

Making Zero Trust Real



Your Presenter:

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Origin of “Zero Trust”



John Kindervag – Forrester – 2010

Zero Trust was created by John Kindervag, during his tenure as a vice president and principal analyst for Forrester Research, based on the realization that traditional security models operate on the outdated assumption that everything inside an organization's network should be trusted

Reference: <https://go.forrester.com/speakers/john-kindervag/>

Zero Trust is a Concept

0
Trust

The principle of least privilege is a security concept in which a user is given the minimum levels of access or permissions needed to perform their job.

Not the same meaning “Least Privilege”

No solution covers all
A mentality, not a product

Standardizing Zero Trust NIST

PUBLICATIONS

SP 800-207

NIST SP 800-207, Zero Trust Architecture, Aug 2020

<https://csrc.nist.gov/publications/detail/sp/800-207/final>

Zero Trust Architecture



Date Published: August 2020

Author(s)

Scott Rose (NIST), Oliver Borchert (NIST), Stu Mitchell (Stu2Labs), Sean Connelly (DHS)

Abstract

Zero trust (ZT) is the term for an evolving set of cybersecurity paradigms that move defenses from static, network-based perimeters to focus on users, assets, and resources. A zero trust architecture (ZTA) uses zero trust principles to plan industrial and enterprise infrastructure and workflows. Zero trust assumes there is no implicit trust granted to assets or user accounts based solely on their physical or network location (i.e., local area networks versus the internet) or based on asset ownership (enterprise or personally owned). Authentication and authorization (both subject and device) are discrete functions performed before a session to an enterprise resource is established. Zero trust is a response to enterprise network trends that include remote users, bring your own device (BYOD), and cloud-based assets that are not located within an enterprise-owned network boundary. Zero trust focuses on protecting resources (assets, services, workflows, network accounts, etc.), not network segments, as the network location is no longer seen as the prime component to the security posture of the resource. This document contains an abstract definition of zero trust architecture (ZTA) and gives general deployment models and use cases where zero trust could improve an enterprise's overall information technology security posture.



ZERO TRUST

NIST – The seven tenets of Zero Trust



1. All data sources and computing services are considered resources.
2. All communication is secured regardless of network location.
3. Access to individual enterprise resources is granted on a per-session basis.
4. Access to resources is determined by dynamic policy—including the observable state of client identity, application/service, and the requesting asset—and may include other behavioral and environmental attributes.
5. The enterprise monitors and measures the integrity and security posture of all owned and associated assets.
6. All resource authentication and authorization are dynamic and strictly enforced before access is allowed.
7. The enterprise collects as much information as possible about the current state of assets, network infrastructure and communications and uses it to improve its security posture.

Reference: NIST SP 800-207 “Zero Trust Architecture”

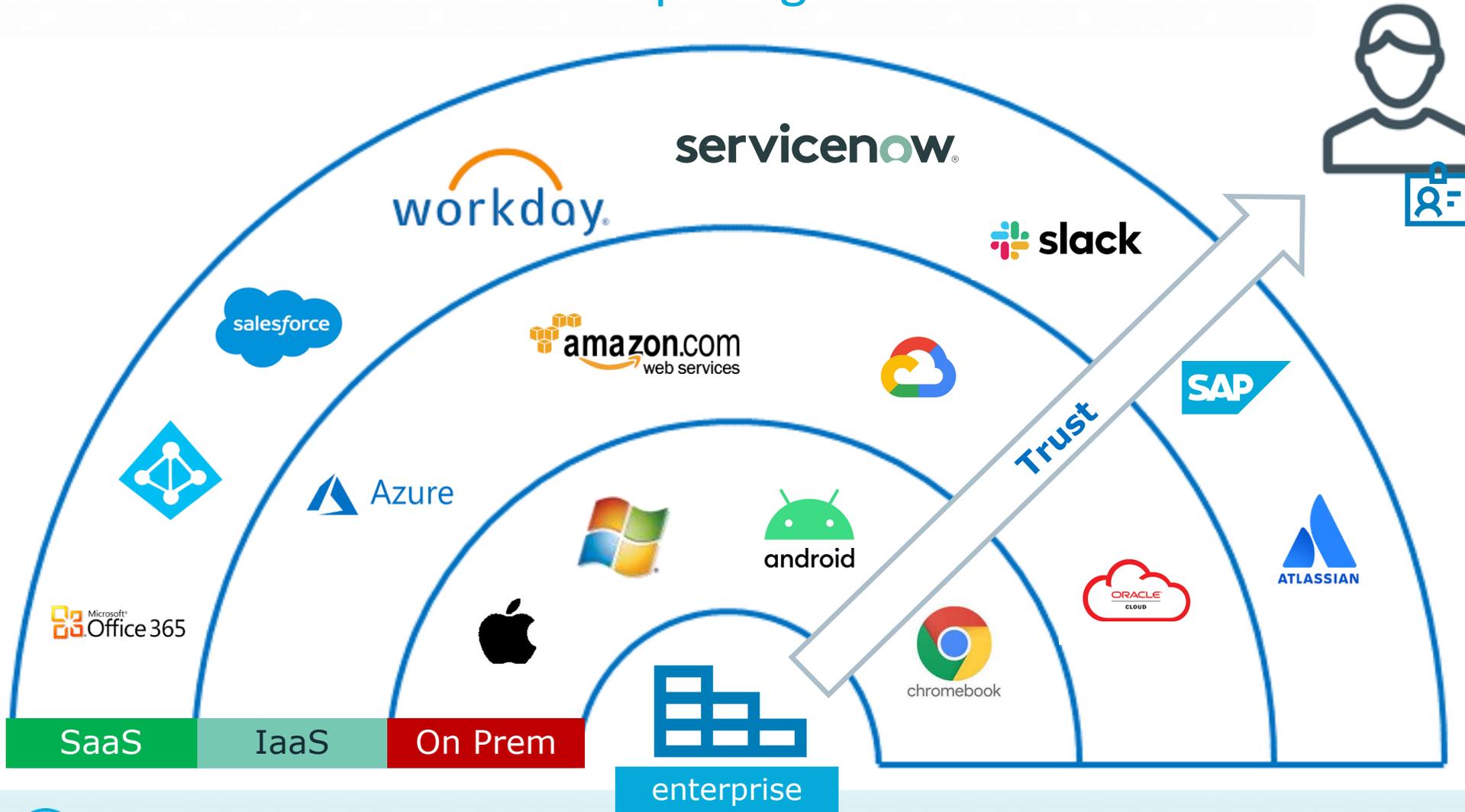
NIST – The seven tenets of Zero Trust



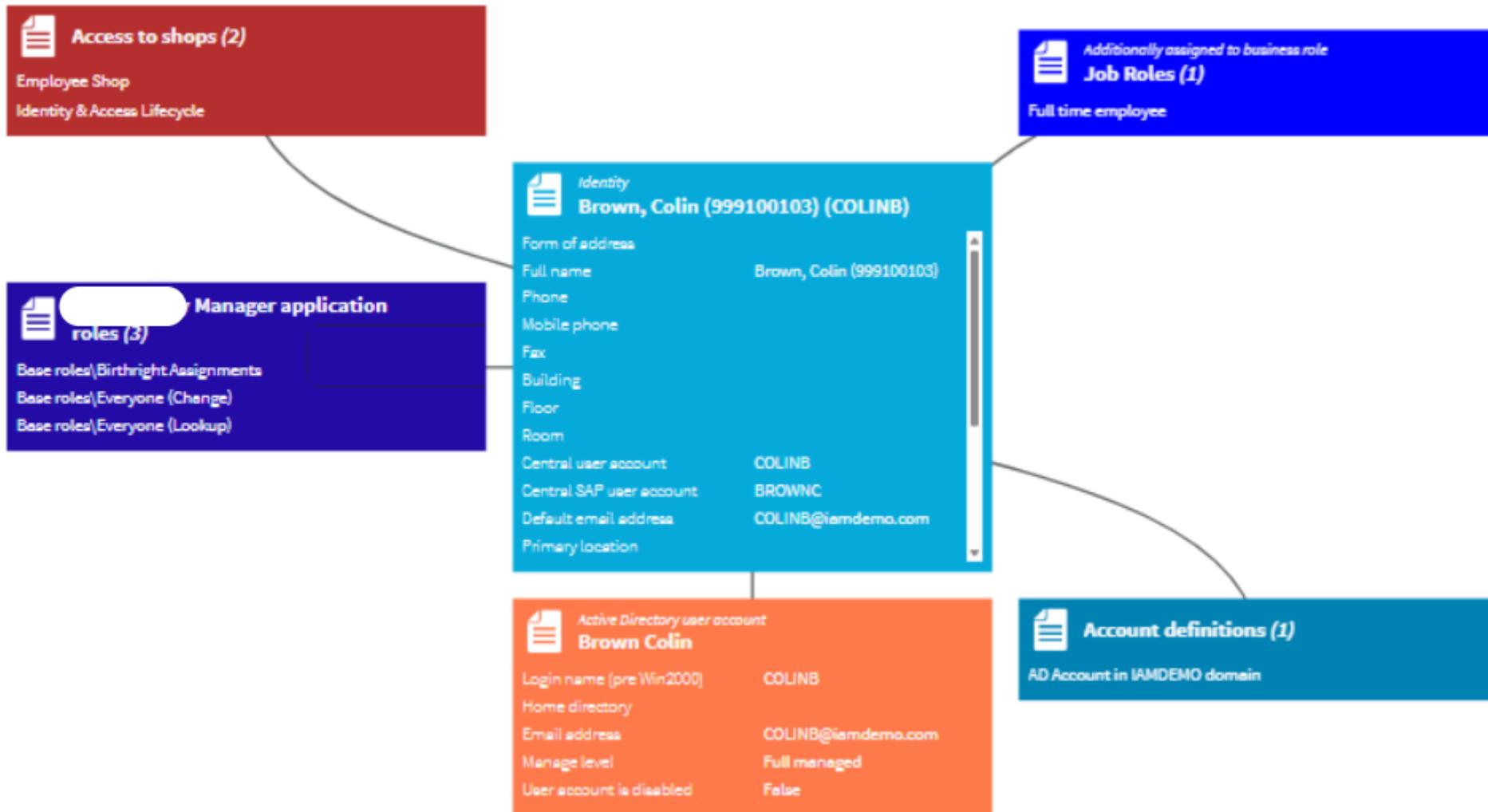
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Identity HyperView

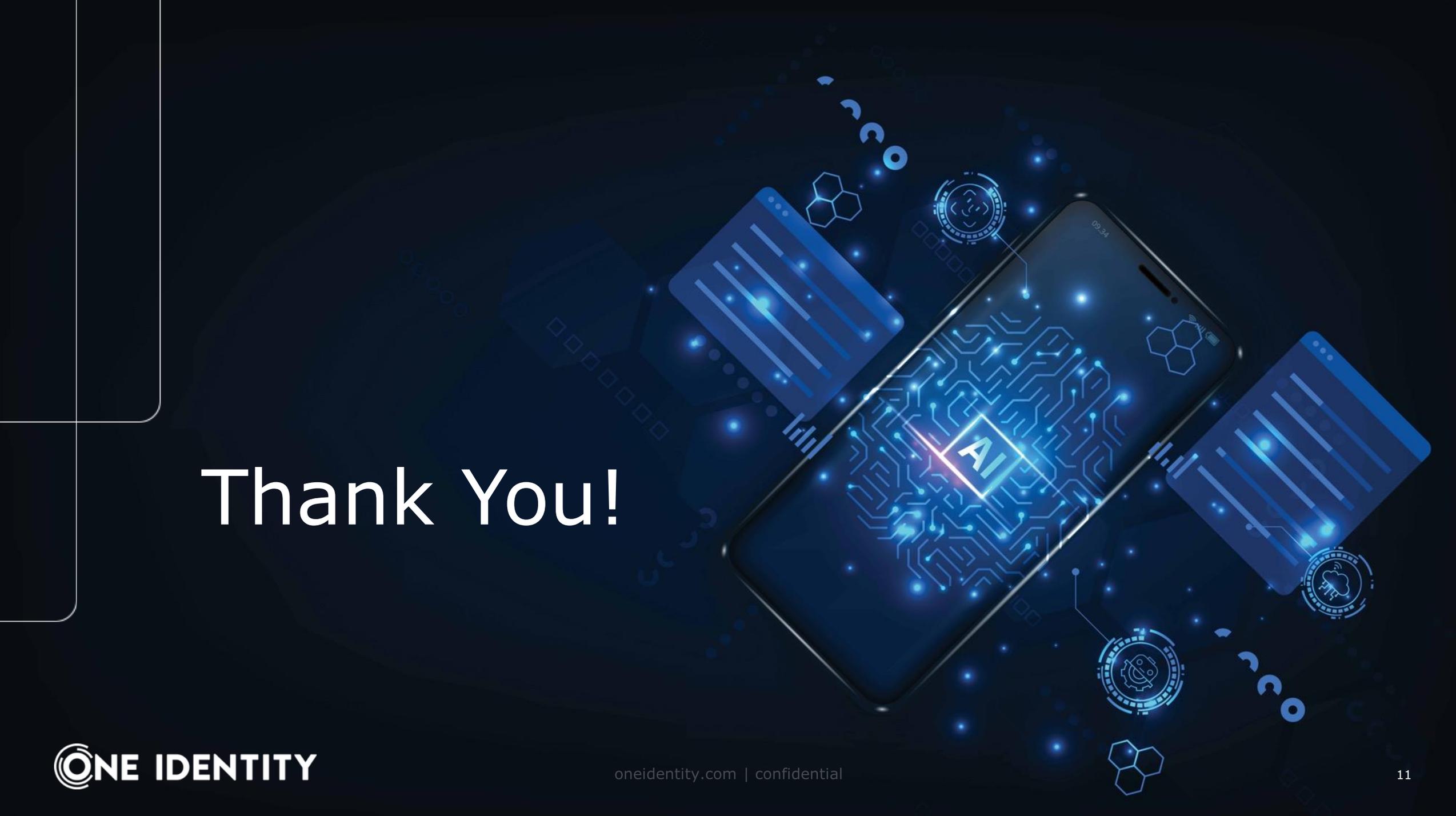


How To make Zero Trust Real



The cloud journey





Thank You!