

Whitepaper (Tech)

Introduction

By now, most people have heard the term *cloud computing*. And you might know that cloud computing means storing and accessing data and programs on the internet instead of on your computer's hardware and software. If you're reading this whitepaper though, you likely want to go deeper—to know how cloud computing works, why it transforms the way organizations operate, and how it can make your job easier.

If that's you, we're glad you're here. This stuff intrigues us too.

It might be your first time dealing with the cloud, or you might be in a role where you know a little bit and need more insight into the subject. In either case, we've written this resource for you.

Whether you're a program officer who wants to reach underfunded communities, a grants manager who wants to offer your grantees a more user-friendly experience, a senior manager hoping to inspire people to give, or an executive looking to scale research funding, this whitepaper is designed to help. After reading this white paper, you'll be able to understand the essential characteristics of the cloud, the history and evolution of cloud computing today, and why cloud strategies are vital for any organization.

So, what is cloud computing?

Basically, cloud computing is the delivery of computing resources to users on an as-needed basis. Rather than buying applications or data centers, cloud computing lets users access them via the internet and pay for what they use instead. The goal is to provide convenient, on-demand access to a pool of computing resources that users can arrange according to their specific needs.

It's no wonder, then, that cloud adoption enables organizations to experiment, fail, and learn faster than ever before. Those who harness cloud computing aren't stuck with the consequences of costly decisions made in the past. This makes the cloud the solution of choice for companies that wish to reduce costs, adapt at lightning speeds, and respond quickly to market changes.

And the best part? The cloud is no longer a resource only for techies. The rest of the world recognizes that cloud computing is changing the process by which software is distributed and data is stored, and leaders in business, government, and nonprofit are wondering how they can integrate cloud computing into their operations. And we all benefit from doing so.

A key reason for the adoption and proliferation of cloud services is the fact that they can now be acquired for just a few hundred dollars per month—or for free. Since the 1960s, the world has been working with massive computers. Even today, information is still flowing from organizations to end-users. But today, organizations no longer have to purchase and run their own data centers and infrastructure. Now, they can outsource data collection, preparation, input, processing, output, and storage that used to be done by their own servers. All that heavy-lifting is moved to huge, remote computer warehouses. The result? The same computing tasks that used to cost an organization millions of dollars to acquire, upgrade, and maintain, can now be done for less than five hundred dollars a month.

Cloud computing does more than save money though. One of its biggest benefits is allowing you to access the resources you need without having to build your own infrastructure, outsource IT managing services, or accumulate years of tech experience.

Thankfully, cloud computing is a resource we can all understand and learn to take advantage of. There's some technical terminology to get familiar with, but once the core concepts are learned, a practiced admin user can understand its benefits for their organization.

This whitepaper will demystify the evolution of cloud computing. As we journey through time from early computing in the 1950s to the birth of the internet and subsequent technological advances, you'll discover how cloud computing works and why it is so important for organizations today. Next, we will explore some of the most recent developments in cloud computing, as well as what the future holds. By presenting this information in simple terms, we hope you will be equipped to make better decisions, navigate your new cloud environment with greater ease, and be inspired by the incredible potential for accelerated growth, adaptability, and increased security that the cloud offers.

Background

The biggest way cloud computing has impacted our lives is by allowing us to share far more information, in real-time, from anywhere on any device. Whether we understand the technical details or not, we love problem-solving technologies like the cloud, the Internet of Things (IoT), artificial intelligence (AI), big data, and blockchain because they make our work, shopping, and entertainment more collaborative and personalized than ever before. And our daily tasks have become simpler and less expensive as a result. The cloud has made our lives faster, more convenient, and more connected.

Here's an example. Suppose you're part of a virtual team that works from home. Your team members are dispersed around the world, but you can all access work presentations and spreadsheets stored in the cloud (think Google Docs and Microsoft Office 365) anytime, anywhere on any device.