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# The Essentials Series

## Managed Application Failover for the SMB

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*by David Chernicoff*

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# Article 1: Understanding Managed Services

Managed services in the IT world can be described as the outsourcing of specific IT functions and applications to an offsite provider. This outsourcing is done for a number of reasons, both economic and technical, that we will address in this series of articles.

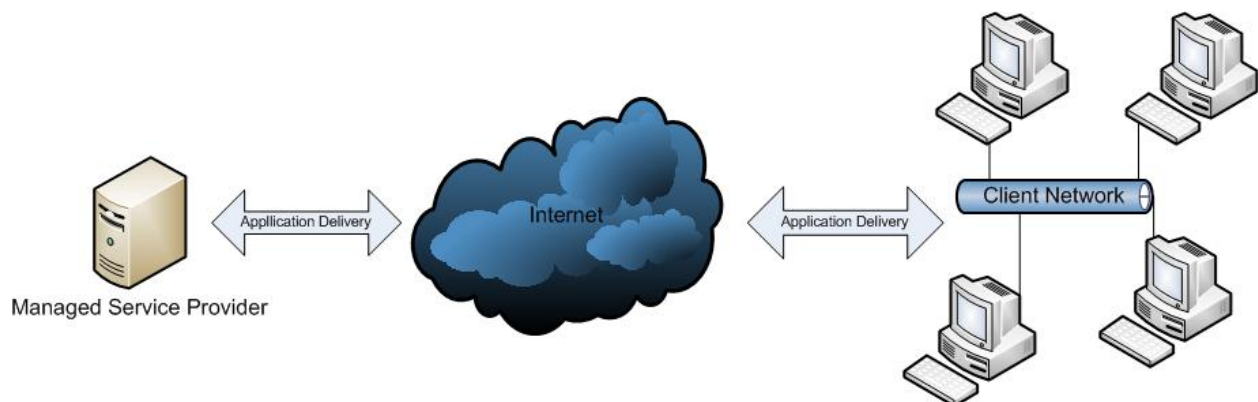
## What Are Managed Services?

In the IT shop, a managed service is an IT task for which the day-to-day responsibility has been transferred to an outside organization. The service is offered by a Managed Service Provider (MSP) who is contractually obligated to deliver the service at the level specified by the contract.

## What Is an MSP?

An MSP offers a specific application or set of applications to the IT customer. The MSP offering is, in most cases, an end-to-end application filling a specific need that is delivered via the Internet over the customer's existing network-based infrastructure. As Figure 1 shows, the service offering has the Internet as its delivery mechanism, allowing it to be used at any site with Internet access. In many cases, MSP will offer services tailored to any Internet connection speed.

The contracted service is managed, maintained, upgraded, and delivered to the users as if it was a local service, and may include both hardware and software on the client-side. The basic idea is to deliver a service that the IT customer could not afford, in terms of money, time, or personnel, to implement as a standalone solution within their own infrastructure.



**Figure 1: Managed services delivery.**

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## How Do Managed Services Work?

The specifics of how a managed service works vary depending upon the service being provided, but the basic structure goes as follows:

- Managed service is contracted
- A site survey is performed to assure the ability to deliver the service by the MSP
- Customer-side components are installed—This can range from a simple piece of software installed on client computers to complex hardware installations at the client site configured to communicate to the provider; the amount of client IT support required at this point is determined by contract
- Configuration and communications are completed and configured
- Service is turned “on” for the client
- Ongoing operations are managed by the MSP.

The key component of the process is that the responsibility for keeping the service available is that of the MSP. The customer IT-related responsibilities will generally be laid out in the contract, but in most cases, will require little more than assuring a network connection is available from the client site and that client computers run supported operating systems (OSs).

### How Managed Service Fits in Your Business

Managed services fit in by allowing IT to deliver services that they might not otherwise be equipped or budgeted to provide. From the perspective of the users within the enterprise, the service is provided by and is the same as any IT service that they are currently using.

### Common Managed Services

Unsurprisingly, managed service offerings fall into two basic categories: tasks every business does and tasks that provide significant value-add but are difficult for smaller businesses to implement. There is some crossover between the two categories. In the first category, you’ll find tasks such as backup, storage, and email. These tasks are easily supported, usually require little more than agent or client software be installed on each computer (or, as in the case of MSP-provided email services, that the existing email client be configured to work with the new server), and can be utilized by both end user knowledge workers and IT staff.

The second category is comprised of the more complex tasks: disaster recovery, business continuity, systems management, and network management. These tasks are very IT focused and take on responsibilities that would otherwise require significant internal IT resources, in terms of both time and money. In some cases, the provided services require very specific levels of technological expertise that can be very expensive to maintain internally, especially for smaller companies.

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You will also find MSPs that offer a completely different approach to the process, providing a complete knowledge worker solution that is maintained, managed, and run offsite. This setup is accomplished by using some form of terminal services, where the client uses a remote display protocol to operate a virtual client that resides on the MSP's servers. In this type of MSP model, the complete user environment is maintained remotely and is unavailable if the user has no Internet connection. Conversely, it is available from anywhere the user can make a secured Internet connection. This approach is usually applied to a very specific set of business circumstances, such as geographically dispersed employees.

## Key Benefits of Managed Services

The primary benefit to IT of managed services is the simplification of the delivery and management of a significant component of the business infrastructure. It also allows IT departments to invest in the areas of the business that they are managing internally without the need for often-expensive specialized skills required to deliver the same level of service that an MSP can provide.

Key benefits include:

- **Faster service implementation**—There is no longer a need to build a complete service infrastructure before delivering a service in-house. The MSP-offered service can be quickly and efficiently implemented and deployed.
- **Better utilization of existing resources**—Internal IT resources don't need to be retrained or redistributed to provide and support the new service offering.
- **More secure and reliable IT service**—Security and reliability of the MSP offering are contractually guaranteed and don't require internal IT resources.
- **Improved flexibility and responsiveness**—Offering MSP services means that IT can expand the technical services offered to users and more quickly adapt to changing business needs using internal and external resources combined.

## Understanding the Process

From the initial decision to implement a managed service in your computing environment to the continuing operation and management of the service, choosing and using an MSP is an ongoing process. The most important factor in selecting an MSP is to develop a thorough understanding of your business processes and how IT generally, and the selected MSP service specifically, will fit into your business model.

Once you have defined the need exactly, you will be able to select an MSP that is able to offer you what you need with the most flexibility. It is likely you will find that making use of the MSP-delivered service will increase your business flexibility and expand the eventual requirements for the MSP service. Keep this goal in mind when choosing an MSP.

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## How Managed Services Are Implemented

The implementation of your selected managed service is a multi-step process designed to ensure that the service you have contracted for meets your business needs. At its most basic, the process is purely internal, with IT determining what service they need (off-site backup, for example) and determining which MSP offers what the business needs at the most competitive value.

More complex services, such as systems management, disaster recover, or business continuity MSP offerings will require a much closer relationship with the MSP services vendor. These services will need tasks such as vendor site surveys; detailed understanding of the affected services, networks, and users; and the maintenance of an ongoing close relationship between the business and the MSP.

## The Client-Vendor Relationship

Most important with the more complex MSP offerings, the relationship between client and MSP vendor is a critical one. Because these services become such an integral part of ongoing business operations, the business needs to select a vendor that is able to deliver on the contracts, is able to quickly respond to the changing business environment (client and server OS changes, application upgrades, security patches, and so on), and provides simple and straightforward means of communication to allow the MSP customer to change and upgrade their services as needed to meet their business needs.

## Conclusion

Managed services can fill existing needs of the business customer and offer the ability to implement IT process that would otherwise be out of the reach of smaller businesses. Managed services are not a “be all, end all” solution for customers but an effective tool for IT to expand the range of service options that can be offered to their users.

For IT users in the SMB space, managed service should definitely be part of the evaluation process when considering adding new services or updating existing services. Weighing the cost and benefits of fully internalized solutions versus the possibility of using an MSP to deliver parts of the IT infrastructure that can effectively be outsourced allows IT the ability to best maximize budgets, both in dollars and manpower.

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# Article 2: Understanding the Business Benefits of Managed Services

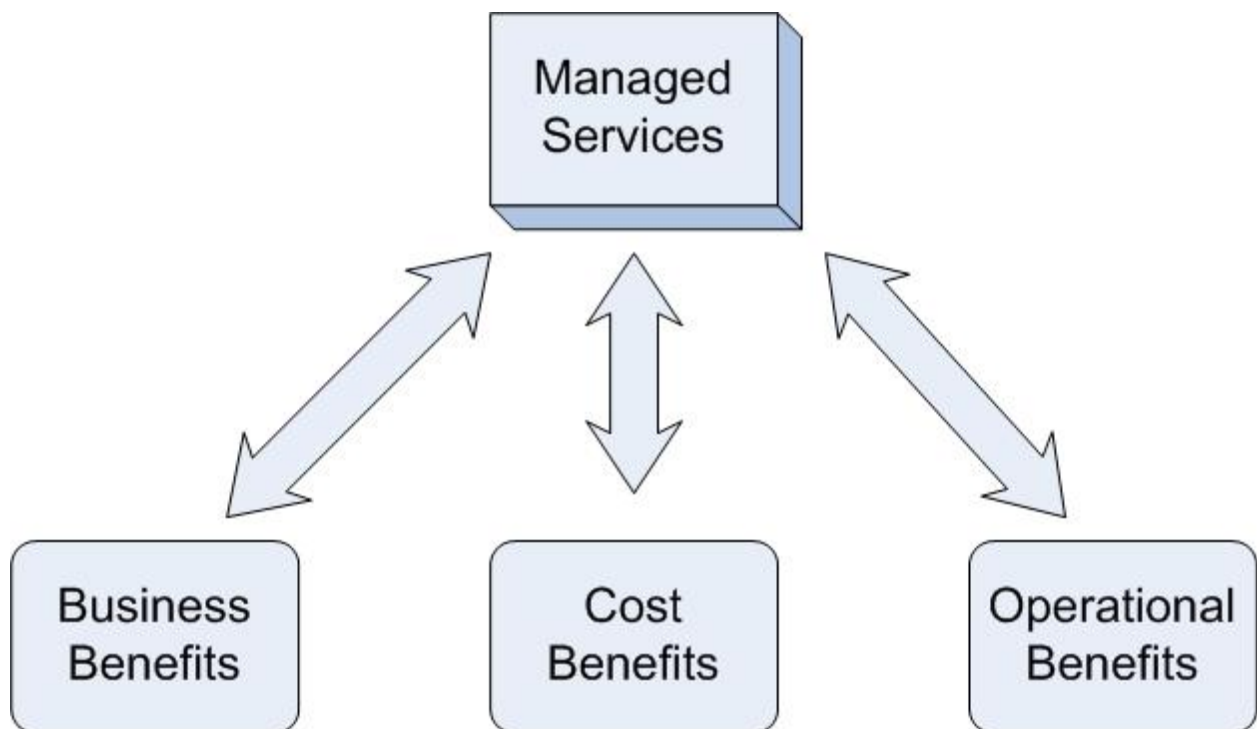
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Choosing to use managed services isn't strictly an IT decision. There are a number of business benefits that manifest themselves to managed services users. These benefits have an ongoing effect on the business process and should be as carefully considered as any technology issue when choosing to implement managed services in your environment.

## Why Use Managed Services?

From the business perspective, there are a number of good reasons to implement managed services, especially in the SMB space. The bottom line is that managed services can offer you options that are otherwise difficult or not cost effective to otherwise implement. There are also basic opportunities that managed services can bring to your business including:

- Better business flexibility
- Operational risk reduction
- Streamlined operations
- Better ROI
- Improved customer relationships



**Figure 1: Managed services offer a combination of benefits to the average company.**

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## Managed Services in Your Business Model

The real issue that needs to be concerned is how managed services fit into your business model:

- Are there IT services that are needed that aren't currently being provided?
- Is there an advantage to providing a common set of services to a geographically distributed group of users that would not be cost effective to provide with internal resources?
- Are there Managed Service Provider (MSP)-offered services and applications that can improve the bottom line?

These are the types of questions that need to be asked internally to determine whether there is a business need for utilizing the offerings of an MSP. Let's look at some of the key issues in making the business decision to implement managed services.

## Planning for Growth

One of the most difficult business decisions for SMB-sized businesses is how much to invest in IT infrastructure, both hardware and applications. Although the IT requirements for business today are clear cut, the need to invest in resources that can grow with the business and can match the rate of business growth often requires more art than science. Estimating the growth rate of the business and pre-buying equipment and software that allows the expected growth is one of the most difficult tasks in IT operations and budgeting. Guessing wrong can waste funds or, at worst, prevent the business from meeting its goals.

## Improving Business Flexibility

Flexibility is one of the areas in which managed services excel. The MSP can offer the ability to add anything from complete classes of additional services to the simple additional of seat licenses for a specific application. These services are added when needed, and while the business still needs to budget for these services, there is no need to invest in the IT infrastructure to specifically support these future changes.

This benefit takes the form of either reduced spending in IT, so that money can be saved on hardware or in hiring specific areas of expertise, or more effectively, in more targeted IT spending, so that IT spending can be more closely aligned with responding to business needs rather than back-end expenses. Thus, business challenges aren't limited by what internal IT can deliver right now but by what services can be added and supported using the combination of internal IT resources and managed service providers.

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## Managing Risk

Risk management with IT services is a combination of services and support issues matched with the need to continue delivering business services to the users. Every business process and its related IT applications should have a plan in place to continue operation in the face of problems, be it a minor glitch or an absolute disaster. Limiting the potential for problems in the IT environment is an ongoing task for IT.

### Limiting Exposure to Potential Points of Failure

Limiting potential failure points is a basic rule of thumb in preventing IT operational problems from impacting business processes. Using an MSP to provide business services means that the potential points of failure that internal IT needs to deal with are limited to tasks that they would already be performing: keeping systems running (client and/or server, depending on the MSP-provided services), making sure that the internal network is operating properly, and ensuring that the connection to the Internet is maintained for users.

Keeping the managed service available is the responsibility of the MSP, and your level of service will often be determined by the contract with the provider. Thus, your internal IT can focus on keeping their piece of the puzzle functional, which in almost all cases doesn't require stepping beyond their normal day-to-day IT tasks. So without additional investment in IT infrastructure, moving line-of-business services to an MSP can result in a more secure and lower-risk business computing environment.

## Improving Profitability

Effective IT spending can result in improved profitability overall. This is a fact that is often overlooked when considering an MSP. Traditional IT spending involves significant capital expenditures: the equipment necessary to make IT services available has to be planned and budgeted for. Ongoing administrative and maintenance expenses continue to be factored in for the life of the hardware, while software requires maintenance contracts and IT services to keep updated and securely patched.

### Spending Money in the Right Places

With managed services, the money spent on services is spent directly on providing the actual services. There is no additional budgeting on collateral support expenses beyond that which would normally be spent on the management and maintenance of systems in your computing environment. Business is able to directly correlate the expense with the service being supplied; the money being budgeted for the managed service is basically the entire expense that needs to be considered for the service, allowing IT dollars to be spent very effectively.

### Streamlining Operations

Ongoing operational tasks and costs are reduced with the use of managed services as the internal IT requirements for support of those services is minimal. This allows IT to focus on operational issues concerning only those services supported internally and focus their attention on line-of-business processes that make the company money.

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## Managing Costs

In most IT shops, using an MSP solution will actually reduce the ongoing expenses of IT for that task. This is especially true if you compare the cost of implementing a major service internally versus outsourcing the same task. Look at the very common MSP offering of email services for Microsoft Exchange Server. To implement internally, the IT department would need to spend money on:

- Hardware—Suitable server hardware to run the current version of Exchange Server
- Exchange Server software license
- Exchange Server Subject Matter Expert (SME)—Running an Exchange Server of any size requires having internal staff that is knowledgeable about the software and its utilization

Compare the costs of these items to the per mailbox expense that an MSP will charge to provide full-blown Exchange Services to your business as a service. Not only are the initial expenses lower, the ongoing expenses will likely be no more, and in many cases less than, maintaining your own Exchange Server internally. And as you expand your environment or user base, there is no danger that you will outgrow your investment in software and hardware. A full-service MSP will likely also offer additional services, such as SharePoint integration, to allow you to further expand your business capabilities with no upfront costs for new hardware or expertise.

## Improving Customer Relationships

Using managed services can result in improved customer relationships—the more agile and responsive IT, the better the experience of the business customers. There is nothing more detrimental to ongoing customer relations than the inability of a business to respond to customer needs and demands. No customer wants to hear that there is an unavailable service that is preventing them from getting an answer to their question, a product shipped, or a service delivered. By utilizing managed services to handle a portion of your IT tasks, a business is able to focus more attention on their customers and other front-end activities utilizing resources that would otherwise be spent on back-end operations.

## Conclusion

From the perspective of the business model, managed services offer a cost-effective way to add services to the IT offerings that the business can utilize. It prevents the need for upfront spending for the managed tasks and allows for the adoption of new technologies with minimal expense and in a risk-adverse fashion.

Added flexibility to the IT services available without revamping the IT infrastructure is an attractive option to the business decision maker. This can make IT spending a more palatable option in times of tight spending and minimal budget increases.

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# Article 3: Implementing Business Continuity Services for the SMB

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Business continuity is a topic that is often discussed but rarely acted on in any meaningful way in the SMB space. Traditionally viewed as a large-scale enterprise task, business continuity and disaster recovery services are in some ways considered the pinnacle of IT tasks, with their goal of allowing a company to continue to operate after problems that would have brought down a lesser business entity.

## What Is Business Continuity?

Business continuity is the process of keeping your business processes up and running in the face of situations that would otherwise shut down the business. Preventing the shut down of operations in the event of unforeseen disruptions requires several currently-available technologies. None of these technologies are simple to implement or inexpensive to support, requiring specific hardware and expertise in their use:

- Mirroring
- Clustering
- Replication

By utilizing these technologies, it is possible to build a computing environment that has a high level of durability and is unlikely to suffer a disruption sufficiently serious to bring down business operations.

## Why Business Continuity and Disaster Recovery Are Important in the SMB Space

Both the IT and business management sides of a business are well aware that they cannot afford to have line-of-business and mission-critical applications and services unavailable due to an unforeseen circumstance, be it the failure of a piece of equipment or a natural disaster. How to deal with these potential problems is the crux of the matter.

In a large enterprise data center, there is usually a multi-tier data center protection process in place to provide disaster recovery, high-availability, and business continuity capabilities to the enterprise. Making use of the variety of technologies available, these data centers have the internal technical expertise as well as the physical infrastructure setup to allow for everything from a planned server shut down for maintenance to an unforeseen natural disaster, while providing as close to 100% availability as possible. Most SMB-sized businesses want this capability, but few can actually afford the expense it entails.

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## Making Business Continuity Affordable

In the SMB space, the closest most businesses come to disaster recovery or business continuity planning is putting in place a regular and reliable backup process. This may even include managed backup to an offsite location, providing a higher level of data protection than a single site provides, but still doing nothing about the actual availability of the applications that produce or use that data.

In an enterprise data center, the likely solution is an off-site data center that makes use of replication and failover technology to provide a high-availability solution to the business continuity problem. But this is a complex and expensive proposition that requires significant capital investment and the acquisition of pricey IT personnel necessary to successfully implement a failover solution for servers and applications.

For many small and medium-sized businesses, the cost of implementing a replicated failover/high-availability solution may exceed the budget, as it is necessary to invest in the hardware you plan to replicate, additional licenses for servers and application software, the communications infrastructure, and the expertise to design, install, and maintain the environment. All these costs are in addition to the operational costs of maintaining a physical failover site.

## The Alternative: Implementing Business Continuity/High-Availability as a Managed Service

Fortunately, it is possible for the SMB customer to enjoy a business continuity solution by selecting a Managed Service Provider (MSP) to deliver a remote failover/high-availability solution to their IT department. This method can give the SMB-sized business all the benefits of an enterprise-class disaster recovery/business continuity solution delivered as a service, typically using an affordable monthly subscription model, similar to your phone and electric services. Thus, there is no upfront investment in building the infrastructure necessary to deliver these capabilities to the business, a financial hurdle that is difficult to overcome in the SMB space. In addition, the ongoing fixed-price service is an operational, and not capital, expense, which makes budgeting even easier, as all costs are known up front and do not change unless the service is changed.

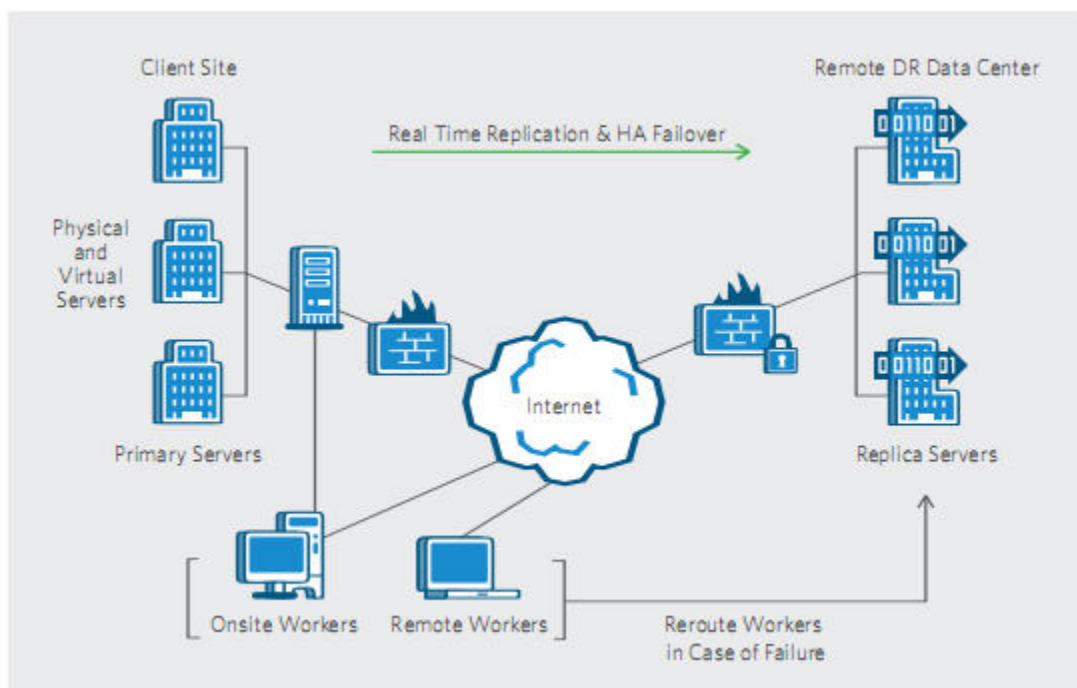
There are a number of MSP solutions that offer pieces of this puzzle: offsite storage and backup services that use agents on your clients and servers to back up data from your site to theirs. Although this model offers a modicum of disaster recovery capability, it does nothing for availability and business continuity services. You need to ask yourself, can my business afford the downtime it will take to recover from an offsite backup? If the answer is no, search for MSPs that offer full-fledged business continuity/high-availability services as their primary business.

The MSP that you select should be able to offer you high-availability data centers, in the best case, replicated themselves, as well as a history of providing these services internally and externally. Reliable software with support for your common operating systems (OSs) and applications is absolutely essential.

## Understanding Your Business Model

The MSP that you select needs to be able to fit into your current IT environment. A quality MSP will be able to offer support for major file server, database, and email applications and servers as well as applications built on top of those services. This includes being able to support virtualized environments, with virtual servers becoming such a large part of the data center.

The MSP will offer a solution that enables file and application data replication, typically over the WAN using a Virtual Private Network (VPN) solution for security, from your existing network to their hosted backend servers, which are similarly configured to your production servers. Their data centers will effectively become yours to use when needed, for a monthly fee, and offer you a level of disaster recovery and/or high-availability services that would otherwise be prohibitively expensive.



**Figure 1: Overview of an MSP-provided business continuity/high-availability solution.**

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The MSP needs to be able to fit into your business process as seamlessly and transparently as possible, adding their services as a benefit to your existing IT environment. Thus, you should look for the following key features for a business continuity/disaster recovery MSP:

- Complete site survey prior to installation—The MSP should be able to work with you either remotely or onsite to determine exactly what services and level of service needs to be provided to meet your requirements as well as to evaluate your current infrastructure as a suitable candidate for their services: having sufficient network bandwidth available to the Internet and any other conditions that must be met for their solution to work
- Automated testing of your failover environment that doesn't impact your work environment or disrupt the continuous replication protection. Being able to periodically test your failover environment is an important part of this hosted service.
- Zero reboot installation—You should not need to shut down your servers to install their replication software
- Automatic updating—The MSP-provided software should automatically be updated and patched when new versions are released without impacting your operations
- Custom scripting—The MSP service can be tailored to your environment, preventing your business model from being squeezed into a “one size fits all” service offering
- Easy access to MSP support—Support from the MSP should be easily available and matched to your business operational needs; if you run 24/7, so should your MSP's support

## Conclusion

Consider the cost of lost opportunity to your business: How much does it cost your business or organization to be down for an hour? A day? A week? What impact does being down have on your workforce and your customer base?

A simple backup plan will protect your business from simple problems. It is not, of itself, a solution for business continuity or high-availability of services on a day-to-day basis. SMBs can now benefit from the same fully-replicated, high-availability solution that large enterprise organizations use to protect their business, in a manner that meets their budget and resource constraints. In the SMB space, the business that plans for the future and knows that keeping their services available to their workforce and customers is the one that will have the greatest chance to survive and grow, especially in economic and competitive times like these.

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