CQURE LIVE WEBINAR

Deadly Cloud Misconfigurations: Mistakes You Should NEVER Make

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Deadly Cloud Misconfigurations: Mistakes You Should NEVER Make

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Deadly Cloud Misconfigurations: Mistakes You Should NEVER Make

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5. We will be answering your questions at the end of the webinar during the Q&A session, so write them down in the chat!

What to expect today:

1. A presentation and technical demos from our Experts
2. Tips on how you can learn with us
3. Live Q&A!
4. You will get access to the tools we will be using here!

Dare to quiz?

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Agenda

1. Entra ID Conditional Access: Requiring phishing-resistant MFA strength.
2. Entra ID Application Secrets: The risk of long-lived credentials.
3. Multi-Tenant App Consent: Securely managing external user access.
4. Key Vault Access Policies: Enforcing separation of duties.
5. Defender vs. Diagnostics Settings: Why you need both for security.
6. Managed Identity Risks: The danger of command-line access.

and more...

Entra ID Conditional Access with MFA Strength

Entra ID Conditional Access with MFA Strength

Goal: Go beyond basic MFA to ensure users are authenticating with phishing-resistant methods for critical applications.

How it Works: Conditional Access policies are "if-then" statements.

1. **IF** a user wants to access a sensitive app...
2. **THEN** they must satisfy a specific grant control.

Configuration: Instead of just selecting "Require multi-factor authentication," choose "**Require authentication strength**."

This allows you to specify which types of MFA are allowed:

1. **Good:** Multifactor authentication (includes SMS, Authenticator push notifications).
2. **Better:** Passwordless MFA (includes Authenticator app, Windows Hello for Business).
3. **Best:** Phishing-resistant MFA (includes FIDO2 Security Keys, Windows Hello for Business).

Entra ID Application Secrets

Entra ID Application Secrets

Scenario: A developer asks if it's possible to create a client secret for an App Registration that never expires. While technically possible via Public API calls, this is a critical security anti-pattern.

The Problem with Long-Lived Secrets:

1. Increased Attack Window: A compromised secret remains valid indefinitely, giving an attacker persistent access.
2. No Forced Rotation: It violates the fundamental security principle of credential rotation.
3. Secret Sprawl: Permanent secrets are often hard-coded, forgotten, and exposed in source code or configuration files.

Entra ID: Consenting to Multi-Tenant Apps

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Scenario: Your organization has built an application that needs to be used by users from other companies (other Entra ID tenants).

The Consent Framework: When an external user signs in for the first time, they are asked to grant consent. This allows your application to access their data based on the API permissions you requested.

1. User Consent: The individual user can approve permissions that only affect their own account (e.g., User.Read).
2. Admin Consent: Required for high-privilege permissions that affect the entire tenant (e.g., Directory.Read.All). An administrator from the external tenant must approve this.

Entra ID: Consenting to Multi-Tenant Apps

Security Best Practices:

1. Least Privilege: In your app registration, only request the absolute minimum API permissions required for your app to function.
2. Publisher Verification: Verify your application. This adds a blue checkmark to the consent prompt, building trust with users and admins.
3. Admin Consent Workflow: Enable this in the external tenant so admins can review and approve consent requests in a structured way.

Key Vault Access: Separation of Duties

Key Vault Access: Separation of Duties

Goal: Ensure that an application can only access the specific secrets it needs, and that human access is strictly controlled and audited.

The Principle of Separation: Use unique identities with minimal permissions.

1. Application Access: Each application should have its own dedicated Entra ID App Registration (Service Principal).
2. Human Access: Administrators or auditors should be granted access via Entra ID Groups, not their individual user accounts.

Key Vault Access: Separation of Duties

Example Implementation (using Access Policies):

App Identity: Create an App Registration named WebApp-Prod-SecretsReader.

Key Vault Policy for App:

1. Principal: WebApp-Prod-SecretsReader
2. Secret Permissions: Grant only Get. Do not grant List, Set, or Delete.

Human Identity: Create an Entra ID security group named App-KV-Admins. Add authorized users to this group.

Key Vault Policy for Humans:

1. Principal: App-KV-Admins
2. Secret Permissions: Grant Get, List, Set.

Defender for Cloud vs. Diagnostics Settings

Defender for Cloud vs. Diagnostics Settings

Question: "If I'm using Microsoft Defender for Cloud, why do I still need to configure Diagnostics Settings on my resources?"

They serve two different, complementary purposes:

Microsoft Defender for Cloud (CSPM/CWPP):

1. Purpose: Provides high-level security intelligence.
2. Answers: "Is my environment configured securely?" and "Am I under attack right now?"
3. Data: Curated security alerts, vulnerability findings, compliance recommendations. It tells you the "Why" (e.g., "This is an attack").

Azure Monitor Diagnostics Settings:

1. Purpose: Provides raw operational and audit logs.
2. Answers: "What, exactly, happened on this resource?" and "Who made this API call and when?"
3. Data: Verbose activity logs, performance metrics. It provides the "What" (e.g., "This is the raw log of the user sign-in").

Command-Line Access & Managed Identity Token Theft

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The Hidden Risk: Gaining shell access to a resource (VM, Web App Console) is often equivalent to stealing its identity.

How Managed Identity Works: An Azure resource (like a VM) authenticates by requesting an access token from a non-routable, local endpoint called the Instance Metadata Service (IMDS).

The Attack Path:

1. Compromise: An attacker gains command-line access to your VM or Web App (e.g., through an RCE vulnerability, weak credentials).
2. Token Request: The attacker executes a simple command to call the local IMDS endpoint.
    1. curl 'http://169.254.169.254/metadata/identity/oauth2/token?api-version=2018-02-01&resource=https://vault.azure.net'
3. Token Theft: The IMDS returns a valid OAuth token. It cannot distinguish between a legitimate application process and the attacker's shell command.
4. Impersonation: The attacker now uses this stolen token to access any resource the Managed Identity had permissions to (e.g., read all secrets from your Key Vault).

Q&A Time!

QUIZ TIME!

Time for the challenge!

Answer the questions:

1. What is the maximum lifetime of secrets for Entra ID Application?
2. What is the maximum lifetime value of the secret for Entra ID Application that you can find in the portal?
3. Do we need to export Diagnostics Logs to SIEM when using Azure Defender?
4. To enforce use of MFA within Azure which option is correct (Multi)?
5. What is the recommended Key Vault Access Policy secret permission for Entra ID Application or Managed Identity?

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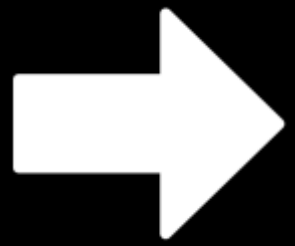

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Founder & CEO, Microsoft Regional Director, MVP, MCT

Sami Laiho

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Peter Kloep

Cybersecurity Expert, Principal IT Architect

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Marcin Krawczyk

Cloud & Cybersecurity Expert

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CHALLENGE WINNER

Challenge answers!

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Challenge answers!

1. What is the maximum lifetime of secrets for Entra ID Application? **7974 years**
2. What is the maximum lifetime value of the secret for Entra ID Application that you can find in the portal? **9999 year**
3. Do we need to export Diagnostics Logs to SIEM when using Azure Defender? **Yes**
4. To enforce use of MFA within Azure which option is correct (Multi)?
   - **Enable Security Defaults in Entra ID**
   - **Enforce Multi Factor Authentication in Conditional Rule with Onetime Password for new user**
   - **Enforce Require authentication strength with Multifactor Authentication with Password setup for new user**
5. What is the recommended Key Vault Access Policy secret permission for Entra ID Application or Managed Identity? **Get**

WINNER!

Q&A Time!

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