



# **FLM Exchange Web Service**

## **Technical Specification**

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**07/14/2009**

## Revision History

Version	Date	Comment	Author
1.0	6/11/09	Initial public release.	Jen Rehling
1.1	7/14/2009	Update to FLM Non-Critical Extension version 8.0.0.5	Scott Emberley

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## 1 Introduction

This document outlines the DCIP FLM Exchange Web Service that will be available to external users to retrieve Facility List Messages (FLM) that will be produced by the DCIP systems. The FLM will provide information about DCIP digital deployment participating exhibitor theater sites and equipment in order to aid in the exchange of X509 certificate information.

### 1.1 Scope

The scope of this document is to outline the Web Service access information and available retrieval methods for external users.

### 1.2 References

The following documents should be used as references for the DCIP FLM:

[DCIP FLM] DCIP Facility List Message Non-Critical Extension

[SMPTE 430-3] SMPTE Standard 430-3 D-Cinema Operation-Generic Extra-Theatre Message Format

[SMPTE 430-7] SMPTE Standard 430-7 for D-Cinema: Facility List Message

### 1.3 Copyright Notice

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## 2 DCIP FLM Web Service

DCIP will provide a FLM Exchange Web Service that will return the most up to date FLM information for theater sites supported by their systems. The web service will generate and return a FLM XML message back to the requestor based upon the supplied parameters. This FLM message will contain data for the requested sites (locations), including secure devices and their certificate information stored within the inventory database.

### 2.1 Web Service Connection Information (Production)

The following information should be utilized to connect to the DCIP Production web service:

Element	DCIP Settings
URL	<a href="https://flm.dcipllc.com/FLMExchange/FLMServices.svc">https://flm.dcipllc.com/FLMExchange/FLMServices.svc</a>
User ID	(user name supplied by DCIP)
Password	(password supplied by DCIP)

### 2.2 Web Service Connection Information (Test)

The following information should be utilized to connect to the DCIP Test web service:

Element	DCIP Settings
URL	<a href="https://flm.dcipllc.com/TestFLMExchange/FLMServices.svc">https://flm.dcipllc.com/TestFLMExchange/FLMServices.svc</a>
User ID	(user name supplied by DCIP)
Password	(password supplied by DCIP)

### 2.3 Web Service Authorization

Access to the DCIP web service will require authorization provided by DCIP. To request authorization please send a request to [support@dcipllc.com](mailto:support@dcipllc.com) and include the following information:

- Company Name
- Contact Name
- Contact Email
- Contact Phone Number
- Purpose of request / intended use of data

A DCIP support representative will respond with login credentials or with further clarification if necessary.

### 3 Web Service Methods

To accommodate the possibility of large amounts of data transferring over http the design approach is to divide up the messages so that the volume of data requested is of a manageable size. To accommodate this, for queries that involve multiple FLMs to be returned, a list of identifier information is provided that then can subsequently be used to retrieve the “heavier” Facility List Message data on an individual request basis.

#### 3.1 GetFLM

Returns a single Facility List Message (FLM) for a given facility ID. If the ID passed in is not found the method returns an exception.

##### 3.1.1 Method Parameters

The following shows the parameter string that could be passed into the GetFLM method.

Method	Sample Parameter String
GetFLM(FacilityID:uri)	See below for sample parameters based on supported URIs.  Example: GetFLM (urn:x-facilityID:rentrak.com:123456)

The following shows the various types of parameter strings that could be passed into the GetFLM method, based on the Facility ID type that is sent.

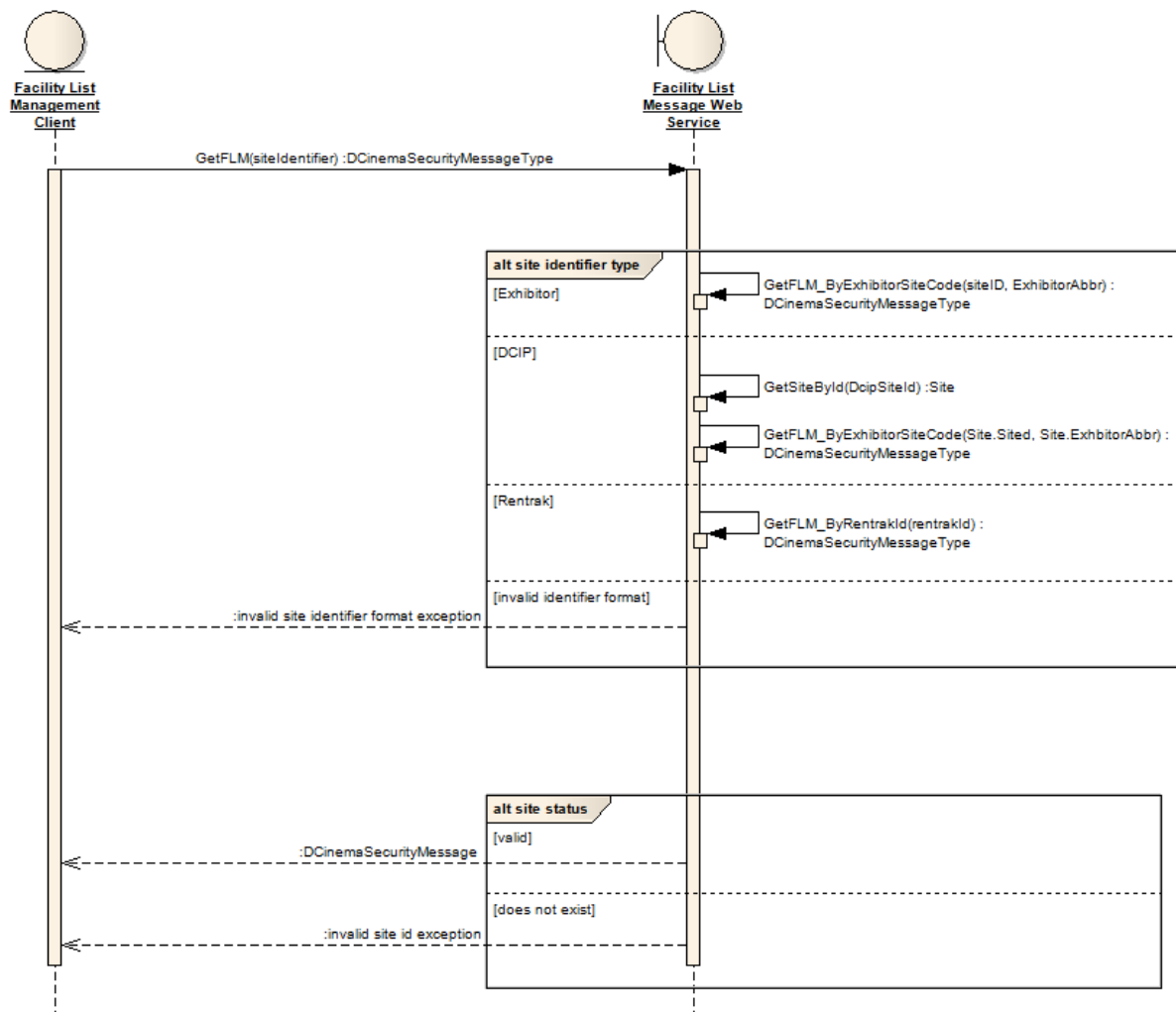
GetFLM Method Types	Sample Parameter Strings	Description
Rentrak	urn:x-facilityID:rentrak.com:101765 - OR - rentrak.com:101765	Returns FLM data for the facility that is associated to the Rentrak ID parameter.
DCIP	urn:x-facilityID:dcipllc.com:473 - OR - dcipllc.com:473	Returns FLM data for the facility that is associated to the DCIP Site ID parameter.
Regal	urn:x-facilityID:regalcinemas.com:108 - OR - regalcinemas.com:108	Returns FLM data for the Regal Cinemas facility that is associated to the facility ID parameter.
Cinemark	urn:x-facilityID:cinemark.com:110 - OR - cinemark.com:110	Returns FLM data for the Cinemark facility that is associated to the facility ID parameter.
AMC	urn:x-facilityID:amctheatres.com:763 - OR - amctheatres.com:763	Returns FLM data for the AMC Theatres facility that is associated to the facility ID parameter.

### 3.1.2 Exception Messaging

GetFLM([string](#) parameters) Exception Messages

.NET Exception Type	Exception Message	Cause
NotSupportedException	'<parameterName>' is not a valid parameter.	An unsupported parameter was submitted to the service.
InvalidCastException	Cannot convert provided Site Id to an integer.	When using the "dcipllc.com:" parameter, the value submitted was not a valid integer.
InvalidCastException	Cannot convert provided Site Code to an integer.	When using any of the Exhibitor specific parameters, (currently 'amctheatres.com', 'cinemark.com', and 'regalcinemas.com') an invalid integer is submitted.
Exception	Unable to retrieve the requested data.	A database error occurred within the DCIP system.
Exception	The site requested does not exist in the DCIP databases.	Site (Theater) data was not found and the request could not be completed.
Exception	The provided Rentrak ID does not have a matching site in the DCIP databases.	When using the "rentrak.com" parameter , Site (Theater) data was not found for the provided Rentrak Id.
Exception	<VARIES>	Internal exceptions

### 3.1.3 GetFLM Sequence Diagram



## 3.2 GetUpdatedFacilityIDsSince

This method returns a list of facility identifiers for facilities in which data has changed (a new FLM has been generated) since the dateTime indicated by the “since” parameter.

### 3.2.1 Method Parameters

The following shows the parameter string that could be passed into the GetUpdatedFacilityIDsSince method.

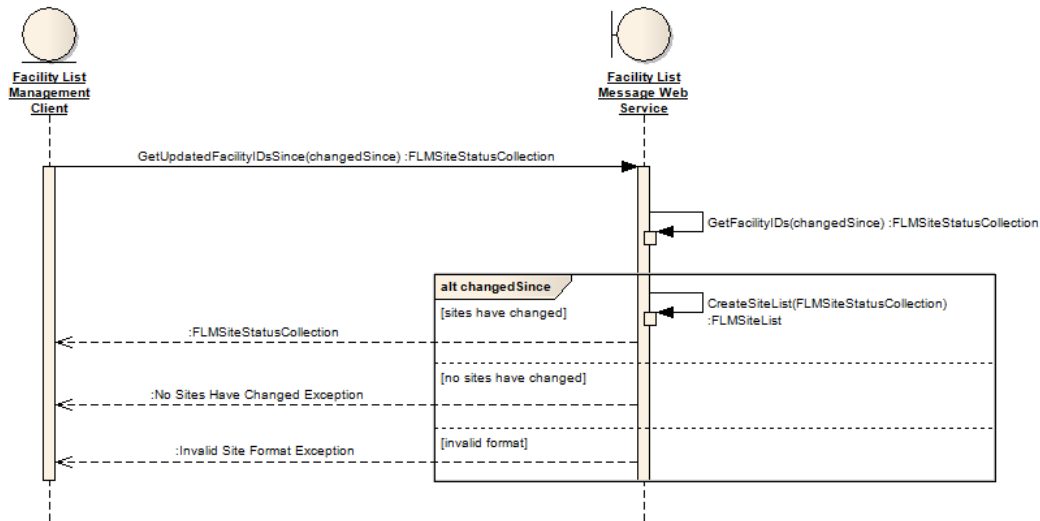
Method	Sample Parameter String
GetUpdatedFacilityIDsSince (since:DateTime)	since:05/01/2009  Example: GetUpdatedFacilityIDsSince(since:05/01/2009)

### 3.2.2 Exception Messaging

GetUpdatedFacilityIDsSince(string parameters) Exception Messages

.NET Exception Type	Exception Message	Cause
NotSupportedException	'<parameterName>' is not a valid parameter.	An unsupported parameter was submitted to the service.
InvalidCastException	Invalid date provided.	An invalid date was provided for the “since” parameter.
Exception	Unable to retrieve the requested data.	A database error occurred within the DCIP system.
Exception	Exhibitor was not found.	When an exhibitor is provided in addition to the “since” parameter and does not exist in the DCIP system. Currently, the only supported exhibitor parameters are: ‘amctheatres.com’, ‘cinemark.com’, and ‘regalcinemas.com’.
Exception	<VARIES>	Internal exceptions

### 3.2.3 GetUpdatedFacilityIDsSince Sequence Diagram



### 3.3 GetFacilityIDs

This method returns a list of all facility identifiers for facilities within the DCIP system that has at least one auditorium converted or planned for conversion.

If the DCIP system does not contain any facilities to return any results, the method returns an exception.

#### 3.3.1 Method Parameters

The following shows the parameter string that could be passed into the GetAllFacilityIDs method.

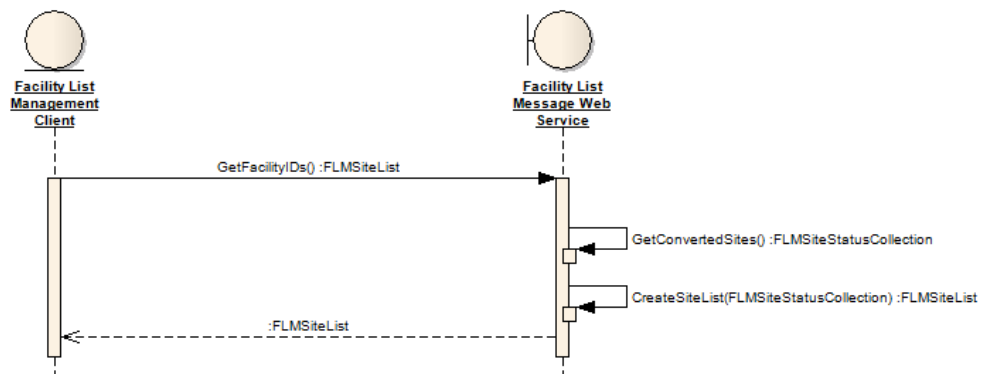
Method	Sample Parameter String
GetAllFacilityIDs( )	< None >  Example: GetAllFacilityIDs( )

#### 3.3.2 Exception Messaging

GetAllFacilityIDs() Exception Messages

.NET Exception Type	Exception Message	Cause
Exception	Unable to retrieve the requested data.	A database error occurred within the DCIP system.
Exception	<VARIES>	Internal exceptions

#### 3.3.3 GetFacilityIDs Sequence Diagram



## 4 Appendix

### 4.1 Sample FLM Site List Response

```
<?xml version="1.0" encoding="UTF-8"?>
<FLMSiteList xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="http://dcipllc.com/2009/07/FLMSiteList">
  <FLMSite>urn:x-facilityID:rentrak.com:101765</FLMSite>
  <FLMSite>urn:x-facilityID:dcipllc.com:473</FLMSite>
  <FLMSite>urn:x-facilityID:regalcinemas.com:108</FLMSite>
  <FLMSite>urn:x-facilityID:cinemark.com:110</FLMSite>
  <FLMSite>urn:x-facilityID:amctheatres.com:763</FLMSite>
</FLMSiteList>
```

## 4.2 Sample FLM Response

- Note: This is just a sample of the top portion of a standard SMPTE DCinema Facility List Message [SMPTE 430-7]. For additional specifications and schema definitions see SMPTE Standard 430-3 D-Cinema Operation-Generic Extra-Theatre Message Format [SMPTE 430-3], SMPTE DCinema Facility List Message and DCIP Facility List Message Non-Critical Extension [DCIP FLM].

```
<GetFLMResult xmlns="http://tempuri.org/">
  <ns0:AuthenticatedPublic Id="ID_473" xmlns:ns0="http://www.smp-te-ra.org/schemas/430-3/2006/ETM">
    <ns0:MessageId>urn:uuid:1c46ef9f-c75c-4513-a407-32587003ed07</ns0:MessageId>
    <ns0:MessageType>http://www.smp-te-ra.org/schemas/430-7/2008/FLM</ns0:MessageType>
    <ns0:AnnotationText>DCIP FLM Exchange</ns0:AnnotationText>
    <ns0:IssueDate>2009-06-04T17:28:56</ns0:IssueDate>
    <ns0:Signer>
      <ds:X509IssuerName xmlns:ds="http://www.w3.org/2000/09/xmldsig#">null</ds:X509IssuerName>
      <ds:X509SerialNumber xmlns:ds="http://www.w3.org/2000/09/xmldsig#">0</ds:X509SerialNumber>
    </ns0:Signer>
    <ns0:RequiredExtensions>
      <ns0:FLMRequiredExtensions>
        <flm:FLMPartial xmlns:flm="http://www.smp-te-ra.org/schemas/430-7/2008/FLM">>false</flm:FLMPartial>
        <flm:FacilityInfo xmlns:flm="http://www.smp-te-ra.org/schemas/430-7/2008/FLM">
          <flm:FacilityID>urn:x-facilityID:rentrak.com:123456</flm:FacilityID>
          <flm:AnnotationText>Regal Entertainment Group</flm:AnnotationText>
          <flm:FacilityName>Knoxville Center 10</flm:FacilityName>
          <flm:UTCOffset>
            <flm:Offset>-05:00</flm:Offset>
          </flm:UTCOffset>
        </flm:FacilityInfo>
        <flm:SecurityDeviceList xmlns:flm="http://www.smp-te-ra.org/schemas/430-7/2008/FLM">
          <flm:SecurityDevice>
            <ds:KeyInfo xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
              <ds:X509Data>
                <ds:X509Certificate>
                  -----BEGIN CERTIFICATE-----
                  MIERTCCAY2gAwIBAgIIPCJQh2hUTgowDQYJKoZIhvcNAQELBQAwBDEcMB0GA1UE
                  AxMTLlNvbkuRENJc3N1ZXJDS52MTEMMAoGA1UECwMDUFJPMRcwFQYDVQQKEw5E
                  Qy5DQS5Tb255LkNvbTEIMCMGA1UEHhMcc2RjMCToMEDIZ1U3RkFhUHFjMXFyZkZi
                  RzNzPTAeFw0wODExMTgwMjEwMTVaFw0wODExMTEwMjEwMTVaMHsxCzApBgNVBAMM
                  IINNLIHvbkuU1NQLTI3X0NPTVBMLjQ1MlpLOEI0XzAwMDEwDDAKBgNVBAsTA1BS
                  TzEXMBUGA1UEChMOREMuQ0EuU29ueS5Db20xJTAjBgNVBC4THGQ0UjdRG9jMUxs
                  akIUeTN6OVRnU2xBOFZuST0wggEiMA0GCSqGSIb3DQEBAQUAA4IBDwAwggEKAoIB
                  AQc9FPSk4qGHLthFsXvnrJc5Umw6D5fE/Hc4t6Bu5J/VjCaZ+7HeMpfwEgsbok8G
                  BtXfAY2RPWA9HR3BTKSvBmaMzd6z0UJ8IssNQ4E+H4F6FWraODiuc4D+ZqS4vCjh
                  XX5UpGDSERXbkjqDSemOfdwo2P12kfqEDeqvLVsUKEuzJSMDrSxa1Shfhqq+LULA
                  -----END CERTIFICATE-----
                
```