

A Practice of Zero Trust Architecture in Financial Transactions

Authors : Liwen Wang, Yuting Chen, Tong Wu, Shaolei Hu

Abstract : In order to enhance the security of critical financial infrastructure, this study carries out a transformation of the architecture of a financial trading terminal to a zero trust architecture (ZTA), constructs an active defense system for cybersecurity, improves the security level of trading services in the Internet environment, enhances the ability to prevent network attacks and unknown risks, and reduces the industry and security risks brought about by cybersecurity risks. This study introduces the SDP technology of ZTA, adapts and applies it to a financial trading terminal to achieve security optimization and fine-grained business grading control. The upgraded architecture of the trading terminal moves security protection forward to the user access layer, replaces VPN to optimize remote access, and significantly improves the security protection capability of Internet transactions. The study achieves 1. deep integration with the access control architecture of the transaction system; 2. no impact on the performance of terminals and gateways, and no perception of application system upgrades; 3. customized checklist and policy configuration; 4. introduction of industry-leading security technology such as single-packet authorization (SPA) and secondary authentication. This study carries out a successful application of ZTA in the field of financial trading and provides transformation ideas for other similar systems while improving the security level of financial transaction services in the Internet environment.

Keywords : zero trust, trading terminal, architecture, network security, cybersecurity

Conference Title : ICICS 2023 : International Conference on Information and Communications Security

Conference Location : San Francisco, United States

Conference Dates : June 05-06, 2023