



AI & HPC for Media and Entertainment

Reduce the time and cost of production, marketing and delivery with artificial intelligence and High Performance Computing

BRINGING YOUR IMAGINATION TO LIFE

AI and HPC have the power to turn ideas into reality

Media and entertainment companies are responsible for delighting the world with real time digital streaming content, television shows, movies and immersive gaming experiences.

From using high resolution computer generated imagery (CGI) and visual effects (VFX) to render lifelike scenes in seconds, to streaming content to audiences around the world in real time, to matching viewers with rich content, High Performance Computing (HPC) has long been used to speed media creation and delivery.

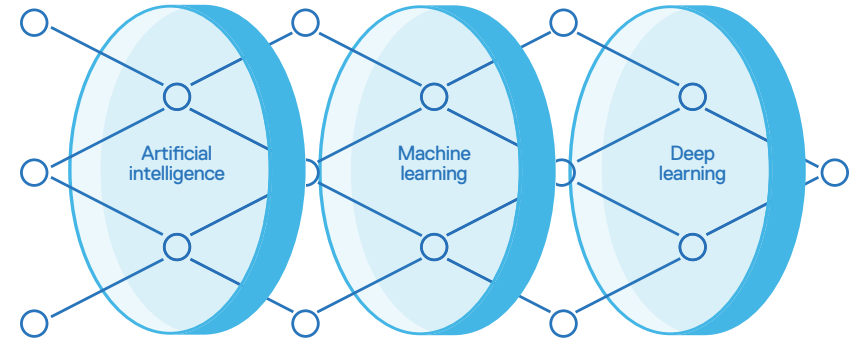
In recent years, artificial intelligence (AI) has begun creating new ways for media and entertainment companies to speed time to market and save money while offering new and improved experiences to increasingly well-qualified audiences.

As AI and HPC converge, media and entertainment companies will continue to innovate on these increasingly powerful systems to bring us face to face with new worlds and ideas.

WORK FASTER AND SMARTER

AI is a complex set of technologies underpinned by machine learning (ML) and deep learning (DL) algorithms, typically run on powerful HPC systems. Together, they enable media and entertainment companies to create and deliver the right content faster and more cost-effectively.

The capabilities of AI, ML and DL can unleash predictive and prescriptive analytics on a massive scale. Like lenses, AI, ML and DL can be used in combination or alone — depending on the use case — to focus in on media and entertainment challenges.



AI is an umbrella term that describes a machine's ability to act autonomously and/or interact in a humanlike way.

ML refers to the ability of a machine to perform a programmed function with the data given to it, getting progressively better at the task over time as it analyzes more data and receives feedback from users or engineers.

DL uses artificial neural networks (ANNs), inspired by the human brain, to process huge volumes of data. ANNs allow the machine to determine on its own if a prediction is accurate so that it can train itself without human intervention.

Content creators and marketers can use AI, ML and DL to create more life-like effects more quickly, more accurately pinpoint who would enjoy the finished product, and then deliver the content in the format and language of the viewer's choice.



How AI and HPC are being used in media and entertainment

Advanced computing capabilities are changing how media and entertainment companies produce and market content. The following is just a small sample of ways media and entertainment companies can leverage AI and HPC to produce better content faster—and market and distribute it more effectively.

1

CGI and VFX

Create more realistic effects, more quickly

HPC helps speed image modeling, animation and editing while also providing the massive horsepower required by today's rendering farms. This enables more complex, lifelike effects and photorealistic visuals. AI can automate some animation tasks, freeing people to focus on fine-tuning their creative visions.

2

Immersive entertainment

Enhance VR/AR and gaming

HPC provides the power for a new generation of immersive experiences. AI can be used to make games more interactive and compelling, for example, by improving the actions and reactions of non-player characters (NPCs) or serving up personalized experiences based on the user's preferences and behavior.



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3

Marketing

Reach more viewers with more enticing content

AI offers a deeper level of audience insight that can be used to match content with user preferences. It has also been used to create trailers without human intervention. In addition, natural language processing (NLP) — a type of AI — can be used to localize content much more quickly and cheaply so it can be marketed to a broader audience.

4

Content management and delivery

Save time and costs

HPC provides the power to transcode massive amounts of streaming media in real-time and push it out to millions of consumers on the devices of their choice. AI can help make data streaming more intelligent and unravel the mysteries of content archives with object detection, auto-metadata tagging, and video enhancement.

PROVEN EXPERTISE

AI and HPC systems from an industry leader

While AI and HPC might seem like the latest IT trends, Dell Technologies has been a leader in HPC for over a decade.

As an industry leader in AI and HPC, Dell Technologies offers proven products, solutions and expertise that reduce complexity and help you capitalize on the promise of AI and HPC to produce, market and distribute more engaging content. Working closely with our partner ecosystem and industry providers, we deliver solutions inclusive of infrastructure, applications and services.

Dell Technologies

Dell Technologies helps organizations and individuals build their digital future and transform how they work, live and play. We provide customers with the industry's broadest and most innovative technology and services portfolio for the data era. Together, we help you explore the possibilities of AI and HPC, introduce it into your organization and use it to speed and improve results.

Dell Technologies is committed to a culture of integrating ethics and compliance into daily decision-making. We believe in acting ethically in everything we do. It's good business and important to our customers, suppliers and strategic partners. As a result, critical programs have been developed to address key risks across the enterprise, creating trust with our customers.

DELIVERING VALUE

The AI and HPC value chain

Wherever you are on your journey, Dell Technologies delivers AI and HPC systems that fulfill your needs.

With an extensive portfolio, years of experience and an ecosystem of curated technology and service partners, Dell Technologies is ready to help you to capitalize on the promise of AI and HPC.

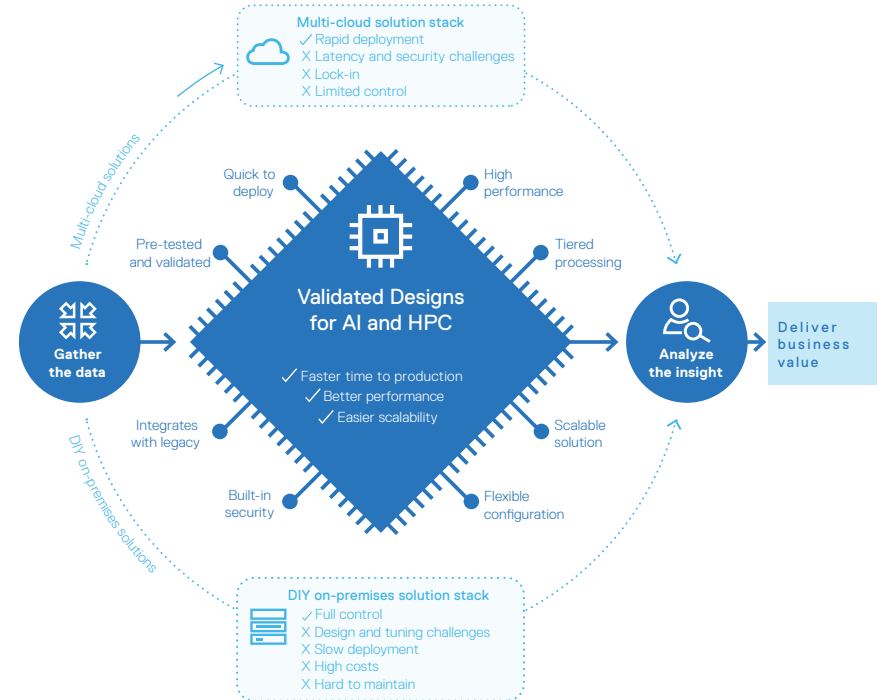
- **Extensive portfolio:** Dell Technologies uniquely provides a portfolio of technologies — spanning workstations, servers, networking, storage, software and services — to create successful AI and HPC implementations. What's more, Dell Technologies provides accelerated performance, efficiency and expertise to help you adapt as technology evolves.
- **Years of experience:** AI and HPC are evolving quickly and not many organizations have the skills to design, deploy and manage advanced computing systems. The Dell Technologies HPC & AI Innovation Lab team stays on the cutting edge of AI, testing new technologies, and tuning algorithms and applications to help you keep pace with this constantly evolving landscape.
- Our team of industry and technology experts can help you achieve faster time to results by shortening both design cycle and configuration times. These experts will work with you to create a configuration with the right features, at the right price. You can even take a test drive with a proof of concept in one of the worldwide Customer Solution Centers.
- **Curated partnerships:** Dell Technologies works closely with partners, such as Intel®, AMD®, NVIDIA®, Bright Computing® and others to optimize advancements and to access expertise around software algorithms and their implementation.

SIMPLIFYING THE COMPLEX

Validated Designs for AI and HPC

Designing and deploying an HPC system for AI and other workloads with the performance and scalability required can be complex.

Dell Technologies has invested to create a portfolio of Validated Designs to speed time to results with the confidence of engineering validation, to enable business without boundaries. They provide proven solutions that have been optimized, tuned and tested for a variety of key use cases. They include the servers, storage, networking, software and services that have been proven in our labs and in customer deployments. Plus, the modular building-block approach provides a customizable yet validated method for deploying new clusters or upgrading existing systems.



THE BENEFITS

Validated Designs for AI and HPC

Dell Technologies Validated Designs simplify IT transformation, helping you solve challenges faster.

OPTIMIZE INVESTMENTS

- Solutions are tailored to speed deployment, help eliminate potential software and hardware issues, and optimize performance.
- Flexible, industry standard building blocks of compute, networking and storage are tested and tuned with your AI and HPC applications by Dell Technologies engineering teams.
- Available consulting, education, deployment, support and remote management services optimize solution productivity and efficiency.

SCALE EASILY

- A flexible building block approach easily scales over time.
- Scale by adding resources such as memory or hard drives inside Dell EMC PowerEdge servers.
- Add external storage with Dell EMC PowerScale scale-out network-attached storage (NAS).

REDUCE RISK

- Dell Technologies engineers and industry experts work in collaboration with you and our partners to design, deploy and scale AI and HPC solutions for specific applications. This saves time and reduces the risk of potential hardware and software issues.
- Around the world, more than 35,000 Dell Technologies Services and Support experts are available every step of the way with consulting, education, deployment, management and support.¹
- Dell Technologies is an industry leader in creating HPC solutions — regardless of size or complexity — that deliver fast setup with a wide range of optional services. With proven success in thousands of implementations worldwide, you can be confident growing with Dell Technologies.

THE DELL TECHNOLOGIES DIFFERENCE

Services and financing

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

- [APEX](#) enables you to consume best of breed Dell Technologies innovation as-a-Service, unlocking the flexibility you need to adapt and thrive.
 - [Consulting services](#) are delivered by certified experts to help you get the business value of advanced computing. The services include an assessment, workshop, testing, proofs of concept and production implementation. These experts help determine where advanced computing is a good fit for your organization. They also help you build your own internal team of experts through knowledge transfer at each step.
 - [Education Services](#) offers courses and certifications in data science and advanced analytics through self-paced online labs and instructor-led workshops.
 - [Deployment](#) experts have the experience, expertise and best practices to enhance your success with AI and HPC solutions.
- With a proven track record of success in thousands of engagements worldwide, you can rely on Dell Technologies as your partner.
- [Support](#) experts can provide comprehensive hardware and collaborative software support 24x7 for optimal system performance and minimized downtime. ProSupport includes next-business-day on-site service with four- and eight-hour parts-and-labor response options, and escalation management with customer-defined severity levels. You can also opt for ProSupport Plus to get a Technology Service Manager, who serves as a single point of contact for your support needs.
 - [Financial Services](#) offers a wealth of leasing and financing options to help you find opportunities when your organization faces decisions regarding capital expenditures, operating expenditures and cash flow.

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¹Dell Technologies, "[Dell Technologies Key Facts](#)," accessed November 2021.

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