**Thunder compatible URL Strings**

7/27/2018, 8:09AM (Steve Quinn)

All URL’s will require authentication for the 2018 season (Thunder), including the NFL specific calls MessageXML and VideoFile (previously excluded from authentication). The Authentication element of the message is inserted as a part of the argument for each API call. The payload of this XML item is the legacy argument. The form of the new argument is:

<root><authentication token=’<token>’ vendor=’<vendor>’/><payload><<payload>></payload></root>

If you are a third party, and would like to generate URL’s for Thunder and/or Thunder Cloud, you will need to obtain a unique Vendor GUID from XOS/Catapult. Please contact Support for more information.

The Token section of this item is obtained from XOS Digital’s Single Sign-on Service using a GenerateToken web service call, using a XOS provided vendor code as its argument, and credentials associated with the vendor’s primary site admin user. The vendor item is the code used in the above (XOS provided code for the vendor, or a ThunderAPI product code for XOS customers). Tokens obtained in this manner are valid for up to 15 minutes after the call is made, after that time, they expire. It is up to the consumer of these services to update the token at least every 15 minutes.

NFL XML Format (MessageXML) : Encoded XML string (Note, this requires a POST rather than a GET)

[http://localhost:8080/XOS/MessageXML?<root><authentication.../><payload>](http://localhost:8080/XOS/MessageXML?<root><authentication.../><payload>%3C%3Fxml%20version%3D%221%2E0%22%3F%3E%3CContentType%20value%3D%22GSIS%20Plays%22%3E%3CLeague%20value%3D%22NFL%22%3E%3CPlays%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%221419%22%20%2F%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%223786%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%221930%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%222646%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221520%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221909%22%20%2F%3E%3C%2FPlays%3E%3C%2FLeague%3E%3C%2FContentType%3E)

[%3C%3Fxml%20version%3D%221%2E0%22%3F%3E%3CContentType%20value%3D%22GSIS%20Plays%22%3E%3CLeague%20value%3D%22NFL%22%3E%3CPlays%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%221419%22%20%2F%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%223786%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%221930%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%222646%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221520%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221909%22%20%2F%3E%3C%2FPlays%3E%3C%2FLeague%3E%3C%2FContentType%3E](http://localhost:8080/XOS/MessageXML?<root><authentication.../><payload>%3C%3Fxml%20version%3D%221%2E0%22%3F%3E%3CContentType%20value%3D%22GSIS%20Plays%22%3E%3CLeague%20value%3D%22NFL%22%3E%3CPlays%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%221419%22%20%2F%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%223786%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%221930%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%222646%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221520%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221909%22%20%2F%3E%3C%2FPlays%3E%3C%2FLeague%3E%3C%2FContentType%3E)

</payload></root>

NFL XML Format (MessageXML) : Encoded XML string

[http://localhost:8080/XOS/MessageXMLGet?<root><authentication.../><payload> %3C%3Fxml%20version%3D%221%2E0%22%3F%3E%3CContentType%20value%3D%22GSIS%20Plays%22%3E%3CLeague%20value%3D%22NFL%22%3E%3CPlays%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%221419%22%20%2F%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%223786%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%221930%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%222646%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221520%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221909%22%20%2F%3E%3C%2FPlays%3E%3C%2FLeague%3E%3C%2FContentType%3E](http://localhost:8080/XOS/MessageXMLGet?%3croot%3e%3cauthentication.../%3e%3cpayload%3e%20%3C%3Fxml%20version%3D%221%2E0%22%3F%3E%3CContentType%20value%3D%22GSIS%20Plays%22%3E%3CLeague%20value%3D%22NFL%22%3E%3CPlays%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%221419%22%20%2F%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%223786%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%221930%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%222646%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221520%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221909%22%20%2F%3E%3C%2FPlays%3E%3C%2FLeague%3E%3C%2FContentType%3E)

</payload></root>

XML Sample (decoded):

<ContentType Value="GSIS Plays">

<League Value="NFL">

<Plays>

<Play PlayId="xxx" Gamekey="yyy"/>

<Play PlayId="aaa" Gamekey="bbb" ScoutedTeam=”ccc”/>

...

</Plays>

</League>

<Angles Sideline=”True” Endzone = “True” Scoreboard=”True” TVBroadcast=”True”/>

<AppendPlays value=“1”/>

<LaunchPlayer value =“True”/>

<OpenThunderPlaylist value=“False” mode=”new” name=”Edit1”/>

</ContentType>

To save the edit without launching the media player set the optional LaunchPlayer value attribute to “False”. The default is set to true if this xml node is not specified.

To open the playlist within Thunder set the value for OpenThunderPlaylist to True. The default value is set to false if this xml node is not specified. Default value for mode will be “new” if mode is not specified. If name is not specified Thunder will use determine the name for the temporary edit (i.e. Edit1) . To append plays to the specified set mode = “append” or to replace an edit set mode = “replace”.

Stats Format (comma delimited Stats play ids)

[http://localhost:8080/XOS/LaunchPlayer?playids=<root><authentication.../><payload> 123456,67890,5555325](http://localhost:8080/XOS/LaunchPlayer?%3croot%3e%3cauthentication.../%3e%3cpayload%3eplayids=123456,67890,5555325)</payload></root>

GSIS Format (^ + gameId + "," plays...)

[http://localhost:8080/XOS/LaunchPlayerByGSIS?gameCodePlayId=<root><authentication.../><payload> ^55514|944,4340,4579^55526|1583,1625,1942,3978^55546|444,1327,2090,2860,1033^55562|485,1681,3263,4146^55567|1726](http://localhost:8080/XOS/LaunchPlayerByGSIS?%3croot%3e%3cauthentication.../%3e%3cpayload%3egameCodePlayId=%5e55514|944,4340,4579%5e55526|1583,1625,1942,3978%5e55546|444,1327,2090,2860,1033%5e55562|485,1681,3263,4146%5e55567|1726)</payload></root>

[http://localhost:8080/XOS/LaunchPlayerByGSISNonPro?gameCodePlayId=<root><authentication.../><payload> ^55514|944,4340,4579^55526|1583,1625,1942,3978^55546|444,1327,2090,2860,1033^55562|485,1681,3263,4146^55567|1726](http://localhost:8080/XOS/LaunchPlayerByGSISNonPro?gameCodePlayId=%3croot%3e%3cauthentication.../%3e%3cpayload%3e%20%5e55514|944,4340,4579%5e55526|1583,1625,1942,3978%5e55546|444,1327,2090,2860,1033%5e55562|485,1681,3263,4146%5e55567|1726)</payload></root>

GSIS Format with optional Scouted Team Code specified:

[http://localhost:8080/XOS/LaunchPlayerByGSIS?gameCodePlayId=<root><authentication.../><payload> ^56852|307:ATL^56852|336:ATL^56852|357:ATL](http://localhost:8080/XOS/LaunchPlayerByGSIS?gameCodePlayId=%3croot%3e%3cauthentication.../%3e%3cpayload%3e%20%5e55514|944,4340,4579%5e55526|1583,1625,1942,3978%5e55546|444,1327,2090,2860,1033%5e55562|485,1681,3263,4146%5e55567|1726)</payload></root>

PFF Format (See NFL XML Format above, use PFFMessageXMLGet/PFFMessageXML rather than MessageXMLGet/MessageXML)

Use PFF values for Game Key and Play ID (Leagues are still NFL and NCAA).

STATS XML Format (See NFL XML Format above, use StatsMessageMXLGet/StatsMessageXML rather than MessageXmlGet/MessageXml)

Use Stats values for Play Id (Stats Unique Play ID)

Game ID is not required.

Internal GUID URLs (Need access to Play or Edit ID values from Thunder Database, API recommended)

[http://localhost:8080/XOS/LaunchPlayerByPlays?plays=<root><authentication.../><payload>885113FB-53AB-4335-8494-000536F3F4CE,97730B9A-1D2A-4B4A-9FB8-001B6DE40695</payload></root](http://localhost:8080/XOS/LaunchPlayerByPlays?plays=%3croot%3e%3cauthentication.../%3e%3cpayload%3e885113FB-53AB-4335-8494-000536F3F4CE,97730B9A-1D2A-4B4A-9FB8-001B6DE40695%3c/payload%3e%3c/root)>

New in 2018 an XML format with XOS Play IDs in order to set the optional parameters (primarily the OpenThunderPlaylist feature):

[http://localhost:8080/XOS/XOSMessageXML?<root><authentication.../><payload>](http://localhost:8080/XOS/XOSMessageXML?<root><authentication.../><payload>%3C%3Fxml%20version%3D%221%2E0%22%3F%3E%3CContentType%20value%3D%22GSIS%20Plays%22%3E%3CLeague%20value%3D%22NFL%22%3E%3CPlays%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%221419%22%20%2F%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%223786%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%221930%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%222646%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221520%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221909%22%20%2F%3E%3C%2FPlays%3E%3C%2FLeague%3E%3C%2FContentType%3E)

[%3C%3Fxml%20version%3D%221%2E0%22%3F%3E%3CContentType%20value%3D%22GSIS%20Plays%22%3E%3CLeague%20value%3D%22NFL%22%3E%3CPlays%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%221419%22%20%2F%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%223786%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%221930%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%222646%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221520%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221909%22%20%2F%3E%3C%2FPlays%3E%3C%2FLeague%3E%3C%2FContentType%3E](http://localhost:8080/XOS/XOSMessageXML?<root><authentication.../><payload>%3C%3Fxml%20version%3D%221%2E0%22%3F%3E%3CContentType%20value%3D%22GSIS%20Plays%22%3E%3CLeague%20value%3D%22NFL%22%3E%3CPlays%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%221419%22%20%2F%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%223786%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%221930%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%222646%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221520%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221909%22%20%2F%3E%3C%2FPlays%3E%3C%2FLeague%3E%3C%2FContentType%3E)

</payload></root>

[http://localhost:8080/XOS/XOSMessageXMLGet?<root><authentication.../><payload> %3C%3Fxml%20version%3D%221%2E0%22%3F%3E%3CContentType%20value%3D%22GSIS%20Plays%22%3E%3CLeague%20value%3D%22NFL%22%3E%3CPlays%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%221419%22%20%2F%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%223786%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%221930%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%222646%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221520%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221909%22%20%2F%3E%3C%2FPlays%3E%3C%2FLeague%3E%3C%2FContentType%3E](http://localhost:8080/XOS/XOSMessageXMLGet?%3croot%3e%3cauthentication.../%3e%3cpayload%3e%20%3C%3Fxml%20version%3D%221%2E0%22%3F%3E%3CContentType%20value%3D%22GSIS%20Plays%22%3E%3CLeague%20value%3D%22NFL%22%3E%3CPlays%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%221419%22%20%2F%3E%3CPlay%20Gamekey%3D%2229573%22%20PlayId%3D%223786%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%221930%22%20%2F%3E%3CPlay%20Gamekey%3D%2229558%22%20PlayId%3D%222646%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221520%22%20%2F%3E%3CPlay%20Gamekey%3D%2229536%22%20PlayId%3D%221909%22%20%2F%3E%3C%2FPlays%3E%3C%2FLeague%3E%3C%2FContentType%3E)

</payload></root>

XML Sample (decoded):

<ContentType Value="GSIS Plays">

<League>

<Plays>

<Play PlayId="885113FB-53AB-4335-8494-000536F3F4CE "/>

<Play PlayId="97730B9A-1D2A-4B4A-9FB8-001B6DE40695”/>

...

</Plays>

</League>

<Angles Sideline=”True” Endzone = “True” Scoreboard=”True” TVBroadcast=”True”/>

<AppendPlays value=“1”/>

<LaunchPlayer value =“True”/>

<OpenThunderPlaylist value=“False”/>

</ContentType>

[http://localhost:8080/XOS/LaunchPlayerByEdits?edits=<root><authentication>.../><payload>8E0FD621-F838-4E2C-97A8-0350FA4DF0EB</payload></root](http://localhost:8080/XOS/LaunchPlayerByEdits?edits=%3croot%3e%3cauthentication%3e.../%3e%3cpayload%3e8E0FD621-F838-4E2C-97A8-0350FA4DF0EB%3c/payload%3e%3c/root)>

In order for Thunder to validate these strings, it needs external network access (so it can contact SSO to validate the token provided). For performance reasons Thunder will cache valid tokens so that only one authorization will be required per generated token (once every 15 minutes normally).

Error status will be returned in an XML return value. Possible status responses include:

Success = Good authentication and URL (may or not result in Plays in Thunder)

Invalid\_Token = Your Token was expired or invalid.

Invalid\_Product = Your Vendor/product GUID was invalid or disabled

Not\_Licensed = Legacy API was not licensed with a site license (Thunder API)

Unknown\_Error = There was an error processing the URL, probably invalid payload or XML syntax/format

Note, new in 2017 we are adding URL support to our iOS and Windows 10 Universal mobile applications. These URL’s have the same format, except rather than <http://localhost:8080>/XOS/\*, they start with ThunderCloud://XOS/\*. Customers with Thunder Cloud will be able to leverage these URL’s to launch playlists (of pushed content) on these devices.

**Long URLs:**

Long URLs can be supported by using the SaveUserUrlByToken method (REST service on the SSO endpoint). This call will save a long URL (>20 plays for cloud, >200 plays for lan) and return a key value to use in a special URL that will cause the application to look up the longer URL and process it, removing the need for breaking up calls. This call is a POST call, so the argument can be very long. See the C# sample project for details.

[http://localhost:8080/XOS/LookupURL?URL=<key](http://localhost:8080/XOS/LookupURL?URL=%3ckey)>

thundercloud://XOS/LookupURL?URL=<key>

Adding Play Field Meta Data:

Any of the XML formats can be extended to add field meta data by adding <PlayFieldValue> elements to the <Play> nodes. The UpdatePlayFieldDataURL method can be used with these URL’s (using Long or Short URLs) to push values to plays based on any valid XML criteria. Here is an example of changing down and distance in an existing XML:

…

<Play PlayId="aaa" Gamekey="bbb" ScoutedTeam=”ccc”> // note, element not closed…

<PlayFieldValue FieldKey=’Football.Down’ FieldValue=’1’/>

<PlayFieldValue FieldKey=’Football.Distance’ FieldValue=’10’/>

</Play>

…

The FieldKeys should come from the GetFields method (it can be used to map display names to field meta keys).