

Security Management and Maintenance of Television Station Office Networks and Non-Linear Editing Networks: A Postprint

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Abstract

With the rapid development of China's economy and technology, computer information technology has been extensively applied across various fields, with television station office networks and non-linear editing networks serving as representative examples. These networks play a crucial role in the public management activities of television stations; however, their application is accompanied by relatively severe network security issues, which necessitates that relevant TV stations must effectively implement security management and maintenance measures for their networks. Accordingly, this paper conducts a specific study on the security management and maintenance of television station office networks and non-linear editing networks, hoping to provide valuable insights for relevant television stations.

Full Text

A Preliminary Study on the Security Management and Maintenance of TV Station Office Networks and Non-linear Editing Networks

Abstract: With the rapid development of China's economy and technology, computer information technology has been widely applied across various fields, with TV station office networks and non-linear editing networks representing a prime example of this trend. These networks play a crucial role in the public management activities of television stations. However, their application is accompanied by serious cybersecurity issues, making it imperative for TV stations to implement robust security management and maintenance practices. This paper presents a specific study on the security management and maintenance of TV station office networks and non-linear editing networks, hoping to provide valuable insights for relevant television stations.

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1. The Concept of Network Security

To effectively study the security of TV station office networks and non-linear editing networks, we must first clarify the concept of network security. Computer network security comprises information confidentiality, integrity, availability, and auditability. From this understanding, we can see that network security encompasses not only data security but also hardware facilities and software systems. In essence, network security can be regarded as the reliable operation of network systems and the secure sharing of network resources. Based on this understanding, we can appreciate the significance of network security for TV station office networks and non-linear editing networks [1].

2. Sources of Security Risks in TV Station Office Networks and Non-linear Editing Networks

In studying the security management of these networks, we must understand their risk sources. Based on relevant literature and practical understanding, this paper categorizes these security risk sources into three components: physical risks, other risks, and operating system risks.

2.1 Physical Risks

Physical risks refer to external interference with the physical equipment of these networks, including natural disasters, environmental accidents, circuit failures, and human sabotage. These risks directly threaten the foundational functionality of both network types, making them impossible to eliminate fundamentally. TV stations can only mitigate these risks through proper handling and control to minimize their occurrence probability [2].

2.2 Other Risks

According to data released by China's Internet Emergency Monitoring Center in recent years, many TV station office networks and non-linear editing networks in China suffer from serious backdoor program implantation issues, directly indicating the severity of cybersecurity problems facing TV stations today. To ensure networks better serve TV stations while addressing existing security issues, this study examines these challenges in detail.

Other risks refer to vulnerabilities inherent in computer network systems during information transmission, including application service risks, lack of transmission security in TCP/IP protocols, and hacker intrusions. Specifically, application service risks mainly involve security-related vulnerabilities in network services such as NFS, Java, Web, and RPC, which similarly affect the security of TV station networks. The lack of security in TCP/IP protocol transmission is primarily manifested in the forgery and modification of IP data packets during transmission. As for hacker intrusions, this risk often exploits TV stations' encryption measures and system security vulnerabilities, posing fatal threats to both office networks and non-linear editing networks [3].

2.3 Operating System Risks

In addition to the above risks, operating system risks also constitute a source of security threats for TV station networks. These risks primarily stem from inherent defects in the operating systems upon which computer networks depend. System vulnerabilities during Windows usage represent a concrete manifestation of this risk. Although such vulnerabilities are often patched, the fundamental flaws in operating systems cannot be completely eliminated, leaving TV station networks with serious security concerns.

3. Security Management Measures for TV Station Office Networks and Non-linear Editing Networks

After thoroughly examining the security risk sources, we can now discuss specific security management measures for these networks. Based on practical work experience and relevant literature, this paper details four key aspects: strengthening cybersecurity laws and regulations, improving internal management, focusing on equipment management and maintenance, and prioritizing virus and hacker attack prevention [4].

3.1 Strengthening Cybersecurity Laws and Regulations Construction

This measure involves comprehensive consideration of security risks facing TV station networks. Since these risks are not isolated but closely interconnected, legal and regulatory construction can effectively address multiple risks simultaneously, thereby fostering a robust cybersecurity atmosphere within TV stations [5].

3.2 Improving Internal Management

This strategy primarily addresses security risks through “people” management. In most Chinese TV stations, office computer networks are used by numerous personnel, making risk reduction through human management particularly challenging. Therefore, TV stations should establish internal network security management mechanisms to ensure that cybersecurity management receives full

attention from all employees, thereby providing strong support for resolving network security risks [6].

3.3 Focusing on Equipment Management and Maintenance

As mentioned earlier regarding physical risks, TV stations must strengthen equipment management and maintenance to effectively address these challenges. Switches, routers, and hosts are key objects requiring management and maintenance, with responsibilities assigned to specific individuals to ensure quality control. Additionally, TV stations need dedicated professionals for database server maintenance, static antivirus scanning of critical software systems, password management for key equipment, and strict access control to main server rooms. These measures effectively prevent network security issues caused by physical risks [7].

3.4 Prioritizing Virus and Hacker Attack Prevention

Beyond the aforementioned measures, TV stations must also pay high attention to viruses and hackers to effectively resolve security risks. Under this focus, TV stations can implement access controls, firewalls, and regular antivirus scanning in office computer networks, thereby maximizing protection against virus and hacker attacks.

4. Daily Maintenance Measures for TV Station Office Networks and Non-linear Editing Networks

After understanding security management measures, we must also clarify daily maintenance practices for these networks. Based on practical experience and relevant literature, this paper summarizes daily maintenance into three aspects: effective technical support analysis, targeted permission management, and system storage space maintenance and management.

4.1 Effective Technical Support Analysis

This maintenance measure primarily ensures that non-linear editing network users can properly master network usage methods. The effective operation of non-linear editing networks requires high-level technical support, placing demanding requirements on TV station personnel. Therefore, relevant TV stations should conduct demonstration operations and training programs for non-linear editing networks to ensure they better serve daily operations.

4.2 Targeted Permission Management

To ensure high-quality daily maintenance of these networks, TV stations must implement targeted permission management. This requires providing different

employees with different levels of access control, thereby ensuring strong system stability and security for both office and non-linear editing networks, and significantly improving maintenance efficiency and effectiveness.

4.3 System Storage Space Maintenance and Management

For daily network maintenance, system storage space management is also crucial. Due to production cycles and other factors, TV stations often occupy large amounts of storage space during program production, frequently leading to storage shortages. Through proper storage space maintenance and management, TV stations can effectively resolve this issue.

5. Conclusion

This study has detailed the concept of network security, security risk sources, security management measures, and daily maintenance practices for TV station office networks and non-linear editing networks. These measures collectively demonstrate the critical importance of security management and maintenance, ensuring that non-linear editing networks better serve TV station program production.

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