

## Real Fast, Simplest Explanation Explain the Technology

- Think about a computer, it can also be called a "Server" because other computers ask it for information. It "Serves" other computers because it is holding information they want to access.
- Small businesses have their own website, like MyFlowers.com. This means there is a computer somewhere that is hosting the business' website, by holding the business' information that other computers want to access. Therefore, this computer is called a "Hosting Server". That is, this computer is "hosting" a website and "Serves" people's computers, the Browsers running on their personal computers, as they look at the website.
- As a business grows it starts to have more complicated problems. As a business grows, more and more people want to see its website at the exact same time. When this happens that single Hosting Server gets overloaded. You may have heard about websites crashing when too many "hits" (Browsers) come in at the same time. When this overloading starts to happen, it means that things have to get much more complicated. A second or third Server needs to be added to split the workload, so that more people can see the website at exactly the same time.
- But just adding more Servers does not help yet. The information about the business that the first Hosting Server was holding becomes a bottle-neck. That is, the second and third Servers you just added still have to ask the original Server for the information. You still have a big bottle-neck in handling more Browsers, everything still has to go through the original Server for information.
- So what has happened is that the industry has created very special computers to be very fast information Servers, called "Database Servers". Database Servers do nothing but manage all of the hundreds of requests per second for information that all of the many other Hosting Servers will ask for.
- This means that when you add the second and third Server to help the first Hosting Server not be overloaded, you also need to add another computer, a Database Server, to hold your business' information.
- If you can now visualize that there are three or four computers, all acting together to do your business' website, then you can visualize that these computers are called "a Server Cluster" of computers.
- You went from the very simple relationship of "one-Hosting Server" to service "a few people's Browsers", and then had to complicate this relationship into a more complex "Server Cluster".
- The internal software which makes the Server Cluster stay coordinated is very complex and very expensive. A four computer Server Cluster using an Oracle Database Server solution will typically cost \$1.6 million (yes \$1,600,000).
- There is another complication to introduce. Some businesses have overseas international business relationships. This means that they have a lot more information about their business, and that information needs to be split up across multiple Database Servers. For example: people looking at the website's store who are in China need different information than those in India or Britain. When the information needs to be split up, this is called distributing the data, or "Database Distribution", or "a Distributed Database". Doing this adds a huge amount of complexity, execution overhead, and expense.

- There is still another complication to introduce. If you have all of your computers dedicated to doing just their single smaller portion of the whole task, then you are vulnerable to a computer dying. For example: if your Database Server computer just dies, then your entire website is down, and you are losing out of Internet sales by the minute. This vulnerability is called “a Single Point of Failure”. If a single “point” in your Server Cluster fails, the whole thing goes down.
- To avoid single points of failure you need to buy duplicate computers and Clusters to be a quick backup. You can have duplicate Hosting Servers, duplicate Database Servers, and even duplicate Server Clusters. This gets very expensive. Doing this duplication actually more than doubles your cost (lease space, air conditioning, people to watch things, maintenance, etc.).
- In this manner larger businesses not only need multiple Server Clusters, but they need duplicates of everything so that no one computer brings everything down.
- For some businesses, they can use what is called "Cloud Computing" to host their website. Cloud Computing (in this context) is another way of saying "Server Clusters". But, the problem is that your business does not own the computers, and the same Cloud Computing computers may also be used by many other businesses, all at the same time.

Also, Cloud Computing does not mean that you are never brought down by a single point of failure, and worse, your business' information is exposed. Your business' information is not under your control. Someone can get to your information; client lists, credit reports, memos, financial data, etc., these are all exposed. Anyone who can hack into the Cloud computers can grab your business' information. Any employee of the Cloud Computing Company can be a spy for hire, and take your business and client data. For larger businesses, this exposure is not acceptable.

## What the Snippet Engine Offers

- Because of the innovative technology behind the Snippet Engine, the Snippet Engine can be used as both a Database Server and a Hosting Server, both at the same time. It will perform both duties faster than the typical Server Cluster talked about above.
- Using two or more Snippet Engine Database Servers together makes a Server Cluster.
- Using two or more Snippet Engine Server Clusters together provides the data duplication, so that there are no single points of failure.
- Notice that so far, this has only described the exact same structure as Cloud Computing and multiple Server Clusters talked about above. This is correct; the typical **hardware structure** does not change by using the Snippet Engine.
- What changes is that the expensive Database Server software (from Oracle, others) is not needed. You do not need all that expensive licensing.

- What also changes is that the expensive internal software modules required to make the typical Server Cluster work are also not needed. Far less overhead.
- Also what changes is that the expensive internal software modules required to make the multiple Server Clusters and duplicates work together are not needed either. Still less overhead.
- **This is because of the innovation of the Snippet Engine. The Innovation is that the Server's lowest-level CPU-execution-threads can now talk instantaneously with any other CPU-core-threads running on any other Server anywhere in the world. This means far less complexity, simpler interfaces between Servers, and really fast data exchanges.**
- All these eliminated software modules and yearly fees are avoided when using the Snippet Engine. Your business can grow large without huge expenses.
- For example: providing a typical ten (10) Server Internet-Presence will save you about \$6.5 million over five years, that is, about 78% of the huge cost of a typical Oracle-based Solution.
- This is to say: using the Snippet Engine provides a business with 24/7 internet presence with a fully duplicated and Distributed Database, with instantaneous fail-over, and infinite upward scalability, for only about 22% of the typical cost.

If you are interested in learning more about the amazing Snippet Engine Technology, please contact Wayne L. Atchison at [Wayne@z2cs.com](mailto:Wayne@z2cs.com).