ISSN 2278-9723
DOI:10.31838/ijccts/06.01.05

Research Article

The Use of Computer Technological Simulation for Designing a Cisco Hierarchical Framework at the Hilton Hotel

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Received: 25.11.17, Revised: 27.12.17, Accepted: 15.01.18

ABSTRACT
The development of designs is formulated for purposes of optimization. The optimization aims at cost reductions based on performance, demand, and topology constraints. The role of the designers is to choose locations for links and nodes, and their capacities. Therefore, a facial description of design development reveals a seemingly straightforward problem yet designers are responsible for establishing the perceived constraints and respective demands; ideal in the design of optimal networks. This paper examines the development of a network design geared towards supporting distance learning and related practices of the network components and, suitable communication links. In particular, the paper adopts recommendations from the Cisco Hierarchical Design Model regarding the procedure and requirements of design development.
Keywords: Cisco Hierarchical, Design links and nodes, and their capacities.

INTRODUCTION

Globally, Hilton relies on a single social media strategy. The role of this strategy is to deliver the latest intelligence from various platforms to its respective hotel brands. However, each brand maintains a unique voice. By blending brand expertise with corporate strategy for social media, Hilton exploits the latest technologies to focus on the social media effort in achieving the aspect of customer communication. To achieve brand promotion, the company turns to individual hotel locations to obtain content for posting on social media. These locations avail photos of sunsets and local beaches as seen from the hotels. The implication is that the Hilton hotel assumes a more over-arching plan to support the individual brands while the latter work in collaboration to offer social media communication with user bases.

Therefore, Hilton supports and acknowledges the value of social media in the travel industry in which photo-sharing and word-of-mouth form paramount elements to the firm's promotion strategy. Apart from the social media platform, Hilton resorts to media and print advertising to communicate messages to its target user segment. These messages emphasize the high standards of services provided, as well as the desirable extent to which information technology is integrated in its business operations to maximize the recognition, achievement, and perception status, besides service personalization. Specific advertising promotional strategy elements aid in communicating the marketing messages. For example, Hilton advertises in magazines and newspapers popular with management professionals at the senior level. These magazines and newspapers include *Financial Times*, *The Economist*, *Fortune*, and *Forbes*. Moreover, communication concerning Hilton's products and services is achieved through facilitations of broadcast advertisements in selected TV channels.

Apart from advertisement on social media, written and print media, and television channels, Hilton's promotion strategy focuses on sales promotion to persuade customers to purchase its services and products. To achieve this objective, the company introduces various incentives. Through the Honors loyalty programs, the firm offers late check-out, free Internet access, digital check-in, and discounted prices. Also available are discount vouchers in the company's official website. Outcomes of these sales promotion strategies include improvements in the extent of room utilization, as well as an increase in revenue levels.

METHODOLOGY

The role of backbone networks arises significantly within the networking environments. In particular, backbone designs entail connection services in which multiple individual local are networks (LANs) are responsible for enhanced networking (Gu, Pei, Gerla and Hong 18). Therefore, backbones are characterized by connections of two or more LANs, offering channels of transmission for target packets of transmission among the LANs. Upon successful linkage to backbones, the LANs designed operate distinctly or in mergence with others. Given that LAN connections to backbone networks depend on the type of device, variations in the latter yield such component as hubs, gateways, routers, bridges, or repeaters (Gupta, Das and Gu 22). Indeed, the type of device used to link LANs to the backbone depends on the backbone's purpose.

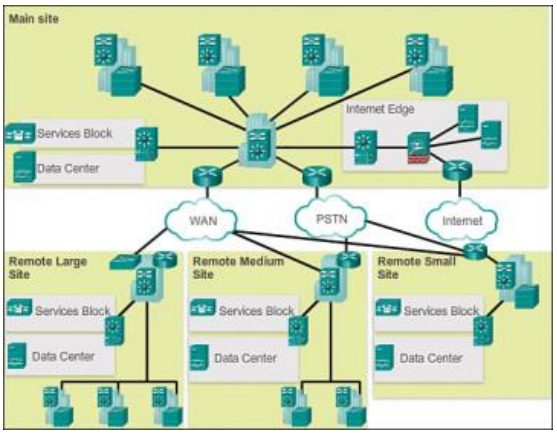


Fig:1

RESULTS AND DISCUSSION

Cabling environments that are structured consist of backbones comprising of cables for connecting intermediate or main cross-connects to the respective telecommunication closets. In addition, backbones refer to cables whose function is to offer linkages between intermediate cross-connects and the main cross-connects. Therefore, in the current paper, backbones constitute physical portions within cabling systems that are structured.

Given that backbone networks gain application in various contexts, they serve to connect multiple segments of LANs. The networks may operate from one single floor to another, or provide access in terms of wide-are networking among the LAN users. The role of transmission media becomes significant in this case. The current design assumes a case in which the media will form a transmission channel for a non-wide area or local backbone network.

Distributed backbones constitute various connectivity devices linked to series of central devices. The central devices include routers, switches, hubs, and connectivity devices; designed hierarchically (Hershberger 11). Indeed, distributed backbones lead to limited capital outlays and simple expansion. The aspects arise from the fact that additional layers can be introduced to the existing layers. The backbone applies in large-scale networks and single buildings; sending all transmissions to all devices on the network. Collapsed backbones operate in such a way that respective equipment in respective hubs offers the routing or switching functions. The backbone faces challenges in such a way that reachability challenges at the central location crash the entire system. Advantages include ease of management and provision of room for high performance technology. The following figures demonstrate how Hilton Hotel would benefit from the proposed model, developed via computer technology-based simulation.

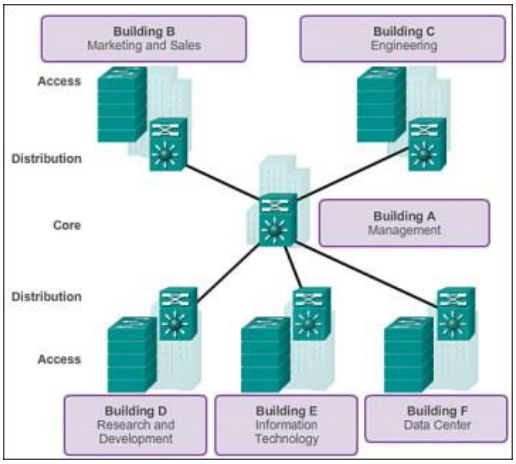


Fig:2

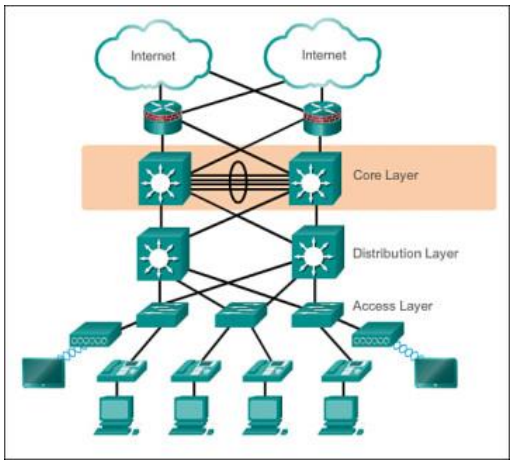
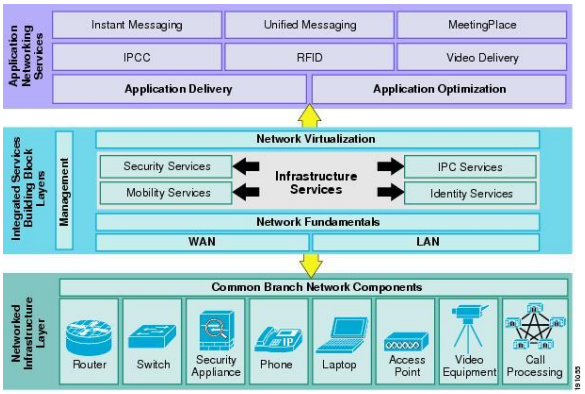


Fig:3



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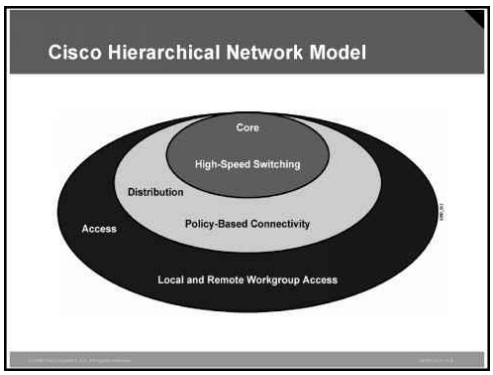

Fig:5

The classification of backbones in networking depends on various designs. Some of the resultant designs include the Ethernet backbone, linear bus backbone, hierarchical star backbone, and the ring backbone. Applications or designs adopting the linear bus backbone are achieved in such a way that configurations for the network's backbone require developments in which backbone access devices are connected to separate backbone cables. In addition, connections of the devices to their respective LANs are achieved in the linear bus backbone (Kansal, Rahimi & Estrin et al. 23). On the other hand, the ring backbone is attributed to a ring topology in which devices for accessing the backbone exhibit connections to each other. The connection assumes a series pattern whereby the last device is eventually linked to the first. The resultant design is a ring (Lu, Wu, Cardei and Li 34). The case of a hierarchical star backbone depicts a configuration in which LAN-dependent devices exhibit further connections to central devices. The eventuality is a network design characteristic of a star. Lastly, the Ethernet backbone is designed in such a way that devices applied in strengthening the signal are connected to the LAN trunk cables, with the devices connected by means of backbone trunk cables. The current study adopts a parallel backbone. As much as it is expensive, the aspect is countered by efficiencies created (Cheng, Du, Wang and Xu 41). Efficiencies result from fault tolerance and addition of increased performance. Given that the current paper seeks to develop a design for supporting distance-learning, a parallel backbone is ideal because of resultant efficiencies.

CONCLUSION

Parallel backbones apply to enterprise-wide networks. Therefore, the backbone gains application in firms seeking trustworthy and strong backbones. A central node forms the connection point in parallel backbones. However, the backbone allows for duplication in case of more than one switch or router. However, parallel backbones are expensive. Lastly, serial backbones are simple and comprise two or more internetworking devices. The devices are interconnected by means of a single cable; assuming a daisy-chain fashion. Serial backbones are used in enterprise-wide networks.

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DOI: 10.4103/0975-3583.83033