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Security and the Internet of Things (IoT)

Catch the IoT Wave—Securely

IoT is transforming entire industries, creating tremendous benefits but also introducing new risks. The security risks surrounding IoT software and applications are snowballing as developers are pressured to get devices either to the marketplace or into use within an enterprise as soon as possible. As billions of devices become connected to IoT, security solutions enable their safe and reliable operation.

With over twenty years as a leader in software security, we are uniquely positioned to adapt and apply software security best practices to your IoT development initiative, or to help you assess your risk exposure to IoT products within your business.

Why hackers are breaking into IoT

IOT devices are making networks less secure. Many are connected to otherwise secure networks (such as those at large businesses) without IT fully understanding that a new set of devices is now part of the network. It's important to understand that:

1. What makes IoT devices smart and interoperate with other devices is software.
2. If software is not designed to be secure, it will contain vulnerabilities and can be exploited to gain access to the device.
3. If a device is infiltrated, data is exposed, and hackers can pivot to reach other connected targets on the network including the back-end application server.

The tide may be changing, but the rules have not

More and more industries are building IoT devices, however many are not familiar with the necessary measures needed to make software secure. Fortunately, the fundamentals of software security are the same no matter where it lives. The experts at Synopsys know how to adapt these security fundamentals to the unique features of the IoT ecosystem to help you get up to speed quickly and achieve a greater maturity level.

4 steps to a successful IoT security solution

Our goal is to help you deliver a sustainable IoT security initiative that provides continuous and comprehensive security risk identification and mitigation. We do this by empowering you to:

1. Integrate security into every aspect of your SDLC.
2. Educate your developers.
3. Implement penetration testing.
4. Perform threat modeling.

We have the expertise, tools, and services you need to 'build security in'

Our approach is grounded in the fundamentals of technology risk management, which include:

- **Penetration Testing:** Eliminate vulnerabilities in your device, server- side applications and APIs by testing in the QA and production environments.
- **Red Teaming**: Ensure your network, physical, and social attack surfaces are secure.
- **SAST:** Quickly scan code and find vulnerabilities using both automated and manual approaches.
- **Architecture & Design**: Identify design flaws, which cause 50% of security vulnerabilities.
- **Security Training:** Teach your developers the art of coding securely from the start.
- **Program Design & Develoment:** Establish and implement governance and processes.

The Synopsys Difference

Synopsys offers the most comprehensive solution for integrating security and quality into your SDLC and supply chain. Whether you're well-versed in software security or just starting out, we provide the tools you need to ensure the integrity of the applications that power your business. Our holistic approach to software security combines best-in-breed products, industry-leading experts, and a broad portfolio of managed and professional services that work together to improve the accuracy of findings, speed up the delivery of results, and provide solutions for addressing unique application security challenges. We don't stop when the test is over. Our experts also provide remediation guidance, program design services, and training that empower you to build and maintain secure software.

For more information go to www.synopsys.com/software.

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