



Lexmark™

# Virtual Configuration Center

Version 1.1

---

## Administrator's Guide

July 2022

[www.lexmark.com](http://www.lexmark.com)

---

# Contents

- Change history..... 3**
- Overview..... 4**
  - Benefits of using VCC.....4
- Working with VCC.....5**
  - Modifying a VCC file.....7
  - Configuring VCC files.....7
- Working with bundles.....10**
  - Importing a bundle.....10
  - Importing a license file.....11
  - Exporting a bundle.....11
  - Understanding Webservices API methods and their functions.....12
    - Understanding services interface .....13
- FAQ.....22**
- Notices.....29**
- Index.....41**

# Change history

## July 2022

- Fixed syntax errors for working with VCC section.
- Removed alternative bundle import methods that are no longer applicable.

## May 2022

- Initial document release.

# Overview

Lexmark™ Virtual Configuration Center (VCC) is a firmware feature designed to configure devices at a customer's site or at the manufacturing site rather than at a customization center. VCC ensures the use of one tool rather than multiple tools to configure a device.

VCC is built into a printer firmware starting with the family of products released in 2012. It is designed to be a simple method to create and distribute device configurations as ZIP files to one or more printers. VCC can install eSF applications, configure eSF settings, manage user settings, apply manufacturing configurations, install licenses, and manage security settings and saved shortcuts.

Anything processed by VCC is sent to the printer through a bundle ZIP file.

VCC bundles can also be exported from the Embedded Web Server (EWS), in the Export Configuration menu. Configuration files can be imported to or exported from a printer. You can export the settings only and not the applications and licenses.

Benefits of using VCC

## Benefits of using VCC

VCC has the following general benefits:

- **Simplification of deployment**—VCC streamlines the device configuration process in many ways. First, it can be deployed through multiple channels (such as a host flash drive or a web page). It unifies all the prior configuration mechanisms, such as NPA, into a single mechanism which is the bundle. Also, VCC can report the success or failure of all configuration transactions.
- **Customized, flexible security envelope**—The licensing structure and node-locking capabilities in VCC ensure security for every device. Also, this structure enables customers to securely purchase and install Lexmark-certified add-ons on their own time and without Lexmark intervention.
- **Start-to-finish tracking**—VCC lets Lexmark implement more rigorous safeguards in the manufacturing process to ensure that the correct hardware and software components are used. After manufacturing, Lexmark retains a record of every configuration transaction that a customer's device has received. This information assists both the Customer Support Center and service engineers in diagnosing and solving device issues.

# Working with VCC

## Best practices

VCC is used by the operations teams to deploy devices across all sites through purchased applications. It can also be used by customers to add applications across retail stores through purchased applications. The following are some of the best practices for using VCC files efficiently. These practices create a method for deploying files. These practices reduce the VCC files to a manageable size and outline the most common key commands. It also allows customizations required in customers' environments.

- **<bundleInfo><description>**—Adding the model and company information allows the bundle to be reused for new devices or customers. Adding a time stamp and the credentials adds ownership and approval from the customer.

```
<bundleInfo><description>:
<?xml version="1.0" encoding="UTF-8"?>
<bundle>
<bundleInfo>
<name> CX923 COMPANY NAME CONFIGURATION </name>
<description>
Settings for Fax 3.0 09/17/2020
v3.0--Firmware CXTMH.072.222
v3.0--Adding LDAP Authentication
v3.0--Enabled mfp.fax.primarySMTPServer
</description>
```

- **<deviceSettings>**—Makes the bundle.xml look more professional and allows other Customer Support Center and service engineers to use the VCC. It helps in creating a template within the device setting, which makes VCC more efficient to use and modify. The simple schema makes VCC easily understandable. This format helps identify key commands to specific functions within the EWS. As a result, files can be used by multiple customers, and viewing and training for customers is easier.

```
<!--
  Paper tray
-->
<setting name="paperSource">Tray 5</setting>
<setting name="tray1.paperType">Custom Type </setting>
<setting name="tray1.paperSize">11x17</setting>
<setting name="tray2.autoSize"><Auto/></setting>
<setting name="tray2.paperType">Custom Type 2</setting>
<!--
  Network Settings
-->
<setting name="network.SNMPV3ENABLED">1</setting>
<setting name="network.SNMPV12CENABLE">1</setting>
<setting name="network.IPNETMASK">255.255.255.0</setting>
<setting name="network.MACSPPEED">Auto</setting>
<setting name="network.DDNSENABLE">1</setting>
<setting name="network.IPDOMAIN">bjw2k.asg</setting>
<!--
NTP Time Server
-->
<setting name="timemgr.ntpserver">192.168.1.234</setting>
<setting name="timemgr.timezone">USA/Canada EST</setting>
<setting name="network.ALLOW_DHCP_TO_UPDATE_TIMESERVER">1</setting>
<!--
  Access Ports
-->
<setting name="network.GUIPORTENABLE" index="1">0</setting>
<setting name="network.GUIPORTENABLE" index="2">0</setting>
<setting name="network.GUIPORTENABLE" index="3">0</setting>
<!--
General Settings
-->
<setting name="mfp.general.country">United States</setting>
<setting name="language">English</setting>
```

```

    <setting name="mfp.general.dateFormat">MM-DD-YYYY</setting>
    <setting name="mfp.general.showHeldJobsIcon">0</setting>
    <setting name="mfp.general.showUSBDrive">0</setting>
    <setting name="mfp.general.showProfiles">0</setting>
<!--
Power Saver
-->
    <setting name="nvHibernateTimeout">Disabled</setting>
    <setting name="nvHibernateTimeoutOverride">Do Not Hibernate</setting>
    <setting name="jobTimeout">Disabled</setting>
    <setting name="noNoDisplayStandbyMode">20</setting>
    <setting name="powerSaver">120</setting>
<!--

```

- **<!--REMmed--> Areas**—Helps in storing of unused key commands for a specific topic. Storing of the most common commands makes modifications quicker and eliminates the need to revisit or pull more VCC files. XML supports REM command labels but does not support nested Remark (REM) comments.

Example 1:

```

<!--
    TCPip/Port Access
    <setting name="network.GUIPORTENABLE" index="1">0</setting>
-->

```

Example 2:

```

<setting name="network.GUIPORTENABLE" index="1">0</setting> <!--TCP 21 ( FTP )-->

```

- **<security\_settings.xml>**—Create and modify security settings through the EWS and then export the new settings. You must use the <clear> command for <addressbook clear="true"> and <clear/>. Edit security\_settings as follows:
  - Use ContactMGR and Security XML together.
  - Rename Group names.
  - Change Group membership.
  - Modify permissions.
  - Change Kerberos parameters and Kerberos File content.
  - Change LDAP configuration.
  - Modify the login methods order.

**Note:** Do not change Unique Identification Numbers (UIDs) and passwords.

```

<kerberos_file>
[realms]
TN1.MOB.TN.GOV = {
kdc = TNAV013DC1.TN1.MOB.TN.GOV:88
kdc = TNAV013DC2.TN1.MOB.TN.GOV:88
pkinit_eku_checking = kpServerAuth
}
[domain_realm]
TN.GOV = TN1.MOB.TN.GOV
.TN.GOV = TN1.MOB.TN.GOV
tn.gov = TN1.MOB.TN.GOV
.tn.gov = TN1.MOB.TN.GOV
]]>
</kerberos_file>
<public_permissions>
    <name>cancel jobs</name>
    <name>change languages</name>
    <name>color dropout</name>
    <name>copy</name>
    <name>create bookmarks</name>
    <name>create profiles</name>
    <name>device menu</name>
<contact guid="467b6bed-c074-46c9-af0f-d5be32ab5f91">
    <firstname>FSSTech1</firstname>
</contact>
<group>
    <name>FSSTech</name>
    is_all_users_group>0</is_all_users_group>

```

```
</group>
<password_or_pin>$5$rounds=9241$
VSSxlX5bv2x0mc7TbI1</password_or_pin>
```

**Notes:**

- The device must be updated to the latest firmware before working on the VCC bundle.
- The factory default configurations must be exported first when working with a new model. This data serves as a baseline and helps to determine what has been modified.
- The security\_settings.xml must not be modified to avoid errors during deployment. Apply the changes on the device, then export the configuration files, and then extract and use the new security\_settings.xml for deployment.

Modifying a VCC file

## Modifying a VCC file

- 1 Click **Export Configuration** to export the file from the device.

**Notes:**

- The exported file is always in the format exported.zip.
- Passwords, licenses, and applications are not exported.
- New export options, such as Shortcuts and Home Screen Icons, are added.

- 2 Download and extract the exported.zip file.

- 3 Modify the files using Notepad++.

**Note:** From the bundle.xml file, modify the **<name>** and **<description>** elements, and then save the file.

- 4 Zip the files again.

- 5 Click **Import Configuration** to import the files into targeted devices and make the validated changes.

**Notes:**

- Configuration files can be imported using a flash drive, Markvision Enterprise (MVE), Device Deployment Utility (DDU), Cloud Fleet Management (CFM), or the Service Restore Tool.
- The importing of configuration files is logged.

Configuring VCC files

## Configuring VCC files

Each device maintains a list of settings that can be configured through a bundle. Each setting is given a user-friendly name. If the setting has a discrete value list, such as letter and legal, then those values are also given user-friendly names. If a setting does not have a user-friendly name, then it has to go through pass-through mode. There are also protected settings where non-Lexmark settings cannot be configured without authorization.

There are some settings that cause a reset. Settings that fall into one of these categories must be in administrator mode before allowing any configuration. Multiple clients can enter this mode. The device maintains a reference count and exits the mode only when the last client exists the administrator. Then, the device resets itself if required, based on the configuration of a setting that requires a power-on reset.

### Sample of a VCC with acceptable setting names and values

```
<setting name="language">English</setting>
<setting name="Language">English</setting>
<setting name="LANGUAGE">English</setting>
```

## Changing a setting using VCC

- To change esf settings, modify the esf\_settings.xml file in the .zip file.

```
<esfSettings>
  <esfSetting src="esf_settings.xml" />
</esfSettings>
```

**Note:** The bundle.xml file must refer to all the files that can be applied.

## Configuring the eSF applications and eSF application settings

The eSF application is an FLS file included in the bundle ZIP file.

### Notes:

- The printer does not require a reboot for installing an eSF application.
- The esf\_settings.xml is exportable.

Each eSF application and eSF application setting installed with a bundle is referenced in the bundle.xml file, and must be included in the ZIP file.

### Sample of esF application

```
<esfApplications>
  <esfApplication src="esfApp1.flc" />
  <esfApplication src="esfApp2.flc" />
</esfApplications>
```

### Sample of esF application settings

```
<esfSettings>
<esfSetting src="esf_settings.xml" />
</esfSettings>
```

## Configuring the security settings

Security settings are managed in separate files for VCC. They use the XML format. Not all settings are necessarily exported. Password settings are hashed during export. Also, bundles that have protected settings (in the bundle.xml file) require a unique Lexmark signature or bundle.signature.

### Sample of security settings using XML format

```
<securitySettings>
  <securitySetting src="security_settings.xml" />
</securitySettings>
```



## Configuring a license

A license is used to protect a feature or capability of the device.

It contains the following information:

- **feature name**—A name that uniquely identifies a feature or capability
- **feature data**—Data associated with a feature that can customize the behavior of the feature
- **feature version**—The version of the feature to be enabled
- **type**—Factory, standard, or trial
- **term**—The start and end dates
- **count**—The number of instances that a feature can be enabled based on the license
- **notice**—A legal notice to be shown to the user
- **id**—An unique identifier for the license
- **issued**—When the license was issued

A factory license is used for protecting some supplies related to configuration and typically set on the manufacturing line. It uses data associated with a feature to act as a sort of secure NVRAM to contain the supplies configuration. The factory license is node-locked to the device serial number.

There can only be one factory license present on any given device and it cannot be removed by the customer. The factory license is signed, and valid for 50 years from the manufacture date. If the date or time is lost and set to an earlier date than the manufacturing date, then the factory license becomes invalid. If, for whatever reason, the factory license is missing or invalid, then the printer operates in a very limited, basic mode. Licenses for eSF applications and for other features like PrintCryption and factory licenses can be installed using VCC bundles.

**Sample of licenses referenced in the bundle.xml as follows:**

```
<licenses>
  <license src='license1.lic' />
  <license src='license2.lic' />
</licenses>
```

## Configuring shortcuts

Shortcuts are a way for users to save customized settings or values. These settings and values make it easier to do certain jobs, like copying data and sending e-mails. For example, a user who frequently copies documents can create a shortcut to save the values for number of copies, paper size, and content type. So the user does not need to set those values again for the next copy job. Shortcuts are supported for copy, e-mail, fax, and FTP jobs.

**Sample of shortcuts are referenced in bundle.xml as follows:**

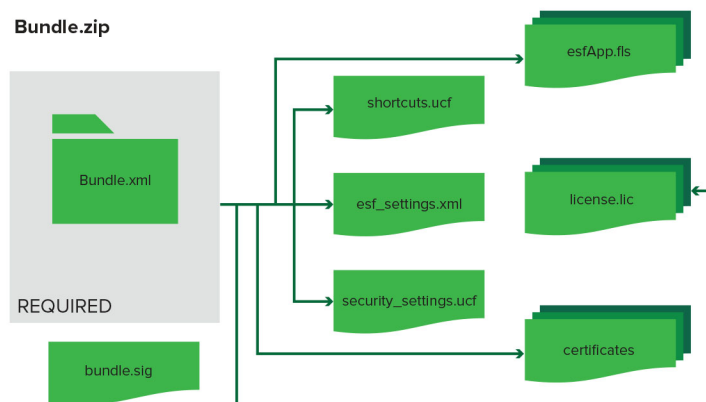
```
<shortcuts>
  <shortcutFile src="shortcuts.ucf" />
</shortcuts>
```

## Configuring address books

Address books are used to store contact information on the printer. They can be used as links to external pluggable clients or for security purposes. You can export details for address books.

## Working with bundles

A bundle file is a ZIP file that contains the bundle.xml file. The bundle.xml file contains various element tags containing information, or a reference to another file in the ZIP file. The bundle.zip file also contains other files that represent either bulk data or other data containing a format other than XML. The bundle.xml file is the only file required by VCC when processing bundle.zip. It is a text file with XML formatting that contains all user-facing settings except for eSF application settings and security settings. Any additional files in the bundle.zip are referenced in the bundle.xml file.



Importing a bundle

## Importing a bundle

### Using the EWS

- 1 Open a web browser, and then type the printer IP address in the address field.
- 2 Click **Import Configuration**, or click **Settings > Configuration Files > Import**.

### Using the command prompt (requires cURL)

- 1 At the command prompt, type **curl --data-binary @bundle\_file.zip http://<device\_ip> /webservices/vcc/bundles**.
- 2 Run the command.

You can also import a bundle using the following way:

- **USB Flash drive in the printer**—Bundle files appear in the flash drive file list as ZIP files. When a user selects a ZIP file, the file is verified to be valid.

### Notes:

- Unlike VCC or bundles import, VCC or importSettings requires only the XML file which contains the device settings to be imported.
- Only the settings inside the **<deviceSettings>** tag are processed.

- The file name of the input XML file must follow the standard bundle.xml used in VCC or the bundles import web service.

Importing a license file

## Importing a license file

### Using the EWS

- 1 Open a web browser, and then type the printer IP address in the address field.
- 2 Click **Import Configuration**, or click **Settings > Configuration Files > Licenses > Install**.

### Using the command prompt (requires cURL)

- 1 At the command prompt, type `curl --data-binary @bundle_file.zip http://<device_ip> /webservicess/vcc/licenses`.
- 2 Run the command.

## Supporting a license file

### Get supported license through EWS 5 or later

- 1 Open a web browser, and then type the printer IP address in the address field.
- 2 Click **Settings > Configuration Files > Licenses**, or click **Settings > Configuration History**.

### Get supported license through terminal (cURL command)

- 1 At the command prompt, type the command: `curl [target device's IP address] /webservicess/vcc/licenses`.
- 2 Run the command.

Exporting a bundle

## Exporting a bundle

### Using the EWS

- 1 Open a web browser, and then type the printer IP address in the address field.
- 2 Click **Export Configuration**, or click **Settings > Configuration Files > Export**.

### Using the VCC URL

- Open a web browser, and then type the printer IP address in the address field, followed by `/webservicess/vcc/bundles`.

## Using the command prompt

- 1 At the command prompt, type `curl --data-binary @bundle_file.zip http://<device_ip> /webservices/vcc/bundles -o bundle_file.zip`.
- 2 Run the command.

### Notes:

- You can also export a bundle using a flash drive.
- Exported VCC bundles include the firmware version, which can be found in the bundle description.

# Understanding Webservices API methods and their functions

## Service provider host name

For software or firmware running on the printer, a reserved host name is used to locate the web server host address. This host name is **internal.http.server**. All web services that request URLs use this host name to ensure that the correct host:port combination opens to perform the operation. The URL for the VCC web service is **http://internal.http.server/webservices/vcc**.

## HTTP methods

The intent is to use each HTTP method in a consistent manner across all resources. The following describes the semantics that must be inferred from each operation:

- **GET**—This command retrieves a resource. A single GET is the same as 50 GET operations.
- **DELETE**—This command removes a resource.
- **POST**—This command is used in two different ways.
  - **Factory method**—This method helps to pass in some values to create a new resource. This is the most typical use of POST.
  - **RPC invocation**—When necessary, POST is used to indicate that a remote method is being invoked, and the result is contained in the HTTP response. When used in this manner, no resources are created or removed by the POST operation and an atypical use of POST.

## HTTP responses

Standard HTTP response codes are used wherever possible. The following rules apply generally to all operations:

- Any request on a resource that does not exist (never created or was deleted) responds with a **404 Not Found**. It returns the log file that contains more detailed information about the error.
- Valid requests are typically responded to with **200 OK** message.

## Request and response body

XML is used for both request and response data and is performed of XML's ubiquity.

## Resources

The top-level interface URI for VCC is: **/webservices/vcc**. This URI represents the base of the service and contains the "static" methods a version and bundles. This URI cannot be created or removed.

## Understanding services interface

**Understanding services interface**

| URI (Resource)                  | Method | Description  |
|---------------------------------|--------|--|
| /webservices/vcc/bundles        | POST   | Return the service status.   |
| /webservices/vcc/bundles        | GET    | Export the bundle from development.  |
| /webservices/vcc/apiversion     | GET    | Return the service API version.  |
| /webservices/vcc/identity       | GET    | Return the device Granite ID and serial number.  |
| /webservices/vcc/licenses       | GET    | Return the devices licenses.   |
| /webservices/vcc/licenses       | Delete | Delete a license from a device.  |
| /webservices/vcc/importSettings | POST   | Install bundle (settings only) and return the service status. This resource requires an XML file as input instead of ZIP file.   |
| /webservices/vcc/exportSettings | POST   | Export the selected settings only. This resource requires an XML file containing the list of settings as input and returns XML file containing the same set of settings with values as the output. |

**Detailed interface description****POST /webservices/vcc/bundles**

This resource let's you to install one bundle on a device. The bundle.zip file can contain one or more licenses, widgets, and other features. But it can contain only one bundle.xml file.

The status return value is an XML document with the following structure:

| Interface  | Description   |
|--|---|
| <b>Request</b><br>(configuration<br>address Package FAC<br>inactive) | curl --data-binary [path to and name of ZIP file to be imported].zip http://[target device IP address] /webservices/vcc/bundles |
| <b>Request</b><br>(configuration<br>Package FAC<br>activated)        | curl -b "username=[username]; password=[password] --get [target device IP address]/webservices/vcc/bundles -o bundle.zip        |
| <b>Success</b> (bundle<br>processor invoked)                         | HTTP/1.1 200 OK<br>Content-Type: text/xml; charset=utf-8<br><br><?xml version='1.0' encoding='UTF-8'><br>[log file]             |

| Interface                             | Description  |
|---------------------------------------|--|
| <b>Failure</b> (insufficient memory)  | <p>HTTP/1.1 500 INTERNAL_SERVER_ERROR</p> <p>Content-Type: text/plain; charset=utf-8</p> <pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt; &lt;title&gt;500 Internal Service Error&lt;/title&gt; &lt;/head&gt; &lt;body&gt; &lt;h1&gt;Internal Service Error&lt;/h1&gt; &lt;!--one of the following messages appears in the body--&gt; &lt;p&gt;Could not go offline [reason].&lt;/p&gt; &lt;p&gt;Error processing request&lt;/p&gt; &lt;p&gt;No memory for request&lt;/p&gt; &lt;/body&gt; &lt;/html&gt;</pre> |
| <b>Failure</b> (HTTP request timeout) | <p>HTTP/1.1 408 REQUEST_TIMEOUT</p> <p>Content-Type: text/plain; charset=utf-8</p> <pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt; &lt;title&gt;500 Internal Service Error&lt;/title&gt; &lt;/head&gt; &lt;body&gt; &lt;h1&gt;Request timed out&lt;/h1&gt; &lt;!--one of the following messages appears in the body--&gt; &lt;p&gt;Could not go offline [reason].&lt;/p&gt; &lt;p&gt;Error processing request&lt;/p&gt; &lt;p&gt;No memory for request&lt;/p&gt; &lt;/body&gt; &lt;/html&gt;</pre>            |
| <b>Failure</b> (malformed command)    | <p>HTTP/1.1 404 Not Found</p> <pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt; &lt;title&gt;404 Not Found&lt;/title&gt; &lt;/head&gt; &lt;body&gt; &lt;h1&gt;Not Found&lt;/h1&gt; &lt;p&gt;The requested URL was not found on this server.&lt;/p&gt; &lt;/body&gt; &lt;/html&gt; &lt;/xml&gt;</pre>  |
| <b>Failure</b> (unauthorized)         | <p>HTTP/1.1 200 OK</p> <p>Content-Type: text/xml; charset=utf-8</p> <pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt;&lt;/head&gt; &lt;body&gt; &lt;h1&gt;User ID not authorized for access&lt;/h1&gt; &lt;/body&gt; &lt;/html&gt; &lt;/xml&gt;</pre>   |

**GET /webservices/vcc/bundles**

This resource lets you export the bundle.zip file of the device.

The status return value is an XML document with the following structure:

| Interface   | Description  |
|---|--|
| <b>Request</b> (configuration address Package FAC inactive) | <code>curl --get [target device IP address]/webservices/vcc/bundles -o bundle.zip</code>   |
| <b>Request</b> (configuration Package FAC activated)        | <code>curl -b "username=[username]; password=[password] --get [target device IP address]/webservices/vcc/bundles -o bundle.zip</code>  |
| <b>Success</b> (bundle processor invoked)                   | HTTP/1.1 200 OK<br>Content-Type: text/xml; charset=utf-8<br><?xml version='1.0' encoding='UTF-8'><br>[log file]  |
| <b>Failure</b> (insufficient memory)                        | HTTP/1.1 500 INTERNAL_SERVER_ERROR<br>Content-Type: text/plain; charset=utf-8<br><br><?xml version='1.0' encoding='UTF-8'?><br><!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"><br><html xmlns="http://www.w3.org/1999/xhtml"><br><head><br><title>500 Internal Service Error</title><br></head><br><body><br><h1>Internal Service Error</h1><br><!--one of the following messages appears in the body--><br><p>Could not go offline [reason].</p><br><p>Error processing request</p><br><p>No memory for request</p><br></body><br></html> |
| <b>Failure</b> (HTTP request timeout)                       | HTTP/1.1 408 REQUEST_TIMEOUT<br>Content-Type: text/plain; charset=utf-8<br><br><?xml version='1.0' encoding='UTF-8'?><br><!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"><br><html xmlns="http://www.w3.org/1999/xhtml"><br><head><br><title>408 Request Timeout</title><br></head><br><body><br><h1>Request timed out</h1><br></body><br></html>   |
| <b>Failure</b> (malformed command)                          | HTTP/1.1 404 Not Found<br><br><?xml version='1.0' encoding='UTF-8'?><br><!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"><br><html xmlns="http://www.w3.org/1999/xhtml"><br><head><br><title>404 Not Found</title><br></head><br><body><br><h1>Not Found</h1><br><p>The requested URL was not found on this server.</p><br></body><br></html><br></xml>  |

| Interface                     | Description  |
|-------------------------------|--|
| <b>Failure</b> (unauthorized) | HTTP/1.1 200 OK<br>Content-Type: text/xml; charset=utf-8<br><br><pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt;&lt;head/&gt; &lt;body&gt; &lt;h1&gt;User ID not authorized for access&lt;/h1&gt; &lt;/body&gt; &lt;/html&gt; &lt;/xml&gt;</pre> |

### GET /webservices/vcc/apiversion

- The resource returns the API version for this service. The return value is an XML document with the following structure:
  - **apiversion**—Root tag with a single attribute value that contains a positive floating point number of the format int.int describing the version of this api. Versions are backward compatible.

The status return value is an XML document with the following structure:

| Interface                             | Description   |
|---------------------------------------|---|
| <b>Failure</b> (malformed command)    | HTTP/1.1 404 Not Found<br><br><pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt; &lt;title&gt;404 Not Found&lt;/title&gt; &lt;head/&gt; &lt;body&gt; &lt;h1&gt;Not Found&lt;/h1&gt; &lt;p&gt;The requested URL was not found on this server.&lt;/p&gt; &lt;/body&gt; &lt;/html&gt; &lt;/xml&gt;</pre> |
| <b>Failure</b> (HTTP request timeout) | HTTP/1.1 408 REQUEST_TIMEOUT<br>Content-Type: text/plain; charset=utf-8<br><br><pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt; &lt;title&gt;408 Request Timeout&lt;/title&gt; 1&lt;head/&gt; &lt;body&gt; &lt;h1&gt;Request timed out&lt;/h1&gt; &lt;/body&gt; &lt;/html&gt;</pre>                 |

### GET /webservices/vcc/identity

This resource returns the target device Granite ID and serial number.

The status return value is an XML document with the following structure:



| Interface                                 | Description  |
|---|--|
| <b>Request</b>                            | curl [target device IP<br>address]/webservices/vcc/identity  |
| <b>Success</b> (bundle processor invoked) | HTTP/1.1 200 OK<br>Content-Type: text/xml; charset=utf-8<br><pre>&lt;?xml version='1.0' encoding='UTF-8'&gt; [log file]</pre>  |
| <b>Failure</b> (insufficient memory)      | HTTP/1.1 500 INTERNAL_SERVER_ERROR<br>Content-Type: text/plain; charset=utf-8<br><pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt; &lt;title&gt;500 Internal Service Error&lt;/title&gt; &lt;/head&gt; &lt;body&gt; &lt;h1&gt;Internal Service Error&lt;/h1&gt; &lt;!--one of the following messages appears in the body--&gt; &lt;p&gt;Could not go offline [reason].&lt;/p&gt; &lt;p&gt;Error processing request&lt;/p&gt; &lt;p&gt;No memory for request&lt;/p&gt; &lt;/body&gt; &lt;/html&gt;</pre> |
| <b>Failure</b> (HTTP request timeout)     | HTTP/1.1 408 REQUEST_TIMEOUT<br>Content-Type: text/plain; charset=utf-8<br><pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt; &lt;title&gt;408 Request Timeout&lt;/title&gt; &lt;/body&gt; &lt;/html&gt;</pre>   |
| <b>Failure</b> (malformed command)        | HTTP/1.1 404 Not Found<br><pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt; &lt;title&gt;404 Not Found&lt;/title&gt; &lt;/head&gt; &lt;body&gt; &lt;h1&gt;Not Found&lt;/h1&gt; &lt;p&gt;The requested URL was not found on this server.&lt;/p&gt; &lt;/body&gt; &lt;/html&gt; &lt;/xml&gt;</pre>  |

**GET /webservices/vcc/licenses**

This resource returns a list of all licenses (signed, unsigned, valid, invalid) that exist on the device.

The status return value is an XML document with the following structure:

| Interface                                 | Description  |
|---|--|
| <b>Request</b>                            | curl [target device IP address]/webservices/vcc/licenses   |
| <b>Success</b> (bundle processor invoked) | HTTP/1.1 200 OK<br>Content-Type: text/xml; charset=utf-8<br><?xml version='1.0' encoding='UTF-8'?><br>[log file]   |
| <b>Failure</b> (insufficient memory)      | HTTP/1.1 500 INTERNAL_SERVER_ERROR<br>Content-Type: text/plain; charset=utf-8<br><br><?xml version='1.0' encoding='UTF-8'?><br><!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"><br><html xmlns="http://www.w3.org/1999/xhtml"><br><head><br><title>500 Internal Service Error</title><br></head><br><body><br><h1>Internal Service Error</h1><br><!--one of the following messages appears in the body--><br><p>Could not go offline [reason].</p><br><p>Error processing request</p><br><p>No memory for request</p><br></body><br></html> |
| <b>Failure</b> (HTTP request timeout)     | HTTP/1.1 408 REQUEST_TIMEOUT<br>Content-Type: text/plain; charset=utf-8<br><br><?xml version='1.0' encoding='UTF-8'?><br><!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"><br><html xmlns="http://www.w3.org/1999/xhtml"><br><head><br><title>408 Request Timeout</title><br></head><br><body><br><h1>Request timed out</h1><br></body><br></html>   |

**GET /webservices/vcc/importSettings**

This resource lets you to install a bundle (settings only) and return service status. This resource requires an XML file as input instead of a ZIP file.

The status return value is an XML document with the following structure:

| Interface   | Description   |
|---|---|
| <b>Request</b><br>(configuration address<br>Package FAC inactive) | curl -X POST --data-binary @[path to and name of .xmlfile to be imported].xml http://[target device IP address]/webservices/vcc/importSettings  |
| <b>Request</b><br>(configuration<br>Package FAC<br>activated)     | Curl -b "username=[username]; password=[password] -X POST --data-binary @[path to and name of .xmlfile to be imported].xml http://[target device IP address]/webservices/vcc/importSettings |

| Interface                                 | Description  |
|---|--|
| <b>Success</b> (bundle processor invoked) | <p>HTTP/1.1 200 OK</p> <p>Content-Type: text/xml; charset=utf-8</p> <pre>&lt;?xml version='1.0' encoding='UTF-8"&gt; [log file]</pre>  |
| <b>Failure</b> (insufficient memory)      | <p>HTTP/1.1 500 INTERNAL_SERVER_ERROR</p> <p>Content-Type: text/plain; charset=utf-8</p> <pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt; &lt;title&gt;500 Internal Service Error&lt;/title&gt; &lt;/head&gt; &lt;body&gt; &lt;h1&gt;Internal Service Error&lt;/h1&gt; &lt;!--one of the following messages appears in the body--&gt; &lt;p&gt;Could not go offline [reason].&lt;/p&gt; &lt;p&gt;Error processing request&lt;/p&gt; &lt;p&gt;No memory for request&lt;/p&gt; &lt;/body&gt; &lt;/html&gt;</pre> |
| <b>Failure</b> (HTTP request timeout)     | <p>HTTP/1.1 408 REQUEST_TIMEOUT</p> <p>Content-Type: text/plain; charset=utf-8</p> <pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt; &lt;title&gt;408 Request Timeout&lt;/title&gt; &lt;/head&gt; &lt;body&gt; &lt;h1&gt;Request timed out&lt;/h1&gt; &lt;/body&gt; &lt;/html&gt;</pre>   |
| <b>Failure</b> (malformed command)        | <p>HTTP/1.1 404 Not Found</p> <pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt; &lt;title&gt;404 Not Found&lt;/title&gt; &lt;/head&gt; &lt;body&gt; &lt;h1&gt;Not Found&lt;/h1&gt; &lt;p&gt;The requested URL was not found on this server.&lt;/p&gt; &lt;/body&gt; &lt;/html&gt; &lt;/xml&gt;</pre>  |
| <b>Failure</b> (unauthorized)             | <p>HTTP/1.1 200 OK</p> <p>Content-Type: text/xml; charset=utf-8</p> <pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt;&lt;/head&gt; &lt;body&gt; &lt;h1&gt;User ID not authorized for access&lt;/h1&gt; &lt;/body&gt; &lt;/html&gt; &lt;/xml&gt;</pre>   |

**GET /webservices/vcc/exportSettings**

This resource lets you to export selected settings only. It requires xml file containing the list of settings as input. It returns XML file containing the same set of settings with values as output.

The status return value is an XML document with the following structure:

| Interface  | Description  |
|--|--|
| <b>Request</b><br>(configuration<br>address Package FAC<br>inactive) | curl -X POST --data-binary @[path to and name of .xmlfile to be exported].xml http://[target device's IP address]/webservicess/vcc/exportSettings -o bundle.xml  |
| <b>Request</b><br>(configuration<br>Package FAC<br>activated)        | curl -b "username=[username]; password=[password] -X POST --data-binary @[path to and name of .xmlfile to be exported].xml http://[target device IP address]/webservicess/vcc/exportSettings -o bundle.xml   |
| <b>Success</b> (bundle<br>processor invoked)                         | HTTP/1.1 200 OK<br>Content-Type: text/xml; charset=utf-8<br><pre>&lt;?xml version='1.0' encoding='UTF-8'&gt; [log file]</pre>  |
| <b>Failure</b> (insufficient<br>memory)                              | HTTP/1.1 500 INTERNAL_SERVER_ERROR<br>Content-Type: text/plain; charset=utf-8<br><pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt; &lt;title&gt;500 Internal Service Error&lt;/title&gt; &lt;/head&gt; &lt;body&gt; &lt;h1&gt;Internal Service Error&lt;/h1&gt; &lt;!--one of the following messages appears in the body--&gt; &lt;p&gt;Could not go offline [reason].&lt;/p&gt; &lt;p&gt;Error processing request&lt;/p&gt; &lt;p&gt;No memory for request&lt;/p&gt; &lt;/body&gt; &lt;/html&gt;</pre> |
| <b>Failure</b> (HTTP request<br>timeout)                             | HTTP/1.1 408 REQUEST_TIMEOUT<br>Content-Type: text/plain; charset=utf-8<br><pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt; &lt;title&gt;408 Request Timeout&lt;/title&gt; &lt;/head&gt; &lt;body&gt; &lt;h1&gt;Request timed out&lt;/h1&gt; &lt;/body&gt; &lt;/html&gt;</pre>   |

| Interface                          | Description  |
|------------------------------------|--|
| <b>Failure (malformed command)</b> | <b>HTTP/1.1 404 Not Found</b><br><pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt; &lt;title&gt;404 Not Found&lt;/title&gt; &lt;/head&gt; &lt;body&gt; &lt;h1&gt;Not Found&lt;/h1&gt; &lt;p&gt;The requested URL was not found on this server.&lt;/p&gt; &lt;/body&gt; &lt;/html&gt; &lt;/xml&gt;</pre> |
| <b>Failure (unauthorized)</b>      | <b>HTTP/1.1 200 OK</b><br><b>Content-Type: text/xml; charset=utf-8</b><br><pre>&lt;?xml version='1.0' encoding='UTF-8'?&gt; &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"&gt; &lt;html xmlns="http://www.w3.org/1999/xhtml"&gt; &lt;head&gt;&lt;/head&gt; &lt;body&gt; &lt;h1&gt;User ID not authorized for access&lt;/h1&gt; &lt;/body&gt; &lt;/html&gt; &lt;/xml&gt;</pre>   |

## FAQ

### How do I verify that a bundle worked?

An error message appears if there is a problem in the installation

### Can I modify a bundle without unzipping the file?

Yes, with certain text editors (such as Vim). But if the bundle is signed, then the bundle becomes invalid when edited.

### Is there a time limit for sending a bundle?

The bundle session will time out after five minutes of inactivity.

### Is there a maximum bundle size?

Yes, but it varies based on the available system resource. The bundle size is not limited by the firmware. Some transport methods, such as NPA-wrapped USB, may impose file-size limits.

### How do I know that a bundle is successfully imported?

If a bundle is imported successfully, then a **200 OK** message appears. The bundle information is in `/var/fs/shared/vcc/bundleinfo`.

**Note:** A maximum of 100 logs are kept in this directory. If this number is exceeded, the oldest logs are deleted.

### How do I know that a bundle is partially successful while importing?

If a bundle is not imported successfully, then a **206 Partial Content** message appears, with the information about the missing settings.

**Note:** The same message appears if a bundle contains an unknown VCC key. In strict mode, a **400 Bad Request** message appears.

### How do I know that a bundle failed while importing?

If a bundle is not imported successfully, then a **206 Partial Content** message appears, with the information about the missing settings. The same message appears if a bundle contains an unknown VCC key. In strict mode, a **400 Bad Request** message appears.

The following is the format of the status log:

```
Info
"Info" : {
  "Install Date" : "16-Jan-2015",
  "Name" : "Bundle Export",
  "Description" : "Settings exported on Thu Jan 8 03:39:52 2015 : FW version
201501161010",
  "ID" : "5845f1c29ad4743cdc118516cc217c49d527d623"
}
```

| Parameter    | Description   |
|--------------|---|
| Install Date | The date when the processing of this bundle started in DD-MMM-YYYY format (e.g., 01-JAN-2010).<br><b>Note:</b> There must be a leading zero.    |
| Name         | The value of bundle.bundleInfo.name in bundle.xml.  |
| Description  | The value of bundle.bundleInfo.description in bundle.xml  |
| ID           | The value of bundle.bundleInfo.id in bundle.xml.<br><b>Note:</b> If the bundle ID does not exist, then the value of the generated GUID is used. |

### Process entries

The following process entries appear in the Fail section of the JSON-formatted reply.

The generic process entry is defined as follows:

```

"<bundle tag>" : {
  "<name>" : {
    "<function>" : {
      "code" : "<failure code>",
      "explanation" : "<explanation of failure>"
    }
  }
}

```

| Parameter   | Description  |
|-------------|--|
| Bundle Tag  | The VCC tags in bundle.xml, such as deviceSettings, schedules, licenses, securitySettings, certificates, esfApplications, esfSettings, shortcuts, contactmanager, demoPage, configFile, and clearCounters. |
| Function    | The action being attempted. There can be more than one function per setting name.  |
| Name        | The name or file name to which the action is being done. This name can be a setting name or an eSF application file name.  |
| Code        | The numeric code identifying the failure. This code is displayed if the status is a failure.   |
| Explanation | The text that describes the problem so that a resolution can be found. This text is displayed if the status is a failure.  |

### deviceSettings entry

```

"deviceSettings" : {
  "<setting name>" : {
    "<function>" : {
      "code" : "<failure code>",
      "explanation" : "<explanation of failure>"
    },
    ...
  },
  ...
}

```

### Codes and explanations of failures

| Code | Explanation    |
|------|----------------|
| 1    | General error. |
| 2    | Unknown name.  |

| Code | Explanation   |
|------|---|
| 3    | The setting must be an integer.                             |
| 4    | The setting must be a float.                                |
| 5    | The setting type is unknown.                                |
| 6    | The setting requires administrator mode.                    |
| 7    | Invalid value.  |
| 8    | Unable to set value.  |
| 9    | The attempt to unlock settings failed.                      |
| 14   | Various strings all indicating that the license is invalid. |
| 15   | The setting requires a valid signature.                     |
| 16   | Conflicted setting <b>&lt;setting name&gt;</b> .            |
| 17   | <b>&lt;general eSF error message&gt;</b> .                  |

### customFactoryDefaults entry

```

"customFactoryDefaults" : {
  "<setting name>" : {
    "<function>" : {
      "code" : "<failure code>",
      "explanation" : "<explanation of failure>"
    },
    ...
  },
  ...
}

```

### Codes and explanations of failures

| Code | Explanation   |
|------|---|
| 1    | General error.  |
| 2    | Unknown name.   |
| 3    | The setting must be an integer.                             |
| 4    | The setting must be a float.                                |
| 5    | The setting type is unknown.                                |
| 6    | The setting requires administrator mode.                    |
| 7    | Invalid value.  |
| 8    | Unable to set value.  |
| 9    | The attempt to unlock settings failed.                      |
| 14   | Various strings all indicating that the license is invalid. |
| 15   | The setting requires a valid signature.                     |
| 16   | Conflicted setting <b>&lt;setting name&gt;</b>              |
| 17   | Restoring to factory default settings is not allowed.       |



**securitySettings entry**

```

"securitySettings" : {
  "<setting name>" : {
    "<function>" : {
      "code" : "<failure code>",
      "explanation" : "<explanation of failure>"
    },
    ...
  },
  ...
}

```

**Codes and explanations of failures**

| Code  | Explanation    |
|---|----------------|
| <b>Note:</b> Check <code>lf/auth/include/Auth.h</code> for the complete list of error codes. The most common errors are 1002 or 1017. |                |
| 1002  | Error          |
| 1006  | Arguments      |
| 1009  | Duplicate.     |
| 1010  | Busy           |
| 1011  | Does not exist |
| 1012  | Unprotected    |
| 1013  | Disabled       |
| 1017  | Invalid        |
| 1018  | Dependency     |
| 1019  | Too many       |
| 1024  | Name too long  |

**esfApplications entry**

```

"esfApplications" : {
  "<esf application name>" : {
    "<function>" : {
      "code" : "<failure code>",
      "explanation" : "<explanation of failure>"
    },
    ...
  },
  ...
}

```

**Codes and explanations of failures**

| Code   | Explanation   |
|--|---|
| <b>Notes:</b>  |   |
| <ul style="list-style-type: none"> <li>These codes are populated from <code>esf/src/java/bundles/install/src/com/lexmark/prtapp/install/InstallException.java</code>.</li> <li>For all the other codes, the following message appears: <b>An internal error occurred: (error code)</b>.</li> </ul> |   |
| -1   | A network error occurred during installation.   |
| -2   | Unable to install because the file sent is not a valid flash file.  |
| -3   | The installation timed out before finishing.  |
| -4   | The printer was not at the ready state. It may have an active intervention, or somebody else may be in the process of flashing or printing. |
| -5   | There is not enough space to install the applications in this flash file.   |
| 1, -6  | Not enough memory to process the flash.   |
| -7   | The bundle cannot be installed because another version of the bundle is already installed with different version information value.         |
| -8   | The application or one of its components failed to start because of an unknown reason.  |
| -9   | The application installed successfully, but requires a license to run.  |
| -10  | This application depends on another bundle that does not exist or has been uninstalled.   |
| -11  | This application depends on another bundle that fails to start.   |
| -200   | Application installation is disabled on this printer.   |
| 7  | The flash file is invalid: a bundle was specified with an invalid location.   |
| 12   | This application is not authorized to run on this printer.  |
| 17   | This application is not supported on this type of printer.  |

### esfSettings entry

```

"esfSettings" : {
  "<setting name>" : {
    "<function>" : {
      "code" : "<failure code>",
      "explanation" : "<explanation of failure>"
    },
    ...
  },
  ...
}

```

### Codes and explanations of failures

| Code  | Explanation                                  |
|---|--|
| In addition to the standard setting codes in the deviceSettings section above, eSF setting operations can also return these values. |  |
| 20  | The collection of settings did not validate. |

| Code | Explanation   |
|------|---|
| 21   | The application setting version is invalid.         |
| 22   | This application must be started to apply settings. |
| 23   | Application does not exist.                         |

### schedules entry

```

"schedules" : {
  "<schedule name>" : {
    "<function>" : {
      "code" : "<failure code>",
      "explanation" : "<explanation of failure>"
    },
    ...
  },
  ...
}

```

### licenses entry

```

"licenses" : {
  "<license name>" : {
    "<function>" : {
      "code" : "<failure code>",
      "explanation" : "<explanation of failure>"
    },
    ...
  },
  ...
}

```

### certificates entry

```

"certificates" : {
  "<certificate name>" : {
    "<function>" : {
      "code" : "<failure code>",
      "explanation" : "<explanation of failure>"
    },
    ...
  },
  ...
}

```

### shortcuts entry

```

"shortcuts" : {
  "<shortcut name>" : {
    "<function>" : {
      "code" : "<failure code>",
      "explanation" : "<explanation of failure>"
    },
    ...
  },
  ...
}

```

### contactmanager entry

```

"contactmanager" : {
  "<contact manager name>" : {
    "<function>" : {
      "code" : "<failure code>",
      "explanation" : "<explanation of failure>"
    },
    ...
  },
  ...
}

```

```

    },
    ...
}

```

### demoPage entry

```

"demoPage" : {
  "<demo page name>" : {
    "<function>" : {
      "code" : "<failure code>",
      "explanation" : "<explanation of failure>"
    },
    ...
  },
  ...
}

```

### configFile entry

```

"configFile" : {
  "<config file name>" : {
    "<function>" : {
      "code" : "<failure code>",
      "explanation" : "<explanation of failure>"
    },
    ...
  },
  ...
}

```

### clearCounters entry

```

"clearCounters" : {
  "code" : "<failure code>",
  "explanation" : "<explanation of failure>"
}

```

## Pass and Result

- **Pass**—The following process entry appears in the Pass section of the JSON-formatted reply. The generic process entry is defined as follows:

```

"<bundle tag>" : "<setting name>, <setting name>, ...",
"<bundle tag>" : "<setting name>, <setting name>, ...",
...

```

- **Result**—The final result of the bundle installation appears after all the entries. The result is either a success or failure.

# Notices

## Edition notice

July 2022

**The following paragraph does not apply to any country where such provisions are inconsistent with local law:** LEXMARK INTERNATIONAL, INC., PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions; therefore, this statement may not apply to you.

This publication could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in later editions. Improvements or changes in the products or the programs described may be made at any time.

References in this publication to products, programs, or services do not imply that the manufacturer intends to make these available in all countries in which it operates. Any reference to a product, program, or service is not intended to state or imply that only that product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any existing intellectual property right may be used instead. Evaluation and verification of operation in conjunction with other products, programs, or services, except those expressly designated by the manufacturer, are the user's responsibility.

For Lexmark technical support, go to <http://support.lexmark.com>.

For information on Lexmark's privacy policy governing the use of this product, go to [www.lexmark.com/privacy](http://www.lexmark.com/privacy).

For information on supplies and downloads, go to [www.lexmark.com](http://www.lexmark.com).

© 2022 Lexmark International, Inc.

All rights reserved.

## GOVERNMENT END USERS

The Software Program and any related documentation are "Commercial Items," as that term is defined in 48 C.F.R. 2.101, "Computer Software" and "Commercial Computer Software Documentation," as such terms are used in 48 C.F.R. 12.212 or 48 C.F.R. 227.7202, as applicable. Consistent with 48 C.F.R. 12.212 or 48 C.F.R. 227.7202-1 through 227.7207-4, as applicable, the Commercial Computer Software and Commercial Software Documentation are licensed to the U.S. Government end users (a) only as Commercial Items and (b) with only those rights as are granted to all other end users pursuant to the terms and conditions herein.

## Trademarks

Lexmark, the Lexmark logo, and PrintCryption are trademarks or registered trademarks of Lexmark International, Inc. in the United States and/or other countries.

All other trademarks are the property of their respective owners.

## Apache License Version 2.0, January 2004

<http://www.apache.org/licenses/>

### TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

#### 1 Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

- 2** Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.
- 3** Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily

infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

- 4** Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:
- a** (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and
  - b** (b) You must cause any modified files to carry prominent notices stating that You changed the files; and
  - c** (c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and
  - d** (d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

- 5** Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.
- 6** Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.
- 7** Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.
- 8** Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage,

computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

- 9 **Accepting Warranty or Additional Liability.** While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

## **APPENDIX: How to apply the Apache License to your work.**

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[ ]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at

<http://www.apache.org/licenses/LICENSE-2.0>

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

## **Licensing Terms for SLF4J**

Copyright (c) 2004–2013 QOS.ch

All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

## **JSON License**

Copyright (c) 2002 JSON.org



Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

The Software shall be used for Good, not Evil.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

## Eclipse Public License - v 1.0

THE ACCOMPANYING PROGRAM IS PROVIDED UNDER THE TERMS OF THIS ECLIPSE PUBLIC LICENSE ("AGREEMENT"). ANY USE, REPRODUCTION OR DISTRIBUTION OF THE PROGRAM CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

### 1. DEFINITIONS

"Contribution" means:

a) in the case of the initial Contributor, the initial code and documentation distributed under this Agreement, and

b) in the case of each subsequent Contributor:

i) changes to the Program, and

ii) additions to the Program;

where such changes and/or additions to the Program originate from and are distributed by that particular Contributor. A Contribution 'originates' from a Contributor if it was added to the Program by such Contributor itself or anyone acting on such Contributor's behalf. Contributions do not include additions to the Program which: (i) are separate modules of software distributed in conjunction with the Program under their own license agreement, and (ii) are not derivative works of the Program.

"Contributor" means any person or entity that distributes the Program.

"Licensed Patents" mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program.

"Program" means the Contributions distributed in accordance with this Agreement.

"Recipient" means anyone who receives the Program under this Agreement, including all Contributors.

### 2. GRANT OF RIGHTS

a) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free copyright license to reproduce, prepare derivative works of, publicly display, publicly perform, distribute and sublicense the Contribution of such Contributor, if any, and such derivative works, in source code and object code form.

b) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer to sell, import and otherwise transfer the Contribution of such Contributor, if any, in source code and object code form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution. No hardware per se is licensed hereunder.

c) Recipient understands that although each Contributor grants the licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does not infringe the patent or other intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based on infringement of intellectual property rights or otherwise. As a condition to exercising the rights and licenses granted hereunder, each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.

d) Each Contributor represents that to its knowledge it has sufficient copyright rights in its Contribution, if any, to grant the copyright license set forth in this Agreement.

### 3. REQUIREMENTS

A Contributor may choose to distribute the Program in object code form under its own license agreement, provided that:

a) it complies with the terms and conditions of this Agreement; and

b) its license agreement:

i) effectively disclaims on behalf of all Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or conditions of merchantability and fitness for a particular purpose;

ii) effectively excludes on behalf of all Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits;

iii) states that any provisions which differ from this Agreement are offered by that Contributor alone and not by any other party; and

iv) states that source code for the Program is available from such Contributor, and informs licensees how to obtain it in a reasonable manner on or through a medium customarily used for software exchange.

When the Program is made available in source code form:

a) it must be made available under this Agreement; and

b) a copy of this Agreement must be included with each copy of the Program.

Contributors may not remove or alter any copyright notices contained within the Program.

Each Contributor must identify itself as the originator of its Contribution, if any, in a manner that reasonably allows subsequent Recipients to identify the originator of the Contribution.

### 4. COMMERCIAL DISTRIBUTION

Commercial distributors of software may accept certain responsibilities with respect to end users, business partners and the like. While this license is intended to facilitate the commercial use of the Program, the Contributor who includes the Program in a commercial product offering should do so in a manner which does not create potential liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and

indemnify every other Contributor ("Indemnified Contributor") against any losses, damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply to any claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must: a) promptly notify the Commercial Contributor in writing of such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense.

For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other Contributors related to those performance claims and warranties, and if a court requires any other Contributor to pay any damages as a result, the Commercial Contributor must pay those damages.

#### 5. NO WARRANTY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, THE PROGRAM IS PROVIDED ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR CONDITIONS OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Each Recipient is solely responsible for determining the appropriateness of using and distributing the Program and assumes all risks associated with its exercise of rights under this Agreement, including but not limited to the risks and costs of program errors, compliance with applicable laws, damage to or loss of data, programs or equipment, and unavailability or interruption of operations.

#### 6. DISCLAIMER OF LIABILITY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER RECIPIENT NOR ANY CONTRIBUTORS SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OR DISTRIBUTION OF THE PROGRAM OR THE EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

#### 7. GENERAL

If any provision of this Agreement is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this Agreement, and without further action by the parties hereto, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.

If Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself (excluding combinations of the Program with other software or hardware) infringes such Recipient's patent(s), then such Recipient's rights granted under Section 2(b) shall terminate as of the date such litigation is filed.

All Recipient's rights under this Agreement shall terminate if it fails to comply with any of the material terms or conditions of this Agreement and does not cure such failure in a reasonable period of time after becoming aware of such noncompliance. If all Recipient's rights under this Agreement terminate, Recipient agrees to cease use and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program shall continue and survive.

Everyone is permitted to copy and distribute copies of this Agreement, but in order to avoid inconsistency the Agreement is copyrighted and may only be modified in the following manner. The Agreement Steward reserves the right to publish new versions (including revisions) of this Agreement from time to time. No one other than the Agreement Steward has the right to modify this Agreement. The Eclipse Foundation is the initial Agreement Steward. The Eclipse Foundation may assign the responsibility to serve as the Agreement Steward to a suitable separate entity. Each new version of the Agreement will be given a distinguishing version number. The Program (including Contributions) may always be distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to distribute the Program (including its Contributions) under the new version. Except as expressly stated in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication, estoppel or otherwise. All rights in the Program not expressly granted under this Agreement are reserved.

This Agreement is governed by the laws of the State of New York and the intellectual property laws of the United States of America. No party to this Agreement will bring a legal action under this Agreement more than one year after the cause of action arose. Each party waives its rights to a jury trial in any resulting litigation.

## Mozilla Public License, Version 2.0

### 1 Definitions

- 1.1 "Contributor" means each individual or legal entity that creates, contributes to the creation of, or owns Covered Software.
- 1.2 "Contributor Version" means the combination of the Contributions of others (if any) used by a Contributor and that particular Contributor's Contribution.
- 1.3 "Contribution" means Covered Software of a particular Contributor.
- 1.4 "Covered Software" means Source Code Form to which the initial Contributor has attached the notice in Exhibit A, the Executable Form of such Source Code Form, and Modifications of such Source Code Form, in each case including portions thereof.
- 1.5 "Incompatible With Secondary Licenses" means (a) that the initial Contributor has attached the notice described in Exhibit B to the Covered Software; or (b) that the Covered Software was made available under the terms of version 1.1 or earlier of the License, but not also under the terms of a Secondary License.
- 1.6 "Executable Form" means any form of the work other than Source Code Form.
- 1.7 "Larger Work" means a work that combines Covered Software with other material, in a separate file or files, that is not Covered Software.
- 1.8 "License" means this document.
- 1.9 "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently, any and all of the rights conveyed by this License.
- 1.10 "Modifications" means any of the following: (a) any file in Source Code Form that results from an addition to, deletion from, or modification of the contents of Covered Software; or (b) any new file in Source Code Form that contains any Covered Software.
- 1.11 "Patent Claims" of a Contributor means any patent claim(s), including without limitation, method, process, and apparatus claims, in any patent Licensable by such Contributor that would be infringed, but for the grant of the License, by the making, using, selling, offering for sale, having made, import, or transfer of either its Contributions or its Contributor Version.
- 1.12 "Secondary License" means either the GNU General Public License, Version 2.0, the GNU Lesser General Public License, Version 2.1, the GNU Affero General Public License, Version 3.0, or any later versions of those licenses.

1.13. "Source Code Form" means the form of the work preferred for making modifications.

1.14. "You" (or "Your") means an individual or a legal entity exercising rights under this License. For legal entities, "You" includes any entity that controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

## **2** License Grants and Conditions

2.1. Grants Each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license: (a) under intellectual property rights (other than patent or trademark) Licensable by such Contributor to use, reproduce, make available, modify, display, perform, distribute, and otherwise exploit its Contributions, either on an unmodified basis, with Modifications, or as part of a Larger Work; and (b) under Patent Claims of such Contributor to make, use, sell, offer for sale, have made, import, and otherwise transfer either its Contributions or its Contributor Version.

### 2.2. Effective Date

The licenses granted in Section 2.1 with respect to any Contribution become effective for each Contribution on the date the Contributor first distributes such Contribution.

### 2.3. Limitations on Grant Scope

The licenses granted in this Section 2 are the only rights granted under this License. No additional rights or licenses will be implied from the distribution or licensing of Covered Software under this License.

Notwithstanding Section 2.1(b) above, no patent license is granted by a Contributor: (a) for any code that a Contributor has removed from Covered Software; or (b) for infringements caused by: (i) Your and any other third party's modifications of Covered Software, or (ii) the combination of its Contributions with other software (except as part of its Contributor Version); or (c) under Patent Claims infringed by Covered Software in the absence of its Contributions. This License does not grant any rights in the trademarks, service marks, or logos of any Contributor (except as may be necessary to comply with the notice requirements in Section 3.4).

### 2.4. Subsequent Licenses

No Contributor makes additional grants as a result of Your choice to distribute the Covered Software under a subsequent version of this License (see Section 10.2) or under the terms of a Secondary License (if permitted under the terms of Section 3.3).

### 2.5. Representation

Each Contributor represents that the Contributor believes its Contributions are its original creation(s) or it has sufficient rights to grant the rights to its Contributions conveyed by this License.

2.6. Fair Use This License is not intended to limit any rights You have under applicable copyright doctrines of fair use, fair dealing, or other equivalents.

### 2.7. Conditions

Sections 3.1, 3.2, 3.3, and 3.4 are conditions of the licenses granted in Section 2.1.

## **3** Responsibilities

### 3.1. Distribution of Source Form

All distribution of Covered Software in Source Code Form, including any Modifications that You create or to which You contribute, must be under the terms of this License. You must inform recipients that the Source Code Form of the Covered Software is governed by the terms of this License, and how they can obtain a copy of this License. You may not attempt to alter or restrict the recipients' rights in the Source Code Form.

### 3.2. Distribution of Executable Form

If You distribute Covered Software in Executable Form then: (a) such Covered Software must also be made available in Source Code Form, as described in Section 3.1, and You must inform recipients of the Executable

Form how they can obtain a copy of such Source Code Form by reasonable means in a timely manner, at a charge no more than the cost of distribution to the recipient; and (b) You may distribute such Executable Form under the terms of this License, or sublicense it under different terms, provided that the license for the Executable Form does not attempt to limit or alter the recipients' rights in the Source Code Form under this License.

### 3.3. Distribution of a Larger Work

You may create and distribute a Larger Work under terms of Your choice, provided that You also comply with the requirements of this License for the Covered Software. If the Larger Work is a combination of Covered Software with a work governed by one or more Secondary Licenses, and the Covered Software is not Incompatible With Secondary Licenses, this License permits You to additionally distribute such Covered Software under the terms of such Secondary License(s), so that the recipient of the Larger Work may, at their option, further distribute the Covered Software under the terms of either this License or such Secondary License(s).

### 3.4. Notices

You may not remove or alter the substance of any license notices (including copyright notices, patent notices, disclaimers of warranty, or limitations of liability) contained within the Source Code Form of the Covered Software, except that You may alter any license notices to the extent required to remedy known factual inaccuracies.

### 3.5. Application of Additional Terms

You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, You may do so only on Your own behalf, and not on behalf of any Contributor. You must make it absolutely clear that any such warranty, support, indemnity, or liability obligation is offered by You alone, and You hereby agree to indemnify every Contributor for any liability incurred by such Contributor as a result of warranty, support, indemnity or liability terms You offer. You may include additional disclaimers of warranty and limitations of liability specific to any jurisdiction.

## 4 Inability to Comply Due to Statute or Regulation

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Software due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be placed in a text file included with all distributions of the Covered Software under this License. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

## 5 Termination

5.1. The rights granted under this License will terminate automatically if You fail to comply with any of its terms. However, if You become compliant, then the rights granted under this License from a particular Contributor are reinstated (a) provisionally, unless and until such Contributor explicitly and finally terminates Your grants, and (b) on an ongoing basis, if such Contributor fails to notify You of the non-compliance by some reasonable means prior to 60 days after You have come back into compliance. Moreover, Your grants from a particular Contributor are reinstated on an ongoing basis if such Contributor notifies You of the non-compliance by some reasonable means, this is the first time You have received notice of non-compliance with this License from such Contributor, and You become compliant prior to 30 days after Your receipt of the notice.

5.2. If You initiate litigation against any entity by asserting a patent infringement claim (excluding declaratory judgment actions, counter-claims, and cross-claims) alleging that a Contributor Version directly or indirectly infringes any patent, then the rights granted to You by any and all Contributors for the Covered Software under Section 2.1 of this License shall terminate.

5.3. In the event of termination under Sections 5.1 or 5.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or Your distributors under this License prior to termination shall survive termination.

## **6 Disclaimer of Warranty**

Covered Software is provided under this License on an "as is" basis, without warranty of any kind, either expressed, implied, or statutory, including, without limitation, warranties that the Covered Software is free of defects, merchantable, fit for a particular purpose or non-infringing. The entire risk as to the quality and performance of the Covered Software is with You. Should any Covered Software prove defective in any respect, You (not any Contributor) assume the cost of any necessary servicing, repair, or correction. This disclaimer of warranty constitutes an essential part of this License. No use of any Covered Software is authorized under this License except under this disclaimer.

## **7 Limitation of Liability**

Under no circumstances and under no legal theory, whether tort (including negligence), contract, or otherwise, shall any Contributor, or anyone who distributes Covered Software as permitted above, be liable to You for any direct, indirect, special, incidental, or consequential damages of any character including, without limitation, damages for lost profits, loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses, even if such party shall have been informed of the possibility of such damages. This limitation of liability shall not apply to liability for death or personal injury resulting from such party's negligence to the extent applicable law prohibits such limitation. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so this exclusion and limitation may not apply to You.

## **8 Litigation**

Any litigation relating to this License may be brought only in the courts of a jurisdiction where the defendant maintains its principal place of business and such litigation shall be governed by laws of that jurisdiction, without reference to its conflict-of-law provisions. Nothing in this Section shall prevent a party's ability to bring cross-claims or counter-claims.

## **9 Miscellaneous**

This License represents the complete agreement concerning the subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not be used to construe this License against a Contributor.

## **10 Versions of the License**

### **10.1. New Versions**

Mozilla Foundation is the license steward. Except as provided in Section 10.3, no one other than the license steward has the right to modify or publish new versions of this License. Each version will be given a distinguishing version number.

### **10.2. Effect of New Versions**

You may distribute the Covered Software under the terms of the version of the License under which You originally received the Covered Software, or under the terms of any subsequent version published by the license steward.

### **10.3. Modified Versions**

If you create software not governed by this License, and you want to create a new license for such software, you may create and use a modified version of this License if you rename the license and remove any references to the name of the license steward (except to note that such modified license differs from this License).

### **10.4. Distributing Source Code Form that is Incompatible With Secondary Licenses**

If You choose to distribute Source Code Form that is Incompatible With Secondary Licenses under the terms of this version of the License, the notice described in Exhibit B of this License must be attached.

### **Exhibit A - Source Code Form License Notice**

This Source Code Form is subject to the terms of the Mozilla Public License, v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain one at <http://mozilla.org/MPL/2.0/>. If it is not possible or desirable to put the notice in a particular file, then You may include the notice in a location (such as a LICENSE file in a relevant directory) where a recipient would be likely to look for such a notice. You may add additional accurate notices of copyright ownership.

### **Exhibit B - "Incompatible With Secondary Licenses" Notice**

This Source Code Form is "Incompatible With Secondary Licenses", as defined by the Mozilla Public License, v. 2.0.



# Index

## B

- benefits
  - using VCC 4
- benefits of using VCC 4
- best practices 5
- bundle structure
  - understanding 10
- bundles
  - exporting 11
  - importing 10

## C

- change history 3
- configuring VCC files 7

## E

- exporting a bundle 11

## F

- FAQ 22
- frequently asked questions 22

## H

- host name 12
- http 12

## I

- importing a bundle 10
- importing a license file 11

## L

- license file
  - importing 11

## M

- methods 12
- modifying a VCC file 7

## O

- overview 4

## S

- service provider 12
- services interface 13

## U

- understanding 13

## V

- VCC files
  - configuring 7
  - modifying 7