How AI Solves Today's Business Challenges For Concord

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Introduction

Since the first release of this paper in 2024, the AI landscape has changed dramatically. Several new tools have hit the market, and AI has made major strides in reasoning, task execution, and information processing. We're only beginning to understand AI's full potential, with exciting new use cases appearing almost daily.

At the same time, AI is becoming much more affordable and accessible. As manufacturers continue to embed AI into devices and more users experience its value firsthand, it's becoming easier to introduce AI into business environments. Gartner predicts that generative AI spending will exceed $600 billion in 2025, representing a 76.4% year-over-year increase.[1] McKinsey also found that 92% of executives plan to increase AI investments over the next three years.[2]

Perceptions about AI are shifting as well. In a Freshworks study, 72% of workers said they now trust AI to bring value to their work, while 70% want to develop AI skills to stay marketable.[3] While concerns about privacy and job displacement remain, those worries are expected to subside as AI becomes more integrated with daily

As early AI adoption gives way to broader implementation, businesses face new challenges, such as identifying where AI can drive value, aligning with existing systems, and upskilling teams. This presents a major opportunity for technology advisors. As demand and adoption accelerate, the need for expert guidance and support is greater than ever. Advisors are uniquely positioned to help organizations identify practical AI use cases, navigate implementation, and gain competitive advantage in a rapidly changing market.

In this guide, updated for spring 2025, we'll explore the latest AI developments and real-world applications across key practice areas like CX, cybersecurity, cloud, and IoT.

AI's Evolution: From Conversing to Reasoning

Conversational AI

ChatGPT 3.5 launches, making conversational AI available to the public.

Advanced Reasoning

GPT-4 arrives, improving conversational ability and contextual awareness with some reasoning ability.

Google's Gemini and open-source models like Meta's Llama and Mistral demonstrate advanced reasoning abilities while expanding access.

Deep Reasoning

Anthropic's Claude 3 and Gemini 1.5 hit the market, setting new standards in reasoning.

OpenAI releases new o1 models, which "think" before responding and provide better reasoning.

Google rolls out Deep Research in Gemini Advanced.

Task Execution / Agentic AI

Google makes Deep Research available at no cost for Gemini users and expands access for Advanced users.

xAI's Grok 3's "Big Brain" mode enables complex problem-solving and detailed summaries.

GPT-5 – on track to release in mid-late 2025 for task orchestration.

Section 1:

Decoding AI: Understanding Key Terms and Technologies Shaping Business Solutions

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AI encompasses a range of technologies, each with unique capabilities and applications. Understanding the different types of AI technologies is foundational to any AI sales strategy.

The Different "Flavors" of AI

AI comes in many forms, from traditional models that generate text to advanced models designed for real-time interactions and task execution.

Traditional language models	…Predict next words using statistical patterns.
Conversational language models	…Follow instructions and hold coherent conversations.
Reasoning language models	…Perform multi-step logic and analysis.
Agentic language models	…Plan and execute tasks on behalf of users.

See the AI Glossary on page 31

Section 1

Generative AI vs Non-Generative AI: A Brief Overview

There are two broad categories of AI. Most organizations today use both types of AI to solve specific business challenges.

- **Generative AI** creates new outputs like data, images, text and other types of content.
- **Non-generative AI** analyzes and understands existing data to make classifications, predictions, and/or decisions.

Generative AI learns patterns and structures from large datasets during a training phase, typically using deep learning capabilities like neural networks. Once trained, the AI model can generate new content, such as text, images, or music, by sampling from the learned patterns. Generative AI can take data or seed information and use its internal knowledge to produce coherent and contextually relevant output. Feedback from users can also be used to improve the model's output quality over time, making it a versatile tool for various creative and practical business applications.

In contrast, non-generative AI focuses on analyzing existing data using statistical models and algorithms. Companies deploy non-generative AI to identify patterns within datasets, make predictions, and classify information. Common use cases include fraud detection, customer segmentation, and predictive maintenance. Non-generative AI is especially useful for automating decision-making processes and improving operational efficiency.

According to the International Data Corporation (IDC):[4]

- The top leaders using generative AI are realizing an ROI of $10x.
- 43% of respondents said that productivity use cases have provided the strongest ROI.
- AI projects are taking less than eight months on average, with most organizations realizing value within 13 months.
- The top barrier when implementing AI is a lack of technical and day-to-day AI skills.

Generative AI is having a significant impact on all business areas, including CX, cybersecurity, cloud, and IoT — making it a must-know technology for business leaders.

GenAI Market Leaders in 2025

Category	Model Family
Text	• GPT-4o (OpenAI) • Claude 3.5 Sonnett (Anthropic) • DeepSeek R-1/V3 • Gemini (Google)
Image Generation	• FLUX (Black Forest Labs) • Imagen3 (Google) • DALL-E 3
Video	• Runway • Veo-2 (Google) • Kling-Pro

Model hosting platform Poe, which hosts more than 100 models, recently released a report providing a breakdown of real-world usage patterns across AI technologies in voice, video, and image generation.[5]

Poe revealed that organizations like OpenAI and Anthropic continue to dominate text generation, while new entrants like DeepSeek and Black Forest Labs are quickly gaining market share.

Unsurprisingly, the report found that new model releases tend to overtake older versions, with users typically migrating to the newest offerings when they become available.

As the AI landscape continues to evolve, we'll see new technologies and advancements emerge that we never thought possible. Laundry-folding robots could become a household item in the very near future. **But for now, let's explore the known and accessible AI opportunities at your disposal today.**

Section 2:

AI’s Proven Business Value Across CX, Cybersecurity, Cloud, and IoT

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AI's Proven Business Value Across CX, Cybersecurity, Cloud, and IoT

AI has quickly taken center stage in enhancing workforce productivity, operational efficiency, and end-customer experience. In this section we'll cover just a few examples of how nearly any company can benefit from AI-enabled tools in practice areas where you are already selling – and why data readiness is a great way to start the conversation.

In this section:

Section 2: AI's Proven Business Value - Customer Experience (CX)

1. Customer Experience (CX)

Generative AI is revolutionizing how businesses engage with their customers across a range of channels— from email support to more intelligent live chat assistants. As Amazon CEO Andy Jassy recently pointed out in his annual letter to shareholders, "Generative AI is going to reinvent virtually every customer experience we know and enable altogether new ones about which we've only fantasized."[6]

For companies who are already experimenting with AI in CX, the proven impact is far-reaching, from predictive and responsive services to enhancing customer satisfaction and efficiency. AI technology can lead to faster response times, improved agent productivity, better personalization, and consistent brand messaging.

CX and AI Use Cases

- Conversational AI (Phone, SMS, Web Chat, Messaging)
- Agentic AI
- AI-driven quality management
- Real-time agent assist
- Knowledge base interaction/management with LLMs
- Data analytics
- Outbound/inbound sales campaign management and automation
- Marketing and messaging campaign management

Agentic AI

Agentic AI detects customer friction (e.g., shipping delays or abandoned carts), evaluates the situation, and initiates personalized outreach via email, SMS, or chatbot—sometimes with a resolution already in place. AI agents are tasked with achieving outcomes, as opposed to just executing commands. In CX, this may include resolving billing issues end-to-end; recovering churn-risk customers; or orchestrating a post- sale onboarding journey.

Agentic AI turns CX from reactive to proactive, from fragmented to orchestrated, and from static workflows to intelligent, outcome-driven experiences.

Use agentic AI for: Customer support (fully automated case resolutions), sales assistance (like following up on warm leads or booking demos), and measuring customer success (managing NPS follow-ups or triggering renewal campaigns).

Conversational AI

Recent advancements in voice AI are making interactions between businesses and customers more natural than ever. Companies across all industries are deploying voice bots and conversational AI to better understand and respond to customer needs and deliver personalized experiences at scale.

Conversational AI can improve customer satisfaction, expedite resolutions, and lower contact center operating costs.

Use conversational AI for: Customer self-service, 24/7 support, routing optimization,and serving diverse customer bases.

Personalization

Businesses that master personalization at scale, using AI for ultra-tailored experiences, boost customer engagement even further. This level of personalization ranges from individualized product recommendations to tailored communication strategies.

Enhanced personalization opens the door to improved loyalty, better reviews, and stronger returns over the customer journey.

Agentic AI is increasingly being used to drive personalized experiences. Agentic AI pulls from CRMs, conversation histories, product data, and real-time inputs to make contextual decisions. It can detect a customer's preferences, purchases, and pain points—and adapt tone and solutions accordingly.

CX and AI "Gotchas" – Points Clients Often Overlook

As CX and AI deployments increase, it's important for decision makers to keep the following points in mind:

Lack of clear business outcomes: Deployments often focus on shiny features instead of measurable goals. Without a well-defined outcome—like improving CSAT, reducing AHT, or increasing conversion rates—AI can quickly become a cost center instead of a value driver.

Cyber and data security: Adding new touchpoints and personalized experiences expands the attack surface and introduces greater risk. As companies enhance AI with CX, embedding cybersecurity into the CX architecture becomes critical.

Data quality and integration: To deliver personalized customer experiences in real time, businesses need large volumes of high-quality, accurate data. Fragmented systems and poor-quality data can lead to flawed decisions.

Customer trust and transparency: Today's customers are highly privacy-conscious and demand full transparency around how data is collected and protected. CX teams must be able to communicate their data practices and demonstrate accountability to win over customers and maintain regulatory compliance.

Potential bias in AI models: Training models on incomplete or biased data can lead to inconsistent and inaccurate outputs—damaging brand reputation and impacting customer trust.

Change management and team readiness: Frontline employees must understand exactly how AI supports (not replaces) their roles. Leadership must champion change and upskill workers to leverage AI efficiently and effectively.

Over-automation at the expense of experience: More and more organizations are learning that just because you can automate doesn't mean you should. Misplaced automation (like chatbots handling complex issues) can increase churn and reduce brand loyalty.

Continuous training and model maintenance: AI isn't a technology you can "set and forget." Models degrade over time as data shifts. Ongoing tuning, retraining, and human oversight are critical for long-term accuracy and relevance.

2. Cybersecurity

As cyber threats evolve in scale, speed, and sophistication, businesses are shifting from reactive security models to proactive, AI-first cyber defense strategies. The rise of AI-generated attacks, deepfake fraud, and machine-speed threats has given way to a new era of cybersecurity—one where intelligent systems continuously monitor, defend, and adapt in real-time.

Cybersecurity and AI Use Cases

- Autonomous threat containment
- AI-generated threat detection
- Deepfake & synthetic media identification
- AI in penetration testing
- Risk-adaptive multi factor authentication (MFA)
- Post-quantum encryption
- AI security copilots
- Behavioral biometrics

AI-Generated Attacks

Just as AI defends, it also powers the next wave of attacks. Tools like WormGPT, FraudGPT, and AI-driven phishing kits have democratized cybercrime, allowing non-technical bad actors to launch sophisticated, multi-vector attacks at scale.

To stay ahead, cyber teams now need to think like attackers—and move faster, with greater visibility and precision.

AI-to-fight-AI use cases: Autonomous threat containment, AI-generated threat detection, behavioral biometrics, AI security copilots, risk-adaptive MFA.

Autonomous SOCs

Traditional security operations centers (SOCs) are evolving, with companies increasingly relying on AI-driven threat detection and response systems that operate 24/7. These new AI-driven SOCs can rapidly identify and neutralize threats with minimal human intervention.

Looking forward, expect AI to analyze logs, triage incidents, and even quarantine devices in real- time—saving security teams time and allowing them to do more with less.

Identity Fabric and Decentralized Access

In a world with no network perimeter, identity becomes the new control plane. Identity fabric solutions unify user, device, and workload identities across clouds, endpoints, and edge networks. This cohesive layer enables secure access no matter where resources live.

Building on that foundation, Zero Trust is evolving into Adaptive Trust, where behavioral AI analyzes real-time signals such as login patterns and location to assess risk and adjust access dynamically. AI in cybersecurity marks a critical shift by enabling context-aware decisions, not static rules.

Quantum-Resilient Encryption

Quantum computing threatens to break today's encryption standards. The race is on to deploy post-quantum cryptography, with cloud-native platforms and AI pipelines already starting to adopt hybrid crypto models.

Staying ahead of quantum threats is critical to long-term data integrity and trust.

AI-Powered Insider Threat Detection

AI can now detect subtle insider threats such as abnormal login times, unusual data access, or changes in tone during communications. These tools are reshaping risk management across finance, healthcare, and critical infrastructure—and allowing companies to thwart attacks before they lead to costly breaches.

Behavioral analytics replace manual, time-consuming audits for faster, smarter threat detection.

Navigating Governance: Key Aspects and Benefits

As organizations integrate AI, they must also implement comprehensive governing frameworks to avoid introducing new risks. However, a survey from Gartner reveals that just 12% of IT and data and analytics leaders have a dedicated AI governance framework in place—leaving them vulnerable to risks like ethical concerns, data privacy violations, and compliance failures. [7]

Key Ingredients of an AI Governance Framework

- **Principles:** AI governance is built on core principles like transparency, accountability, fairness, safety, and explainability.
- **Policies and procedures:** These outline how AI systems should be developed, deployed, and used, including data handling, algorithmic bias mitigation, and security protocols.
- **Risk management:** Frameworks help identify, assess, and manage risks associated with AI, such as bias, discrimination, and security vulnerabilities.
- **Accountability:** Clear roles and responsibilities are defined to ensure that individuals or groups are held accountable for the actions and decisions of AI systems.
- **Monitoring and Auditing:** Regular monitoring and audits are conducted to ensure that AI systems are operating as intended, adhering to policies, and mitigating risks.
- **Training and Education:** AI literacy programs educate employees and stakeholders on the responsible use of AI and the implications of AI governance.

Benefits of an AI Governance Framework

- **Reduced Risks:** AI governance minimizes the potential for harm, bias, and security breaches.
- **Increased Trust:** Transparency and accountability build trust among stakeholders, including employees, customers, and the public.
- **Enhanced Innovation:** A well-defined framework can foster responsible innovation by providing a clear path for developing and deploying AI solutions.
- **Compliance:** AI governance helps organizations comply with regulations and ethical guidelines related to AI development and use.
- **Improved Decision-Making:** Clear guidelines and processes can support better decision-making related to AI investments and deployments.

AI Governance Frameworks: Common Examples	
NIST AI Risk Management Framework	Provides a structured approach to managing risks associated with AI systems, including safety, security, and fairness.
European AI Act	A proposed legal framework that aims to provide AI developers, deployers, and users with a clear understanding of requirements for specific AI uses.
ISO 42001 Framework	AI management system standard that provides guidance for organizations to address AI challenges such as ethics, transparency, and continuous learning.

Cybersecurity "Gotchas" – Points Clients Often Overlook

As cybersecurity and AI deployments increase, it's important for decision-makers to keep the following points in mind:

- **AI model manipulation and adversarial attacks:** Threat actors are beginning to manipulate input data and AI models to deceive systems into making flawed decisions. These attacks, which can be difficult to detect, can create harmful outputs and compromise system security.
- **Supply chain security issues:** Compromised AI systems can introduce downstream threats that impact all parties within a supply chain. By conducting routine security audits for third-party AI systems, companies can improve visibility and reduce risks from adversarial attacks and reduce the potential for model poisoning.
- **Lack of secure APIs:** Application programming interfaces (APIs) are necessary for sharing data and connecting systems. However, they can provide easy entry for bad actors. Strong encryption, access controls, and authentication are critical.
- **Poor incident response planning:** All organizations will eventually experience cyberattacks and data breaches. Having a clear, tested response strategy in place is key for containing damage and reducing recovery times.

3. Cloud Computing

As AI becomes the cornerstone of modern digital transformation, cloud computing is evolving beyond a mere platform. It's becoming the very foundation of AI. By 2027, public cloud spending is forecast to exceed $1 trillion, with a significant portion driven by AI-native workloads, data-intensive applications, and next-generation "as-a-service" innovations.[8]

In the not-so-distant future, the cloud won't just be where AI resides. It will co-evolve with AI, transforming infrastructure into a smarter, more adaptive entity. This deep integration will seamlessly connect cloud technologies with business functions, enabling organizations to optimize performance, accelerate innovation, and rapidly accommodate shifting demands.

Cloud and AI Use Cases

- AI-optimized resource scaling
- Predictive maintenance
- Cloud RPA
- FinOps + GreenOps
- Data Lakes + LLM tuning
- Intelligent load balancing

AI-Native Infrastructure

Modern cloud providers are rapidly building AI-optimized environments—complete with GPU orchestration, model-serving platforms, and foundational model APIs—to support complex AI use cases like LLMs, computer vision, and digital twins.

Think of cloud as the "training ground" for enterprise AI models and copilots.

Sustainable Cloud (GreenOps)

With sustainability at the core of environmental, social, and governance (ESG) mandates, cloud providers are now embedding AI-powered energy optimization, carbon accounting, and workload orchestration for energy efficiency.

Businesses are increasingly choosing providers that can optimize carbon impact—not just cost.

Sovereign & Industry-Specific Cloud

To address regulatory, privacy, and compliance demands, sovereign clouds (geo-fenced and policy-bound environments) and industry-specific clouds are rising. AI workflows are increasingly being embedded within these tailored environments.

Sovereign clouds are a must for government, healthcare, and global enterprises.

FinOps AI

AI-driven financial operations (FinOps) tools now use ML to predict cloud cost spikes, optimize spend in real-time, and automate rightsizing decisions.

AI is now managing the cloud, not just running in it.

Quantum-Ready Cloud

More and more cloud providers are building quantum simulation tools and early-stage quantum-inspired algorithms into their platforms, unlocking new frontiers in AI model optimization and materials science.

Expect early adoption in pharmaceuticals, logistics, and finance.

Cloud and AI "Gotchas" – Points Clients Often Overlook

As cloud and AI deployments increase, it's important for decision makers to keep the following points in mind:

- **Data privacy and compliance:** The cloud can introduce risks like misconfigurations and jurisdictional complexities that can contribute to breaches and compliance failures under regulations like GDPR and CCPA.
- **AI model and data security:** While cloud providers often secure the underlying infrastructure, the user is typically responsible for securing AI models. This may include configuring access controls, managing API keys, and ensuring the security of serverless functions or containerized environments.
- **Latency and performance concerns:** Large, complex AI models can require more computation. This can lead to longer processing times and higher latency. To mitigate these issues, companies must have the right networking and hardware components in place.
- **Integration with existing systems, applications, and data sources:** Data silos, API incompatibilities, and legacy systems can all act as barriers when implementing and scaling AI. Before getting started, running a complete system audit and developing a comprehensive integration strategy is necessary. This will ultimately save time, reduce expenses, and improve outcomes.

4. The Internet of Things (IoT)

According to IoT Analytics, the number of connected IoT devices will reach 40 billion by 2030.[9] While IoT provides a skeletal framework of devices interconnected through the internet capable of collecting and exchanging data, AI serves as the brain, analyzing and interpreting this data to autonomously make intelligent decisions. When combined, AI and IoT—or AIoT—create a smarter, self-improving network of devices that not only collect data but also learn from it, optimizing processes and delivering more value.

As the volume of IoT devices and data grows, so do the business opportunities for AIoT. However, a major challenge for leaders is utilizing this data effectively.
According to an Accenture study, 75% of executives believe high-quality data is key to enhancing generative AI capabilities. Yet 48% report lacking enough quality data to operationalize their generative AI initiatives.[10]

AIoT Use Cases

- Computer vision (security, quality assurance, safety monitoring)
- AIOps
- Sensors (olfactory, auditory, pressure)
- Energy consumption analysis
- Logistics asset tracking
- Route optimization

Computer Vision – Physical Security

Protecting the physical environment has long been the task of facilities managers and security personnel. Adding AI with IoT cameras and sensors to an organization's physical security strategy dramatically enhances the fight to protect all people and assets.

Imagine hiring a security team that has eyes everywhere, and that never sleeps. Using AI with site-wide cameras and access controls, businesses can have an always-on security team to protect and monitor their physical environment.

Fleet Tracking and Management

AI analyzes real-time data from GPS trackers, vehicle sensors, and driver apps to optimize routes, predict maintenance needs, monitor driver behavior, and improve fuel efficiency. This can help fleets cut costs, reduce downtime, boost safety and deliver goods faster.

Picture a fleet with 200 trucks operating across a major metro area. Each vehicle is equipped with onboard GPS, engine sensors, and a driver behavior app—all streaming data into an AI-powered platform. Managers can use this data to identify key trends and optimize efficiency.

Energy Efficiency – Building Management

IoT sensors in smart homes and buildings monitor real-time energy usage and environmental conditions, such as temperature, lighting, and water usage. AI algorithms then process this data, learning from patterns and making intelligent decisions to adjust energy consumption without compromising comfort or operational needs.

In a commercial office building, AI can analyze data from various IoT sensors. It can automatically raise or lower the temperature, control lighting, and identify costly water leaks—leading to lower utility bills, a reduced carbon footprint, and a safer environment.

AIOps – Identifying and Resolving Network Issues

Companies can use AI to automatically detect, diagnose, and resolve network issues—reducing manual IT intervention and minimizing downtime. For example, Juniper's Mist AI platform combines AI, ML, and data science to deliver proactive network automation with "self- healing" capabilities, enhancing performance and driving greater operational efficiency.

A multi-location enterprise can deploy AIOps to gain real-time visibility and control across all global sites—enabling continuous monitoring, rapid response troubleshooting and support, and consistent support.

AIoT "Gotchas" – Points Clients Often Overlook

As AIoT deployments increase, it's important for decision makers to keep the following points in mind:

- **Interoperability challenges:** The IoT landscape is highly fragmented, with diverse communication protocols and data formats. To alleviate interoperability issues, businesses can leverage cloud-based IoT platforms that offer embedded integration capabilities and implement data transformation tools within cloud environments.
- **Incomplete data pipelines:** AI models need complete and optimized data pipelines to learn and perform optimally. This can lead to flawed predictions, poor decision-making, and missed opportunities. Data readiness is a fundamental prerequisite for success with the IoT.
- **Lack of real-time feedback loops:** With the AIoT, real-time feedback loops are necessary for enabling AI models to learn and adapt. Without a continuous cycle of action and reaction, AI is unable to respond dynamically to changing conditions.
- **Scalability gaps**: Limitations in processing power, network bandwidth, and cloud infrastructure capacity can make scaling beyond localized or small-scale deployments difficult. Overcoming scalability gaps requires careful architectural planning and strategic workload distribution.

Data Readiness: The Key to AI Success

Whether organizations are using non-generative AI to detect cyber threats or generative AI to automate customer service, one thing remains constant: data readiness is essential. It determines how quickly and effectively your AI tools can deliver results.

What is data readiness?

It's the extent to which an organization's data is accurate, complete, accessible, and secure—ready for immediate use in the right format and structure. Without it, even the most advanced AI solutions struggle to move beyond pilot stages or deliver long-term business value.

In fact, a recent report by MIT and Snowflake found that 78% of businesses lack a "very ready" data foundation to support generative AI.1 Meanwhile, Capital One reports that 70% of technical teams spend hours each day fixing data issues, and only 35% say their company has a strong data culture due to limited support and education.[10]

What makes data AI-ready? Key components include:

- **Data hygiene** – Ensuring data is clean, current, and free of duplicates or errors.
- **Data accessibility** – Making sure authorized people and systems can access data, while keeping it secure from those who shouldn't.
- **Data quality** – Keeping data accurate, consistent, and complete across all sources.
- **Context** – Organizing and labeling data properly so it's usable by AI models.

Having the right components in place will lead to superior results and stronger ROI.

Download our Data Readiness eBook for more!

Section 3:

Network Readiness: A Foundational Component for AI Success

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Network Readiness: A Foundational Component for AI Success

As businesses continue to modernize their operations and become more reliant on AI, network downtime poses an increasing threat.

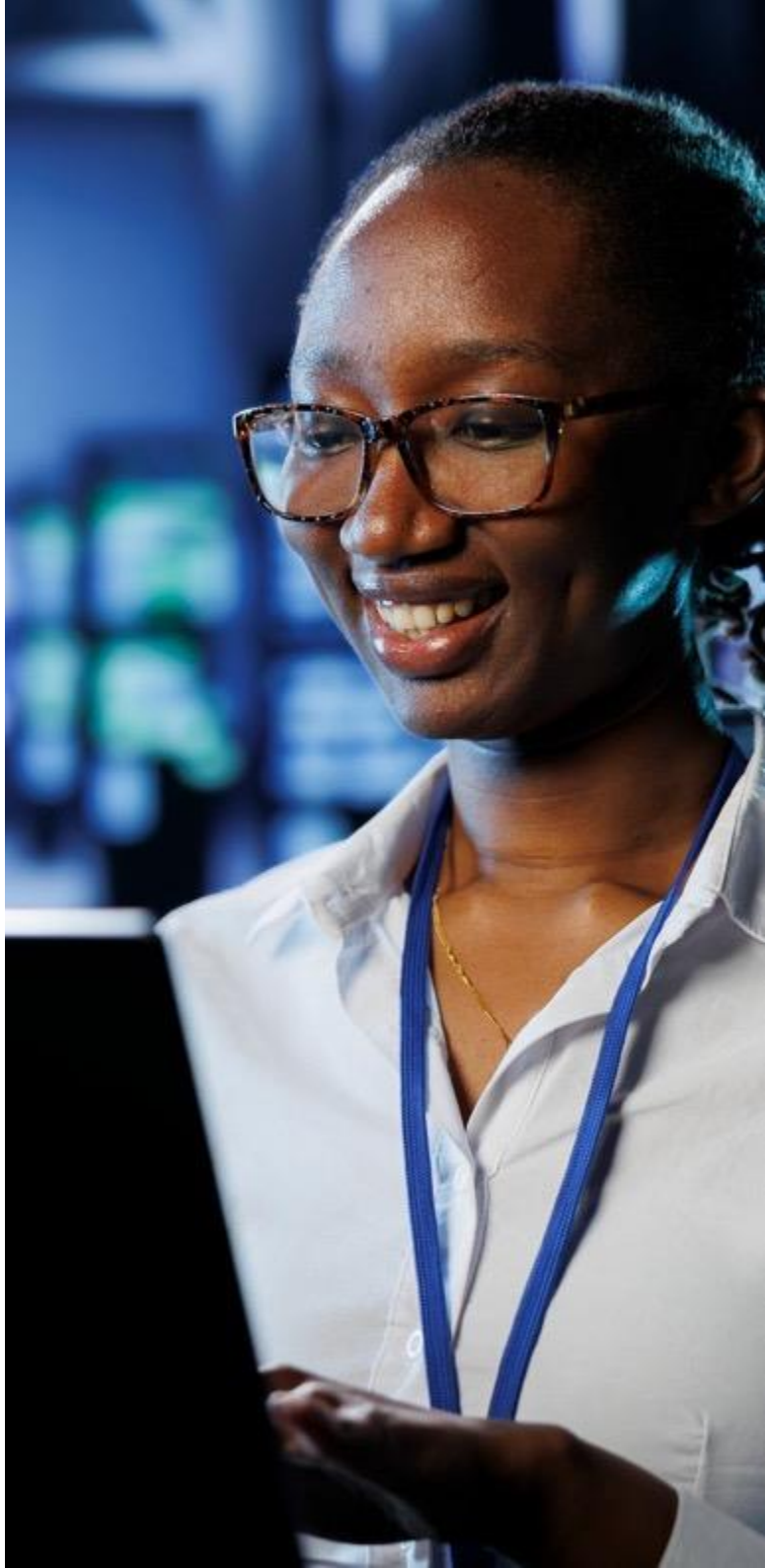
- **Data disruption:** Many AI deployments require a continuous flow of data. Downtime can interrupt data streams, leading to gaps in model accuracy, training delays, and incorrect insights.

- **Automation breakdown:** A growing number of companies are using AI and ML to power processes like chatbots and monitoring systems. Downtime can lead to delays and bottlenecks.

- **Loss of trust:** End-users and customers may lose confidence when AI produces incorrect inputs or stops working. This can delay internal adoption and threaten AI investments.

- **Model drift:** Inconsistent data flow during an outage can produce an issue called model drift, where AI systems make decisions using outdated and incomplete information. This can impact prediction quality and system performance.

The bottom line is that having a modern and reliable network is no longer optional in the AI era. Businesses should be using services like SD-WAN, SASE, and CASB to optimize connectivity, reduce downtime, and protect cloud data flows.



Key Network Considerations for AI

Bandwidth and data throughput:

- AI demands high-speed data transfers to support intensive workloads.
- Consider the volume, frequency, and size of data being moved— especially before using large training models.
- Bandwidth limitations can lead to processing delays and performance bottlenecks.

Latency

- Real-time applications (autonomous systems, interactive agents) need ultra-low latency.
- Reducing latency improves responsiveness and overall user experience.

Reliability and redundancy

- High availability is critical for AI-driven services.
- Implement robust failover mechanisms, including power and connectivity backups.
- Continuously monitor traffic to identify and eliminate bottlenecks.

Scalability and future proofing

- Ensure the network infrastructure can scale with evolving AI demands.
- Prepare for emerging AI use cases, such as expanding from text-based to video-based chatbots.
- Plan for seamless integration with next-generation services like 5G and 6G integration.

Using AIOps to Enhance Network Performance

Modern networks are highly distributed, complex, and data- heavy. Traditional performance monitoring tools are often unable to provide the deep visibility and critical insights that businesses require.

This is where AIOps can make a big difference. Sitting at the intersection of AI, ML, and big data, AIOps is designed to automate and enhance IT operations—enabling more efficient networks, infrastructure, and applications. By ingesting and analyzing vast volumes of data generated by modern IT environments, AIOps can instantly detect issues, uncover insights, and take corrective action in real-time.

Core capabilities include:

- Data ingestion at scale
- Correlation and pattern recognition Anomaly detection
- Predictive insights
- Automation and remediation

A Chicken and Egg Scenario:

AIOps aims to improve network performance and reliability. But to operate effectively, AIOps also needs a stable, data-rich network to learn from and operate on.

Before implementing AIOps or any AI deployment, it’s necessary to conduct a network assessment and ensure that the right components are in place to support the new technology. You can always start with a relatively stable part of the network and gradually expand as the platform and network mature.

Link121, your trusted advisor, helping businesses create the right AI roadmap for their needs.

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Glossary

Agentic AI

Agentic systems autonomously plan and execute complex tasks without requiring prompts from end-users. Agentic is widely viewed as the “third wave” of AI. According to Gartner, agentic AI will autonomously resolve 80% of common customer service issues by 2029.[12]

AIOps

When AI is used to make IT operations more efficient and reliable. For example, companies use AIOps to fix server issues, manage network performance, and predict outages before they occur.

Artificial intelligence (AI)

AI refers to the field of computer science that focuses on creating intelligent machines capable of performing tasks that typically require human intelligence. It involves the development of algorithms and systems that can acquire knowledge, reason, learn, understand natural language, perceive the environment, and make decisions or take actions based on that understanding.

Automated machine learning (AutoML)

AutoML streamlines the end-to-end process of developing and deploying ML models. By leveraging AutoML, anyone can quickly train or deploy ML models regardless of technical ability. This approach saves time and helps improve results. Some popular tools include Google Cloud AutoML and Microsoft Azure AutoML.

Cloud AI

Cloud AI involves deploying AI models and algorithms on cloud servers to leverage higher processing power, data storage, reliability, and flexibility. Cloud security provider Wiz found that 74% of organizations are now using managed AI services – a 70% YoY increase.[13]

Deep Learning

Deep learning is a subset of ML that uses multi-layered artificial neural networks to automatically learn patterns from large volumes of data. These models improve as they are exposed to more data, making them powerful for complex tasks involving images, audio, language, and unstructured data.

Edge AI

Edge AI involves AI model and algorithm deployment on local devices for faster data processing and analysis. Gartner predicts that by 2026, at least half of edge computing deployments will involve ML.[14]

Large Language Models (LLM)

LLMs represent a specialized application of ML focused on processing and generating human language at a large scale. While they share commonalities with traditional ML techniques, LLMs are uniquely designed to tackle the complexities of natural language processing tasks.

Machine Learning (ML)

A subset of AI, ML enables computers to learn from data and make predictions or decisions without explicit programming. ML models include facial recognition to unlock devices, medical imaging analysis to detect abnormalities, predictive analytics to forecast sales or estimate stock prices, and fraud detection.

MLOps

A discipline that streamlines the entire ML lifecycle, from developing and deploying models to monitoring and governance. MLOps aims to align data scientists and IT and ensure that models are production ready.

Natural Language Processing (NLP)

NLP focuses on enabling computers to understand, interpret, and generate human language, powering applications like chatbots and language translation. Additionally, there are distinctions between general AI (AGI) and narrow AI (ANI). AGI, often depicted in science fiction, refers to AI systems with human-like cognitive abilities and the capacity to understand and perform any intellectual task that a human can. In contrast, ANI is designed for specific tasks or domains, such as playing chess or diagnosing medical conditions.

←Go back to Section 1

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