conjunction with Microsoft Azure. By leveraging Teradata's expertise, these and other use cases can often be tailored to fit your specific needs.

Now that we've discussed the two deployment options available and the suggested approach to workload migration, let's take a closer look at the three distinct data processes enabled by using Vantage and Azure together, and how each process can benefit your business.

1. Integrate Teradata Vantage with Azure Blob and Azure Data Lake

Azure Blob and Azure Data Lake are the perfect solutions for passive, infrequently-accessed data because the cost of storage is lower than that of alternative storage options, making them a great place for data that doesn't need to be accessed or analyzed right away. The integration between Vantage and Azure Blob / Data Lake works well for companies with large amounts of data, whether that data is structured, semi-structured, or unstructured. The offerings work in a complementary capacity: when you want to run analytics on data stored in Azure Blob and Data Lake, you can simply query that data natively from Vantage without first moving the data into the data base.

2. Enrich data with Azure Cognitive Services

Not only can Teradata customers store both active and idle data in Azure, but they can also leverage Azure Cognitive Services to extend their analytic capabilities. As shown in Figure 2, Azure has its own set of native analytic functions which give Vantage users even more options to enrich and analyze their data.

In Vantage, users may have transactional data from inventory records or retail purchases that they want to join with cognitive services to do more sophisticated analysis. As customers move data from Azure to Vantage, they can utilize Azure Cognitive Services, ML, and AI features to refine the data in transit, referencing additional sources to gather more detailed insights. For example, a business might be cross-referencing a product purchase data set against social media behavior to gain additional understanding about buyers of a product. Teradata makes it easy to link with these Azure services.

3. Create advanced reports with Power BI on Azure

Once data has been refined and enriched, it needs to be translated into an easy-to-read, digestible format. Teradata, in conjunction with Azure services, can provide the solution to visualize large volumes of complex data. Customers utilizing Vantage for Azure have numerous options available not just in storage and analytics, but in reporting too. With Power BI integration on Azure, you can link easily to Vantage for advanced reporting with your

data being updated in real time to provide more relevant, actionable insights. You can even integrate Power BI with your Vantage dashboards to see robust, insightful reports that would be unavailable through Vantage or Azure services alone. By bringing it all together—storage, analytics, and reporting—you can start finding and acting on insights from your enriched enterprise data.
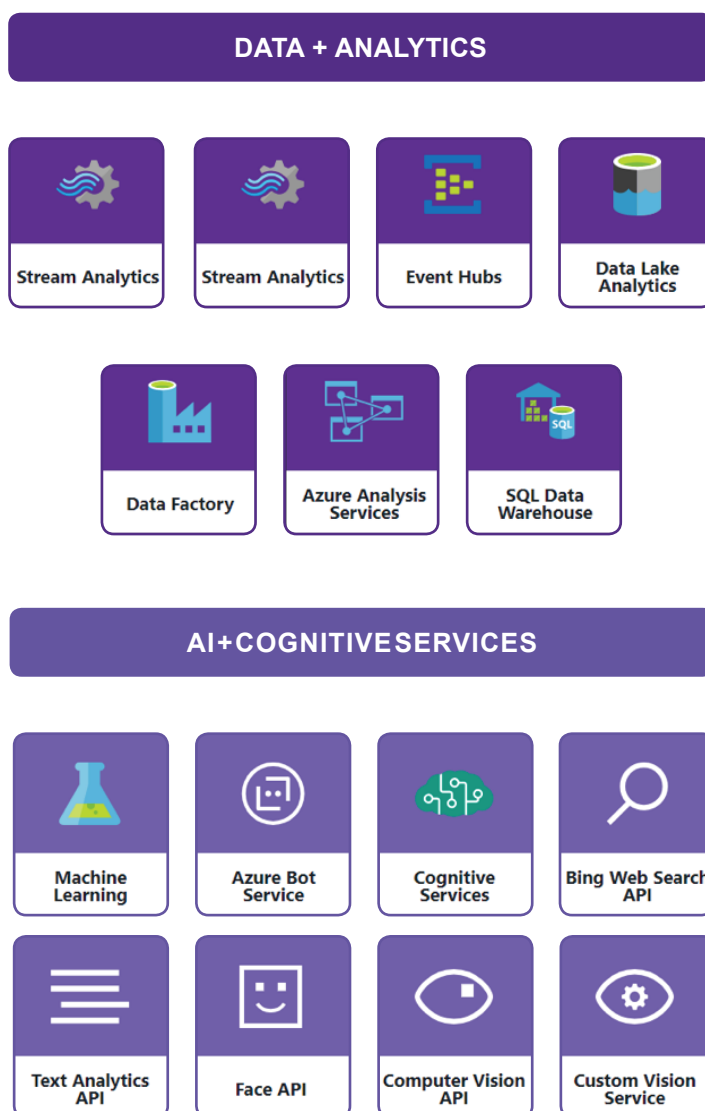

Figure 2: Azure advanced services to connect to Teradata

Conclusion

By using the steps and tools outlined above, leveraging the Azure cloud for advanced analytics with Teradata Vantage is a painless, straightforward process. With Vantage, you have access to decades of experience in sophisticated data analytics. Additionally, with Microsoft as a trusted partner, you now have access to a team of cloud experts that can help you connect the extensive analytic services of Azure to Teradata workloads. In other words, you don't have to take the next steps toward the "ideal state" alone. Engage with the experts at Teradata and Microsoft to make advanced analytics in the cloud a reality for your firm today.

About Microsoft Azure

Microsoft Azure is an ever-expanding set of cloud services to help your organization meet your business challenges. It's the freedom to build, manage, and deploy applications on a massive, global network using your favorite tools and frameworks. Trusted by 95 percent of the Fortune 500, Azure is a scalable, cost-effective solution that works with your existing investments to support your hybrid cloud strategy. Take advantage of the broadest set of hybrid capabilities and deliver true hybrid consistency in your applications, data, identity, security, and management across on-premises and cloud environments.

About Teradata

Teradata transforms how people live and how businesses work through the power of data. Teradata leverages all of the data, all of the time, so you can analyze anything, deploy anywhere, and deliver analytics that matter. We call this pervasive data intelligence. And it's the answer to the complexity, cost, and inadequacy of today's approach to analytics. Get the answer at teradata.com.