The Design of a Network Emulation and Simulation Laboratory

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ABSTRACT:
The development of the Network Emulation and Simulation Laboratory is motivated by the drive to contribute to the enhancement of the security and resilience of South Africa's critical information infrastructure. The goal of the Network Emulation and Simulation Laboratory is to bring together researchers and industry experts to address cybersecurity challenges through the development if cybersecurity technologies, tools and the techniques for the protection of critical information infrastructure. The laboratory will consist of developed network emulation and simulation software with capabilities specifically aimed at ease of use, easy access and scalability. The laboratory is designed to be accessible from various research institutions where researchers can utilize the experimentation platform to drive developments in the theory and practice of cybersecurity. This paper discusses the planning of the Network Emulation and Simulation Laboratory aimed at researchers at academic institutions in South Africa to study and address critical security weaknesses, discover solutions for cybersecurity threats and deliver innovative and tested technologies.