Dell Virtual Storage Integrator (VSI) v8.6 GUI Certificate Import Issues.

Issue 1: I am not able to import my Windows Server Root and Intermediate CA certificates via the VSI GUI. I get an error referencing the alias being invalid or not found.

Error when adding my Root CA as a .cer

> ⚠ {message=Unable to import certificate to the trust store: Invalid certificate found with alias: null Status code: 500, Internal Server Error, status=500, reason=Server Error}

Error when adding my Root CA as a .pem

> ⚠ {message=Unable to import certificate to the trust store: Alias not found for 1 certificate(s) Status code: 500, Internal Server Error, status=500, reason=Server Error}

After a weekend lost to looking at this, I believe that the VSI 8.6 GUI certificate import code is attempting DNS resolution in order to generate the alias for storing the certificate against in the VSI IAPI keystore.

- If the certificate has a FQDN Subject Alternative Name (SANs name) that resolves via DNS, the keystore alias is generated as `IP_FQDN` (`10.10.1.21_mc-vcsa-v-201a.momusconsulting.com`) and the certificate is successfully stored.
- If the certificate being imported does NOT have a FQDN SANs name, or if the FQDN cannot be resolved to an IP, the import fails with one of the above errors. I am assuming this is because the import code cannot generate a new alias to store the certificate against.

If my assumption is correct (#bigif), the logic seems akin to using a sledge hammer to crack a nut! Why not simply prompt the user to enter an alias for each certificate or use a unique value, like the serial number, for the alias generation. Every certificate has a serial number; whereas FQDN SANs are technically optional.

Issue 2: I cannot import more than one certificate for my vCenter Server, as the alias generation code deems my vCenter Server's Machine SSL certificate and its VMCA certificate to be duplicates, even though they are not; as they have the same SANs FQDN and therefore generate the same alias!

It is perfectly valid for the same vCenter Server to have two certificates in the chain; both with SAN's that include the same FQDN.

- The first certificate is the vCenter Server 'Machine SSL' certificate (in the graphic below this is the last or 'leaf' cert - **mc-vcsa-v-201a.momusconsulting.com**).
- The second certificate is the VMCA certificate, literally this is the "VMware Certificate Authority" and this is subordinate to an *external* CA (in my case it is subordinate to a Window Server Intermediate/signing CA). The vCenter Server VMCA signs the vCenter Server Machine SSL certificate.

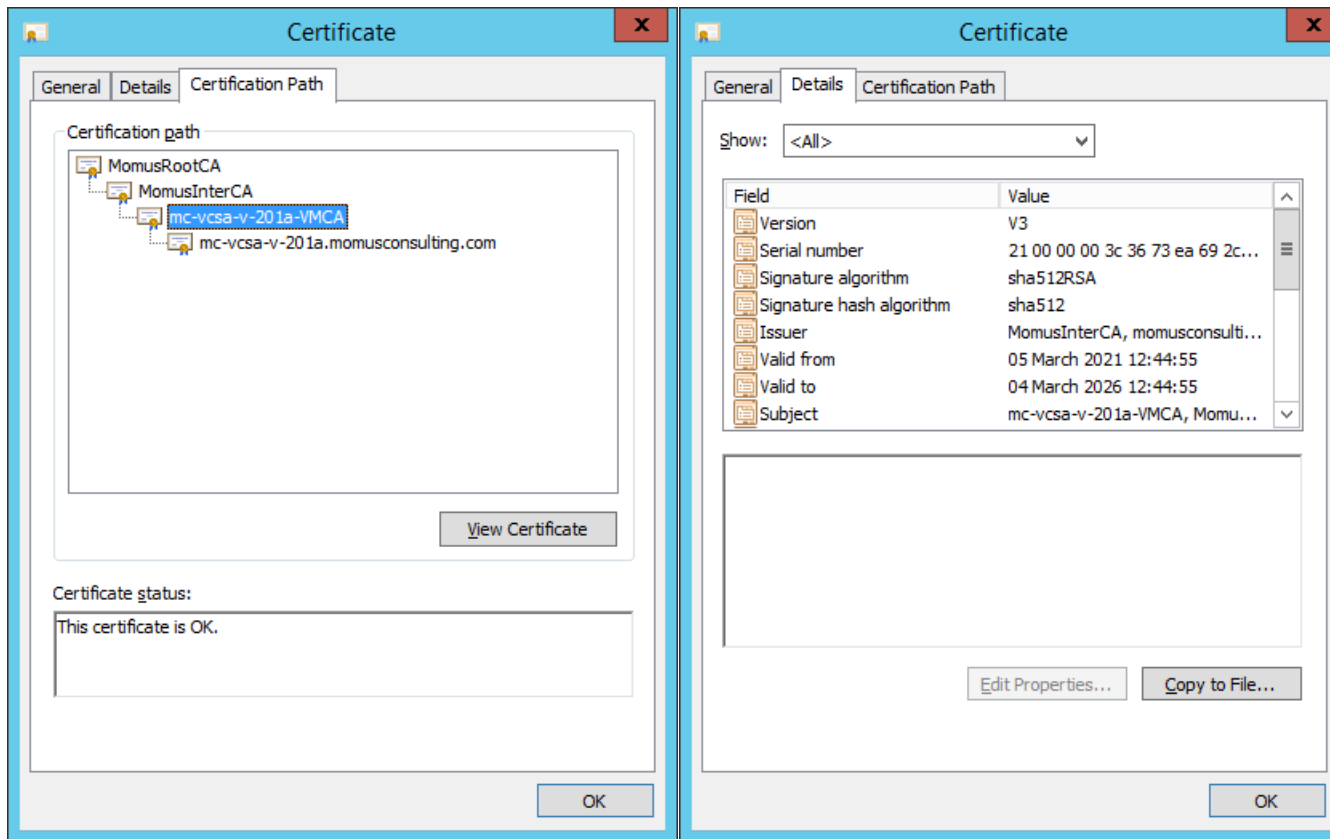This is the complete certificate chain for my vCenter Server.
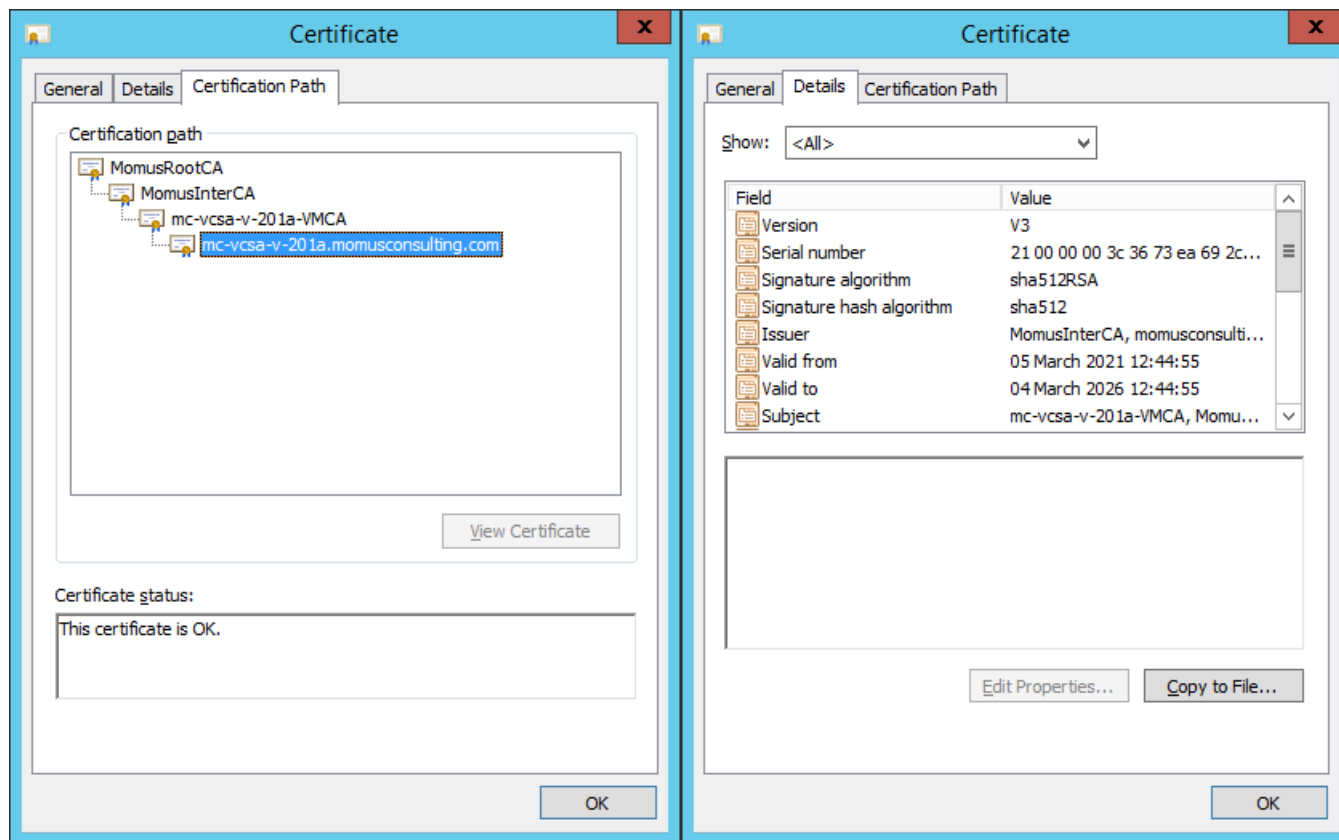
The following pages list the Base64 code for all 4 of my certificates in this chain. Copy the code into individual text files, each with a .cer extension, save and double click it and you will see the details for that certificate.

If you want to see the entire certificate chain, you will first need to import the Root CA certificate into your Windows 'Trusted Root Certification Authority" Local Machine store and both the Intermediate CA and VMCA certificates into your Windows 'Intermediate Certification Authority" Local Machine store. Then double click the Machine SSL certificate.

NOTE: These certificates come from an air-gapped test environment.

Common Name (CN)	mc-vcsa-v-201a.momusconsulting.com

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-----END CERTIFICATE-----
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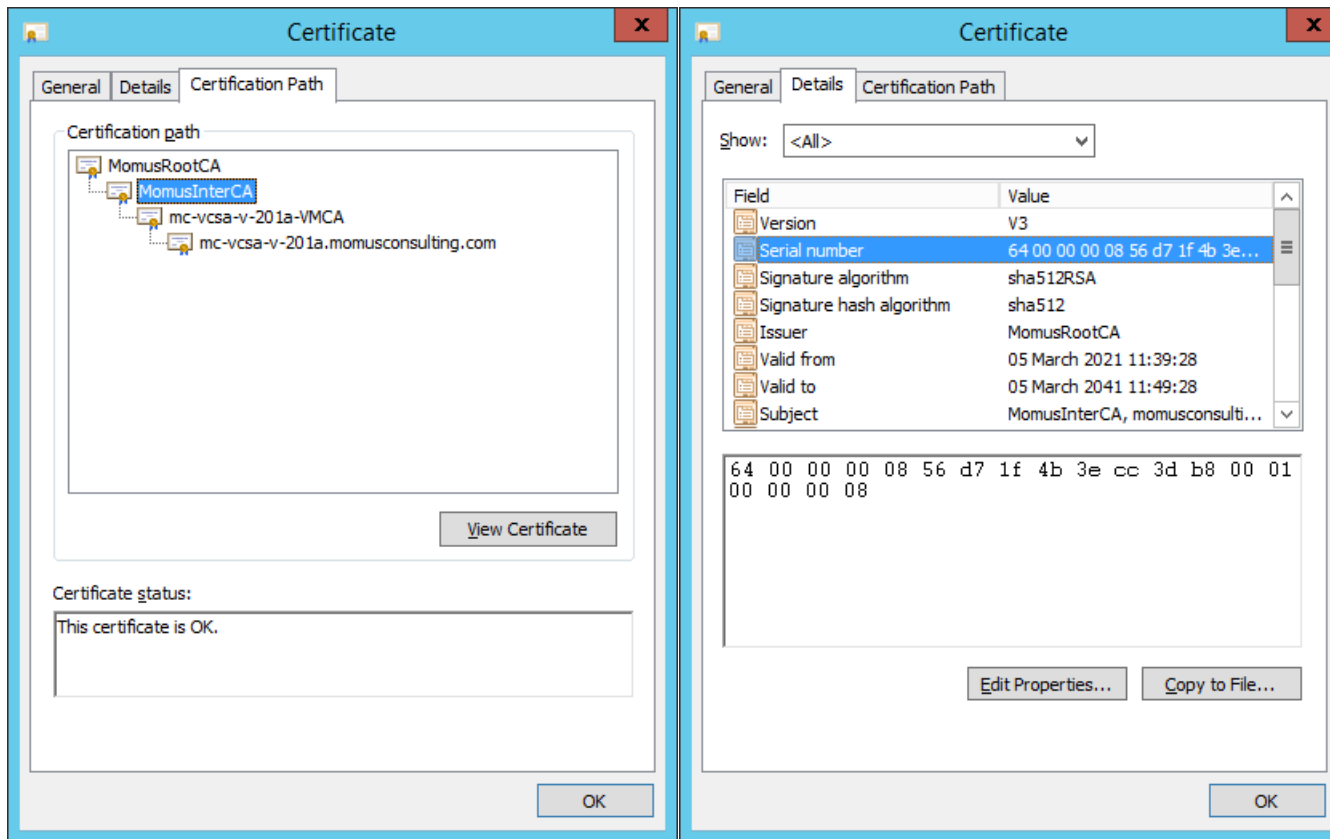
Certificate

General | Details | Certification Path

Certification path

- MomusRootCA
  - MomusInterCA
    - mc-vcsa-v-201a-VMCA
      - mc-vcsa-v-201a.momusconsulting.com

[View Certificate]

Certificate status:

This certificate is OK.

[OK]

Certificate

General | Details | Certification Path

Show: <All>

Field	Value
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Signature hash algorithm	sha512
Issuer	MomusInterCA, momusconsulti...
Valid from	05 March 2021 12:44:55
Valid to	04 March 2026 12:44:55
Subject	mc-vcsa-v-201a-VMCA, Momu...

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[OK]

Common Name (CN)   mc-vcsa-v-201a-VMCA

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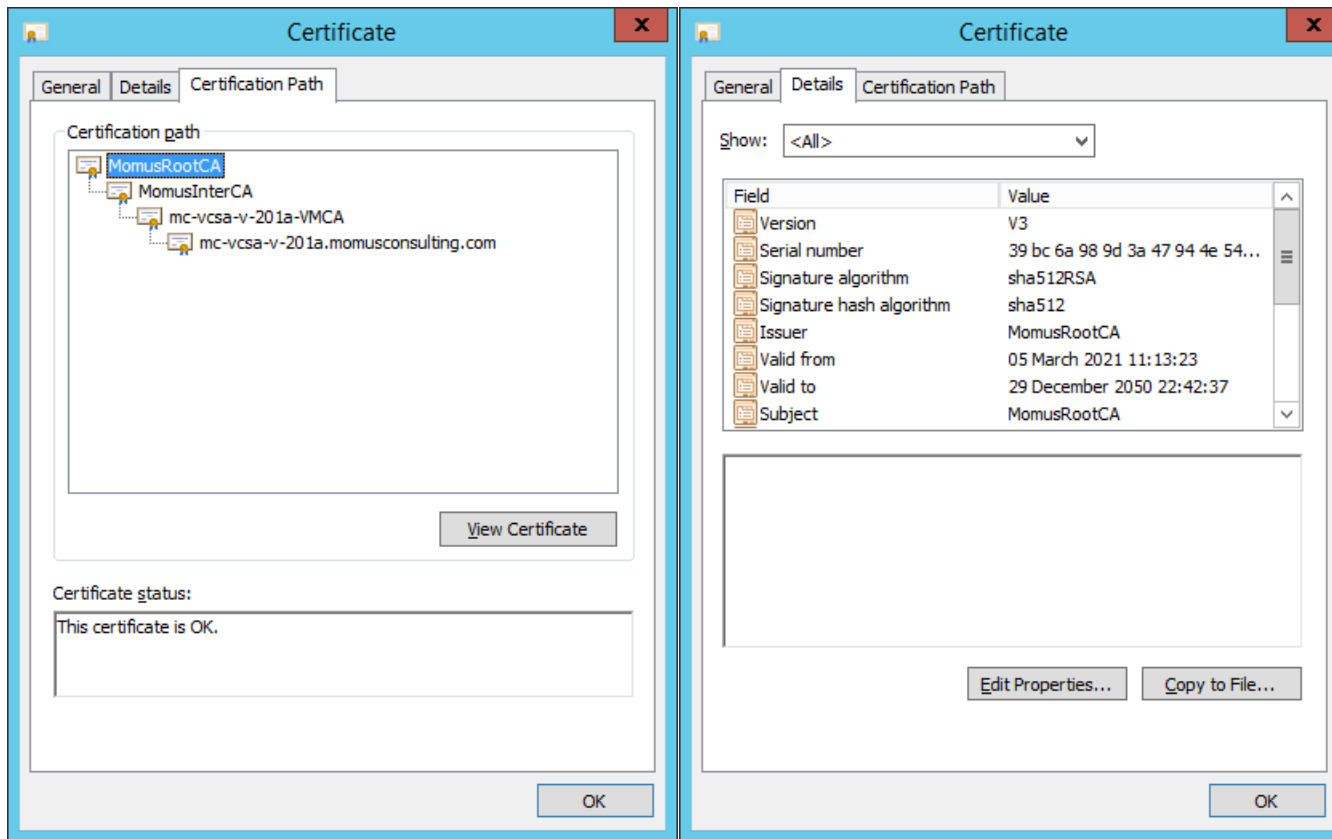oSu6iw3rWoqTnNaUWsfjvs3bGGqRHzMolcWI4fZR7m/7sg7im3zQYV6gOw==
-----END CERTIFICATE-----

Certificate

General | Details | Certification Path

Certification path

- MomusRootCA
  - MomusInterCA
    - mc-vcsa-v-201a-VMCA
      - mc-vcsa-v-201a.momusconsulting.com

[View Certificate]

Certificate status:

This certificate is OK.

[OK]

Certificate

General | Details | Certification Path

Show: `<All>`

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Signature hash algorithm	sha512
Issuer	MomusRootCA
Valid from	05 March 2021 11:39:28
Valid to	05 March 2041 11:49:28
Subject	MomusInterCA, momusconsulti...

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00 00 00 08
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[Edit Properties...] [Copy to File...]

[OK]

Common Name (CN)	MomusInterCA

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Common Name (CN)	MomusRootCA

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-----END CERTIFICATE-----
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