**CHAPTER 6: THESIS OBJECTIVE ACHIEVES**

**6.1 INTRODUCATION**

In Chapter 6, the conclusions were defined and show how the challenges may be defeated while using propose approach, this section is further consist on

1. Main objective of the thesis
2. How well the thesis achieves its objective by providing proposed solution
3. How much objectives are and the benefits are obtained.

**6.2 MAIN OBJECTIVE OF THE THESIS**

This research based upon the issues faced by cloud customer in case of any disaster (Natural or Manmade). Private cloud is established, when the organization does not want any compromise on its organizational data, operational activity and resources. Now a days, due to current critical disaster situation of Pakistan; there are number of existing disaster recovery approaches of data loss are compared and analyzed for cloud computing in this thesis. A new hybrid disaster recovery (approach or model) is proposed, “instead many disaster recovery solutions / approaches / method / models for cloud computing exists but no one provides a reliable, efficient, cost effective and efficient with all respects”, to save a precious data is to develop in the perspective of Pakistan having better performance parameters such as RTO, RPO, TTO, Cost, security reliability and availability as compared to existing approaches.

Furthermore, this proposed data disaster recovery or hybrid disaster recovery model aim is too objectively and rationally that uncover the strengths that is presented according to the I.T environment and perspective of Pakistan. Moreover, this proposed disaster recovery method / approach has given disaster recovery systems more flexibility and made them dynamic and scalable.

**6.3 HOW WELL THE THESIS ACHIEVES ITS OBJECTIVE BY PROVIDING PROPOSED SOLUTION**

The ultimate aim of proposed method / approach would be to minimize the overall cost that included (both the cost of recovery and lost data).

Some of the key variables that impact the cost and performance of the organization and it will be set according to the organization requirements and the optimality of a system especially in the perspective of Pakistan and the system must be designed to meet this requirement.

* **Recovery Point Objective (RPO)**

There is prior need to define the amount of data that you can afford to recreate during a recovery, by determining the most recent point in time for data recovery.

* **Recovery Time Objective (RTO)**

This is the time needed to recover from a disaster, or how long the business can survive without the systems.

* **Network Recovery Objective (NRO)**

It isdetails the time to recover or failover network operations. Keep in mind that the systems level recovery is not fully complete if customers cannot access the application services via network connections. For instance, in a WAN environment where data processing services are transitioned from site A to the recovery site B, numerous problems can exist outside of the local network configuration, including DNS **Input from users,** updates, DNS configuration problems, IP name conflicts, sub netting issues, and ISP failures. Comprehensive network failover planning is of equal importance to data recovery in a Disaster Recovery scenario.

* **Geographical separation:**

Wider separation would ensure that the backup is relatively immune to a disaster impacting the primary. However separation would add delays, increase transmission costs and render the implementation more complex.

* **Tier level:**

A higher tier level would exponentially reduce RTO. However, the cost would increase than linearly as RTO drops.

* **Architecture and technology:**

Using more efficient architectures and technologies that permit faster information transfer and process establishment would reduce RTO.

* **Server reliability:**

If the primary system has higher reliability, disaster recovery will be invoked less frequently, thereby altering the degree of usage of the backup.

6.4 **HOW MUCH OBJECTIVES ARE AND THE BENEFITS ARE OBTAINED.**

After proposed a new disaster recovery approach, method, model following objectives and the benefits are achieved at their best with provide optimum service to cloud user’s in the perspective of Pakistan specially.

* **Recovery Time Objective (RTO)**

RTO is maximum permissible time for an application or data to not be available. It is the maximum time that is required for an application or a file to be available again after occurrence of a disaster

* **Recovery Point Objective (RPO)**

RPO is the time between two backup operations. In other terms it is the maximum allowable data loss. By analyzing the RPO values we can get to know the frequency at which backup operation is performed. In asynchronous replication, data is backed up to backup media whenever there is a modification or newly creation. In this case RPO value is zero

* **Test Time Objective (TTO)**

TTO is the time which is required to test recovery plans and its shows which resources used for testing.

* **Recover Original Size and Without any Duplication of Data:-**

There is not any difference in Size of original data file stored at main cloud is exactly similar to the size of Back-up file stored at Remote Server. In order to make this fact conceivable, perform this experiment for different types of files.

* **Low Cost:-**

The cost of process of data recovery should be efficient so that maximum no. of company/clients can take advantage of back-up and recovery service.

* **Privacy / Reliability / Availability:-**

Giving full protection to the client’s data is also the almost priority for the remote server. And either intentionally or unintentionally, it should be not able to access by third party or any other users/client’s. All data is always available according to user requirement.

* **Required less time to access the data:-**

data size increases, the processing time increases. On other hand, we also found that performance which is megabyte per sec (MB/sec) being constant at some level even if the data size increases

* **Maintenance:-**

Maintenance of Cloud Computing application is easier, because they do not need to be installed on each user’s computer and can be accessed from different places.

**SUMMARY**

In this chapter we discuss the research methodology that will be used to solve the said research problem under study.