



DATA CENTER OPERATIONS

Providing the highest level of security and reliability

When you utilize SchoolDude's web-native applications, **your data is hosted in a secure data center** on powerful servers where all server and system maintenance issues are addressed easily and quickly for you. Your data and your operations management applications are managed **in a secure and reliable environment** that most educational institutions cannot typically provide for themselves. Advanced technology is used to protect and secure your data at our data center, **providing you with 99.9% system availability and uptime.**

When operating any enterprise application (e.g. a networked version of a computerized operations management system or web-native products from SchoolDude), the data for all the users in your enterprise is stored on a server. If you wish to benefit from the highest level of data security and protection, is it better to store your data in onsite servers behind your firewall or to house your data offsite on SchoolDude's servers in our secure, protected data center? Advances in Internet technology have made it far more beneficial and economical for educational institutions to utilize web-native applications, which store data offsite in a secure data center.

10 Reasons Offsite Data Storage is Ideal for Educational Institutions

1. **Backup Services:** The frequency and reliability of backup services and procedures is of critical importance because all servers storing data will eventually experience a failure. SchoolDude performs backups approximately every hour in a highly automated and monitored process, minimizing data loss in the event of a server problem. In our experience working with educational institutions, backups typically occur only once per day and are frequently missed for a variety of reasons (employees out of the office, automated processes stopping, competing issues, etc.). SchoolDude offers far more reliable performance in the frequency of data backups.
2. **Storage of Backup Data:** When data is backed up, this data must be properly protected. Ideally, the educational institution would move the backup data to a remote site and place it in a secure and locked facility. Again, our experience is that educational institutions do not always properly store their backup data. SchoolDude moves all backup data to another facility located in another state. This removes the risk of loss of both primary and backup data due to a flood, fire, storm or other acts of God. This offers far greater protection of back up data.
3. **Security:** Any hardware in any location is subject to security issues. This can range from vandalism to intentional acts of malice. Many organizations have experienced major network outages because of a disgruntled employee or the acts of a malicious individual. Most educational institutions have little or no protection from this form of major catastrophe. SchoolDude stores your data in a secure facility. Only authorized personnel are allowed in the facility, which is secured by a sophisticated, biometric security system. The facility is monitored 24x7 by security patrols, as well as closed circuit cameras which record all activities and are monitored from both the local and redundant facilities.
4. **Communication Reliability:** It doesn't matter if your data is secure if you cannot access it across from your network, intranet or the Internet. The fully meshed network used by SchoolDude has fourteen independent fiber connection feeds, ranging from OC-3 to OC-12, for connection to the Internet. These connections are provided by seven separate carriers and utilize dynamic flow control technology to optimize Internet access and performance. With this many connections and providers, a loss of several feeds or provider issues will not result in the capacity of the network dropping below what is required.



10 Reasons Offsite Data Storage is Ideal for Educational Institutions (cont.)

- 5. Fire Protection:** One potential disaster for a network server is a fire incident. Although your data may be backed up correctly and stored remotely, a fire could ruin your server hardware and cause an extended outage. Many educational institutions have limited fire prevention and protective systems for their servers. SchoolDude utilizes an advanced fire protection system for our servers at a cost that far exceeds what most educational institutions could justify. Should a fire occur, the server is housed in an environment protected by a sophisticated and costly Inergen gas system which can stop a fire with minimal or no damage to server hardware. In the unlikely event the Inergen system fails to extinguish a fire, a dual pre-action dry pipe system serves as a secondary means of extinguishing any fires. SchoolDude's fire protection system provides you with unparalleled protection that most educational institutions cannot economically justify.
- 6. Disaster Recovery:** Independent of the investments made to protect a single facility, a catastrophic event may occur. All organizations should have a disaster recovery program, although virtually no educational institution operations management systems have a disaster recovery program actively in place. This means that a catastrophic event could totally destroy your operations management system, leaving the educational institution waiting an extended period of time for a replacement system to be brought online. This scenario could be doubly difficult as the educational institution would probably also be dealing with other problems that would require a system to schedule and track work being performed to recover from the catastrophic event. SchoolDude uses a network of data centers to address this issue. Your backup data is stored in another data center (same specifications as described previously) in another location – in another part of the country. Should a catastrophic event occur, your backup data is readily available to SchoolDude. We would dispatch a team to another location where they would install your management system on a new server, attach to your backed up data, and have your system operational in a short period of time.
- 7. Data Security:** One of the biggest issues you face now and in the future is the security of your data. A single hacker or computer virus could take your system down and corrupt your data. Educational institution network administrators work to provide a firewall to secure your data from both of these potential threats. That creates a sense of security in the fact that “your data is behind your firewall”. But is that the best, most secure firewall to protect your data? When your data resides on SchoolDude's servers, it is conceptually NOT outside your firewall as commonly stated! Instead, SchoolDude provides an advanced firewall for your data that replaces the firewall that would be used by your Information Technology department. We cannot make a blanket statement that our firewall is superior to the firewalls offered by every educational institution's IT department, as that would vary greatly from organization to organization. However, we can state with confidence that SchoolDude invests in the best technology available and leverages top industry consultants to provide an excellent, secure firewall for your data. More importantly, the SchoolDude team constantly monitors and enhances the firewall protecting your data. Educational institutions are typically limited in the amount of investment they can make in firewall protection because they are usually protecting a limited number of applications for a single organization. SchoolDude has the responsibility to protect the data of hundreds of educational institutions and therefore can make manpower and technology investments that exceed what is available at the typical educational institution. Your data is not removed from behind your firewall in the sense that it becomes exposed to risk. Rather, your data is removed from behind your firewall to behind SchoolDude's secure firewall.
- 8. Access to Your Data:** You own your data, and you want it available at all times. The SchoolDude system makes your data readily available. You can run report routines at any time and export your data to a location on your in-house network. SchoolDude also offers a service called DataDirect for a nominal fee. DataDirect publishes your data on a weekly basis to a location readily accessible to you, allowing you to download your data to your server on a routine basis. Additionally, SchoolDude offers to supply your data on CD upon request for a nominal fee.



10 Reasons Offsite Data Storage is Ideal for Educational Institutions (cont.)

9. Power Outages: A power outage can range from a blink of less than a second to several days after a severe weather incident. In a typical client-server application environment, a power outage takes your system down and also causes you to lose all your data since the last data backup procedure was performed. Power outages create a major productivity loss when they occur. Typically, you are dealing with a host of other issues after a power failure and do not need to lose valuable resources dealing with the incremental issues caused by loss of data. SchoolDude's servers are housed in a facility where a power failure is virtually impossible. All power sources are filtered and cleaned inside the data center. In the event that the power feed is shut down, the data center has a full battery backup system that allows the servers to stay in continuous, uninterrupted operation. If the power cannot be restored before the battery backup system is exhausted, a 1.75 Mw twin diesel micro-generation system comes online to provide power to the data center. And of course, there are six companies on contract to supply diesel fuel to maintain operation of the micro-generation system until power is restored.

10. Server Hardware Failure: Sooner or later, all servers will experience a failure because they are hardware devices. Server hardware failures are inevitable events in your future that should be planned for, so you should address how such a hardware failure would be managed. In the event of a hardware server failure, here are the steps you must take to get your desktop system back up and running because your data is stored on an in-house server:

- a. Identify the server hardware failure.
- b. Contact the server manufacturer for support.
- c. Work with the server manufacturer to further troubleshoot the failure.
- d. Wait for server manufacturer to send replacement parts if you don't keep spare parts in-house. This could range from four hours to the next business day, depending on the support purchased for the server.
- e. Receive the replacement parts, install and verify the hardware failure has been corrected.
- f. Load the last data backup, if required. All work done since the last backup is lost.
- g. Confirm that everything now functions correctly.
- h. Resume normal operation.

A server hardware failure is much less detrimental if your data is stored on SchoolDude's servers. We maintain a "warm standby server," which means that we have purchased a backup server, loaded our application software, fully tested the operation and are ready to go when a server failure occurs. We simply take your last data backup (performed every hour every day) and have you back up and running quickly with minimal data loss. Typically, you are back up and running on SchoolDude's servers before you could have gotten off the phone with the manufacturer during an in-house server failure.

The results of SchoolDude's efforts to protect and secure our clients' data speak volumes. **During 2007, SchoolDude's servers have provided 99.9% system availability and uptime during business hours (7:00am to 10:00pm EST).**

As the entire software industry migrates from desktop applications to web-native applications, educational institutions must go through an evaluation and learning curve on the issues of data storage and management. When you conduct a thorough evaluation – especially if you visit a SchoolDude data facility – we believe you will conclude that **the most prudent course of business is to move as much data as possible, as quickly as possible, to a SchoolDude data center.**

Today, you're probably asking the question, "Should I move my data and applications from onsite servers?" But **within a year, your administration will probably be asking you, "Why haven't you moved our data and applications to a secure, offsite environment?"**

Over the next few years, virtually all of your software systems (such as financials, student records, curriculum and other major applications) will move to web-native solutions with both the application software and your data being managed from a state of the art facility and provided to you via the Internet. Web-native solutions reduce your total cost of ownership for these applications by as much as 90% while providing far superior performance.



DATA CENTER OPERATIONS

Reliability, Security and Privacy

The SchoolDude team has unmatched experience in providing innovative technology to educational institutions nationwide. Our expertise has guided us to build in the application services that we know you need, but that you have rarely been able to provide in the past. Now, you can have technology, business and facility management applications that are managed in a secure and reliable environment with support and services from a technology partner that knows educational institutions. We have built our integrated suite of online operations management services in an environment that allows us to provide you with unprecedented levels of service and reliability at an affordable price.

RELIABILITY FEATURES

- High performance, multi-processor database server
- High performance web server
- Redundant internal server power supplies
- Redundant, hot swappable hard drive array (RAID 1, 5, 10)
- Redundant OC-3 thru OC-12 connections to top tier Internet providers
- Redundant backup power systems including diesel generator and battery backup
- Application built to scale to multiple servers and databases
- Redundant server and application monitoring on five-minute intervals.
- Daily tape backups of all system data
- Hourly backups of appended data (data that has changed)

SECURITY FEATURES

- Physical security monitoring
- Network security monitoring
- Application security by unique username and password

COST / BENEFIT ANALYSIS

- Reduces your total cost of ownership 80-90% compared to desktop systems
- Simple – no software to install, maintain, or back up
- Innovative technology – receive software updates instantly
- Affordable – low annual fee for online applications with no licensing limitations
- Reliable – maintained in a 24x7 secure data center, ensuring maximum system uptime

PRIVACY OF YOUR DATA

The data you place in our applications belongs to you. We will never share it, sell it, or distribute it to anyone. If you decide to cancel our service, you can take your data with you.

We may offer future services that allow you to view “average” or aggregated data from other educational institutions, but this data will never be specifically identified to you or your organization. Our privacy statement has additional information.

If you decide to cancel your service, we will provide you with your data on a CD in a Microsoft Access database format.

If you would like a backup copy of your data, you can run report routines at any time and export your data to a location on your in-house network. SchoolDude also offers a service called DataDirect for a nominal fee. DataDirect publishes your data on a weekly basis to a location readily accessible to you, allowing you to download your data to your server on a routine basis. Additionally, SchoolDude offers to supply your data on CD upon request for a nominal fee.

CONTACT SCHOOLDUDE TODAY TO LEARN MORE!

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