Proposal for Google Cloud Hosting Solution

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# Abstract

This section includes the summary of the problem and the recommended solution, along with a description of the solution’s benefits for the *Seamus Company,* with the primary goals and estimated costs of the project. It explains the expertise of the *Simple Modern Software* company in the area of the recommended solution.

## Summary of Problem

The Seamus Company has requested a proposed solution to the problem that the company has not been using *Emerging Technologies*; and, has expressed the desire to innovate and improve productivity, leveraging IT and the Internet. The Seamus Company has also expressed the desire to cut costs while still working to build the brand and grow in areas that have proven to be profitable.

## recommendation of the solution

The proposed solution is the migration of Seamus resources to the reputable and secure Google Cloud Platform, utilizing its services and infrastructure to develop and deploy a scalable, globally available website. This means migrating the company’s data, applications, email, or software to *cloud hosting* where it is accessible from anywhere across the globe.

## Description of how the proposed solution benefits the Seamus Company

Moving to the Google *Cloud Platform* will provide the Seamus Company with *maximum network uptime*, which will guarantee no single point of failure and will help to increase productivity; the ability to pay for resources as per your needs, which will keep *costs reasonably low*; *resource scalability,* which the company will need as it grows in areas that have proven to be profitable; *location independence*, which allows for customers to access the companies resources from anywhere in the world, leading to the company’s growth and brand expansion; Lastly, the Googles cloud hosting platform, leverages the *latest technologies.* (Lipika, 2015)

## Primary goals of the project

* Gather all data which is to be hosted on the cloud and plan how it will be organized, displayed, and manipulated by employees and customers on the website.
* Acquire the necessary database from Google by utilizing Google’s Cloud SQL, which provides a managed version of MySQL, and migrate Seamus Company’s data.
* Deploy WordPress on Google Kubernetes Engine (GKE) using Cloud SQL.
* Design and build the Seamus Company’s WordPress website
* Test and Launch the Project

## Estimate of overal cost of the project

* The estimated project cost is **$35,000.**

## Our Expertise relevant to the proposed solution

*Simple Modern Software* has found solutions like the one they are proposing to the Seamus Company, for several small businesses. It has completed *over one hundred* successful projects in which small businesses were migrated to the Google Cloud Platform, leveraging the latest technologies. Simple Modern Software has received great feedback from all these companies, which continue to thrive.

# Proposed Project for seamus company

The following is the proposed solution to the problem that the company has not been using *Emerging Technologies.*

## Proposed solution

The Seamus Company has requested a proposed solution to the *problem* that the company has not been using *Emerging Technologies*; and, has expressed the desire to innovate and improve productivity, leveraging IT and the Internet. The Seamus Company has also expressed the desire to cut costs while still working to build the brand and grow in areas that have proven to be profitable.

The proposed *solution* is the migration of Seamus resources to the reputable and secure Google Cloud Platform, utilizing its services and infrastructure to develop and deploy a scalable, globally available website. This means migrating the company’s data, applications, email, or software to cloud hosting where it is accessible from anywhere across the globe.

Moving to the Google *Cloud Platform* will provide the Seamus Company with *maximum network uptime*, which will guarantee no single point of failure and will help to increase productivity; the ability to pay for resources as per your needs, which will keep *costs reasonably low*; *resource scalability* which the company will need as it grows in areas that have proven to be profitable; *location independence*, which allows for customers to access the companies resources from anywhere in the world, leading to the company’s growth and brand expansion; Lastly, Googles cloud hosting platform, leverages the latest technologies. (Lipika, 2015)

## related works review

This section gives a brief summary of key points from some reviewed sources which support the proposed project and solution.

### Znetlive blog’s 10 reasons why to use cloud hosting

This article highlights the benefits of using cloud hosting over traditional hosting. It gives ten reasons why to use *cloud hosting*, which is what the Google Cloud Platform provides, with a very informative explanation after each reason (Lipika, 2015). Some of these reasons are that the user *can pay for the resources as per needs, scalability of resources*, and that it *leverages the* ***latest technology****.*

### Google’s article about deploying wordpress on GKE with cloud sql

This article is a tutorial showing how to set up WordPress deployment on Google Kubernetes Engine (GKE) using Cloud SQL. The tutorial provides background, costs, and other information that could help lay a foundation of understanding how the proposed solution is going to work and what to expect (Cloud, 2019).

### Kinsta artiCle highlights advantages of using google cloud hosTing

This article is packed with information about the benefits of using Google Cloud Hosting. It mentions a list of notable companies that use the Google Cloud Hosting Platform including Snapchat, Best Buy, Coca Cola, and Sony Music (Jackson, 2019). It shows how using the Google Cloud Platform can keep a business up to date with the latest technology.

Each of these three resources supports the Google Cloud solution regarding the Seamus company. Google’s informative introduction web page to Cloud SQL, summarizes the main reasons why this would be the best solution. The blog from znetlive.com highlights ten reasons why cloud hosting is the best solution, the Google Cloud Platform is one of the most reputable cloud hosting solutions to choose from. Google’s article about deploying WordPress on GKE with cloud SQL highlights some history and advantages as it explains how the process of integrating the company website with the cloud is going to work. Lastly, the kinsta.com article endorses Google Cloud as the best cloud hosting solution and names some reputable companies that have migrated to the Google Cloud Platform.

## Goals, objectives and deliverables

**primary goal**

The **primary goal** of this project is the migration of Seamus resources to the reputable and secure Google Cloud Platform, utilizing the ***emerging technologies*** of Google Cloud. The company has expressed its’s desire to see that the benefits of using Emerging technologies will cause the company to innovate and improve productivity, leveraging IT and the Internet, to cut costs while still working to build the brand and grow in areas that have proven to be profitable. The solution*, the migration of Seamus resources to the reputable and secure Google Cloud Platform*, must meet these requirements. The goal can be broken down into *five goals*, each with a precise measurement of success. The primary goal will be met with the successful completion of each objective referenced below:

objective 1: Gather information and data

Understand the data requirements for the Seamus Company before migration takes place. This objective will plan which data will be hosted on the cloud, consider factors that could potentially introduce risks, and schedule delays or roadblocks. The review will examine existing data and data which the Seamus company now wishes to gather or consolidate. The review will also define how data will need to be displayed and manipulated internally by employees and externally by customers on the website. Access permissions will be defined. Stakeholder assumptions and constraints will be reviewed as part of the review of data. The objective will be considered successful when all the data reviews are complete and the Scope of Work (SOW) is produced including client assumptions, risks and constraints.

Deliverable 1: Gather Data

* Complete the gathering of all data which the company wishes to keep and move to the cloud. The Data will be consolidated, which means the collection and integration of all Seamus Companies data from multiple sources into a single data store.

Deliverable 2: Allocate and Plan Data

* Allocate and Plan data. Data structures will be designed and charts, tables and diagrams for data will be designed. This would be a preparatory step for setting up the Google Cloud SQL database and the WordPress website.

objective 2: Aquire and set up the Cloud server

Acquire the necessary database from Google by utilizing Google’s Cloud SQL, which provides a managed version of MySQL, and migrate Seamus Company’s data. This objective will purchase the Google Cloud SQL, and it involves the server design process and the migration of data. This objective will be considered successful when all pre-decided data is successfully uploaded, and the database is designed.

Deliverable 1: Aquire cloud sql

* Complete the Purchasing of Cloud SQL. The Seamus Company will be presented with a quote for Cloud SQL and give its final approval for the package and the cost. It will then pay for the service and access rights will be given to the Seamus Company and the Simple Modern Software development team.

Deliverable 2: Design Database

* Complete the database design and upload (“migrate”) required data. The database will be designed according to the data structures, tables and diagrams that were planned in the first Objective. This means, tables, storage, access permissions etc.… will be set up during this step.

objective 3: setup and deploy wordpress

Deploy WordPress on Google Kubernetes Engine (GKE) using Cloud SQL. This objective will fulfill all the necessary requirements to successfully set up a WordPress deployment on the GKE using Cloud SQL. The objective will be considered successful once WordPress is deployed and the WordPress website is ready to be setup.

Deliverable 1: setup wordpress

* Prepare WordPress for deployment. This includes fulfilling the required request for storage and creating the Google Persistent Disk and PVC for deployment. Create a service account with account credentials and database credentials.

Deliverable 2: deploy wordpress

* This includes deploying WordPress. Configure WordPress to communicate with MySQL. This way the website can communicate with the database. This step is considered complete when the deployment state changes to *running*. Set up an external IP address. This is a preparation for accessing the new website.

objective 4: Design and build the seamus company’s website

This step includes going to the IP address created in Objective 3 and beginning setting up the WordPress Website for the Seamus Company. The website will be designed according to the diagrams and charts set up in Objective 1. This objective will be considered successful once the front-end part of the website is designed for an optimal and modern user experience. This will include an interactive, dynamic website that can be viewed on any device with a simple and modern look and feel.

Deliverable 1: WEbsite design

* Complete the design of the company website. Pre-developed diagrams and charts will be utilized for the design of the company’s new WordPress website. The most common programming languages on the web will be used including PHP, HTML, CSS, and JavaScript for a dynamic website that includes the latest technological features.

Deliverable 2: WEbsite functionality and server interaction

* The website will be dynamically linked to the webserver (Cloud SQL). Data will be accessible from the database when a request is sent via the website. Proper links will be created, and all data will all load as needed in a seamless fashion, making the website easy to navigate and use. User account features will be created at this point so that users, whether employees or customers will have the ability to sign on to the website, using a secure username and password, to access their account information.

objective 5: testing period

Complete a testing period to make sure that the database and website are working smoothly by launching the project for a testing period. Feedback from employees and customers will be gathered during this stage. Customers and employees will receive emailed surveys to complete, and the results of these surveys will be gathered over time. This objective is considered complete when all necessary changes have been made.

Deliverable 1: Inform the users

* During this step users will be informed that the Seamus Company has migrated to the Cloud and they will be invited to try out the new website. It will be made clear to the users that this is a trial period and that all feedback, questions, or complaints are welcome. Users will be invited to complete emailed surveys at the end of every day that they use the website.

Deliverable 2: adjust and launch

* Answers to all surveys will be gathered by the end of the specified period and necessary changes will be made as decided and approved by the Simple Modern Software company under the approval of the Seamus Company. A final project report will be given to the Seamus Company and any contracts will be terminated at this point. Seamus Company will have full rights and ownership of the purchased Google Cloud and WordPress website.

## Projected timeline

|  |  |  |  |
| --- | --- | --- | --- |
| **Description of milestone/ deliverable** | **Duration**  **(days)** | **Projected start date** | **Anticipated end date** |
|  |  |  |  |
|  |  |  |  |
| Gather Data | 7 days | November 4, 2019 | November 11, 2019 |
| Allocate and Plan Data | 7 days | November 12, 2019 | November 19, 2019 |
| Acquire Google Cloud | 2 days | November 21, 2019 | November 23, 2019 |
| Design Database | 30 days | November 25, 2019 | December 23, 2019 |
| Set Up WordPress | 2 days | December 30, 2019 | December 31, 2019 |
| Deploy WordPress | 2 days | January 2, 2020 | January 4, 2020 |
| Website Design | 30 days | January 6, 2020 | January 20, 2020 |
| Website functionality/ server interaction | 14 days | January 21, 2020 | February 4, 2020 |
| Inform the Users | 14 days | February 4, 2020 | February 18, 2020 |
| Adjust and Launch | 30 days | February 18, 2020 | March 10, 2020 |

## resources and costs

Resources required for this project include data planning and consolidation, database design, setup and deploying of WordPress, website design, website functionality design, testing and adjustments, acquiring Google Cloud, and Google Cloud fees.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description** | **Unit Cost** | **Quantity** | **Duration** | **Total** |
| Consolidate and Plan Data | $20/hour | 1 | 14 days | $2240 |
| Database design | $40/hour | 1 | 30 days | $9600 |
| Setup and Deploy  WordPress | $20/hour | 1 | 4 days | $640 |
| Website Design | $50/hour | 1 | 30 days | $12000 |
| Website Functionality | $20/hour | 1 | 14 | $2240 |
| Testing and Adjustments | $20/hour | 1 | 44 days | $7040 |
| Acquiring Google Cloud SQL | $100 | 1 | 2 days | $100 |
| Google Cloud Fees | $100/ month | 1 | 4 months | $400 |
| Grand Total |  |  |  | $34260 |

## outcome

Four basic metrics will help the Seamus Company to assess the project’s success and effectiveness, once it is complete. These are customer satisfaction, productivity, sales, and cut costs. An increase in any of these by the percentages shown in the table below will mean that the project was very successful and effective.

|  |  |  |
| --- | --- | --- |
| Metric | What will be measured | Sources of Measurement |
| Customer Satisfaction | * Whether customers have generally satisfied experiences with the company since it has moved to the cloud, leveraging emerging technologies. * This will be measured on the first workday of every month for 6 months. | An increase of 10-20% will be considered successful. |
| Productivity | * Whether the company can make more products without increasing costs or seeing a decline in sales. * This will be measure after one year of the project completion date. | An increase of 15-20% will be considered successful. |
| Sales | * Whether the company experiences a general *increase in sales* after having migrated to the cloud leveraging emerging technologies. * This will be measured on the last workday of every month for 6 months. | An increase of 15-30% will be considered successful. |
| Cut Costs | * Whether the company experiences an increase in sales on those products or services for which the price was cut. * This will be measured on the first workday of every month for one year. | An increase of 20- 40% in sales whose prices have been cut, will be considered successful. |

# Jusitification and proposal highlights

Right now, The Seamus Company is greatly in need of a solution to the problem that the *company has* ***not*** *been using* **Emerging Technologies**; and, has expressed the desire to innovate and improve productivity, leveraging IT and the Internet. The Seamus Company has also expressed the desire to cut costs while still working to build the brand and grow in areas that have proven to be profitable.

Simple Modern Software strongly recommends that the best *solution* is the migration of Seamus resources to the reputable and secure Google Cloud Platform, utilizing its services and infrastructure to develop and deploy a scalable, globally available website. This means migrating the company’s data, applications, email, or software to *cloud hosting* where it is accessible from anywhere across the globe.

The Simple Modern Software Company is excited to present the Seamus Company, with the assurance that moving to the Google *Cloud Platform* will be a great solution your company. Benefits of moving to the Google Cloud Platform are: *maximum network uptime*, which will guarantee no single point of failure and will help to increase productivity; the ability to pay for resources as per your needs, which will keep *costs reasonably low*; *resource scalability* which the company will need as it grows in areas that have proven to be profitable; *location independence*, which allows for customers to access the companies resources from anywhere in the world, leading to the company’s growth and brand expansion; Lastly, Googles cloud hosting platform, leverages the latest technologies. (Lipika, 2015)

The Primary Goal of *moving the Seamus Company to the Google Cloud Platform* includes the following goals: 1. to gather all data which is to be migrated to the cloud and plan how it will be displayed and manipulated by users on the website; 2. to acquire the necessary database from Google by utilizing Google’s Cloud SQL and migrate Seamus Company’s data; 3. To deploy WordPress on Google Kubernetes Engine (GKE) using Cloud SQL; 4. To design and build the Seamus Company’s WordPress website 5. To test and launch the project.

Again, *Simple Modern Software* has found solutions like the one they are proposing to the Seamus Company for many other small businesses. It has completed **over one hundred** successful projects in which small businesses were migrated to the Google Cloud Platform, leveraging the latest technologies. Simple Modern Software has received *great feedback* from all of these companies, hopes to have the privilege of receiving the same great feedback from the *Seamus Company*, once the project is completed.

# Resources

Cloud, G. (2019). Deploying WordPress on GKE with persistent disks and Cloud SQL. Retrieved from <https://cloud.google.com/kubernetes-engine/docs/tutorials/persistent-disk>

Jackson, B. (2019, October). Top 7 advantages of Choosing Google Cloud Hosting. Retrieved from <https://kinsta.com/blog/google-cloud-hosting/>

Lipika, (2015, August). 10 reasons why cloud hosting is better than traditional hosting. Retrieved from <https://www.znetlive.com/blog/10-reasons-why-cloud-hosting-model-edges-over-traditional-hosting-model/#targetText=Scalability%20of%20resources&targetText=A%20cloud%20hosting%20set%20up,limited%20resources%20and%20rigid%20specifications.>