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INFORMATION SYSTEMS

**PROPOSED BY**

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# CLOUD-BASED STORAGE SYSTEM

## FINAL REPORT

Project Area: IT Infrastructure

### Abstract

This project's main objectives are to shift everyone to a shared workspace, which will improve morale, motivation, and office culture, and to reduce the number of physical servers to reduce the cost of the data center. Cloud-based replication of physical server backups would be beneficial in the event of natural disasters and social unrest. The current team will work less hard and spend less money because the migration to the cloud will result in the need for fewer physical servers to manage the data center.



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## 1. EXECUTIVE SUMMARY\*

A data center has many physical layers and is constructed from an enormous amount of material. Our goal is to move the data to the cloud, where a cloud company manages data center resources online as opposed to maintaining its infrastructure manually. Cloud computing may be a helpful alternative for fledgling businesses with limited resources and large enterprise organizations with constrained budgets because it offers immediate capability without the need for a sizable upfront investment. Disaster recovery can benefit from the cloud as well.

## 2. BACKGROUND

### 2.1. Current Situation & Problem Statement

- The business process of Cervello India Pvt Ltd currently consists of numerous physical layers and data centers. Resource scalability in an on-premises data center is constrained by the infrastructure that the business has invested in and put in place.
- A cloud-based data center is less expensive to maintain than an on-premises one. An organization pays full prices for all its infrastructure when using it on-premises. Resources can be pooled in the cloud, and cloud service providers can benefit from economies of scale.
- Cervello wanted total control over their infrastructure so Service level agreements, which may offer higher guarantees than an organization internally, are used to protect availability in the cloud. In the cloud, the cloud service provider oversees protecting a portion of the infrastructure stack of an organization and is more experienced at doing so.
- The cloud service provider's offerings are the only options available to the organization. The company itself benefits from this investment because it has access to every detail. This project serves various IT and cloud infrastructures.

### 2.2. Effects of Not Doing This Project

- Recently, a lot of businesses have shifted their infrastructure requirements to the clouds. Businesses that want to provide suitable computational resources without having to recruit IT personnel or manage expensive hardware might consider cloud data centers.
- Businesses that are growing quickly and those that are online profit from the efficiency, scalability, and knowledge of cloud providers. The cloud also serves as a solid layer of redundancy for disaster recovery, which is helpful for many enterprises.
- The best configuration for enterprise computing infrastructures requires cloud data centers, which are needed by businesses that are extremely concerned with security and complete ownership over data. Employing this allows businesses to gain the advantages of both while avoiding their respective drawbacks.



- We may need to increase the budget if the project is not finished on time as anticipated. As a result, owners and stakeholders get unhappy. If the project is running beyond the budget, this could result in its complete cancellation.

### 3. GOALS AND OBJECTIVES\*

- Migration of data centers to cloud-based storage hereby reducing the operating costs of the data center. The data center's current operating expenses would drop from \$40 million to \$20 million.
- Cloud-based replication of physical server backups is useful in the event of a natural disaster or civil unrest. Moving to the cloud reduces headcount and costs for the current team as fewer physical servers are available in the current data center.
- Using the cloud for increased capacity is an excellent answer for the organization because it has more storage and is so simple to utilize and scale.

### 4. APPROACH\*

#### 4.1. Solution Overview & Impact to Community

Organizations now have a variety of alternatives thanks to cloud servers. Numerous commercial groups are now using cloud services. Due to a lack of knowledge and the fear of losing jobs among the IT workforce, the adoption of the cloud was slower. By allowing different applications and services to be housed on a single central platform, cloud servers assist in the creation of a virtual office. If there is internet connectivity, employees can access the workplace at any time and from any location. Thus, cloud servers encourage ease of work and have been increasing employees' job productivity. It makes it possible for the workplace to run more efficiently and for employees to be given the proper tasks and roles.

Social consequences are supported by cloud services as well. Cloud computing services might help cut carbon emissions. The diverse ways that cloud servers affect our daily lives. Numerous social media platforms, including Facebook, Instagram, LinkedIn, Twitter, and others, utilize the cloud in some capacity. The photos we post to Instagram or Facebook are kept in the cloud. We used to watch our favorite shows on television or listen to the shows that were broadcast on the radio before cloud computing came onto the scene. A revolution in the entertainment sector has been brought about by clouds. A few examples of cloud-based apps are Netflix, Amazon Prime, Spotify, and Disney Hot star. They deliver the stuff to us via the cloud. With these apps, we can access the internet from any place and watch movies, television shows, and listen to our favorite music. Cloud technology has also transformed how we purchase. The buying experience has been simplified by apps like Amazon, Walmart, and many more. Some medical practices have set up cloud-based patient portals where vital health information is available. Hospitals or other healthcare service providers maintain digital patient records in the cloud. Universities across the nation are now providing online courses. The lessons, information, and learning resources are all kept in the cloud. Students can now get the data they need from anywhere and at any time. Cloud architecture also enables users to take advantage of network-based communication tools like emails, messaging, and phone



apps like Gmail, WhatsApp, Google Duo, and Skype. Cloud data centers are necessary for the best setup of enterprise computing infrastructures and are required by organizations that place a high priority on data protection and ownership. By using this, firms can benefit from both while avoiding their respective disadvantages.

#### 4.2. Impacts on or Touch Points with Other Systems

Businesses who need to send a lot of data to the cloud will be charged, typically on a per-GB basis, for data outbound transfers that exceed the standard monthly allotment. Additional fees may accumulate for firms that need to regularly download data from cloud data storage or cloud apps. Additionally, there may be some initial unforeseen migration challenges when moving all data to the cloud, such as training your internal personnel to access data in the cloud. Some cloud apps lack flexibility, which might be a major drawback for companies shifting their data to the cloud. Additionally, some cloud computing vendors have apps and data formats that make it difficult to convert or transfer data into the system. All of these could force organizations to switch accounting cloud migration markets, which could be a difficult procedure. It is challenging to switch from one platform to another due to ingrained differences between the vendor and business systems. Some of the suppliers also use proprietary software to lock their clients, making it incredibly expensive or hard to switch to another provider of cloud services. While moving apps can be expensive and expose sensitive data to privacy and security risks, adapting applications to fit business objectives can be difficult.

### 5. SCOPE & DELIVERABLES\*

#### 5.1. Scope

- We plan to deliver the product at a much lower cost because we will be reducing the number of physical servers where computer systems and related hardware, such as networking and storage devices, are kept.
- We wish to relocate the data to a cloud provider's data center so that resources may be controlled online as opposed to manually managing the infrastructure.
- We are accomplishing this by selecting cloud architecture platforms (such as AWS (Amazon Web Services), Google Cloud, Azure, Tencent, Oracle, etc.) that can assist in meeting compliance standards that are relevant to the Cervello business.

#### 5.2. Deliverables

Based on the normal time completion for each step of the cloud provider, we have the expected goal completion days.



#	Project Phase	Milestones, Planning Deliverables	Target Completion Date	Approver
	Initiation	Project Charter Project Request	10-02-2022	
	Planning	Project Plan Communication Strategy/Plan	10-28-2022	
	Requirements	Business Requirements/Service or Product Requirement	11-23-2022	
	Analysis and Design	Functional Designs May also include Service, Product and Technical Designs Test Plan	03-14-2023	
	Development	Tech Designs & Development Network, Server, 3rd Party Service Integration	06-18-2023	
	Testing	Test Plans / Test Cases	08-05-2023	
	Deployment	Readiness Planning Documentation	08-25-2023	
	Project Close	Project Financials and Close Docs Lessons Learned	08-30-2023	

Table 1

### 5.3. Estimated Timeline

Project Phase	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Initiation												
Planning												
Requirements												
Design												
Development												

[illegible]

Table 2

## 6. PROJECT TEAM ORGANIZATION\*

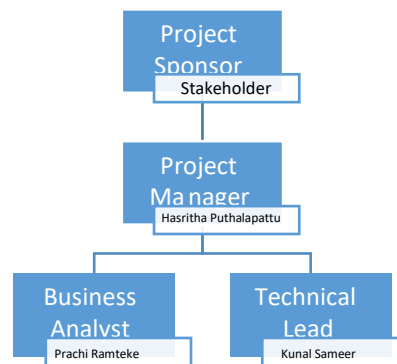


Figure 1

## 6.1. Roles & Responsibilities

Role Name	Name & Est. Time Commitment %	General Responsibilities
Project Manager	Hasritha Puthalapattu	<ul style="list-style-type: none"> <li>• Creating and reviewing the project charter</li> <li>• Create and maintain a project plan, subsequently manage, oversee, and track the project's deliverables.</li> <li>• Manage project risks</li> <li>• Prepare and review the rollout plan; and oversee the project's overall success</li> </ul>
Business Analyst	Prachi Sanjay	<ul style="list-style-type: none"> <li>• Completing a study of the data needed, report needs, certification distribution, tracking, and storage, and business, faculty, and technical staff input.</li> <li>• Create use cases, requirements, and a new business process flow.</li> <li>• Finish the functional design documentation, including the screen mock-ups, report layouts, data definitions and mappings, notifications, etc.</li> </ul>



Technical lead	Kunal Sameer Satoor	<ul style="list-style-type: none"><li>• Create information security requirements</li><li>• Responsible for the technical implementation of the report and e-Certification application.</li><li>• Contribute to, review, and provide feedback on the Functional Design papers.</li></ul>
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Table 3

## 6.2. Stakeholders

Name	Title / Role	Organization / Department
Sponsor	<p>Project Sponsor /</p> <ul style="list-style-type: none"><li>• Provide direction, wisdom, overall guidance, and solutions for the project's elevated difficulties.</li><li>• Project management and strategy</li><li>• Make recommendations regarding the requirements and the new business process.</li><li>• Approve the business requirements and the new business process.</li></ul>	IT Infrastructure

Table 4

## 7. PROJECT PLAN\*





3	Role	Employee Type	Assigned To	Allocation %	Start Date	End Date	Planned Working Days	Annual Salary	Rate/hr	Budget	Comments
4	UIT										
5	Project Manager	Full Time	Hasritha	50%	09-25-22	08-30-23	243	\$1,08,322	\$52.08	\$70,868	
6	Business Analyst	Full Time	Prachi	100%	09-25-22	08-30-23	243	\$97,168	\$46.72	\$1,27,141	
7	Technical Lead	Contractor	Kunal	100%	09-25-22	08-30-23	243	\$95,625	\$47.81	\$92,948	
8	Developer	Contractor	Sameer	100%	09-25-22	08-30-23	243	\$94,670	\$47.34	\$92,019	
9	UIT Subtotal									\$3,82,976	
10	Business Office										
11	Program Manager	Full Time	H Narotham	20%	09-25-22	08-30-23	243	\$1,50,000	\$72.12	\$39,254	
12	Business Analyst	Full Time	S Ramteke	100%	09-25-22	08-30-23	243	\$99,168	\$47.68	\$1,29,758	
13	Cloud infrastructure specialist	Contractor	S Satoor	100%	09-25-22	08-30-23	243	\$98,987	\$49.49	\$96,215	
14	Business Office Subtotal									\$2,65,227	
15	One-Time Costs										
16	Consultant									\$25,000	
17	Hardware									\$1,50,000	
18	Software License									\$3,50,000	
19	One-Time Costs Subtotal									\$5,00,000	
20	TOTAL									\$11,48,203	
21											

Figure 2

<https://1drv.ms/x/s!AntpspSdPTxEiILj9oiNSFf-xHLH?e=mYaWIN>

The cost of hardware and software licensing, and budget details for the consultant and staff, are included in the project plan. Based on the typical salaries for the corresponding positions, an estimated budget for full-time and contract staff has been created. The general costs for switching to cloud storage are the fees for consultants, hardware, and software licenses.

## 8. RESOURCE MANAGEMENT\*

### 1. Key milestones

Kick-Off meeting/Project Preparation	10/01/2022
Collecting requirements	11/23/2022
Design Phase	03/14/2023
Development Phase	06/18/2023
Testing Phase	08/05/2023
Documentation	08/30/2023

Table 5

## 2. Resource requirements

Hardware engineer
Software/Cloud engineer
Construction team/Contractor
QA 1
QA 2
Network and Infrastructure Engineer
Project Manager
Procurement Manager
Tech Lead

Table 6

## 3. Hardware and software requirements

Labor
Tools
Equipment
Materials
Supplies
Software
Database
Safety Supplies
Marketing materials
Miscellaneous

Table 7

## 9. QUALITY MANAGEMENT\*

### Quality planning

To ensure the quality of the mitigation we can use the cluster software to give maximum output. Cluster software can be installed on multiple servers. This solution helps security teams to mitigate losses caused by natural or manufactured disasters. Cluster software also allows continuous operation by switching



seamlessly between servers, which allows security teams to minimize system downtime while server maintenance is performed

### Organization, Responsibilities, and Interfaces

Name	Role	Quality Responsibility
Hasritha	Project Manager	Quality mentoring & coaching
Prachi	BA	Quality audits
Kunal	Technical lead	Technical glitch check

Table 8

## 10. WORK BREAKDOWN STRUCTURE\*

The average time to prepare a project is 36 days (about 1 month 5 and a half days), and the average time to gather requirements is 42 days (about 1 and a half months). The Design Phase lasts 45 days (about 1 and a half months) in total, of which 6 days are spent designing the physical and virtual servers. Setting up cloud architecture requires 6 days. It takes six days to build up a network. It takes days to set up Firewall 6. It takes 10 days (about 1 and a half weeks) to design new workplace spaces and organize them appropriately. It takes ten days to develop the master production schedule. The development phase requires 81 days (about 2 and a half months), during which time the current environment must be backed up before migration and it takes 9 days to finish this, the application servers must be migrated to the VMware environment which typically takes around 21 days (about 3 weeks), the network specifications must be developed within 15 days (about 2 weeks), a new office must be built in 30 days (about 4 and a half weeks) , and documentation must be completed in 5 days. Considering that the testing phase lasts for 18 days (about 2 and a half weeks), we have seven days to test the servers in the test environment. 15 days (about 2 weeks) for evaluating the test environment with some of the chosen users and 9 days for testing the disaster recovery plan. Moving users from the old office to the new office takes place during the user acceptance and training phase in 11 days (about 1 and a half weeks). In 10 days (about 1 and a half weeks), lessons learnt and going live can be documented.



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## INFORMATION SYSTEMS

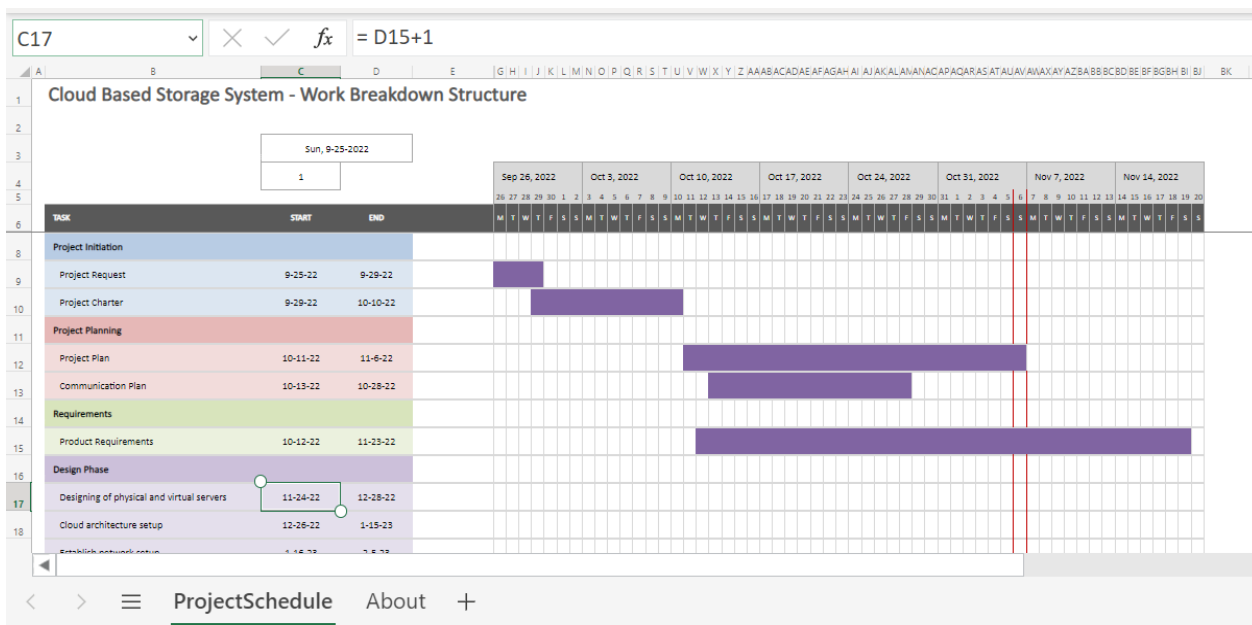


Figure 3

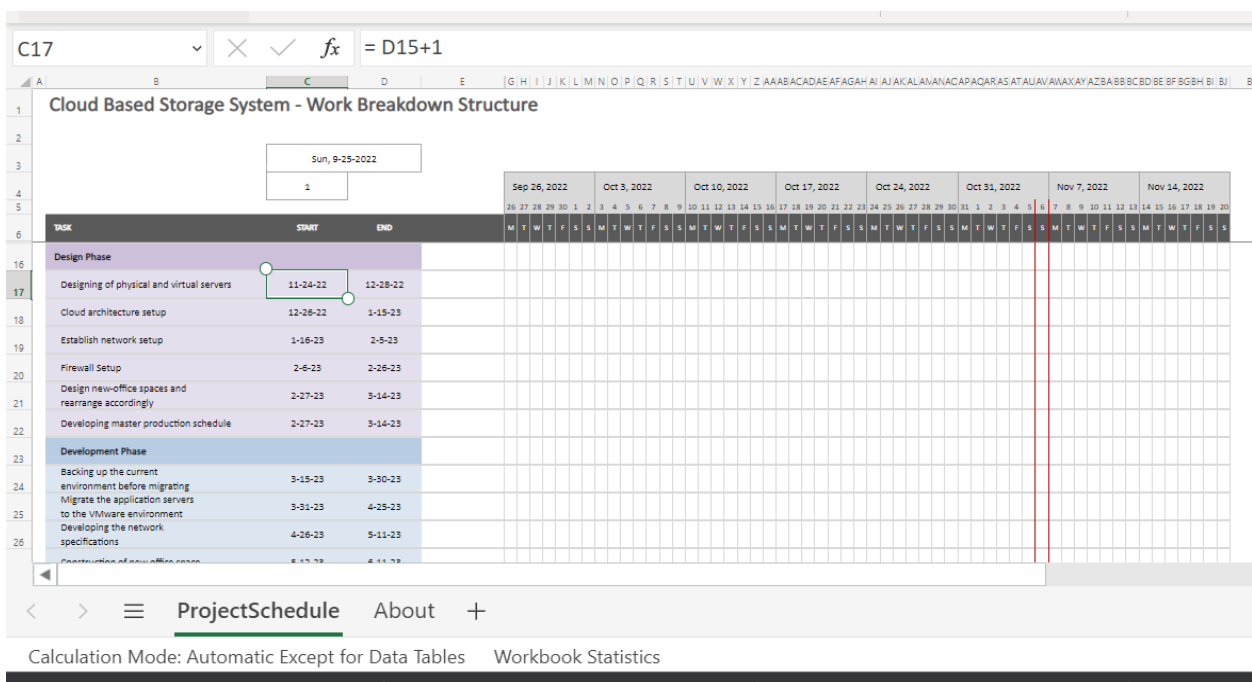


Figure 4



### Cloud Based Storage System - Work Breakdown Structure

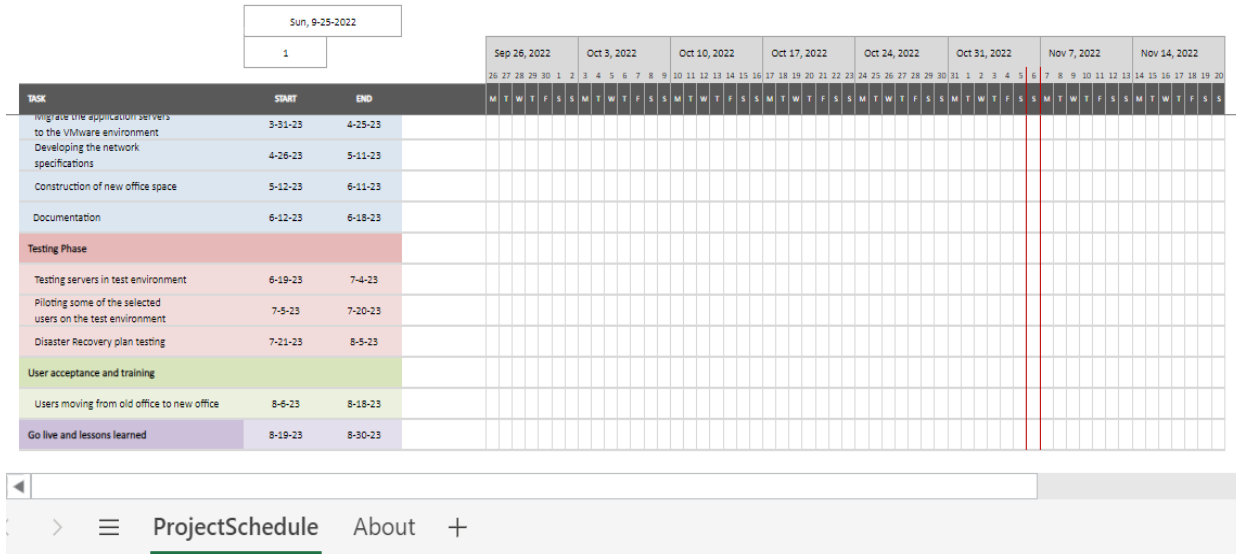


Figure 5

<https://1drv.ms/x/s!AntpsdPTxEilZb4aqHEPjMJ1lf?e=Vuwjid>

## 11. COST BASELINE\*

### Project Budget

Task	Resource	Direct costs	Indirect Costs	Estimate
<b>Project Preparation</b>				
Information Gathering	PM	\$50.00	\$12.00	\$62.00
Setting Goals and Expectation	PM, TL			
<b>Collecting Requirements</b>				
Analyzing Existing Technology	QA-1	\$500.00	\$100.00	\$600.00
Discussing Goals and Expectations	PM			
Assigning Resources	TL	\$600.00	\$200.00	\$800
Hardware and Software Requirements	TL	\$2,000.00	\$1,000.00	\$3,000.00
<b>Design Phase</b>				
Designing of Physical and Virtual Servers	QA-2	\$1,000.00	\$800.00	\$1,800.00
Cloud Architecture Setup	QA-1	\$15,000.00	\$10,000.00	\$15,000.00
Establish Network Setup	N&I	\$2,000.00	\$1,500.00	\$3,000
Firewall Setup	N&I	\$300.00	\$150.00	\$400.00
<b>Development Phase</b>				
Backing-up Current environment before Migrating	Cloud Engineer	\$2,000.00	\$500.00	\$2,500.00
Migrate application server to VMWare Environment	TL	\$500.00	\$100.00	\$600.00
Developing the Network Specification	N&I	\$500.00	\$100.00	\$600.00
<b>Testing Phase</b>				
Testing Servers in Test Environment	QA-2	\$2,000.00	\$1,000.00	3000
Piloting some of the Selected Users on the First Enviro	QA-2	\$1,000.00	\$500.00	\$1,500.00
Disaster Recovering Plan Testing	QA-1	\$2,000.00	\$1,000.00	\$3,000.00
<b>Total</b>				<b>\$35,900.0</b>

Figure 6



Benchmarking, surveys, statistical sampling, check sheets, and focus groups are all examples of information collection. This will increase to \$50. We will spend about \$3,000 on gathering the hardware and software needs. The other requirements include assigning resources, which will cost about \$1400, and assessing the technology that is currently in use. The most important phase, known as the Design Phase, will primarily concentrate on setting up cloud architecture and will cost us about \$15,000 to complete. also costing us \$2200 is designing real and virtual servers and setting up firewalls. Customerthink.com is used to estimate the work cost. The development phase is another crucial stage; backing up the current environment will cost \$2500 before migrating, and after adding other components from the development phase, it would cost us \$3700. Testing Phase includes disaster recovering plan testing which will cost us \$3000 according to our study from Synology this testing may cost around \$10000 but our cost is \$3000 as it is a small-scale IT- business the total testing will cost us around \$7,500. So, after combining all essential phases the total will be \$35,900.

## 12. COMMUNICATION PLAN\*

- **Communication Objectives:** To successfully get buy-in and implement the project, communication is used to deliver information, direction, and project updates to all stakeholders.
- **Key Stakeholders:** Sponsors and Members
- **Core Messages:** Project quality should be maintained
- **Considerations:** Budget and cost

### Planned Communications:

Audience	Delivery Method	Timing	Specific Message	Desired Outcome/Behavior	Possible Measures
Full project team	Meeting and/or teleconference	Weekly	Status updates	Weekly update on the progress	Input from the team is required
Impacted team members and client	Meeting and/or teleconference	As needed	Exception/variance reports	Checking the reports	Input from the team is required
Full project team, Sponsors	Meeting and/or teleconference	Monthly or at a milestone	Project reviews	Milestones discussions	Input from the team is required
Impacted team members and client	Meeting for impacted parties/email for team	As changes are approved	Configuration changes	Make the required changes if approved	Input from the team is required



Project manager and supply chain lead	Phone call	As needed before and post deliveries	Supplier Coordination	Deliverables and budget changes	Input from the team is required
Full project team	Face to face	As needed	Emergency or critical events	Prepared for the critical events	Avoid the emergency

Table 9

## 13. RISK MANAGEMENT\*

### 13.1. Risk Identification

RISK	DESCRIPTION	CONTROL STRATEGY	CONTINGENCY RESERVE
1	SECURITY SERVER FAILURE: When data center servers fail, this creates significant disruptions to daily security operations	Mitigation	No
2	DATA CENTER KEY LOSS: When data center key gets lost. If the management of these keys is conducted by individual employees, it is difficult to do so systematically and effectively	Avoidance	No
3	NETWORK CONNECTION FAILURES: Information security relies on the physical	Avoidance	No

	security of the system's network links. It is therefore essential to protect the integrity of the system's links and prevent illegal connections from external agents.		
4	STAFF CHANGE IN THE PROJECT: If there is a frequent change in the staff of the project team members	Acceptance	No
5	HACKERS: The data of the system is vulnerable to hackers	Avoidance	No
6	Technological advances: As there is a scope of improvement in tech aspects, the project team members need to keep enhancing the skills	Acceptance	Yes
7	Ineffective Inventory Management	Avoidance	No

Table 10

### 13.2. Mitigation Strategies

Risk	Control Strategy:	Description of the Strategy
1	Mitigation	<p>When data center servers fail, this creates significant disruptions to daily security operations</p> <p>Actions to be taken: Cluster software should be installed on multiple servers. This solution helps security teams to mitigate losses caused</p>





		by natural or manufactured disasters. Cluster software also allows continuous operation by switching seamlessly between servers, which allows security teams to minimize system downtime while server maintenance is performed
2	Avoidance	<p>When data center key gets lost</p> <p>Actions to be taken: Using key management systems, data center keys are stored in dedicated key cabinets that are resistant to break-ins. Access to keys is granted automatically using a keypad, swipe card or biometric scanner, eliminating the need for dedicated personnel</p>
3	Avoidance	<p>Network Connection Failures</p> <p>Actions to be taken: Using Smart Patch Panel System to control the functionality of a network and its individual components so that network link would be properly maintained and would check if the connection is secured</p>
4	Acceptance	<p>If there is frequent change in the staff of the project team members, the transition becomes difficult.</p> <p>Actions to be taken: There is nothing much we can do about staff changes in a project. The project manager must make sure that every task is documented so that the new staff</p>



		can catch up with the pace of the remaining staff.
5	Acceptance	<p>The data can be leaked by internal employees, or it can be hacked by outsiders</p> <p>Actions to be taken: Integrating the physical access management system with the login information system ensures that only those granted entry to the computer room via the access control system can log in to the server.</p>
6	Acceptance	<p>Technology advances regularly. As there is a scope of improvement in tech aspects, the project team members need to keep enhancing their skills. This is considered a positive risk.</p> <p>Actions to be taken: Businesses are increasingly searching for new ways to incorporate technology for greater efficiency. Increased organizations are finding that, with such technological investments, they may be eliminating the need for some jobs within the company. To keep the business team members on par with technological advances, there is a need for contingency reserve</p>
7	Avoidance	Keeping an inventory of data center hardware is typically done by employees, either by scanning equipment serial codes or other methods. In this situation, employee workload is



		increased, and errors are common
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Table 11

### 13.3. Assessment of Probability and Impact (Qualitative)

#### Probability Scale

# Of probability levels
5

Level names	Level Values (%)
Exceptionally low	10%
Low	25%
Medium	40%
High	50%
Very High	70%

Table 12

#### Impact Scale for each dimension

Name	Schedule
# Of impact levels	5
(1 through 5)	

Impact	Description	Value
Very Low	The infrastructure relocation takes more than 2 weeks	0.1
Low	When employees keep changing every 1 month	0.25
Medium	When Server Maintenance is not every 1 month	0.4
High	If the employee shift coverage is not proper every 7 days	0.5
Very High	If the activities assigned gets completed after 2 years	0.7

Table 13

Name	Environment
# Of impact levels	5
(2 through 5)	

Impact	Description	Value
<b>Very Low</b>	When temperature of the data center is not maintained properly, and it is maintained above 5-degree Celsius	0.1
<b>Low</b>	Power fluctuations every 1 day	0.25
<b>Medium</b>	Natural disasters like flooding and earthquake can cause in increase to the scope of the project by 40 %	0.4
<b>High</b>	Power outages due to external factors happen and can incur 50% of loss	0.5
<b>Very High</b>	Static - damage to server can damage up to 70 % of the project	0.7

Table 14

Name	Cost
# Of impact levels	5
(3 through 5)	

Impact	Description	Value
<b>Very Low</b>	When the external market by credit boom by 10 %	0.1
<b>Low</b>	When employees keep changing can impact 25%	0.25
<b>Medium</b>	When Costs are the estimated value 40 % higher	0.4
<b>High</b>	Poor communication between project team and stakeholders can cause 50 % of the losses	0.5
<b>Very High</b>	If Scope of the project keeps increasing by 70%	0.7

Table 15

Name	Safety
# Of impact levels	5
(4 through 5)	

Impact	Description	Value
Very Low	Slips, Trip and Falls are 10 %	0.1
Low	Data deletion by the administrators can impact 25%	0.25
Medium	Hacking can cause 50 % of damage	0.4
High	Data theft can cause 80 % of damage to the safety	0.5
Very High	No Human safety can cause huge loses to 70%	0.7

Table 16

### 13.4. Severity Matrix

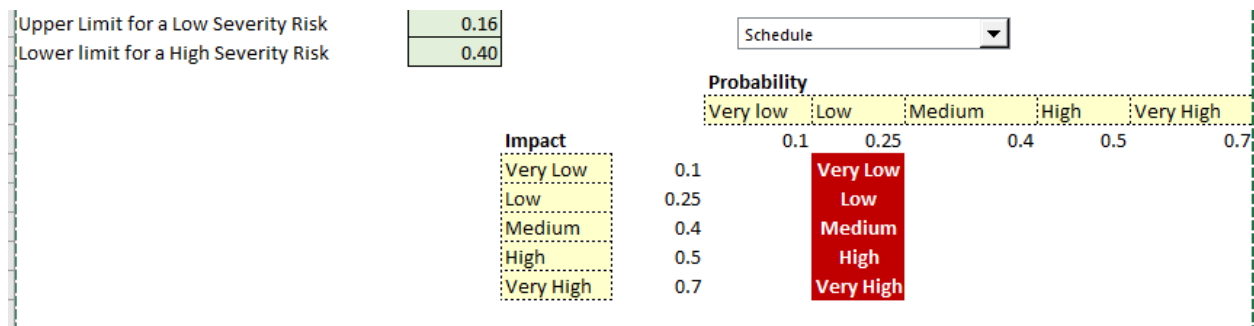


Figure 7

## 14. PROJECT TRACKING\*

### 14.1. Tracking method

EVM:

PV: \$1.0M

Project Cost (BAC): 1,000,000

50% of BAC

50% of 1,000,000

(50/100) X 1,000,000

500,000 USD

Therefore, the project's Planned Value (PV) is 500,000 USD

In the question, you have spent 600,000 USD on the project so far

The project's Actual Cost is 600,000 USD.

Earned Value = 40% of the value of total work

40% of BAC

40% of 1,000,000

0.4 X 1,000,000

400,000 USD

Therefore, the project's Earned Value (EV) is 400,000 USD.

**Schedule Performance Index (SPI) = EV/PV**

500,000/400,000=1.25

**Cost Performance Index (CPI)**

**CPI = EV/AC**

400,000/600,000=0.66

Estimated at Completion (EAC) = (Total Project Budget)/CPI = \$1,000,000/0.66 = \$1515151.51

teamgantt  
Created with Free Edition

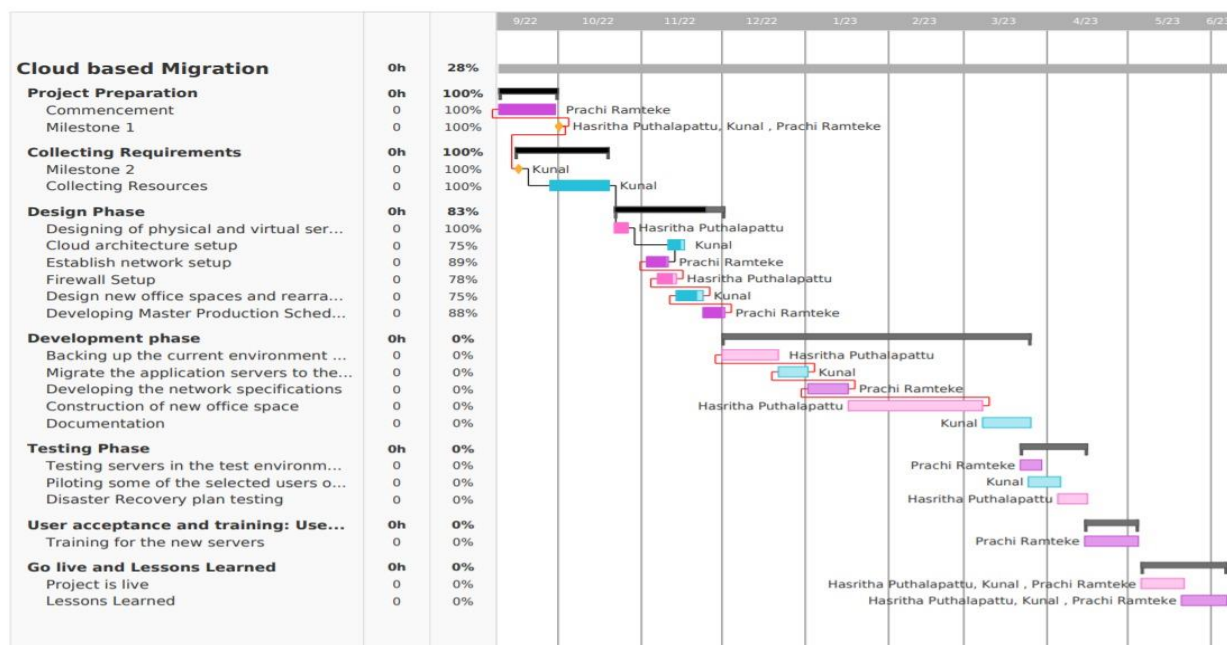


Figure 8



<https://app.teamgantt.com/projects/gantt?ids=3311031>



Cloud\_based\_Migrati  
on.pdf

## 15. LESSONS LEARNED\*



Lessons-Learned.pdf

The biggest learning, we, as an entire team embodied, is adopting an agile-centric development process. This practice revolved around learning, execution, and optimization of a cloud migration into a series of strictly defined processes through scrums. Each scrum focused on specific elements of the migration, with strong checks and balances at every stage during our cloud migration process. Another major learning was the importance of Work Breakdown Structure. The process of breaking down big transformation goals into smaller, more specific, and priority-based goals made our job much easier. It taught us that implementing project scope in sprints is the key to infrastructure transformation. We also learned to organize the requirements hierarchy. It helped us trace the progress and avoid minor loopholes in the progress if any. Also, defining best practices to lay out features and leveraging them across the visualization kept them on the right track. There were certain hiccups that we faced initially like Team communication and team coordination but eventually, over the course of the project we overcame them through verbal communication. Effective communication is very crucial as it leads to effective decision-making, engaged team members, and successful projects.

### Individual Lessons Learned:

Hasritha Puthalapattu - The experience of working on this project taught me a ton. I learned from this project the benefits of teamwork, roles, an agile approach, etc. During this process, I came to the realization that it is crucial to grasp the precise reasons for our move to the cloud because not all businesses can utilize cloud-based data storage. I also realized that budgeting is the most vital component and that managing it effectively is critical to finishing a project successfully. I have also discovered that cloud migration is made up of several smaller migrations. When migrating to the cloud, being specific might be quite beneficial. Even though a whole data center's worth of applications might need to be migrated, doing so in stages allows for risk reduction, incremental improvement of the team's proficiency with migration and hosting platforms, and staged testing/verification of foundational components. Prioritizing is essential. It is essential to know what needs to be done first and how much time to devote to each task. I have learnt to expect the unexpected because not everything happens as planned and we need to be ready for it.







## PROJECT REQUEST FORM

### 1. Form Summary:

- The main purpose of this project is to reduce data center costs by reducing physical servers and moving everyone to a common workspace to increase morale, increase motivation and improve office culture.
- Cloud-based replication of physical server backups is useful in the event of a natural disaster or civil unrest. Moving to the cloud reduces headcount and costs for the current team as fewer physical servers are available in the current data center.
- Using the cloud for increased capacity is an excellent answer for the organization because it has more storage and is so simple to utilize and scale.

### 2. General Information

Request Date: 10/02/2022

Project Title: Cloud-based Storage System

Project Owner: The Organization

Team: **Project Manager:** Hasritha Puthalapattu

[h.puthalapattu@vikes.csuohio.edu](mailto:h.puthalapattu@vikes.csuohio.edu)

### 3. Project Sponsor

Sponsor: Stakeholders or (The board of Members)

### 4. Budgeted Amount

The estimated tentative budget is 2 million

### 5. Project Description

The project aims to shift everyone to a shared workspace, which will improve morale, motivation, and office culture, and reduce the number of physical servers to reduce the cost of the data center. Cloud-based replication of physical server backups would be beneficial in the event of natural disasters and social unrest. The current team will work less hard and spend less money because the



migration to the cloud will result in the need for fewer physical servers to manage the data center. A data center is a structure, a single room inside a structure, or a collection of structures where computer systems and related hardware, such as networking and storage devices, are kept. It is made of a tremendous amount of material and has several physical layers. The cloud, where a cloud provider administers data center resources online as opposed to manually maintaining its architecture, is where we want to relocate the data. Because it provides immediate capacity without the need for a big upfront investment, cloud computing may be a useful choice for start-up firms with limited resources and large enterprise organizations with financial constraints. The cloud can be used for disaster recovery as well.

## 6. Proposed Solution

Cloud storage, a cloud computing paradigm that saves data on the Internet, is offered by cloud computing providers who manage and operate data storage as a service. Because it is given on demand with just-in-time capacity and price, there is no need to acquire and manage your own data storage infrastructure. This offers agility, global scale, and durability in addition to "anytime, everywhere" access to data. The cloud-based storage system will help in cost saving. The expense of hardware and maintenance is eliminated when you move your company to the cloud. These capital expenses and related service salaries can be eliminated for considerable cost reductions. It is much more practical because there will not be a need for as much of our server gear, which frees up physical space and reduces the demand for maintenance and staff attention. The solution will be maintained, managed, and supported by the cloud storage provider. This frees up workers who would otherwise be responsible for performing the duties required to maintain the servers' uptime and data security.

## 7. Project Objectives

The objective is to provide a good working environment in the organization by facilitating a cloud data center as different team leads and management had found that there was less face-to-face interaction as the employees were located on different floors. It will also help in reducing the cost of the company.

Strategies	Goal Objectives
<ul style="list-style-type: none"><li>Plan the migration</li><li>Choose the correct environment</li></ul>	



<ul style="list-style-type: none"><li>• Design the Cloud Governance framework</li><li>• Manage Software license</li><li>• Test Migration</li></ul>	<b>Migration of Data Centre to Cloud-based storage</b>

## 8. Contact Information

**Project Manager:** Hasritha Puthalapattu - [h.puthalapattu@vikes.csuohio.edu](mailto:h.puthalapattu@vikes.csuohio.edu)

## 9. Alternative solutions considered

Alternative Solutions	Reasons for elimination
<ul style="list-style-type: none"><li>• Fog Computing</li><li>• Edge Computing</li><li>• Resilio Hybrid Model</li></ul>	<ul style="list-style-type: none"><li>Not cost-effective</li><li>Not cost-effective</li><li>Complex structure</li><li>Need more workforce</li></ul>

## 10. Approval Signatures

Position/Title	Signature/Printed Name/Title	Date
<b>Sponsor</b>	Stakeholders or (The board of Members)	10/02/2022
<b>Project Manager</b>	Hasritha Puthalapattu	10/02/2022



<b>Implementer</b>	Team	10/02/2022
<b>Supervisor</b>	Prachi Ramteke	10/02/2022

### 11. Decision and Comments

Approval/Revised/Rejected: Approval

Date: 12/12/2022.

Comments: