Application Programming Interface Security in Embedded and Open Finance

Authors : Andrew John Zeller, Artjoms Formulevics

Abstract : Banking and financial services are rapidly transitioning from being monolithic structures focusing merely on their own financial offerings to becoming integrated players in multiple customer journeys and supply chains. Banks themselves are refocusing on being liquidity providers and underwriters in these networks, while the general concept of 'embeddedness' builds on the market readily available API (Application Programming Interface) architectures to flexibly deliver services to various requestors, i.e., online retailers who need finance and insurance products to better serve their customers, respectively. With this new flexibility come new requirements for enhanced cybersecurity. API structures are more decentralized and inherently prone to change. Unfortunately, this has not been comprehensively addressed in the literature. This paper tries to fill this gap by looking at security approaches and technologies relevant to API architectures found in embedded finance. After presenting the research methodology applied and introducing the major bodies of knowledge involved, the paper will discuss six dominating technology trends shaping high-level financial services architectures. Subsequently, embedded finance and the respective usage of API strategies will be described. Building on this, security considerations for APIs in financial and insurance services will be elaborated on before concluding with some ideas for possible further research.

Conference Title : ICCS 2024 : International Conference on Cybersecurity Strategy
Conference Location : Cape Town, South Africa
Conference Dates : November 04-05, 2024