Provide folder security on shares with access-based enumeration

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Provide folder security on shares with access-based enumeration

Provide folder security on shares with access-based enumeration overview

When access-based enumeration (ABE) is enabled on an SMB share, users who do not have permission to access a folder or file contained within the share (whether through individual or group permission restrictions) do not see that shared resource displayed in their environment, although the share itself remains visible.

Conventional share properties allow you to specify which users (individually or in groups) have permission to view or modify files or folders contained within the share. However, they do not allow you to control whether folders or files within the share are visible to users who do not have permission to access them. This could pose problems if the names of these folders or files within the share describe sensitive information, such as the names of customers or products under development.

Access-based enumeration (ABE) extends share properties to include the enumeration of files and folders within the share. ABE therefore enables you to filter the display of files and folders within the share based on user access rights. That is, the share itself would be visible to all users, but files and folders within the share could be displayed to or hidden from designated users. In addition to protecting sensitive information in your workplace, ABE enables you to simplify the display of large directory structures for the benefit of users who do not need access to your full range of content. For example, the share itself would be visible to all users, but files and folders within the share could be displayed or hidden.

Learn about Performance impact when using SMB/CIFS Access Based Enumeration.

Enable or disable access-based enumeration on SMB shares

You can enable or disable access-based enumeration (ABE) on SMB shares to allow or prevent users from seeing shared resources that they do not have permission to access.

About this task

By default, ABE is disabled.

Steps

1. Perform one of the following actions:

If you want to…	Enter the command…
Enable ABE on a new share	`vserver cifs share create -vserver vserver_name -share-name share_name -path path -share-properties access-based-enumeration` You can specify additional optional share settings and additional share properties when you create an SMB share. For more information, see the man page for the `vserver cifs share create` command.
Enable ABE on an existing share	`vserver cifs share properties add -vserver vserver_name -share-name share_name -share-properties access-based-enumeration` Existing share properties are preserved. The ABE share property is added to the existing list of share properties.
Disable ABE on an existing share	`vserver cifs share properties remove -vserver vserver_name -share-name share_name -share-properties access-based-enumeration` Other share properties are preserved. Only the ABE share property is removed from the list of share properties.

2. Verify that the share configuration is correct by using the `vserver cifs share show` command.

Examples

The following example creates an ABE SMB share named “sales” with a path of `/sales` on SVM vs1. The share is created with `access-based-enumeration` as a share property:

```
cluster1::> vserver cifs share create -vserver vs1 -share-name sales -path
/sales  -share-properties access-based-
enumeration,oplocks,browsable,changenotify

cluster1::> vserver cifs share show -vserver vs1 -share-name sales

                      Vserver: vs1
                        Share: sales
     CIFS Server NetBIOS Name: VS1
                         Path: /sales
             Share Properties: access-based-enumeration
                               oplocks
                               browsable
                               changenotify
           Symlink Properties: enable
      File Mode Creation Mask: -
 Directory Mode Creation Mask: -
                Share Comment: -
                    Share ACL: Everyone / Full Control
File Attribute Cache Lifetime: -
                  Volume Name: -
                Offline Files: manual
Vscan File-Operations Profile: standard
```

The following example adds the `access-based-enumeration` share property to an SMB share named "data2":

```
cluster1::> vserver cifs share properties add -vserver vs1 -share-name
data2 -share-properties access-based-enumeration

cluster1::> vserver cifs share show -vserver vs1 -share-name data2 -fields
share-name,share-properties
server  share-name share-properties
------- ---------- ------------------------------------------------------
vs1     data2      oplocks,browsable,changenotify,access-based-enumeration
```

Related information

Adding or removing share properties on an existing SMB share

Enable or disable access-based enumeration from a Windows client

You can enable or disable access-based enumeration (ABE) on SMB shares from a Windows client, which allows you to configure this share setting without needing to

connect to the CIFS server.

> The `abecmd` utility is not available in new versions of Windows Server and Windows clients. It was released as part of Windows Server 2008. Support ended for Windows Server 2008 on January 14, 2020.

Steps

1. From a Windows client that supports ABE, enter the following command: `abecmd [/enable | /disable] [/server CIFS_server_name] {/all | share_name}`

   For more information about the `abecmd` command, see your Windows client documentation.

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