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Cybersecurity Challenges and Strategies for Securing Modern Digital Infrastructure

DEMO / THEME CONTENT

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Abstract

The increasing dependence on digital infrastructure has created new cybersecurity challenges. This paper examines threats and strategies involving authentication, access control, network security, encryption, monitoring, employee awareness, and incident response.

Keywords

Cybersecurity; Information Security; Network Security; Privacy; Data Protection

1. Introduction

Cloud services, remote access, mobile devices, web applications, and IoT devices have expanded the digital attack surface. Cybersecurity is therefore an essential component of modern IT management.

2. Literature Review

Cybersecurity protects information systems against threats affecting confidentiality, integrity, and availability. Stallings and Brown (2018) discuss security principles and mechanisms.

3. Methodology

A conceptual review approach was used to identify common cybersecurity threats and security strategies.

4. Results and Discussion

Important measures include strong authentication, role-based access control, encryption, security updates, monitoring, employee awareness, backups, and incident response. Security should use layered controls.

5. Conclusion

Organizations must continuously improve cybersecurity because threats evolve. Effective security combines technical controls, policies, awareness, monitoring, and incident response.

References

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