# Timecruiser
## Computing Corporation

# Software-as-a-Service Delivers Feature-Rich, Cost-Effective Solutions "Just in Time" to College Campuses

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## Benefits of On-demand Solutions

- Expedited software deployment with less risk.

- Lower initial costs.

- No additional hardware.

- Lower internal staffing requirements.

- Improved reliability, security and privacy.

- Higher productivity/ROI.

- Lower total cost of ownership.

- Ability to scale software with growth.

Today's recessionary environment is driving higher education administrators to Software-as-a-Service (SaaS) to bridge the gap between escalating demand for IT services and shrinking budgets. On-demand solutions offer a substantive alternative to the costly, inflexible and cumbersome legacy applications.

Now more than ever, higher education institutions, with fewer dollars to spend are looking for smarter ways to deliver the benefits of technology to campuses. A recent EDUCAUSE survey[1] indicated that almost half (45.4 percent) of public universities reported IT budget cuts this fall, up from 16.3 percent the previous year. For public, four-year colleges, those numbers are 44.4 percent, compared to 16.7 percent last year. Private institutions reported less severe numbers; between 22 to 23 percent of them reported cuts, while 24.6 percent of community colleges reported decreases to their IT budgets.

These IT budget reductions came just as many institutions were beginning to recover from budget cuts that occurred after the economic slowdown earlier this decade. Nonetheless, demand for technology resources and services continues to rise, even as the funds supporting these resources and services are cut.

This white paper delves into the advantages and considerations for campuses to move to Software-as-a-Service (SaaS), also known as on-demand computing.

## SaaS Surge

Gartner Research[2] predicts the SaaS market will grow at a compound annual growth rate (CAGR) of 22.1% through 2011, twice the rate of the overall enterprise software market – despite the sluggish economic conditions. And colleges are expected to contribute to this market growth. Like the broader market of SaaS users, budgetary restrictions aren't the only forces compelling colleges to turn to on-demand software solutions. In fact, some education institutions are particularly motivated by pressures to deliver more services, faster:

→ Increased demand for bandwidth and storage as users share applications with media-rich content.

→ Extended support hours.

→ Explosive growth in the number and types of devices used by students, staff and instructors.

→ Expectations for fast, ubiquitous access to the Internet.

→ Escalating security threats and asset control issues.

→ Environmental concerns.

→ Constant inflows and outflows of students each semester.

→ Growing importance of emergency notification systems.

## The Essence of SaaS

The two essential elements of Software-as-a-Service are hosting and subscription. The software runs on the provider's premises, not the customer's, and payment is by subscription spread over the term of a contract rather than as an up front license fee. This model helps the application provider amortize the cost of acquiring, implementing and operating the software, since elements of those costs can be shared across more than one customer, yielding economies of scale. Cost savings are translated into lower overall costs for clients.

## Multi-tenant architecture, the technical foundation for SaaS

In a multi-tenant architecture, a single instance of the application is capable of servicing all customers (the tenants). In other words, because it is a single instance, multi-tenant architecture

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behaves as if each customer has their own copy of the software. A key benefit of the multi-tenant model is its ability to deliver economies of scale by sharing common resources across multiple users.

Those savings come from a number of sources:

→ SaaS costs much less overall than paying for traditional licensed applications.

→ SaaS systems can add new clients easily and quickly, allowing new customers to be productive immediately.

→ SaaS plans and operates hardware and infrastructure deployment based on overall usage requirement, thus eliminates duplication and responsibilities from individual (independent) clients.

→ SaaS takes full advantage of enterprise-class computing systems, where the most computational power per unit (space, power, concurrent users) can be realized.

→ Tremendous cost savings when supporting and maintaining a single system rather than thousands of separate installations.

→ Daily upkeep and maintenance of the software and the required human resources are on the vendor's shoulders.

→ The cost of software upgrades and expensive data conversions are eliminated.

Unlike more classical web applications or "in the cloud" web services, which behave the same way for each customer, multi-tenant architecture allows tenant-specific configurations to the user interface (such as branding, business rules, business processes and data model layers). For colleges, this flexibility may be one of the most compelling arguments for adopting SaaS model in a single-instance, multi-tenant architecture.

## Game-changing benefits

**Single Software Version.** All customers are treated equally in terms of versions; they are all automatically upgraded to the latest version, getting the latest innovations and improvements in the software. They also avoid the risk of being orphaned on an old, unsupported version– a common issue in the academic arena. SaaS vendors only need to maintain the one (current) version of the software and all customers enjoy each improvement and enhancement. Multi-version software vendors must split maintenance efforts over more and more versions of the software, and each update only applies to a small subset of customers.

**Shared Infrastructure.** Multi-tenant architecture allows multiple customers to run on the same hosted infrastructure. Costs that won't be incurred include servers, database licenses, maintenance of components and personnel (system administrators, network administrators, etc. Customers share in the dramatically lower cost of ownership, the advanced IT benefits such as hot-backup mirror sites, scalability and performance.
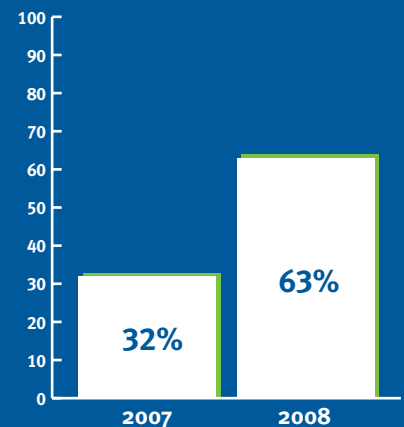
**Quality of Performance.** On-demand SaaS solutions are housed in a state-of-the-art datacenter with direct access to the Internet backbone, with a peering agreement with most of the worldwide ISPs. Users, no matter if they are on campus or anywhere in the world, will enjoy the same level of performance and quality expected of a high quality application services.

**Painless System Upgrades.** Upgrading traditional systems often requires an elaborate and expensive project plan and resources. For example, parallel system tests involve procuring additional hardware systems and data migration often requires custom programming. A good SaaS system provides seamless system upgrade with all data ready to use.

**Quick Implementation.** With conventional, on-premise software, it can take six months to a year to analyze the infrastructure, determine support requirements, train staff, requisition hardware and get software installed, integrated and rolled out. Organizations implementing on-demand solutions are using the software within days or weeks of purchase and generating immediate return on investment (ROI).

## Survey Finds SaaS Market is Surging

THINK strategies' fourth annual Software-as-a-Service (SaaS) customer survey, in conjunction with Cutter Consortium, revealed that 63% of the responding organizations are using a SaaS solution, almost double the 32% who were using SaaS solutions in 2007.

**32%** 2007   **63%** 2008

Thus, the SaaS model appeals to many colleges due to the numerous advantages afforded by a single-instance, multi-tenant on-demand service.

| | SaaS | On-Premise | Hosted Solution |
|---|---|---|---|
| **Server Deployment** | Software and data reside on a central server, at the software vendor's datacenter. | Software and data reside on a central server, on-premise. | Software and data reside on a server that is located and managed on vendor's site. |
| **Pricing Model** | Monthly subscription fees. Version upgrades included. | Software licensing fees. Version upgrades additional charge. | Software license and hosting fees. Software and hardware upgrades additional charge. |
| **IT Maintenance** | Server and software maintained 100% by vendor. | On-site server and software management by institution. | Server and software maintenance by vendor. Upgrades performed at institution's request. |
| **Deployment Period** | Can be up and running in days-weeks. | Requires several months to implement. | Requires several months to implement. |

**Figure One: A comparison of computing alternatives**

## True Green Computing

Software-as-a Service reduces an institution's carbon footprint and helps create a greener world for future generations. Instead of flocks of individual schools operating thousands of their own servers, wasting unused processing cycles on systems that still occupy space and consumes power, a multi-tenant, SaaS datacenter combines the operations of many institutions, realizes efficiencies, and reduces the amount of carbon dioxide emissions. SaaS data centers are generally constructed to maximize energy efficiency and minimize waste. Power consumption is reduced through equipment density and cooling efficiency.

Traditional, on-premise software is onerous and complex, requiring multiple, inefficient, and power-consuming processor calls. In contrast, SaaS engineers typically write code that is lean and elegantly simple, limiting the number of energy-wasting processor calls.

## Customer support

SaaS providers include support services in their solution offerings, ensuring that the provider is a hands-on partner not a traditional dump and run software licenser. SaaS vendors offer different levels of service. Some offer implementation support through partner consulting companies. Other vendors offer comprehensive implementation and training services. Organizations need to be clear how much support they want and whether the vendor or its partners can deliver the desired level.

## Maturity of service

With the exponential growth in the SaaS market, the options available to higher education institutions are also expanding. Higher education institutions are wise to consider the benefits of engaging with mature SaaS providers. Longevity and stability in that relationship is best found in vendors that:

→ Have been operating a long time in the SaaS sector.

→ Have a steady income and revenue.

→ Have created several iterations of the software.

→ Has steady management with relatively low turnover.

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- → Have a stable of happy, long-term customers.
- → Have a record of continuously providing steady improvements to the basic service offering.
- → Have a proven ability to provide custom solutions to customers through innovative SaaS designs.

Thus, the SaaS model appeals to many colleges due to the numerous advantages afforded by a single-instance, multi-tenant on-demand service.

Ask questions. Request documentation. Talk to the clients.

## NETWORKED APPLICATIONS

Mobility is increasingly important for higher ed institutions and those they serve. SaaS software applications allow users to access information that would ordinarily run on an enterprise's internal network without forcing them to run complex security software. Users can securely share information through on-demand applications such as shared workspaces and Web conferencing, without the need for VPN software.

## ENHANCED USER EXPERIENCE

On-demand solutions appeal to the real-world workflows of organizations and intuitive senses of users. Many SaaS products have robust, flexible interfaces with user-customizable options for colors, icon sets, menu displays, and more. They are easier and quicker to deploy, less expensive to acquire and maintain, and offer additional functional capabilities that traditional, on-premise applications often lack.

It shouldn't be a big surprise that SaaS is focused on the user experience. Providers satisfy their customers with uncluttered, user-friendly designs that legacy applications can't match. Providers like Salesforce, NetSuite and Timecruiser have an innate advantage. The entire customer base is 24/7 usability lab.

## VARIABLE PRICING

The on-demand model represents an entirely different way to price software. No large upfront capital investment by the buyer is required at the time of implementation. Instead, payments for services are made on a scheduled timetable. Charges can be calculated using fixed or variable methodologies, such as number of users or the volume of transactions processed over a set period. SaaS is often heralded as a much more economical way to adopt technology over the traditional software license model because the costs are predictable and updated versions are included in the scheduled price instead of forced costly upgrades.

## SUMMARY

On-demand solutions are clearly a viable way for college IT departments to meet the increased demand for technology resources and services while burdened with stipulations that they do more with less. Traditional, premise-based solutions are simply not cost-effective, scalable methods to effectively and efficiently support college student email systems, learning management systems, campus-wide communications, emergency alert systems, etc. It seems that a tough economy is underscoring the essential benefits of "software as a service." Given all that's on their agenda, many are concluding that SaaS is a solution that delivers more value and at a lower cost.

## Timecruiser, a SaaS pioneer

Timecruiser Computer Corporation pioneered the academic SaaS solutions market and has offered an on-demand solution (CampusCruiser) to its clients since its inception in 1998. CampusCruiser is a full-featured, SaaS learning management system, a campus communications portal, and an emergency alert system. Its powerful learning management and productivity tools facilitate academic collaboration, communication, and personal productivity.

**Neil Sachnoff**, Executive Director, Information Technology at Middlesex County College in Edison, New Jersey, attests to Timecruiser's pioneering and innovative technologies. "We were one of the first customers of Timecruiser, when it was essentially an email service. They've evolved and innovated over the years. Today, they offer a full-featured, SaaS learning management system, a campus communications portal and an emergency alert system. We've considered the alternatives, but none of them match up to the bundled, on-demand features of Timecruiser's products," says Sachnoff.

With CampusCruiser, colleges and universities are freed from the burdens of implementing and managing their IT infrastructures for custom applications, and can instead focus their resources on activities that provide the most business impact. Although page views tend to spike in September, when many students begin a new school year, and decline in the spring as the winter session ends, Timecruiser has impressive growth statistics. Comparing the full school years of 2008 to 2007, page views increased a notable 40%.

## Footnotes

[1]  EDUCAUSE 2008 Survey.

[2] Gartner/Dataquest Insight: "SaaS Demand Set to Outpace Enterprise Application Software Market Growth," 08/03/2007.

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