4 Reasons Your Business Needs Zero Trust Security

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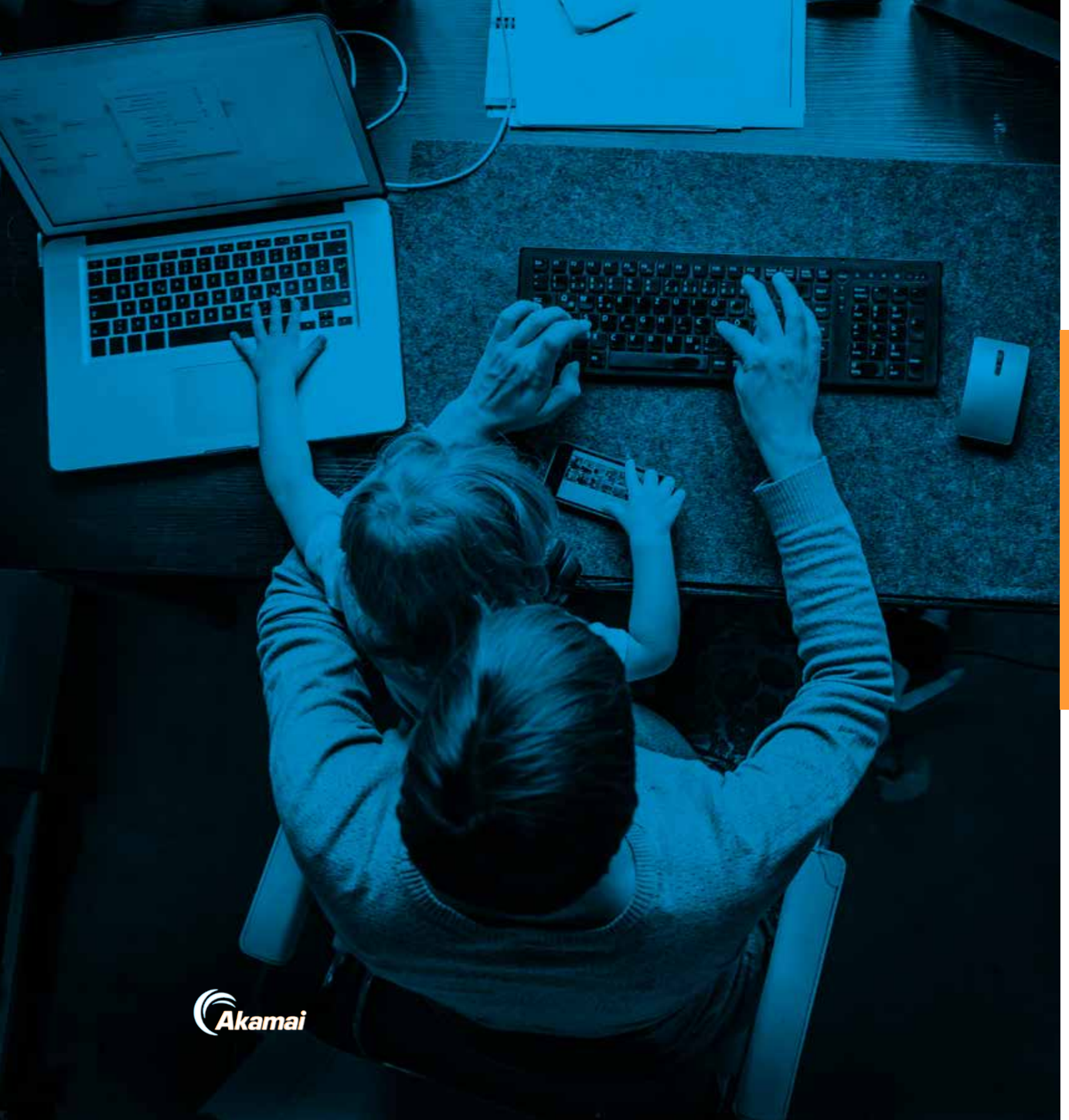

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Introduction

As attackers become more sophisticated, ransomware groups proliferate, and advances in technology introduce new vulnerabilities, organizations are increasingly turning to Zero Trust. This approach to security eliminates the implicit trust of users, applications, and devices that was a central tenet of previous approaches to security. Under a Zero Trust model, anyone who requests access is assumed to be malicious until their credentials are verified and, even then, is only granted the minimum access their role requires.

This is a shift from traditional network-based security, which focused on defending the perimeter and providing comprehensive access once users were verified. Security teams that continue to rely on network-based solutions, such as virtual private networks (VPNs) and firewalls, are beginning to realize just how vulnerable their organizations can be because of four key trends.

These trends — the move to a distributed workforce, the increase in ransomware attacks, the migration to cloud computing, and increased demands from security audits — require a different approach to security, one that is based on verifying identity, regardless of location, and takes proactive measures when dealing with breaches. The only approach that can provide both strong user identity to secure access and proactive mitigation once an attack has occurred is Zero Trust.

Zero Trust strategy may seem overwhelming for already overworked security teams, but it doesn't have to be. By taking a phased approach to Zero Trust and focusing on quick wins, you can decrease some of the complexity and risk associated with traditional security solutions and improve your security posture. The good news is you don't have to rip and replace your existing tech to get started. Start by aligning your Zero Trust investments to your most pressing business needs. Opt for a trusted Zero Trust vendor over vendors that have evolved overnight and rebranded their older solution as Zero Trust. Whatever your reason for adopting Zero Trust — a ransomware attack your company has undergone, an upcoming audit, a move to remote work, or securing your cloud environment — it will allow you to realize business agility, cost optimizations, and tool consolation, and will improve your overall operations.

Top four reasons organizations turn to Zero Trust

1. The distributed workforce

2. The increase of ransomware attacks

3. The adoption of cloud computing resources

4. Rigorous compliance requirements

Secure the new hybrid workforce

Securing a new, hybrid workforce that has grown and expanded because of the COVID-19 pandemic is more challenging when organizations rely on outdated security tools such as firewalls and VPNs.

When remote access VPNs were first introduced some 30 years ago, everything was different — the internet was in its infancy, applications were running in the data center, and there were far fewer users connecting from remote locations. Authenticating users with a VPN and giving them access to the entire network increases the attack surface and opens the door to many of the zero-day vulnerabilities that come with legacy VPNs. Any user with the necessary credentials can log on to a corporate VPN and, once inside, can move laterally throughout the network and access the resources the VPN was meant to protect.

How Zero Trust helps

Based on the principle of least-privileged access, Zero Trust assumes that no user or application should be inherently trusted.

Zero Trust Network Access (ZTNA) takes a completely different approach than VPNs to securing access for remote workers. Instead of risking the entire network, users are connected directly to only the applications and data they need, preventing the lateral movement of malicious users with overly permissive access to sensitive data and resources. In the event of a breach, an effective Zero Trust microsegmentation solution can segment the internal network so the breach doesn't spread and damage other parts of the network. According to Gartner, at least 70% of new remote access deployments will be served mainly by ZTNA instead of VPN services by 2025 — up from less than 10% at the end of 2021.

Akamai

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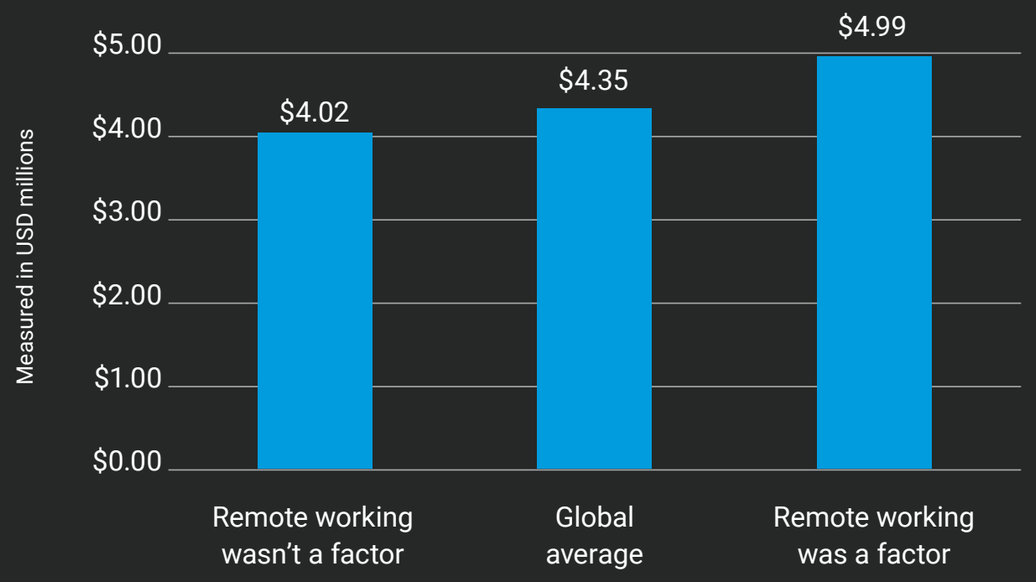
Average cost of a data breach where remote working was a factor in causing the breach



Source: Cost of a Data Breach Report 2022

How Akamai facilitates hybrid and remote work

Akamai's comprehensive portfolio of Zero Trust solutions meets the needs of your hybrid workforce.

Benefits include:

Reduced risk
Akamai connects the right user to the right application directly, reducing the attack surface and limiting lateral movement.

Improved user experience
Remote users enjoy access to resources regardless of application, device, or location, eliminating the need for connecting to and disconnecting from the VPN.

Agility
Since Akamai's solution is consumed as a service, organizations have no hardware to deploy and don't need to worry about scaling as demands increase, which reduces cost and complexity.

Boost your ransomware protection

In the last few years, ransomware attacks have disrupted organizations around the globe, from hospitals and banks to pipelines and other critical infrastructure. In fact, “Ransomware is expected to attack a business, consumer, or device every two seconds by 2031,” according to the 2022 Ransomware Market Report from Cybersecurity Ventures. Without a Zero Trust strategy, ransomware groups can take advantage of the following weaknesses:

- **Implicit trust** for users, applications, and networks that allows attackers who have managed to breach the network to move laterally and spread malware
- **Overly permissive access policies** that allow infections that can then be used to inject ransomware
- **Systems that trust a password alone**, which provide an opportunity for credential theft

How Zero Trust helps

Companies who put in place a Zero Trust architecture, access control policies, and microsegmentation minimize the damage such an attack can cause. Attackers not only find it more difficult to breach the system in the first place, they’re limited in their ability to expand.

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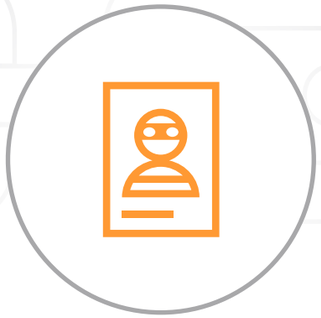
How Akamai breaks the ransomware kill chain

A ransomware attack typically involves a few steps. With Zero Trust, organizations can address each step as it happens — or even before it happens.



Initial infection

Akamai Guardicore Segmentation prevents an attack from spreading beyond the initial point of entry while Akamai MFA protects users from having their credentials stolen and abused.

Lateral movement

Akamai Guardicore Segmentation reduces propagation paths and prevents lateral movement. Akamai Enterprise Application Access limits the attacker's ability to move to infect the application they were hoping to exploit. Akamai Hunt detects and mitigates the most evasive advanced threats in your network.

Data exfiltration and encryption

Akamai Guardicore Segmentation limits access to critical applications, keeping attackers from accessing sensitive data within a compromised network. Akamai Secure Internet Access Enterprise blocks requests to phishing sites and command and control sites.

Finally, Akamai Hunt detects any anomalous behavior, preventing attackers from encrypting valuable data that can be ransomed.

Ease cloud migration

Organizations are moving their apps to the cloud to achieve flexibility and agility and to modernize their infrastructure. However, cloud environments are expanding the attack surface and introducing new security requirements.

Integrations among different clouds and on-premises environments can break applications and put security at risk.

When organizations attempt to migrate their applications to the cloud using traditional network constructs — VPNs and firewalls — they often face an increased risk of lateral threats, poor scalability, and high costs. Even after the migration is complete, assets still need to be secure and users must be authenticated based on role permissions.

Users of cloud infrastructure typically have greater access to resources, services, and management entitlements than they might otherwise have with on-premises environments, which introduces additional risk and the potential for disruption.

How Zero Trust helps

To reduce this complexity, organizations are increasingly adopting Zero Trust strategies to facilitate migration to the cloud. Zero Trust removes the implicit trust inherent in many cloud-based applications, particularly third-party applications, that can introduce vulnerabilities. Zero Trust solutions ensure that organizations can more easily deploy their cloud-based applications with stronger protections. Some of the benefits of deploying Zero Trust for the cloud include:

Better visibility into assets and risks

Reduced attack surface with Zero Trust segmentation and least-privileged access to cloud resources

Modernized network infrastructure providing speed and agility

Reduced operational cost and complexity

How Akamai improves cloud migration

Akamai's Zero Trust solutions can help you automatically migrate your assets and their respective policies. There is no downtime and no disruption to the business. Akamai delivers:

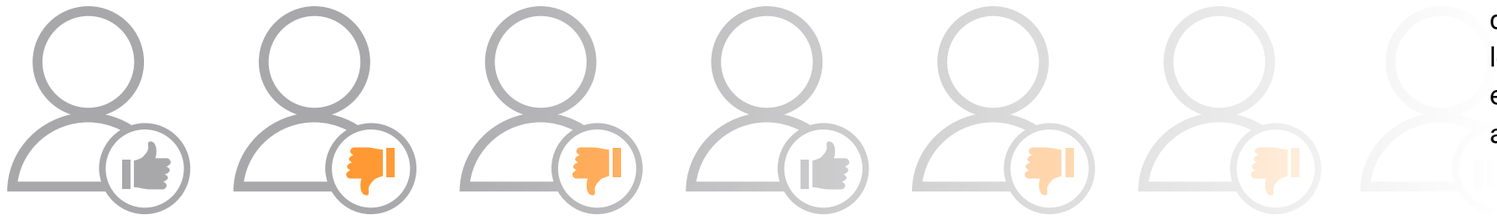
Greater visibility
With a better understanding of app dependencies, you can create effective cloud segmentation policies to reduce the attack surface and minimize risk.

Zero Trust Network Access
Users can only connect to the apps they are authorized to access based on strong authentication.

Threat hunting
Akamai's dedicated team of threat hunters continuously searches for anomalous attack behaviors across cloud environments and notifies Akamai customers of any risk to their network.

Simplify compliance and reduce risk

While security leaders know that meeting compliance requirements does not equal a truly secure organization, security audits are still top of mind for executive teams. They know that failed audits can lead to major business disruptions and impact the bottom line. A compliance assessment is one of the most time-consuming and resource-draining activities for security teams. And the move to perimeterless digital environments and the prevalence of remote work have made it even harder. Organizations typically need to isolate their environments and ringfence their regulated assets to meet compliance standards, such as the Payment Card Industry Data Security Standard (PCI DSS), the Health Insurance Portability and Accountability Act (HIPAA), and the Society for Worldwide Interbank Financial Telecommunication (SWIFT).



Organizations now also need to accommodate remote users, corporate on-premises users, partners, suppliers, and more, making the perimeter of an organization's environment almost impossible to define. As security teams prepare for audits in which access control is a main pillar of success, they must address the following questions:

- How can we restrict access to sensitive information to authorized users only?
- How can we scope the audit environment?
- How can we make the audit process simpler and less chaotic?

How Zero Trust helps

Fortunately, a Zero Trust approach can help address all these questions and more. The two key pillars of Zero Trust — the ability to verify explicitly and to support least-privileged access — greatly simplify the process of compliance. Organizations can isolate their regulated assets from other traffic in their data center or cloud, and allow access based on identities regardless of location. With visibility they can see what's flowing in and out of their regulated environment and identify what's in scope. This greatly reduces the complexity and cost of the audit and makes the auditor's life easier.

How Akamai facilitates compliance

Akamai's comprehensive Zero Trust portfolio ensures you're prepared for every audit — whether PCI DSS, HIPAA, International Standards Organization (ISO), Sarbanes–Oxley (SOX), or any other framework.

Akamai Enterprise Application Access controls access by third parties to sensitive personal information, meeting General Data Protection Regulation (GDPR) requirements.

Akamai Guardicore Segmentation improves the understanding of regulated assets under PCI DSS, isolates clearinghouse functions to address HIPAA, and restricts internet access and isolates critical systems to meet SWIFT.

Akamai MFA protects HIPAA patient information from attackers who have obtained passwords to healthcare systems. It bolsters SWIFT compliance by preventing the compromise of credentials.

Global bank achieves SWIFT compliance in two weeks

External regulators required one Akamai client, a global bank, to ringfence all its critical applications to meet the requirements of SWIFT, a secure process for transferring money between financial institutions. Typically, an application like this requires more than 100 servers deployed in different locations, including bare-metal and virtual servers.

On average, this process would take a bank of its size between 8 and 12 months to plan and execute, because it would have to create a VLAN for the segment across multiple locations. Figuring out the dependencies of the SWIFT application and making sure the ruleset was correct and didn't break anything would only have added to the timeline. Meanwhile, the project would also require purchasing new firewall equipment. And, because the SWIFT application is critical to the banking business, the bank cannot tolerate downtime. All in all, the segmentation project was expected to require a massive effort by many people.

But, with Akamai, the whole process took just one security engineer approximately two weeks to complete; it did not require any network changes and the bank avoided any application changes or downtime.

Customer example

Simplify and accelerate compliance

Global bank	Traditional segmentation	Akamai Guardicore Segmentation
• Need to ringfence SWIFT application • Complex environment with bare-metal, VMWare, and OpenStack servers	• Hard to define segments across complex infrastructure • No visability intro applications and dependencies • Requires downtime	• Completed SWIFT application mapping in hours • Segmentation policies automatically suggested and fine-tuned • No need to purchase and deploy new hardware and firewalls • No downtime
	Time: 8–12 months **People: at least 5**	**Time: 2 weeks** **People: 1 architect**

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