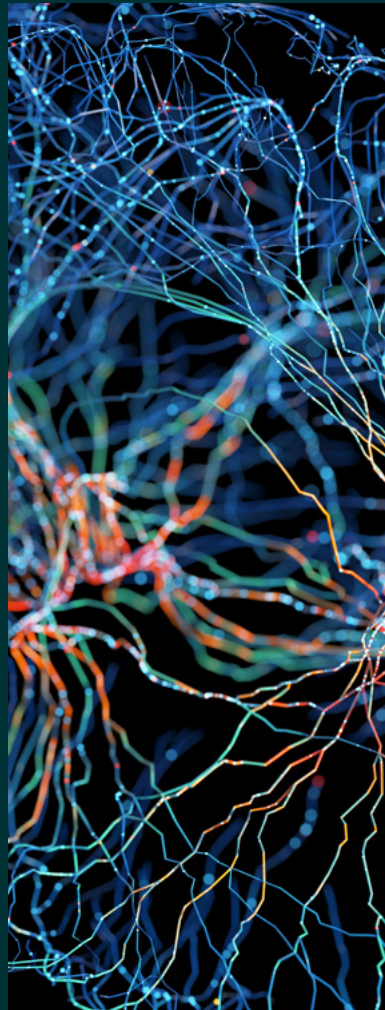


AI-powered strategies for modernizing legacy applications



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01

The pressing need for agility

Agility is essential for success in a dynamic business environment. Many companies are burdened by outdated, undocumented legacy systems that hinder modernization efforts. Though outsourcing might seem like an easy fix, it often only shifts the problem. Modernizing these systems improves both operations and market competitiveness. The solution? AI-augmented strategies that streamline documentation and achieve new levels of efficiency and agility for your business.



According to Gartner, by 2025, 30% of enterprises will have implemented an AI-augmented development and testing strategy, up from 5% in 2021. And by 2027, Gartner also predicts that nearly 15% of new applications will be automatically generated by AI without a human in the loop.

Why documentation is your first step to innovation

For all organizations, the foundation for consistent growth and innovation relies heavily on comprehensive and up-to-date software documentation. This is particularly true for organizations relying on a complex portfolio of legacy applications and systems. These older platforms often operate as the backbone of an enterprise but are generally not well documented. Herein lies a significant challenge: How do we understand what we have so we can build what we need?

Poor documentation creates internal inefficiencies and weakens competitive position. While competitors who maintain current and accessible documentation can readily adapt to new technologies, organizations with incomplete or outdated information find themselves mired in operational quagmires. Outdated or missing documentation slows progress and results in costly delays.



Clear documentation helps businesses understand their systems and plan improvements effectively. Poor documentation increases risks and delays when updating legacy systems.



Bridging the gap with AI-generated documentation

AI, particularly language models, can serve as an intelligent assistant that can sift through your source code and generate accurate, up-to-date documentation. By marrying AI-generated documentation with your existing records, you can generate a streamlined source of truth. This combination paves the way for better decision-making and reduced risk when modernizing legacy applications.

But can you trust the results? Quality is a significant concern for every organization, and nothing contributes more to quality than accurate, reliable documentation. Language models keep your documentation current and improve its quality.



AI-generated documentation evolves with your systems and serves as a critical risk management tool by keeping information accurate and up to date. The “source of truth” is no longer confined to outdated documents.



02

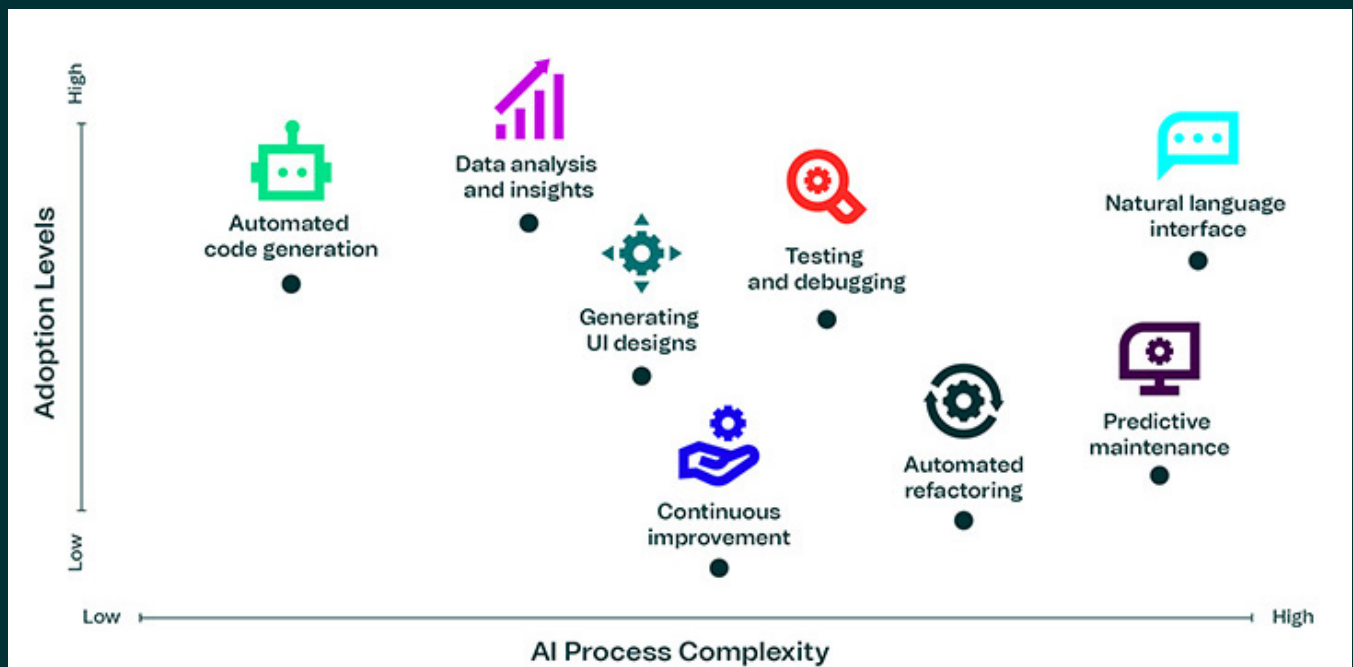
Code generation and testing

Machine learning for DevSecOps

Accurate documentation is the foundation for multiple advantages across the software development cycle. With generative AI, you can automate various coding tasks, expedite development cycles, improve user interface designs and optimize database structures. This approach saves time and can enhance the entire development workflow. In this scenario, code is written and iteratively improved with machine learning algorithm assistance.

According to [Avasant research](#), enterprises and service providers are actively exploring ways to leverage generative AI in application modernization. Across diverse use cases (see figure), they find that this form of AI dramatically accelerates the modernization process, enhances code quality, elevates the user experience and endows organizations with advanced data analysis and continuous improvement capabilities.

Potential Use Cases



Often lengthy and subjective, traditional code reviews can now become instantaneous, objective and aligned with best practices. You can identify bottlenecks, security vulnerabilities and areas for optimization that might otherwise escape human attention.

Moreover, machine learning models can be trained to your organization's specific coding guidelines, further amplifying code quality while minimizing technical debt. In this environment, generative AI accelerates development and is a powerful tool for competitive differentiation.



Utilizing tools that leverage capabilities like generative AI can eliminate the heavy lifting associated with coding, enabling faster development and allowing developers to focus on the more creative aspects. AWS AI services facilitate the rapid creation and deployment of intelligent applications at scale, reducing costs and time to market."

- Mohan CV, Principal Solutions Architect, Amazon Web Services (AWS)



Transforming debugging and troubleshooting with AI

Finding and fixing bugs in complex systems takes significant time and effort. AI-powered debugging tools can analyze system behavior, logs and code to identify anomalies and suggest possible fixes. Unlike traditional debugging tools that rely solely on known patterns and manual input, AI algorithms constantly learn from new data. This enables them to predict and solve problems before they affect the system's functionality or user experience.

These innovative debugging tools are like a second set of eyes that work 24/7 to ensure your system runs smoothly and efficiently. They reduce downtime and elevate customer satisfaction, offering a more reliable and efficient alternative to manual debugging efforts.



Transform the “needle in a haystack” debugging experience into a pinpoint operation. AI gives you the foresight to resolve issues before they escalate, safeguarding performance and reputation.

Achieving seamless collaboration with intelligent orchestration

Traditional DevSecOps requires constant communication among different departments and stakeholders. The complexity of this human-centric coordination can slow down the entire development lifecycle. Enter AI-powered orchestration, which automates the coordination of tasks across different systems and teams. It streamlines workflow and maximizes efficiency by intelligently prioritizing tasks based on real-time analytics and predictive algorithms.

This level of orchestration frees human operators from repetitive tasks, allowing them to focus on higher-value activities such as innovation and problem-solving.



In a DevSecOps environment where complexity is managed as an opportunity rather than an obstacle, intelligent orchestration makes seamless collaboration effortless.

03

The outsourcing landscape

Upgrading from outdated, poorly documented software and adopting AI-augmented modernization processes is no small feat. While outsourcing seems obvious, the wrong choice can make matters worse.

From varying service quality to a complicated decision-making landscape, not all service providers are created equally. Vendors offer innovative solutions, but many deliver less-than-ideal results, often lacking innovation or a deep understanding of a company's unique needs. This can lead organizations to trial and error as they seek the right fit for their specific challenges.

The right outsourcing partner, however, can offer:

- Immediate relief from current challenges
- Tailored, innovative solutions
- In-depth understanding of your specific needs
- Strategic, forward-thinking decisions that drive business growth
- Sufficient resources to invest in emerging technologies
- Focused attention to individual projects

With so much at stake, it is important to select a strategic partner who understands your business goals and can strengthen your modernization efforts.

Why Unisys and AWS are your ideal partners

When navigating the intricate outsourcing terrain, Unisys, in collaboration with AWS, uniquely positions you for success. As a long-standing [AWS Managed Service Provider](#) Unisys offers:



Application modernization:

Transform legacy systems to focus more on innovation and less on maintenance.



Certifications:

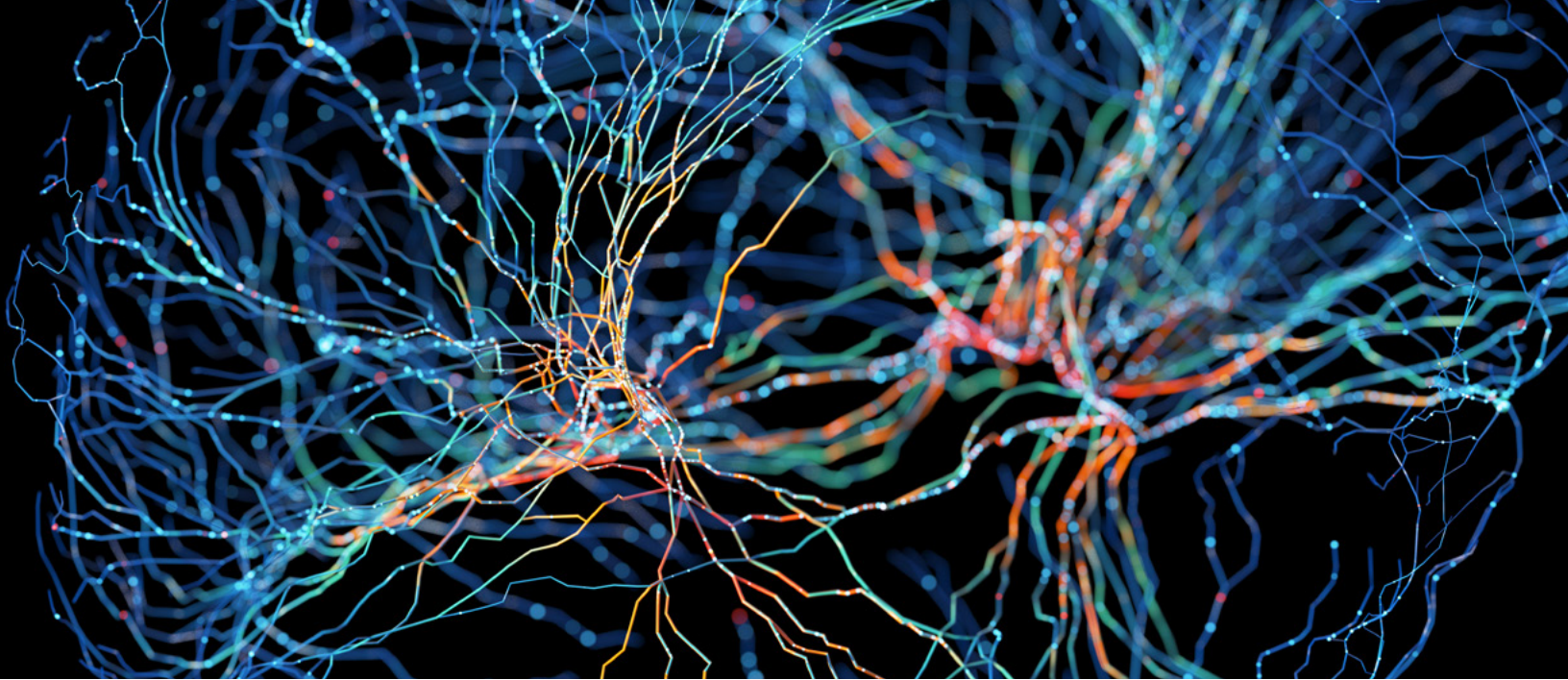
Unisys' AWS-certified professionals specialize in various cloud solutions aspects.



Full-spectrum cloud services:

From planning and designing to building and migrating, Unisys can guide you through every stage of the cloud adoption journey.





The path to modernization

AI-augmented application modernization enhances both individual tasks and the entire development ecosystem. From generating dynamic documentation to enabling real-time code reviews, automated testing, intelligent debugging and orchestration, AI efficiently modernizes legacy systems. AI improves software development by making it efficient, scalable and adaptable. By incorporating AI into your modernization plans, you build a foundation for future innovation.

To explore how Unisys can support your application modernization needs, please visit us [online](#) or [contact us](#).



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