

Introduction to Cloud Computing

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This page will help you understand what cloud computing is and how it functions, using AppNexus's own cloud as a real-world example of cloud computing as applied to the world of online advertising.

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What does it mean to be "in the cloud"?

When we hear that something is "in the cloud", what that's actually referring to is a repository (such as large datacenters) where software applications and files are housed and made available through an Internet connection. In other words, when you upload a photo to Instagram, you're essentially accessing and storing the photo in a cloud-based service, also known as a SaaS (Software as a Service) model.

What IS a cloud?

Technically, a computing cloud is a group of servers networked together with the following two characteristics:

- They're accessible over a network such as the Internet.
- They're virtualized, meaning multiple independent operating systems can be run on a server at once.

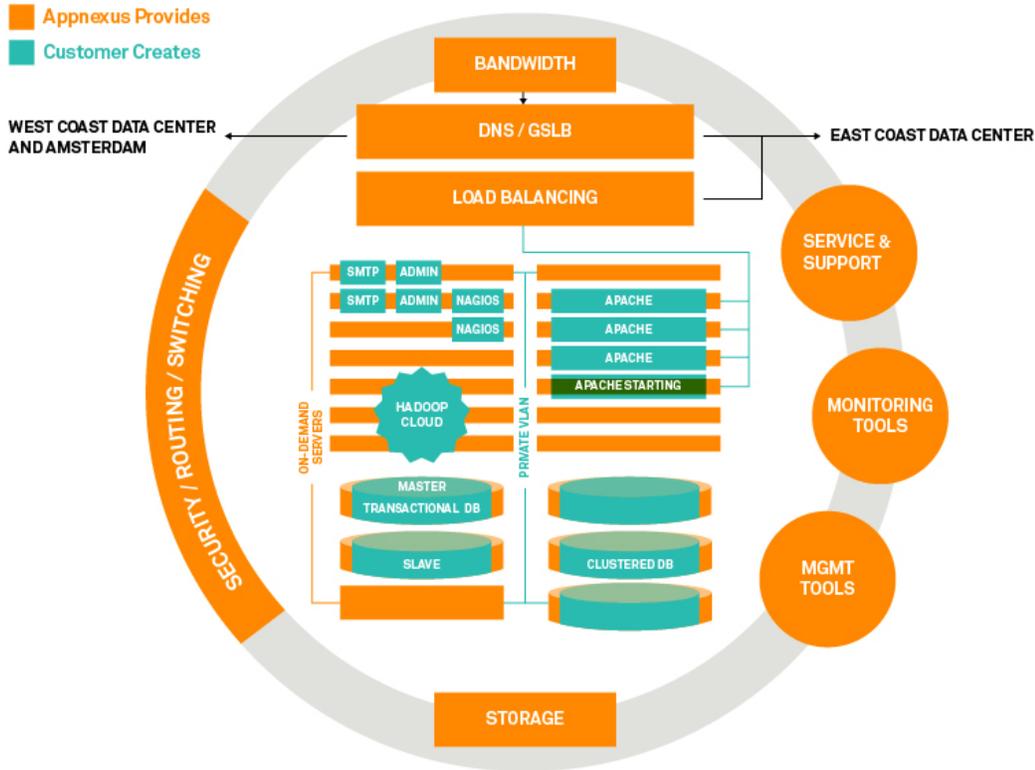
Why use a cloud?

Clouds are being used by businesses for a couple of main reasons:

- **Cost reduction.** It's much easier and more cost effective for companies to outsource their infrastructure than have to absorb costs for expensive hardware, cooling systems, Internet hookups, network engineers to set up everything, and space for all of the equipment.
- **Accessibility.** It allows for easy access to applications and files from anywhere as long as you have an Internet connection.

Inside the AppNexus Cloud

To help better understand how cloud computing works in real-world situations, here's a diagram showing the AppNexus cloud architecture composed of multiple servers hosting our applications and those of our clients.



We built and manage our own cloud, which is used by us, and rented out to our clients. We did this for a few reasons:

- Processing and transacting is our core business. For companies that don't have such infrastructure-heavy business models, it usually makes more sense to outsource.
- We serve ads 24/7 365 days a year. Our infrastructure can't go down, and we want control over our stability.
- We began life as a cloud-computing company built for high-transaction, reliability-focused, enterprise companies. Then we became one ourselves!