Create New Account (version 1.0)

**Cloud Service Label: IaaS, PaaS**

Description

Adversaries with a sufficient level of access may create a local system, domain, or cloud tenant account. Such accounts may be used for persistence that do not require persistent remote access tools to be deployed on the system.

In cloud environments, adversaries may create accounts that only have access to specific services, which can reduce the chance of detection. In Azure these are called Service Principal accounts.

Examples

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| **Name** | **Description** |
| Nimbostratus | AWS open source tool that quickly creates surreptitious accounts to maintain access once initial access has been obtained. |

Mitigations

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| **Mitigation** | | **Description** |
| [Multi-factor Authentication](https://attack.mitre.org/mitigations/M1032) | | Use multi-factor authentication for user and privileged accounts. Do not manage Cloud portals from machines that perform user email and web browsing tasks. All users should be required to utilize two factor authentication. |
|  | *AWS* | This can be enforced by first creating a policy that would prohibit actions except those that allow a user to change their password or manage 2FA, then attaching a policy to a group that includes all user accounts where they can be allowed all access if they sign in with 2FA. Once these actions are completed it should be tested to verify the access is given correctly. To see full details on how to complete this view AWS documentation at: **https://docs.aws.amazon.com/IAM/latest/UserGuide/tutorial\_users-self-manage-mfa-and-creds.html.** |
|  | *Azure* | This can be done by creating a MFA registration policy. It can than be assigned to all users (with the ability to exclude some if need be, but is not recommended). Make sure once the policy is created and added to users that it is then being enforced, once enforced it should be tested for verification. To see full details on how to complete this view Azure documentation at: **https://docs.microsoft.com/en-us/azure/active-directory/identity-protection/howto-identity-protection-configure-mfa-policy.** |
|  | *GCP* | This can be done by first enabling it on the current account being used by admin to assign the roles, then enable two factor on an instance by instance or project by project basis, then assigning the requirements based on IAM roles and applying it to all users. To see full details on how to complete this view Azure documentation at: **https://cloud.google.com/compute/docs/oslogin/setup-two-factor-authentication.** |
| [Account Segmentation](https://attack.mitre.org/mitigations/M1030) | | Consider separating different resources under different administrative domains so that credential compromise does not put all assets in danger. In the case of Azure, multiple subscriptions can be created with different administrators that can only access resources within the subscription. The subscriptions can still belong under the same Azure account for overall accounting and administration/policy. |
| [AD Server Configuration](https://attack.mitre.org/mitigations/M1028) | | Use Cloud provided AD services rather than maintaining AD servers in the cloud. These tend to be more integrated into Cloud logs and protections |
| [Privileged Account Management](https://attack.mitre.org/mitigations/M1026) | | Do not allow subscription owner accounts to be used for day-to-day operations that may expose them to potential adversaries on unprivileged systems. |
|  | AWS | To manage the access that privileged accounts have on the AWS cloud system to only allow administrators to perform administrative tasks on such accounts can be accomplished utilizing limited IAM administrator accounts. To configure this the administrator would have two accounts; one would have administrative rights and no basic access while the other account has basic access with no administrative rights. To limit the administrative account the IAM limited administrator would be used. This is done by creating a policy that gives a user admin rights, but disallows the other actions using the AWS command line interface. This is outlined at: [**https://aws.amazon.com/blogs/security/how-to-create-a-limited-iam-administrator-by-using-managed-policies/**](https://aws.amazon.com/blogs/security/how-to-create-a-limited-iam-administrator-by-using-managed-policies/)**.** |
|  | Azure | To manage the access that privilege accounts have on the Azure cloud system to only allow administrators to perform administrative tasks on such accounts can be accomplished utilizing limited IAM administrator accounts. To configure this the administrator would have two accounts; one would have administrative rights and no basic access while the other account has basic access with no administrative rights. To limit the administrative account the specific administrative needs can be picked from a number of options available (Azure DevOps Administrator, Billing Administrator, Cloud Application Administrator, etc.) These different options can be edited to fit the needs and limit the basic access. This is outlined at: [**https://docs.microsoft.com/en-us/azure/active-directory/users-groups-roles/directory-assign-admin-roles**](https://docs.microsoft.com/en-us/azure/active-directory/users-groups-roles/directory-assign-admin-roles)**.** |
|  | GCP | To manage the access that privilege accounts have on the Azure cloud system to only allow administrators to perform administrative tasks on such accounts can be accomplished utilizing limited IAM administrator accounts. To configure this the administrator would have two accounts; one would have administrative rights and no basic access while the other account has basic access with no administrative rights. To limit the administrative account pre-defined administrator accounts can be used (mobile admin, Google voice admin, help desk admin, etc.). These accounts can be used with their pre-defined settings, or modified depending on specific use cases. These can limit access to basic functionality needed. This is outlined at: **https://support.google.com/a/answer/2405986?hl=en.** |

Detection

Collect usage logs from cloud administrator accounts to identify unusual activity in the creation of new accounts and assignment of roles to those accounts. Monitor for accounts assigned to admin roles that go over a certain threshold of known admins.

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| **Detection** | **Description** |
| Create Log Metric Filters and Alarms for AWS | To create a metric filter and alarm:   1. Create a metric filter that checks for IAM policy changes and the *<cloudtrail\_log\_group\_name>* 2. Create an SNS topic 3. Create an SNS subscription to the above topic 4. Create an alarm associated with the filter and SNS topic created in steps 1 and 2 respectively |
| Monitor Activity in AWS Account | Various services in AWS offer logging features that allow for detection capabilities. These include CloudFront, CloudTrail, CloudWatch, Config, and S3. |
| Monitor for Suspicious Activity in Azure | Azure AD can generate anomaly reports than can be run on a daily basis. Azure AD Identity Protection show current risks in its dashboard and provides daily email summary notifications. Policies can also be configured to alert to specific issues. |
| Create Log Metric Filters and Alarms for CloudTrail | To create a metric filter and alarm:   1. Create a filter that checks for CloudTrail changes and the specific *<cloudtrail\_log\_group\_name>* 2. Create an SNS topic that the alarm will notify 3. Create an SNS subscription to the above topic 4. Create an alarm associated with the filter from step 1 and SNS topic in step 2 |
| Create Activity Log Alerts in Azure | To create log activity alerts for deletion in the Azure Console:   1. Navigate to *Monitor’ / ‘Alerts* 2. Select *Manage alert rules* 3. Click on the Alert *Name* where Condition contains *operationName equals Microsoft.Network/networkSecurityGroups/securityRules/delete* 4. Hover a mouse over *Condition* to ensure it is set to *Whenever the Administrative Activity Log “Delete Security Rule (networkSecurityGroups/securityRules)” has “any” level with “any” status and event is initiated by “any*” |
| Create, View, and Manage Activity Alerts in Azure Monitor | To create a log alert in the Azure portal:   1. Select **Monitor -> Alerts** 2. Select **New alert rule** of the **Alerts** window 3. Provide information in **Define alert condition** 4. Provide details in **Define alert details** 5. Specify action group for new alert rule under **Action group**, or create a new action group with + **New group** 6. Select **Yes** for the **Enable rule upon creation** option 7. Select **Create alert rule**   To view and manage alerts:   1. Select **Monitor -> Alerts -> Manage alert rules** 2. Select the rule you want to modify and double-click to edit the rule options 3. Click **Save** |
| Azure Resource Manager Templates | Azure Resource Manager templates in the format of JSON files that can be used to configure metric alerts in Azure Monitor. These templates can be used for simple static and dynamic threshold metric alerts, availability tests, and monitoring multiple resources. |
| Enable CloudTrail across all regions in AWS | To enable CloudTrail across all regions:   1. Sign into the AWS Management Console and open the CloudTrail console 2. Click on *Trails* 3. Set necessary Trails to All option in the I column 4. Click on a trail via the link *Name* column 5. Set *Logging* to *ON* 6. Set *Apply trail to all regions* to *Yes* |
| Configure log profile to capture activity logs for all regions in Azure | To set up activity logs for all regions:   1. Navigate to Azure console 2. Go to *Activity log* 3. Select *Export* 4. Select *Subscription* 5. Check *Select all* in *Regions* 6. Select *Save* |

References

1. https://andresriancho.github.io/nimbostratus/. Accessed July 1, 2020.