

AutoVue Client-Server Edition

WEB Server API Manual

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Table of Contents

| | | |
|-----|--|----|
| 1 | Introduction | 3 |
| 2 | File Open Request | 6 |
| 3 | File Download Request | 8 |
| 4 | Getting Properties | 11 |
| 5 | Setting Properties..... | 30 |
| 6 | Saving and Uploading Documents | 34 |
| 7 | Deleting Documents | 41 |
| 8 | Error/Authorization Handling | 43 |
| 9 | Appendix: DMA API Extension to support Real-Time Collaboration | 45 |
| 9.1 | GetProperties | 45 |
| 9.2 | SetProperties..... | 48 |
| 9.3 | Save | 51 |
| 9.4 | AutoVue Applet Page | 52 |
| 10 | Appendix: DMS Arguments in AutoVue Applet Page..... | 53 |

1 Introduction

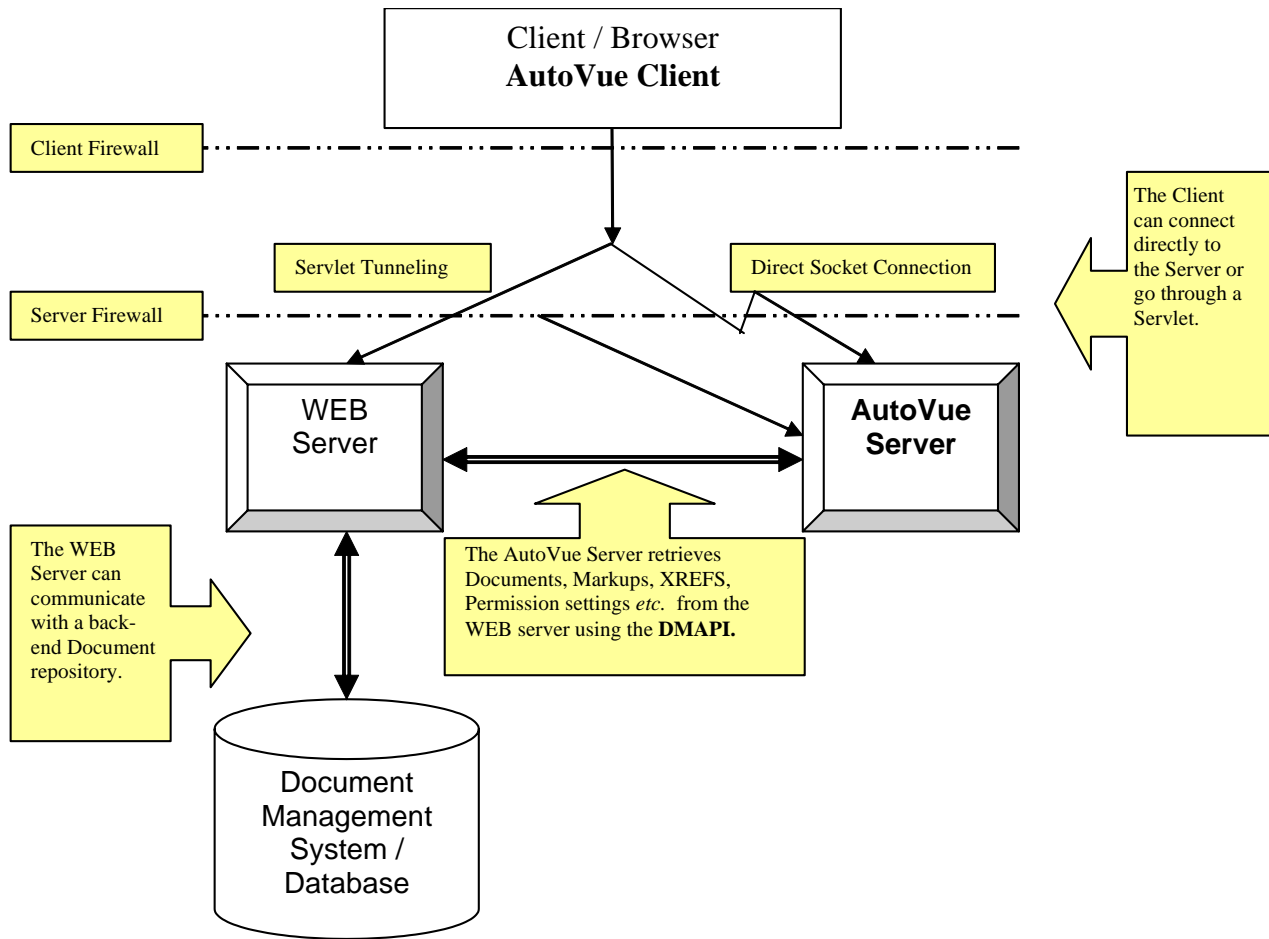
AutoVue Client-Server Edition is a thin client viewing and collaboration solution for enterprise-wide data access. Out of the box, it provides powerful viewing and markup functions.

Its Document Management Application Programming Interface (API) or “DMAPI” allows for a very tight-knit integration with back-end document management/database systems.

There are several categories of requests that the AutoVue Server makes to the Web server. These include:

1. The initial retrieval of the document from the document repository.
2. Requesting properties of the base file, e.g.:
 - The document title
 - Number of Markups
 - Master markups
 - The list of associated documents such as external reference files (XREFS).
3. Downloading associated documents such as XREFS and fonts from the document management system to the AutoVue Server.
4. Markup related requests, e.g.
 - Listing markups
 - Opening markups
 - Saving markups
5. Renditions related requests, e.g.
 - Saving renditions / cached meta files

The DMAPI encodes all request parameters and results in the industry standard XML format to provide for future enhancements and simplify integration implementations.



The above diagram illustrates the fundamental architecture of the AutoVue Client-Server Edition / Document Management environment. In real-world deployments, multiple AutoVue Servers may be present, and the client may be communicating with the servers through a client proxy. These facilities can provide performance and security enhancements but do not affect the implementation of the DMAPI.

Normally, Users access "AutoVue Client-Server Edition" through a WEB browser. An "Applet tag" in the HTML source of the web page reserves space and specifies the document to be displayed.

For example:

```
<APPLET
NAME="JVue"
CODE="com.cimmetry.jvue.JVue.class"
WIDTH=100% HEIGHT=100% MAYSRIPT
ETC.
>
<PARAM NAME="FILENAME" VALUE="http://www.myserver.com/etc/name?param1=xxx&param2=yyy&etc." >
<PARAM NAME="JVUESERVER"
VALUE="socket://www.myserver.com:5099;http://www.myserver.com/servlet/VueServlet">
<PARAM NAME="xxx" VALUE="xxx">
ETC.
</APPLET>
```

Details of the APPLETTAG are left out, but if you are using AutoVue Client-Server Edition v15, the important Applet Parameters that affect the DMAPI are the **FILENAME** and **JVUESERVER**

tags. If you are using AutoVue Client-Server Edition **v16** or higher, the important Applet Parameters that affect the DMAPAPI are the **FILENAME**, **JVUESERVER** and **DMS** tags.

The **FILENAME** specifies the URL of the document to view. For a Document Management backend, it is generally a cgi-based URL.

The **JVUESERVER** specifies the AutoVue Client-Server Edition host and the mechanism(s) used to connect. The parameter can specify a connection to the AutoVue Server through a direct socket connection, and/or through a Servlet.

The **DMS** specifies the URL to the DMAPAPI server component (servlet, CGI (Common Gateway Interface) script, ASP (Active Server Pages) script, or JSP (Java Server Pages)).

For AutoVue Client-Server Edition v15 only

On the AutoVue Server, one or more Document Management interfaces can be configured. The interfaces are specified in the “**VueServer.ini**” file (which is normally located in the Windows directory or binary directory - default is C:\Program Files\jVue\bin). Each is specified under the **[DMS]** section. e.g.

```
[DMS]
DMS1=http://machine.com/servlet/servletName1
DMS2=http://machine.com/servlet/servletName2
DMS3=http://machine.com/servlet/servletName3
```

The DMAPAPI integration is a Web server component that is generally implemented as a “Servlet”. It is called by the AutoVue Server and acts as the intermediary between the AutoVue Server and the back-end Document Management System. This document describes the format of the communication (request/response) between the AutoVue Server and the DM Integration component.

2 File Open Request

The AutoVue Server will make requests to get the document id of the file.

POST: <http://www.server.com/servlet/avdms>

The POSTed data contains XML data of the form:

```
<?xml version="1.0"?>
<!DOCTYPE CSIDATA SYSTEM "csi.dtd" > ; Optional

<CSIDATA>
  <Request>
    ; Original FILENAME
    <OriginalURL>
      <![CDATA[filename_parameter]]>
    </OriginalURL>
    <Authorization>
      ; Browser cookie
      <Cookie>
        <![CDATA[Cookie]]>
      </Cookie>
      ; DMS session id
      <Property name="CSI_DMSSession">
        <![CDATA[sessionID]]>
      </Property>
      <Property name="id1" value="value"/>
      <Property name="id2" value="value"/>
      ; ETC.
    </Authorization>
    <Open/>
  </Request>
</CSIDATA>
```

where **filename_parameter** is the **FILENAME** PARAM passed in AutoVue applet ("JVue") Tag. It is passed in a CDATA section to allow the use of characters that would otherwise be parsed as XML markup characters ('<', '>', '&', etc).

The response is a XML data containing the document ID property.

```
<?xml version="1.0"?>
<!DOCTYPE CSIDATA SYSTEM "csi.dtd" > ; Optional

<CSIDATA>
  <Response>
    <Property name="CSI_DocID">
      <![CDATA[DocID]]>
    </Property>
    <ERROR>
```

```
<SUCCEED code="number" message="message" />  
</ERROR>  
</Response>  
</CSIDATA>
```

If the DMAPI Servlet is NOT capable of handling 'OriginalURL' URL (i.e., URL does not belong to this DMS), or further authorization is required, then an error message should be returned. Refer to the Section "**Error/Authorization Handling**" for more information.

3 File Download Request

The AutoVue Server will make requests for several different cases. For example:

1. To download the original file, specified in the "FILENAME" Applet tag.
2. To download support files such as XREFS.
3. To download markups.
4. To download files for Overlays or File-Comparison.

POST:http://www.server.com/servlet/avdms

The POSTed data contains XML data of the form:

```
<?xml version="1.0"?>
<!DOCTYPE CSIDATA SYSTEM "csi.dtd" > ; Optional

<CSIDATA>
  <Request>
    ; Original FILENAME
    <OriginalURL>
      <![CDATA[filename_parameter]]>
    </OriginalURL>
    ; Document ID
    <CSI_DocID>
      <![CDATA[docID]]>
    </CSI_DocID>
    <Authorization>
      ; Browser cookie
      <Cookie>
        <![CDATA[Cookie]]>
      </Cookie>
      ; DMS session id
      <Property name="CSI_DMSSession">
        <![CDATA[sessionID]]>
      </Property>
      <Property name="name" value="value" />
      <Property name="name" value="value" />
      ; ETC.
    </Authorization>
    <Download/>
  </Request>
</CSIDATA>
```

where **filename_parameter** is the **FILENAME** PARAM passed in AutoVue applet ("JVue") Tag. And **docID** is the ID of the document to be downloaded.

The data is returned as Content-type **application/octet-stream**.

In the case of an Error (such as insufficient Authorization, an < ERROR> **Response** is returned as Content-type text/xml. Refer to the Section “**Error/Authorization Handling**” for more information.

New in v17.1SP5:

In a distributed environment where several remote cache servers may be used for storing files, main DMS server component may redirect the download request to another DMS server component that is installed closer to where files actually reside. This greatly improves performance since AutoVue Server is installed at same location as remote cache server.

Redirection is done by returning a ticket authorizing AutoVue Server to download the file directly from another location specified in the redirection response.

```
<?xml version="1.0"?>
<CSIDATA>
  <Response>
    <Property name="Redirect">
      ; Redirection type is HTTP URL
      <Property name="Type" value="URL" />
      ; Ticket authorizing download from remote file cache server
      <Property name="Ticket">"
        <![CDATA[TicketValue]]>"
      </Property>
      ; URL to DMS server component located at remote file cache server
      <Property name="Server" value="URL" />
      ; Original FILENAME
      <Property name="OriginalURL">"
        <![CDATA[originalURL]]>"
      </Property>
      ; Document ID
      <Property name="CSI_DocID">"
        <![CDATA[docID]]>"
      </Property>
    </Property>
  </Response>
</CSIDATA>
```

AutoVue Client-Server Edition adds the ticket to Authorization block of the Download request made to the DMS server component located at remote cache site.

New in v18:

- In case base file is a zip file, Download request may include ‘**CSI_BaseDocName**’ property.
- DM Integration component can use this property to identify base file for which Download should return metafile (if exists).
- ‘**CSI_BaseDocName**’ property may be nested in case a zip file contains another zip file.

- In AutoVue, format for a URL to a zip file is :
url_to_zip//url_to_another_zip//file_path

```
<Properties>
  ; Setting base document name for nested zip file
  <Property name="CSI_BaseDocName" >
    <![CDATA[url_to_another_zip]]>
    <Property name="CSI_BaseDocName" >
      <![CDATA[file_path]]>
    <Property/>
  <Property/>
</Properties>
```

4 Getting Properties

The AutoVue Server will make requests for document or collaboration session properties, for example:

1. To get basic document properties such as Title, Author, Creation-Date, Last-Modified-Date etc.
2. To get the list of associated XREFS.
3. To get the list of Markups associated with a document.
4. To get a list of available properties.
5. Retrieving the value of any of the available properties.
6. Getting the user list for a given collaboration session

The request is described below:

POST: <http://www.server.com/servlet/avdms>

The POSTed data contains XML data of the form:

```
<?xml version="1.0"?>
<!DOCTYPE CSIDATA SYSTEM "csi.dtd" > ; Optional

<CSIDATA>
  <Request>
    ; Original FILENAME
    <OriginalURL>
      <![CDATA[filename_parameter]]>
    </OriginalURL>
    ; If querying properties for a document
    <CSI_DocID>
      <![CDATA[docID]]>
    </CSI_DocID>
    ; Or if querying properties for a collaboration session
    <CSI_ClbSessionData>
      <![CDATA[dmsClbSessionID]]>
    </CSI_ClbSessionData>
    <Authorization>
      ; Browser cookie
      <Cookie>
        <![CDATA[Cookie]]>
      </Cookie>
      ; DMS session id
      <Property name="CSI_DMSSession">
        <![CDATA[sessionID]]>
      </Property>
      <Property name="name" value="value" />
      ; ETC.
    </Authorization>
    <GetProperties>
      <Property name="PropertyOne" /> ; Optional
```

```

    <Property name="PropertyTwo" index="number" /> ;index is optional
    ; ETC.
  </GetProperties>
</Request>
</CSIDATA>

```

where *filename_parameter* is the **FILENAME** PARAM passed in AutoVue applet ("JVue") Tag.

The response is XML structured data:

```

<?xml version="1.0"?>
<!DOCTYPE CSIDATA SYSTEM "csi.dtd" > ; Optional

<CSIDATA>
  <Response>
    <GetProperties>
      ; Custom data returned as child elements
      ;XREFS
      <Property name="CSI_XREFS">
        <Property name = "XREF">
          <Property name="CSI_DocID">
            <![CDATA[xrefDocID]]>
          </Property>
          <Property name= "Name" value = "basename" />
          ; Nested Xref(s)
          <Property name = "XREF">
            <Property name="CSI_DocID">
              <![CDATA[xrefDocID]]>
            </Property>
            <Property name= "Name" value = "xrefname" />
          </Property>
          ; ETC.
        </Property>
        ; ETC.
      </Property>
      ;Markups
      <Property name="CSI_Markups">
        ;Specify the markup GUI for open and save
        <Property name = "GUI">
          <Property name = "DisplayOptions">
            <Property name="AllowDelete" value="true/false" />
            <Property name="ShowPreviousVersions" value="true/false" />
            <Property name="AllowNew" value="true/false" />
            <Property name="AllowImport" value="true/false" />
            <Property name="AllowExport" value="true/false" />
            <Property name="AllowNewLayers" value="true/false" />
            <Property name="AllowModifyLayers" value="true/false" />
          </Property>
          <Property name = "Display">
            <Property name="name1" value="width" />
            <Property name="name2" value="width" />
          </Property>
        </Property>
      </Property>
    </GetProperties>
  </Response>
</CSIDATA>

```

```

    <Property name = "Edit">
      <STATIC value="value">
      <EDIT id="name1" name="title1" hidden ="false/true" />
      <COMBO id="name2" name="title2" default="default">
        <Value value="value1"/>
        <Value value="value1"/>
        <Value value="value1"/>
      </COMBO>
      ; ETC.
    </Property>
  </Property>
  <Property name = "Markup">
    <Property name="CSI_DocID">
      <![CDATA[markupDocID]]>
    </Property>
    ; for read only markups
    <Property name= "CSI_DocReadOnly" value="true/false"/>
    ; ETC.
    <Property name= "name1" value="value1"/>
    <Property name= "name2" value="value2"/>
    ; ETC.
  </Property>
  <Property name = "Markup">
    <Property name="CSI_DocID">
      <![CDATA[markupDocID]]>
    </Property>
    <Property name= "name1" value="value1"/>
    <Property name= "name2" value="value2"/>
    ; ETC.
  </Property>
  ; ETC.
</Property>
;Versions
<Property name="CSI_Versions">
  <Property name="CSI_DocID">
    <![CDATA[versionDocID]]>
  </Property>
  ; ETC.
</Property>
;Collaboration
<Property name="CSI_Collaboration">
  <Property name = "GUI">
    ;Specify the session creation options
    <Property name = "DisplayOptions">
      <Property name="AllowAdd" value="true/false" />
      <Property name="AllowAddNew" value="true/false"/>
      <Property name="AllowRemove" value="true/false"/>
      <Property name="AllowLayerColor" value="true/false"/>
    </Property>
    ;Specify the session information fields
    <Property name = "Display">
      <Property name="name1" value="width" />

```

```

    <Property name="name2" value="width" />
  </Property>
  ;Specify the session invitation elements
  <Property name = "Invitation">
    <STATIC value="value">
    <EDIT id="name1" name="title1" hidden ="false/true" />
    <COMBO id="name2" name="title2" default="default">
      <Value value="value1"/>
      <Value value="value1"/>
      <Value value="value1"/>
    </COMBO>
    <LIST id="name2" name="title2">
      <Value value="value1"/>
      <Value value="value1"/>
      <Value value="value1"/>
    </LIST>
    ; ETC.
  </Property>
</Property>
<Property name = "Session">
  <Property name="CSI_ClbSessionID">
    <![CDATA[collaborationSessionID]]>
  </Property>
  ; for private/public session, default public
  <Property name= "CSI_ClbSessionType" value="private/public"/>
  ; Save chat transcript at end of session
  <Property name= "CSI_ClbSaveChat" value="true/false"/>
  ; ETC.
  <Property name= "name1" value="value1"/>
  <Property name= "name2" value="value2"/>
  ; ETC.
</Property>
<Property name = "Session">
  <Property name="CSI_SessionID">
    <![CDATA[collaborationSessionID]]>
  </Property>
  <Property name= "name1" value="value1"/>
  <Property name= "name2" value="value2"/>
  ; ETC.
</Property>
; ETC.
</Property>
;Permissions
<Property name="CSI_Permissions">
  <Property name = "GUI">
    <Property name ="Disable"/> ; Optional
    <Value value="id1" />
    <Value value="id2" />
    ; ETC.
  </Property>
</Property>
; Single valued property

```

```

<Property name="PropertyOne" value="Value" />
; Multi valued property
<Property name="PropertyTwo">
  <Value value="Value1" />
  <Value value="Value2" />
  <Value value="Value3" />
</Property>
; Renditions
<Property name = "CSI_Renditions" value="Value">
  ; Optional, if Metafile exist
  <Property name="CSI_DocID">
    <![CDATA[MetafileRenditionDocID]]>
  </Property>
</Property>
; ETC.
; List of All Properties
<Property name = "CSI_ListAllProperties" >
  <Property name="Property1" />
  <Property name="Property2" />
  <Property name="Property3" />
  ; ETC.
</Property>
; DMS session id
<Property name="CSI_DMSSession">
  <![CDATA[sessionID]]>
</Property>
; GUI for Login
<Property name = "GUI" value = "Authorization">
  <Property name = "Edit">
    <STATIC value="value">
    <EDIT id="name1" name="title1" hidden ="false/true" />
    <COMBO id="name2" name="title2" default="default">
      <Value value="value1"/>
      <Value value="value2"/>
      <Value value="value3"/>
    </COMBO>
    ; ETC.
  </Property>
</Property>
; GUI for File Browse
<Property name = "GUI" value = "Browse">
  <Property name = "Display">
    <Property name="name1" value="width" />
    <Property name="name2" value="width" />
    ; ETC.
  </Property>
</Property>
; Specify List of items that are direct children
<Property name="CSI_ListItems">
  <Property name="CSI_DocID">
    <![CDATA[docID]]>
    ; Item type : folder or document

```

```

    <Property name= "CSI_ItemType"
value="CSI_Folder|CSI_Document"/>
    ; Other properties
    <Property name= "name1" value="value1"/>
    <Property name= "name2" value="value2"/>
    ; ETC.
    ; Nested doc id imply children (optional)
    <Property name="CSI_DocID">
    <![CDATA[docID]]>
    ; Item type : folder or document
    <Property name= "CSI_ItemType"
value="CSI_Folder|CSI_Document"/>
    ; Other properties
    <Property name= "name1" value="value1"/>
    <Property name= "name2" value="value2"/>
    ; ETC.
    </Property>
    </Property>
    ; GUI for Search
    <Property name="GUI" value = "Search"/>
    ; Specify GUI for search form
    <Property name = "Edit">
    <STATIC value="value">
    <EDIT id="name1" name="title1" hidden = "false/true" />
    <COMBO id="name2" name="title2" default="default">
    <Value value="value1"/>
    <Value value="value2"/>
    <Value value="value3"/>
    </COMBO>
    ; ETC.
    </Property>
    ; Specify GUI for search results
    <Property name = "Display">
    <Property name="name1" value="width" />
    <Property name="name2" value="width" />
    </Property>
    </Property>
    ; Search results
    <Property name="CSI_Search">
    ; Specify the List of items that match search criteria
    <Property name="CSI_DocID">
    <![CDATA[docID]]>
    ; Other properties
    <Property name= "name1" value="value1"/>
    <Property name= "name2" value="value2"/>
    ; ETC.
    </Property>
    ; ETC.
    </Property>
    ; GUI for Document Check-in
    <Property name = "GUI" value = "Document">
    ; Allow Browse option

```

```

    <Property name = "DisplayOptions">
      <Property name="AllowBrowse" value="true|false" />
    </Property>
    <Property name = "Edit">
      <STATIC value="value">
      <EDIT id="name1" name="title1" hidden ="false|true" />
      <COMBO id="name2" name="title2" default="default">
        <Value value="value1"/>
        <Value value="value2"/>
        <Value value="value3"/>
      </COMBO>
      ; ETC.
    </Property>
  </Property>
  ; CAD/DMS Attributes Mapping
  <Property name="CSI_CADAttributesMapping">
    <Property name= "dmsName1" value="cadName1"
readOnly="true|false" />
    <Property name= "dmsName2" value="cadName2"
readOnly="true|false" />
    ; ETC.
  </Property>
  ; ETC.
</GetProperties>
</Response>
</CSIDATA>

```

Notes:

- o The request for Properties is flexible: Any number of properties can be requested simultaneously, or the requests can be separated.
- o The Property CSI_Versions is predefined. The returned data is a list of previous version doc ids:

```

<Property name = "CSI_Versions">
  <Property name="CSI_DocID">
    <![CDATA[versionDocID]]>
  </Property>
</Property>

```

In AutoVue Client-Server Edition v16.1, the Property VERSION is predefined. The returned data can contain additional information such as doc names and version numbers in addition to ids. A series of zero or more VERSION entries with properties CSI_DocID, CSI_DocName and CSI_Version may be returned.

```

<Property name = "CSI_Versions">
  <Property name="VERSION">
    <Property name="CSI_DocID">
      <![CDATA[versionDocID]]>
    </Property>
  </Property>

```

```

    <Property name="CSI_DocName" value="DocName" />
    <Property name="CSI_Version" value="version" />
  </Property>
</Property>

```

- The Property **CSI_Renditions** is predefined. The returned data should conform to the following format:

```

; for single valued
<Property name = "CSI_Renditions" value="Value">
; optional, if Metafile exist
  <Property name="CSI_DocID">
    <![CDATA[MetafileRenditionDocID]]>
  </Property>
</Property>

; for multi valued
<Property name = "CSI_Renditions" >
  <Value value="Value1" />
  <Value value="Value2" />
  <Value value="Value3" />
  ... Etc ...
; optional, if Metafile exist
  <Property name="CSI_DocID">
    <![CDATA[MetafileRenditionDocID]]>
  </Property>
</Property>

```

The value for **CSI_Renditions** is a list of allowed renditions. If Metafile rendition is supported, **CSI_META** should be included in the list. If a Metafile rendition exists, its doc id should also be returned with property name **CSI_DocID**. If **CSI_DocID** were returned, AutoVue Server would issue a request to download the Metafile.

- The Property **CSI_ListAllProperties** is predefined. The returned data should conform to the following format:

```

<Property name = "CSI_ListAllProperties" >
  <Property name="Property1" />
  <Property name="Property2" />
  <Property name="Property3" />
  ... Etc ...
</Property>

```

The returned list of properties is used by AutoVue to fill in the print codes for Footers/Headers/Watermark in Print properties dialog box and the File / Properties / DMS dialog box.

- The Property **CSI_XREFS** is predefined. The returned data should conform to the following format:
A series of zero or more XREF entries with properties name and **CSI_DocID**:

```
<Property name = "XREF">
  <Property name="CSI_DocID">
    <![CDATA[xrefDocID]]>
  </Property>
  <Property name= "Name" value = "xrefname" />
</Property>
```

The Name property corresponds to the external name of the document and the DocID corresponds to the unique Document ID of that identifies the Document in the document management system. Both Name and CSI_DocID are required properties.

New in v17.1:

- o List of XRefs may include nested XRefs to support Assembly/Parts and Master/XRefs designs.

```
<Property name = "XREF">
  <Property name="CSI_DocID">
    <![CDATA[xrefDocID]]>
  </Property>
  <Property name= "Name" value = "xrefname" />
  ; Nested XRef(s)
  <Property name = "XREF">
    <Property name="CSI_DocID">
      <![CDATA[xrefDocID]]>
    </Property>
    <Property name= "Name" value = "xrefname" />
  </Property>
  ; ETC.
</Property>
; ETC
```

- o The Property CSI_Markups is predefined. The returned data should conform with the following format:
A property, named GUI, which contains a list of GUI element definitions. The "Display" attribute lists the attributes to be displayed in the Markup selection dialog along with the width to reserve for the attributes' display. The display width is specified as a number of characters.
The "Edit" property allows the server to define the user interface presented to the user when a markup save is requested. The children of edit may include user interface elements that define static text (STATIC), edit boxes (EDIT), and combo boxes with a list of possible choices (COMBO). For each user interface element, "id" identifies the name of the attribute that the server will pass back to the integration, and "name" specifies the caption for the element. Combo box options are specified as nested "Value" tags.
After the user interface definitions, zero or more Markup properties follow. Each entry contains one or more properties that can be displayed in the Markup selection dialog. The attribute CSI_DocID is required for each Markup property.

```
<Property name="CSI_Markups">
  ;Specify the markup GUI for open and save
  <Property name = "GUI">
```

```

<Property name = "DisplayOptions">
  <Property name="AllowDelete" value="true/false" />
  <Property name="ShowPreviousVersions" value="true/false" />
  <Property name="AllowNew" value="true/false" />
  <Property name="AllowImport" value="true/false" />
  <Property name="AllowExport" value="true/false" />
  <Property name="AllowNewLayers" value="true/false" />
  <Property name="AllowModifyLayers" value="true/false" />
</Property>
<Property name = "Display">
  <Property name="name1" value="width" />
  <Property name="name2" value="width" />
  ; ETC.
</Property>
<Property name = "Edit">
  <STATIC value="value" />
  <EDIT id="name1" name="title1" hidden = "false/true" />
  <COMBO id="name2" name="title2" default="default">
    <Value value="value1" />
    <Value value="value1" />
    <Value value="value1" />
  </COMBO>
  ; ETC.
</Property>
</Property>
<Property name = "Markup">
  <Property name="CSI_DocID">
    <![CDATA[markupDocID]]>
  </Property>
  <Property name= "name1" value="value1" />
  <Property name= "name2" value="value2" />
  ; ETC.
</Property>
<Property name = "Markup">
  <Property name="CSI_DocID">
    <![CDATA[markupDocID]]>
  </Property>
  <Property name= "name1" value= "value1" />
  <Property name= "name2" value= "value2" />
  ; ETC
</Property>
; ETC.
</Property>

```

For future development:

- The Property CSI_Permissions is predefined. The returned data should conform with the following format:
A Disable property containing a list of "VueAction" that are to be disabled in the Client User Interface. This allows certain actions (e.g. Printing or Markup) to be easily disabled in the default client user interface.

New in v17:

- If AutoVue applet is launched with COLLABORATION parameter with VALUE= " **INIT** ", then AutoVue server queries the DMS server-side component for collaboration session id by calling `GetProperties(CSI_ClbSessionID)`. The DMS server-side component can extract the session id from this session data. The session id should be unique.
- The Property `CSI_Collaboration` is predefined. The returned data should conform with the following format:
 - A property, named "**GUI**", which contains a list of GUI element definitions.
 - "**DisplayOptions**" section for enabling/disabling GUI items in Invitation dialog box.
 - The "**Display**" attribute lists the attributes to be displayed in the Session selection dialog along with the width to reserve for the attributes display. The display width is specified as a number of characters.
 - The "**Invitation**" property allows the server to define the user interface presented to the user when an invitation entry is added. It may include user interface elements that define static text (STATIC), edit boxes (EDIT), and combo boxes with a list of possible choices (COMBO). For each user interface element, "id" identifies the name of the attribute that the server will pass back to the integration, and "name" specifies the caption for the element. Combo box options are specified as nested "Value" tags.
 - a `CSI_ClbUsers` section lists users who have already been invited to the collaboration.
 - a `session` section lists session information (properties) such as session title, id, type, subject, duration, start time...etc.
 - `csi_clbsavechat` indicates whether DMS server-side component supports saving chat transcript.

After the user interface definitions, zero or more Session properties follow. Each entry contains one or more properties that can be displayed in the Session selection dialog. This session entries relate to the DMS defined collaboration entries and not to the actual AutoVue server collaboration entries.

```

<Property name="CSI_Collaboration">
  <Property name = "GUI">
    ;Specify the session creation options
    <Property name = "DisplayOptions">
      <Property name="AllowAdd" value="true/false" />
      <Property name="AllowAddNew" value="true/false"/>
      <Property name="AllowRemove" value="true/false"/>
      <Property name="AllowLayerColor" value="true/false"/>
    </Property>
    ;Specify the session information fields
    <Property name = "Display">
      <Property name="name1" value="width" />
      <Property name="name2" value="width" />
    </Property>
    ;Specify the session invitation elements
    <Property name = "Invitation">

```

```
<STATIC value="value">
<EDIT id="name1" name="title1" hidden ="false/true" />
<COMBO id="name2" name="title2" default="default">
  <Value value="value1"/>
  <Value value="value1"/>
  <Value value="value1"/>
</COMBO>
; ETC.
</Property>
</Property>
<Property name = "ClbUsers">
  <Value value = "user1"/>
  <Value value = "user2"/>
</Property>
<Property name = "Session">
  <Property name="CSI_ClbSessionID">
    <![CDATA[collaborationSessionID]]>
  </Property>
  ; for private/public session, default public
<Property name= "CSI_ClbSessionType" value="private/public"/>
  ; Save chat transcript at end of session
<Property name= "CSI_ClbSaveChat" value="true/false"/>
  ; ETC.
  <Property name= "name1" value="value1"/>
  <Property name= "name2" value="value2"/>
  ; ETC.
</Property>
<Property name = "Session">
  <Property name="CSI_SessionID">
    <![CDATA[collaborationSessionID]]>
  </Property>
  <Property name= "name1" value="value1"/>
  <Property name= "name2" value="value2"/>
  ; ETC.
</Property>
; ETC.
</Property>
```

New in v17.1:

- o The property **CSI_DMSSession** is predefined. Authorization properties must include login info such as user name (**CSI_UserName**), password (**CSI_Password**), domain (**CSI_Domain**) and library (**CSI_Library**).

```
<Authorization>
  ; Login info
  <Property name="CSI_UserName" value="value"/>
  <Property name="CSI_Password" value="value"/>
  <Property name="CSI_Domain" value="value"/>
  <Property name="CSI_Library" value="value"/>
  <Property name="id" value="value"/>
  ; ETC.
</Authorization>
<GetProperties>
  ; DMS Session id
  <Property name="CSI_DMSSession">
</GetProperties>
```

- o The returned data should include **DMS Session ID** and conform with the following format:

```
; DMS session id
<Property name="CSI_DMSSession">
  <![CDATA[sessionID]]>
</Property>
```

- o The properties **'GUI'** and **'Authorization'** are predefined.

```
<GetProperties>
  ; GUI for Login dialog
  <Property name="GUI" value ="Authorization"/>
</GetProperties>
```

- o The returned data should include **GUI** items such as **CSI_UserName**, **CSI_Password**, **CSI_Domain** and **CSI_Library** which describe the login fields and conform to the following format:

```
; Login GUI
<Property name = "GUI" value = "Authorization">
  <Property name = "Edit">
    <STATIC value="value">
    <EDIT id="name1" name="title1" hidden ="false/true" />
    <COMBO id="name2" name="title2" default="default">
      <Value value="value1"/>
      <Value value="value2"/>
      <Value value="value3"/>
    </COMBO>
    ; ETC.
  </Property>
</Property>
```

- o The properties **'GUI'** and **'Browse'** are predefined.

```
<GetProperties>
```

```

; GUI for Browse dialog
<Property name="GUI" value ="Browse"/>
</GetProperties>

```

- o The returned data should include **GUI** elements that describe the columns for listing the items and conform with the following format:

```

; Specify the List GUI
<Property name = "GUI" value = "Browse">
  <Property name = "Display">
    <Property name="name1" value="width" />
    <Property name="name2" value="width" />
    ; ETC.
  </Property>
</Property>

```

- o The property **CSI_ListItems** is predefined. The XML request may include **docID** for which direct children list is to be returned. If **docID** is null, the response should include list of items found at the **root level** in the DMS.

```

; Folder ID for which direct children list is to be returned
<CSI_DocID>
  <![CDATA[ folderID ]]>
</CSI_DocID>
<GetProperties>
  ; Browse Items
  <Property name="CSI_ListItems" />
</GetProperties>

```

- o The returned data should include list of **items** that are direct children of the doc id passed in the XML request. Each **item** must include the **docID**.

```

<Property name="CSI_ListItems">
  ; Specify List of items that are direct children
  <Property name="CSI_DocID">
    <![CDATA[ docID ]]>
    ; Item type : folder or document
    <Property name= "CSI_ItemType"
value="CSI_Folder|CSI_Document"/>
    ; Other properties
    <Property name= "name1" value="value1"/>
    <Property name= "name2" value="value2"/>
    ; ETC.
    ; Nested doc id imply children (optional)
    <Property name="CSI_DocID">
      <![CDATA[ docID ]]>
      ; Item type : folder or document
      <Property name= "CSI_ItemType"
value="CSI_Folder|CSI_Document"/>
      ; Other properties
      <Property name= "name1" value="value1"/>
      <Property name= "name2" value="value2"/>
      ; ETC.
    </Property>
  </Property>

```

```
</Property>
```

- o The properties **'GUI'** and **'Document'** are predefined.

```
<GetProperties>
  ; GUI for File checkin dialog
  <Property name="GUI" value ="Document" />
</GetProperties>
```

- o The returned data should include **GUI** elements that compose the check-in dialog (GUI → Edit). The response may also include **'AllowBrowse'** option to show/hide **'Browse'** button for check-in dialog.

```
; GUI for Document Check-in
<Property name = "GUI" value = "Document">
  ; Allow Browse option
  <Property name = "DisplayOptions">
    <Property name="AllowBrowse" value="true|false" />
  </Property>
  <Property name = "Edit">
    <STATIC value="value">
    <EDIT id="name1" name="title1" hidden ="false|true" />
    <COMBO id="name2" name="title2" default="default">
      <Value value="value1" />
      <Value value="value2" />
      <Value value="value3" />
    </COMBO>
    ; ETC.
  </Property>
</Property>
```

- o The property **CSI_CADAttributesMapping** is predefined. The response is an XML data containing a list of DMS attributes mapped to CAD attributes. **'readOnly'** flag indicates whether the DMS attribute can be updated (default is **false**).

```
<Property name="CSI_CADAttributesMapping">
  <Property name= "dmsName1" value="cadName1"
readOnly="true|false" />
  <Property name= "dmsName2" value="cadName2"
readOnly="true|false" />
  ; ETC.
</Property>
```

- o The property **CSI_AllowBrowse** is predefined. The response should return 'true' if DMS Server Component supports file browse feature.

```
<Property name="CSI_AllowBrowse" value="true/false" />
```

- The following Properties are predefined, and are expected to map, internally to the appropriate DMS property:

| Property Name | Description |
|-------------------------|--|
| CSI_DocID | Read-only: A unique identifier for the document. This is a read-only attribute. |
| CSI_BaseDocID | Read-only: A unique identifier for the parent document. |
| CSI_BaseDocName | File name and path for the parent document (new in v18). |
| CSI_IsDMSDoc | Read-only: Returns 1 if the specified document/URL belongs to the DMS repository. Returns 0 if it does not (e.g. for a local file, or a URL on a WEB server that is not managed by the DMS). |
| CSI_IsMultiContent | Read-only: Indicates that the document ID refers to a collection of documents indexed by page number. |
| CSI_DocName | The descriptive title of the document |
| CSI_DocSize | Read-only: Size of document in bytes |
| CSI_DocDateCreate | Read-only: Date document was created (GMT Time) |
| CSI_DocDateLastModified | Read-only: Date document was last modified (GMT Time) |
| CSI_DocAuthor | Document author/owner |
| CSI_UserName | User Name |
| CSI_Version | The version number (a[,b[,c[,d]]]) |
| CSI_MarkupType | Can be one of normal, master, consolidated. This applies only to Markup documents. The return value should be empty for non-Markup documents. |
| CSI_MultiContentPage | Index to content when dealing with a multi-content document. |
| CSI_ListAllProperties | A list of all document attributes available. |
| CSI_Renditions | A list of allowed renditions format types. Available values are: PCRS_TIF CSI_META |
| CSI_Versions | A list of docIDs corresponding to all versions of a document. |
| CSI_RenditionType | Can be one of supported formats returned by CSI_Renditions or "CSI_META" which is used for cached meta files. This applies only to Rendition documents. |
| CSI_Compression | Used in the Save request to indicate that the document is gzip-compressed. Can be "true" or "false" (default "false"). |
| CSI_DocReadOnly | Used to specify read only markups, mainly for markups. Can be "true" or "false", if not present "false" is assumed. |
| CSI_MIMETypes | Used in the Save request to indicate which |

| Property Name | Description |
|--|--|
| | MIME types are supported when uploading data. Can be "text/xml" or "multipart/form-data" (default is "text/xml"). |
| CSI_Collaboration | Used for collaboration requests |
| CSI_ClbSessionData | A DMS collaboration session handle |
| CSI_ClbSessionID | A unique identifier for a collaboration session |
| CSI_ClbSessionType | Can be either private or public. This applies only to collaboration sessions. The return value should be empty otherwise. |
| CSI_ClbSaveChat | Saves the session chat transcript and on collaboration session close. Can be true or false, default is false. |
| CSI_ClbDocType | Used to save chat transcript attached to a session. Only "chat" value is supported. |
| CSI_ClbUsers | Returns the list of collaboration users. If a session is defined in the request, it requests the list of collaboration users in the session. |
| CSI_DMSSession | DMS Session id after successful login to DMS. |
| CSI_Password | Valid password to login to DMS. |
| CSI_Domain | Domain name to login to DMS. |
| CSI_Library | Library name to login to DMS. |
| GUI Authorization Browse Search Document | Used to return user interface items. Login dialog box File/Folder browse dialog box Search form dialog box File Save (check-in) dialog box |
| CSI_ListItems | Used in file browse to return list of direct children for a give folder id. |
| CSI_ItemType | Used to indicate item type when returning list of items for CSI_ListItems. Can be either CSI_Folder or CSI_Document. |
| CSI_Search | Used to perform search for documents inside DMS. |
| CSI_CADAttributesMapping | Used to return CAD/DMS attributes mapping. |
| CSI_AllowBrowse | 'true' if file browse is supported. Otherwise, 'false'. |
| CSI_AllowSearch | 'true' if file search is supported. Otherwise, 'false'. |
| CSI_Redirected | 'true' if Save request should be redirected to another DMS Server Component. Otherwise, 'false'. (new in v17.1SP5). |

Property values that are not predefined may be fetched by specifying their name as the value of the Property entity in the GetProperty request.

In the case of an Error (such as insufficient Authorization, an < ERROR> **Response** is returned. Refer to the Section "**Error/Authorization Handling**" for more information.

New in v18:

- o The properties 'GUI' and 'Search' are predefined.

```
<GetProperties>
  ; GUI for Search dialog
  <Property name="GUI" value ="Search"/>
</GetProperties>
```

- o The returned data should include GUI elements that describe the columns for search results (GUI → Display) as well as GUI elements that compose the search form (GUI → Edit).

```
; Specify the GUI for search form
<Property name="GUI" value ="Search"/>
  <Property name = "Edit">
    <STATIC value="value">
      <EDIT id="name1" name="title1" hidden ="false/true" />
      <COMBO id="name2" name="title2" default="default">
        <Value value="value1"/>
        <Value value="value2"/>
        <Value value="value3"/>
      </COMBO>
    ; ETC.
  </Property>
; Specify the GUI for search results
<Property name = "Display">
  <Property name="name1" value="width" />
  <Property name="name2" value="width" />
</Property>
</Property>
```

- o To perform search, request should include user entered values to properties defined in the search form as follows

```
<GetProperties>
  <Property name="CSI_Search">
    ; Properties in search form with user entered values
    <Property name= "name1" value="value1"/>
    <Property name= "name2" value="value2"/>
  </Property>
</GetProperties>
```

- o The returned data should include list of items that match the search criteria. Each item must include the **docID**.

```
; Specify the List of items that match search criteria
<Property name="CSI_Search">
  <Property name="CSI_DocID">
    <![CDATA[docID]]>
    ; Other properties
    <Property name= "name1" value="value1"/>
    <Property name= "name2" value="value2"/>
    ; ETC.
  </Property>
; ETC.
```

```
</Property>
```

- The property **CSI_AllowSearch** is predefined. The response should return 'true' if DMS Server Component supports file search feature.

```
<Property name="CSI_AllowSearch" value="true/false" />
```

- The property **CSI_BaseDocName** is predefined. In case base file is a zip file, GetProperties request may include '**CSI_BaseDocName**' property.
- DM Integration component can use this property to identify base file for which GetProperties should return. For example, in case of markups, this property can be used to identify which markups belong to which file inside the zip file.
- '**CSI_BaseDocName**' property may be nested in case a zip file contains another zip file.
- In AutoVue, format for a URL to a zip file is :
url_to_zip//url_to_another_zip//file_path

```
<Properties>
  <Property name="CSI_BaseDocID">
    <![CDATA[basedocID]]>
  </Property>
  ; Setting base document name for nested zip file
  <Property name="CSI_BaseDocName" >
    <![CDATA[url_to_another_zip]]>
    <Property name="CSI_BaseDocName" >
      <![CDATA[file_path]]>
    <Property/>
  <Property/>
</Properties>
```

5 Setting Properties

The AutoVue Server may make requests to set document or collaboration properties, for example:

1. To rename a document.
2. To change a Markup type (between normal, master and consolidated).
3. To notify a collaboration session changed state

The request is described below:

POST:http://www.server.com/servlet/avdms

The Posted data contains XML data of the form:

```
<?xml version="1.0"?>
<!DOCTYPE CSIDATA SYSTEM "csi.dtd" > ; Optional

<CSIDATA>
  <Request>
    ; Original FILENAME
    <OriginalURL>
      <![CDATA[filename_parameter]]>
    </OriginalURL>
    ; If setting properties for a document
    <CSI_DocID>
      <![CDATA[docID]]>
    </CSI_DocID>
    ; Or if setting properties for a collaboration session
    <CSI_ClbSessionData>
      <![CDATA[dmsClbSessionID]]>
    </CSI_ClbSessionData>
    <Authorization>
      ; Browser cookie
      <Cookie>
        <![CDATA[Cookie]]>
      </Cookie>
      ; DMS session id
      <Property name="CSI_DMSSession">
        <![CDATA[sessionID]]>
      </Property>
      <Property name="name" value="value" />
      <Property name="name" value="value" />
      ; ETC.
    </Authorization>
    <SetProperties>
      ; Setting a single valued property
      <Property name="Property1" value="Value1" />
      ; Setting a specific index of a multi valued property
```

```

<Property name="Property2" value="Value2" index="index" />
; Setting a multi valued property
<Property name="Property3" />
  <Value value="Value1" />
  <Value value="Value2" />
  <Value value="Value3" />
</Property>
; Notifications from AutoVue
<Property name = "CSI_Notifications">
  <Property name="Property1" value="Value1" />
  <Property name="Property2" value="Value2" />
  ; ETC.
</Property>
; ETC.
</SetProperties>
</Request>
</CSIDATA>

```

where *filename_parameter* is the **FILENAME** PARAM passed in AutoVue Applet ("JVue") Tag.

In AutoVue Client-Server Edition **v16.1**, notifications are sent to the DMAPi server component as part of `SetProperties` request.

Predefined property names:

| | |
|---------------------|--|
| CSI_Notifications | Used in <code>SetProperties</code> request to notify DMAPi Server component of certain action completed by AutoVue such as <code>CSI_PagePrinted</code> and <code>CSI_DocumentPrinted</code> . |
| CSI_PagePrinted | Indicates current page number being printed by AutoVue. |
| CSI_DocumentPrinted | Indicates the status of print job. TRUE if print job completed successfully or FALSE if not. |
| CSI_SessionState | notifies collaboration session state : started or closed |
| CSI_UserJoined | notifies that a user joined a collaboration session |
| CSI_UserLeft | notifies that a user has left the collaboration session |
| CSI_DocumentSet | notifies that the current collaboration session has a new document set. The value is the actual document id as returned by the DMS. |
| CSI_MarkupSaved | notifies a collaboration session that a markup has been saved. The value is the markup id |
| CSI_Lock | Used to lock/unlock documents after check in/out. |
| CSI_DMSSession | Valid session id after successful login to DMS. |
| CSI_ClbInitSession | notifies collaboration session started |
| CSI_ClbCloseSession | notifies collaboration session closed |

For example, during printing, AutoVue server would issue `SetProperties` request to the DMAPi server component passing the `CSI_PagePrinted` property with value corresponding to the current page number being printed.

```

<CSI_Notifications>
  <Property name="CSI_PagePrinted" value="1" />

```

```
</CSI_Notifications>
```

Once printing is complete, the AutoVue server would issue `SetProperties` request to the DMAPAPI server component passing the `CSI_DocumentPrinted` property with value indicating the status of the print job: `TRUE` if print job completed successfully or `FALSE` if not.

```
<CSI_Notifications>
  <Property name="CSI_DocumentPrinted" value="TRUE" />
</CSI_Notifications>
```

For example, during collaboration, AutoVue server would issue a `SetProperties` request to the DMAPAPI server component passing the `CSI_ClbInitSession` property with value `"SessionId"`.

```
<CSI_Notifications>
  <Property name="CSI_ClbInitSession" value="SessionId" />
</CSI_Notifications>
```

Then notify a user has joined the session

```
<CSI_Notifications>
  <Property name="CSI_UserJoined" value="user1" />
</CSI_Notifications>
```

and that a document has been set

```
<CSI_Notifications>
  <Property name="CSI_DocumentSet" value="docID" />
</CSI_Notifications>
```

Save the markup associated with the currently viewed document in the session

```
<CSI_Notifications>
  <Property name="CSI_MarkupSaved" value="DocID" />
</CSI_Notifications>
```

Then notify a user has left the session

```
<CSI_Notifications>
  <Property name="CSI_UserLeft" value="user1" />
</CSI_Notifications>
```

Once collaboration session is closed, the AutoVue server would issue `SetProperties` request to the DMAPAPI server component passing the `CSI_ClbCloseSession` property with value `"SessionId"`.

```
<CSI_Notifications>
  <Property name="CSI_ClbCloseSession" value="SessionId" />
</CSI_Notifications>
```

Note

- Collaboration notifications are sent by AutoVue server to DMAPAPI server component only if Collaboration session was initiated from the DMS (i.e., passing `COLLABORATION` parameter in AutoVue applet page. For more information, see 'Applet Parameters' section in 'Installation and Administration guide' for AutoVue Client-Server Edition – `install.pdf`).

New in v17.1:

- In order to terminate existing DMS session, the request must include 'CSI_DMSsession' property with value set to '0'. DMS Session id (*sessionID*) must also be included in the XML request.

```
<SetProperties>
  <Property name="CSI_DMSsession" value="0" />
</SetProperties>
```

- After a file is checked in/out, the file can be locked or unlocked. The request may include 'CSI_Lock' property. If it is set to **true**, the DM Integration component should place a lock to reserve the document so that no two users can modify same file at the same time. If the file is already locked or reserved by some user, the response should return an error message.

```
<SetProperties>
  ; Lock/Unlock option for file check in/out
  <Property name= "CSI_Lock" value="true|false"/>
</SetProperties>
```

The response is XML structured data:

```
<?xml version="1.0"?>
<!DOCTYPE CSIDATA SYSTEM "csi.dtd"> ; Optional

<CSIDATA>
  <Response>
    <ERROR>
      ; Refer to the section "Error/Authorization Handling"
    </ERROR>
  </Response>
</CSIDATA>
```

In the case of an Error (such as insufficient Authorization, an <ERROR> **Response** is returned. Refer to the Section "**Error/Authorization Handling**" for more information.

6 Saving and Uploading Documents

The AutoVue Server will make requests to upload documents to:

1. Create new Markups.
2. Saving modifications to existing markups
3. Uploading documents to the DMS database

The request is described below:

POST: <http://www.server.com/servlet/avdms>

If content type is "text/xml", then the POSTed data contains the document specification and authorization information, as well as the file contents, formatted in **XML** as follows:

```
<?xml version="1.0"?>
<!DOCTYPE CSIDATA SYSTEM "csi.dtd" > ; Optional

<CSIDATA>
  <Request>
    ; Original FILENAME
    <OriginalURL>
      <![CDATA[filename_parameter]]>
    </OriginalURL>
    ; Or if document will be attached to a collaboration session
    <CSI_ClbSessionData>
      <![CDATA[dmsClbSessionID]]>
    </CSI_ClbSessionData>
    <CSI_DocID> ; Optional for new doc
      <![CDATA[docID]]>
    </CSI_DocID>
    <Authorization>
      ; Browser cookie
      <Cookie>
        <![CDATA[Cookie]]>
      </Cookie>
      ; DMS session
      <Property name="CSI_DMSSession">
        <![CDATA[sessionID]]>
      </Property>
      <Property name="name" value="value" />
      <Property name="name" value="value" />
      ; ETC.
    </Authorization>
  </Request>
  <Properties>
    ; Setting the parent document ( for markup, xrefs )
    <Property name="CSI_BaseDocID">
      <![CDATA[basedocID]]>
    </Property>
```

```

; Setting base document name for nested zip file
<Property name="CSI_BaseDocName" >
  <![CDATA[url_to_another_zip]]>
  <Property name="CSI_BaseDocName" >
    <![CDATA[file_path]]>
  </Property/>
</Property/>
; Setting the document type (markup, rendition ... )
; use only one at a given time
<Property name="CSI_RenditionType" value="PCRS_TIF"/>
<Property name="CSI_MarkupType" value="normal"/>
<Property name="CSI_ClbDocType" value="chat"/>
; Specify if the data is compressed
<Property name="CSI_Compression" value="false" />
; Document type (use only one at a given time)
<Property name="CSI_DocType"
value="Markup/Rendition/Document/Ressource" subtype ="subtype" />
; Lock option for file check-in
<Property name="CSI_Lock" value="true|false"/>
; Folder id
<Property name="CSI_Folder">
  <![CDATA[folderID]]>
</Property>
; Setting a single valued property
<Property name="Property1" value="Value1" />
; or Setting a single valued property using CDATA (New in v18)
<Property name="Property1">
  <![CDATA[vaule1]]>
</Property>
; ETC.
</Properties>
<Save>
  <![CDATA[fileContent_in_BASE64]]>
</Save>
</Request>
</CSIDATA>

```

where **filename_parameter** is the **FILENAME** PARAM passed in AutoVue Applet ("JVue") Tag.

The request may contain a **CSI_DocID** property. If specified, then the specified document should be overwritten (equivalent to a "Save" command). If not specified, then it is understood that a new document is being created (equivalent to a "Save-As" command).

The content of the uploaded file is encoded in **BASE64** format. This content must be decoded using BASE64 decoder prior to check-in of the document.

The content of the uploaded file may be compressed in "**gzip**" format, in this case "CSI_Compression" property is set to "true" and file content must be decompressed prior to check-in of the document.

The uploaded data may be a file rendition; in this case, "CSI_RenditionType" indicates the rendition format. For 'cached meta files', "CSI_RenditionType" is set to "CSI_META".

If content type is “**multipart/form-data**”, then the POSTed data contains 2 parts: the “**xml**” part which contains the document specification and authorization information formatted in XML, and the “**file**” part which contains the content of the uploaded file, as follows:

HTTP Request Header:

```
Content Type = multipart/form-data; boundary=CSI_MULTIPART
Content Length = NNN
```

```
--CSI_MULTIPART
Content-Disposition: form-data; name="xml"

<?xml version="1.0"?>
<!DOCTYPE CSIDATA SYSTEM "csi.dtd" > ; Optional
<CSIDATA>
  <Request>
    ; Original FILENAME
    <OriginalURL>
      <![CDATA[filename_parameter]]>
    </OriginalURL>
    <CSI_DocID> ; Optional for new doc
      <![CDATA[docID]]>
    </CSI_DocID>
    <Authorization>
      ; Browser cookie
      <Cookie>
        <![CDATA[Cookie]]>
      </Cookie>
      ; DMS session
      <Property name="CSI_DMSSession">
        <![CDATA[sessionID]]>
      </Property>
      <Property name="name" value="value" />
      <Property name="name" value="value" />
      ; ETC.
    </Authorization>
    <Properties>
      ; Setting the parent document ( for markup, xrefs )
      <Property name="CSI_BaseDocID">
        <![CDATA[basedocID]]>
      </Property>
      ; Setting the document type (markup, rendition ... )
      ; use only one at a given time
      <Property name="CSI_RenditionType" value="PCRS_TIF"/>
      <Property name="CSI_MarkupType" value="normal"/>
      ; Specify if the data is compressed
      <Property name="CSI_Compression" value="false" />
      ; Setting a single valued property
      <Property name="Property1" value="Value1" />
      ; or Setting a single valued property using CDATA (New in v18)
      <Property name="Property1">
        <![CDATA[vaule1]]>
```

```

    </Property>
    ; ETC.
  </Properties>
  <Save />
</Request>
</CSIDATA>
--CSI_MULTIPART
Content-Disposition: form-data; name="file"
Content-Type: text/plain

fileContent_in_BASE64
--CSI_MULTIPART--

```

where NNN is length in bytes of the 2 parts ('xml' & 'file').

New in v17.0:

If your DMS server-side component returns true for `csi_clbSaveChat` (refer to `GetProperties` section), then, when host closes the collaboration session, AutoVue server calls `save` with chat content passed in a file.

Request

```

<CSIDATA>
  <Request>
    <CSI_ClbSessionData>
      <![CDATA[dmsSessionIdentifier]]>
    </CSI_ClbSessionData>
    <Authorization>
      <Cookie>
        <![CDATA[cookie]]>
      </Cookie>
    </Authorization>
    <Properties>
      <Property name="CSI_BaseDocID">
        <![CDATA[basedocID]]>
      </Property>
      <Property name="CSI_ClbDocType" value="chat"/>
    </Properties>
    <Save>
      <![CDATA[ChatContent_in_BASE64]]>
    </Save>
  </Request>
</CSIDATA>

```

Note

- If your DMS server-side component supports multipart/form-data, then the request would be in that format.
- Chat content is base 64 encoded.
- Chat content may be compressed in which case `CSI_Compression` would be set to true.

New in v17.1:

- Save request may include 'CSI_Lock' property. If set to **false**, DM Integration component should remove any lock on the document provided the lock was placed by same user.

```
; Lock option for file check-in
<Property name= "CSI_Lock" value="true|false" />
```

- Save request may also include **folderID** ('CSI_Folder' property) to specify the location where document is to be checked into DMS

```
; Folder id
<Property name="CSI_Folder">
  <![CDATA[folderID]]>
</Property>
```

- Save request should include **basedocID** ('CSI_BaseDocID' property) to maintain parent/child relationship as well as document type such as **CSI_Assembly**, **CSI_Part...**

```
; Setting the parent document (for xrefs, parts... )
<Property name="CSI_BaseDocID">
  <![CDATA[basedocID]]>
</Property>
; Document type (use only one at a given time)
<Property name="CSI_DocType"
value="Markup/Rendition/Document/Ressource" subtype ="subtype" />
```

Valid values are shown below:

| value | subtype |
|-----------|---|
| Markup | normal master consolidated |
| Rendition | CSI_META PCRS_TIF |
| Document | CSI_Assembly CSI_Part CSI_Drawing CSI_Xref |
| Resource | CSI_Font CSI_Line |

The response is XML structured data:

```
<?xml version="1.0"?>
<!DOCTYPE CSIDATA SYSTEM "csi.dtd"> ; Optional

<CSIDATA>
  <Response>
    <Property name="CSI_DocID">
      <![CDATA[DocID]]>
    </Property>
  <ERROR>
; Refer to the section "Error/Authorization Handling"
```

```
</ERROR>
</Response>
</CSIDATA>
```

The DocID specifies the document ID of the newly created document.

In the case of an Error (such as insufficient Authorization, an < ERROR> **Response** is returned. Refer to the Section “**Error/Authorization Handling**” for more information.

If the Upload fails to the DMS, the AutoVue Server may manage the upload itself.

New in v17.1SP5:

In a distributed environment where several remote cache servers may be used for storing files, main DMS server component may redirect the **save** request to another DMS server component that is installed closer to where files actually reside. This greatly improves performance since AutoVue Server is installed at same location as remote cache server.

Redirection is done by returning a ticket authorizing AutoVue Server to upload the file directly to another location specified in the redirection response.

Prior to **Save** request, AutoVue Server asks main DMS server component if redirection is supported. If yes, DMS Server component should return ‘**true**’ for `GetProperties` request of `CSI_Redirected` property.

If ‘**true**’ is returned, **Save** request made to main DMS server component will not contain any file. In this case, the main DMS server component should return a **ticket** with information of the location where AutoVue Client-Server Edition should upload the file. XML response is same as `Download` request.

AutoVue Client-Server Edition then adds the **ticket** to Authorization block of the **Save** request made to the DMS server component located at remote cache site.

Once uploaded file is checked in successfully, DMS server component located at remote cache site should return a confirmation in the form of a **receipt** in place of the returned docid.

AutoVue Client-Server Edition then forwards this receipt to main DMS server component to finalize **Save** request. Main DMS server component should then return docid of the uploaded file.

New in v18:

- In case base file is a zip file, **Save** request may include ‘**CSI_BaseDocName**’ property. If set, DM Integration component should save uploaded file (markup or metafile) and tag it with base doc name.
- DM Integration component can use this property to identify which markups/metafile belong to which file inside the zip file.
- ‘**CSI_BaseDocName**’ property may be nested in case a zip file contains another zip file.

- o In AutoVue, format for a URL to zip file is :
url_to_zip//url_to_another_zip//file_path

```
<Properties>
  <Property name="CSI_BaseDocID">
    <![CDATA[basedocID]]>
  </Property>
  ; Setting base document name for nested zip file
  <Property name="CSI_BaseDocName" >
    <![CDATA[url_to_another_zip]]>
    <Property name="CSI_BaseDocName" >
      <![CDATA[file_path]]>
    <Property/>
  <Property/>
</Properties>
```

- o To better support escape, special and foreign characters, Value of a Property inside <Properties> may be sent as CDATA section. DMAPi Server component should always support both cases where value can be either attribute or CDATA.

```
  ; Setting a single valued property using CDATA
  <Property name="Property1">
    <![CDATA[vaule1]]>
  </Property>
```

7 Deleting Documents

The AutoVue Server can make requests to delete documents for example to delete one or more markups attached to a document.

POST: <http://www.server.com/servlet/avdms>

The POSTed data contains XML data of the form:

```
<?xml version="1.0"?>
<!DOCTYPE CSIDATA SYSTEM "csi.dtd">      ; Optional

<CSIDATA>
  <Request>
    ; Original FILENAME
    <OriginalURL>
      <![CDATA[filename_parameter]]>
    </OriginalURL>
    <CSI_DocID>                               ; Required
      <![CDATA[docID]]>
    </CSI_DocID>
    <Authorization>
      ; Browser cookie
      <Cookie>
        <![CDATA[Cookie]]>
      </Cookie>
      ; DMS session
      <Property name="CSI_DMSSession">
        <![CDATA[sessionID]]>
      </Property>
      <Property name="name" value="value" />
      <Property name="name" value="value" />
      ; ETC.
    </Authorization>
    <Delete/>
  </Request>
</CSIDATA>
```

where **filename_parameter** is the **FILENAME** PARAM passed in AutoVue Applet ("JVue") Tag.

The specified CSI_DocID corresponds to the ID of a document to be deleted.

The response is XML structured data:

```
<?xml version="1.0"?>
<!DOCTYPE CSIDATA SYSTEM "csi.dtd">      ; Optional
```

```
<CSIDATA>
  <Response>
    <ERROR>
      ; Refer to the section "Error/Authorization Handling"
    </ERROR>
  </Response>
</CSIDATA>
```

In the case of an Error (such as insufficient Authorization, an < ERROR> **Response** is returned. Refer to the Section "**Error/Authorization Handling**" for more information.

8 Error/Authorization Handling

Errors are returned as part of the **<Response>** XML Data.

Unless explicitly specified, the operation is assumed to have succeeded.

Two formats for the **<ERROR>** response are possible:

- Success

```
<ERROR>
  <SUCCEED code="code" message="message">
</ERROR>
```

This indicates that no error occurred. It is optional as success is assumed, if not specified. The code and message attributes are optional.

- Failure

```
<ERROR>
  <FAIL code="code" message="message" />
  <Authorization ; Optional
    <STATIC value="value">
    <EDIT id="id1" name="name" hidden="false/true" />
    <COMBO id="id2" name="name" default="default">
      <Value value="value1" />
      <Value value="value1" />
      <Value value="value1" />
    </COMBO>
    ; ETC.
  </Authorization>
</ERROR>
```

In case of failure, an optional error code and message can be returned.

Optionally an Authorization body may be returned. This should be created in the case where the user does not have sufficient authorization to perform a certain task.

The body of the **<Authorization>** element contains the definition of the dialog that will be presented to the user.

Dialog elements supported are:

- STATIC: Attribute "value" contains the text to display.
- EDIT: A single line edit control. The "id" attribute is a unique identifier. The "name" attribute contains the prompt-text to display before the edit control. If the "hidden" attribute is "true" then it behaves like a password entry field (i.e. the text entered is not displayed on the screen).
- COMBO: A single selection list. The "id" field is a unique identifier. The "name" attribute contains the prompt-text to display before the control. The "default" attribute is optional and contains a default selection. The "readonly" attribute controls whether the user can enter values other than those specified.

The "Value" elements that proceed contain default values that will populate the list-box.

When the AutoVue Server gets an Authorization failure error, it forwards the information to the Client. The Client constructs the dialog box to allow the use to enter the necessary authorization data.

The Authorization data entered by the user is then sent in all subsequent “<Request>” bodies. The Authorization data is formatted as below:

```
<Authorization>
  <Property name="id1" value="value" />
  <Property name="id2" value="value" />
  ; ETC.
</Authorization>
```

The body of the < Authorization> element contains a series of <ID> element children. Each contains two required attributes: “id” which corresponds to the unique “id” specified in the “Response” <ERROR> <Authorization> body and “value” which contains the data entered by the user.

9 Appendix: DMA API Extension to support Real-Time Collaboration

New in v17:

This appendix describes the Document Management (DM) API's which have been extended to support Real-Time Collaboration for AutoVue Client-Server Edition release 17.0 and higher.

9.1 GetProperties

- If AutoVue applet is launched with COLLABORATION parameter with VALUE="INIT", then AutoVue server queries the DMS server-side component for collaboration session id by calling `GetProperties(CSI_ClbSessionID)`. The DMS server-side component can extract the session id from this session data. The session id should be unique.

Request

```
<?xml version="1.0"?>
<CSIDATA>
  <Request>
    <CSI_ClbSessionData>
      <![CDATA[dmsSessionIdentifier]]>
    </CSI_ClbSessionData>
    <Authorization>
      <Cookie>
        <![CDATA[cookie]]>
      </Cookie>
    </Authorization>
    <GetProperties>
      <Property name="CSI_ClbSessionID"></Property>
    </GetProperties>
  </Request>
</CSIDATA>
```

Response

```
?xml version="1.0"?>
<CSIDATA>
  <Response>
    <GetProperties>
      <Property name="CSI_ClbSessionID" value="SessionId">
    </Property>
    </GetProperties>
    <ERROR>
      <SUCCEED code="code" message="message">
    </SUCCEED>
    </ERROR>
  </Response>
```

```
</CSIDATA>
```

- If user selects Collaboration→Invite... or Collaboration→Session Information... from AutoVue Applet menu, AutoVue Server sends the request to DMS server-side component by calling `GetProperty(CSI_Collaboration)`.

Request

```
<?xml version="1.0"?>
<CSIDATA>
  <Request>
    <CSI_ClbSessionData>
      <![CDATA[dmsSessionIdentifier]]>
    </CSI_ClbSessionData>
    <Authorization>
      <Cookie>
        <![CDATA[cookie]]>
      </Cookie>
    </Authorization>
    <GetProperties>
      <Property name="CSI_Collaboration"></Property>
    </GetProperties>
  </Request>
</CSIDATA>
```

Response should include

- a **GUI** section which includes
 - **DisplayOptions** section for enabling/disabling GUI items in Invitation dialog box.
 - **Display** section lists the attributes to be displayed in the Session selection dialog along with the width to reserve for the attributes display. The display width is specified as a number of characters
 - **Invitation** section lists users who can be invited to the collaboration session.
- a **CSI_ClbUsers** section lists users who have already been invited to the collaboration.
- a **Session** section lists session information (properties) such as session title, id, type, subject, duration, start time...etc.
- **csi_clbSaveChat** indicates whether DMS server-side component supports saving chat transcript.

Response

```
<?xml version="1.0"?>
<CSIDATA>
  <Response>
    <GetProperties>
      <Property name="CSI_Collaboration">
        <Property name = "GUI">
          <Property name = "DisplayOptions">
            <Property name="AllowAdd" value="true|false" />
            <Property name="AllowAddNew" value="true|false"/>
          </Property>
        </Property>
      </Property>
    </GetProperties>
  </Response>
</CSIDATA>
```

```
<Property name="AllowRemove" value="true|false"/>
<Property name="AllowLayerColor" value="true|false"/>
</Property>
<Property name = "Display">
  <Property name="name1" value="width" />
  <Property name="name2" value="width" />
</Property>
<Property name = "Invitation">
  <List id="CSI_ClbUsers" name="user">
    <Value value="value1"/>
    <Value value="value1"/>
    <Value value="value1"/>
  </List>
</Property>
</Property>
<Property name = "CSI_ClbUsers">
  <Value value = "user1"/>
  <Value value = "user2"/>
</Property>
<Property name = "Session">
  <Property name="CSI_ClbSessionID">
    <![CDATA[collaborationSessionID]]>
  </Property>
  <Property name= "CSI_ClbSessionType" value="private|public"/>
  <Property name= "CSI_ClbSaveChat" value="true|false"/>
  <Property name= "name1" value="value1"/>
  <Property name= "name2" value="value2"/>
</Property>
</Property>
</GetProperties>
</Request>
</CSIDATA>
```

9.2 SetPropertyies

Various notifications related to Real-Time Collaboration have been added to DMAPI. AutoVue Server sends these notifications by calling `SetPropertyies(NotificationId)` request.

- When a collaboration session starts, AutoVue server calls `SetPropertyies(CSI_ClbInitSession)`.

Request

```
<?xml version="1.0"?>
<CSIDATA>
  <Request>
    <CSI_ClbSessionData>
      <![CDATA[dmsSessionIdentifier]]>
    </CSI_ClbSessionData>
    <Authorization>
      <Cookie>
        <![CDATA[cookie]]>
      </Cookie>
    </Authorization>
    <SetPropertyies>
      <CSI_Notifications>
        <Property name="CSI_ClbInitSession" value="SessionId"></Property>
      </CSI_Notifications>
    </SetPropertyies>
  </Request>
</CSIDATA>
```

- When a user joins the collaboration session, AutoVue server calls `SetPropertyies(CSI_UserJoined)`.

Request

```
<?xml version="1.0"?>
<CSIDATA>
  <Request>
    <CSI_ClbSessionData>
      <![CDATA[dmsSessionIdentifier]]>
    </CSI_ClbSessionData>
    <Authorization>
      <Cookie>
        <![CDATA[cookie]]>
      </Cookie>
    </Authorization>
    <SetPropertyies>
      <CSI_Notifications>
        <Property name="CSI_UserJoined" value="UserName"></Property>
      </CSI_Notifications>
    </SetPropertyies>
  </Request>
</CSIDATA>
```

- When a user leaves the collaboration session, AutoVue server calls `SetProperties(CSI_UserLeft)`.

Request

```
<?xml version="1.0"?>
<CSIDATA>
  <Request>
    <CSI_ClbSessionData>
      <![CDATA[dmsSessionIdentifier]]>
    </CSI_ClbSessionData>
    <Authorization>
      <Cookie>
        <![CDATA[cookie]]>
      </Cookie>
    </Authorization>
    <SetProperties>
      <CSI_Notifications>
        <Property name="CSI_UserLeft" value="UserName"></Property>
      </CSI_Notifications>
    </SetProperties>
  </Request>
</CSIDATA>
```

- When host switches to another document to collaborate on, AutoVue server calls `SetProperties(CSI_DocumentSet)`.

Request

```
<?xml version="1.0"?>
<CSIDATA>
  <Request>
    <CSI_ClbSessionData>
      <![CDATA[dmsSessionIdentifier]]>
    </CSI_ClbSessionData>
    <Authorization>
      <Cookie>
        <![CDATA[cookie]]>
      </Cookie>
    </Authorization>
    <SetProperties>
      <CSI_Notifications>
        <Property name="CSI_DocumentSet" value="DocId"></Property>
      </CSI_Notifications>
    </SetProperties>
  </Request>
</CSIDATA>
```

- When host saves the markup for the collaboration session, AutoVue server calls `SetProperties(CSI_MarkupSaved)`.

Request

```
<?xml version="1.0"?>
<CSIDATA>
  <Request>
    <CSI_ClbSessionData>
      <![CDATA[dmsSessionIdentifier]]>
    </CSI_ClbSessionData>
    <Authorization>
      <Cookie>
        <![CDATA[cookie]]>
      </Cookie>
    </Authorization>
    <SetProperties>
      <CSI_Notifications>
        <Property name=" CSI_MarkupSaved " value="MarkupDocName"></Property>
      </CSI_Notifications>
    </SetProperties>
  </Request>
</CSIDATA>
```

- When a collaboration session ends, AutoVue server calls `SetProperties(CSI_ClbCloseSession)`.

Request

```
<?xml version="1.0"?>
<CSIDATA>
  <Request>
    <CSI_ClbSessionData>
      <![CDATA[dmsSessionIdentifier]]>
    </CSI_ClbSessionData>
    <Authorization>
      <Cookie>
        <![CDATA[cookie]]>
      </Cookie>
    </Authorization>
    <SetProperties>
      <CSI_Notifications>
        <Property name=" CSI_ClbCloseSession " value="SessionId"></Property>
      </CSI_Notifications>
    </SetProperties>
  </Request>
</CSIDATA>
```

9.3 Save

If your DMS server-side component returns true for `csi_clbSaveChat` (refer to `GetProperties` section), then, when host closes the collaboration session, AutoVue server calls `save` with chat content passed in a file.

Request

```
<CSIDATA>
  <Request>
    <CSI_ClbSessionData>
      <![CDATA[dmsSessionIdentifier]]>
    </CSI_ClbSessionData>
    <Authorization>
      <Cookie>
        <![CDATA[cookie]]>
      </Cookie>
    </Authorization>
    <Property name="CSI_BaseDocID">
      <![CDATA[basedocID]]>
    </Property>
    <Property name="CSI_ClbDocType" value="chat"/>
  </Properties>
  <Save>
    <![CDATA[ChatContent_in_BASE64]]>
  </Save>
</Request>
</CSIDATA>
```

Note

- If your DMS server-side component supports multipart/form-data, then the request would be in that format.
- Chat content is base 64 encoded.
- Chat content may be compressed in which case `CSI_Compression` would be set to true.

9.4 AutoVue Applet Page

A new parameter called 'COLLABORATION' has been added to AutoVue Applet page.

- To Initiate a session

```
<param NAME=COLLABORATION
      VALUE="INIT:CSI_ClbDMS=dmsIndex;
            CSI_ClbSessionData=123456789;
            CSI_ClbSessionSubject=Subject;
            CSI_ClbSessionType=public|private;
            CSI_ClbUsers=user1,user2">
```

- To Join a session:

```
<param NAME=COLLABORATION
      VALUE="JOIN:CSI_ClbDMS=dmsIndex;
            CSI_ClbSessionData=123456789">
```

where,

| | |
|-----------------------|--|
| CSI_ClbDMS | Represents the URL to DMS server-side component index. Ex.: http://myserver/servlet/DMS |
| CSI_ClbSessionData | Represents the handle for the DMS collaboration session. This may include session id plus context information which may later be needed by DMS server-side component. Note: AutoVue server passes this to the DMS server-side component for collaboration related requests. |
| CSI_ClbSessionSubject | Represents the session subject |
| CSI_ClbSessionType | Either public or private |
| CSI_ClbUsers | Comma separated list of invitees to the meeting |

Note

- CSI_ClbSessionData should not include semicolon “;”. AutoVue uses semicolon as a separator.
- When joining a session, FILENAME param should be omitted.
- Whenever AutoVue server queries for DMS collaboration, it passes the CSI_ClbSessionData.

10 Appendix: DMS Arguments in AutoVue Applet Page

New in v18:

A new parameter called 'DMSARGS' has been added to AutoVue Applet page. DMS arguments can now be passed as applet parameters (Key/value pair) when launching the AutoVue applet. The key/value pairs are then passed back to DMS component by the AutoVue server as part of posted data in each DMAPi request.

■ DMS Arguments as applet parameters

```
<PARAM NAME="DMSARGS"      VALUE="DMS_key1;DMS_key2;DMS_key3;...DMS_keyN" >
<PARAM NAME="DMS_key1"    VALUE="value1" >
<PARAM NAME="DMS_key2"    VALUE="value2" >
<PARAM NAME="DMS_key3"    VALUE="value3" >
...
<PARAM NAME="DMS_keyN"    VALUE="valueN" >
```

where,

| | |
|--|--|
| DMSARGS | A semi-colon ';' separated list of DMS argument names. Ex.: DMS_HOST;DMS_LIBRARY;DMS_VAULT;DMS_TICKET |
| DMS_key1=value1 DMS_key2=value2 ... DMS_keyN=valueN | Key/value pairs of DMS arguments. |

■ DMS Arguments passed back to DMS component as properties

```
<Properties>
<Property name="DMS_key1"><![CDATA[value1]]></Property>
<Property name="DMS_key2"><![CDATA[value2]]></Property>
<Property name="DMS_key3"><![CDATA[value3]]></Property>
...
<Property name="DMS_keyN"><![CDATA[valueN]]></Property>
</Properties>
```

Note

- Values are packaged in CDATA section to allow for escape characters.

New in v18.1/ v18c6:

Predefined DMSARGS names:

| | |
|----------------------|---|
| DMS_PRESERVE_COOKIES | Set this parameter to "true" if your application server where DMAPi server component is deployed is setup in a cluster environment. Otherwise, set to "false" (Default is "false"). Example: <PARAM NAME="DMSARGS" VALUE="DMS_PRESERVE_COOKIES" > <PARAM NAME="DMS_PRESERVE_COOKIES" VALUE="TRUE" > |
|----------------------|---|