**ECPI University**

**Cloud Solution:**

**“System Requirements”**

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**Introduction**

There are many things to consider when deploying a new cloud solution. When developing a new cloud service; how should new cloud service be deployed? and what should we consider to provide an effective business solution? System requirements determine the baseline of a new cloud solution and provides the necessary guidelines to develop a cloud service, including the functional and nonfunctional requirements of the system and also achieves to maintain stable security of the system. In order to establish our baseline system, developers must consider the functional and non-functional requirements of a cloud solution. In a functional solution, developers achieve to understand technology in place and expectations that a system must achieve from a business perspective. Design must include the different service layer of the cloud. Design must include the different aspects to fulfill user expectance and functionality of the system. From a non-functional standpoint, consider the robustness of a system to recover from failovers; long-term manageability of the system and the ability for the system to expand. Finally, consider the requirements to fulfill from a network & security standpoint.

**Off Shore Software Company**

Let us consider an offshore software company that has hosted its solution in the cloud. The contents of this service, provided, is rather vague in development and the potential scalability is huge. To focus on the issue, let’s consider hosted infrastructure in the cloud, where applications are developed with Active directory and authentication is done VIA, IDaaS service through Microsoft accounts. This service integration may require use to develop on a platform service from IaaS layer to the SaaS layer, where the base line of this company will develop its infrastructure model on the IaaS layer & provide a user interface to communicate its solution. Of-course, with any new service in development there are base factors to consider, according to a software blog by SelectHub the top 5 cloud requirement template include: Ease of Administration, Back-Up Storage retrieval, Scalability, Reliability & pricing (SelectHub, 2015).

**Functional Requirements**

Functional requirements include the expectations from business user perspective. This includes an introduction web site to our service and a sneak peek at our offers. Users also expect a brief and easy tutorial of our service. Finally, users expect full functional manageability of their service requested. So, an example of a functional requirement: ‘Requesting development to access into a business intranet work website with hosted data for a department of 40 user accounts with variations of restricted privileges.’ Job of this company is to gather detailed requirements for this project, develop an intranet-work website that will communicate data based on restricted user policy, company may choose to provide monthly audits of their service & reports for usage. Manageability of the service may include an administrative panel that will allow users to monitor over-all health of their system and manage payment between the company and client. Tutorials of the business may include a brief intro panel that will host videos to show the user how to use the system and include support team to address their concerns.

**Non-Functional Requirements**

Expanding the company's service may include the ability for the team to develop their technology in a way that is easily maintained and managed from the back-end. This includes the ability to develop on failsafe advantage or ‘robustness’ of a system. If we are developing an application, consider how the application handle ‘unauthorized or unusual’ requests. In this case scenario, will the application fail and crash, providing details of the technology in use or will the application handle the error, audit the system of the event taken place and return the user with a welcoming message. Politely let the user know that something is wrong or a validation that there is something missing is a good approach for development. Robustness of a system may also include failover clustering. In a cloud hosted environment, I would recommend having a duplicate copy of a system that will go through manual updates and swapping systems to ensure there is no downtime. Back-up solutions are also important to cloud service, backups can be automated that is always the best solution. In this company the requirements of back up should be done after developing the service on IaaS level, meaning that this business can automate the images that are hosting through services that are developed on the cloud. Luckily, scalability is an issue that addressed by the cloud providers. If our service is hosted on the cloud than we need to understand how the scalability effect the pricing of our service. Horizontal scalability is always a plus when deploying service to the cloud.

**Network Security**

In a cloud hosted environment, it is important to understand how the service function on the cloud and how communication is made between services. Analyzing the pro and con benefits of using a service on the internet will help us ensure what is right for the business from a network security perspective. In this case scenario, this company has decided to build their service from the Infrastructure, meaning that they can configure the firewall expectations of communication channels and prevent unwanted communication from occurring. Through these means, we can force service to communicate VIA SSL or IPSec or any other strong encryption means when necessary. Network security also includes strong auditing of the system when a user accesses the service, including logs and monthly usage reports. Active monitoring, creating alerts through email or text messages is also a good system to maintain security to the client. Since the physical threats of a cloud hosted solution cannot be manipulated by either party, it is good to mitigate the threat as much as possible from the development of the service.

**Conclusion**

Cloud Service requirements specify the baseline of our cloud service, establishing the functional and nonfunctional requirements of the solution. A company that has highlighted their baseline can work to address the needs of their service: considering the business perspective; robustness of the system; manageability; scalability; pricing and network security. Requirements should also specify the different layers of the technology in development and advantages for the service. Last, service requirements should establish the best security practice for your cloud solution to ensure that the companies service is able to mitigate attacks even from the cloud hosted vendor.

**References**

**(1)** Jamsa, K. (2013). *Cloud Computing: SaaS, PaaS, IaaS, Virtualization, Business Models, Mobile, Security, and More*. Burlington, MA.: Jones & Bartlett Learning.

**(2)** Top Cloud Hosting Requirements. (2015). SelectHub. Retrieved From: <https://selecthub.com/cloud-technology/top-cloud-hosting-requirements/>