

# What's in the cloud?

[www.microsoft.com/educloud](http://www.microsoft.com/educloud)

Education  is in.



"We've entered a new era of science—one based on data-driven exploration—and each new generation of computing technology, such as cloud computing, creates unprecedented opportunities for discovery."

Jeannette M. Wing

Assistant Director for the National Science Foundation  
Directorate for Computer & Information Science & Engineering

## NO LONGER ON THE HORIZON: THE CLOUD HAS COME TO EDUCATION.

### The flexible alternative for an agile academic IT environment.

The technology needs of education institutions are unique and changing. As students, teachers, staff, and faculty become increasingly tech savvy, it can be a challenge for education institutions to offer rich solutions and keep up with changing needs and demands. Additionally, they must balance the need to share information and deliver cost-effective services with equally critical organizational demands—including data security, authentication, and system management. The integration of cloud computing technologies with traditional IT models can give education institutions new choices about balancing system management, security, and budget concerns while also creating new ways to nurture what's most important: teaching and learning.

### What is cloud computing?

In essence, cloud computing involves technologies that enable organizations to access and share Internet-based information, applications, and services. The cloud complements the traditional IT model in which software and data are hosted locally on desktop computers and servers.

*What's in the cloud? Much of what's on your desktop or in your data center right now. For example, e-mail in the cloud is free or affordable for schools, colleges, and universities that need to upgrade legacy systems and expand services. Using the cloud can help ensure that students, teachers, faculty, and staff have on-demand access to essential information using any device from anywhere.*

### What are the advantages of the cloud? Why now?

**Flexibility and choice.** Cloud computing gives education institutions more flexibility to manage cost and scale. Schools, colleges, and universities can choose to use integrated products and solutions on premise or on an as-needed basis from the Internet—or both.

**Lower costs.** Cloud services give institutions the choice of how to manage their technology costs according to their preferences and their budget—whether as a capital expenditure, an operational expense, or both.

**It's greener.** Using off-premise IT infrastructure has the additional value of decreasing environmental impact through a reduction in the physical resources required to run on-premise systems. Consolidating and sharing resources curbs data center sprawl and reduces greenhouse gas emissions.

### The cloud isn't one size fits all: three service models.

The choice to move to the cloud is not an all-or-nothing proposition—and among different institutions, using cloud computing may look very different depending on the cloud capabilities they have selected. The reason for this is the cloud has three service models, which creates flexible options about what services to obtain in the cloud and what to keep on-site.

The three models are called Software as a Service, Platform as a Service, and Infrastructure as a Service.

- **Software as a Service (SaaS)** provides the applications that people use every day for productivity, collaboration, contact management, payment processing, and more.
- **Platform as a Service (PaaS)** provides a platform for you to create and deploy your own applications into the cloud.
- **Infrastructure as a Service (IaaS)** provides on-demand data centers for massive computing power, memory, and storage.

## CLOUD COMPUTING FOR EDUCATION. FROM MICROSOFT.

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Microsoft cloud services provide choice with a focus on collaboration, security, and privacy for education institutions.

Microsoft cloud services are Microsoft by extension—they extend your current IT capabilities. Cloud computing can be deployed for a single department or an entire educational institution or system. It gives your institution the ability to make full use of the Microsoft technologies your teachers, faculty, and students already know, either for no charge or on a flexible pay-as-you-go model, depending on the technology.

With Microsoft cloud services, your institution has the choice to:

- Access the technology you want, where and when you want it.
- Take advantage of the latest technology as a capital expense or an operational one.
- Select offerings that support education standards, such as the Schools Interoperability Framework (SIF), the Health Insurance Portability and Accountability Act (HIPAA), and the Family Educational Rights and Privacy Act (FERPA).
- Choose where your data resides and how you want to manage it.
- Deliver student and faculty services in ways that make the most sense while enabling teachers, faculty, and staff to still perform their primary roles effectively.

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*Microsoft cloud services offer education institutions greater financial flexibility in how they fund their IT resources. When institutions reduce the need for on-premise resources, they also reduce the maintenance and operational overhead, including hardware and facility expenses.*

## SAAS, PAAS, AND IAAS FROM MICROSOFT.

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### Software as a Service.

Microsoft has a variety of Software as a Service offerings through Microsoft Online Services—subscription-based, on-demand applications that provide users with a consistent experience across multiple devices.

Specifically for education institutions, Microsoft offers [Microsoft Live@edu](#). Live@edu provides students, staff, faculty, and alumni with long-term, primary e-mail addresses and other applications that they can use to collaborate and communicate online—at no charge to your education institution.

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*"Live@edu is a platform that allows students to get creative. They are using the services to learn how to operate in a world where virtual collaboration is going to be the rule, not the exception."*

*Professor John H. Shannon  
Stillman School of Business, Seton Hall University*

## Additional Microsoft SaaS offerings include:

- **The Microsoft Business Productivity Online Suite (BPOS)** delivers security-enhanced, hosted communication and collaboration tools, including Microsoft Exchange Online, Microsoft SharePoint Online, Microsoft Office Live Meeting, and Microsoft Office Communications Online.
- **Microsoft Exchange Hosted Services** offers online tools to help your organization protect itself from spam and malicious software, satisfy retention requirements for e-discovery and compliance, encrypt data to preserve confidentiality, and maintain access to e-mail during and after emergency situations.
- **Microsoft Dynamics CRM Online** helps users efficiently centralize customer information and correspondence, identify prospects, and capture workflows.
- **Microsoft Office Web Apps** provides on-demand access to the Web-based version of the Microsoft Office suite of applications, including Word, Excel, and PowerPoint.

## Platform as a Service.

The scalable architecture of the cloud is transforming how academic institutions think about offering services to students, teachers, faculty, staff, and alumni. Size of your service, budget, or staff does not limit IT when the platform for custom services is as readily available and broadly deployable as the Web.

The Windows Azure platform is a PaaS consisting of an operating system, a fully relational database, and consumable Web-based services. It offers schools, colleges, and universities new opportunities for creating open, transparent, and collaborative services.

## Infrastructure as a Service.

IaaS provides on-demand computing and storage to host, scale, and manage applications, storage, networks, and services. On-demand data centers put virtually unlimited computing power into the hands of even the smallest institution. Using Microsoft data centers means education institutions can scale with ease and speed to meet their infrastructure needs.

## Cloud services from Microsoft: the power of choice.

With Microsoft cloud services, you determine the ratio of on-premise solutions to off-premise solutions. Most education institutions will likely decide on a blend of both. Choose hosting by Microsoft or a Microsoft partner, and change the mix as your needs grow, whether it's SaaS, PaaS, IaaS, or any combination of the three.

The inherent flexibility of the Microsoft software-plus-services model means education institutions aren't locked into a single approach; instead, they can easily complement existing IT assets with Web-based services.

## IS MICROSOFT THE RIGHT CHOICE? HERE'S THE PROOF.

### Experience with education.

Microsoft believes that the evolving demands of the global economy make education vital to sustainable social and economic success, and that education is the single most important investment in the future of individuals, communities, the nation, and the world.

Having worked closely with education institutions for more than 30 years, Microsoft has gained deep insight and understanding of the unique and specific needs of schools, colleges, and universities of every kind.

For education institutions, the strength of Microsoft cloud services is ease of deployment and management, enabling your institution to quickly accommodate changing needs, manage user policies centrally, and maintain control of data while also creating transparency. And because Microsoft technologies are familiar, you can leverage knowledge and investments, and easily extend existing systems into the cloud.

### Our developer and partner ecosystem.

Thousands of companies around the world provide software, services, and support that can help make your investment in Microsoft products more valuable. Millions of developers worldwide are writing to Microsoft platforms, and many more are coming to Microsoft cloud computing through our interoperability support of third-party solutions.

### Security and reliability.

The engine of Microsoft cloud services is Microsoft Global Foundation Services (GFS), which provides trusted online services 24 hours a day, seven days a week to a national and international community.

### HOW CAN MICROSOFT CLOUD SERVICES STRENGTHEN YOUR SCHOOL OR UNIVERSITY?

#### Ask us.

Contact your Microsoft representative about cloud services from Microsoft.

#### Ask your Microsoft partner.

Speak to your Microsoft partner about how he or she can help you make the right decisions about cloud computing for your institution. Find a partner who specializes in the unique needs of education at <http://www.microsoft.com/educloud>.