

ASP versus On-site Comparison

There are many advantages to having an Applications Service Provider (ASP) host your data including, the level of security as both physical and network security is improved by leveraging the ASP's infrastructure; technology, as there is a significant cost savings from not needing an additional investment in hardware, communications infrastructure, and expertise to administer products and maintain servers; and the management of the data as ASP vendors will help you meet legal requirements for security, backup, and disaster recovery. These are all important things to consider when determining your budget, staff and resources for hosting the data or for choosing an ASP. Below are some major considerations when evaluating operation environments like an ASP.

Security

An ASP should have on-site security that is provided 24X7 and includes closed-circuit cameras, secure-card key access, biometric scanners, mantraps and alarmed doors. Security personnel also monitor the center and manage the locking cabinets and cages in addition to building and environmental alarms that are monitored 24x7 by staff. The cost of putting this kind of security in place within a school system- well you can imagine.

Power Outage Protection

The ASP hosting center should have Uninterruptible Power Supply (UPS) systems. UPS systems receive power from both the commercial power utility and in-house standby generators. Each UPS system provides redundant power distribution units (PDUs) with multiple standby generators available to provide power to the center within one minute of a commercial power outage. The one-minute gap is covered by the UPS battery system to ensure that no impact on equipment is experienced. During an extended commercial power outage, the diesel generators provide power using the fuel stored on site. The center has a multiple-day fuel supply with guaranteed contracts for fuel delivery if needed.

Fire Prevention

Fire suppression in an ASP's center should be achieved through a pre-action dry pipe system, in addition to state-of-the-art VESDA (air sampling) smoke detection systems. VESDA systems are 100 times more sensitive than conventional fire detection systems. Detectors are grouped into different zones. When one or more detectors detect smoke, the fire alarm panel opens the deluge valve to fill the sprinkler piping with water. In case of fire, the seal on the sprinkler heads must melt due to high heat and only then discharge water in only the affected area. Water will not be discharged in unaffected areas thus preventing damage to equipment and services in different zones.

Temperature Control

Chiller plants are also in an N+1 design. Multiple Computer Room Air Conditioning (CRAC) units providing air conditioning are strategically located to deliver lower temperature conditioned air to maintain a room temperature of 72°F. The Data Center is optimized specifically to provide an enterprise-class web, data, and applications server-hosting environment. The Data Center is protected from intrusion and failure by multi-layered security, fail-safe redundancy, diversity measures, and rapid response recovery measures.

Technology

Another factor to consider is the hardware and technology that is put in place to house and move the data.

Managed Storage for High Performance and Disaster Recovery

Managing the storage of the data can be effectively done by using redundant storage mechanisms and SnapMirror technology. Storage mechanisms will allow the applications and their data to run two to three times faster due to improved throughput, in addition to minimizing any potential downtime and having instant File-System Recovery. SnapMirror technology makes the information available in two locations so that in the event that a disaster makes the information in one location unavailable, servers in the other geographically remote location can be configured to continue to deliver your hosted customers.

Management and Administration of Data

An ASP vendor will handle all administration services such as adding and removing users, configuration, and monitoring to keep the application running smoothly eliminating the significant labor cost for network administration specialists. Application data is stored securely on robust high-speed disk subsystems and is mirrored to provide minimal data loss should failure occur; additionally, data is backed up regularly and stored offsite. In order to manage the data 24x7 there is software that can be implemented. This software monitors key services and protocols—such as HTTP (Web), SMTP (email) which can be "probed" at five-minute intervals. If the software finds they are unavailable, then a support team can be notified and immediately addresses the issue.

Optional Redundant Servers and Clustering

For customers who demand the highest availability, some ASPs will provide redundant servers and clustering. The clustering provides load balancing between the two servers, and also provides fail over should one server experience a hardware or software failure.

Summary

Many IT departments now choose the ASP route as a hosting solution, like all organizations they are interested in lowering costs, improving security, enhancing performance and meeting legal requirements for security—and this was the most economical and timely solution. ASP generally handles all administration services such as adding and removing users, configuration, and monitoring to keep the application running smoothly eliminating the significant labor cost for personal that specialize in particular areas. Many ASP vendors guarantee application uptime and removes the potential IT headaches associated with disaster recovery. ASPs provide all the necessary hardware, maintenance, Internet bandwidth, and data backup services for peak performance and the application data is stored securely on robust high-speed disk subsystems and is mirrored to provide minimal data loss should failure occur; additionally, data is backed up regularly and stored offsite. Many schools retrieve all types of educational information and perform automated workflow through any standard Web browser, even from home through ASPs.

Each school has different needs when it comes to hosting its applications. Cost and experience have been the most influential factors during most purchasing decision. Other factors can also be considered as highlighted below:

	<u>Application Service Provider</u>	<u>On-Site Operations</u>
Experience	<ul style="list-style-type: none"> *Stems from previous core competencies *Organize, manage, and distribute critical data *Windows and Mac OS experience *Graphic arts experience working with file preparation, output and color 	<ul style="list-style-type: none"> *Experts of organizing and managing critical data *Windows experience *Rich understanding of programming
Cost	<ul style="list-style-type: none"> *Initial development includes customization *Unlimited amount of users *Usage fees and maintenance *All hardware and software is the cost of ASP 	<ul style="list-style-type: none"> *Initial software cost *Cost to load onto each workstation *Updated version releases *Purchase hardware including servers, backups, upgrades, and Mac OS & Windows workstations to interpret files
Mac OS Support	<ul style="list-style-type: none"> *Experts of the Mac OS environment including hardware and software support internally and externally *Daily exposure to new versions of software and functionality 	<ul style="list-style-type: none"> *Limited knowledge of graphics and Mac OS environment *Limited exposure to Mac OS software packages, versions and functionality
Windows Support	<ul style="list-style-type: none"> *Support from experts in Graphics and Information Technology personnel *Knowledge and understanding of graphic arts software packages *Authority on converting Windows files to usable Mac OS files 	<ul style="list-style-type: none"> *Support from Information Technology experts *Limited exposure to graphic arts software functionality
File Conversions	<ul style="list-style-type: none"> *On the fly file conversions from one master file *Flexibility to support new file formats 	<ul style="list-style-type: none"> * File formats available limited to the software version
Customization	<ul style="list-style-type: none"> *Customer needs identified through a discovery process *Unlimited scalability *Ongoing development for constant improvement 	<ul style="list-style-type: none"> *All features pre-defined *Limited scalability *New development is available when the latest software version is released
Troubleshooting	<ul style="list-style-type: none"> *Proactive approach to solving software and hardware problems 	<ul style="list-style-type: none"> *Reactive approach to solving software and hardware problems
Security	<ul style="list-style-type: none"> *Protected environment to ensure safety and security *Accountable for all backups and disaster recovery plans *Daily backups complete with offsite storage and disaster recovery *Ongoing security tests from outside organization 	<ul style="list-style-type: none"> *Security is limited to policies outlined within the terms of agreement *Backups and disaster recovery is school responsible
Training	<ul style="list-style-type: none"> *Internal administrators and users trained on-site *External users trained through remote demonstrations and informative literature 	<ul style="list-style-type: none"> *Limited training from developers *External user training is client responsibility
Implementation	<ul style="list-style-type: none"> *Rapid deployment Research & Development team *Flexible to meet demanding schedules and change features as the development process proceeds *Personal support throughout the setup process 	<ul style="list-style-type: none"> *Lengthy deployment due to acquisition and installation of hardware and software *Primary support from user guide
Investment	<ul style="list-style-type: none"> *No hardware needed *No upgrades to hardware or software needed *No physical storage needed *No personnel needed to maintain or troubleshoot *ASPs invest in the latest technology and securely embrace all hardware at one location 	<ul style="list-style-type: none"> *Purchase servers and necessary workstations *Purchase software and additional licenses for multiple workstations *Allocate physical space for hardware *Assign personnel to troubleshoot and maintain latest technology through monitoring new product releases