Increasing Productivity with Generative AI: Dev and DevOps Use Cases

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Where do organizations anticipate the **greatest impact of generative AI** on work?

32% Employee time savings and productivity gains

29% Faster decision making/execution of repetitive tasks

27% Workflow integration/coordination

What are some of the **top technology investments** in the next 18 months to improve employee productivity?

37% Data analytics/project management tools

35% AI assistants (ChatGPT, Bard, Copilot)

30% Performance management tools

n = 1,014; Source: IDC *Future Enterprise Resiliency & Spending Survey - Wave 5,* June 2023

Introduction

Everyone needs more time. Enterprise leaders are looking to generative AI (GenAI) assistants to help free employees—especially developers and other tech professionals—for more innovative and fulfilling tasks. In the digital-first world, productivity is a top organizational concern. IDC data shows that AI assistants are among organizations' top planned technology investments to improve employee productivity through 2024.

GenAI assistants have a variety of uses that can help employees increase productivity. Many of the top use cases are found in the software development life cycle, as discussed below.

Code Generation

IDC's *Generative AI Adoption and Attitudes: A Survey of U.S. Developers* (May 2023) shows that code generation will have the most impact on business, compared to text, video, image, or design generation.

Code generation is a particularly intriguing use case because it is designed to augment employees whose skills are in high demand—developers and other IT professionals. AI assistants tuned to generate code can drive productivity increases for these experts by eliminating repetitive tasks and giving them the opportunity to spend more time on higher-value work. AI assistants can also be particularly useful to developers for brainstorming and exploring different approaches to solving technical problems.

Code Explanation

GenAI assistants can help senior and junior developers and IT professionals by explaining code. This feature is helpful for onboarding new developers of any skill level, which can improve productivity metrics. It can also help developers seeking to refactor or modernize legacy code written in obscure or outdated programming languages. In addition, code explanation capabilities can assist developers in learning new skills.

Automated Testing

Despite improvements in automated testing tools, many IT organizations struggle to extend test coverage and keep up with code proliferation. As a result, software quality and testing top the list of processes with the most potential to benefit from GenAI. IDC's DevOps survey (November 2022, IDC #US49379723) shows that many DevOps teams are using or piloting AI/ML to augment testing by prioritizing which tests to create and run and by identifying the root cause of failed tests.

Vulnerability Assessment

IT organizations are also looking to GenAI to improve DevSecOps processes including threat modeling, automated build analysis, and automated patching. IDC 's GenAI Adoption and Attitudes survey data shows that security testing and vulnerability management is one of the processes with the most potential to benefit from GenAI.

Natural Language Data Access

Automating or eliminating routine tasks can also improve developer productivity. GenAI provides a new method of self-service for accessing structured and unstructured enterprise data. GenAI assistants enable employees to interact with data using natural language, reducing the need for professional developers to build and deliver custom user interfaces. IDC's *Future Enterprise Resiliency & Spending Survey, Wave 6* (July 2023) shows that knowledge management applications are one of the most promising use cases for GenAI.

Closing

Organizations worldwide are investing in GenAI assistants for developers and other technical professionals to improve productivity and give them more time to be innovative.

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