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**Document Summary**

- ✓ Describes how to configure DSS 5 to send PDF documents to Adobe LiveCycle to have a policy applied

**Introduction**

LiveCycle is an Adobe product that can provide many functions. One of the most important functions of LiveCycle is to act as a document management system that provides control and security to the PDF files it manages. An important part of the security structure is for LiveCycle to create policies which are attached to the files. Using policies for security is part of the LiveCycle function of Rights Management.

DSS can be configured to route pdf files through a LiveCycle server prior to sending the file on to its destination. This allows a Rights Management policy to be applied to the pdf files sent via DSS. The flow is:

1. If DSS is to send a pdf file to a destination it checks to see if it is configured to send the file to a LiveCycle server first to have a policy applied to the document
2. If DSS is configured to use LiveCycle it will send the document to the LiveCycle server with other information as configured in DSS's LiveCycle configuration file.
3. LiveCycle attaches the policy to the document and returns the document to DSS
4. DSS sends the document to its destination

This whitepaper discusses how to configure DSS to interact with a LiveCycle sever to have LiveCycle policies applied.

This paper assumes the customer environment has a LiveCycle server configured properly and the desired policy to apply to DSS documents already defined. This paper also assumes the DSS admin configuring DSS for LiveCycle understands LiveCycle concepts and the specific configuration of the server to be used to apply policies.

**Overview**

PDF files can flow through DSS to several different destinations including email servers, shared folders, ftp sites and Microsoft SharePoint sites. If OCR is not being used the PDF files are created by the sending device and transferred to DSS to send to the final destination. If OCR is used then the OCR engine on the DSS server creates the PDF files which are then sent to their destinations.

Interaction with LiveCycle to have a policy applied to PDF files can be configured on / off by destination type. For example, using the LiveCycle server can be enabled for send to email jobs but disabled for PDF files going to any other destination type.

## Configuration File

The LiveCycle configuration file is located at the following location:

*<install-folder>\Program Files (x86)\Hewlett-Packard\HP Digital Sending Software\Filesystems\Product\Dss\Configuration\HP.Dss.App.RightsManagement.config*

This file has been created with future expansion in mind. There are many XML elements that can possibly be configured for multiple values in the future but only one value is applicable at this time. Additionally, many values should not be changed without consultation with HP support or the local LiveCycle administrator. The default configuration file is shown at the end of the document with line numbers and will be referred to in the following configuration explanations.

## Highest Level Configuration – Turning Rights Management on or off

The first section configures rights management on or off on a per destination basis. These settings also configure which provider to use and which of the provider’s configurations to use. A provider, in this context, is the remote entity or process that will perform a Rights management operation.

Lines 15 through 17 are default configuration values included for possible future expansion. The per destination values, in lines 19 through 38, take precedence over the default values and this is the way destinations should be configured.

We will use the email destination as an example for all the destinations. The other destinations, Folder, SharePoint and FTP site, all follow the same pattern as email.

To turn on rights management for the email destination the element in line 20 should be given the value of ‘Global’ instead of the default value of ‘Off’.

The **Provider** element points to a set of configuration information later in the config file. “LiveCycleWS” is the only available provider at this time so the value should not change.

```
19 <Destination name="Email">
20   <Mode>Off</Mode>
21   <Provider>LiveCycleWS</Provider>
22   <Configuration>Default</Configuration>
23 </Destination>
```

The **Configuration** element, on line 22, points to one of various possible configurations that exist within the provider. At this time the LiveCycleWS provider has two possible configurations to choose from. They are the “Default” configuration and the “SignIn” configuration. If the “Default” configuration is used then the username and domain values passed from DSS to LiveCycle are static values that are stored in this configuration file. If the “SignIn” configuration is used then the username and domain of the user that signed into the MFP to start the job being processed will be sent to LiveCycle.

## Configuring the Provider

The LiveCycleWS provider configuration starts on line 41.

The first section configures the credentials needed for DSS to interact with LiveCycle. Enter the username on line 50 and the password on line 51. Then, if it’s not already, set the value for the

Encrypted element, on line 49, to be False. When this value is False DSS will encrypt the value in the password element so that a password is not stored in clear text on the DSS server's disk. DSS will also change the value of the encrypted element to be TRUE. The check of this value and subsequent encryption is done when the DSS service restarts. The DSS service must always be restarted for DSS to see any changes made to this configuration file.

```
49 <Encrypted>>false</Encrypted>
50 <Username>administrator</Username>
51 <Password>password</Password>
```

The WSCliEndpoint element, on line 57, refers to configuration information lower in the file in the system.servicemodel section. Once again the value LiveCycleWS is the only value that is currently supported.

```
57 <WSCliEndpoint>LiveCycleWS</WSCliEndpoint>
```

Next in the file are the provider configurations. There are two defined: "Default" and "SignIn". Which of these is to be used depends on the configuration done earlier when setting the **Configuration** element for each destination. It is possible to use Default for some destinations and SignIn for others, as long as each provider configuration is properly configured.

The SignIn and Default configurations are almost the same; we will use the SignIn configuration as an example. The difference between the two is described a little later in this document.

```
76 <Configuration name="SignIn">
77 <FileTypes>
78 <FileType>Pdf</FileType>
79 <FileType>Pdfa</FileType>
80 <FileType>OcrPdfA</FileType>
81 <FileType>OcrPdfText</FileType>
82 <FileType>OcrPdfTextOverImage</FileType>
83 <FileType>OcrPdfTextUnderImage</FileType>
84 </FileTypes>
85 <PolicySet>Dss Policy Set</PolicySet>
86 <PolicyName>Dss Sample Policy</PolicyName>
87 <Publisher>
88 <UseDefaultPublisher>>false</UseDefaultPublisher>
89 <DefaultPublisherUsername>dssuser</DefaultPublisherUsername>
90 <DefaultPublisherDomain>DefaultDom</DefaultPublisherDomain>
91 </Publisher>
92 </Configuration>
```

Lines 78 through 83 define the file types that DSS will send to LiveCycle. The 6 types listed are all the internal DSS names for the variants of pdf that can be created for DSS to send. As can be seen, 4 of the 6 are types created by the OCR engine. It is possible to remove one or more of the pdf types if desired. DSS will only send pdf file variants to LiveCycle that are included in this configuration section.

Line 85 and 86 specify the policy that LiveCycle will attach to the file. These names will depend on the LiveCycle implementation and the DSS admin will need to get the information from the LiveCycle administrator.

DSS sends a user name and domain to LiveCycle with each file. A default user name and domain are specified on lines 89 and 90. If line 88, the UseDefaultPublisher element, is set to false then DSS sends the signed in user's user name and domain to LiveCycle if they exist, and sends the default user name and domain if the sign in information does not exist. If the UseDefaultPublisher element in line 88 is set to true then the default user name and domain are always sent. The only difference between the Default configuration and the SignIn configuration is that the SignIn configuration has its UseDefaultPublisher element set to false, and the Default configuration has the element set to true.

## Configuring WCF Web Services – the `system.serviceModel`

Interaction between DSS and LiveCycle is currently implemented using the web-services interface exposed by the LiveCycle server. As DSS utilizes the Microsoft .NET Windows Communication Foundation (WCF) framework for all web service communication, the `system.serviceModel` section is needed to provide the WCF configuration.

Most of the default configuration in the `system.serviceModel` section of the configuration file should either be left at its default values or changed only with consultation of the LiveCycle administrator. But there are some things that can or should be configured for the specific environment.

The configuration that changes is on line 99. This is a long line so it may word wrap.

```
98 <client>
99 <endpoint name="LiveCycleWS"
address="http://localhost:8080/soap/services/RightsManagementService?blob=base64"
binding="basicHttpBinding" bindingConfiguration="httpRightsManagementServiceSoapBinding"
contract="RightsManagementService" behaviorConfiguration="default" />
100 </client>
```

The address must be changed for the environment. In the line:

```
address="http://localhost:8080/soap/services/RightsManagementService?blob=base64"
```

The part highlighted in yellow indicates the server LiveCycle is running on and the port to use for communication. The default value indicates DSS should communicate with LiveCycle on the same server as DSS and using port 8080. This should be replaced with whatever is appropriate in the customer's environment. If, for example, the customer's LiveCycle runs on a server with IP address 192.1678.100.101 and it is set to use http communication on port 8060 then the line would change to:

```
address=http://192.168.100.101:8060/soap/services/RightsManagementService?blob=base64.
```

The `bindingConfiguration` element, also found on line 99, can be one of two values. Leave it at the default `httpRightsManagementServiceBinding` if you do not want to use SSL / TLS protocols for transport layer security. Change the `bindingConfiguration` element to `httpsRightsManagementServiceBinding` if you do want to use SSL / TLS communication.

## The Default Configuration File with Line Numbers

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <configuration>
3   <RightsManagement>
4     <!--
5       For <DefaultMode> or <Mode>:
6       "Global" means rights-management is turned on globally for all jobs
7       "Off" means it is completely disabled
8
9       For <DefaultProvider> or <Provider>:
10      Specify the name of the provider which must exist under the providers
11
12      For <DefaultConfiguration> or <Configuration>:
13      Specify the name of the configuration which must exist under the provider/configurations section
14    -->
15    <DefaultMode>Off</DefaultMode>
16    <DefaultProvider>LiveCycleWS</DefaultProvider>
17    <DefaultConfiguration>Default</DefaultConfiguration>
18    <DestinationSettings>
19      <Destination name="Email">
20        <Mode>Off</Mode>
21        <Provider>LiveCycleWS</Provider>
22        <Configuration>Default</Configuration>
23      </Destination>
24      <Destination name="Folder">
25        <Mode>Off</Mode>
26        <Provider>LiveCycleWS</Provider>
27        <Configuration>Default</Configuration>
28      </Destination>
29      <Destination name="Ftp">
30        <Mode>Off</Mode>
31        <Provider>LiveCycleWS</Provider>
32        <Configuration>Default</Configuration>
33      </Destination>
34      <Destination name="SharePoint">
35        <Mode>Off</Mode>
36        <Provider>LiveCycleWS</Provider>
37        <Configuration>Default</Configuration>
38      </Destination>
39    </DestinationSettings>
40  </RightsManagement>
41  <Providers>
42    <Provider name="LiveCycleWS">
43      <LiveCycleWSCredentials>
44        <!--
45          NOTE: If the value of the <Encrypted> element is set to 'false', then upon DSS reading this file for the first
46          time the values of the <Username> and <Password> elements will be encrypted and written back. These values will
47          only be able to be decrypted on the same machine. If the credentials need to be updated, replace the encrypted
48          values with plain-text values again and set the <Encrypted> element back to 'false' and then restart the DSS.
49        -->
50        <Encrypted>false</Encrypted>
51        <Username>administrator</Username>
52        <Password>password</Password>
53      </LiveCycleWSCredentials>
54      <!--
55        The value of WSClientEndpoint needs to be the name of a valid client endpoint configuration found below in the
56        system.serviceModel element.
57      -->
58      <WSClientEndpoint>LiveCycleWS</WSClientEndpoint>
59    </Provider>
60  </Providers>
61  <Configurations>
62    <Configuration name="Default">
63      <FileTypes>
64        <FileType>Pdf</FileType>
65        <FileType>Pdfa</FileType>
66        <FileType>OcrPdfA</FileType>
67        <FileType>OcrPdfText</FileType>
68        <FileType>OcrPdfTextOverImage</FileType>
69        <FileType>OcrPdfTextUnderImage</FileType>
70      </FileTypes>
71      <PolicySet>Dss Policy Set</PolicySet>
72      <PolicyName>Dss Sample Policy</PolicyName>
73      <Publisher>
74        <UseDefaultPublisher>true</UseDefaultPublisher>
75        <DefaultPublisherUsername>dssuser</DefaultPublisherUsername>
76        <DefaultPublisherDomain>DefaultDom</DefaultPublisherDomain>
77      </Publisher>
78    </Configuration>
79    <Configuration name="SignIn">
80      <FileTypes>
81        <FileType>Pdf</FileType>
82        <FileType>Pdfa</FileType>
83        <FileType>OcrPdfA</FileType>
84        <FileType>OcrPdfText</FileType>
85        <FileType>OcrPdfTextOverImage</FileType>
86        <FileType>OcrPdfTextUnderImage</FileType>
87      </FileTypes>
88      <PolicySet>Dss Policy Set</PolicySet>
89      <PolicyName>Dss Sample Policy</PolicyName>
90      <Publisher>
91        <UseDefaultPublisher>false</UseDefaultPublisher>
92        <DefaultPublisherUsername>dssuser</DefaultPublisherUsername>
93        <DefaultPublisherDomain>DefaultDom</DefaultPublisherDomain>
94      </Publisher>
95    </Configuration>
96  </Configurations>
97 </configuration>
```

```

95     </Providers>
96 </RightsManagement>
97 </system.serviceModel>
98 <client>
99     <endpoint name="LiveCycleWS" address="http://localhost:8080/soap/services/RightsManagementService?blob=base64" binding="basicHttpBinding"
100     bindingConfiguration="httpRightsManagementServiceSoapBinding" contract="RightsManagementService" behaviorConfiguration="default" />
101 </client>
102 <bindings>
103 <basicHttpBinding>
104     <binding name="httpRightsManagementServiceSoapBinding" closeTimeout="00:01:00" openTimeout="00:01:00" receiveTimeout="00:10:00" sendTimeout="
105     "00:01:00" allowCookies="false" bypassProxyOnLocal="false" hostNameComparisonMode="StrongWildcard" maxBufferSize="2147483647" maxBufferPoolSize
106     ="2147483647" maxReceivedMessageSize="2147483647" messageEncoding="Mtom" textEncoding="utf-8" transferMode="Buffered" useDefaultWebProxy="true">
107     <readerQuotas maxDepth="2147483647" maxStringContentLength="2147483647" maxArrayLength="2147483647" maxBytesPerRead="2147483647"
108     maxNameTableCharCount="2147483647" />
109     <security mode="TransportCredentialOnly">
110     <transport clientCredentialType="Basic" proxyCredentialType="None" realm="" />
111     <message clientCredentialType="UserName" algorithmSuite="Default" />
112 </security>
113 </binding>
114 <binding name="httpsRightsManagementServiceSoapBinding" closeTimeout="00:01:00" openTimeout="00:01:00" receiveTimeout="00:10:00" sendTimeout="
115     "00:01:00" allowCookies="false" bypassProxyOnLocal="false" hostNameComparisonMode="StrongWildcard" maxBufferSize="2147483647" maxBufferPoolSize
116     ="2147483647" maxReceivedMessageSize="2147483647" messageEncoding="Mtom" textEncoding="utf-8" transferMode="Buffered" useDefaultWebProxy="true">
117     <readerQuotas maxDepth="2147483647" maxStringContentLength="2147483647" maxArrayLength="2147483647" maxBytesPerRead="2147483647"
118     maxNameTableCharCount="2147483647" />
119     <security mode="Transport">
120     <transport clientCredentialType="Basic" proxyCredentialType="None" realm="" />
121     <message clientCredentialType="UserName" algorithmSuite="Default" />
122 </security>
123 </binding>
124 </basicHttpBinding>
125 </bindings>
126 <behaviors>
127 <endpointBehaviors>
128 <behavior name="default">
129 </behavior>
130 </endpointBehaviors>
131 </behaviors>
132 </system.serviceModel>
133 </configuration>

```