NGA Palanterra x3 and USGS The National Map Viewer API JSON Configuration

The configuration json file(s) located in the js/config directory of Palanterra x3 is used to configure all the services, tools, tasks, etc in the application. The file is in the JSON format which is a subset of JavaScript. Information can be found at http://www.json.org/. **Items noted as base context** are items looking to be migrated to the OWF GeoServices REST Specification in FY12 which could be opened in ESRI APIs, ArcGIS.com and ArcGIS products current reference implementations. As well, base context items are the ones we are interested in for OWS Context Profile if JSON encoded.

Context/Configuration File Sections

Services (Base Context)

The services object can be thought of as a hash map with the key being the service id and value being a service configuration object.

Service Configuration Object

Property	Type	Description
id	String	Id of the service, this should match the key in the services object (this allows for fast access to a service configuration object)
url	String	URL to the ArcGIS Server REST resource that represents a map service. An example is http://sampleserver1.arcgisonline.com/ArcGIS/rest/services/Portland/Portland_ESRI_LandBase_AGO/MapServer. For more information on constructing a URL, see The Services Directory and the REST API.
soapEndpoint	String	*Optional.* URL to the ArcGIS Server Soap resource that is represented by the *url.* This is used to fetch swatches (legend icons) for the overlay pane for each service.
authId	String	*Optional.* This is used in conjunction with the soapEndpoint to provide authentication information to the soap service. The actual authentication information is stored in a database table whose key matches this id.
displayName	String	Name that will be displayed in the Overlays Pane for the service.
classification	String	*Optional.* Valid values are "UNCLASSIFIED", "CONFIDENTIAL", "SECRET", and "TOP SECRET". This will be used if displaySecurityBanners or displayTocSecurityMarkings in the layoutConfig object are true (*see Layout Configuration Object*). *default:* UNCLASSIFIED
caveats	String[]	*Optional.* An array of strings representing caveats to the classification. See classification property for details when it will be used. *default:* []
metadataUrl	String	*Optional.* URL to a webpage with metadata about the service. This page will display in a tooltip dialog opened from the context menu (right-clicking) on a service in the Overlay Pane.
layersDefaultIdentifiable	Boolean	*Optional*. True sets every layer in the service to identifiable, false allows no layer in the service to be identified on (preferred for raster data). A layer's identifiablility can be overridden in a Layer Configuration object in the layers section (*see Layer Configuration Object*). *default:* false
type	String	Specifies the layer's type.

		Possible values: tiled, dynamic, wms,wmts, image, nrl. *Note: Dynamic Services will be rendered as PNG 24 images except in IE6 where they will be rendered as PNG 8.*
drawOrder	Number	Specifies the default draw order for stacking services on top of each other to create the map the user sees in the browser. The higher values appear on top.
downloadUrl	String	URL pointing to a file to be used for the Download Layer link on this service's context menu.
opacity	Number	Number between 0 and 1.0 that determines the default opacity of a layer.
refreshIntervalSeconds	Number	*Optional*. Number of seconds between automatic layer refresh operations.
layers	Object	Hash map of Layer Configuration Objects, keys are the layer's id.
defaultInfotemplate	Object	*Optional.* The default info template to apply to layers where none is specified via the Layers configuration object. Refer to the Info Template Object section for configuration format of this object.

Layer Configuration Object

Property	Type	Description
id	String	Id of the layer, this should match the key in the layers hash map object (this allows for fast access to a Layer Configuration Object)
identifiable	Boolean	True will allows the layer to be identified upon. This will override the value of the Service Configuration Object's layersDefaultIdentifiable property.
infoTemplate	Object	*Optional.* The template used to create the contents of the InfoWindow displayed when an identified features details are displayed.

Info Template Object

In both properties of the Info Template Object can have attributes specified in them by using ${<column name>}. An example might be ${STREET_NAME}.

Property	Type	Description
title	String	The string template used to create the title of the InfoWindow displayed when an identified features details are displayed.
content	String	The string template used to create the contents of the InfoWindow displayed when an identified features details are displayed. *default:* ${*} (All attributes in key = value format)

Services Example


```
{
	"services":{
		"TNM_Vector_Fills_Small":{
			"id":"TNM_Vector_Fills_Small",
			"url":"http://basemap.nationalmap.gov/ArcGIS/rest/services/TNM_Vector_Fills
			_Small/MapServer",
			"soapEndpoint":"http://basemap.nationalmap.gov/ArcGIS/services/TNM_Vector_F
			ills_Small/MapServer",
			"metadataUrl":"http://basemap.nationalmap.gov/ArcGIS/rest/services/TNM_Vect
			or_Fills_Small/MapServer",
			"displayName":"Vector Fills - Small Scale",
			"layersDefaultIdentifiable":false,
			"type":"tiled",
			"opacity":0.7,
			"drawOrder":5,
			"layers":{}
		},
	 "map_indices":{
			"id":"map_indices",
			"url":"http://services.nationalmap.gov/ArcGIS/rest/services/map_indices/Map
			Server",
			"soapEndpoint":"http://services.nationalmap.gov/ArcGIS/services/map_indices
			/MapServer",
			"metadataUrl":"http://services.nationalmap.gov/ArcGIS/rest/services/map_ind
			ices/MapServer",
			"displayName":"Map Indices",
			"layersDefaultIdentifiable":true,
			"type":"dynamic",
			"opacity":0.75,
			"drawOrder":15,
			"layers":{
				"0":{"id":0,"identifiable":false},
				"1":{"id":1,"identifiable":false},
				"2":{"id":2,"identifiable":false},
				"3":{"id":3,"identifiable":false},
				"4":{"id":4,"identifiable":false},
				"5":{"id":5,"identifiable":true,"infoTemplate":{"title":"${QUADNAME}
				","content":"<table><tr><td>Layer:<td>1:100K
				Index<tr><td>ID:<td>${ID}<tr><td>Centlat:<td>${CENTLAT}<tr><td>Centl
				ong:<td>${CENTLONG}<tr><td>MRC
				Code:<td>${MRC_CODE}</td></tr></table>"}},
				"6":{"id":6,"identifiable":true,"infoTemplate":{"title":"${QUADNAME}
				","content":"<table><tr><td>Layer:<td>1:63K Index
				(Alaska)<tr><td>ID:<td>${ID}<tr><td>Centlat:<td>${CENTLAT}<tr><td>Ce
				ntlong:<td>${CENTLONG}<tr><td>MRC
				Code:<td>${MRC_CODE}</td></tr></table>"}},
				"7":{"id":7,"identifiable":true,"infoTemplate":{"title":"${CELL_NAME
				}","content":"<table><tr><td>Layer:<td>1:24K Index<tr><td>Primary
				State:<td>${PRIMARY_STATE}<tr><td>Cell ID:<td>${CELL_ID}<tr><td>Cell
				Type:<td>${Cell_Type}<tr><td>All
				Water:<td>${Cell_AllWater}<tr><td>Cell
				Description:<td>${CELL_DESCRIPTION}<tr><td>Cell
				Diacritic:<td>${CELL_DIACRITIC}<tr><td>Cell
				Mapcode:<td>${CELL_MAPCODE}</td></tr></table>"}}
			}
		},
	},
	…
}
```


Service Groups (Base Context)

The servicesGroups object can be thought of as a hash map with the key being the service group id and value being an array of service ids. This is used to help organize the services into grouped menus for the overlay services (left pane) and into buttons for the basemaps (upper right)

Service Groups Example


```
{
        …,

"serviceGroups":{
        "baseServices1":["TNM_Small_Scale_Shaded_Relief","TNM_Medium_Scale_Shaded_Relief","TNM_Lar
        ge_Scale_Shaded_Relief","TNM_Vector_Fills_Small","TNM_Vector_Fills_Large","TNM_Vector_Smal
        l","TNM_Vector_Large"],
        "baseServices2":["TNM_Small_Scale_Imagery","TNM_Large_Scale_Imagery","TNM_Vector_Fills_Sma
        ll_light","TNM_Vector_Fills_Large_light","TNM_Vector_Small","TNM_Vector_Large"],
        "baseServices3":["TNM_Blank_US"],
        "TNMBaseOverlays":["US_Topo_BM","wmsGeonames","structures","transport","govunit","map_indi
        ces","nhdgeo","LandCoverEDC","LandCoverEDC2006","TNM_Contours_Small_Beta","TNM_DRG","vecto
        rSelectablePolygons"],
                "featuredExampleMashups":["usgsEcosystems","usgsPADUSOwner","usgsPADUSStatus","usgs
        GAPLandCover","usgsUSHazards","usHazardsInfo","nhss_weat","nexrad","FWS_Wetlands","blmPLSS
        "],
        "initialOn":["vectorSelectablePolygons"],
        "inventoryServices":["US_Topo_INV","nhd_status","inventoryService10_struct","inventoryServ
        ice11_struct","inventoryService12_struct","inventoryService13_struct","inventoryService14_
        trans","inventoryService15_trans","inventoryService16_trans","inventoryService6_nhd","inve
        ntoryService7_nhd","inventoryService8_nhd","inventoryService9_nhd","inventoryService1_naip
        ","inventoryService4_naip","inventoryService3_naip","inventoryService2_naip","inventorySer
        vice5_naip"]
                },…
}
```


Locators (Px3 Viewer Unique)

The locators object can be thought of as a hash map with the key being the locator id and value a locator configuration object.

Locator Object

Property	Type	Description
url	String	Url to the ArcGIS Server REST resource that represents a locator service. An example is http://sampleserver1.arcgisonline.com/ArcGIS/rest/services/Locators/ESRI_Geocode_USA/GeocodeServer
spatialReference	String	Spatial Reference of the locator.
version	String	Version of the locator. Valid values are: “9.3.1” and “10”.
fields	Object	Map of field names used to override field names.
streetRequired	Boolean	If true a space will be placed in the street field value before submission if a street value is not put in by the user. Default false.

Fields Object

Property	Type	Description
singleLineAddressField	String	Field name for single line address field (only valid when Locator Object version property is “10”. Default “SingleLine”.
streetField	String	Field name for street field. Default “Street”
cityField	String	Field name for city field. Default “City”
stateField	Object	Field name for state field. Default “State”

zipField	Boolean	Field name for zip field. Default “Zip”

Locators Example

```
{
        …,

"locators":{
        "composite":{
                "url":"http://services.nationalmap.gov/ArcGIS/rest/services/Tasks/Search/GeocodeSer
                ver",
                "spatialReference":{"wkid":4326}
                }
        },…
}
```

Bandwidth Test Endpoints (Px3 Viewer Unique)

The bandwidthTestEndpoints object can be thought of as a hash map with the key being the endpoint id and value being an endpoint configuration object.

Bandwidth Test Endpoint Object

Property	Type	Description
displayName	String	Name that will be displayed in the endpoint dropdown input for the bandwith test.
url	String	A full URL to an image located on the server you would like to test. For the most reliable results, this should be a tile from a map service.
byteSize	Number	The number of bytes to send to the service as a test

Bandwidth Test Endpoints Example

```
{
        …,

        "bandwidthTestEndpoints": {
                "wmTest":{
                        "displayName":"TNM Base Map Test",
                        "url":"http://basemap.nationalmap.gov/ArcGIS/rest/services/TNM_Vector_Small
        /MapServer/tile/0/0/0",
                        "byteSize":24963
                        }
                },
        …
}
```

Extents (Base Context)

The extents object can be thought of as a hash map with the key being the extent id and value being an extent configuration object.

Extent Configuration Object

Property	Type	Description

xmin	Number	Bottom-left X-coordinate of an extent envelope.
ymin	Number	Bottom-left Y-coordinate of an extent envelope.
xmax	Number	Top-right X-coordinate of an extent envelope.
ymax	Number	Top-right Y-coordinate of an extent envelope.
spatialReference	Object	Spatial reference of the extent.

Spatial Reference Object

Property	Type	Description
wkid	Number	The well-known ID of a spatial reference. See Projected Coordinate Systems and Geographic Coordinate Systems for the list of supported spatial references.

Extents Example

```
{
        …,

        "extents":{
                "CONUS":{"xmin":-14300000, "ymin":2500000, "xmax":-6900000, "ymax":6400000,
                "spatialReference":{"wkid":102113}}
                },
        …
}
```

Tasks (Px3 Viewer Unique)

The tasks object can be thought of as a hash map with the key being the task id and value being a task configuration object. *This is included in the NGA Palanterra x3 Toolbox, but not used by USGS The National Map*

Task Configuration Object

Property	Type	Description
id	String	Id of the task, this should match the key in the tasks object (this allows for fast access to a task configuration object)
displayName	String	Name that will be displayed in the Tasks Selection Pane for the task.
url	String	URL to an ArcGIS Server REST resource that represents a geo-processing service. An example is http://sampleserver1.arcgisonline.com/ArcGIS/rest/services/Network/ESRI_DriveTime_US/GPServer/CreateDriveTimePolygons. For more information on constructing a URL, see The Services Directory and the REST API.
parameters	Object	*Optional.* Hash map of parameter configuration objects with parameter ids as a key. These objects set the output symbology for the task. See *Configuring GpTask Output Parameters.doc*
classification	String	*Optional.* Valid values are "UNCLASSIFIED", "CONFIDENTIAL", "SECRET", and "TOP SECRET". This will be used if displaySecurityBanners or displayTocSecurityMarkings in the

	layoutConfig object are true (*see Layout Configuration Object*). *default:* UNCLASSIFIED

Tasks Example

```
{
        …,

        "tasks": {
                        "elevation":{
                                "id":"elevation",
                                "displayName":"Elevation",
                                "url":"http://hiddenurl/service?token"
                        },
                        "viewshed":{
                                "id":"viewshed",
                                "displayName":"Viewshed",
                                "url":" http://hiddenurl/service?token"
                        },
                        "elevationProfile" : {
                                "id" : "elevationProfile",
                                "displayName" : "Generate Elevation Profile",
                                "url" : " http://hiddenurl/service?token"
                        }
                },…
}
```

Default Tool Group (Px3 Viewer Unique)

A string containing the id of a tool group. This will be the first tool group selected when the application loads.

Default Tool Group Example

```
{
        …,

        "defaultToolGroup": "Standard",
        …
}
```

Tools (Px3 Viewer Unique)

An array of tool group configuration objects.

Tool Group Object

Property	Type	Description
group	String	Id of the tool group. This will be displayed on a tab in the toolbar.
tools	Array	An array of tool configuration objects.

Tool Configuration Object

Property	Type	Description
type	String	Name of the class this tool is created by.

displayName	String	Name that will be displayed in the toolbar.
image	String	Image that will be displayed in the toolbar. Should specify an absolute url path or one relative to the tool.
configuration	Object	Should include the tool's id and any other tool specific configuration options.

Tools Example

```
{
        …,

"tools": [
        {
        "group":"Standard",
        "tools":[
                {
                "type":"jsapix.tools.MapNavigation",
                "displayName":"Map Navigation",
                "image":{
                        "path":"./images/toolSprite.png",
                        "offset":10
                        },
                        "configuration": {
                        "id":"mapnavigation"
                        }
                        },
                {
                "type":"jsapix.tools.FindCoordinates",
                "displayName":"Find Coordinates",
                "image":{
                        "path":"./images/toolSprite.png",
                        "offset":15
                        },
                "configuration": {
                "id":"findcoordinates",
                "geometryServiceUrl":"http://ags.cr.usgs.gov/ArcGIS/rest/services/Geometry/Geometry
                Server",
                {
                "type":"usgs.tools.SpotElevation",
                "displayName":"Spot Elevation",
                "image":{
                        "path":"../../jsapix/tools/images/toolSprite.png",
                        "offset":3
                        },
                "configuration": {
                "id":"spotElevation",
                "elevationGPEndPoint":
                "http://gisdata.usgs.gov/xmlwebservices2/elevation_service.asmx/getElevation"
                        }
                }
        ]
},
{
        "group":"Advanced",
        "tools":[
        {
                "type":"usgs.tools.Extract",
                "displayName":"Download Data",
                "image":{
                        "offset":0,
                        "path":"./images/extract_16.png"
                },
                "configuration": {
                "id":"Extract"
                }
        },
        {
                "type":"jsapix.tools.MeasureDistance",
```

```
                "displayName":"Measure Distance",
                "image":{
                        "path":"./images/toolSprite.png",
                        "offset":12
                },
                "configuration": {
                "id":"MeasureDistance",
                "geometryServiceUrl":"http://ags.cr.usgs.gov/ArcGIS/rest/services/Geometry/Geometry
                Server",
                "simpleLineSymbol": {
                        "style":"esriSLSSolid",
                        "color":[255,165,0,255],
                        "width":2.5
                                }
                }
        },
        …
}
```

Map Configuration (Base Context)

An object used to set the initial map settings.

Map Configuration Object

Property	Type	Description
baseServiceId	String	Id of the service that will be used as the applications base service. This will set the spatial reference of the map.
initialBackgroundMapId	String	Id of the background map group to be displayed on load.
initialToolId	String	Id of the tool to be made active at startup.
initialVisibleServicesGroupId	String	Id of a service group to be loaded at startup.
dynamicUserServicesGroupId	String	Id of a service group used to keep track of dynamic user services.
initialExtentId	String	*Optional.* Id of an extent to be visible at startup.
fullExtentId	String	Id of an extent to be used when the Zoom to Full Extent tool is activated.
nav	Boolean	If false, navigation will be disabled by default.
statusBar	Boolean	If false, the status bar will not be displayed.
defaultServiceClassification	String	The default service classification level.
defaultServiceCaveats	String	The default service caveats.
backgroundMaps	Object[]	An array of objects defining types of background maps.

Background Map Object

Property	Type	Description
id	String	An id to be used by other references to this map in the config.
displayName	String	The name that will be displayed on the background map selector in the upper right hand corner of the map.
serviceGroupId	String	The service group that this background map consists of.
serviceControls	Object[]	An array of service control configuration objects. Provides control of specific service visibility within background maps.

Service Control Object

Property	Type	Description
label	String	Label displayed for the service control.
servicesIds	String[]	Array of service ids for services whose visibility are controlled by this service control.

Map Configuration Example

```
{
        …,

        "mapConfig":{
                "baseServiceId":"Base_map_schema",
                "initialBackgroundMapId":"base1",
                "initialToolId":"mapnavigation",
                "initialVisibleServicesGroupId":"initialOn",
                "dynamicUserServicesGroupId":"",
                "initialExtentId":"CONUS",
                "fullExtentId":"CONUS",
                "nav":false,
                "statusBar":true,
                "scalebarUnit": "english",
                "wrapAround180":true,
                "geometryServiceUrl":
                "http://ags.cr.usgs.gov/ArcGIS/rest/services/Geometry/GeometryServer",
                "defaultServiceClassification":"UNCLASSIFIED",
                        "backgroundMaps":[
                        {
                                "id":"base1",
                                "displayName":"Base Map",
                                "serviceGroupId":"baseServices1",
                                "serviceControlType":"checkbox",
                                "serviceControls":[
                                        {"label":"Show Labels",
                                        "serviceIds":["TNM_Vector_Fills_Small","TNM_Vector_Fills_Lar
                                        ge","TNM_Vector_Small","TNM_Vector_Large"]}
                                ]
                        },
                        {
                                "id":"base2",
                                "displayName":"Imagery",
                                "serviceGroupId":"baseServices2",
                                "serviceControlType":"checkbox",
                                "serviceControls":[{
                                        "label":"Show Labels",
                                        "serviceIds":["TNM_Vector_Fills_Small_light","TNM_Vector_Fil
                                        ls_Large_light","TNM_Vector_Small","TNM_Vector_Large"]
                                }]
                        },
                        {
                                "id":"base3",
                                "displayName":"Blank",
                                "serviceGroupId":"baseServices3",
                                "serviceControlType":"checkbox",
                                "serviceControls":[{
                                        "label":"Outlines",
                                        "serviceIds":["TNM_Blank_US"]
                                }]
                        }

                ]
        },
        …
}
```

Layout Configuration (Base Context)

An object containing various properties used to setup the layout of the application.

Layout Configuration Object

Property	Type	Description
displaySecurityBanners	Boolean	When true will display a security banner depending on what services are on the map and what their classification level is.
displayTocSecurityMarkings	Boolean	When true will display a security banner next to services in the table of contents with certain classification levels.
linkPaneType	String	The class to be used as the link pane.
tocMenuType	String	The class to be used for the TOC popup menu.
hideToolbar	Boolean	If true, makes the toolbar hidden initially.
overlayGroups	Object[]	An array of objects defining what is displayed in the table of contents.
initialActiveTaskId	String	*Optional.* The id of a task to have populated when the task pane is opened.
availableTasks	String[]	An array of task ids that will be available in the left pane.

Overlay Group Object

Property	Type	Description
id	String	The overlay group id.
displayName	String	The title of this overlay group to be displayed in the left pane.
serviceGroupId	String	The service group that this overlay group represents.
selected	Boolean	If true, this pane will be open when the map loads.

Layout Configuration Example

```
{
        …,

        "layoutConfig":{
                        "displaySecurityBanners":false,
                        "displayTocSecurityMarkings":false,
                        "linkPaneType":"jsapix.layout.LinkPane",
                        "tocMenuType":"jsapix.TocMenu",
                        "hideToolbar":false,
                        "overlayGroups":[
                                {
                                        "displayName":"Base Data Layers",
                                        "serviceGroupId":"TNMBaseOverlays",
                                        "selected":true
                                },
                                {
                                        "displayName":"Other Featured Data",
                                        "serviceGroupId":"featuredExampleMashups",
                                        "selected":false
                                },
                                {
                                        "displayName":"Inventory Services",
                                        "serviceGroupId":"inventoryServices",
                                        "selected":false
                                }
```

```
                        ],
                        "initialActiveTaskId":null,
                        "availableTasks":[
                                "elevation",
                                "viewshed",
                                "elevationProfile"
                        ]
                }, …
}
```

Info Window Configuration (Px3 Viewer Unique)

An object containing configuration information related to the info window.

Info Window Configuration Object

Property	Type	Description
type	String	The class to be used as an info window.
menuClass	String	The class used for the info window menu.
maxHeight	Number	The maximum height in pixels that the info window can expand to.
maxWidth	Number	The maximum width in pixels that the info window can expand to.
elevationGPEndPoint	String	*Optional.* URL pointing to the REST endpoint of a GPTask used to calculate elevation.
bufferGeometryServiceUrl	String	*Optional.* URL pointing to the REST geometry service used for the buffer option.
geometryServiceUrl	String	Url to the geometry service used for geometry operations.
searchConfig	Object	Configures the URL for the REST endpoint of a GPTask used to search near a location. (See previous “searchConfig” for details).

Info Window Configuration Example

```
{
        …,

        "infoWindowConfig":{
                        "type": "jsapix.InfoWindow",
                        "linksClass" : "usgs.actions.ActionLinks",
                        "menuClass":"usgs.actions.ActionLinksMenu",
                        "maxHeight": 500,
                        "maxWidth": 500,
                        "elevationGPEndPoint":
                        "http://gisdata.usgs.gov/xmlwebservices2/elevation_service.asmx/getElevatio
                        n",
                        "geometryServiceUrl":
                        "http://ags.cr.usgs.gov/ArcGIS/rest/services/Geometry/GeometryServer",
                        "editAnnotationGeoServiceUrl" :
                        "http://ags.cr.usgs.gov/ArcGIS/rest/services/Geometry/GeometryServer",
                        "searchConfig" : {
                                "nearTaskUrl" : ""
                        }
                }, …
}
```

Search Configuration (Px3 Viewer Unique)

An object used to configure the search function.

Search Configuration Object

Property	Type	Description
locator	String	Id of the locator to be used during a search.
searchZoomLevel	Number	The level to zoom to on a successful search.
nearTaskUrl	String	*Optional.* URL pointing to the REST endpoint of a GPTask used to handle the near keyword.
wmsReflectorUrl	String	URL pointing to wms reflector used to add wms services through enhanced search.
defaultText	String	*Optional.* Text to be displayed when there are no search or routing results.

Search Configuration Example

```
{
        …,

        "searchConfig":{
                        "locator":"composite",
                        "wmsReflectorUrl":"http://viewer.nationalmap.gov/reflector/wms/null/MapServ
                        er/",
                        "nearTaskUrl":"",
                        "searchZoomLevel":13
                },
        …
}
```

Router Configuration (Px3 Viewer Unique, Not Used in TNM)

An object containing configuration information related to the router. *This is included in the NGA Palanterra x3 Toolbox, but not used by USGS The National Map*

Router Configuration Object

Property	Type	Description
locator	String	Id of the locator to be used during a routing task.
findNAService	String	URL of the GP Task used to find the Network Analyst service. This Task should take in a Feature Set of stops and return the URL of a Network Analyst service available for those stops.

Router Configuration Example

```
{
        …,

        "routerConfig":{
                        "locator":"locator1",
                        "findNAService":" https://hiddenurl/service?token"
                }, …
}
```

Selection Results Configuration(Px3 Viewer Unique)

An object containing configuration information related to the selection results.

Selection Results Configuration Object

Property	Type	Description
elevationGPEndPoint	String	URL of the elevation GP Task for elevation operations.
bufferGeometryServiceUrl	String	URL of the geometry service used for buffering geometries.

Selection Results Configuration Example

```
{
        …,

        " selectionResultsConfig":{
                " elevationGPEndPoint":
"http://server/rest/services/GPTools/Elevation/GPServer/GetElevation",
                "bufferGeometryServiceUrl":"http://server/rest/services/Geometry/GeometryServer"
        },
        …
}
```

NSSE Event Entry Configuration (Px3 Viewer Unique, event entry sites only)

An object containing configuration information related to the NSSE event entry form. *This is included in the NGA Palanterra x3 Toolbox, but not used by USGS The National Map*

NSSE Event Entry Configuration Object

Property	Type	Description
nsseEventsServiceId	String	Id of the map service used to display the NSSE events.
nsseEventsLayerId	Number	The layer that should be used in the NSSE service.
nsseEventsTimeServiceId	String	Id of the map service used to display time visualization of NSSE events.
featureServiceUrl	String	URL to the feature service used for editing NSSE events features. An example is: http://server/rest/services/Events/NSSE_Events_Feature/FeatureServer/0. For more information on constructing a URL, see The Services Directory and the REST API
locator	String	Id of the locator to use.

NSSE Event Entry Configuration Example

```
{
        …,

        "nsseEventEntryConfig":{
                "nsseEventsServiceId": "nsseEvents",
                "nsseEventsLayerId": 3,
                "nsseEventsTimeServiceId":" nsseEventsTime",
                "featureServiceUrl":"http://server/rest/services/Events/NSSE_Events_Feature/FeatureServer/0",
                "locator":"composite",
        },
```

```
        …
}
```

NSSE Event List Configuration (Px3 Viewer Unique, event display sites only)

An object containing configuration information related to the NSSE event list. *This is included in the NGA Palanterra x3 Toolbox, but not used by USGS The National Map*

NSEE Event List Configuration Object

Property	Type	Description
eventServiceId	String	Id of the map service used to display the NSSE events.
eventLayerId	Number	The layer that should be used in the NSSE service.
featureServiceUrl	String	URL to the feature service used for NSSE events features. An example is: http://server/rest/services/Events/NSSE_Events_Feature/FeatureServer/0. For more information on constructing a URL, see The Services Directory and the REST API
rssUrl	String	The relative URL linking to a RSS feed displaying all of the current NSSE events.
kmlUrl	String	The complete URL to a kmz file containing all of the current NSSE events.

NSSE Event List Configuration Example

```
{
        …,

        "nsseEventListConfig":{
                "eventServiceId": "nsseEvents",
                "eventLayerId": 3,
        "featureServiceUrl":"http://server/rest/services/Events/NSSE_Events_Feature/FeatureServer/
        0",
                "rssUrl":"rss",
                "kmlUrl":"http://server/nsse/Events.kmz"
        },
        …

}
```

Dynamic User Services Configuration (Px3 Viewer Unique, for WMS services)

An object containing configuration information related to WMS dynamic user services.

Dynamic User Services Configuration Object

Property	Type	Description
useDynamicUserServices	boolean	A flag to tell the application whether it should receive dynamic service messages or not.
wmsReflectorUrl	String	URL pointing to the WMS reflector. This is used to interoperate WFS services.

drawOrder	Number	The draw order dynamic services should have.
Opacity	Double	*Optional.* A number between 0 and 1 used to determine the opacity of new dynamic user services.
classification	String	The classification of services added through dynamic services.
caveats	String[]	A array of classification caveats for services added through dynamic services.

Dynamic User Services Configuration Example

```
{
        …,

        "dynamicUserServicesConfig":{
                "useDynamicUserServices":true,
                "wmsReflectorUrl":"http://viewer.nationalmap.gov/reflector/wms/null/MapServer",
                "drawOrder":12,
                "opacity":0.5,
                "classification":"UNCLASSIFIED",
                "caveats":[]
        },
}
```

GMTI Configuration (Px3 Viewer Unique, not used by TNM)

An object containing configuration information related to GMTI functionality and validation. *This is included in the NGA Palanterra x3 Toolbox, but not used by USGS The National Map*

GMTI Configuration Object

Property	Type	Description
enableValidationByDefault	boolean	A flag to tell the application whether GMTI validation for buffers should be enabled by default.

GMTI Configuration Example

```
{
        …,

        "gmtiConfig":{
                "enableValidationByDefault":true
        }
}
```

Edit Utility Configuration (Px3 Viewer Unique)

An object containing configuration information related to editing annotations.

Edit Utility Configuration Object

Property	Type	Description
geometryServiceUrl	String	URL pointing to the REST geometry service used for editing.

Edit Utility Configuration Example

```
{
        …,
```

```
        "editUtilConfig": {
                "geometryServiceUrl" :
                "http://ags.cr.usgs.gov/ArcGIS/rest/services/Geometry/GeometryServer"
        },
}
```

Previous Search Data Store Configuration (Px3 Viewer Unique, optional)

An object containing configuration information related to storing previous search text.

Note: to prevent storing any previous search text, remove this object from the configuration

Previous Search Data Store Configuration Object

Property	Type	Description
type	String	The type of data store used to hold previous search text. Valid values are: • "session": stores search text in browser memory. Previous search values are removed when user closes browser. • "cookie": stores search text in browser cookie (if user allows cookies to be stored) • "db": stores search text in a database. *Note*: when selecting this option, you must also configure the "searchdatastore" properties in the jsapix.properties file. See PalX3_Properties_Files_Configuration.doc for details
expires	Integer	If **type** has been set to "cookie", this value configures the number of days before the browser cookie expires.

Previous Search Data Store Configuration Example

```
{
        …,

        "previousSearchDataStore" : {
                "type" : "db"
        }
}
```

WMS Error Message Configuration (Px3 Viewer Unique)

An object containing configuration information related to showing error messages on WMS layer interaction.

WMS Error Messge Configuration Object

Property	Type	Description
reflectorErrorUrl	String	• URL pointing to the Reflector service serving the error message configuration. This is usually the "/exceptions" service for the

reflector.

WMS Error Configuration Example

```
{
        …,

        "wmsErrorConfig" : {
                "reflectorErrorUrl" : "http://hiddenurl.gov/reflector/exceptions"
        }
}
```

Appendix A: Example Working Configuration Files

Primary The National Viewer Configuration	
Viewer	http://viewer.nationalmap.gov/viewer
Configuration File	http://viewer.nationalmap.gov/viewer/config/default/default.r0.json
Service List View	http://viewer.nationalmap.gov/example/services.html?default

Instance for National Hydrography Dataset using same The National Viewer API	
Viewer	http://viewer.nationalmap.gov/nhd
Configuration File	http://viewer.nationalmap.gov/viewer/config/nhd/nhd.r0.json
Service List View	http://viewer.nationalmap.gov/example/services.html?nhd

Configuration Schema

The following JSON Service Descriptor (**JSD**) file captures the configuration schema used to help in file validation :http://viewer.nationalmap.gov/viewer/js/jsapix-config-schema.jsd

Appendix B: Context/Configuration Setup Interview Questions

Basic Configuration

Configuration Area	Questions	Default Setup
services	Do you have any services to add? Remove? What is the REST or WMS URL? SOAP/Legend URL? Metadata URL? Is Service Dynamic or Tiled? What is Service Order (i.e. raster make low #, Vector Higher #) What is the Name of service to show the user? Do you have a config setup elsewhere already in the TNM JSON format? Any Security requirements for services? Do services need auto-refresh? How often?	See TNM Site, Overlay Section
serviceGroups layoutConfig	How are the "services" Grouped? In what Order? Which group is open when pane is first expanded? How wide do you want the overlay pane when opened?	TNM Base Services (Default Open) **TNM also has these groups not recommended for other instances:** Download Section, TNM Inventory Services, and Featured Services
BaseMap setup mapConfig layoutconfig	service that will be used as the applications base service. This will set the spatial reference of the map. background map group to be displayed on load. tool to be made active at startup. service group to be loaded at startup. service group used to keep track of dynamic user services. Optional. Id of an extent to be visible at startup. an extent to be used when the Zoom to Full Extent tool is activated. If false, navigation will be disabled by default.	Cached TNM Vector is the service that provides the projection/spatial reference. There are 2 basemap buttons with 2 checkmarks each: Basemap/Vector with Shaded Option Imagery with Labels/Vector Option
Locators SearchConfig	Do you have a REST-based Search Locator Service? After a user searches, what zoom scale should it zoom in to?	TNM 18 Multi-faceted Search of Atlas, TNM Features and Indices, and ESRI Addressess, and zooms to 1:72,000 after a search
Extents mapConfig	What is the starting extent? What is the max/full extent view? What is the Starting zoom scale? What is the initial tool selected in the toolbar? What is your starting basemap?	About the CONUS and scale 13 or about 1:36Million. Except for setting extent and changing starting basemap, recommend to leave most alone, otherwise see mapConfig Below.
Tasks layoutConfig	Do you have any custom tasks or want to remove? Adding tasks does require some extra skill, but removing is easy	Currently Download is only active task
Tools	Do you have any custom tasks or want to remove? Adding tasks does require some extra skill, but removing is easy	See the 4 tabs on the toolbar Standard, Advanced, Annotation, USGS
Download	Will you need download? Your own download?	

Configuration	If so, please share : Types of AOI Polygons supported – Rectangle, Predefined Reference Polygons, Custom Theme Names, Product Types Which are dynamic vs. pre-staged Do you have a product inventory lookup service? Metadata links? What is the order URL? Do you provide a link back from order URL? Or a delayed email coming back with link to generated file	

Advanced Configuration (Optional)

If this section is not edited, the default settings used in the default TNM setup will be used. Most of this is detailed in the Configuring Config.json.doc for administrators, and the following is simply a summary

Configuration Area	Questions	Default Setup
Services InfoWindows infoWindowConfig	On Popup windows after identifying a feature, do you have custom function hooks you'd like to show in the popup or in the results pane? Do you have layer specific popup window requirements to show certain fields in the identify popup? Restrict other fields from not showing? Have a URL to make clickable in popup? Have an Image? Have an Image with URL? Have 1 tab or multiple?	TNM has default setup at this point, but may be making changes to this over FY11
EnterpriseServices Config (FY11 Coming)	Do you have a config file already setup and publicly exposed with the services registered? What is that URL? This will help in managing services as fields and layers change and avoid errors in viewers because of communication issues, uncoordinated or keeping up with changes.	This is new functionality coming in FY11 that will support federated config references of services as well as the identify popups.
Very Unique Functions	Do you have a router functions? routerConfig Do you have an EventEntry or Event Display Tool? nsseEventEntryConfig (needed in event entry sites only), nsseEventListConfig (needed in sites displaying event list only) Do you have dynamic GIMS services or GMTI functionality in your site (You'd know these terms if you did)? dynamicUserServicesConfig, (needed in sites utilizing dynamic GIMS services only)gmtiConfig (needed in sites utilizing GMTI functionality only)	TNM has none of these setup
Tasks (Advanced)	If you have your own tasks, you'd need to provide: Id of the task, this should match the key in the tasks object (this allows for fast access to a task configuration object) Name that will be displayed in the Tasks Selection Pane for the task. URL to an ArcGIS Server REST resource that represents a geo-processing service. An example is http://sampleserver1.arcgisonline.com/ArcGIS/rest/services/Network/ESRI_DriveTime_US/GPServer/CreateDriveTimePolygons.	This will require the function to be hosted on the TNM API server as currently function hooks hosted on other servers is not supported. Note, the function service itself of course can reside anywhere

	For more information on constructing a URL, see The Services Directory and the REST API. Optional. Hash map of parameter configuration objects with parameter ids as a key. These objects set the output symbology for the task. See Configuring GpTask Output Parameters.doc Optional. Valid values are "UNCLASSIFIED", "CONFIDENTIAL", "SECRET", and "TOP SECRET". This will be used if displaySecurityBanners or displayTocSecurityMarkings in the layoutConfig object are true (see Layout Configuration Object). default: UNCLASSIFIED	
Tools (Advanced)	If you have your own tools, you'd need to provide: Id of the tool group. This will be displayed on a tab in toolbar. Name of the class this tool is created by. Name that will be displayed in the toolbar. Image that will be displayed in the toolbar. Should specify an absolute url path or one relative to the tool. Should include the tool's id and any other tool specific configuration options.	This will require the function to be hosted on the TNM API server as currently function hooks hosted on other servers is not supported. Note, the function service itself of course can reside anywhere