DELLTechnologies

Validated Designs for Artificial Intelligence Portfolio Overview

Go from AI-possible to AI-proven

Table of Contents

DELLTechnologies

The future of artificial intelligence is now.

Artificial intelligence (AI) and its supporting computing models — machine learning (ML) and deep learning (DL) — are decades-old technologies that are taking off. Why is AI so hot right now? The reason is likely a convergence of multiple forces.

First, the industry is making incredible breakthroughs in AI, especially in DL. Second, advanced technologies are more available and affordable for a much wider range of companies. And third, there is a lot more data available to fuel AI — with more being produced every second.

This perfect storm is creating an opportunity for you to quickly identify trends and patterns that otherwise would be difficult and time-consuming to detect. Whatever your industry vertical, AI, ML and DL can change everything. Whether you're just getting started or you've been doing AI, ML and DL for some time, Dell Technologies can help you capitalize on the latest technological advances, making AI simpler, speeding time to insights with proven solutions.

Dell Technologies has what you need.

Expertise and guidance

Technology is evolving quickly, so your team may not have the resources to design, deploy and manage solution stacks optimized for AI, ML and DL. While AI might seem like the latest IT trend, Dell Technologies has been a leader in the advanced computing space for over a decade, with proven products, solutions and expertise. Dell Technologies has a team of AI experts dedicated to staying on the cutting edge, testing new technologies and tuning solutions to your applications to help you keep pace with this constantly evolving landscape.

Dell Validated Designs for AI

Dell Technologies is at the forefront of AI, providing the technology that makes tomorrow possible, today. Dell Technologies has invested to create a portfolio of Validated Designs for AI, simplifying the IT infrastructure to provide faster, deeper insights. You can rely on the Dell Technologies team of experts as AI, ML and DL evolve.

Solutions customized for your environment

Dell Technologies uniquely provides an extensive portfolio of technologies to deliver the advanced computing solutions that underpin successful AI implementations. With years of experience and an ecosystem of curated technology and service partners, Dell Technologies provides AI-optimized solutions, workstations, servers, networking, storage and services that reduce complexity and enable you to capitalize on a universe of data.

"We're changing how we connect devices, how we connect biological systems, and really how we connect people."

— April Agee Carroll,
Vice President of R&D,
AeroFarms[1]

"In the future, we believe data will guide every medical decision. That's why technology will be key for every healthcare company."

— Kiyotaka Fujii,
President of Global Healthcare,
Konica Minolta[2]

[1] Dell Technologies case study, A harvest full of insights, accessed July 2022.

[2] Dell Technologies case study, Realizing X-ray that moves using technology that transforms, accessed July 2022.

AI, ML and DL use cases

The use cases for AI are incredibly diverse and rapidly evolving, but there are common patterns across industries and verticals. Here is a sampling of possible use cases.

Healthcare and life sciences	Financial services	Government security and defense	Media and entertainment
• Population health • Cancer detection • Chronic illness prediction • Drug discovery • Drug interactions • Genetics • Bioinformatics • Sanitation	• Fraud prevention • Risk management • Investment predictions • Customer service • Digital assistants • Network security automation	• Facial recognition • Video surveillance • Cybersecurity • Satellite imagery • Event prediction • Emergency services • Weather and climate predictions	• Video captioning • Content-based search • Real-time translation • Language processing • Recommendation engines

Manufacturing	Energy	Transportation	Retail
• Smart manufacturing systems • Factory and demand analytics and optimization • Preventive maintenance • Relationship intelligence • Product and service quality	• Wind power generation • Solar forecasts • Oil production optimization • Weather prediction • Demand/consumption predictions	• Autonomous vehicles • Pedestrian and object detection • Lane tracking and traffic patterns • Preventive maintenance • Risk assessment • Logistics	• Supply and demand planning • Predicting buying behavior • Loss prevention • Upsell, cross-sell opportunities • Customer and product movement tracking

Overcome challenges to adopting AI

"AI is complex."

Architecting a new AI solution with software, hardware, proof of concept (PoC) and vendor selection can take several months. Because each vendor focuses on its own piece, with little integration between hardware and software, your team must know the entire data lifecycle along with servers, GPUs, networks and storage. In addition, virtualizing GPUs has been largely a complicated and time-consuming task. Once it's assembled, a solution requires extensive integration and tuning to avoid failed jobs, software version incompatibilities, or unbalanced configurations that can result in underutilized resources. From there, the different combinations of frameworks and libraries make ongoing maintenance of the environment a complex and time-consuming task.

AI simplified

Dell Validated Designs for AI are jointly engineered and validated to make it quick and easy to deploy a hardware-software stack optimized to accelerate AI initiatives. These integrated solutions leverage NVIDIA® AI Enterprise software to increase data scientist productivity, while VMware® vSphere with Tanzu simplifies IT operations. Customers report that Validated Designs enable 18–20% faster configuration and integration, save 12 employee hours a week with automated reconciliation feeds, and reduce support requirements by 25%.[3] In addition, Dell Technologies offers a single point of support for all hardware and software with ProSupport Plus.

"The biggest impact is improved workflows. We extended our storage lifecycle from three to five years, saving $1.2 million."

— Kim Rometo,
Vice President, CIO,
Miami Dolphins and
Hard Rock Stadium[4]

"We haven't been able to take full advantage of our data, and results are too slow." Data is growing at an astronomical rate, and it's impossible to take full advantage of it manually to get insights. The speed of AI-driven automated image and pattern detection can help provide faster insights. And with historical data sets, you can get deeper insights into, for example, buying behavior. While most organizations know that AI can provide faster, better and deeper data insights, some don't know how to effectively leverage and scale existing resources while maximizing utilization for AI workloads.

Faster AI insights

Validated Designs for AI speed time to insight with automatic machine learning, MLOps and a comprehensive set of AI tools. Dell VxRail or PowerEdge servers with PowerSwitch and PowerScale storage improves AI model training accuracy with fast access to larger data sets, enabling AI at scale to drive real-time, actionable responses. VxRail enables 44% faster deployment of new VMs,[5] while Validated Designs enable 18X faster AI models — two to three days instead of one to two months.[3]

"We don't have the in-house expertise for AI." AI and related technologies are complex and emerging quickly. Trained and experienced staff is hard to come by, and many organizations have not had the time to develop the in-house skills required to succeed with AI, ML and DL. Unfortunately, this may become evident only as you attempt to move AI applications from proof of concept (PoC) into production. It's little wonder that 87% of AI projects never make it into production.[6]

Proven AI expertise

You can confidently deploy an engineering-tested AI solution backed by world-class Dell Technologies Services and support for Dell Technologies and VMware solutions. Our worldwide Customer Solution Centers with AI Experience Zones enable you to leverage engineering expertise to test and optimize solutions for your environments. Our expert consulting services for AI help you plan, implement and optimize AI solutions, while more than 35,000 services experts can meet you where you are on your AI journey.

Customer success stories
HPC Validated Design for AI and Analytics

$1.4 million	40% fewer	$300K less
TCO savings	people required	power required

Read the brief: TCO Analysis—HPC Validated Design for AI and Analytics.

AeroFarms®

Millions	390X more	95% less
of data points collected, 24/7	productivity than a commercial farm	water used for the same crop yield

Read the case study: A Harvest Full of Insights.

Read more customer stories.

[4] Dell Technologies case study, Top scores for game-day experience, May 2020.

[5] IDC white paper, The Business Value of Dell VxRail and VMware Cloud Foundation on Dell VxRail, December 2020.

[6] DZone, Top 10 Reasons Why 87% of Machine Learning Projects Fail, October 2020.

Validated Designs for AI specifications

AI in Virtualized Environments

Virtualize and get self-service access to AI resources with VMware, NVIDIA AI Enterprise, VxRail and PowerScale.

With this Dell Validated Design for AI, in collaboration with VMware and NVIDIA, organizations across every industry and geography can harness the power of AI from anywhere, with continuous insights at scale and reach their business goals. This jointly engineered solution of NVIDIA AI Enterprise software on VMware vSphere with Tanzu deployed with Dell infrastructure gives AI researchers, data scientists and developers the solution they need to deliver the next generation of AI-powered applications, while arming IT professionals to support AI using the tools they are most familiar with.

- **AI simplified** — Dell Validated Designs for AI are jointly engineered and validated to make it quick and easy to deploy a hardware and software stack optimized to accelerate AI initiatives.
- **Faster AI insights** — VxRail integrated with NVIDIA AI Enterprise and GPUs with Dell PowerScale storage improves AI model training accuracy with fast access to larger data sets, enabling live inferencing at scale to drive real-time, actionable responses.
- **Proven AI expertise** — You can confidently deploy an engineering-tested AI solution backed by world-class Dell Technologies Services and support for Dell Technologies and VMware solutions.

Configuration options				
Compute	**Server Accelerators**	**Networking**	**Software**	**Storage**
Dell PowerEdge R750, R750xa, R7525 Dell VxRail HCI V670 or V670F	NVIDIA A100 or A30 GPUs	Dell PowerSwitch 25GbE S5248F-ON or 100GbE S5232F-ON or NVIDIA Mellanox® Spectrum® SN3700 and out-of-band PowerSwitch S4148T-ON	• NVIDIA AI Enterprise • VMware vSphere • VMware Tanzu • VMware vRealize Automation	Dell PowerScale F600 or H600

Automatic Machine Learning (AutoML)

Empower citizen data scientists to focus on innovation

Even as AI and ML become more essential, the shortage of ML experts threatens to throttle innovation. Automatic machine learning (AutoML) from H2O.ai automates repetitive tasks to make it easier to train and evaluate ML models — allowing people to focus on the business problems they are trying to solve. The Dell Validated Design for AI - Automatic Machine Learning makes it easier for data scientists to train the best model in the least amount of time in a VMware-virtualized environment.

- **AI simplified:** Automatic machine learning makes it easier for everyone to train AI models.
- **Faster AI insights:** Machine learning operations (MLOps) streamlines AI into production.
- **Proven AI expertise:** Confidently deploy an engineering-tested AutoML solution backed by world-class services and support. Select ProSupport Plus for a single point of contact for software and hardware support.

Configuration options				
Compute	**Server Accelerators**	**Networking**	**Software**	**Storage**
4x VxRail HCI V670 or PowerEdge R750xa	NVIDIA A100 or A30 GPUs (optional)	PowerSwitch 25GbE S5248F ON and out-of-band PowerSwitch S4148T-ON	PowerScale F600 or H600	• H2O.ai Driverless AI • cnvrg.io MLOps • NVIDIA AI Enterprise • VMware vSphere Tanzu

Conversational AI
Deliver extraordinary interactions more efficiently and effectively

With the Dell Validated Design for AI — Conversational AI, you can easily harness the power of natural language processing (NLP) to enhance customer relations, improve cost efficiency, provide better customer feedback, gain better insights and provide uninterrupted service. Virtual assistants using Kore.ai conversational AI technology can mimic humanlike dialogue and give your customers and employees the feel of a real conversation while helping them with their queries. The AI can extract data, inform and resolve user questions in the majority of cases, passing it on to a human only if the query is complex.

- **AI simplified** — Jointly engineered and validated to make it quick and easy to deploy optimized hardware and software stacks for conversational AI.
- **Faster AI insights** — Optimized for Kore.ai to speed performance and response times.
- **Proven AI expertise** — Confidently deploy an engineering-tested conversational AI solution backed by world-class Dell Technologies services and support. Select ProSupport Plus for a single point of contact for software and hardware support.

Deep Learning with NVIDIA
Integrated solution includes GPU-aware cluster management and modeling frameworks

There has been an explosion of interest in DL, and the plethora of choices makes designing a solution complex and time consuming. Validated Designs for AI — Deep Learning with NVIDIA includes all the software and hardware needed o support all phases of deep learning (DL). It incorporates the latest CPU, GPU, memory, network, storage and software technologies with impressive performance for both training and inference phases. This level of throughput and efficiency makes scaling out ML and DL more feasible.

- **High-performance** — Built around PowerEdge servers with NVIDIA V100 GPUs, NVIDIA NVLink™ connects multiple V100 GPUs to deliver higher inference performance.
- **Save time and risk** — A GPU-optimized solution stack can shave valuable time from DL projects.
- **Services ecosystem aids success** — Dell Technologies engineers can help you configure, test and tune GPU-enabled hardware and software, with included services to help data scientists discover insight from data more quickly.

Configuration options			
Dell		**Networking**	**Software**
PowerEdge servers	**Storage**		
• R740xd (master node) • C4140 with NVIDIA V100 GPUs (compute nodes)	• Validated Design for HPC NFS Storage • Isilon F800 all-flash scale-out NAS	• Dell PowerSwitch S3038-ON • NVIDIA Switch-IB-2 SB780 • Mellanox SX6036 InfiniBand® / VPI Gateway	• Data Science Provisioning Portal • NVIDIA Bright Cluster Manager® for Data Science

DataRobot
Everything you need for automated ML

One of the most important elements of any ML platform is its ability to democratize data access — empowering users to quickly and easily build predictive models with full transparency. That's why many organizations are choosing DataRobot®, an advanced enterprise AI software platform that encapsulates the knowledge, experience and best practices of the world's leading data scientists into an automated ML solution so you can quickly and easily build highly accurate predictive models without previous coding and ML skills.

- **Accelerate AI success** — Succeed with the team you have in place because DataRobot automates many tasks required to create AI and ML applications.
- **Flex as needed** — Engineering-validated designs can be optimized for your specific workloads and use cases.
- **Leverage best-in-class solutions** — Dell Technologies works closely with DataRobot to bring you the Validated Design for DataRobot.

Configuration options		
Dell		**Software**
PowerEdge servers	**PowerSwitch networking**	
C6420	• S3148-ON (1GbE) • S5224F-ON (10/25GbE)	• DataRobot • VMware ESXi™

Domino Data Science Platform

Speed development, delivery and monitoring of AI models with an optimized technology platform.

One of the most complex tasks for getting AI workloads into production is model development. Data scientists need to be able to streamline development to deployment by using a platform that accelerates the data science lifecycle with open access to tools, compute and data. Enterprises require an open and flexible data science platform that automates tasks while allowing teams to collaborate efficiently, enabling the use cases of today while not locking out those of tomorrow.

- **Speed time to value** — Standardized building blocks simplify designing systems optimized for specific workloads and speed configuration and ordering.
- **Enhance efficiency** — Accelerate the data science lifecycle with open access to tools, compute and data that streamline development and deployment.
- **Augment internal skills** — Dell Technologies AI experts are available to assist with designing a solution for specific needs.

Configuration options			
Dell PowerEdge servers	**Networking**	**Storage**	**Software**
• R640 (bastion, control plane and infrastructure nodes) • R640 with NVIDIA T4 GPUs (application nodes)	25 GbE NVIDIA ConnectX®-5 NDC	2x 240GB or 480GB SATA SSD 1TB plus SSD storage for project files	• Domino® Data Science Platform • Kubernetes®

Edge AI with NVIDIA Fleet Command

A hybrid-cloud platform for managing and scaling AI at the edge.

NVIDIA Fleet Command™ is a hybrid cloud software platform for managing and scaling AI deployments across dozens or up to millions of servers and edge devices. This hybrid cloud, software-as-a-service (SaaS) enables deploying, managing and scaling AI at the edge from a single, web-based control plane. By deploying NVIDIA Fleet Command with Dell Technologies NVIDIA-Certified Systems, IT admins can take secure, remote control, simplifying deployment and powering resilient AI across the network in just minutes.

- **Adaptive compute** — Dell PowerEdge servers are engineered to optimize the latest technology advancements across processor, memory, networking, storage and acceleration to deliver predictable outcomes.
- **Autonomous management** —Systems and lifecycle management helps you respond rapidly and deliver outcomes aligned with business priorities, freeing IT to stop managing and start innovating.
- **Proactive resilience** — Dell PowerEdge servers embed trust into your digital transformation with an infrastructure and IT environment designed for secure interactions and the capability to anticipate potential threats.

Configuration options		
Dell		**Software**
PowerEdge servers	**PowerSwitch networking**	
R650, R750xa, R6515, R6525, R7525, R940xa, DSS 8440, XE2420, R640, R740 and R740xd servers	• S3148-ON 1GbE • S5224-ON 10/25GbE	NVIDIA Fleet Command

Grid Dynamics

Purpose-built ML and DL infrastructure based on the Kubernetes ecosystem

Grid Dynamics® is at the forefront of cloud-native big data platforms. With expertise in implementing reliable data lakes, data pipelines, data warehouses, ML platforms and end-to-end analytical data platforms, Grid Dynamics can help reduce time to market and costs with a cloud-native stack. This Validated Design provides an optimized foundation for those looking to migrate an existing data platform based on open-source technologies, move from a legacy platform based on proprietary products, implement a new cloud-native platform, or implement a specific capability on a cloud-native stack.

- **Simplify AI and ML** — Dell Technologies collaborates with Grid Dynamics to create powerful solutions that make it easier to adopt and use open-source AI and ML application stacks.
- **Optimize your solution** — Modular building blocks can be combined to build a system that's optimized specifically for your unique workloads and use cases.
- **Trust the industry leader** — Modernize, automate and transform the data center using industry-leading converged infrastructure, servers, storage and data protection technologies.

Configuration options			
Dell			**Software**
PowerEdge servers	**Storage**	**PowerSwitch networking**	
• R640 (for high availability Kubernetes) • R740xd (application nodes)	R740xd servers for Ceph® storage	• S3148-ON 1GbE • S5224-ON 10/25GbE	• Kubeflow on SUSE® CaaS Platform • Kubeflow on Canonical® Charmed Kubernetes Cluster

Iguazio

Speed and simplify deployment of ML applications.

Iguazio® enables real-time processing of streaming data for rapid time to insight. By unifying the data pipeline, Iguazio reduces the latency and complexity inherent in many advanced computing workloads, effectively bridging the gap between development and operations. Data scientists can run queries on large data sets and securely share data and algorithmic models with authorized users during the training phase. Once the models are ready for production, containerized ML models are easy to move from development to operational environments.

- **Speed and simplify deployment of AI and ML applications** — Essential frameworks, such as Kubeflow, Apache Spark and TensorFlow™ along with well-known orchestration tools like Docker® and Kubernetes are built in.
- **Transition smoothly to production** — A complete toolset for developing and deploying ML models and allows both training and production models on one platform, closer to the data source.
- **Reduce risks** — Rely on fine-grained security using multi-layered network, identity, metadata or content-based policies.

Configuration options		
Dell		**Software**
PowerEdge servers	**PowerSwitch networking**	
• R640 (application nodes) • R740xd (data nodes)	• S3148-ON (1GbE) • SN2700-ON (100GbE)	Iguazio Data Science Platform

Intelligent Video Analytics

Create safer and smarter environments with Dell Technologies, NVIDIA and Deep Vision.

New AI capabilities have opened a whole new world of possibilities for monitoring and analyzing video feeds in real time for intelligent insights that can help improve customer service, efficiency, health and safety and much more. However, systems operating at the edge, at scale, require experience and deep application knowledge to determine the right balance of hardware, software and media processing algorithms. That's why Dell Technologies, in partnership with Deep Vision (an IntelliSite™ company) and NVIDIA, is offering a Validated Design for AI that has been tested by Dell Technologies engineering teams for intelligent video analytics at the edge.

- **Reduce complexity** — Proceed directly to deploying a validated solution on a fast track with lower risks and cost than do-it-yourself approaches.
- **Get the right price/performance** — A wide choice of configuration options enable the right balance of compute, memory and GPU performance with lower costs.
- **Trust proven AI expertise** — The combined expertise of Dell Technologies, NVIDIA and Deep Vision provide the foundation for deploying AI at the edge more easily and with less risk.

Configuration options			
Compute	**Networking**	**AI platform**	**AI modules**
NVIDIA GPU Cloud (NGC)-Ready for Edge Systems based on Dell PowerEdge R7515, XE2420, R740 or R7525 Servers with NVIDIA T4 GPUs	Dell PowerSwitch N3048ET-ON, N3024EP-ON, N3048EP-ON and S3148P-ON	Deep Vision deployed on: • NVIDIA EGX™ software stack for edge AI workloads (Kubernetes, Helm, Tiller and the NVIDIA GPU Operator) • NVIDIA Metropolis, (DeepStream SDK and TensorRT™ SDK) • NVIDIA CUDA®	Each video stream can be configured to one or more Deep Vision module(s): • Facial recognition • Vehicle identification • People counting and demographics • Alert zone entry • Thermal analysis

Kubeflow on OpenShift

Accelerate ML/DL workloads using Kubeflow.

Integrating production-grade AI technologies in well-defined platforms within the protection of the data center can facilitate wider adoption of advanced computing, extending investments by supporting AI use cases as well as augmenting the resources available to data science teams. Running Kubeflow on Red Hat® OpenShift® offers several advantages.

- **Streamline AI pipelines** — A composable, scalable, portable stack includes components and automation features to integrate ML tools, so they work together to create a cohesive pipeline that makes it easy to deploy ML applications at scale.
- **Develop and deploy anywhere** — Running Kubeflow on OpenShift makes models portable, so ML/DL engineers can develop models locally and easily deploy the application to a production Kubernetes environment.
- **Enhance simplicity and control** — The ability to run ML/DL workloads in the same environment as the rest of your enterprise applications increases control and reduces complexity for IT teams.

Configuration options			
Dell			**Software**
PowerEdge servers	**Storage**	**PowerSwitch networking**	
• R640 (bastion, control plane and infrastructure nodes) • R640 servers with NVIDIA T4 GPUs (application nodes)	R740xd servers with NVIDIA V100 GPUs	• S5232F-ON • S3048-ON	• Kubeflow • Red Hat OpenShift

Machine Learning Operations (MLOps)

Harness MLOps to improve AI results.

As AI becomes strategic for a wide array of organizations, data science and engineering teams are looking to streamline and simplify the process of moving ML models into production. The Dell Validated Design for AI — Machine Learning Operations (MLOps) built-in collaboration with cnvrg.io, NVIDIA and VMware — standardizes ML pipelines to minimize friction for data science and engineering teams to bring AI from research to production.

- **AI simplified** — Jointly engineered and validated solutions make it quick and easy to deploy optimized hardware and software stacks for cnvrg.io MLOps.
- **Faster AI insights** — Streamlined ML pipelines enable faster development and smoother transition to production.
- **Proven AI expertise** — Confidently deploy an engineering tested MLOps solution backed by world class Dell Technologies and NVIDIA services and support. Select ProSupport Plus for a single point of contact for software and hardware support.

Configuration options				
Compute	**Server Accelerators**	**Storage**	**Networking**	**Software**
4x Dell VxRail HCI V670 or PowerEdge R750/xa servers	NVIDIA A100 or A30 GPUs	Dell PowerScale F600 or H600	Dell PowerSwitch 25GbE S5248F-ON and PowerSwitch S4148T-ON	• cnvrg.io • NVIDIA AI Enterprise • VMware vSphere with Tanzu

Retail Loss Prevention

Cost-effectively reduce inventory loss with AI-driven software and hardware technology.

Preventing scan fraud activities such as scanning errors and UPC barcode switching at the point of sale (POS) is critical to reducing the major source of inventory loss in the retail sector. Dell Technologies, in partnership with Malong Technologies and NVIDIA, offers a self-learning computer vision solution that uses AI to reduce inventory loss caused by accidental and intentional behavior during checkout. AI-based automated systems using Dell Technologies hardware and special purpose DL models from Malong provide cost-effective tools to reduce inventory loss for retail stores.

- **Reduce losses** — Protect a wide range of stock keeping units (SKUs) by detecting mis-scans and ticket switching in near real time.
- **Reduce costs** — Reduce reliance on cost-intensive human security personnel.
- **Deploy and scale quickly** — Validated configurations enable easy deployment at scale for thousands of retail stores at self-checkout and staffed checkout lanes.

Configuration options			
Dell PowerEdge servers	**Storage**	**Networking**	**Software**
R740, R7515 or R7525 with NVIDIA T4 GPU	2TB SAS SSDs in RAID 6	Broadcom 57416 Dual Port 10 GbE BaseT Network LOM Mezz Card	• RetailAI® Protect by Malong Technologies • Docker container runtime

Solution highlights

Dell PowerEdge servers: Dell PowerEdge servers are engineered to deliver unmatched performance and versatile configurations to meet the demands of AI workloads. Flash storage, the latest processors, greater memory bandwidth and flexible local storage make Dell PowerEdge servers a foundational choice for AI.

Dell PowerSwitch networking: Today's AI workloads call for new thinking about network architecture. Based on open standards, our future-ready networking technology helps you improve network performance, lower networking costs and remain flexible to adopt new innovations. Take control of your network's future and learn how the Dell Technologies strategy for open networking can dramatically transform your business.

Dell PowerScale storage: AI environments require large, scalable, reliable and efficient storage. With support for multiple workloads and enterprise-grade data and file management capabilities out of the box, Dell Isilon scale-out NAS is the leading storage for AI. You can take advantage of the high capacity of Isilon to reduce the acquisition and ownership cost for managing and monetizing data using advanced or predictive analytics and ML.

Services and financing

Dell Technologies is with you every step of the way, linking people, processes and technology to accelerate innovation and enable optimal business outcomes.

- Consulting Services help you create a competitive advantage for your business. Our expert consultants work with companies at all stages of analytics to help you plan, implement and optimize solutions that enable you to unlock your data capital and support advanced techniques, such as AI, ML and DL.

- Deployment Services help you streamline complexity and bring new IT investments online as quickly as possible. Leverage our 30-plus years of experience for efficient and reliable solution deployment to accelerate adoption and return on investment (ROI) while freeing IT staff for more strategic work.

- Support Services driven by AI and DL will change the way you think about support with smart, groundbreaking technology backed by experts to help you maximize productivity, uptime and convenience. Experience more than fast problem resolution — our AI engine proactively detects and prevents issues before they impact performance. Select ProSupport Plus for a single point of contact for software and hardware support.

- Payment Solutions from Dell Financial Services help you maximize your IT budget and get the technology you need today. Our portfolio includes traditional leasing and financing options, as well as advanced flexible consumption products.

- Dell APEX offers a simple approach that gives you a wide range of consumption models, payment solutions and services so you can optimize for a variety of factors while realizing more predictable outcomes.

- Managed Services can help reduce the cost, complexity and risk of managing IT so you can focus your resources on digital innovation and transformation while our experts help optimize your IT operations and investment.

- Residency Services provide the expertise needed to drive effective IT transformation and keep IT infrastructure running at its peak. Resident experts work tirelessly to address challenges and requirements, with the ability to adjust as priorities shift.

Why choose Dell Technologies for AI

We're committed to advancing analytics and AI, and we've dedicated a great deal of resources toward that goal.

- Schedule an executive briefing and collaborate on ways to reach your business goals.

- Dell Technologies Customer Solution Centers are staffed with computer scientists, engineers and subject matter experts in a variety of disciplines.

- We are committed to providing you with choice. We want you to get what you need and have a great experience working with us. If we don't have what you need, we'll tell you who does. We believe in being open, and we publish our performance results at HPCatDell.com and on the Dell Technologies InfoHub.

- Dell Technologies is the only company in the world with a portfolio that spans from workstations to supercomputers, including servers, networking, storage, software and services.

- Because Dell Technologies offers such a wide selection of solutions, we can act as your trusted advisor without trying to sell you a one-size-fits-all approach to your problem. That range of solutions has also given us the expertise to understand a broad spectrum of challenges and how to address them.

Proven results

Dell Technologies holds leadership positions in some of the biggest and largest-growth categories in the IT infrastructure business, and that means you can confidently source information technology needs from Dell Technologies.

- #1 in servers[7]
- #1 in converged and hyperconverged infrastructure (HCI)[8]
- #1 in storage[9]
- #1 cloud IT infrastructure[10]

See Dell Technologies Key Facts.

[7] IDC, WW Quarterly x86 Server Tracker, Vendor Revenue & Shipments, March 2022.

[8] IDC, WW Quarterly Converged Systems Tracker, March 2022.

[9] IDC, WW Quarterly Enterprise Storage Systems Tracker, March 2022.

[10] IDC WW Quarterly Enterprise Infrastructure Tracker: Buyer and Cloud Deployment, 2Q2021, October 2021.

Customer Solution Centers

Our global network of dedicated Dell Technologies Customer Solution Centers are trusted environments where world-class IT experts collaborate with you to share best practices, facilitate in-depth discussions of effective business strategies and help your business become more successful and competitive. Dell Technologies Customer Solution Centers reduce the risks associated with new technology investments and can help improve speed of implementation.

AI Experience Zones

Are you curious about AI and what it can do for your business? Run demos, try proofs of concept and pilot software in Singapore, Seoul, Sydney, Bangalore and other Customer Solution Centers. Dell Technologies experts are available to collaborate and share best practices as you can explore the latest technology, get the information and hands-on experience you need for your advanced computing workloads.

HPC & AI Innovation Lab

The Dell Technologies HPC & AI Innovation Lab in Austin, Texas, is the flagship innovation center. Housed in a 13,000-square-foot data center, it gives you access to thousands of Dell servers, three powerful HPC clusters, and sophisticated storage and network systems. It's staffed by a dedicated group of computer scientists, engineers and subject matter experts who actively partner and collaborate with customers and other members of the HPC community. The team engineers HPC and AI solutions, tests new and emerging technologies, and shares expertise including performance results and best practices.

HPC & AI Centers of Excellence

As analytics, HPC and AI converge and the technology evolves, Dell Technologies worldwide HPC & AI Centers of Excellence provide thought leadership, test new technologies and share best practices. They maintain local industry partnerships and have direct access to Dell and other technology creators to incorporate your feedback and needs into their roadmaps. Through collaboration, Dell Technologies HPC & AI Centers of Excellence provide a network of resources based on the wide-ranging know-how and experience in the community.

Contact us

To learn more, visit Dell.com/AI or contact your local representative or authorized reseller.

Take the next step, today.

Don't wait to harness the benefits of AI on optimized solutions designed from the ground up to be AI-proven. Contact your Dell Technologies representative to find out more today.

DELLTechnologies