

Sage Payments Solutions

Sage Exchange Virtual Desktop

Implementation and Integration Guide

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Revisions

No.	Date	Reason	Author
1.00a	9/8/2010	Updated the document format and added supported browser matrix.	Martin Henderson

Overview

The following represents implementations of the SEVD (Sage Exchange Virtual Desktop). SEVD provides a web interface for non-Windows based applications, web based applications, and situations in which requirements prohibit the installation of Sage Exchange Desktop.

Integration Types

User Interface Integration

This type of integration is used when cardholder data needs to be collected/captured in a secure browser environment over SSL.

URL

<https://www.sageexchange.com/VirtualPaymentTerminal/frmPayment.aspx>

Form Fields

Field Name	Required	Definition
Request	Yes	XML data to be processed by the SEVD, when writing XML in a HTML Form Input element the data will need to be HTML encoded to allow the browser to render the HTML correctly.
Redirect_URL	No	The URL the SEVD redirects to after processing.
Consumer_Initiated	No	<TRUE FALSE> Specifies the target audience for the rendering of the payment user interface. This is used when integrating to a customer facing application.

HTML Sample

```
<html>
<head>
<title>VPT Sample</title>
</head>
<body>
    <form action="https://www.sageexchange.com/VirtualPaymentTerminal/frmPayment.aspx"
method="POST" target="_blank">
        <input type="hidden" name="request" value="&lt;?xml version=&quot;1.0&quot;
encoding=&quot;utf-16&quot;?&gt;
&lt;Request_v1 xmlns:xsi=&quot;http://www.w3.org/2001/XMLSchema-instance&quot;
xmlns:xsd=&quot;http://www.w3.org/2001/XMLSchema&quot;&gt;
    &lt;Application&gt;
        &lt;ApplicationID&gt;DEMO&lt;/ApplicationID&gt;
        &lt;LanguageID&gt;EN&lt;/LanguageID&gt;
    &lt;/Application&gt;
    &lt;Payments&gt;
        &lt;PaymentType&gt;
            &lt;Merchant&gt;
                &lt;MerchantID&gt;999999999997&lt;/MerchantID&gt;
                &lt;MerchantKey&gt;K3QD6YWyhFD&lt;/MerchantKey&gt;
            &lt;/Merchant&gt;
            &lt;TransactionBase&gt;
                &lt;TransactionID&gt;d71c8ea0-3d17-46ab-ac09-a5460cefdc9e&lt;/TransactionID&gt;
                &lt;TransactionType&gt;11&lt;/TransactionType&gt;
                &lt;Reference&gt;PO 123456&lt;/Reference&gt;
                &lt;Amount&gt;19.99&lt;/Amount&gt;
            &lt;/TransactionBase&gt;
            &lt;Customer&gt;
                &lt;Name&gt;
                    &lt;FirstName&gt;John&lt;/FirstName&gt;
                    &lt;MI&gt;A&lt;/MI&gt;
                    &lt;LastName&gt;Doe&lt;/LastName&gt;
                &lt;/Name&gt;
                &lt;Address&gt;
                    &lt;AddressLine1&gt;12345 Street&lt;/AddressLine1&gt;
```

```

        <AddressLine2>Apt #2</AddressLine2>
        <City>Some City</City>
        <State>Some State</State>
        <ZipCode>12345</ZipCode>
        <Country>Some Country</Country>
        <EmailAddress>john.doe@domain.com</EmailAddress>
        <Telephone>1234567891</Telephone>
        <Fax>1234567890</Fax>
    </Address>
    <Company>
        <Name>John's Company</Name>
        <Address>
            <AddressLine1>12345 Street</AddressLine1>
            <AddressLine2>Apt #2</AddressLine2>
            <City>Some City</City>
            <State>Some State</State>
            <ZipCode>12345</ZipCode>
            <Country>Some Country</Country>
            <EmailAddress>john.doe@domain.com</EmailAddress>
            <Telephone>1234567891</Telephone>
            <Fax>1234567890</Fax>
        </Address>
    </Company>
</Customer>
<ShippingRecipient>
    <Name>
        <FirstName>John</FirstName>
        <MI>A</MI>
        <LastName>Doe</LastName>
    </Name>
    <Address>
        <AddressLine1>12345 Street</AddressLine1>
        <AddressLine2>Apt #2</AddressLine2>
        <City>Some City</City>
        <State>Some State</State>
        <ZipCode>12345</ZipCode>
        <Country>Some Country</Country>
        <EmailAddress>john.doe@domain.com</EmailAddress>
        <Telephone>1234567891</Telephone>
        <Fax>1234567890</Fax>
    </Address>
    <Company>
        <Name>John's Company</Name>
        <Address>
            <AddressLine1>12345 Street</AddressLine1>
            <AddressLine2>Apt #2</AddressLine2>
            <City>Some City</City>
            <State>Some State</State>
            <ZipCode>12345</ZipCode>
            <Country>Some Country</Country>
            <EmailAddress>john.doe@domain.com</EmailAddress>
            <Telephone>1234567891</Telephone>
            <Fax>1234567890</Fax>
        </Address>
    </Company>
</ShippingRecipient>
<Postback>
    <HttpUrl>https://www.mywebsite.com/responsehandler.asp</HttpUrl>
    </Postback>
    <PaymentType>
    </Payments>
</Request_v1>" />
    <input type="hidden" name="redirect url"
value="http://www.mywebsite.com/finished.asp" />
    <input type="hidden" name="consumer_initiated" value="False" />
    <input type="submit" value="Process Payment" />
</form>
</body>
</html>

```

Non-User Interface Integration

This type of integration is used when no cardholder or additional processing data needs to be collected/captured and a direct client to server communication is desired.

URL

<https://www.sageexchange.com/VirtualPaymentTerminal/frmpayment.aspx>

Form Fields

Field Name	Required	Definition
Request	Yes	XML data to be processed by the SEVD, when writing XML in a HTML Form Input element the data will need to be HTML encoded to allow the browser to render the HTML correctly.

ASP Sample

```
dim xmlReq

xmlReq = "<?xml version=""1.0"" encoding=""utf-16""?>"
xmlReq = xmlReq & "<Request_v1 xmlns:xsi=""http://www.w3.org/2001/XMLSchema-
instance"" "
xmlReq = xmlReq & "xmlns:xsd=""http://www.w3.org/2001/XMLSchema"">"
xmlReq = xmlReq & "  <Application>"
xmlReq = xmlReq & "    <ApplicationID>DEMO</ApplicationID>"
xmlReq = xmlReq & "    <LanguageID>EN</LanguageID>"
xmlReq = xmlReq & "  </Application>"
xmlReq = xmlReq & "  <Payments>"
xmlReq = xmlReq & "    <PaymentType>"
xmlReq = xmlReq & "      <Merchant>"
xmlReq = xmlReq & "        <MerchantID>999999999997</MerchantID>"
xmlReq = xmlReq & "        <MerchantKey>K3QD6YWyhFD</MerchantKey>"
xmlReq = xmlReq & "      </Merchant>"
xmlReq = xmlReq & "      <TransactionBase>"
xmlReq = xmlReq & "        <TransactionID>C1F011EA-56BC-49b4-8A33-
85C32451D573</TransactionID>"
xmlReq = xmlReq & "        <TransactionType>11</TransactionType>"
xmlReq = xmlReq & "        <Reference1>PO 123456</Reference1>"
xmlReq = xmlReq & "        <Amount>19.99</Amount>"
xmlReq = xmlReq & "      </TransactionBase>"
xmlReq = xmlReq & "    <Customer>"
xmlReq = xmlReq & "      <Name>"
xmlReq = xmlReq & "        <FirstName>John</FirstName>"
xmlReq = xmlReq & "        <MI>A</MI>"
xmlReq = xmlReq & "        <LastName>Doe</LastName>"
xmlReq = xmlReq & "      </Name>"
xmlReq = xmlReq & "      <Address>"
xmlReq = xmlReq & "        <AddressLine1>12345 Street</AddressLine1>"
xmlReq = xmlReq & "        <AddressLine2>Apt #2</AddressLine2>"
xmlReq = xmlReq & "        <City>Some City</City>"
xmlReq = xmlReq & "        <State>Some State</State>"
xmlReq = xmlReq & "        <ZipCode>12345</ZipCode>"
xmlReq = xmlReq & "        <Country>Some Country</Country>"
xmlReq = xmlReq & "        <EmailAddress>john.doe@domain.com</EmailAddress>"
xmlReq = xmlReq & "        <Telephone>1234567891</Telephone>"
xmlReq = xmlReq & "        <Fax>1234567890</Fax>"
xmlReq = xmlReq & "      </Address>"
xmlReq = xmlReq & "    <Company>"
xmlReq = xmlReq & "      <Name>John's Company</Name>"
xmlReq = xmlReq & "      <Address>"
xmlReq = xmlReq & "        <AddressLine1>12345 Street</AddressLine1>"
```

```

xmlReq = xmlReq & "        <AddressLine2>Apt #2</AddressLine2>"
xmlReq = xmlReq & "        <City>Some City</City>"
xmlReq = xmlReq & "        <State>Some State</State>"
xmlReq = xmlReq & "        <ZipCode>12345</ZipCode>"
xmlReq = xmlReq & "        <Country>Some Country</Country>"
xmlReq = xmlReq & "        <EmailAddress>john.doe@domain.com</EmailAddress>"
xmlReq = xmlReq & "        <Telephone>1234567891</Telephone>"
xmlReq = xmlReq & "        <Fax>1234567890</Fax>"
xmlReq = xmlReq & "    </Address>"
xmlReq = xmlReq & "    </Company>"
xmlReq = xmlReq & "  </Customer>"
xmlReq = xmlReq & "  <ShippingRecipient>"
xmlReq = xmlReq & "    <Name>"
xmlReq = xmlReq & "      <FirstName>John</FirstName>"
xmlReq = xmlReq & "      <MI>A</MI>"
xmlReq = xmlReq & "      <LastName>Doe</LastName>"
xmlReq = xmlReq & "    </Name>"
xmlReq = xmlReq & "    <Address>"
xmlReq = xmlReq & "      <AddressLine1>12345 Street</AddressLine1>"
xmlReq = xmlReq & "      <AddressLine2>Apt #2</AddressLine2>"
xmlReq = xmlReq & "      <City>Some City</City>"
xmlReq = xmlReq & "      <State>Some State</State>"
xmlReq = xmlReq & "      <ZipCode>12345</ZipCode>"
xmlReq = xmlReq & "      <Country>Some Country</Country>"
xmlReq = xmlReq & "      <EmailAddress>john.doe@domain.com</EmailAddress>"
xmlReq = xmlReq & "      <Telephone>1234567891</Telephone>"
xmlReq = xmlReq & "      <Fax>1234567890</Fax>"
xmlReq = xmlReq & "    </Address>"
xmlReq = xmlReq & "    <Company>"
xmlReq = xmlReq & "      <Name>John's Company</Name>"
xmlReq = xmlReq & "      <Address>"
xmlReq = xmlReq & "        <AddressLine1>12345 Street</AddressLine1>"
xmlReq = xmlReq & "        <AddressLine2>Apt #2</AddressLine2>"
xmlReq = xmlReq & "        <City>Some City</City>"
xmlReq = xmlReq & "        <State>Some State</State>"
xmlReq = xmlReq & "        <ZipCode>12345</ZipCode>"
xmlReq = xmlReq & "        <Country>Some Country</Country>"
xmlReq = xmlReq & "        <EmailAddress>john.doe@domain.com</EmailAddress>"
xmlReq = xmlReq & "        <Telephone>1234567891</Telephone>"
xmlReq = xmlReq & "        <Fax>1234567890</Fax>"
xmlReq = xmlReq & "      </Address>"
xmlReq = xmlReq & "    </Company>"
xmlReq = xmlReq & "  </ShippingRecipient>"
xmlReq = xmlReq & "  <VaultStorage>"
xmlReq = xmlReq & "    <GUID>ba45c5f33b414df3a679e375dc834548</GUID>"
xmlReq = xmlReq & "    <Service>RETRIEVE</Service>"
xmlReq = xmlReq & "  </VaultStorage>"
xmlReq = xmlReq & "  <Postback>"
xmlReq = xmlReq & "</HttpUrl>https://www.mywebsite.com/responsehandler.asp</HttpUrl>"
xmlReq = xmlReq & "    </Postback>"
xmlReq = xmlReq & "  </PaymentType>"
xmlReq = xmlReq & "</Payments>"
xmlReq = xmlReq & "</Request_v1>"

dim statusCode
dim xmlResp
dim formData

formData = "request=" & Server.UrlEncode( xmlReq )

Set msxml = Server.CreateObject( "MSXML2.ServerXMLHTTP" )
msxml.Open "POST", "https://www.sageexchange.com/VirtualPaymentTerminal/frmpayment.aspx", False
msxml.setRequestHeader "Content-Type", "application/x-www-form-urlencoded"
msxml.send( formData )

statusCode = msxml.Status
if statusCode <> 200 then
    ' handler error
end if

```



```
xmlResp = msxml.responseText  
set msxml = nothing
```

```
%>
```

Response Handling

Postback

The Postback is a mechanism used to receive response XML data from the SEVD. The response handler can be any user defined URL but is required to be hosted on a server with a valid SSL certificate. The URL is defined in the schema element `Request_v1.PostbackType` and its value is submitted in the request XML data element `Request_v1.Postback.HttpsUrl` for both Vault and Payment requests or in the case of multiple payments where each payment needs its own URL

`Request_v1.Payments[X].Postback.HttpsUrl`. The response handler should be designed to receive form encoded data and process the data timely.

Form Fields

Field Name	Definition
Response	XML response data to be processed by the calling application. This XML can be one of the following types depending on where you supplied the Postback URL in the request message: <code>Response_v1</code> <code>Response_v1.PaymentResponseType</code>

ASP Sample

```
<%  
` postback url submitted was https://www.myserver.com/handler.asp?myid=12345  
  
dim myid = Request("myid")  
dim xml = Request("response")  
  
%>
```

Processing Interrupted Postback Messages

In the event the end user cancels, closes the browser, or allows the form entry to expire/timeout. The system will post for encoded messages indicating the event.

Form Fields

Field Name	Definition
Status_Code	A numerical indicator of the event type. 6 = User Canceled 7 = Timeout
Status_Description	A textual description of the event.

ASP Sample

```
<%  
  
dim status code  
status_code = Request("status_code")  
  
dim status desc  
status_desc = Request("status_description")  
  
dim xmlResp  
xmlResp = Request("Response")  
  
if status_code <> "" then  
  ' process interrupt event  
end if  
  
if xmlResp <> "" then  
  ' process xml response  
end if  
  
%>
```

Polling

In the event in which a PostBack is not received or cannot be implemented the XML response for a given Transaction or Vault operation can be retrieved by querying the SEVD using a user defined TransactionID or VaultID associated with the original XML request. These queries are designed to have no user interface and be a direct client to server communication.

ASP Vault Response Query Sample

```
<%
    dim xmlReq

    xmlReq = "<?xml version=""1.0"" encoding=""utf-16""?>"
    xmlReq = xmlReq & "<Request v1 xmlns:xsi=""http://www.w3.org/2001/XMLSchema-instance"" "
    xmlReq = xmlReq & "xmlns:xsd=""http://www.w3.org/2001/XMLSchema"">"
    xmlReq = xmlReq & "    <Application>"
    xmlReq = xmlReq & "        <ApplicationID>DEMO</ApplicationID>"
    xmlReq = xmlReq & "        <LanguageID>EN</LanguageID>"
    xmlReq = xmlReq & "    </Application>"
    xmlReq = xmlReq & "    <VaultStatusQuery>"
    xmlReq = xmlReq & "        <Merchant>"
    xmlReq = xmlReq & "            <MerchantID>999999999997</MerchantID>"
    xmlReq = xmlReq & "            <MerchantKey>K3QD6YWyhfd</MerchantKey>"
    xmlReq = xmlReq & "        </Merchant>"
    xmlReq = xmlReq & "        <VaultID>MyID</VaultID>"
    xmlReq = xmlReq & "    </VaultStatusQuery>"
    xmlReq = xmlReq & "</Request_v1>"

    dim statusCode
    dim xmlResp
    dim formData

    formData = "request=" & Server.UrlEncode( xmlReq )

    Set msxml = Server.CreateObject( "MSXML2.ServerXMLHTTP" )
    msxml.Open "POST", "https://www.sageexchange.com/VirtualPaymentTerminal/frmPayment.aspx", False
    msxml.setRequestHeader "Content-Type", "application/x-www-form-urlencoded"
    msxml.send( formData )

    statusCode = msxml.Status

    if statusCode <> 200 then
        ' handler error
    end if

    xmlResp = msxml.responseText
    set msxml = nothing

%>
```

ASP Payment Response Query Sample

```
<%
    dim xmlReq

    xmlReq = "<?xml version=""1.0"" encoding=""utf-16""?>"
    xmlReq = xmlReq & "<Request_v1 xmlns:xsi=""http://www.w3.org/2001/XMLSchema-instance""
    xmlReq = xmlReq & "xmlns:xsd=""http://www.w3.org/2001/XMLSchema"">"
    xmlReq = xmlReq & "<Application>"
    xmlReq = xmlReq & "<ApplicationID>DEMO</ApplicationID>"
    xmlReq = xmlReq & "<LanguageID>EN</LanguageID>"
    xmlReq = xmlReq & "</Application>"
    xmlReq = xmlReq & "<TransactionStatusQueries>"
    xmlReq = xmlReq & "<TransactionStatusQueryType>"
    xmlReq = xmlReq & "<Merchant>"
    xmlReq = xmlReq & "<MerchantID>999999999997</MerchantID>"
    xmlReq = xmlReq & "<MerchantKey>K3QD6YWyhFD</MerchantKey>"
    xmlReq = xmlReq & "</Merchant>"
    xmlReq = xmlReq & "<TransactionID>529ba335-d4bc-420f-887e-f1dc48d5b773</TransactionID>"
    xmlReq = xmlReq & "</TransactionStatusQueryType>"
    xmlReq = xmlReq & "</TransactionStatusQueries>"
    xmlReq = xmlReq & "</Request_v1>"

    dim statusCode
    dim xmlResp
    dim formData

    formData = "request=" & Server.UrlEncode( xmlReq )

    Set msxml = Server.CreateObject( "MSXML2.ServerXMLHTTP" )
    msxml.Open "POST", "https://www.sageexchange.com/VirtualPaymentTerminal/frmPayment.aspx", False
    msxml.setRequestHeader "Content-Type", "application/x-www-form-urlencoded"
    msxml.send( formData )

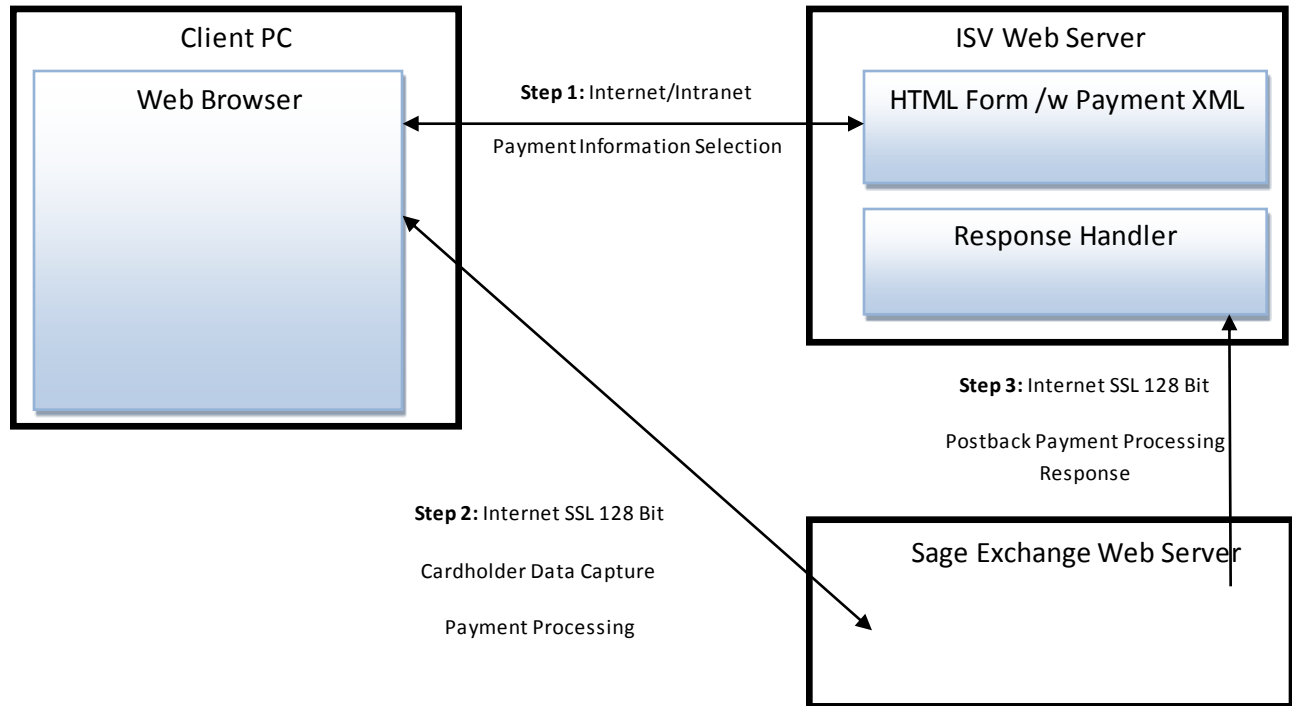
    statusCode = msxml.Status

    if statusCode <> 200 then
        ' handler error
    end if

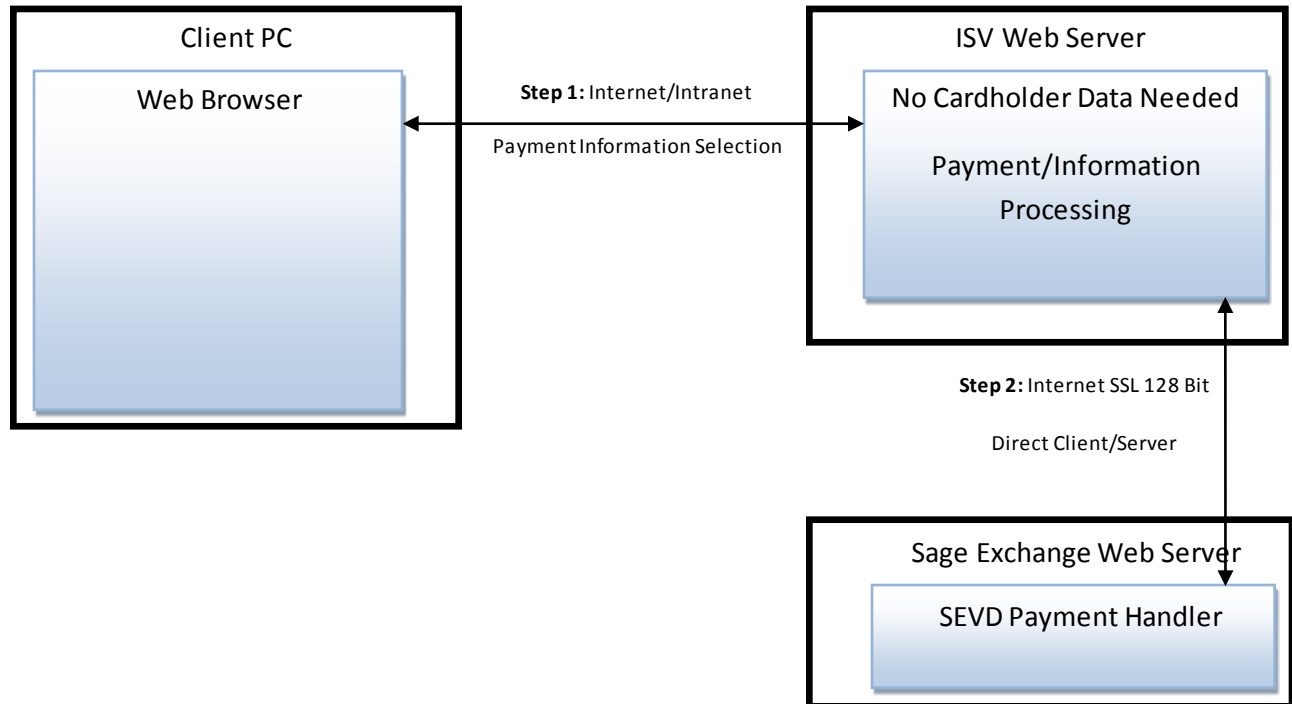
    xmlResp = msxml.responseText
    set msxml = nothing

%>
```

User Interface Process Flow



Non User Interface Process Flow



Supported Browsers

- **Windows:** Firefox 3 or greater, MS Internet Explorer 8.0 or greater, Chrome 9 or greater
- **Mac OSX:** Safari 5 or greater, Firefox 3 or greater, Chrome 9 or greater
- **Linux:** Firefox 3 or greater, Chrome 9 or greater