

# THE MODERN HOSTING COMPUTING SYSTEMS FOR SMALL AND MEDIUM BUSINESSES

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## ABSTRACT

**Purpose:** *In our modern world, a significant role belongs to computer technology. Computing technology is being introduced into the sphere of human productive and scientific activity.*

*Modern computer systems are difficult to imagine without the use of Internet services. Various websites that are now being created not only by companies, but also by ordinary users, databases, virtual disks, and other cloud services that are now located on the network and help solve issues of constant access to data.*

**Metrics & methods:** *This paper will discuss how to place data on the Internet so that each user can access certain information. Furthermore will analyze the capabilities and services of various hosting providers, their pros and cons, and consider how to organize such a system. Beside issues of security and protection of their information on the Internet, methods for detecting attacks and analysis of suspicious activity will be raised.*

**Results:** *The article is a depiction of the facilitating and its sorts. i.e. of duties and choice criteria in different conditions are given and the raised the wellbeing issues of utilizing such frameworks.*

**Keywords:** Hosting Internet Applications, Computer Technology, Application, Internet, Database, Hosting, Security, Hosting services and Hosting providers.

## INTRODUCTION

In our modern world, a significant role belongs to computer technology. Its application is wide. Computing technology is being introduced into the sphere of human productive and scientific activity. Every year, the computing power required to implement various kinds of tasks is growing (Electronic resources Date accessed, 06/03/19).

Modern computer systems are difficult to imagine without the use of Internet services. Various websites that are now being created not only by companies but also by ordinary users, databases, virtual disks and other cloud services that are now on the network and help solve issues of constant access to data. And the question of where to place your data, carry out various kinds of calculations, is more relevant than ever (Electronic resources Date accessed, 06/03/19).

This paper presents how to place data on the Internet, so that each user can access certain information. We will analyze the capabilities and services of various hosting providers, their pros and cons, and consider how to organize such a system. Also, issues of security and protection of their information on the Internet, methods for detecting attacks, and analysis of suspicious activity will be raised (Electronic resources Date accessed, 06/03/19).

## LITERATURE REVIEW

### Hosting

To begin with you have to make sense of what facilitating or hosting is. Hosting is a service of providing computing resources on a server for placing information on the Internet. Most often, to host any sites., hosting refers to the service of placing site files on a pre-configured server with the software necessary to process requests for site files and related services (Web server, database server, DNS server, CGI processor, FTP server, mail server) (Howard, 2011).

But it does not limit the use of hosting to hosting sites. It is also possible to place programs on it that require constant access to the Internet, for example, 1C Accounting. Organize a file hosting service or store files for personal use. You can also create your own server, for example, a game server, which in combination with the growing game industry makes this service very popular, not only among hosting providers, but also among enthusiasts working in this field (Hossein, 2009).

A hosting provider is a company that provides hosting services and leases equipment. At present, there are many hosting companies that provide various services that advertise their capabilities and services. Within the framework of this scientific work, we will consider only a few of them, but this will help to form a general idea of the services provided and the services provided.

### Types of Hosting

In a real situation, there are a lot of types of hosting, and it all depends on the desires and capabilities of the person or organization. But still, consider the main hosting, it often indicates the names of which in advertisements of various hosting companies:

**Shared hosting:** its feature is that all server resources are divided between hosting accounts, in each of which it can host several sites. Such hosting already has the software for the sites to work a web server, a database server, an FTP server, a PHP processor, and additional options are provided, such as a deployed CMS for the site or various designers;

**Reseller hosting:** Is a turnkey solution for reselling hosting. By purchasing reseller hosting, you become an intermediary between the hosting provider and the end-user;

**Virtual server (VPS server or VDS server):** This service implies that several virtual machines can be run on one physical server, each of which is isolated from the rest. The tenant of such a server gets full access to the management of the UPU (at the administrator/root level) and can place everything necessary there;

**Dedicated server:** A separate physical server or computer, all of whose resources are at your disposal. The owners of such a service themselves manage a dedicated server, can install the required OS, and other software, which allows you to configure the machine for certain tasks (Al Salaimeh & Makadmeh, 2004).

This service is like “*Dedicated Server*”, with one exception. In this option, the client himself places his equipment in the data center, paying only for the rack space, the Internet and the energy consumed by the server. The data center assumes responsibility for the safety of this equipment, and for a stable Internet and uninterrupted power supply.

Of these options, the most common is “*Shared hosting*” This service is most often purchased by small companies and individuals who want to and add information about

themselves on the network. The price for this service starts from 100 rubles per month, and the availability of a website builder for many hosting providers simplifies this task.

The disadvantage of this option is its low flexibility and adaptation to specific tasks. Hosting providers allocate small resources to one client; this is from 4GB of disk space, limiting outgoing Internet traffic, limiting the use of the processor and the number of hosted sites (Al Salaimh & Batiha, 2006).

For a more flexible option, pay attention to the services of a dedicated server. But what you should pay attention to when choosing a hosting will be discussed later.

## METHODOLOGY

### Hosting Choice

The choice of hosting is one of the crucial moments of any organization. Since the fate of the organization's projects, and its work depending on the decision made.

The first step is to determine the minimum system requirements for any project or projects, whether we plan further expansion and addition of functionality. Since, if the plans of any company provide for the creation of several large Internet resources, then it is worth choosing the services of a dedicated server, since shared hosting cannot provide all the needs for deployment. And if you plan only to create a business card site with the main information about the services of the company, you can use the budget tariffs for virtual hosting (Batiha & Al salaimh, 2006; Batiha et al., 2006).

The second step is to pay attention to the geographic location of the equipment provider. Since the fast response time download speed, the main characteristics when working with any Internet services. If we plan it to attract foreign citizens, then the company should think about choosing additional, foreign hosting services to reduce the time for customers to access data.

After determining the basic needs, you can already think about choosing a hosting provider, and its necessary services.

Hosting providers themselves form their rating according to the following parameters:

**Reliability (uptime)** -The ratio of operating time to downtime. This parameter is one of the main ones when choosing a provider;

**Performance** - This parameter determines the speed of the entire hosting as a whole, which is important when placing resource-intensive projects;

**Response time (ping)** - Shows the response time of the server after the client accesses it. The lower this parameter, the better;

**Withstand load** -The parameter is like speed but shows the general status of the hosting during mass and long-term requests to the server;

**Security** -Reliability of data safety during placement (Al Besoul & Al Salalimeh, 2007).

According to these parameters, the five leaders in Russia are headed by Makhost, EuroByte, Houston, applets, WebHost1. Tariffs to the hosting itself differ little. So, for example, the tariffs for "Virtual hosting" are compared and described according to the following quantitative and qualitative restrictions:

CGI support: Perl, PHP, Python, ASP, Ruby, JSP, Java;

modules and frameworks;

disk space for user files;

amount of traffic;

the number of sites that can be hosted within a single account;

number of FTP users;

the number of E-Mail mailboxes and the amount of disk space intended for mail;

the number of databases and the amount of disk space for the database;

number of simultaneous processes per user;

We should make the choice between this line of tariffs only from the price of the tariff and the opportunities provided (Bandy, 2011).

If we talk about tariffs for a virtual server or a dedicated server, then there are not so many restrictions, but they are more significant, so the main difference between these tariffs in the resources allocated to the client:

hard disk space;

RAM size the number of processor cores and its frequency.

The price of these tariffs start at 500 rubles per month, but we give the client full access to the server with no restrictions, as with shared hosting. The client can choose the Operating System (OS) that will be installed on the server side, and can also install and configure the software for himself.

The following services go to such tariffs:

100 mb/sec Internet channel with a dedicated IPv4 address;

Server control panel - to control the server itself, which includes monitoring the consumed resources, creating system backups with the possibility of returning to them in case of malfunctions and automatic installation of operating systems;

ISP manager control panel - For managing the server configuration, which allows you to install user software, add domains, mailboxes and also create backups (Yan et al., 2006).

When choosing between these tariffs, rely only on the system requirements of the deployed the application and choose a tariff with the characteristics.

The “*Colocation*” service is the less popular of those described above. In most cases, companies that have their own expensive equipment prefer to host it and configure it themselves. Since prices for this service start at 5,000 rubles per month, and the client pays for electricity costs on his own, it is not advisable to use this service to host a low-power computer or server. Where full control over equipment, data, and software is required, think about configuring a computer as a server. Since all the software is free and is available.

Hosting and configuring your own server

Where there is a free computer, and the longing to maintain a strategic distance from extra facilitating avoid additional hosting costs, consider designing think about configuring your own server to oblige accommodate all the association's information.

The main requirement for this solution is the availability of a dedicated IPv4 address where clients will access the server. Most Internet providers provide this service for a small fee. Furthermore sometimes, allocate it free of charge. If this service is provided, then the next step is to simply install the necessary software on your own computer. Currently, various servers software has its own configurators, which frees the average user from editing configuration files for a long time, and without involving additional staff for these purposes (Yan et al., 2006.).

The main advantage of this method of placing Internet services is flexibility, which is limited only by the desire of the company to deal with this issue. Of the minuses, the company itself will have to deal with the administration and support of this server. This requires some labor, time, and sometimes financial costs. But this decision, with rough calculations, will pay for itself on average in a year. Since we do not require it, allocate funds for third-party hosting,

and if problems arise, solve them with technical support of the hosting itself, which sometimes takes a lot of time.

Furthermore, as an additional income, you can lease part of the server's computing resources for rent. In Russia, from a legal point of view, the hosting service does not apply to telematics communication services because of the difference in the definition of telematics communication services and the nature of hosting.

## RESULTS AND DISCUSSION

### Security and Data Protection

Nowadays, one of the most important things focused in the hosting computing system is the security, especially when using the services of hosting providers. Each time, when deciding on the use of hosting, it is worth remembering the following statement: *"Everything that has been downloaded to the Internet remains there forever"* Various hosting providers provide many data protection services. From the software available for user management:

From software available for user management:

1. SSL certificates for the site;
2. Automatic backups;
3. Antivirus protection.

The hardware implemented at the provider's hardware level, this is the use of RAID arrays, firewalls and packet filters used to protect against DDoS attacks.

But as the practice of using these services shows, they are all unreliable, and we mention some services only for marketing, to attract customers.

Automatic backups do not always help to solve the problem, sometimes they turn out to be damaged, or they do not contain the information because of the restrictions introduced. Built-in antivirus protection cannot detect simple backdoors in site scripts, nor does it protect against an attacker from entering the server. Some hosting providers provide two-step authentication services, but they are not always reliable. As for protection against DDoS attacks, if we implement this function, it extends to some used protocols, http, FTP, SSH. But if you need to implement such protection for your own application, then everything depends on the restrictions imposed by the hosting provider.

From the above security is another of the main criteria when choosing a hosting provider. But as practice shows, despite advertising promises, security is not always good. And for any valuable corporate data, think about placing your own server in place. Since this method, with proper network settings and access rights, will guarantee the high security of company data.

But if the company's budget is limited and we do not envisage it to attract additional employees to ensure security, then it's enough to follow some rules to avoid data loss or theft:

Antivirus the product ought to consistently be refreshed since most current antiviruses can recognize detect and fix pernicious substance even in PHP contents of a site.

It is always necessary to set complex passwords that are not tied to any date or a familiar number, and if suspicious activity occurs, change them.

Create individual accounts for each user, with differentiation of powers, this will prevent any user from changing configurations, and simplify the collection of information about the actions of all users.

Open only target ports in the firewall. And if possible, change the standard ports. For example, by default, the SSH server opens a TCP port 22 for incoming connections, and causes a

potential threat of brute-force attacks, since an attacker who finds such an open port on the server tries to find the password for the remote server using special automation tools. Therefore, it should be changed to any other, but it should be remembered that the range should not exceed the number 65535, and also should not overlap the listening ports of other applications, this can lead to malfunctioning of some services or to their complete stop. We can find the list of already listened ports in various network monitoring tools. Starting with Windows 7, you can use the resource monitor for these purposes.

It is also always worth checking the log files once a week for suspicious activity, this will allow you to analyze the server's security and take additional measures to eliminate vulnerabilities in the system (Silvia & Akuna, 2005).

## CONCLUSION

The paper analyzed different sorts of hosting services, and hosting providers. This service is extremely famous for the individuals who need to lease an instant stage for hosting Internet applications, for hosting sites, and low prices for some tariffs make this service widespread not only among corporate clients. Additionally, built-in tools allow you to deploy a ready-made website, or create a simple business card website layout, with little labor.

Despite the ease of use and accessibility, this service has security problems, which does not always guarantee the integrity and protection of data from leaks. Therefore, organizations are choosing to host data on their own servers. This provides them with complete control and flexibility during deployment, and also, with proper configuration, protects against leaks and unauthorized entry. This solution will also be useful when selling excess capacity and attracting additional profit. Since in Russia, from a legal point of view, the hosting service does not apply to telematics communication services and does not require licensing.

The services of hosting providers will be fully justified if the company intends to attract foreign customers. Therefore, for convenience, to reduce the time of access to data, and sometimes due to certain laws, you should utilize the arrangements situated in a particular area to have instant Internet applications.

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