Deliver Engaging and Personalized Experiences for Citizens, Students and Faculty

Digital assistants powered by generative AI: The new frontier for state and local governments and higher education — delivered with Dell AI Factory with NVIDIA

DELLTechnologies

NVIDIA.

The evolution of AI

The state and local government and higher education (SLED) sector is rapidly changing, driven by continuing adoption of advanced technologies. The sector typically focuses IT investments on improving services for its constituents while lowering costs via operational efficiencies.

SLED uses artificial intelligence (AI) for activities like data analysis, automation of administrative tasks and predictive modeling. However, with the emergence of generative AI (GenAI), SLED entities are expanding their use cases, partly with the help of large language models (LLMs). This includes using digital assistants for services such as making community services more accessible in multiple languages and helping students and faculty in a wide range of areas.

GenAI is bringing transformative change. Are you ready?

GenAI has taken the world by storm with its ability to create content, art, music and more. By wrapping conversational AI on top of GenAI and putting an AI avatar at the front end, organizations can deliver personalized interactions (available 24x7 and at scale) with natural facial expressions and body language.

Can I add this class to my schedule?

Yes, there are two sessions available. One is in the morning. The other is in the afternoon.

Digital Assistant

Digital assistants can:

- Interact with humans using speech and text in their own language.
- Support 60+ languages.
- Understand intent and context.
- Respond in a natural language manner.

Dell Technologies can support your journey as you adopt these technologies to change the way you educate and serve people, drive human progress and transform the way we live, work and more.

Why on-premises?
Transform your data into trusted and educational interactions with on-premises deployment.

Lower costs
Leveraging on-premises implementations lowers TCO by up to 75%[1] (over a three-year period).

Reduce latency and improve performance
Today's applications require real-time processing and responses.

Provide data security and privacy
Improve control over data security and adhere to compliance regulations, especially industries that handle sensitive data.
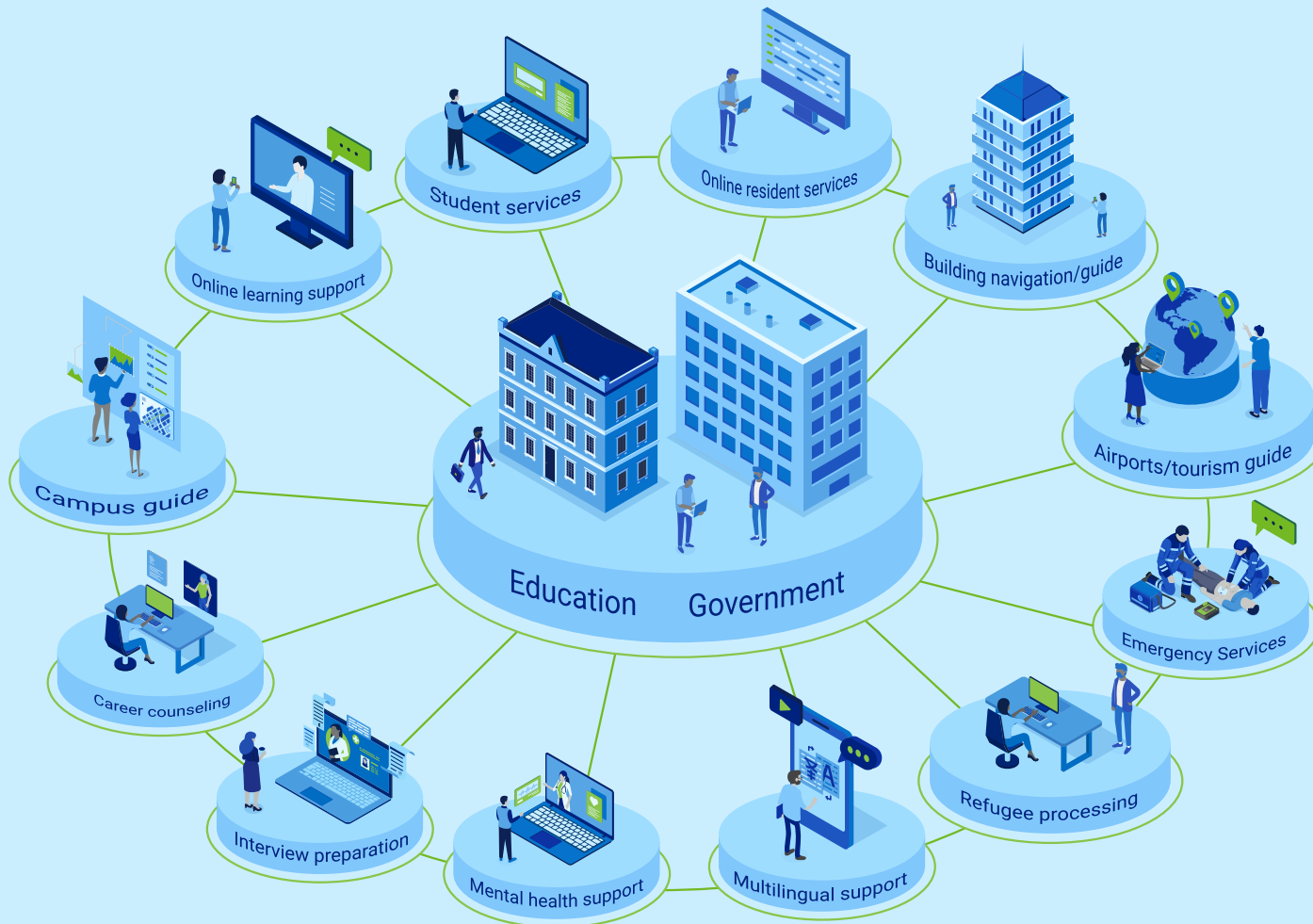
Deliver long-term reliability and access
Gain full control over the uptime and maintenance schedules of your systems.

[1] Based on Enterprise Strategy Group research commissioned by Dell Technologies, comparing on-premises Dell infrastructure versus native public cloud infrastructure as a service, April 2024. Analyzed models show a 7B parameter LLM leveraging RAG for an organization of 5K users being up to 38% more cost-effective, with a 70B parameter LLM leveraging RAG for an organization of 50K users being up to 75% more cost effective. Actual results may vary. Maximizing AI ROI: Inferencing On-Premises With Dell Technologies Can Be 75% More Cost-Effective Than Public Cloud, April 2024.

Making citizen and student journeys better

Areas of impact for SLED organizations

Online learning support

Student services

Online resident services

Building navigation/guide

Campus guide

Airports/tourism guide

Career counseling

Education   Government

Emergency Services

Interview preparation

Mental health support

Multilingual support

Refugee processing

Deliver more engaging and educational experiences

Engage residents and students with personalized interactions such as online and in-person services across government buildings and campuses.

Lower costs, boost productivity

Leverage technology and automation to reduce burnout, address staffing shortages and boost productivity.

Close the digital divide

Digital assistants help you connect with customers, employees, students and citizens on an entirely new level.

Customer highlight: Community services become more accessible with digital assistants

CITY OF AMARILLO™

Multicultural challenges

- **24%** of Amarillo's population doesn't speak English.

- One middle school has **62 languages and dialects**.

- For more than a decade, Amarillo has had the **highest number of refugees** (per capita) of any city in the United States.

The city of Amarillo, Texas

The city of Amarillo is building a more connected and engaged community that fosters a prosperous future for its diverse citizens.

Residents access information through **Emma**, the GenAI digital assistant that lives on the city's website. The aim is to turn the interaction between resident and government into an engaging conversation.

- Designed with the city's identity and tone of voice
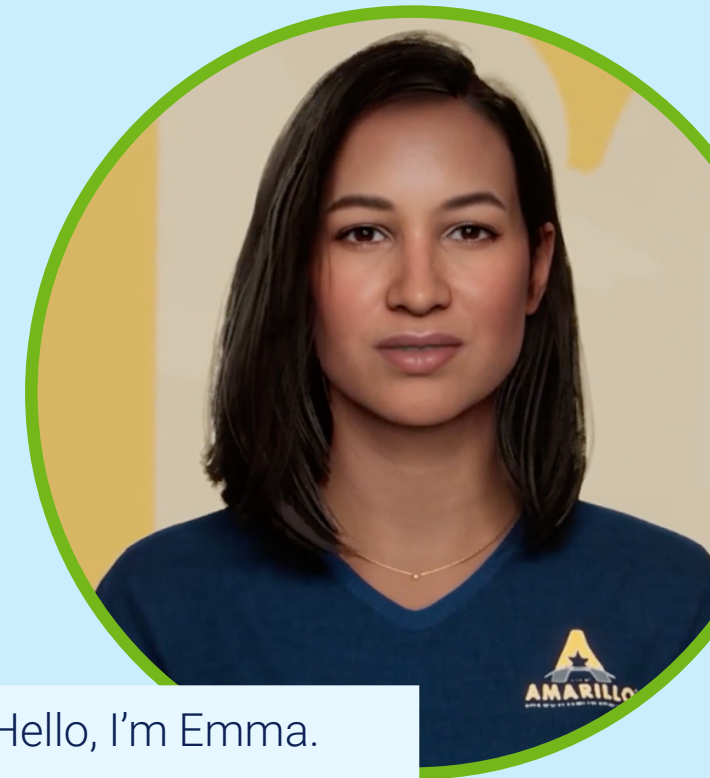- Answers queries and helps people request government services
- Delivers services in 62+ languages

"We're not afraid of the future. We're embracing this wholeheartedly."

— Rich Gagnon, Assistant City Manager and Chief Information Officer

Hello, I'm Emma.

What can I help you with today?

A new way to interact with residents

By bridging the language gap for residents, the city of Amarillo delivers important information more efficiently and effectively to its citizens, regardless of native language.

Deploying a digital assistant that delivers accurate answers for users at scale requires testing and then testing some more. The city of Amarillo uses anonymous logs during testing to get real-time feedback on what end users are asking about.

Collecting early feedback
- Using thumbs up or down reviews to get immediate reviews/feedback on conversations — and if Emma got the answers right or wrong
- Helping the team build business processes that address the back-end data and getting the right team to give the right information

Capturing questions
- Getting real-time input on what residents are asking about

Understanding sentiment
- Using more traditional AI tools that can analyze sentiment and build dashboards and metrics
- Measuring the goal of happy citizens

"The AI tools we develop with Dell's help create more effective government in the digital age and give us new tools to improve civic engagement and outcomes."

— Rich Gagnon, Assistant City Manager and Chief Information Officer

Looking to the future
Deploying Emma on the city's website serves as a blueprint for other uses within the community, including:

- Extending English as a second language assistance to help new students integrate more easily with others and bridge student/teacher communication
- Improving services in support of remote health clinics and emergency response time
- Serving as a finder guide inside government buildings

Customer highlight: Hopeworks

A nonprofit organization delivering young adult career development for under-resourced communities with digital assistants

About Hopeworks

Hopeworks is a workforce development non-profit organization focused on empowering young adults through technology training, real-world job experience and trauma-informed care. Their mission is to help young people build strong futures and break the cycle of violence and poverty.

Based in Philadelphia, Pennsylvania, and Camden, New Jersey, they support young adults from the tri-state region whose average annual wage at entry is $400 and is $44,953 when they exit the Hopeworks program.

GenAI promotes job readiness

We're at the beginning of a journey where digital assistants can globally improve learning outcomes, especially where traditional training is unavailable or too expensive. Using THE Dell GenAI mock interview experience, students and adults will be able to engage in realistic scenarios with advanced digital assistants, allowing them to practice in a supportive environment designed to enhance skills and boost confidence.

How we're helping Hopeworks
All young adults at Hopeworks participate in mock interviews with the help of volunteers. These interviews can be less effective if the volunteer lacks the necessary skills, as they may struggle to provide realistic scenarios and constructive feedback and accurately simulate real interview pressures. Additionally, their success depends on having enough skilled volunteers.

Using the GenAI mock interview experience, participants have unfettered access to practice interviews with the help of an expert digital coach and three digital interviewers that represent various entry-level positions at their convenience. In addition to having full access to the tool, a select group of young adults will support Dell Technologies in the continuing design, training and testing of the solution, deepening their real-world skills in designing, building and deploying GenAI.

The future of education

Hopeworks' utilization of the experience highlights the possibilities of digital assistants within both the workforce development and educational sectors. In the near future, universities colleges and nonprofits alike could use digital assistants for the following:

- Student information services
- Transactional services, such as adding or dropping classes
- Online learning support
- Career counseling and guidance
- Campus information and navigation
- Alumni engagement

- Multilingual support
- Service desk support
- Crisis communication and mental health support
- Financial aid/grant/ scholarship assistance

The easy path to your digital assistants

Simplify the adoption of digital assistants with a tested and proven solution that helps you get up and running faster. Now you can implement with confidence using on-premises infrastructure designed for your business needs so you can spend less time planning, building and testing.

The Dell AI Factory with NVIDIA® provides a comprehensive suite of AI technologies, a curated experience with ecosystem partners and integrated solutions that can help you achieve AI outcomes faster and more securely.

Pursue new opportunities while delivering productivity gains and cost savings across a range of use cases.

Benefits

- Accelerate deployment and reduce risk by avoiding planning pitfalls.
- Quickly scale personalized self-service experiences.
- Make interactions fun and captivating using your own data.
- Engage users 24x7 with natural conversation in their preferred language.

More than 340K

engineering hours spent on design, development and validation of GenAI solutions.[2]

Customize your digital assistant(s) for any audience

Personalize your avatar to represent the identity and tone of voice that resonates with your audience.

Appearance
Customize facial features, hair color, clothing styles and more.

Voice and language
Customize tone, accent, dialect and language for a more inclusive, personalized experience.

Personality
Shape personality traits such as friendliness, confidence, empathy, professionalism and more.

Gestures
Customize actions and movements including hand gestures, head nods and facial expressions.

Interactions
Define specific dialogues and conversations with branching paths based on user input.
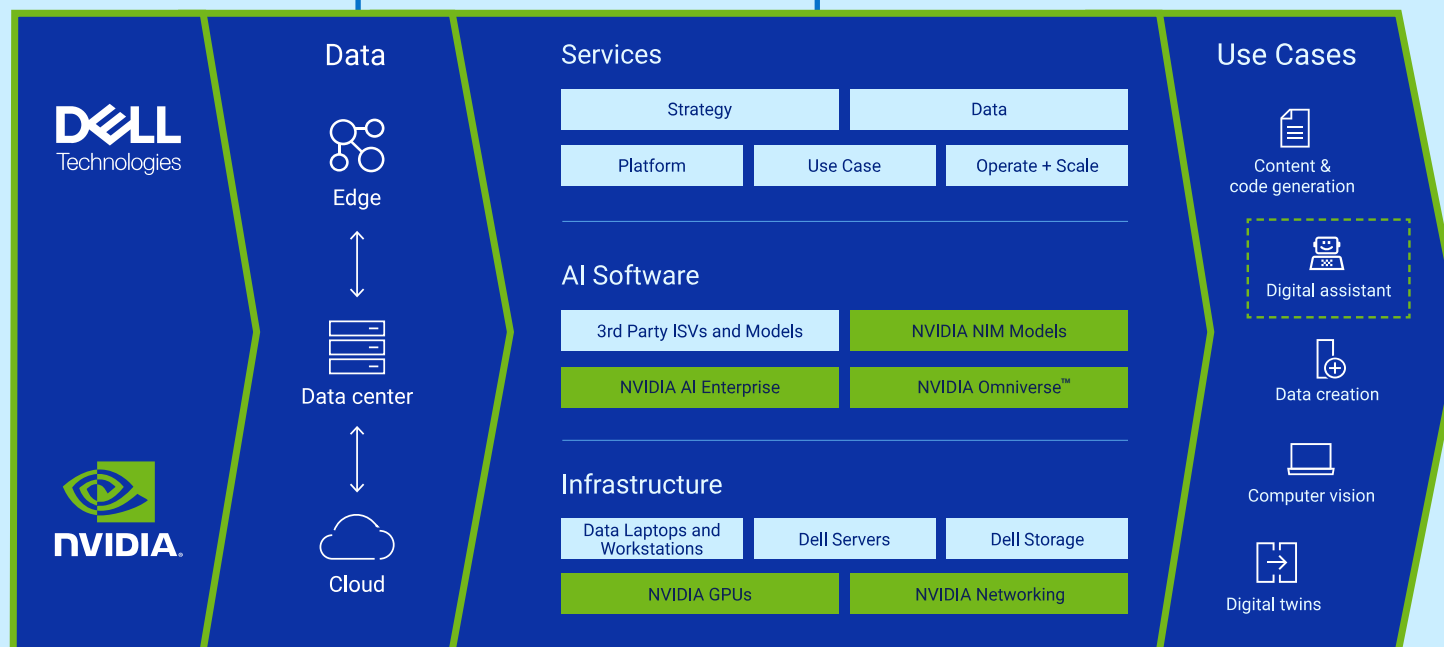
The Dell AI Factory with NVIDIA

The industry's first end-to-end enterprise AI solution

Data fuels the AI factory and your use cases
Your most valuable data is on-premises and at the edge. Dell Technologies helps you bring AI to that data and is a leader in storing, protecting and managing it.

Expert services for AI
Dell Technologies has extensive experience guiding organizations through their AI journeys, accelerating AI outcomes aligned to objectives while utilizing the right technical solutions at scale.
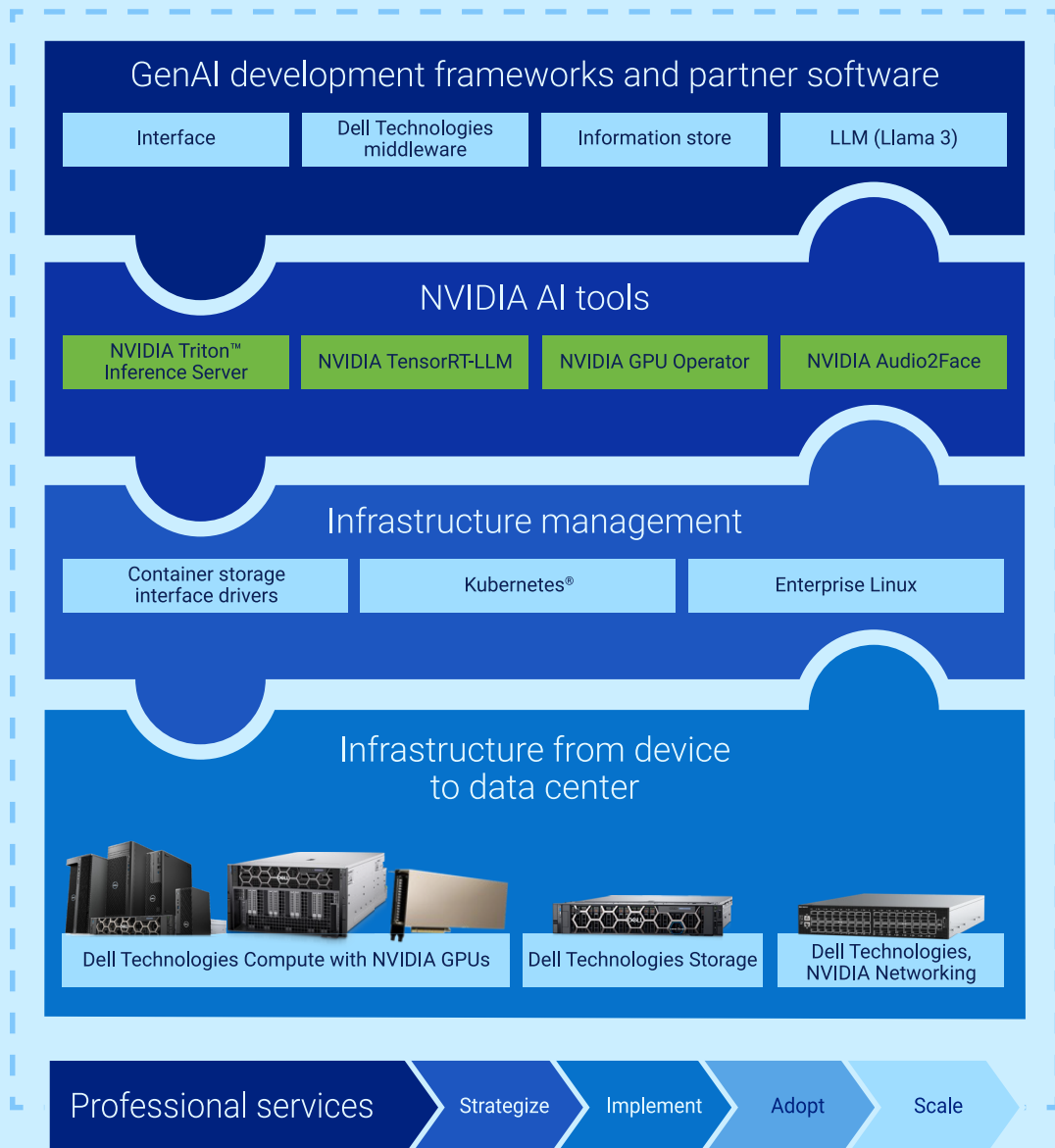
Data

DELL Technologies

NVIDIA

Edge

↕

Data center

↕

Cloud

Services

Strategy	Data
Platform	Use Case	Operate + Scale

AI Software

3rd Party ISVs and Models	NVIDIA NIM Models
NVIDIA AI Enterprise	NVIDIA Omniverse™

Infrastructure

Data Laptops and Workstations	Dell Servers	Dell Storage
NVIDIA GPUs	NVIDIA Networking

Use Cases

Content & code generation

Digital assistant

Data creation

Computer vision

Digital twins

NVIDIA NIM Agent Blueprints
Leverages proven end-to-end "recipes" that speed time to deployment and increase the accuracy and performance of AI applications. Delivered with enterprise support through NVIDIA AI Enterprise and available on build.nvidia.com.

Use case to outcomes
The AI Factory produces outcomes powered by your highest priority use cases. Dell Technologies simplifies the deployment of your most important AI use cases with validated solutions and tailored services.

Rapidly deliver digital assistants with a proven solution

GenAI development frameworks and partner software

Interface	Dell Technologies middleware	Information store	LLM (Llama 3)

NVIDIA AI tools

NVIDIA Triton™ Inference Server	NVIDIA TensorRT-LLM	NVIDIA GPU Operator	NVIDIA Audio2Face

Infrastructure management

Container storage interface drivers	Kubernetes®	Enterprise Linux

Infrastructure from device to data center

Dell Technologies Compute with NVIDIA GPUs	Dell Technologies Storage	Dell Technologies, NVIDIA Networking

Professional services	Strategize	Implement	Adopt	Scale

Multiple display options

Websites

Mobile applications

In-person kiosks and displays

Small and large displays come in many different forms across web, mobile and in-person kiosks.

Simplify adoption
with pre-tested solutions delivering a scalable and modular infrastructure.

Reduce risk
and spend less time designing, planning and testing.

Start small and scale
with flexible consumption.

Effectively embracing generative AI is a journey

Dell Technologies can accelerate your efforts.

Outcomes
- Consensus on roadmap
- Validated data for model
- Deployed GenAI platform
- Tuned model
- Simplified GenAI operations

Establish strategy. → Prepare data. → GenAI platform. → Deploy and test model. → Operate and scale.

Dell Technologies experts can help you get started with every stage of your GenAI journey.

Planning for success
Our comprehensive planning and initiation process ensures a smooth and successful solution tailored to your specific needs and goals.

Developing your AI avatar
Our expertise allows us to create a unique and engaging solution that enhances your use case and improves customer interactions.

Implementation
Dell Technologies platform implementation provides a protected and scalable solution that integrates with your data and allows for custom skills.

Optimization and advisory services
We can provide ongoing support and guidance to drive continued success and improvement of your AI avatar solution.

NVIDIA NIM
Streamline AI deployment with NIM, a set of easy-to-use microservices designed to accelerate and simplify deployment of optimized AI models and frameworks across cloud, data center and GPU-accelerated workstations.

Two ways to get started today

Start delivering organizational value right away

Strategy planning

Accelerator Workshop for Generative AI

- Start your journey to developing a winning strategy with a fee-waived half-day workshop.
- Address challenges and gaps, prioritize objectives and identify opportunities.
- A more complete readiness assessment is also available for a deeper dive into infrastructure requirements, AI models, operational integrations and more.

Read the Solution Brief

DELLTechnologies

AI Factory

WITH ◎ **NVIDIA**

Learn More

State and Local Government Solutions | Higher Education Solutions

Proof of Value (Pilot)

- Simple way to get started testing/evaluating a prioritized use case while also setting the foundation for additional use cases.
- Testing can be done via website deployment or via in-person kiosks, where citizens, students or faculty can interact with your digital assistant.

Accelerate development with rapid prototyping.

Explore the potential of digital assistants with reduced cost.

Receive solution guidance from Dell GenAI experts.

Evaluate possible integrations and business use cases.