The background of the slide is a dark blue and black gradient. It features a complex network of white and light blue lines representing circuitry, data paths, and nodes. A central figure, a person in a dark suit, is walking away from the viewer towards the right. The person is surrounded by these digital elements, which appear to be floating or layered around them. The overall aesthetic is futuristic and technological.

Secure-by-Design: Building for the User with a Security Mindset

Christine Bejerasco, CISO

OFFLINE



OFFLINE



VISITING ONLINE



OFFLINE



VISITING ONLINE



LIVING ONLINE



A black and white photograph of a man sitting on a couch, smiling and holding a game controller. He is looking out a window with curtains. The image is overlaid with a dark, semi-transparent diagonal shape on the left side.

Designing for Ease of Use



1990s

Internet usage shifted from a specialized, technical audience to mainstream.





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1994

The first phishing tool, AOHell, was born



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Repetitive work reduced via macro automation



Source: <https://winworldpc.com/>



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The first macro virus, Virus:W32/Concept, was born

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The first email worm outbreak, Virus:W32/Melissa, occurred



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Open-source code reduced enabled
global collaboration and reduced re-
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Late 2010's

Rise of supply chain attacks via open-source libraries



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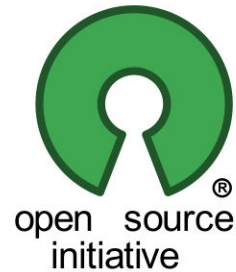
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2008/2016

From router malware to IoT-based DDoS attacks

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The first mobile phone worm, Bluetooth-Worm:SymbOS/Cabir was born

Rectifying the Misuse



Enforcement of long unique mixed-character passwords in websites and applications to prevent quick password cracking





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Bruteforcing of strong passwords require GPU clusters and take longer to crack



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Major browsers stopped supporting Adobe Flash Player due to popularity in Exploit Kits



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Threat actors must hunt for other browser vulnerabilities to exploit



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Google deprecates and revokes overlay API in Android Q to address credential-stealing overlay-based applications



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Threat actors must hunt for other browser vulnerabilities to exploit

Threat actors would need Android's Accessibility Services (AAS) feature enabled and to do recon



Rebuilding for Ease of Use and Potential Misuse



Reduction of work credentials that
needed to be remembered and
secured.



Single Sign-On (SSO)





Reduction of work credentials that needed to be remembered and secured.



Single Sign-On (SSO)



Threat actors must find vulnerabilities to exploit in IAM providers



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Application sandboxing was implemented to prevent apps from accessing other programs as well as critical system resources



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Single Sign-On (SSO)



Threat actors must find vulnerabilities to exploit in IAM providers

Threat actors must hunt for vulnerabilities to exploit to bypass sandboxes

Threat actors must hunt for vulnerabilities to exploit to bypass BitLocker

Learnings



People



A security mindset
Trained on users and misusers

People



A security mindset
Trained on users and misusers

Processes



Built-in instead of bolt-on
Shifting responsibility left

People



A security mindset
Trained on users and misusers

Processes



Built-in instead of bolt-on
Shifting responsibility left

Technology



Shapes the security path
Resilient to human error
Designed for users and misusers

W / T H[®]
secure