

Illuminate Opportunity

Reveal the **full potential** of your data

Data is everywhere, and it holds tremendous promise. But organizations use only a fraction of it to create business value. Dell Technologies can help you discover, curate and activate your data to light the best path forward.

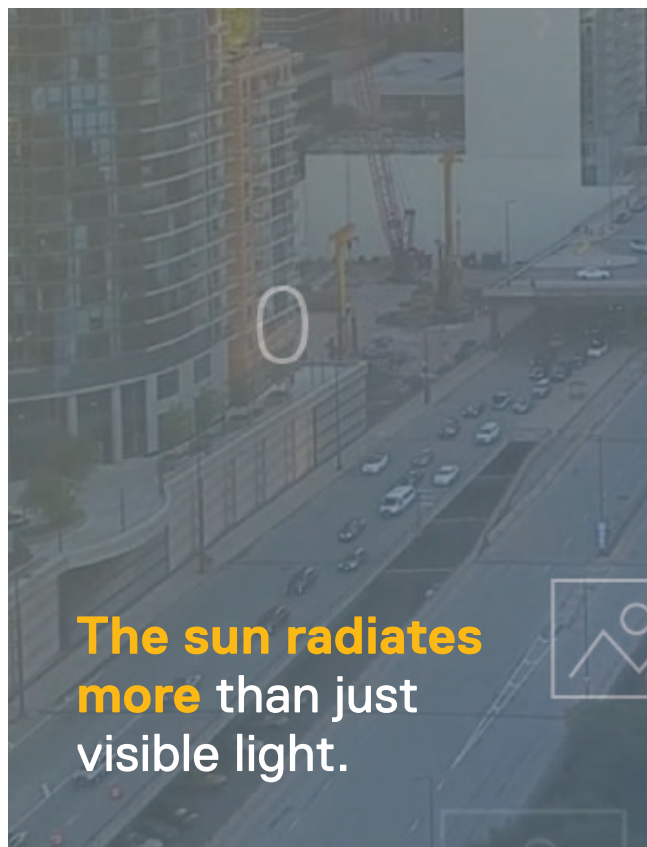
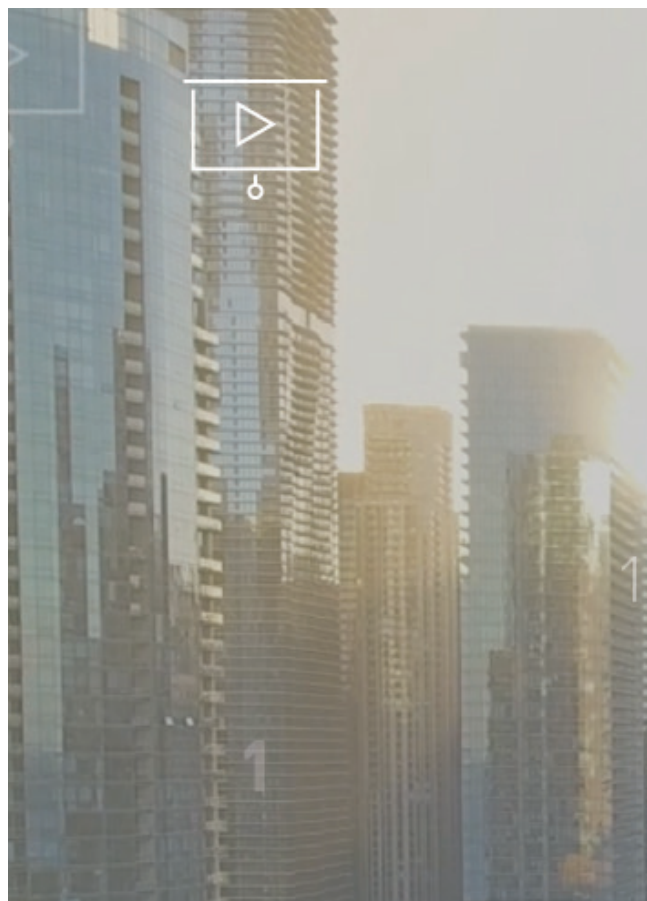
The data spectrum


When the sun shines, we see the world in a wide spectrum of colors. But the sun radiates more than just visible light. It also emits “hidden” electromagnetic waves that contain energy with the potential to transform our world. Microwaves warm our food. X-rays reveal bones and organs. Radio waves deliver sound. Ultraviolet light kills germs in our drinking water.

Like energy from the sun, data pours into your organization, but only a small portion of it guides decisions. Most organizations use structured data in traditional databases to track sales and inventory, manage supply chains and maintain information about customers, products, financials and so on. But many stop there.

Meanwhile, as the volume of data increases dramatically, so does the spectrum of useful data. In addition to structured data, many organizations capture unstructured and semi-structured data — videos and correspondence, for example — from edge devices in locations such as stores, factories, banks, hospitals and highways. Unfortunately, much of this data remains invisible and unused.

Widening the spectrum of data you can see and use enables you to tap its hidden potential, so your data can do more for you, and you can do more with your data.





We're on the cusp of a monumental data era, one in which many decisions will be made by intelligent machines. Those decisions will only be as good as the data that goes into them.

Realize the possibilities

The expanded data spectrum brings us to the cusp of a monumental data era in which many decisions will be made by intelligent machines trained with data. Those decisions will only be as good as the data that goes into them.

While most organizations agree that data is of growing importance, they also acknowledge that they need to get better at managing their data. According to ESG, 58% of customers in a recent survey use data to validate all or most of their business decisions, but 80% admitted that they don't fully trust their data and data analytics capabilities. ESG also found that a full 89% of organizations view data management and analytics as one of their top 10 priorities across business and IT, stating, "Decisioning and trust are closely related."¹

Dell Technologies sees the 2020s as a fully data-driven and analytics-enabled decade, dubbed the "data decade." This new era is full of bright possibilities — for those who can see them. Organizations that use the rich spectrum of data effectively can enhance the customer experience to attract and retain loyal customers. For example, financial services institutions can identify and fight fraud in real time. Product development teams can deliver what customers want more quickly, and with greater precision. Healthcare providers can improve patient outcomes with more personalized medicine. Organizations can streamline their supply chains, removing extra costs and friction. The applications are nearly endless.

Competitive advantage over the next 10 years depends on how much of the *right* data you leverage, and how rapidly and accurately you use it to illuminate opportunities. Successfully navigating the data decade — with the right tools and processes in place to discover, curate and activate data — will enable you to reimagine customer experiences, products, business models, industries and the world.

¹ ESG, "The State of Data Management — Key Findings Presentation," June 29, 2020.

A tale of two customer experiences

To demonstrate how illuminating opportunities works in practice, let's look at two very different customer experiences in the wake of a typical problem. Imagine you're responsible for customer service for an airline. You have customers waiting at the gate for a connecting flight. Just a few minutes before boarding, the gate agent announces that the flight is cancelled. A mass of weary travelers rushes to the nearest customer service desk.

Hoping to skip the line, one customer grabs her phone, looks up the customer service phone number, calls it, navigates the phone tree, and then gets stuck in a long phone queue, waiting to speak to an agent. By the time your customer gets to a live agent, she's frustrated. The most favorable flights are sold out, the vouchers have all been given out, and your customer is left with an inconvenient flight time. She incurs unplanned expenses for extra lodging, meals and transportation while awaiting the new flight. Plus, in the confusion, your customer's bag has been lost. Because you aren't in control of the baggage system, your agents aren't sure where that bag is or when it will get to its owner.

That night in the hotel room, your customer uses social media to tell the world about these events. The next day, your automated system sends a standard, cheery invitation asking her to complete a survey about her flight experience. Annoyed that your airline doesn't seem to have any idea what she just went through, she ignores the survey and vows never to fly your airline again.

Unfortunately, this scenario is all too familiar. And it's not limited to the airline industry. Automotive companies need to handle safety recalls. Banks cope with processing delays and fraudulent transactions. Manufacturers endure production delays and gaps in quality control. Every industry is challenged by numerous points of friction that could upset customers and disrupt the flow of business. Fortunately, there is a better way.



Let's rewind back to the airport, just before that flight was cancelled. This time, the airline has provided the passenger with an app that has an embedded intelligent chatbot. The bot is connected into flight operations, so it's able to alert your passenger the moment her flight is cancelled, and immediately offer several options for rebooking. The bot then accesses the hospitality concierge system to provide the flyer with electronic hotel and meal vouchers.

Her lost bag? The bot is connected to the third-party airport baggage system and can tell your passenger when and where she can be reunited with her bag. The bot also performs sentiment analysis on your customer's related social media activity. It steps in with just the right offer or incentive to make up for the unpleasant experience. These actions make her feel valued and increase her loyalty — no survey required. Plus, the customer never has to interact with a live customer service agent during the process, saving staff time for higher-value activities.

It's possible to use additional data to rewind this scenario even farther back in time to create a frictionless experience for the customer. This scenario would have been quite different if the flight operations team had used their data to train and run an artificial intelligence (AI) maintenance application that predicts parts failures.

The application could have detected the potential problem and automatically routed parts and personnel to the optimal maintenance location for preventive maintenance. As a result, the flight would not have been cancelled, and the customer would have arrived at her destination as planned.

Today's customers expect everything to work as promised. In every industry, opportunities abound to introduce intelligence into your operations. This intelligence can give your customers a better experience that will differentiate your business and keep them coming back. But most organizations are far from this capability, and the road to get there is shadowed with uncertainty.

That's why Dell Technologies is working to help you discover, curate and activate your data, to light the best path forward. We can help you identify and synchronize trusted data from relevant sources across your entire data estate. We can help you adopt a modern infrastructure that spans and connects hybrid clouds with appropriate security and governance, so data can flow unimpeded throughout your organization. And we can help you extract intelligence from that data to generate insights and automate processes and services.

When you manage and leverage the full spectrum of data, you can improve internal operations — as well as supplier and customer satisfaction — to unleash the full potential of your data.

More ways to use data



Retail: Reveal ideal locations for new stores. Predict the impact of rare events, and automate stocking response to account for changes brought about by those events.



Healthcare: Use population data to enable faster, more accurate diagnoses. Create consistent, persistent patient records to accelerate diagnoses and maintain continuity of care. Automate and speed drug trials.



Manufacturing: Practice predictive maintenance with proactive, automated repair. Optimize the supply chain.



Discover

Locate and refine data across your data estate

The first step toward a data-driven future is to locate and refine data across your data estate. Unfortunately, many organizations falter on this first step. Most current data strategies are optimized for a world in which structured data is captured, aggregated into databases and data lakes, processed in batches, and stored to meet business continuity and compliance requirements. But this neat and orderly approach doesn't reflect the new reality of data.

Data is growing exponentially and is increasingly decentralized. As the data estate expands, many organizations struggle to locate data that's pouring into the enterprise from hybrid clouds on-premises, off-premises and in edge environments, often swept into multiple systems or not captured at all.

In addition, data that doesn't fit neatly into rows and columns, such as interactions via chatbots and voice assistants, may be captured but not used simply because nobody's looking for it. Once data is found, users need reassurance that the data is both trustworthy and transparent before it is used to define decision frameworks and automate actions with far-reaching consequences.

For example, teams of highly skilled data architects, engineers, scientists and translators are tasked with building data pipelines and analytics models to help business users extract value. These specialists are in high demand and command high salaries. However, most report that, when trying to source data, they run into challenges that consume up to 70% of their time by some estimates.

These challenges include data transparency issues, such as not knowing what data is available or not having a clear process for accessing the data. They also include trust issues, such as knowing where data came from or whether it's been modified or corrupted. Inconsistencies and duplications in data sets mean that teams must spend additional time refining the data to make it usable before they start building their AI models.

In this environment, real data-driven innovation can be costly, difficult and time-consuming. Data science is still often seen as a rarefied activity that must be reserved for high-profile projects with big budgets and company-changing impact. This perspective severely limits the potential for rapid iterations and incremental improvements on multiple projects that can fuel the data-driven enterprise.

Making data accessible and usable is the first step toward enabling insight-led innovation. For this reason, Dell Technologies provides capabilities and expertise that help you identify and classify data sources across your data estate. Following are a few examples.

Uncover and consolidate data

[Dell EMC DataIQ](#) empowers you to identify, classify and move unstructured file and object data between heterogeneous storage systems and clouds. By providing rapid search functionality and a unified file system view of Dell EMC PowerScale, Dell EMC ECS, and third-party and cloud storage, DataIQ enables you to visualize all unstructured data through a single pane of glass, effectively breaking down silos of trapped data while providing self-service capabilities to move data on demand.

For structured data types, [Boomi Data Catalog and Preparation](#) unifies operational data to extend data readiness across your organization. Fueled by automation and AI, self-service data discovery tools empower you to make the best possible decisions faster. Governance features improve security, compliance and operational efficiency, making everyone's work easier and more productive.

Break down data silos

[Boomi Integrate](#) brings together on-premises and cloud applications with various data sources and devices, creating a fabric of connectivity to unlock productivity. A drag-and-drop user interface, data mapping tools and a comprehensive library of connectors — combined with support for various integration patterns — enable you to build any integration with exceptional speed. Operational intelligence, reusable business logic, and data flow recommendations simplify your integration process and error resolution. Templates, process libraries and custom scripting balance your productivity and control, helping your organization succeed with any connected business use case.



As the data estate expands, many organizations struggle to locate data that's pouring into the enterprise from hybrid clouds on-premises, off-premises and in edge environments, and being swept into multiple systems that often act as silos.

Curate

Store, protect, prepare and govern data wherever it exists

Once you've located and refined relevant data from across the enterprise, you need to store, protect, prepare and govern that data wherever it exists — across hybrid clouds on-premises, off-premises and in edge environments.

Doing so effectively and efficiently is particularly difficult for organizations that haven't upgraded to a modern data center architecture. Legacy infrastructure is often heterogeneous and inflexible, hindering efficient scale as data sets and user demands grow.

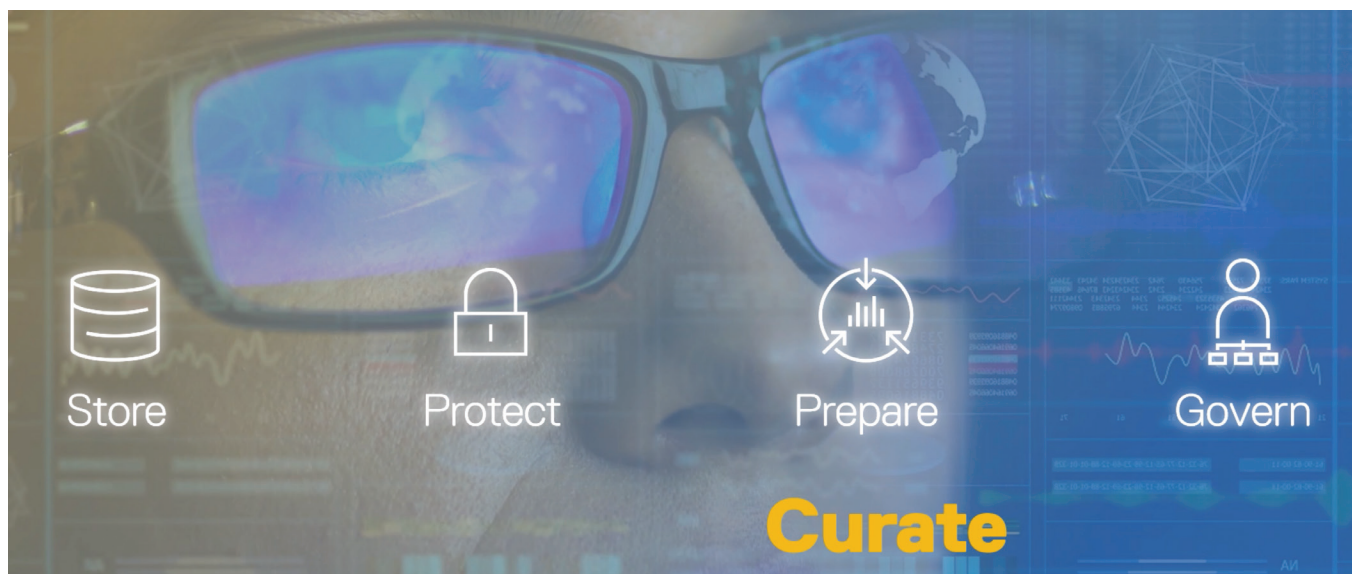
While IT organizations spend precious time keeping the lights on, data scientists and analysts may wait months for IT to provision resources for innovation — even for high-profile projects. Data protection, governance, sovereignty and compliance are also complicated by multiple silos of disconnected and heterogeneous infrastructure.

By contrast, a modern, flexible IT foundation can help place the right data in the right place at the right time for the right people. This IT foundation should:

- Continually evolve, responding easily to changes in capabilities, technologies, business demands and data interactions
- Create a shared data platform, providing a single source of truth that multiple users and applications can access
- Enable fast ad hoc reporting, advanced data analytics and data-driven applications
- Leverage best-in-class tools and software to make data available to multiple users and applications with sub-second response times

By creating an automated and integrated environment capable of delivering self-service resources to users, IT becomes a partner in innovation and a catalyst for success.

Dell Technologies provides the flexible consumption models, infrastructure and software you need to store, protect, prepare and govern your data throughout its lifecycle. We help you enable a cloud-like operating model that spans the entire data estate, so users can leverage the right data faster.



You need to store, protect, prepare and govern data everywhere it exists — across hybrid clouds on-premises, off-premises and in edge environments.

Select your consumption model

Innovative consumption models can help free up your time and resources to seize new opportunities. Dell Technologies offers an expanding lineup of consumption-based and as-a-service solutions designed to give you more choice, flexibility and predictability in how you consume and manage technology, helping you cut costs, boost agility and reduce unplanned downtime.

Scale as needed

Set yourself up to scale, with [Dell Technologies Cloud with VMware®](#). It simplifies operations across public, private and hybrid clouds, so that you can achieve greater flexibility, control and consistency to meet the needs of your organization.

As your applications and data flows become more complex, performance and throughput combined with management simplicity are essential.

- [Dell EMC PowerEdge](#) servers provide maximum performance for a diverse set of workloads with a cloud operating model that spans on-premises, off-premises and the edge.
- [Dell EMC PowerSwitch](#) is the fabric that supports the volume, speed and distance demands of those complex data flows.
- [Dell EMC PowerMax](#) and [PowerStore](#) deliver the storage scalability, intelligence, and cloud integration you need to unlock the value of your data and accelerate critical workloads across multiple clouds.

- [Dell EMC PowerScale](#) helps you manage the growth of unstructured data with flexible storage that efficiently consolidates a wide range of file and object storage workloads at any scale.
- [Dell EMC Streaming Data Platform](#) ingests all data, regardless of source or type, into one engine and transforms it into unified streams for easy implementation, management, security, scalability and application development.
- [Dell EMC VxRail](#) hyper-converged infrastructure is hybrid cloud-enabled, scale-out and software-defined to help you run complex workloads with ease and agility, scale as needed and operate more efficiently.
- [Dell Technologies Cloud Storage for Multi-cloud](#) gives you the benefits of enterprise-grade data security, performance, capacity, replication and availability in the public clouds of your choice. It also enables you to switch between environments based on your data resilience and control requirements.

Protect and govern data wherever it resides

[Dell EMC PowerProtect Data Manager](#) delivers software-defined data protection and governance capabilities across your evolving physical, virtual and cloud environments. It enables faster IT transformation, while giving you the ability to easily safeguard and quickly unlock your data's value.

[Boomi Integrate](#) supports application integration processes between cloud platforms, software-as-a-service (SaaS) applications and on-premises systems. It gives your team online access to a powerful range of integration and data management capabilities.



Dell Technologies helps
IT become a catalyst,
focusing time and
resources on innovations
that continue driving
business value in a
virtuous cycle.



Activate

Realize data-driven insights to drive better outcomes

Once data is easily discoverable and prepared for consumption across a secure, integrated and easy-to-manage data estate, you can activate your data to enable insights and automated responses in real time. Fueling better decisions every day and for every process — across marketing, finance, operations, sales, supply chain, services, human resources and more — is a transformational opportunity. However, it comes with its own set of challenges.

For example, your marketing team might want to use analytics and AI to optimize customer engagement, an outcome that includes maximizing market reach, improving targeting, personalizing touch points and so on. Achieving this goal requires building a series of interrelated algorithms and activating them in processes and applications. Extending this type of transformation across the organization can strain even the most advanced data-driven teams — and their IT colleagues.

To unleash data-driven opportunities across the enterprise, data scientists and data analytics teams need the freedom to explore new use cases and extend existing ones without concern for the underlying IT infrastructure. Providing these expert teams with a starting point that's ready to “just add data” lays the foundation for sharing knowledge and reusing models to spark illumination faster and more efficiently across the entire organization.

Unfortunately many organizations lack the internal skills and resources to design, deploy and manage these types of solutions. Dell Technologies can help accelerate your digital transformation, with modern software and analytics solutions at any scale — from workstation to supercomputer — so teams can focus on creating measurable value.

Streamline AI and data analytics adoption

Organizations can save time and effort with solutions that are architected, tested and validated for AI, data analytics and High Performance Computing (HPC). [Dell EMC Ready Solutions for AI, Data Analytics and HPC](#) bring together powerful and scalable compute, networking and storage to help you simplify the complex, act on more opportunities, and achieve success at any scale. These solutions accelerate innovation across private and public clouds and at the edge. Conceived, designed and engineered with Dell Technologies' groundbreaking technology partners, these solutions pave the way for rapid deployment, agility and exceptional value.

Accelerate cloud-native application development for AI and analytics

Augment internal app development resources with [VMware Tanzu](#), a family of products and services for building, running and managing modern apps on any cloud — and continuously delivering value. The portfolio simplifies hybrid cloud operations while freeing developers to move faster with easy access to the right resources. And if you need someone to work side-by-side with you on agile capabilities and processes, [VMware Pivotal Labs](#) teams are ready to assist. They can help you accelerate the delivery of software and modernize legacy apps while reducing operating costs and risk.

Power I/O- and compute-intensive workloads at the right scale and in the right place

From proof of concept to production at massive scale for AI, analytics and HPC workloads, the Dell Technologies portfolio provides the performance and capacity you need to activate data. AI technologies powered by [Dell Precision](#) workstations accelerate data-driven innovation in configurations that put advanced technology in the reach of every organization. For larger-scale projects that require servers that are optimized for data-intensive workloads, [Dell EMC PowerEdge](#) servers maximize compute performance across the widest range of applications with highly scalable architectures. When you're activating data at the edge, [Dell Technologies edge solutions](#) enable faster, more accurate decisions at the point of data creation, even in the most remote, harsh environments.

Enabling better decisions every day and for every process — across marketing, finance, operations, sales, supply chain, services, human resources and more — is a transformational opportunity.

Illuminate opportunities

Dell Technologies helps you illuminate opportunity

Illuminating opportunity throughout your enterprise is an attainable goal that you can start working toward today.

For years, Dell Technologies has been helping our customers with data by leveraging our own experiences with data management. We have more than 35 data science teams typically driving over 450 AI projects, with approximately 1,800 team members fully dedicated to extracting insights from data.

These insights help us deliver better customer experiences from discovery to acquisition to frictionless use. For example, we use telemetry data to monitor response times on our websites and proactively change processes so customers can quickly and easily explore our offerings and information about emerging technologies and use cases. An order processing system based on customer feedback and machine learning digitizes and automates order processing, so customers get their products sooner. Our SupportAssist capability delivers a proactive and predictive support experience that is based on analysis of data from millions of connected devices. Similarly, the company uses data internally to reduce our employee support incidents by almost one-third.

The vision of illuminating opportunity throughout your enterprise is not an abstract concept. It's a reachable goal that you can start working toward today.

These are just a few of the ways that we rely on data to improve customer experiences—and our own internal processes. We use our expertise and solutions to help you to find the value in your data — how to discover it, how to store and protect it, how to analyze it.

We take a holistic approach to the data-to-insight lifecycle, enabling you to substantially improve the volume, type and quality of data you ingest, prepare and analyze. And we do this in a consistent way across hybrid clouds on-premises, off-premises and at the edge.

Resources

- Engage with [Dell Technologies Customer Solution Centers](#), trusted environments where world-class IT experts collaborate with you to share best practices, facilitate in-depth discussions of effective business strategies, and help you become more successful and competitive.
- Dare to be audacious with [Dell Technologies solutions for AI](#).
- [Find your edge](#) with capabilities that will drive you into the digital future.
- Leverage [Dell Technologies Education Services](#) courses and certifications in data science and advanced analytics, available through self-paced online labs and instructor-led workshops.
- [Dell Technologies ProDeploy](#) experts lead deployment of new technology with a global team of dedicated specialists.
- [Dell Technologies ProSupport](#) provides comprehensive hardware and collaborative software support 24x7 for optimal system performance and minimized downtime.

Our global network of consultative specialists and partners stand ready to roll up their sleeves to help you:



Discover: Locate and refine data from across your entire data estate.



Curate: Store, protect, prepare and govern data wherever it exists.



Activate: Realize data-driven insights to drive better outcomes.

To learn more, visit: DellTechnologies.com/Data

Your data can help you, and we can help you with your data.



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