CENSUS
IT Security Works

PRODUCT SECURITY ASSESSMENTS

CENSUS offers a comprehensive set of Product Security Assessment services covering all aspects of the product development lifecycle. These services provide **early insights into cybersecurity risks** that may affect a product and allow for the **in-depth security assessment of all product components**. Moreover, they enable teams to focus on the implementation of crucial security controls, they minimize security related overheads in the product lifecycle, and they ensure that product deliverables meet the project's security requirements. Finally, they create the necessary documentation to aid security-related decisions and attestations, and guide the development team's journey towards security maturity.

The CENSUS Product Security Assessment services include Design Level Review, Source Code Auditing, Device Security Testing, Application Security Testing, Product Infrastructure Penetration Testing, Threat Modeling & other Product Security Documentation, and Secure Systems Development Lifecycle (Secure SDLC). Services may be requested in an ad-hoc manner or can be grouped together under a contract through the Secure SDLC offering.

DESIGN LEVEL REVIEW

During Design Level Review CENSUS experts review design level documentation of software features / projects, hardware components / architectures, new protocols and network architectures to uncover vulnerabilities that may affect the product implementation. This early assessment process enables development teams to reap the benefits of the **Security by Design** paradigm. Findings are typically reported through technical specification documents. These documents discuss the identified design issues and propose design improvements and implementation considerations that cover the project's security requirements.

SOURCE CODE AUDITING

Source Code Auditing services offer a **manual line-by-line security review** of a product's (or component's) source code, coupled with functional security testing, third-party library checks and build process inspection. This is the best way to identify software vulnerabilities and prepare for a high-quality release. CENSUS provides source code auditing services for software implemented in the following programming languages: C, C++, Objective C, Java, C#, Rust, Go, PHP, Python, Ruby, Perl, Swift, Kotlin, JavaScript, x86 & ARM Assembly (32bit and 64bit), Visual Basic, Unix Shell, Powershell, Fortran, Pascal and Cobol.

DEVICE SECURITY TESTING

CENSUS provides comprehensive Device Security Testing services covering the complete technology stack of modern electronic devices. Through **hardware, enclosure, firmware and communications inspection** CENSUS identifies important security issues in product prototypes and product releases. Past projects include medical IoT systems, smart meters, ATMs, POS devices, cryptocurrency wallets, access control systems, network security appliances, VoIP phones, mobile phones, SCADA systems, sensors, programmable robotic arms, in-vehicle infotainment systems and semiconductor IP cores.

APPLICATION SECURITY TESTING

Application Security Testing offers "black box", "gray box" or "white box" security testing for any type of application, including desktop applications, mobile apps and web applications. The terms black / gray / white box refer to the various degrees of knowledge that is shared with the CENSUS team (i.e. no information, limited information or detailed specifications and/or source code). **Testing examines all product functionalities and user roles / privileges**, as designated by the client or identified through the team's **reverse engineering** efforts. Errors and omissions of the release engineering process are also reported, such as the accidental embedding of sensitive information in the application build or the misconfiguration of software hardening features.

Web Application Security Testing is a specialized service for Web Applications, providing remote testing for the complete stack of deployed web applications. **Mobile App Security Testing** is a specialized service for the in-depth testing of iOS and Android apps; it also covers related web APIs and other types of communication with device peripherals and third-party services.

PRODUCT INFRASTRUCTURE PENETRATION TESTING

By applying the **Network and Cloud Infrastructure Testing** module of the Organization Security Testing services, CENSUS **tests the security posture of the infrastructure** (e.g. IaaS / PaaS / Kubernetes setup, host setup, container setup, firewall / IDS / IPS setup etc.) associated with a product.

THREAT MODELING & OTHER PRODUCT SECURITY DOCUMENTATION

Security Documentation comes in various forms and helps teams understand and build upon a project's security foundations. A **Threat Model** is perhaps the most important part of a project's Security Documentation, as it **maps out significant threats and allows the prioritization of work on countermeasures**. Other forms of Security Documentation are the **Product Security Plan**, the **Product Security Architecture document**, the **Data Classification document** and the **Product Disposal Plan**.

CENSUS provides services for the creation of Security Documentation, and can help clients prepare the necessary material to fulfil product pre-market and post-market cybersecurity requirements (e.g. medical device FDA pre-market submission requirements).

SECURE SDLC

Interested in integrating CENSUS security expertise into the product development pipeline? The Secure SDLC offering **combines security training, assessment, consulting and documentation services** to support the timely delivery of high-quality product releases.

For more information about the CENSUS Product Security Assessment services please visit: **www.census-labs.com**

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