

# RESO Web API Extensibility

Or...

How to play with data knives and not cut your fingers off.

# Overview

- Basic Requirements
- Web API Data System Resource
- Web API Standard Resources
- Web API Localized Resources

# Basic Requirements

- RESTful Transport
- Real Time Access
- Support 'Plug and Play'
- Support local data extensions
- Support local service extensions

OData gives us most of this out of the box!

# Web API Data System Resource

- Provides a catalog of available Resources
- Permits Resources to span multiple systems
- Associates Standard Resources to Localized Resources for local customization

```
C:\Users\mpmcguire\Desktop\Dictionary Schema Tool\WebAPISamples\DataSystem.xml - Notepad++ [Administrator]
File Edit Search View Encoding Language Settings Macro Run TextFX Plugins Window ?
DataSystem.xml x DataSystemMetadata.xml x discussion-topic-draft.bt x Properties.json x Properties.xml x PropertiesMetadata.xml x new 2 x
16 <content type="application/xml">
17 <m:properties>
18 <d:Name>RESO_MLS</d:Name>
19 <d:ServiceURI>http://sandboxweb.localhost/DataSystem.svc/</d:ServiceURI>
20 <d:DateTimeStamp m:type="Edm.DateTime">2014-09-08T11:25:16.0975861-04:00</d:DateTimeStamp>
21 <d:TransportVersion>0.9</d:TransportVersion>
22 <d:DataDictionaryVersion>1.3</d:DataDictionaryVersion>
23 <d:Resources m:type="Collection(RESO.OData.Transport.Resource)">
24 <d:element>
25 <d:Name>Property</d:Name>
26 <d:ServiceURI>http://sandboxweb.localhost/Properties.svc</d:ServiceURI>
27 <d:Description>RESO Standard Property Resource</d:Description>
28 <d:DateTimeStamp m:type="Edm.DateTime">2014-09-08T11:25:16.0975861-04:00</d:DateTimeStamp>
29 <d:TimeZoneOffset m:type="Edm.Int32">-5</d:TimeZoneOffset>
30 <d:Localizations m:type="Collection(RESO.OData.Transport.Localization)">
31 <d:element>
32 <d:Name>Single Family</d:Name>
33 <d:ServiceURI>http://sandboxweb.localhost/SingleFamily.svc</d:ServiceURI>
34 <d:Description>Localized Single Family Residential Resource</d:Description>
35 <d:DateTimeStamp m:type="Edm.DateTime">2014-09-08T11:25:16.0975861-04:00</d:DateTimeStamp>
36 </d:element>
37 <d:element>
38 <d:Name>Multi Family</d:Name>
39 <d:ServiceURI>http://sandboxweb.localhost/MultiFamily.svc</d:ServiceURI>
40 <d:Description>Localized Multi Family Residential Resource</d:Description>
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# Web API Standard Resources

- Standard Resources == Data Dictionary
- Must NOT deviate from the model
- Must be listed as Resources, not Localizations

```
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DataSystem.xml x DataSystemMetadata.xml x discussion-topic-draft.txt x Properties.json x Properties.xml x PropertiesMetadata.xml x new 2 x
16 <content type="application/xml">
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19     <d:ServiceURI>http://sandboxweb.localhost/DataSystem.svc</d:ServiceURI>
20     <d:DateTimeStamp m:type="Edm.DateTime">2014-09-08T11:25:16.0975861-04:00</d:DateTimeStamp>
21     <d:TransportVersion>0.9</d:TransportVersion>
22     <d:DataDictionaryVersion>1.3</d:DataDictionaryVersion>
23     <d:Resources m:type="Collection(RESO.OData.Transport.Resource)">
24       <d:element>
25         <d:Name>Property</d:Name>
26         <d:ServiceURI>http://sandboxweb.localhost/Properties.svc</d:ServiceURI>
27         <d>Description>RESO Standard Property Resource</d>Description>
28         <d:DateTimeStamp m:type="Edm.DateTime">2014-09-08T11:25:16.0975861-04:00</d:DateTimeStamp>
29         <d:TimeZoneOffset m:type="Edm.Int32">-5</d:TimeZoneOffset>
30         <d:Localizations m:type="Collection(RESO.OData.Transport.Localization)">
31           <d:element>
32             <d:Name>Single Family</d:Name>
33             <d:ServiceURI>http://sandboxweb.localhost/SingleFamily.svc</d:ServiceURI>
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36           </d:element>
37           <d:element>
38             <d:Name>Multi Family</d:Name>
39             <d:ServiceURI>http://sandboxweb.localhost/MultiFamily.svc</d:ServiceURI>
40             <d>Description>Localized Multi Family Residential Resource</d>Description>

```

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# Web API Localized Resources

- Provide custom representations for Standard Resources
- MUST be children of a Standard Resource
- MUST use the same ID value as parent
- MUST use the same time zone offset as parent



```
C:\Users\mpmcguire\Desktop\Dictionary Schema Tool\WebAPISamples\DataSystem.xml - Notepad++ [Administrator]
File Edit Search View Encoding Language Settings Macro Run TextFX Plugins Window ?
DataSystem.xml x DataSystemMetadata.xml x discussion-topic-draft.bt x Properties.json x Properties.xml x PropertiesMetadata.xml x new 2 x
16 application/xml">
17 es>
18 >RESO_MLS</d:Name>
19 iceURI>http://sandboxweb.localhost/DataSystem.svc/</d:ServiceURI>
20 TimeStamp m:type="Edm.DateTime">2014-09-08T11:25:16.0975861-04:00</d:DateTimeStamp>
21 sportVersion>0.9</d:TransportVersion>
22 DictionaryVersion>1.3</d:DataDictionaryVersion>
23 urces m:type="Collection(RESO.OData.Transport.Resource) ">
24 element>
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```

# Additional thoughts

Separating the Standard from the Localized permits:

- Plug and Play to work for Standard Resources
- Extensions to live in the Localized Resources
- Innovation within the Localized Resources
- The Data System catalog is available in JSON format!