

**Managed, Self-Managed, and Co-location Hosting**  
**A Peer 1 White Paper**  
**July 10, 2008**

## Table of Contents

Introduction.....	3
Ideal Customers .....	3
Managed Hosting.....	4
Self-Managed Hosting .....	5
Co-location Hosting.....	6
Comparison Matrix .....	7
Choosing a Data Center .....	7
Understanding the Service Level Agreement (SLA).....	7
Peer 1 Managed, Self-Managed, and Co-location Hosting.....	8
Peer1 Advantage Matrix .....	9
Contact Peer 1 Today.....	10
About ServerBeach .....	10
Contact ServerBeach Today .....	11

## Introduction

Today, hosting providers offer several different types of hosting including shared web hosting, virtual private servers, dedicated servers, and co-location services. Shared web hosting and virtual private servers are allocated on dedicated servers. A dedicated server can hold anywhere from 100 to 600 or more accounts, taking up only a fraction of disk space and bandwidth of a dedicated server. Virtual private servers are like dedicated servers – each has the ability for root access where administrators can install software, manage settings, and perform routine maintenance. A dedicated server can hold fewer virtual private servers due to a larger need for disk space and bandwidth per account.

Individual website owners, webmasters, and organizations that require more than a shared web hosting account or a virtual private server, look to a dedicated server solution. With a dedicated server solution from a reliable hosting provider, three types of services are offered to customers: Managed, Self-Managed, and Co-location. Often times website owners, information technology managers, and administrators are not aware of the differences between the three services. In order to choose the right service, customers need to know the benefits, costs differences, and advantages of using one service over another.

## Ideal Customers

Customers who need dedicated servers include web hosting resellers, SaaS providers, eCommerce companies, social networking customers, company intranets, government agencies, financial and educational institutions, and gaming sites. Moving away from hosting websites and applications in-house has many advantages including costs reduction, higher server uptime percentages, and readily available server experts. Web hosting service is soaring as the community turns to service providers to handle these challenges, avoid infrastructure costs, and deal with staffing shortages.<sup>1</sup>

Each type of dedicated server hosting provides advantages depending on the customer's specific needs. For example, customers wanting a completely hands-free approach to maintaining a server will want to utilize managed hosting. More technical customers with system administration skills, who know how to install software, firewalls, and configure operating systems, will want to utilize self-managed hosting. Customers who want complete control over server hardware, software, and other equipment, will want to utilize co-location hosting. Before making a commitment to a hosting provider, customers should learn the differences, advantages, and options available between managed, self-managed, and co-location hosting.

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<sup>1</sup> Tseng, Chun-Wei, and Chu-Sign Yang. "System support for web hosting services on server clusters." Computers and Electrical Engineering. Vol. 33 (2008) 208-220.

## Managed Hosting

Customers who require their hosting provider to manage some or all aspects of their dedicated server will need managed hosting. For example, managed hosting providers take care of hardware, network, data center infrastructure, operating system patching, security services, backups, and other important dedicated server maintenance needs. Providers manage these services on a day-to-day basis, leaving customers virtually hands-free of any type of server maintenance.

With a managed hosting provider, customers do not have to log in to their server to perform any type of server maintenance including firewall configuration, updating firmware and operating systems, or resolving troubleshooting issues. Common requests by managed hosting customers include firewalls, backup services, load balancing, operating system management and patching, and monitoring. Other services may include IDS/IPS, bare-metal restores, managed SQL services, global load balancing, and virtualization.

Managed hosting services allow organizations to focus on what they do best instead of spending time, money, and valuable resources on maintaining servers. Customers can spend time building their organization while a managed hosting provider performs all updates, monitors, patches, troubleshoots, and maintains servers 24x7x365.

Managed hosting solutions experts can develop a plan specific to a customer's needs. A managed hosting provider takes care of every aspect of a customer's server including implementing firewalls, load-balancing systems, database clusters and managed backup solutions. Professional managed hosting companies offer customers a dedicated account manager. Account managers assist with gathering customer information, developing implementation plans, billing questions, and adding new services to an existing solution. As a result, customers have a point of contact throughout their relationship with the provider.

Self-managed hosting providers allow customers complete control over their server any time, day and night. Customers should receive notification of server availability, real-time viewing of reboot status, and automatic network card and IP network traffic testing. With the ability of reboot, recovery, and automation reporting tools, customers can reduce downtime.

According to Tier1 Research (T1R) in a recent study "Managed Hosting: Market Overview Spring 2008," the managed hosting sector has increased in excess of 30% over the last twelve (12) months.<sup>2</sup> The increase in outsourcing to managed hosting services is due to higher demand in virtualization, security, and business continuity needs by small to medium sized businesses.

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<sup>2</sup> "Managed Hosting: Market Overview 2008." Tier 1 Research. 2008. <http://www.t1r.com>.

## Self-Managed Hosting

Self-managed hosting providers leave much of the server maintenance and administrative responsibilities to the customer. For example, if a customer wants to setup a firewall, they would log in and setup the firewall without contacting the hosting provider. Even though the provider may offer the actual firewall, customers are expected to manage the device on their own.

Self-managed hosting is for more technically savvy customers, usually web centric businesses. The most common requests by self-managed hosting customers include PrivateNet (private networks), control panels, additional memory, backup solutions, and easy hardware upgrades. A self-managed provider maintains all hardware, ping power, network infrastructure, and pipe for bandwidth.

When searching for a self-managed hosting provider, find out the quality of hardware they use in their server offerings. High quality hardware refers to reliable hardware with scalable upgrade paths to make it easy to increase random access memory (RAM) and hard drives for optimum performance.

Customers need to review the stability of the provider's power and network to make sure servers are always available. Study the provider's service level agreement (SLA), an agreement designed to perform services within a guaranteed time such as hardware replacement, server reboots, and other items outside of the customer's control. Help from support staff are not charged on a per incident basis compared to managed hosting services.

Support services for self-managed hosting are reactive, where if a customer needs something done to the server, it will be done on an as-needed basis. Once the customer's server is online, the customer has complete control. However, the self-managed provider's support technicians are always available to assist where needed.

Self-managed hosting customers have more choices than managed hosting customers. Services can be tailored to fit the customer's exact needs, often resulting in a more personalized service. Customers can order self-managed servers and services online or by phone. Once an order has been placed, the customer's server can be ready within 24 hours, regardless of the number of servers they order. Servers are always in stock and ready to be deployed.

Reliable self-managed hosting providers offer proprietary server recovery tools to aid in the recovery or repair of corrupted files. With proprietary recovery tools, providers are able to reduce costs to customers and provide a resource previously only achieved with expensive, hardware-based solutions. Customers have immediate access to their server to boot in rescue mode without waiting for assistance for an onsite technician. Proprietary recovery tools should be offered at no charge to self-managed hosting customers.

## Co-location Hosting

Co-location hosting allows customers to build and ship their servers to the hosting facility. Typically, customers who want complete control over the hardware will build, configure, and ship their servers. The co-location facility provides the network infrastructure, power, access, and on-site support. Customers can lease server racks to house their servers. For example, an organization with 25 servers can lease a full rack from a co-location provider. Also available are cages for maximum security. Co-location hosting services often come with office space at the facility. Customers can use the temporary office space to meet with clients, build servers, or perform work on an as-needed basis.

Customers need to be able to access their equipment 24 hours a day, 7 days a week. Technicians should be on-site and available to assist at any time. More reliable co-location providers offer Remote Hand Service at an additional cost allowing customers to hire a data center technician on an hourly basis. Remote Hand Service technicians will perform routine requests such as server reboots, moving cables from one place to another, replacing drives, and reinstalling operating systems.

Co-location hosting providers typically do not offer hardware replacement. If a server goes down, customers need to have a backup system in place or be close by to perform maintenance. The costs to use co-location services are often less than managed and self-managed hosting services. Costs are lower because the provider does not manage servers; providers only manage the network, power, security, and facility.

With co-location services, customers can bring in special equipment. For example, voice over internet protocol (VOIP) customers often need special telephone lines brought into their equipment. A managed or self-managed hosting company would not allow VOIP customers to bring in special lines or equipment, so a co-location service would be a better fit. For a completely customized solution, customers look to co-location services due to the flexibility, security, and availability of space to house servers, regardless of brand or quality.

Customers should look for a reliable, flexible co-location provider that offers scalable infrastructure solutions backed by a solid SLA. Other features that make a difference include geographically dispersed data centers, 100% uptime guarantee, responsiveness to customer requests, and quick turn-around times.

Most co-location providers have one or two data centers. A more reliable co-location provider will have multiple data centers with multiple points-of-presence (POPs). Customers should look for a provider with more than a few POPs. High-end co-location hosting providers offer direct connection to a redundant network with multiple POPs. In addition, providers will offer add-on services such as load balancing, port monitoring, and KVM.

## Comparison Matrix

To make it easier to understand the differences between managed, self-managed, and co-location hosting, the following matrix shows a list of what to expect from each type of service.

	<b>Managed Hosting</b>	<b>Self-Managed Hosting</b>	<b>Co-location Hosting</b>
<b>Hardware Replacement</b>	Included	Yes	Self
<b>Contract</b>	Yes	No	Yes
<b>Operating System Upgrades</b>	Included	Self	Upon Request

## Choosing a Data Center

Choosing the right data center for managed, self-managed, or co-location hosting is crucial to the success of an organization's online presence. A customer should look for a data center with a fully redundant IT infrastructure and multiple points-of-presence (POPs). A redundant IT infrastructure ensures 100% uptime to the Internet. In order to achieve redundancy, a provider should have multiple POPs, or multiple data centers across a specific region. The more data centers owned and operated by a provider, the more POPs the provider can establish for its customer base.

## Understanding the Service Level Agreement (SLA)

When searching for the right managed, self-managed, or co-location service provider, take a few minutes to read the prospective provider's Service Level Agreement (SLA). A professional, high-end hosting provider will include its most important support services including response times, coverage of hardware replacement, availability of support staff, access to servers and account information, personalization features, and any costs associated with support functions outside of the SLA's included services.

Things to look for in a reliable SLA include:

- 100% uptime guarantee
- 1-hour hardware replacement
- 24x7x365 expert support
- Maintenance
- Power
- Security
- Scalability
- Redundant IT infrastructure
- Network availability

In some cases, hosting providers may not exclusively label their support offerings under an SLA. Instead, service level agreement information may be listed under headings such as “100% uptime guarantee” or “1-hour hardware replacement.” If a standard SLA is found on the prospective provider’s website, contact the provider’s sales team for more information or request a formal SLA.

A hosting provider’s SLA is one of the most important aspects when searching for the right solution. For customers, it gives them a framework for understanding the terms of engagement while, for suppliers, it represents an opportunity to delineate their own responsibilities and, just as importantly, those of the customer.<sup>3</sup>

## **Peer 1 Managed, Self-Managed, and Co-location Hosting**

Peer 1’s network infrastructure and experience in the hosting industry account for its solid strength in delivering high quality managed hosting services. Prices are competitive as compared to other providers in the managed hosting market. The company has a 24/7 support staff and offers a multitude of offerings to enhance the performance, experience, and overall customer satisfaction.

**Side Note:** Peer 1 is one of a few providers that offers all three services: managed, self-managed, and co-location.

### **Peer 1 Infrastructure Scalability**

Peer 1 offers multiple upstream providers and can scale based on customer needs. A variety of cabinets ranging from smaller to larger lockable cabinets (4U cabinets to 42U cabinets) are available for continuous growth. Peer 1 also offers scalable network connections:

- Standard 100Mb/sec full duplex Fast Ethernet feed
- GigE and 10Gig connections
- Burstable bandwidth lets you pay for what you use

### **Peer 1 Network**

Peer 1 has built a premier network in North America and Europe. The network has a high speed 10GB throughput. Peering connections with other networks ensures lowest latency possible between servers and customers. All customer connections make use of Cisco’s hot standby router protocol (HSRP). Peer 1’s network offers multiple upstream providers. The network features a fully redundant OC internal backbone with network devices on

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<sup>3</sup> Managed Hosting Service Level Agreements – Business Value & Contents. E-Consultancy.com. <http://www.e-consultancy.com>. September 2005.



hand in case of emergency. All key network components are monitored 24x7. Peer 1, a multiple tier 1 provider, offers 17 points-of-presence (POPs) through 15 data centers.

**Peer 1 Security**

On-site security personnel and security cameras monitor Peer 1 data centers. Sites require key card access. Co-location customers have access to only their equipment. And each co-location customer has their own cage for maximum security. Even though customers can access data centers 24/7, they are required to present a military-grade access card before entering the facility. If needed, Peer 1 can provide escorted access to third parties – no appointment needed.

**Peer 1 Service Level Agreement (SLA)**

Peer 1 offers a guaranteed uptime and quality to customers. Support technicians are available on-site 24x7 and can be reached by phone and web-based ticketing system. Peer 1’s SLA offers a 100% uptime guarantee of uninterrupted transit to the Internet and zero packet loss on its internal network. Customers are credited in the event of a network interruption in service.

**Peer 1 Personal Attention**

Peer 1 offers personalized attention to every customer. Customers have direct access to an account manager they can call or email regarding billing or to add services. Customers have access to an online portal. The portal allows them to check bandwidth, order additional services including DNS, setup a content delivery network (CDN), and check the speed of their website.

**Peer 1 Content Delivery Network**

Peer 1’s content delivery network gives customers the ability to deliver content to visitors from different regions across the globe. For example, a customer has a website hosted in Texas, but someone in London is browsing the website. If the customer’s website in Texas is using a Peer 1 CDN, the website’s content will be delivered to the London visitor from London, not from Texas. The CDN concept drastically increases the speed of a customer’s website regardless of visitor location.

**Peer1 Advantage Matrix**

The following comparison matrix demonstrates the advantages of each type of hosting.

	<b>Managed Hosting</b>	<b>Self-Managed Hosting</b>	<b>Co-location Hosting</b>
<b>Hardware Replacement</b>	Included	Yes	Self
<b>Contract</b>	Yes	No	Yes
<b>Operating System Upgrades</b>	Included	Self	Upon Request
<b>Support</b>	24x7x365	24x7x365	24x7x365

<b>Time to Deploy</b>	3-5 Days	24 hours	24 hour provisioning
<b>SLA</b>	Yes	Yes	Yes
<b>100% Uptime Guarantee</b>	Yes	Yes	Yes
<b>Multiple Data Centers</b>	Yes	Yes	Yes
<b>Content Delivery Network (CDN)</b>	Yes	Yes	Yes
<b>Personal Account Manager</b>	Yes	Yes	Yes
<b>Backups</b>	Yes	Yes	Optional

## Contact Peer 1 Today

To learn more about Peer 1 managed hosting and co-location services, visit <http://www.peer1.com> or call 1.877.504.0091.

## About ServerBeach

ServerBeach, a Peer 1 company, offers servers in five categories, ranging from Category 1 (low end) to Category 5 (high end). ServerBeach offers 24/7 customer service and technical support by phone and through the company's web-based ticketing system. All servers are offered on a month-to-month basis with no long-term contract commitments. Customers are guaranteed to receive their server online and ready within a 24 hour period.

ServerBeach owns and provides all hardware so if a customer needs more disk space, more memory, or more power, technicians are on standby. Server engineers will build all hardware to spec, install on server racks, and plug in all cables. In fact, ServerBeach maintains racks of servers waiting for customers to get started. When a customer places an order, proprietary software seeks out the next available server and installs the necessary applications. The server is then ready for the customer to start managing.

ServerBeach provides Rapid Reboot where a customer can reboot a server by logging into their personalized customer portal. Rapid Reboot comes free with every server. Rapid Rescue, a powerful self-management tool developed in-house to help customers recover servers in case major issues occur, is provided free of charge to customers. Customers have complete control over their server's operating system; they can repair or recover corrupted file systems.

Customers can get instant answers and help while placing their order online by chatting directly with ServerBeach sales engineers, making it easier to purchase self-managed hosting services.

### **ServerBeach Service Level Agreement**

ServerBeach offers a two hour resolution time on a Category 5 hurricane high-end server. Support technicians have two hours to replace or repair the server from the time it goes down. If ServerBeach fails to replace or repair the server after the two hour window, a portion of the customer's bill is returned. A Category 1 hurricane server is guaranteed to be fixed within a four hour period from the time it goes down.

### **Contact ServerBeach Today**

To learn more about ServerBeach self-managed hosting services, visit <http://www.serverbeach.com> or call 1.800.741.9939.