14th generation iDRAC9 release supports lockdown feature, also known as System Lockdown Mode. This feature provides a mechanism to protect configuration from any unintentional or accidental changes after the system is provisioned to a certain level. The lockdown mode is applicable to both system configuration and firmware updates.

When System Lockdown Mode is enabled, the system's configuration is locked and system cannot be configured or updated until the lockdown mode is disabled. There are some exceptional configuration settings that are allowed even when System Lockdown Mode is enabled.
Exceptions are as follows:
- Power operations (System power on, power off, reset)
- Power budget and power profiles
- Identify operations to blink an LED
- Run diagnostics

Note: This feature is available only for Enterprise licensed users.
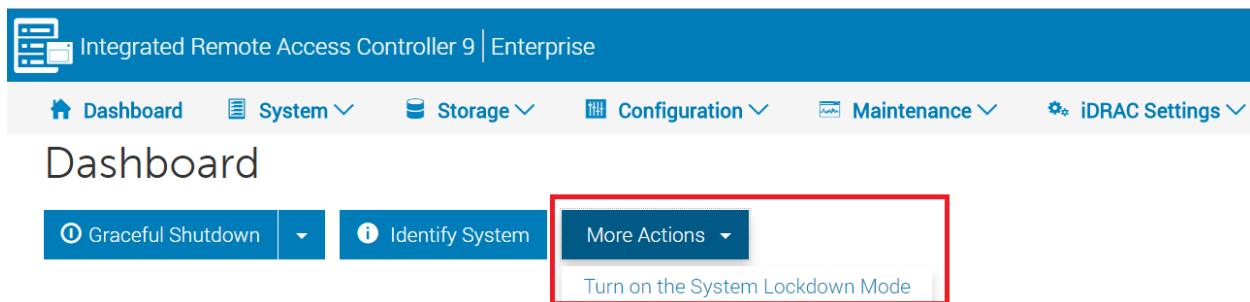
Configuration

System Lockdown Mode setting can be enabled or disabled by using interfaces such as iDRAC GUI, RACADM, WS-Man, and System setup (by pressing F2 when the company logo is displayed).
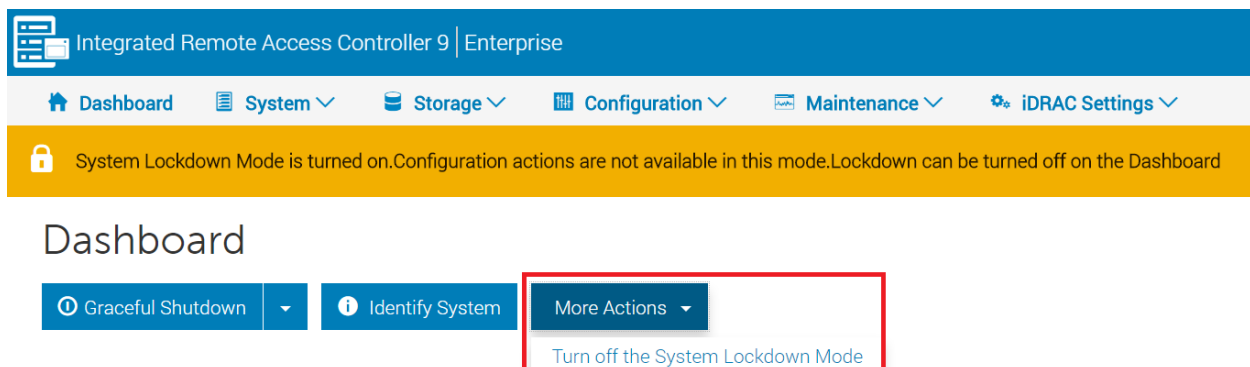
iDRAC GUI

User can enable or disable this feature by clicking **Dashboard->More Actions-> Turn on the System Lockdown mode** on the iDRAC9 GUI. By default, this feature is disabled.
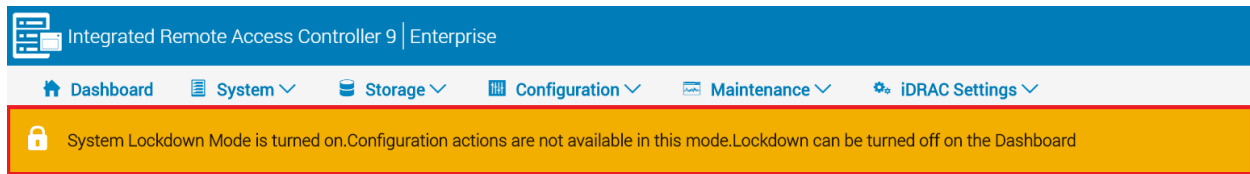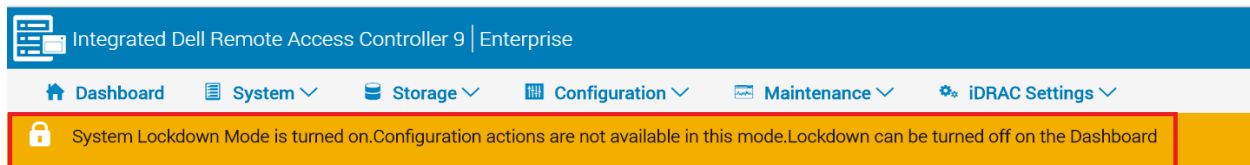
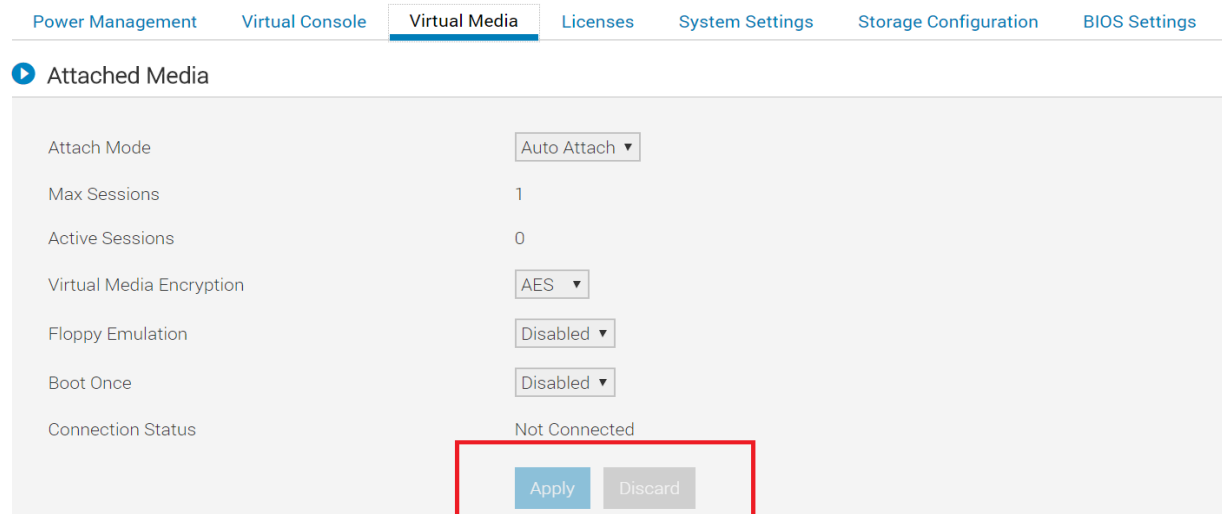**Enable system lockdown mode:**

Disable lockdown mode:

After the system lockdown mode is enabled, following notification is shown in iDRAC GUI, and all the configuration settings are greyed out as shown in screen shot here.
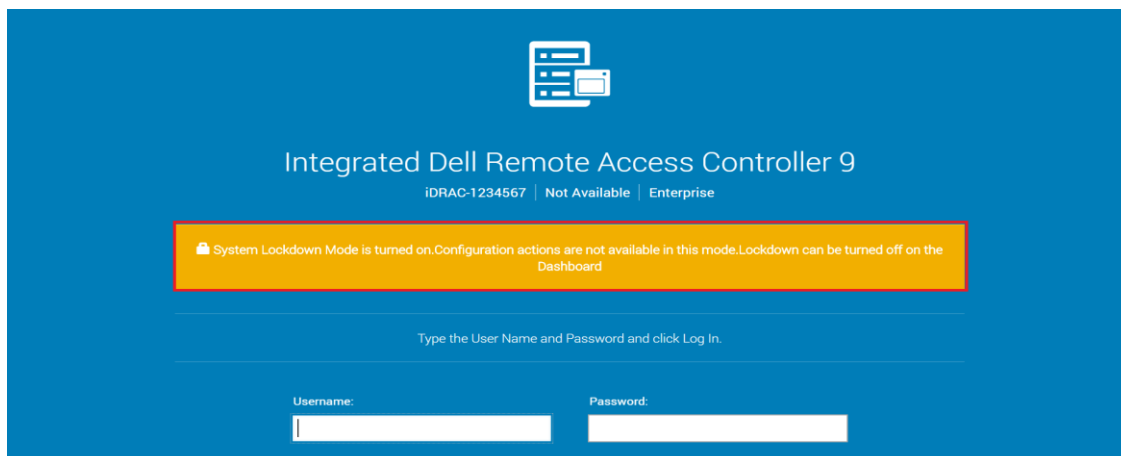

When lockdown mode is enabled, iDRAC GUI login page shows the following notification:

RACADM

User can enable or disable this feature by using RACADM also.

Following screenshot shows command to enable or disable system lockdown mode.

```
/home/root# racadm get idrac.lockdown.systemlockdownmode
[Key=idrac.Embedded.1#Lockdown.1]
SystemLockdownMode=Disabled
/home/root#
/home/root# racadm set idrac.lockdown.systemlockdownmode 1
[Key=idrac.Embedded.1#Lockdown.1]
Object value modified successfully
/home/root#
/home/root# racadm get idrac.lockdown.systemlockdownmode
[Key=idrac.Embedded.1#Lockdown.1]
SystemLockdownMode=Enabled
/home/root#
/home/root# racadm set idrac.lockdown.systemlockdownmode 0
[Key=idrac.Embedded.1#Lockdown.1]
Object value modified successfully
/home/root#
/home/root#
/home/root# racadm get idrac.lockdown.systemlockdownmode
[Key=idrac.Embedded.1#Lockdown.1]
SystemLockdownMode=Disabled
```

After the lockdown mode is enabled, changing the configuration is not allowed. Following screen shot is an example.

```
racadm>>set iDRAC.WebServer.Enable 1


racadm set iDRAC.WebServer.Enable 1
ERROR: RAC1201: Unable to complete the operation because the server is in the lockdown mode.
        Disable the lockdown mode by running the following RACADM at the command line interface
 (CLI): racadm set iDRAC.Lockdown.SystemLockdownMode 0.

racadm>>
```

WS-Man

User can enable or disable this feature by using WS-Man also.

Following screenshot shows WS-Man command to enable system lockdown mode and the Event and Error message displayed when a set request is made when system lockdown mode enabled.

```
C:\Users\rochak_gupta>winrm i ApplyAttribute http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/root/dcim/DCIM_iDRACCardS
ervice?SystemCreationClassName=DCIM_ComputerSystem+SystemName=DCIM:ComputerSystem+CreationClassName=DCIM_iDRACCardServic
e+Name=DCIM:iDRACCardService -u:root -p:calvin -r:https://100.101.24.218/wsman -SkipCNcheck -SkipCAcheck -encoding:utf-8
 -a:basic @{Target="iDRAC.Embedded.1";AttributeName="Lockdown.1#SystemLockdown";AttributeValue="1"}
ApplyAttribute_OUTPUT
    Message = The command was successful.
    MessageID = RAC001
    ReturnValue = 0
    SetResult = Set CurrentValue

C:\Users\rochak_gupta>winrm i SetAttribute http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/root/dcim/DCIM_SystemManage
mentService?SystemCreationClassName=DCIM_ComputerSystem+SystemName=srv:system+CreationClassName=DCIM_SystemManagementSer
vice+Name=DCIM:SystemManagementService -u:root -p:calvin -r:https://100.101.24.218/wsman -SkipCNcheck -SkipCAcheck -enco
ding:utf-8 -a:basic @{Target="System.Embedded.1";AttributeName="QuickSync.1#WifiEnable";AttributeValue="1"}
SetAttribute_OUTPUT
    Message = Unable to start the configuration operation because the System Lockdown mode is enabled. QuickSync.1#WifiE
nable
    MessageArguments = QuickSync.1#WifiEnable
    MessageID = SYS291
    ReturnValue = 2

C:\Users\rochak_gupta>
```

Following screen shot shows the WS-Man command used to disable system lockdown mode, and the set request is succeful when a set request is made with system lockdown mode disabled.

```
C:\Users\rochak_gupta>winrm i ApplyAttribute http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/root/dcim/DCIM_iDRACCardS
ervice?SystemCreationClassName=DCIM_ComputerSystem+SystemName=DCIM:ComputerSystem+CreationClassName=DCIM_iDRACCardServic
e+Name=DCIM:iDRACCardService -u:root -p:calvin -r:https://100.101.24.218/wsman -SkipCNcheck -SkipCAcheck -encoding:utf-8
 -a:basic @{Target="iDRAC.Embedded.1";AttributeName="Lockdown.1#SystemLockdown";AttributeValue="0"}
ApplyAttribute_OUTPUT
    Message = The command was successful.
    MessageID = RAC001
    ReturnValue = 0
    SetResult = Set CurrentValue

C:\Users\rochak_gupta>winrm i SetAttribute http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/root/dcim/DCIM_SystemManage
mentService?SystemCreationClassName=DCIM_ComputerSystem+SystemName=srv:system+CreationClassName=DCIM_SystemManagementSer
vice+Name=DCIM:SystemManagementService -u:root -p:calvin -r:https://100.101.24.218/wsman -SkipCNcheck -SkipCAcheck -enco
ding:utf-8 -a:basic @{Target="System.Embedded.1";AttributeName="QuickSync.1#WifiEnable";AttributeValue="1"}
SetAttribute_OUTPUT
    Message = The command was successful
    MessageID = SYS001
    RebootRequired = No
    ReturnValue = 0
    SetResult = Set PendingValue

C:\Users\rochak_gupta>
```
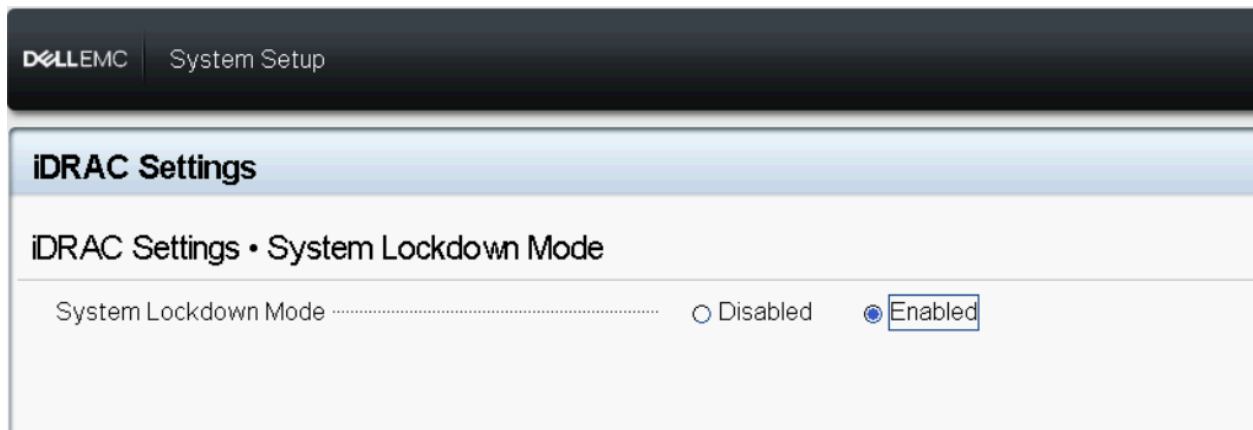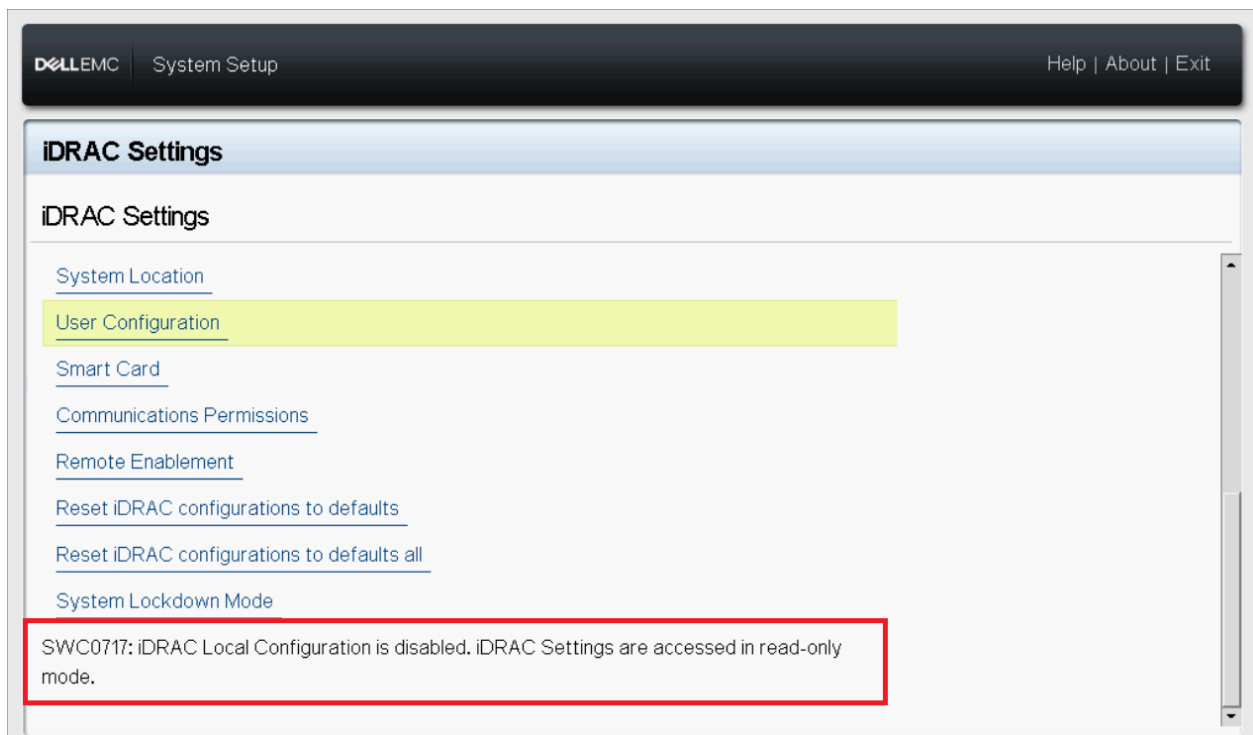
System Setup (F2):

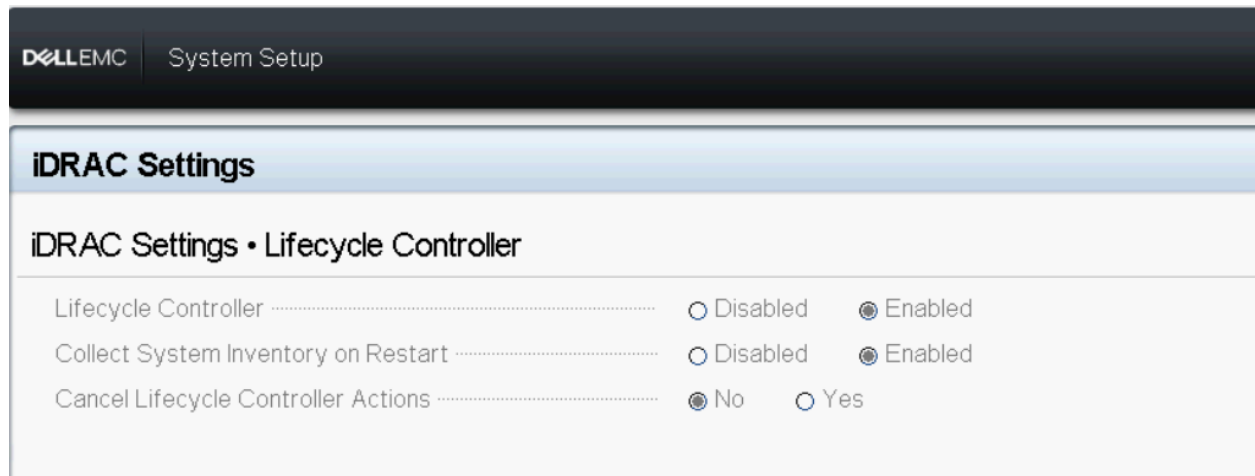User can enable or disable this feature by using System Setup also.

The screen shot here shows command to enable or disable system lockdown mode.

The screen shot here shows notification message when system lockdown mode is enabled.

The screenshot here shows an example of all configuration settings becoming greyed out when the system lockdown mode is enabled.

Configuring the System Lockdown mode by using WS-Man

WS-Man (Web Services-Management) is a DMTF open standard defining a SOAP-XML based protocol for the management of servers, devices, applications used by systems management consoles or management applications.

Enabling or disabling the System Lockdown mode

The following attribute is available in DCIM_iDRACCardEnumeration class will enable or disable the SystemLockDown feature.

- iDRAC.Embedded.1#Lockdown.1#SystemLockdown

By Default, the System Lockdown mode is set to "Disabled".

The `DCIM_iDRAService.ApplyAttribute()` method will be used to set the attribute. For more information about the method interface, see the *iDRAC Card Profile_4.0.0 Session 8.21 and 7.5.52* in http://en.community.dell.com/techcenter/systems-management/w/wiki/1906.dcim-library-profile.

After the system lockdown mode is enabled on iDRAC, none of the system configuration features are allowed, except the following:

- *Power operations (System power on, power off, reset)*
- *Setting power budget, power profiles*
- *Identify operations to blink an LED.*
- *Run diagnostics*
- *Read system configuration and status information*

Management application receives the following message whenever performing the locked configuration features:

"RAC095 : Unable to start the configuration operation because the System Lockdown mode is enabled."

Note: It is recommended to use the ApplyAttribute method to set the SystemLockDownMode. ApplyAttribtues and SetAttributes will not accept multiple attributes in input, if one of the attribute is SystemLockDownMode. We cannot set this attribute to pending state, this attribute will always be set to current value.

SOAP Request to GET Lockdown.1#SystemLockdown attribute.

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <s:Envelope xmlns:wsman="http://schemas.dmtf.org/wbem/wsman/1/wsman.xsd" xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
  xmlns:s="http://www.w3.org/2003/05/soap-envelope">
  - <s:Header>
      <wsa:To s:mustUnderstand="true">https://iDRAC_IP_Address:443/wsman</wsa:To>
      <wsman:ResourceURI s:mustUnderstand="true">http://schemas.dmtf.org/wbem/wscim/1/cim-
          schema/2/DCIM_iDRACCardEnumeration</wsman:ResourceURI>
    - <wsa:ReplyTo>
        <wsa:Address s:mustUnderstand="true">http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous</wsa:Address>
      </wsa:ReplyTo>
      <wsa:Action s:mustUnderstand="true">http://schemas.xmlsoap.org/ws/2004/09/transfer/Get</wsa:Action>
      <wsman:MaxEnvelopeSize s:mustUnderstand="true">512000</wsman:MaxEnvelopeSize>
      <wsa:MessageID s:mustUnderstand="true">urn:uuid:52c9b3a1-5eed-11e7-aecc-005056c00008</wsa:MessageID>
      <wsman:OperationTimeout>PT120.0S</wsman:OperationTimeout>
    - <wsman:SelectorSet>
        <wsman:Selector Name="InstanceID">iDRAC.Embedded.1#Lockdown.1#SystemLockdown</wsman:Selector>
        <wsman:Selector Name="__cimnamespace">root/dcim</wsman:Selector>
      </wsman:SelectorSet>
  </s:Header>
  <s:Body/>
</s:Envelope>
```

SOAP Response to GET Lockdown.1#SystemLockdown attribute.

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <s:Envelope xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing" xmlns:s="http://www.w3.org/2003/05/soap-envelope"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:n1="http://schemas.dmtf.org/wbem/wscim/1/cim-
  schema/2/DCIM_iDRACCardEnumeration">
  - <s:Header>
      <wsa:To>http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous</wsa:To>
      <wsa:Action>http://schemas.xmlsoap.org/ws/2004/09/transfer/GetResponse</wsa:Action>
      <wsa:RelatesTo>urn:uuid:52c9b3a1-5eed-11e7-aecc-005056c00008</wsa:RelatesTo>
      <wsa:MessageID>uuid:504a6380-f9e6-19e6-b519-2403d5eb7b84</wsa:MessageID>
  </s:Header>
  - <s:Body>
    - <n1:DCIM_iDRACCardEnumeration>
        <n1:AttributeDisplayName>System Lockdown</n1:AttributeDisplayName>
        <n1:AttributeName>SystemLockdown</n1:AttributeName>
        <n1:CurrentValue>Disabled</n1:CurrentValue>
        <n1:DefaultValue>Disabled</n1:DefaultValue>
        <n1:Dependency xsi:nil="true"/>
        <n1:DisplayOrder>1</n1:DisplayOrder>
        <n1:FQDD>iDRAC.Embedded.1</n1:FQDD>
        <n1:GroupDisplayName>System Lockdown</n1:GroupDisplayName>
        <n1:GroupID>Lockdown.1</n1:GroupID>
        <n1:InstanceID>iDRAC.Embedded.1#Lockdown.1#SystemLockdown</n1:InstanceID>
        <n1:IsReadOnly>false</n1:IsReadOnly>
        <n1:PendingValue xsi:nil="true"/>
        <n1:PossibleValues>Disabled</n1:PossibleValues>
        <n1:PossibleValues>Enabled</n1:PossibleValues>
      </n1:DCIM_iDRACCardEnumeration>
  </s:Body>
</s:Envelope>
```

SOAP request for the ApplyAttribute method to Set Lockdown.1#SystemLockdown attribute

```xml
<?xml version="1.0" encoding="UTF-8"?>
<s:Envelope xmlns:wsman="http://schemas.dmtf.org/wbem/wsman/1/wsman.xsd" xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
xmlns:s="http://www.w3.org/2003/05/soap-envelope" xmlns:n1="http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/DCIM_iDRACCardService">
    <s:Header>
        <wsa:To s:mustUnderstand="true">https://iDRAC_IP_Address:443/wsman</wsa:To>
        <wsman:ResourceURI s:mustUnderstand="true">http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/DCIM_iDRACCardService</wsman:ResourceURI>
        <wsa:ReplyTo>
            <wsa:Address s:mustUnderstand="true">http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous</wsa:Address>
        </wsa:ReplyTo>
        <wsa:Action s:mustUnderstand="true">http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/DCIM_iDRACCardService/ApplyAttribute</wsa:Action>
        <wsman:MaxEnvelopeSize s:mustUnderstand="true">512000</wsman:MaxEnvelopeSize>
        <wsa:MessageID s:mustUnderstand="true">urn:uuid:59b1479e-5eed-11e7-b3e1-005056c00008</wsa:MessageID>
        <wsman:OperationTimeout>PT120.0S</wsman:OperationTimeout>
        <wsman:SelectorSet>
            <wsman:Selector Name="__cimnamespace">root/dcim</wsman:Selector>
            <wsman:Selector Name="SystemCreationClassName">DCIM_ComputerSystem</wsman:Selector>
            <wsman:Selector Name="SystemName">DCIM:ComputerSystem</wsman:Selector>
            <wsman:Selector Name="CreationClassName">DCIM_iDRACCardService</wsman:Selector>
            <wsman:Selector Name="Name">DCIM:iDRACCardService</wsman:Selector>
        </wsman:SelectorSet>
    </s:Header>
    <s:Body>
        <n1:ApplyAttribute_INPUT>
            <n1:AttributeName>Lockdown.1#SystemLockdown</n1:AttributeName>
            <n1:Target>iDRAC.Embedded.1</n1:Target>
            <n1:AttributeValue>Enabled</n1:AttributeValue>
        </n1:ApplyAttribute_INPUT>
    </s:Body>
</s:Envelope>
```

SOAP Response for the ApplyAttribute method

```xml
<?xml version="1.0" encoding="UTF-8"?>
<s:Envelope xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing" xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:n1="http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/DCIM_iDRACCardService">
    <s:Header>
        <wsa:To>http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous</wsa:To>
        <wsa:Action>http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/DCIM_iDRACCardService/ApplyAttributeResponse</wsa:Action>
        <wsa:RelatesTo>urn:uuid:59b1479e-5eed-11e7-b3e1-005056c00008</wsa:RelatesTo>
        <wsa:MessageID>uuid:5157dbe0-f9e6-19e6-b51e-2403d5eb7b84</wsa:MessageID>
    </s:Header>
    <s:Body>
        <n1:ApplyAttribute_OUTPUT>
            <n1:Message>The command was successful.</n1:Message>
            <n1:MessageID>RAC001</n1:MessageID>
            <n1:ReturnValue>0</n1:ReturnValue>
            <n1:SetResult>Set CurrentValue</n1:SetResult>
        </n1:ApplyAttribute_OUTPUT>
    </s:Body>
</s:Envelope>
```