

Technical Analysis Document

Technical Architecture

The table below shows the various possibilities that sonic sounds have to host their e-commerce site on. The hosting type is described and then advantages and disadvantages of each are listed. These advantages and disadvantages are based on many factors that would affect the company such as volume of Internet traffic and overall cost.

Bandwidth is the amount of data served by the hosting or server. This means the amount of Bytes of data served up to people who access your website. What ever hosting strategy you go for there will always be the bandwidth factor. A company may boast to give away unlimited bandwidth but there is always a limit to “unlimited”.

There are two main different operating systems available for your servers, the first is Microsoft Windows and the second is Linux. Linux is considered to be more secure and is the more popular choice though is harder to setup then a Windows server. Linux is the cheaper choice and is often free though paid packages are available, this makes hosting on a Linux server much cheaper.

Type of Hosting	Advantages	Disadvantages
<u>Free Hosting</u> Free hosting is available in many shapes and forms. A lot of free hosting available involves a banner or advert being displayed at the top or side of every page. Free hosting would be available through an ISP (Internet service provider) or through another company. Other free hosting is simply offered as a restricted package so that customers can test out the hosting. This would generally not be good for Sonic Sounds.	The advantages of free hosting are obvious. Firstly it is free. This would be a huge bonus to the company as this would mean no fees are involved in the hosting of the site. Free hosting is very easy to get hold of, most ISPs give it away and places such as Geocities.com also give away free hosting.	Free hosting is often not reliable as it is not seen as a priority by the organisation providing it. Most free hosting gives you a fixed limited amount of space that cannot be changed unless you pay. Another disadvantage is that having a banner ad on your web page does not look very professional. Also a lot of people would not like the idea of purchasing off a company that has to use free web hosting as it looks unprofessional. Most free hosting does not allow the use of any server side scripts and will not provide a domain name.

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<p><u><i>Shared Hosting</i></u> Shared hosting is the basic hosting type offered by most hosting companies. Shared hosting is when a servers resources are shared out between many customers/companies. This means that, for example, if the server has 50gb of space and each user gets 50mb then 1000 different sites can be accommodated on a single server. Shared hosting is especially popular with smaller sites because most companies don't need a huge amount of space and bandwidth.</p>	<p>The advantages of shared hosting are that it is generally relatively inexpensive, it is reliable and doesn't have advertising splashed across it. Most hosting companies that offer shared hosting will boast 99% uptime and this is true for most. This is because unlike free hosting this is a paid service and to be competitive the companies have to be reliable. No advertising would make the site look more professional. In the case of Sonic Sounds shared hosting would be a good solution when starting out as it is a cheap and easy way of hosting an e-commerce site.</p>	<p>The disadvantages of shared hosting are that it is has certain limitations. These limitations can be based on various things. An example is a limit on space allowed to host the site or a limit on bandwidth (though can be upgraded). There is also the issue that other people are also using your server so if one of their scripts goes wrong and takes down the server you end up paying as your website also goes down. While these situations are rare and are normally dealt with quickly it is still a concern.</p>
<p><u><i>Dedicated Hosting</i></u> Dedicated hosting is when the company hires a single PC to use as a web server. Dedicated means that the only site to be hosted on that server is yours. Dedicated servers are usually used for large business websites with large amount of data. The server hired is completely controlled by the user/company as they have full access to the server. However the server is looked after by the company it is rented from.</p>	<p>There are many advantages to dedicated hosting. Security is a major advantage. Nearly all dedicated servers come with a free firewall. If running a Linux dedicated server, all actions can be performed remotely such as installing extra software needed to serve the e-commerce site correctly.</p>	<p>The main disadvantage of having a dedicated server is simply the expense. This can run in to hundreds of pounds per month depending on server power/memory and bandwidth requirements. Also if you are not trained with much software and you make a mistake installing a new piece on the dedicated server, you may accidentally cause a problem with your website making it unavailable. Another disadvantage of a dedicated server is that you have to be relatively experienced with computers to understand exactly what you are hiring; there are many hidden costs such as extra bandwidth usage that could increase the price of renting a dedicated server even more.</p>

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<p><u>Self managed server</u> A self managed server is when you build and own your own server. You would then sign up to an ISP and you would deliver web pages through that Internet connection. For most businesses this is a little too extreme for their needs. This is because a self managed server is generally only required for companies that need extreme speed and bandwidth. Also for companies that will need to upgrade the hardware on their server very often to accommodate their business needs.</p>	<p>The advantages of a self managed server are that you have full control over every aspect of its use. You could make the server as secure as you like by configuring your own firewall and also you could make the server as powerful as you like by adding memory and hard drives. The server could be configured specifically for your needs and installing software you need would be as easy as inserting a CD in to a CD drive. You would not have to control the server remotely.</p>	<p>The disadvantages of a self managed server are that they are very expensive to run. You have to purchase a server which could run in to thousands of pounds to start with. On top of this there is the monthly payment and setup fee for a high speed Internet connection. Another disadvantage is the upkeep of the server would more than likely require a technical expert. This could be very expensive and would be a major cost for a business that is starting out such as sonic sounds. Most dedicated server companies have 24/7 security which would be an added expense if you did it yourself.</p>
<p><u>Co location server</u> Co location server is a mix between dedicated and self managed. This is because you buy and build the server pc. You then install and configure everything to your specification. You then hand over the server to a specialist company and they will store it in a data suite. The server is then supplied with an internet connection of your choice. You can generally rent an internet connection from the specialist company or you can get your own ISP.</p>	<p>The advantages to co-location servers are that you are in a very secure data center with a fast reliable Internet connection. You are allowed 24/7 access to your server if you need it.</p>	<p>The cost for the initial setup can be quite a bit especially if you have to buy a server. These can be £1000 upwards. There will also be setup costs for your account with the co-location company.</p>

We recommend that Sonic Sounds go for shared hosting while they are small as it is a cheap option. Once they start start to grow they can consider a dedicated server. This is to save money as dedicated servers are very expensive especially for a start up company.

Payment Methods and Security

There are many options available to the company for accepting payments on-line. The technology they need is so vast that it is always best to rely on a third party company to handle payments. By doing this the company guarantees security for their customers and also for themselves. All respectable companies that offer services for accepting payments for your company on-line will offer high security encryption in their payment processes. The security is normally 128bit which means the data sent from the customer to your third party and to yourself is immensely secure.

Many companies offer their services as a third party in on-line transactions. These companies come in many shapes and forms. Below is a table outlining a few of the companies.

Company/Description	Advantages	Disadvantages
<p>PayPal (www.paypal.com) Paypal is a company run by the popular online auction company Ebay (www.ebay.co.uk). Paypal is designed mainly for auctions but offers the ability to create an online checkout for your company. To send money with paypal you only need to know someones email address, and if you have a checkout setup, this is embedded in the web page code.</p>	<ul style="list-style-type: none"> - Very Simple to sign up - Very simple to create a merchant account and checkout. - Very easy to use and keep track of transactions - Easy to embed in to you website as they can create the code for your buttons. - Accepts credit cards. 	<ul style="list-style-type: none"> - Can take user over 1 week to sign up. - Website runs slow on occasions therefore making your website look slow. - Costs per transaction are very expensive. (~3% per transaction plus 25p)
<p>Nochex (www.nochex.co.uk) Nochex is a similar company to Paypal but it offers a slightly different concept. It is also used for auctions mainly but it will also create code for buttons to be placed on your website.</p>	<p>Users don't need to sign up No cost per transaction for <£100 Easy to sign up to for merchants No monthly charges or setup fees. Accepts UK debit Only 1% fund withdrawal fee</p>	<p>No "shopping basket" like with paypal. Doesn't accept Credit cards from all over the world Users need an account to use a UK credit card 99p charge for transactions over £100</p>

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<p>2Checkout (http://www.2checkout.com/). This company offers its service in accepting credit card payments for you. They handle everything to do with the payment and verify the senders card. They offer a speedy setup with plug and play code for you site</p>	<p>No monthly fees Worldwide availability Only \$0.45 per transaction Free shopping cart for your site Free online tech support to help you along Free code to implement on you site</p>	<p>\$49 set up fee 5.5% of sale value is taken by them as payment for their service. Charge to wire your money to you bank account. Only accept credit cards</p>
<p>World Pay (http://www.worldpay.co.uk/) are a well known company that offer internet payment solutions.</p>	<p>Accept debit/credit card payments Low transaction fees compared to most similar companies. Only 50p per transaction on debit cards Very good support Success stories include Vodafone and Sony Music therefore they must be a good reliable service.</p>	<p>£260+ VAT setup fee. Still a 4.5% charge on credit card transactions. Charge for protection against fraud</p>

From the options above my recommendation for the company would be Worldpay. This is because they offer both credit and debit card payments at a reasonable fee. The set-up fee is a little steep but this will be a one off payment and with the lower transaction fees and the professional customer service this pays for itself.

World pay also have very high security, they protect all on-line payments with their own encapsulation and encryption method and also use their own digitally signed protocol. They also offer a lot of security for the customer. Any communication between the shopper and WorldPay is also encrypted to the maximum strength supported by the shopper's browser using TLS or 128 Bit SSL. Shoppers are also protected from fraudulent use of their card in a "card not present" environment, by their card issuers. The card issuers provide the right for shopper to dispute a transaction if the goods/services did not arrive or if the card was used fraudulently.

Risks that apply to new companies on the internet are mainly to do with fraudulent customers. By employing a third party company such as world pay this is eliminated as they check all credit/debit cards before authorizing a payment.

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