



Generative AI-Industry Trends, Implications, Security & More

Robert Worden

President and CEO
Vision Net

VISION NET

Infinite Innovation

GENERATIVE AI

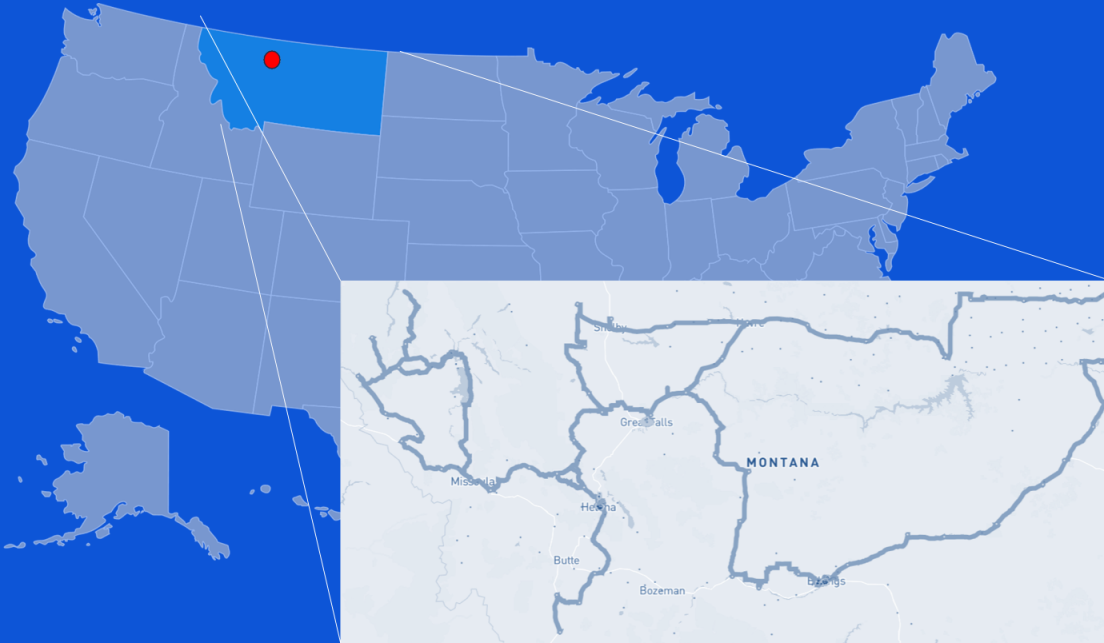
INDUSTRY TRENDS,
IMPLICATIONS,
SECURITY AND MORE

ROBERT Worden

Vision Net

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VISION NET – INFINITE INNOVATION



About Us

- Born in Montana, 1995
- Headquartered in Great Falls
- Most Data Centers in the State
- National Services Reach
- Carrier and Enterprise Services
- AI Strategic Imperative

**Montana's State-Wide Optical Carrier/Enterprise Network
and Premier Data Center Provider**



AI IS HERE - Now What?

AI fueled productivity?

World destruction?

What is the Next Step?



Are you Considering GEN AI?

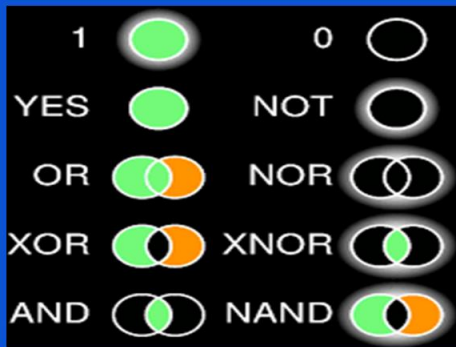


Source: Slalom

Jun. 15,
1956

Jan. 12,
1992

Nov. 22,
2022,



8062 parameters



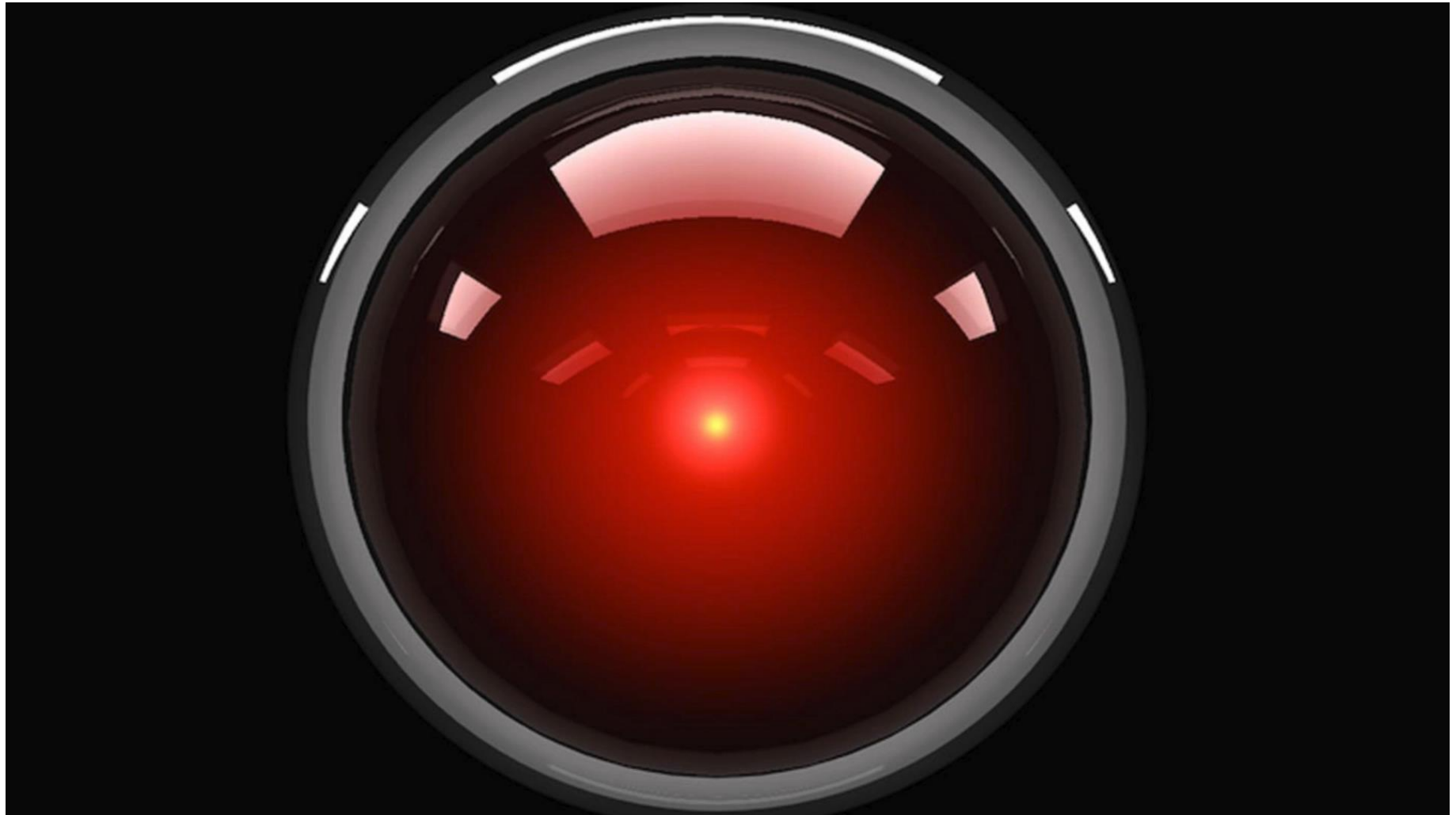
Who Knows? Its Fiction



1.7 trillion parameters

AI applications accelerated thanks graphics processing units (GPUs), digital signal processors (DSP), neural processing units (NPUs) that afforded orders of magnitude performance over ordinary CPUs.

INDATEL Business Symposium





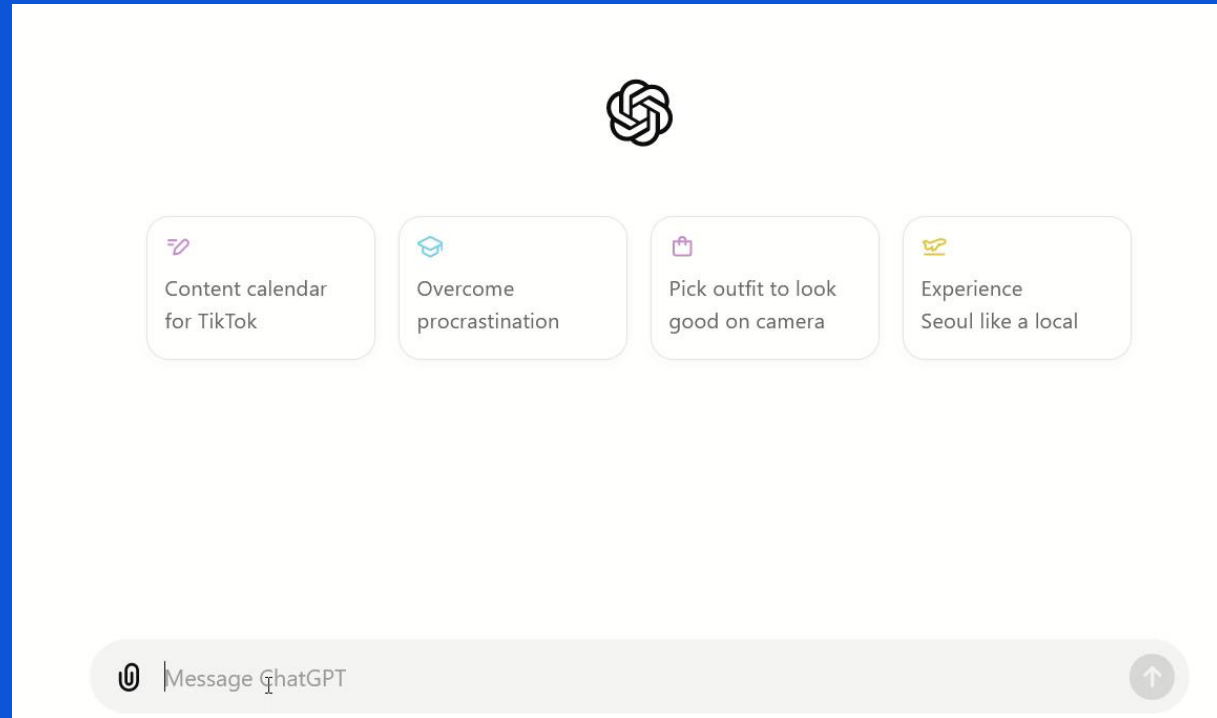
So what is Gen AI? Let's ASK

“AI may be the most important technology of any lifetime.” - Marc Benioff, Salesforce

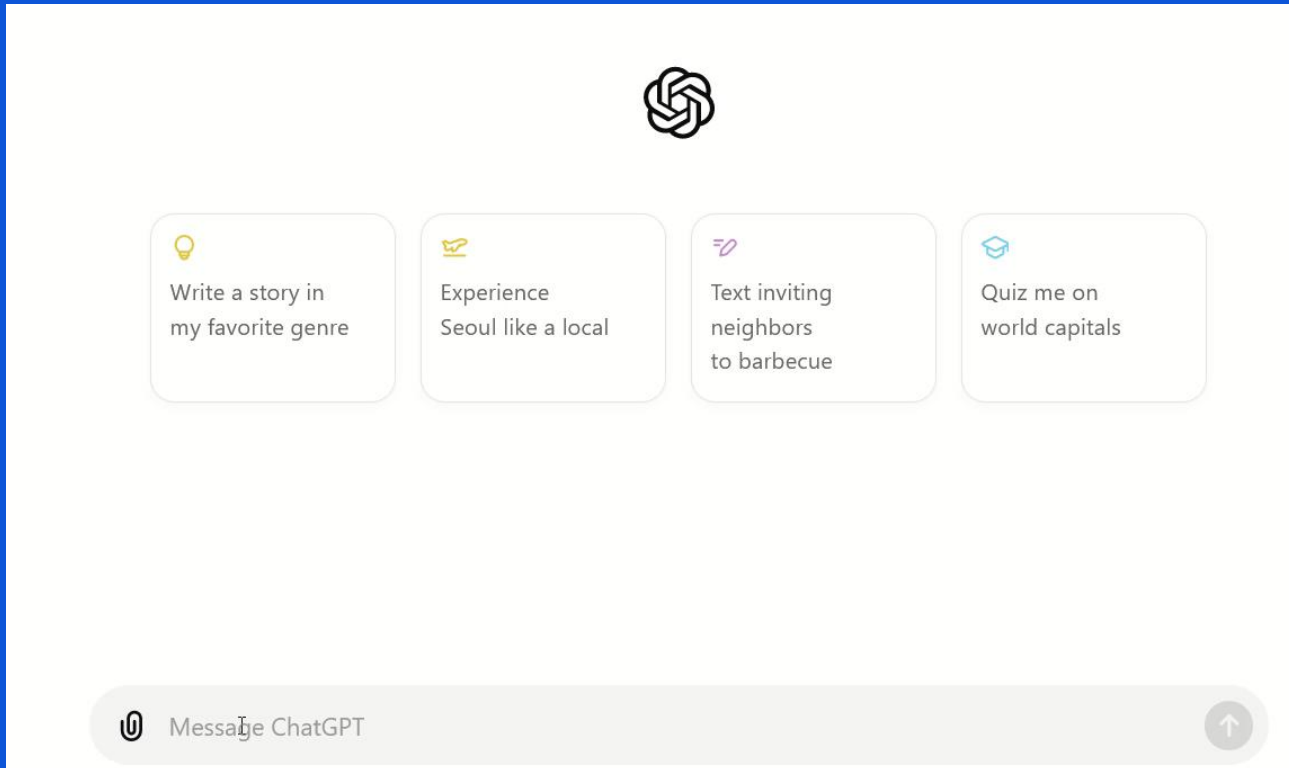
“The Age of AI has begun.” – Bill Gates

Generative AI estimated to add \$2.6- \$4.4 trillion in to the global economy annually, according to McKinsey.

\$15 trillion by 2030



What are Gen AI telecom use cases? Let's Ask.



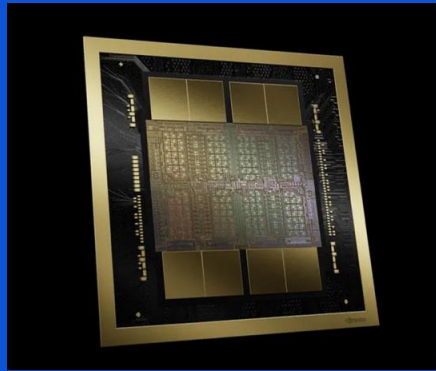
There was a **31%** increase in first call resolution and a **12%** increase in customer satisfaction

46% of new code is now written by AI to develop applications faster, speeding time to market

TIME VALUE OF MONEY



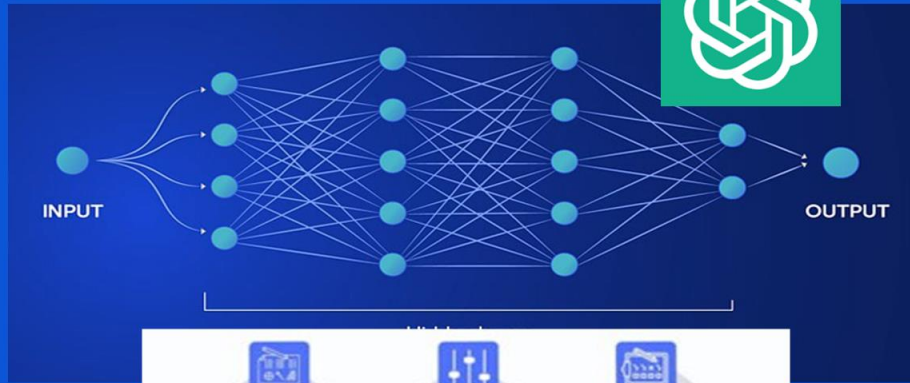
What does it take to have GEN AI Capability?



NVIDA BLACKWELL
B200 GPU
208 Billion transistors

+

Trained Large Language Model (LLM)

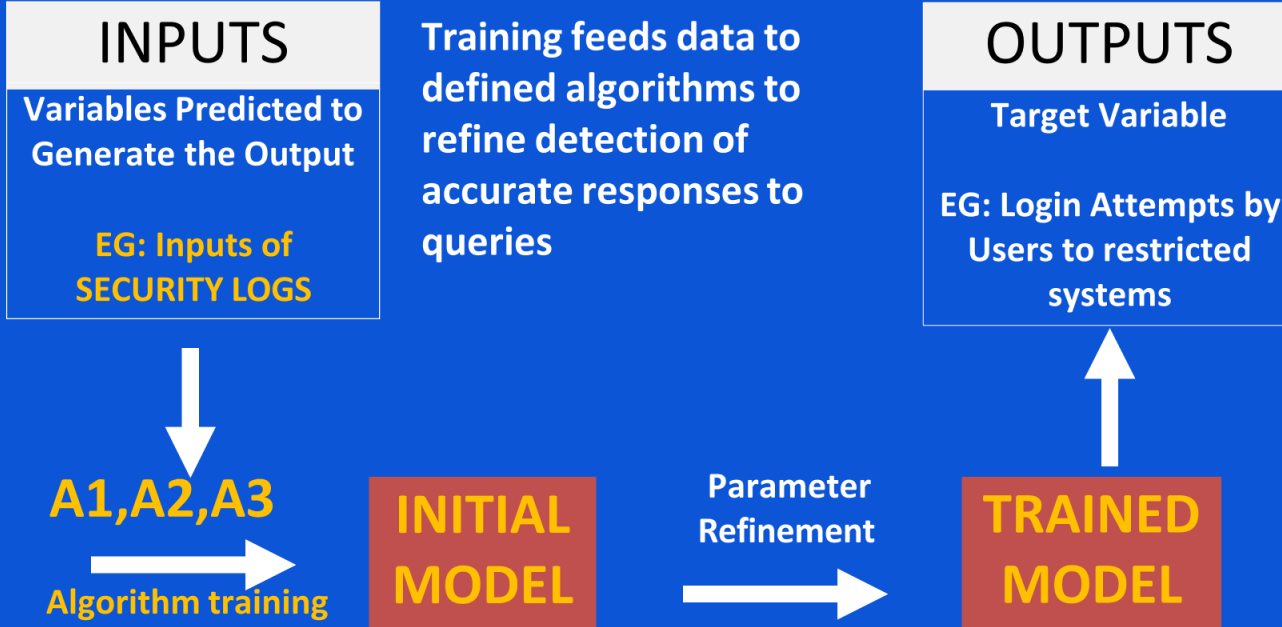


NLP, Deep Learning, Architecture,
Training

Use
= cases
output



But you have to train the LLM?



(2024) 78 million records known to have been breached

HALLUCINATION RISK: AI model may learn incorrect patterns. This can lead to the AI model making incorrect predictions, or hallucinating.- Google

Enterprise or Public Data?

Industry Trends Driving AI Growth?



**Nvidia, the world's
most valuable company
\$3.34Trillion**

**Video
games**

**Crypto
Mining**

**Artificial
Intelligence**



Industry Trends Driving AI Growth?



MEGA TREND

Time Compression <> Data
Processing and Consumption is narrowing.
LATENCY IN TELCO TERMINOLOGY

MOBILE
4G TO 5G DATA TRAFFIC IS 2X, 6G?

AI
US \$1.6T by 2030

FIXED
1.4 BILLION USERS
~1.6TB WAVES 2024

EB

ZB

YB

TODAY: ~33EB
GLOBALLY

TOMMORROW:
????

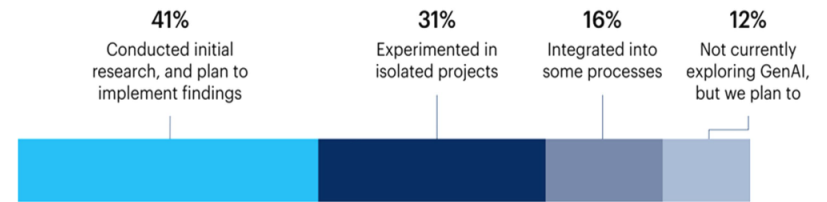


Preparing for GEN AI

What does your company expect to achieve with AI?



Which of the following best describes your IT organization's engagement with GenAI?

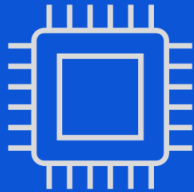


Source: NVIDIA and Gartner



Implications of AI for Service Providers?

INFRASTRUCTURE INVESTMENT



- AI back-end networks is forecast to expand the Data Center Switch Market by 50 percent – Dell Oro
- Annual 10% growth in Data Center resources demand, driven by GPUs – McKinsey
- 800G technology will be necessary to support AI workloads, and 99% of SPs will be required to upgrade and expand their fiber networks – Ciena Survey of 1500 SPs

CHALLENGES



- U.S. DC electricity consumption rate from about 200 TWh to almost 260 TWh – IEC
- Finding highly skilled developers, engineers to support infrastructure and application growth

SECURITY AND GEN AI



55%

- Faster in security incident identification

90%

- Reduction in the cost of fraud

GEN AI, as with any security ecosystem will play out on both sides of the fence, **for attackers as well as defenders**

Source: IBM

GEN AI Attack **Vectors?**

AI Generated:

- **Email phishing attempts**
- **Source code manipulation**
- **Reconnaissance at scale of company materials**
- **LLM hijacking and prompt injection manipulation**
- **Deep Fakes**





MORE: GEN AI IMPLEMENTATION

- Hybrid hosting for AI is preferred but cloud hosting is growing.
- Investment: single GPU cost between \$30,000 and \$40,000
- Partnerships **44%** remain critical for adoption of AI solutions in the industry

How is your budget going to change for AI infrastructure in the next year?

	2022	2023
Increasing	47%	66%
Staying the same	45%	30%
Decreasing	8%	4%

- **+19%** investment increase in AI last year

Where do you run or plan to run most of your AI projects/workloads?

	Current Year	Next Year
In cloud	31%	33%
On premises	25%	18%
Hybrid (both)	44%	49%

Source: NVIDIA

MORE: GEN AI: Risks and Benefits



RISKS

- **Too few data scientists: 34%**
- **Inability to quantify the ROI: 33% trending down.**
- **Insufficient technology infrastructure: 30%**
- **Budgetary concerns: 30%**

BENEFITS

Based on survey responses from 10% of AI users:

- **19% saw an increase in revenues.**
- **14% saw a decrease in costs**

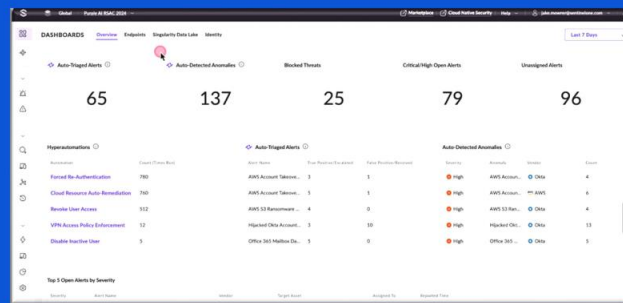
Source: NVIDIA End User Survey of SPs
2023



MORE: GEN AI at Vision Net

SEC OPS AI

- AI is leverage for threat identification
- **33% improvement** in Vulnerability Identification



NETWORK OPERATIONS

- AI is imbued in our managed service offerings for Wi-Fi and soon SDN
- AI COE under development in Billings/Great Falls
- Exclusive NW provider of Marvis-based solutions



So What is the **Promise of AI?**



- **Exponential growth** in AI usage and applications
- Increased User Expectations of **Network Performance**
- **Growing productive value of AI usage to individuals and enterprises**
- **Demand for network** infrastructure capable of meeting user expectations
- Data Center and Network expansions
- **Faster threat detection** and risk mitigation
- Opportunity **for the Service Provider**

IN CLOSING



AI IS HERE - Now What?

RIDE the WAVE?

BE Washed Over?