

**Sri Lanka Institute of Advanced Technological
Education
(SLIATE)**

**Individual Proposal
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**Title
ENTERPRISE NETWORK SOLUTION**

**Supervised by
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**Higher National Diploma in Information Technology Advanced
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1. Background

Hotel Beachway is a luxury business hotel is located in Eastern province of Sri Lanka. The hotel is maintained by Hotel Management Company. Hotel Management Company (Head office) is located in Kattankudy. Island wide branch hotels are managed by this Hotel Management Company. This hotel consists of a three story buildings and a large landscape area. On the ground floor apart from the reception. Three story buildings which provides various departments. The guest rooms are arranged on the ground, first, second, third, floors. Staff accommodations are arranged far from the hotel inside the hotel boundary. This Hotel has been facilitated with Wi-Fi communication in order to satisfy the customers and staff work access. So the main aim of this individual project is to create a desirable enterprise network design for the hotel and the management company

2. Existing System

In the existing system has no proper security mechanism to protect integrity, confidentiality, availability of data and the system. There were no redundant links, and no load balancing techniques etc. Attackers can hack the hotel network easily because in the

core network there is no proper firewall to protect the internal hotel network. Customers cannot able to connect to Wi-Fi because there is no proper Wi-Fi solution. Therefore, this infrastructure was not in used. Then I met with the client and gathered all the relevant information and proposed a completed infrastructure to the Hotel Beachway.

3. Problems and weakness

Difficult to manage customer information

- ❖ No centralized server
- ❖ Current system has no backup solutions
- ❖ Sharing data is relatively slow
- ❖ No proper firewall at the core network
- ❖ There is no proper Wi-Fi to the customers
- ❖ Low speed network
- ❖ Weak security on network devices

4. Aims and Objectives

Aims

Setup a Secure wide area network and provide a safe and successful automated system, needed to fulfil day-to-day work quickly and easily

Objectives

- ❖ Secure data transmission
- ❖ Monitor network traffic
- ❖ Provide Wi-Fi connectivity
- ❖ Centralized server with backups
- ❖ Firewall protection
- ❖ Avoid unauthorized access to the network

- ❖ Provide Routing
- ❖ Provide load balancing

4.1 Functional Requirements

Administrative function

- ❖ High security
- ❖ Authentication and authorization
- ❖ User accessibility
- ❖ Network maintain, diagnostic and services for requested time
- ❖ Minimum Error and Failure rate

4.2 Non Functional Requirement

- ❖ Usability - Must Available for anytime
- ❖ Flexibility - Ability to add new features to the system
- ❖ Accuracy and Reliability
- ❖ Security

5. Configurations

- ❖ Basic configuration of router
- ❖ Basic configuration of switches
- ❖ Basic configuration of firewall
- ❖ Network monitoring
- ❖ Wi-Fi configuration
- ❖ Assigning IP addresses
- ❖ Assigning VLANs
- ❖ Configure routing protocols

6. Required Resources & Support

6.1 System Requirements

Hardware

- ❖ Intel Core i7 2.7 GHz
- ❖ 8GB DDR4 Memory
- ❖ 1 TB Hard Disk Space
- ❖ 2GB Graphics
- ❖ Network Card
- ❖ Network cables

Software

- ❖ Packet Tracer
- ❖ Windows 2016
- ❖ VMware 15
- ❖ IOS and ASA images

- ❖ GNS3

7. Scope of the Project

- ❖ Sharing the resources in the organization in general
- ❖ Give full administration control to network Administrators
- ❖ Backup data with server
- ❖ Internal network protection
- ❖ Secure access to network devices
- ❖ Giving centralized administration
- ❖ Improving Security

8. Information gathering methods & Requirement

- ❖ Firstly, I make a rough network plan
- ❖ Getting information about the hotel
- ❖ Getting a floor plan of the hotel
- ❖ Identify the functionally and non-functionally
- ❖ We Study relevant areas network type, Serves, Operating system, Firewalls and techniques
- ❖ Provide effective solution for the client requirement
- ❖ Get approval of the suggested network (After few requirement)
- ❖ Start to design network
- ❖ Collected the requirement device of the network (like Cable, wired, Switches)
- ❖ Implementation of the suggested network
- ❖ Testing whether design is prepared and check the faults.

9. Client Details

Hasan Mukthar (Management member)
Beachway Hotel,
No. 25 Beach Road,
Kattankudy,
Batticaloa.

10. Reference

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