

An Overview of HTTPS and DNSSEC Services Adoption in Higher Education Institutions in Brazil

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Abstract—Cyberattacks are performed against Higher Education Institutions (HEIs). When these attacks they are successful, they can affect the regular operation of these institutions and may cause the leak of essential or sensitive data that can be misused or become inaccessible. Thus, the adoption of up-to-date security services is important for devices and services exposed to the internet. The main page portals, the learning management systems, and other services available on the internet should be running the latest versions and comply with the latest security related guidelines and recommendations. This article surveys and analyzes the status of web-related security services, namely the Hyper Text Transfer Protocol Secure (HTTPS) and the Domain Name System Security Extensions (DNSSEC) services, in Brazilian HEIs. The results of this survey show that regarding HTTPS around 15% do not use any SSL/TLS certificate and from those supporting it, about 14% do not demand its usage. Regarding DNSSEC, the analysis shows that only around 2% of the HEIs are implementing this protocol. These results show that it is important to design an effective action plan for HEIs, in order to improve their protection against cyberattacks.

Keyword—DNSSEC, HTTPS, Higher Education Institutions (HEI), Security Headers



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