GXP Xplorer® and GXP WebView® v2.4.4 release details

Nicholas Rosengarten
GXP™ Product Development

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Infrastructure

- CoreSDK has been upgraded to v4.4.1.0.201 (with MSP v1.6.3)
- DRS has been upgraded to v5.6.03.R6.10 (with MSP v1.6.2)
- Windows® Server 2019 is now a supported operating system
- Federation is supported from GXP Xplorer® Platform v2.3.4.3 or later
- Upgrade is supported from GXP Xplorer Platform v2.3.4.3 or later

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Performance and Memory enhancements

- The default memory setting for Elasticsearch has been increased from 512MB to 4GB

- The default maximum memory setting for Karaf has been increased from 4GB to 6GB

- The default maximum memory setting for Solr has been increased from 4GB to 8GB

- When upgrading versions, GXP Xplorer Platform will now remember and retain customized memory settings for Elasticsearch, Solr, and Karaf

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Visual Profiler integration into the GXP Xplorer Platform

- For images ingested into GXP Xplorer, a new Workflow, called Visual Profiler AI, allows users to run Visual Profiler and automatically creates detections from its Machine Learning algorithm

  - When the Visual Profiler AI Workflow is selected, a new Visual Profiler Settings step will get added to the setup after Trigger

    - This is where users will be able to select which profile to run the data against

      - Multiple profiles can be selected

    - Users must also select what Entity in the Data Model the detections will be mapped to

  - Visual Profiler can run against a selected subset of the image if an area is selected for the Workflow

  - This workflow should not be manually created from the List or Map view as the Visual Profiler Settings page will not be displayed

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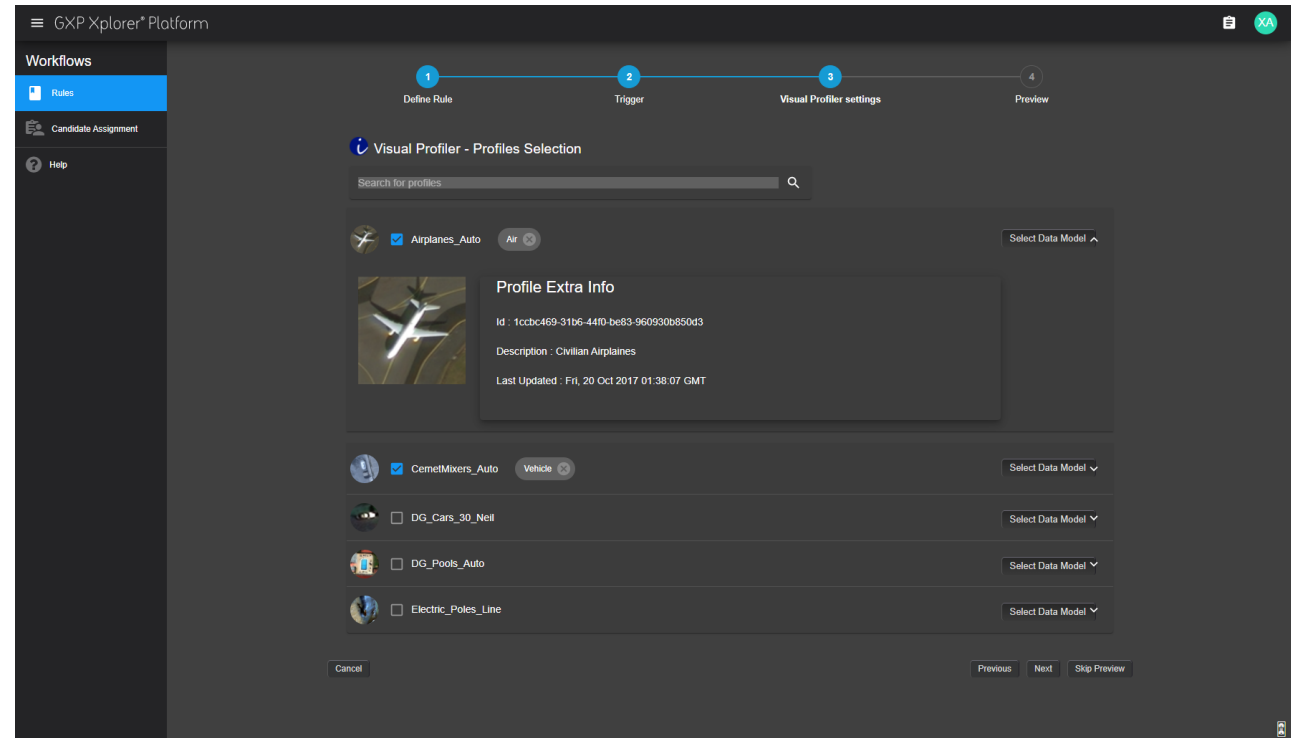
Visual Profiler integration into the GXP Xplorer Platform …2

- Visual Profiler and the associated plug-in for GXP Xplorer must be installed and configured in order for this new Workflow to show up

- A new configuration page has been added to Administration Settings … GXP Xplorer Application Settings … Visual Profiler AI

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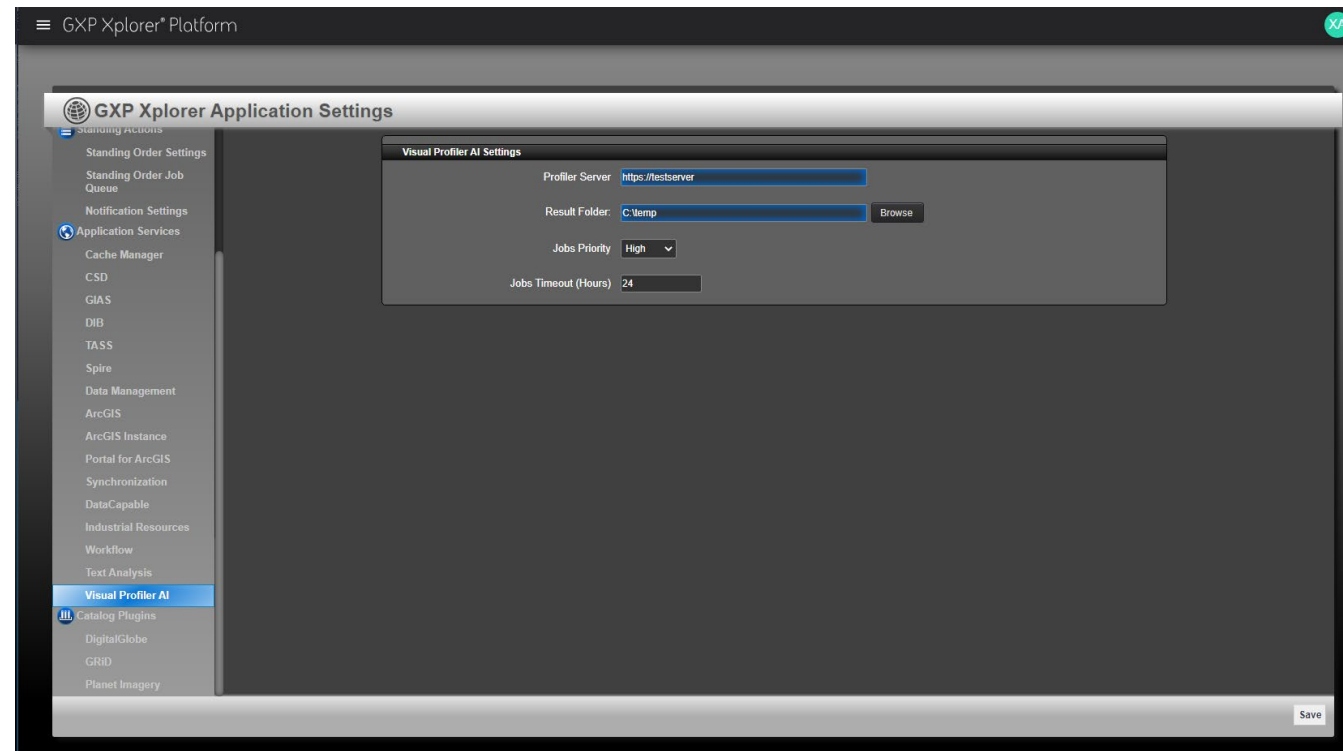
Visual Profiler integration into the GXP Xplorer Platform ...3

- Once Visual Profiler runs against the image, two actions will automatically occur:

  - The results from Visual Profiler will be stored in the holding area of the GXP Xplorer catalog in a class called Detections

    - Results are only visible for users who are part of the Task

  - A Task will appear for the user to review

    - Currently, this Task can only be opened in SOCET GXP®

    - Users can review the results from the Observations Ribbon in SOCET GXP (Machine Learning drop-down)

    - Once users mark a task as complete, the detections will move out of the holding area and be discoverable in the main GXP Xplorer catalog for all users

      - These detections can be visualized in GXP Fusion™ or searched in the GXP Xplorer catalog

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Natural Language Processing in GXP Xplorer

- Users can configure GXP Xplorer to talk to Basis Rosette in order to run Natural Language Processing (NLP) on documents
  - Allows the creation of detections that are stored in the GXP Xplorer catalog
  - Configuration happens in Administration Settings … GXP Xplorer Application Settings … Text Analysis
- Users can manually kick off a NLP job from GXP Fusion
- This can be set up to run automatically through Data Management
  - Administration Settings … GXP Xplorer Global Settings … Data Management
  - New option for Actions called Detection
    - Currently, this only runs NLP on documents, so the Data Types should be restricted to documents only

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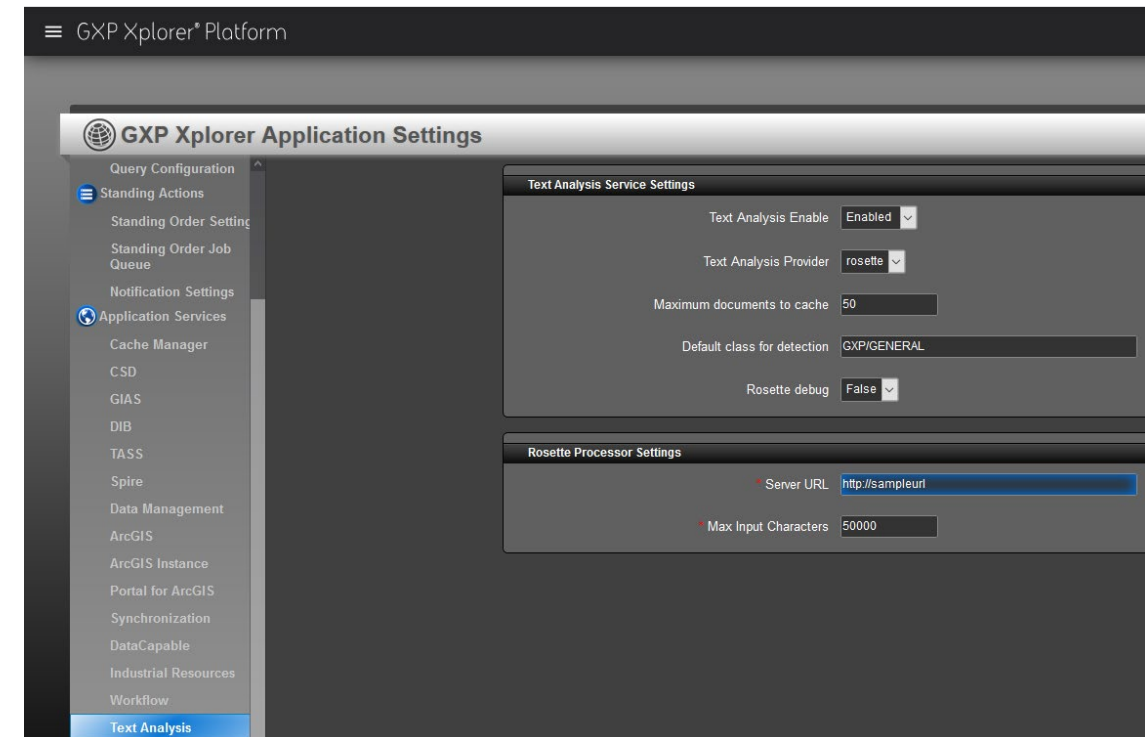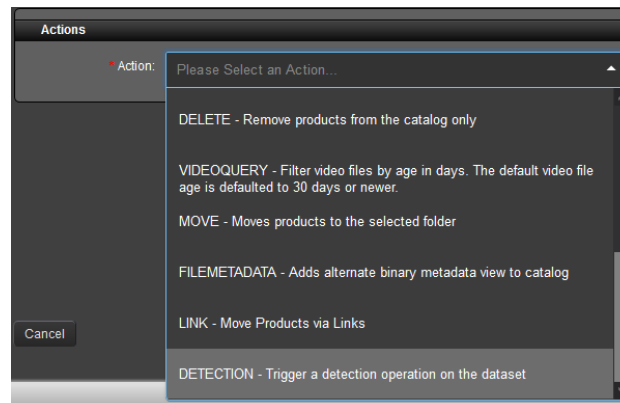
All Source Analysis Workflow

- A new Workflow type has been added called All Source Analysis

  - The Workflow will create a Task within a GXP Fusion workspace with the relevant data associated with the Task

  - The completion of the Workflow task must be reviewed and completed in GXP Fusion

  - This Workflow requires the Workflow Supervisor role to create and the Image Analysis role to complete

    - There is no Quality Assurance step associated with this Workflow

  - This Workflow does not automatically run NLP on documents

    - That must be completed on ingest through Data Management or manually through the GXP Fusion interface

    - If the document was processed through NLP and detections were created, they will be a part of the Task that gets created

    - If the document was not processed through NLP, it can be manually kicked off in GXP Fusion

  - Automatic creation of this Workflow can only be done On Ingest

    - Supports any data under the Digital category in the Data Model (imagery, videos, documents, etc.) although the primary intended use case is for documents

    - Currently, manual creation of this Workflow can only be done through selection of an image

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Web Feature Service support in GXP WebView®

- GXP WebView can now load Web Feature Service (WFS) layers (v1.0+)
  - Added through the Add New button in the Layer Manager
  - Currently, only point, line, and polygon layers are supported
    - Multi-line, multi-point, and multi-polygon features will not be displayed if they are contained in the layer
      - Support for these graphic types will be added in a future release
  - Only one feature at a time may be selected
  - When a feature is selected, the Attribute window flyout will appear to show the attributes of that feature
  - All WFS layers will be added to a single node in the Layer Manager
- Users can add a WFS layer in Administration Settings … Shared Global Settings … Web Services
  - These will only be available in GXP WebView

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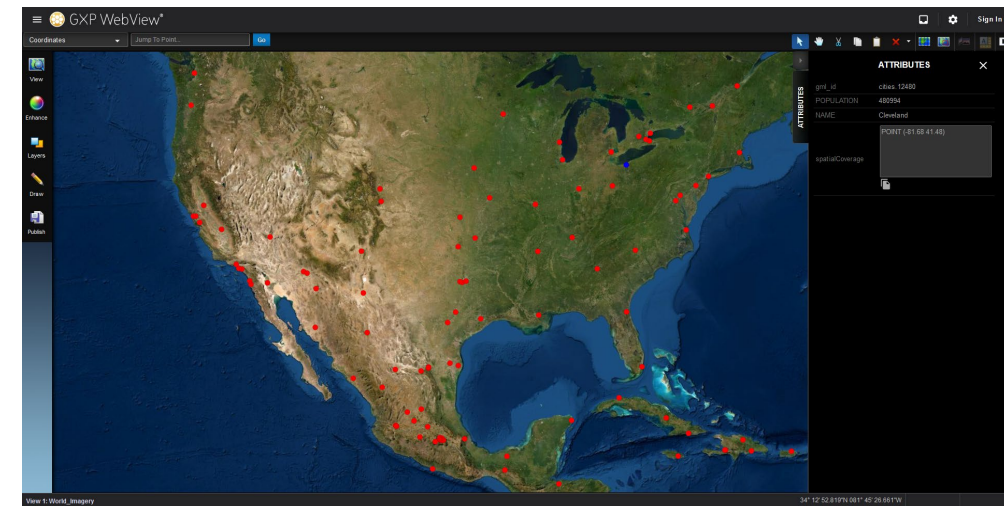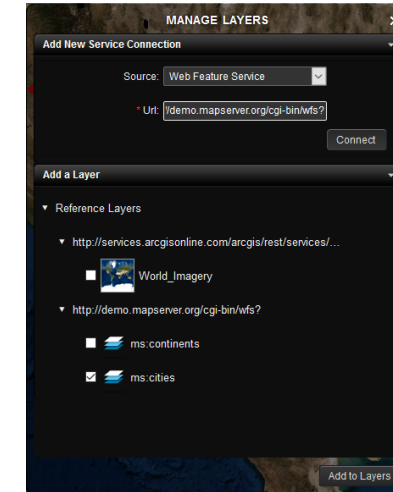
SIPS compliance in GXP WebView

- New preferences added to Administration Settings … GXP WebView Global Settings … Display Settings … SIPS Processing Chain
  - Enable SIPS XML Processing Chain – If checked, GXP WebView will utilize any SIPS XML files to determine the processing chain values for initial display
  - Default Path – This is the location where users can drop XML files for GXP WebView to use
    - The exportable version of the software does not contain any XML files with the distribution, but users can add them if they have access

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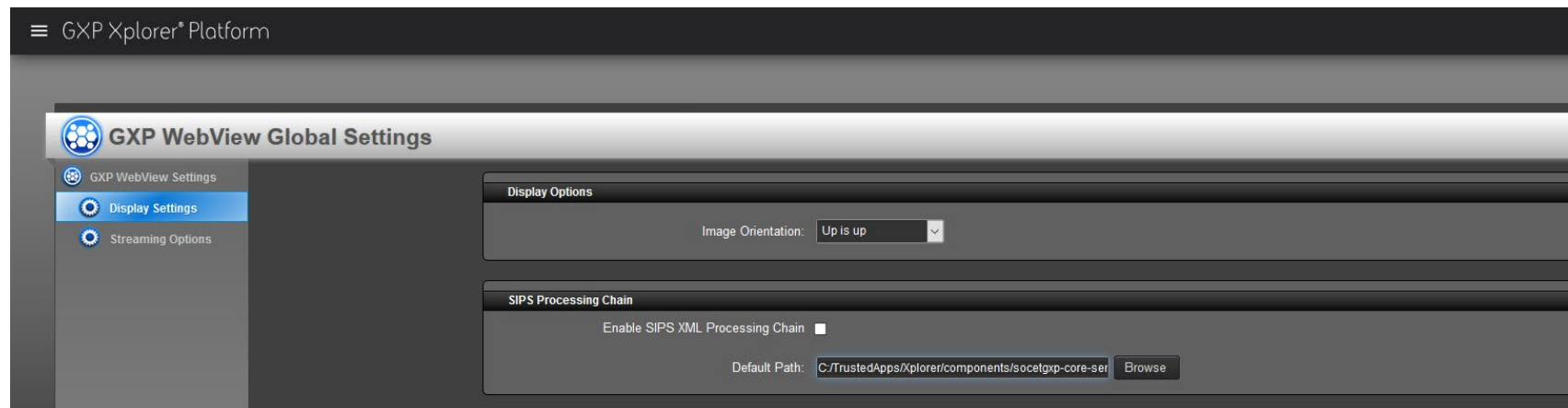
Query updates

- A new preference has been added to Administration Settings ... GXP Xplorer Application Settings ... Query Configuration
  - The Special Characters section allows users to define Solr Escaped Characters
    - By default the following characters are escaped:] [} {) (: ^ \ = + ~ ` _ @ ; . , & % $ # ! `
    - Escaped characters mean they are treated as simple text characters
    - Removing an item from this list such as a parenthesis will allow those characters to be used to form complex free text queries such as looking for files that contain either one of two words and something else ((**airplane** OR **tank**) AND **November**)
    - Removing the colon ":" allows users to directly query metadata fields in the catalog
      - The database field name must be used which can be found in the data model
      - Field Name: *value* (i.e. imageCloudCover: 0 would search for items with a cloud cover of 0)
    - Each of these characters can help build complex queries as defined by Lucene
      - imageCloudCover:[* TO 10] means anything with a cloud cover of less than 10

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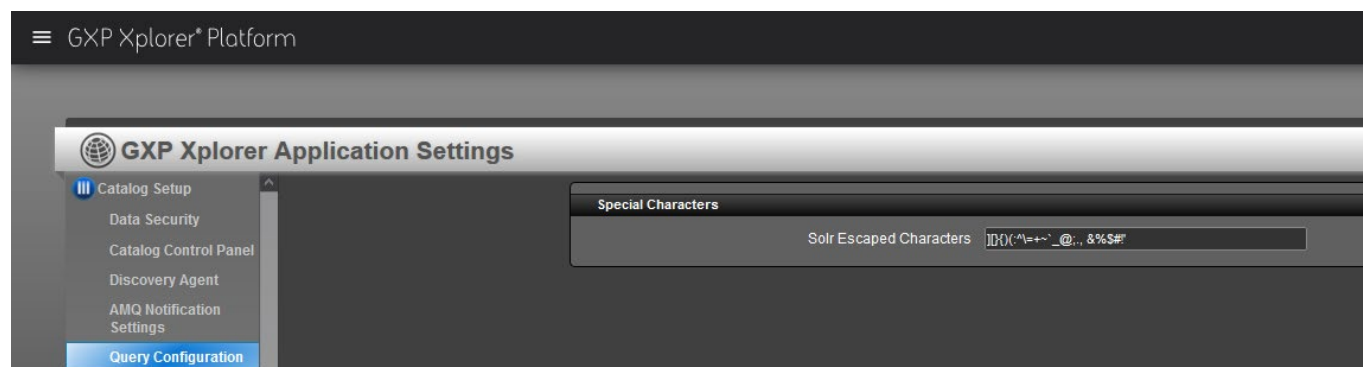
Data Model updates

- A new class under Digital Products ... Report has been added called Detections
  - Detections are used for results coming from Visual Profiler, Basis Rosette, and manually generated detections from text analysis in GXP Fusion
- The physical class has gone away and has been replaced with Entity
  - Entity represents real world objects, so many existing classes have been moved under Entity (Equipment, Place, Event, Organization, Person, etc.)
  - This reorganization will allow observations to be created against any Entity (previously only worked against equipment)
- A new ability to import classes into the Data Model has been added by importing an Excel file
  - This allows users to easily import objects with attributes they intend to use for observation collection in the GXP Xplorer Platform
  - Accessed from the Import button when viewing a class in the Data Model Editor
  - The format of this Excel file is defined in the *<install dir>/Documentation/Content/gxp-platform-common-workflow-guide/gxp-user-workflow-guide.htm ... Data Model Customization*
    - Ensure the header row is added
    - Multiple sub-hierarchies can be added
    - Attributes can be added with information about the attribute name, type, editable state, and default value

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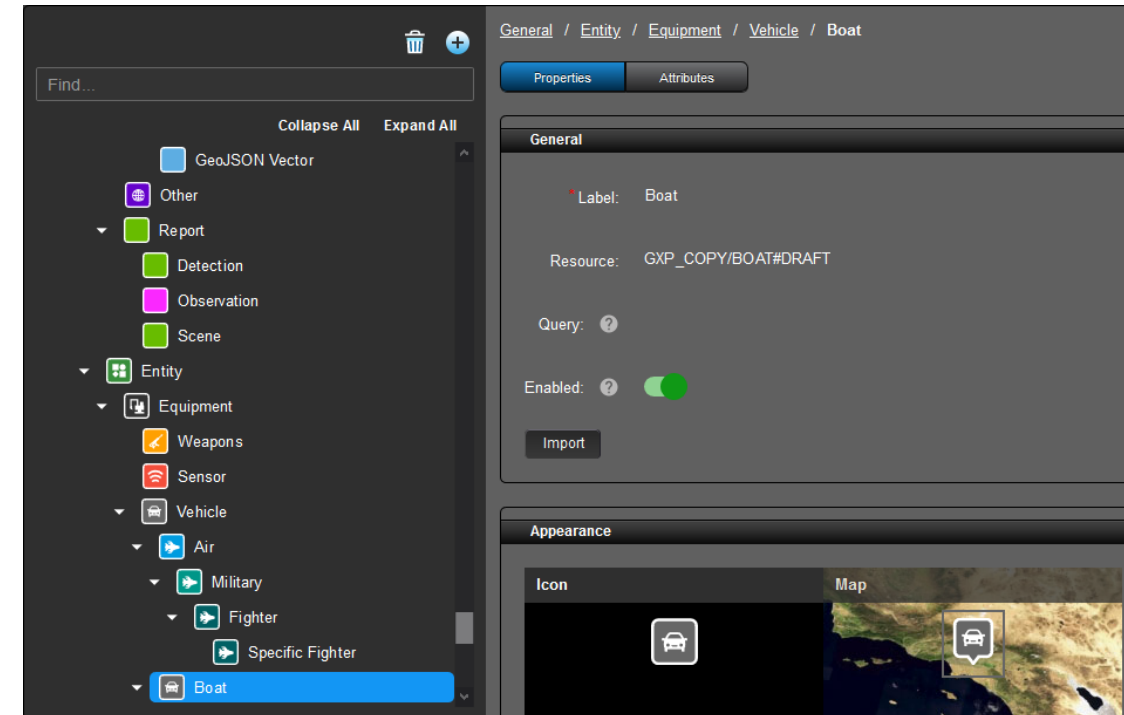
Multi-component file updates

- A new configuration setting has been added to exclude shapefiles in searches if they are part of a multi-component file

  - This is useful for customers who don't want products returned that may only have cloud cover or other shapefile coverage with no pixel data over their area of interest (AOI)

  - Setting is **solr.catalog.exclude.shapefiles** and is located in %GXP_XPLORER_DATA%\config\karaf\etc\com.baesy stems.gxp.services.catalog.cfg

    - By default this setting is false

If this setting is enabled, a point search on the * will not return the parent product, but one on the ~ will

Parent NITF

Sub-Image 1

Sub-Image 2

*

~

Shapefile Footprint

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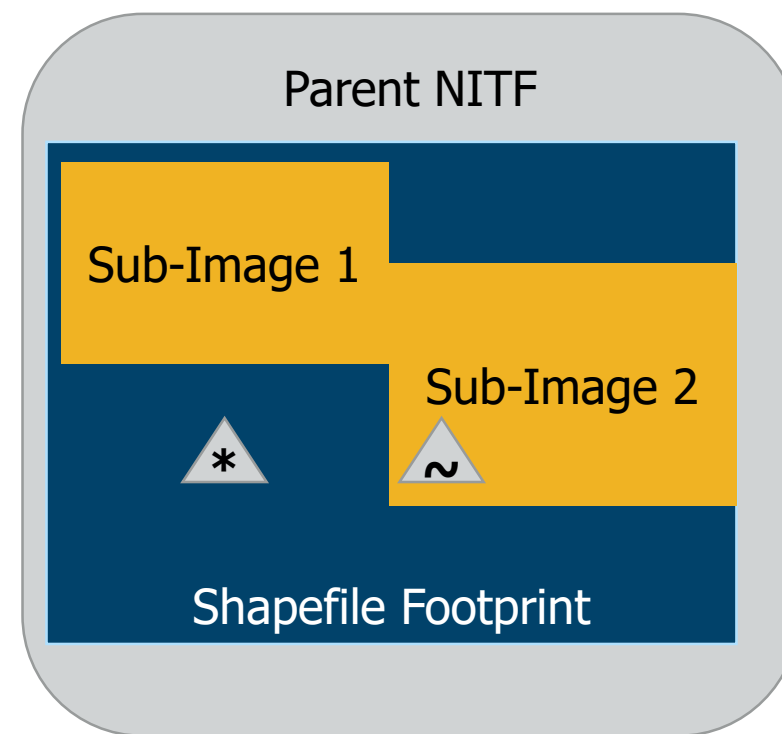
CSD updates

- Additional CSD configuration settings have been added to the Administration Settings

  - These used to be set in a configuration file: GXP_Platform_Data\config\csd\csd-server-properties.xml

  - Settings are now all in Administration Settings … GXP Xplorer Application Settings … CSD

- The CSD Windows Service is disabled by default (user must configure the settings first)

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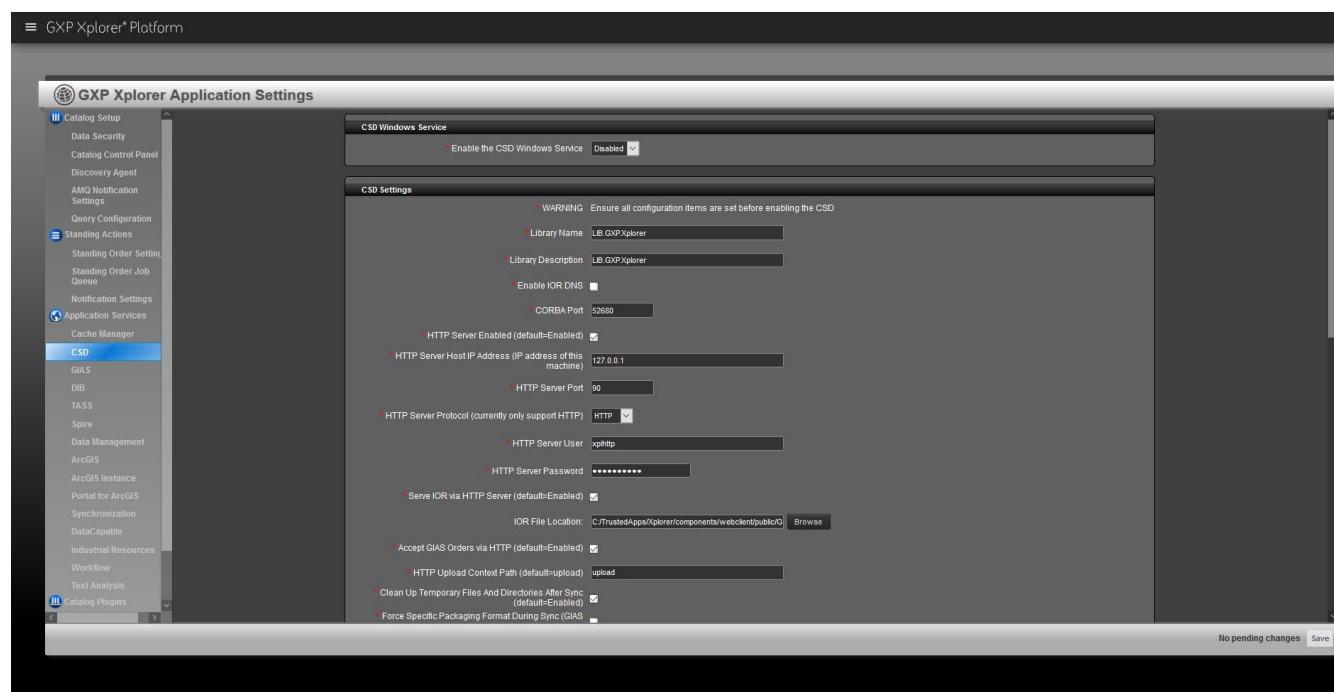
Other significant enhancements

- GXP Platform has been rebranded as GXP Xplorer Platform

- Workflow Supervisors can now delete Tasks from the Tasks page

- Workflows are restricted to trigger On Ingest only now for automated creation

- Users can now view container contents on a Workflow Task in GXP Xplorer

  - This will show source data and other information

- Users can now sort by columns in the Select Bands dialog in GXP WebView

- Coordinates in the following formats are now supported across the GXP Xplorer Platform (default Google Earth™ / Google Maps™ format): XX.XXXXXX,-YYY.YYYYYYY and XX.XXXXXX° N, -YY.YYYYY° E

- The default install path has changed: *<install dir>/GXP Xplorer Platform* and *<install dir>/GXP Xplorer Platform Data*

- A Pre-Installation Summary screen has been added to the installer

- A new set of documentation (Common Workflows Guide) related to workflows can be found in *<install dir>/Documentation/Content/gxp-platform-common-workflow-guide/gxp-user-workflow-guide.htm*

  - This set of documentation defines steps necessary for workflows that cross multiple GXP™ products

  - Includes items such as customizing a Data Model, setting up SOCET GXP for observation collection into the GXP Xplorer Platform, creating Workflow Tasks, and more

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Other significant enhancements …2

- Two new remap configuration preferences have been added to platform-server.properties:

  - server.image.media.remap.downsample.region.full.enable

  - platform-server.image.media.remap.float.region.full.enable

- New options for the Configuration Management Tool have been added to allow secure protocols for message passing

  - Settings … Enable Broker SSL

  - General … Secure Broker Port

- Additional settings have been added to Administration Settings … GXP Xplorer Application Settings … AMQ Notification Settings

  - These additional settings relate to ensuring messages persist if communication problems are encountered when using AMQ

- On Ingest Data Management jobs can now be run in parallel if parallel ingest is enabled

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GXP Fusion™ v2.4.4 release details

Gregg Goddard
GXP Product Development

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GXP Fusion v2.4.4 release enhancements

- New features include Text Analysis, NLP, and All Source Analysis workflow
  - Data management rules trigger NLP on documents during ingest
  - Analyst accepts All Source Workflow Tasks that launch a GXP Fusion predefined All Source Analysis dashboard
  - GXP Fusion dashboard provides interactive processing of documents and allows viewing/editing NLP results

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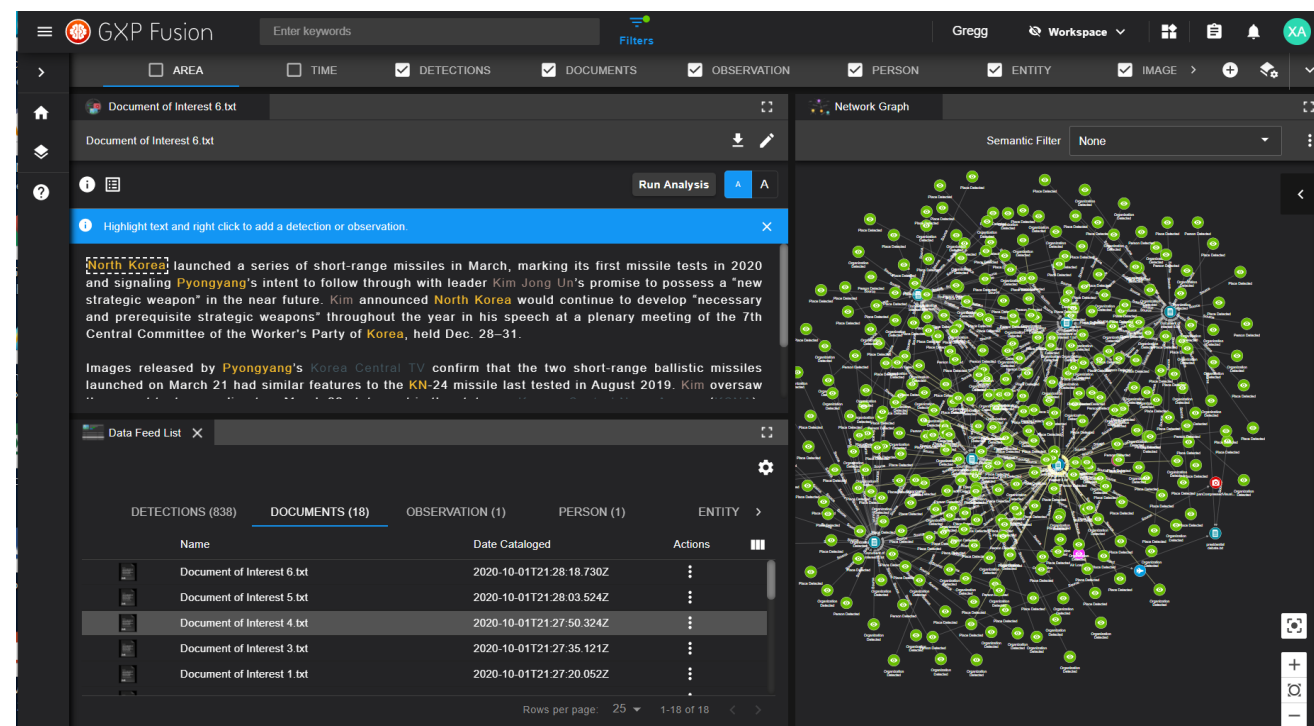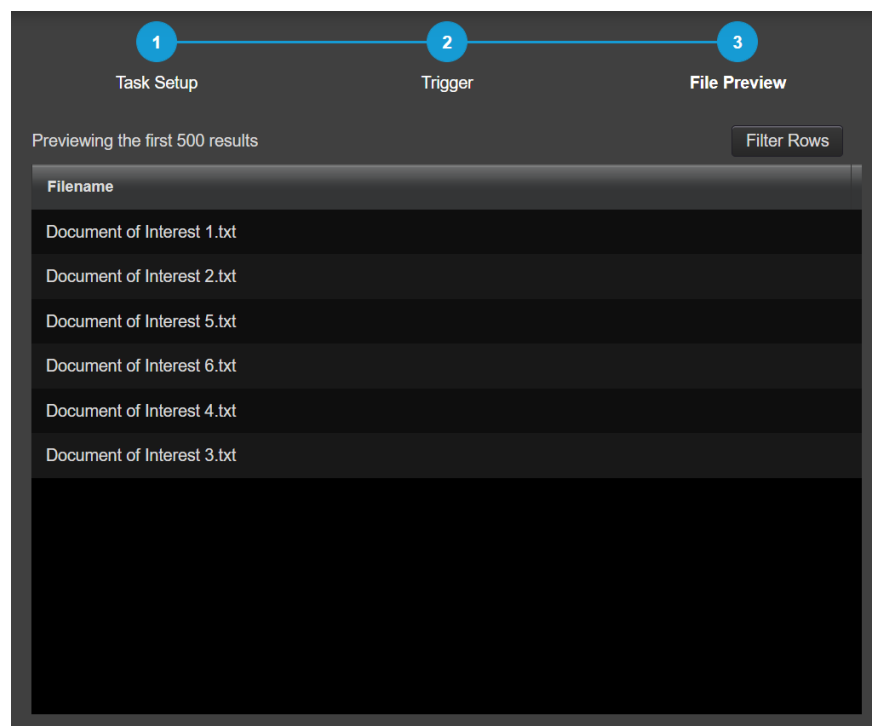
GXP Fusion v2.4.4 release enhancements ...2

- Other improvements include enhancements to the Network Graph
  - Related Source pane allows user to toggle on/off source files to see how they affect the graph
  - Graphical user interface simplifies the creation of semantic filters
  - Semantic filters can be previewed and saved for later relationships analysis

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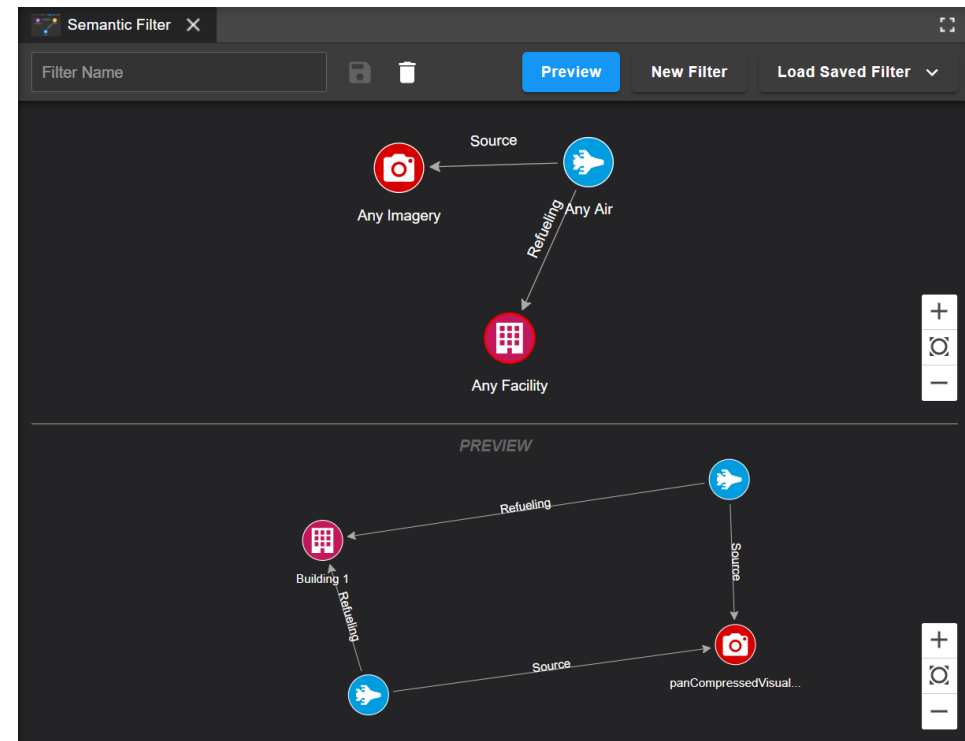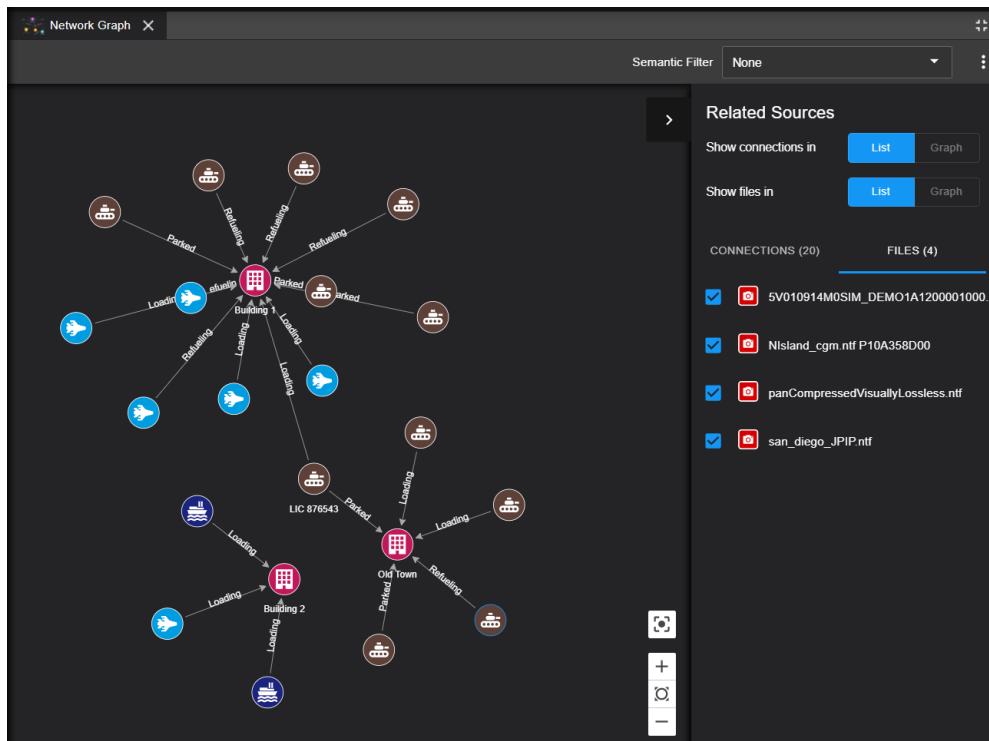
GXP Fusion v2.4.4 release enhancements …3

- Other improvements include enhancements to the Observations Panel and Image Viewer
  - Make Observations from map, imagery, or text using the GXP Fusion Observation Panel
  - View data feed results in a more performant map viewer
 - Run automatic Dynamic Range Adjustment using the image viewer

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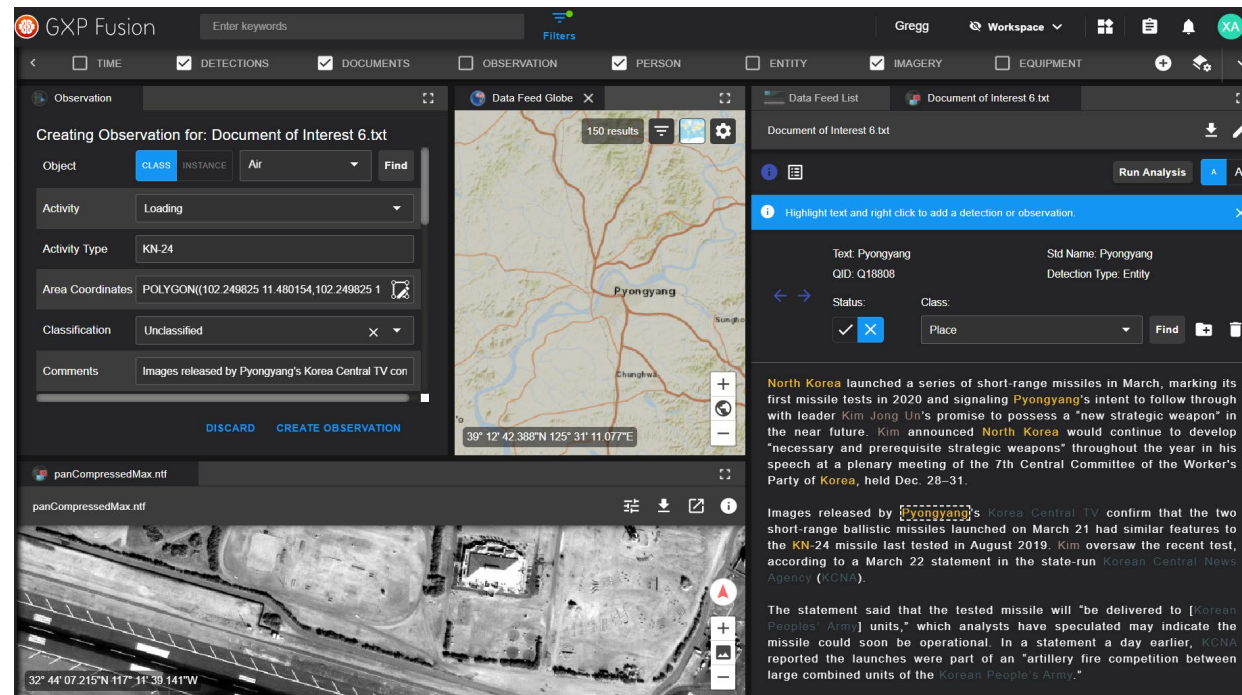
GXP InMotion™ v2.4.4 release details

Chris Mazur
GXP™ Product Development

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Custom Range search option in GXP InMotion Home page

- The GXP InMotion Home page is now able to search videos by 'Custom Range'

- Searching by 'Custom Range' allows users to search beyond the standard criteria, for example 'Last 30 days', and filter results by date and time from any point in the past

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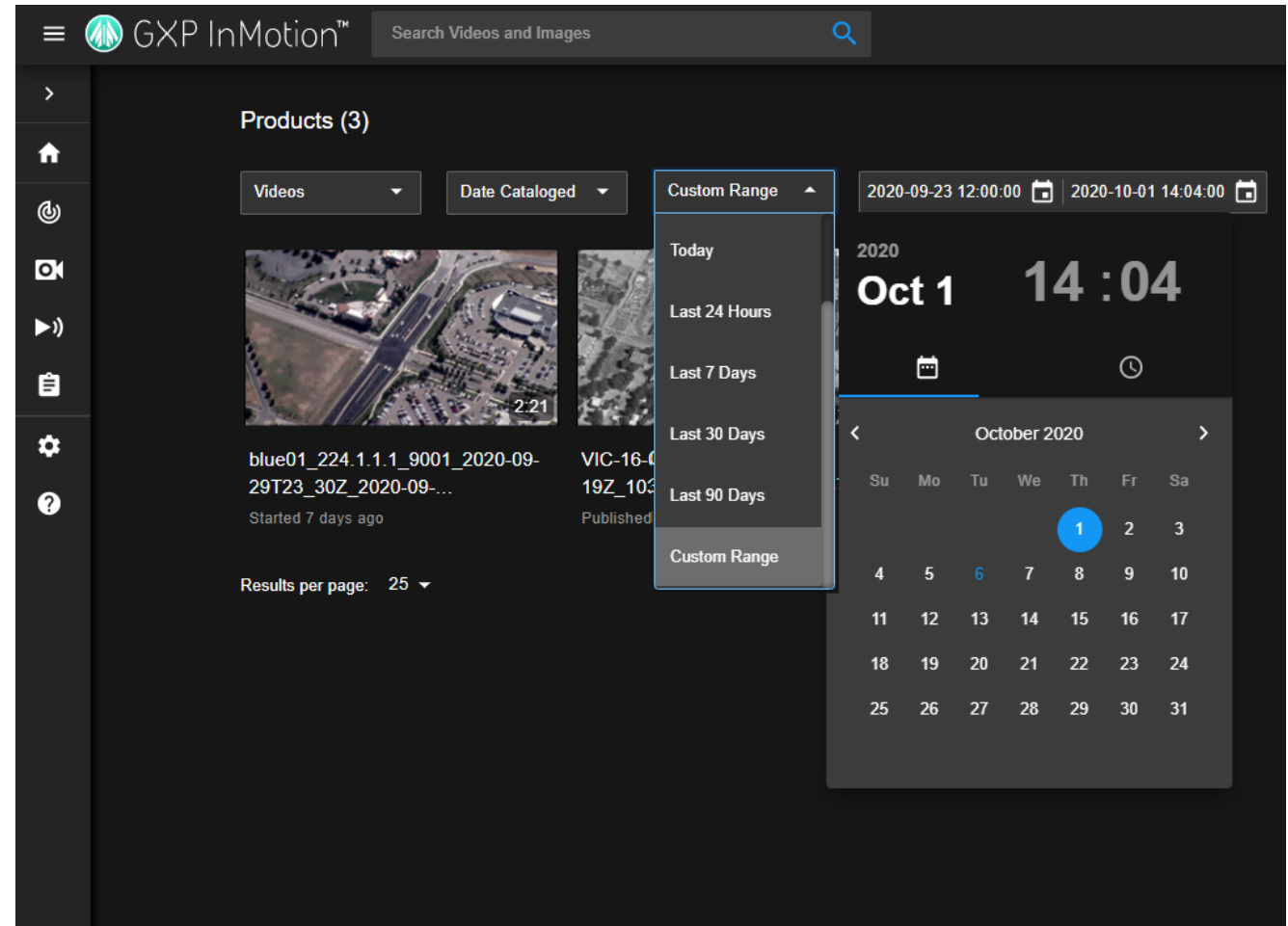
# New support for searching within video acquisition time ranges

- GXP InMotion is now able to search within the duration of a video's 'acquisition' or collection time

- When searching by 'Custom Date Range' in the Advanced Search By panel, the 'Content Date Range' data setting is used to identify the beginning and ending of a video capture in the catalog

- The benefit to users is that if a capture occurred between 1 p.m. and 9 p.m., conducting a search centered on 3 p.m. retrieves the entire video in the results
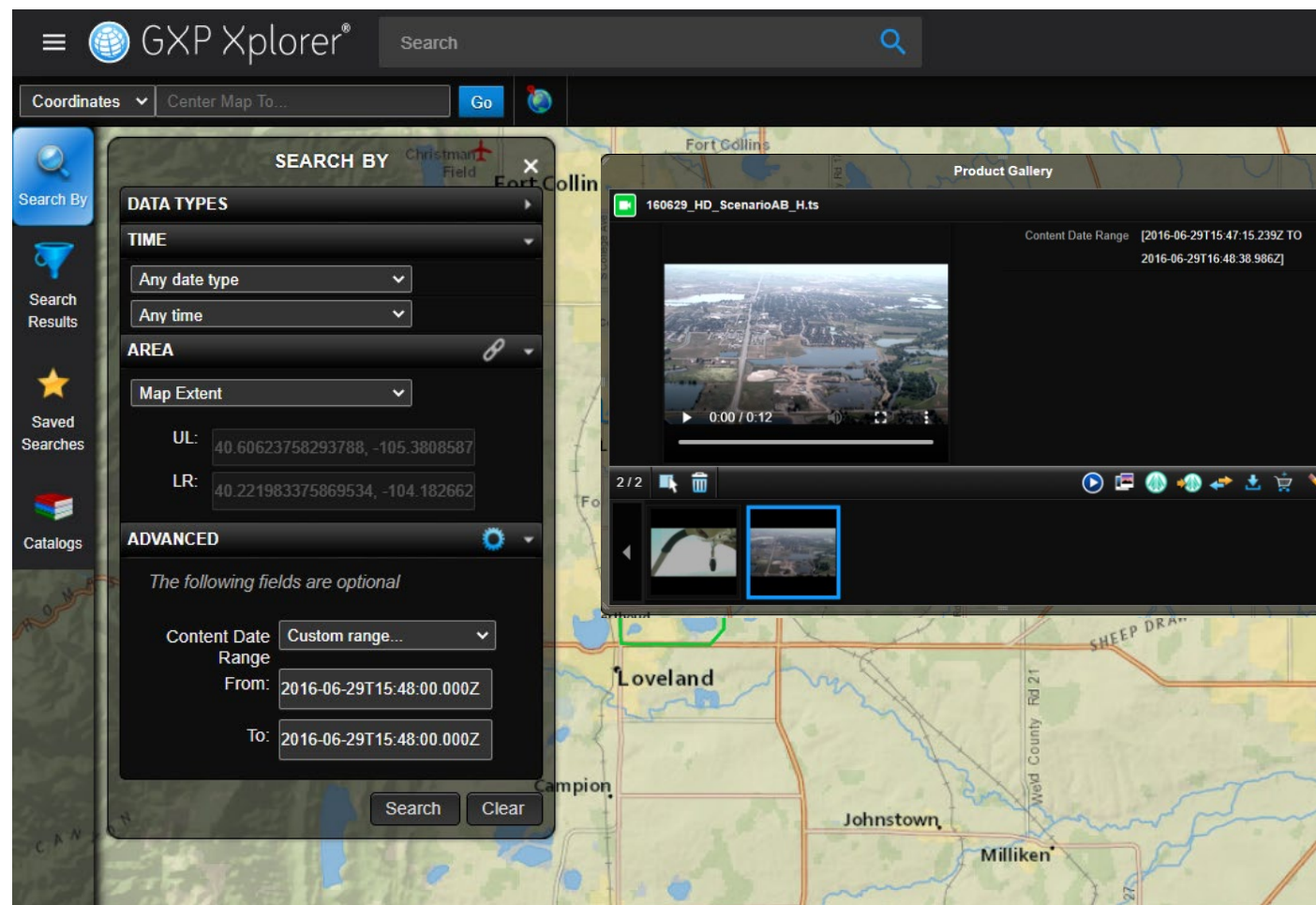
Imagery courtesy of L3.

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TASS Plug-in is now available in GXP InMotion

- The Tracking Analytics Software Suite (TASS) plug-in connects to the backend services previously offered with WebView Movement Intelligence (MOVINT)

- All capabilities from WebView MOVINT are available

- Allows for quickly confirming activity utilizing the GXP InMotion video player

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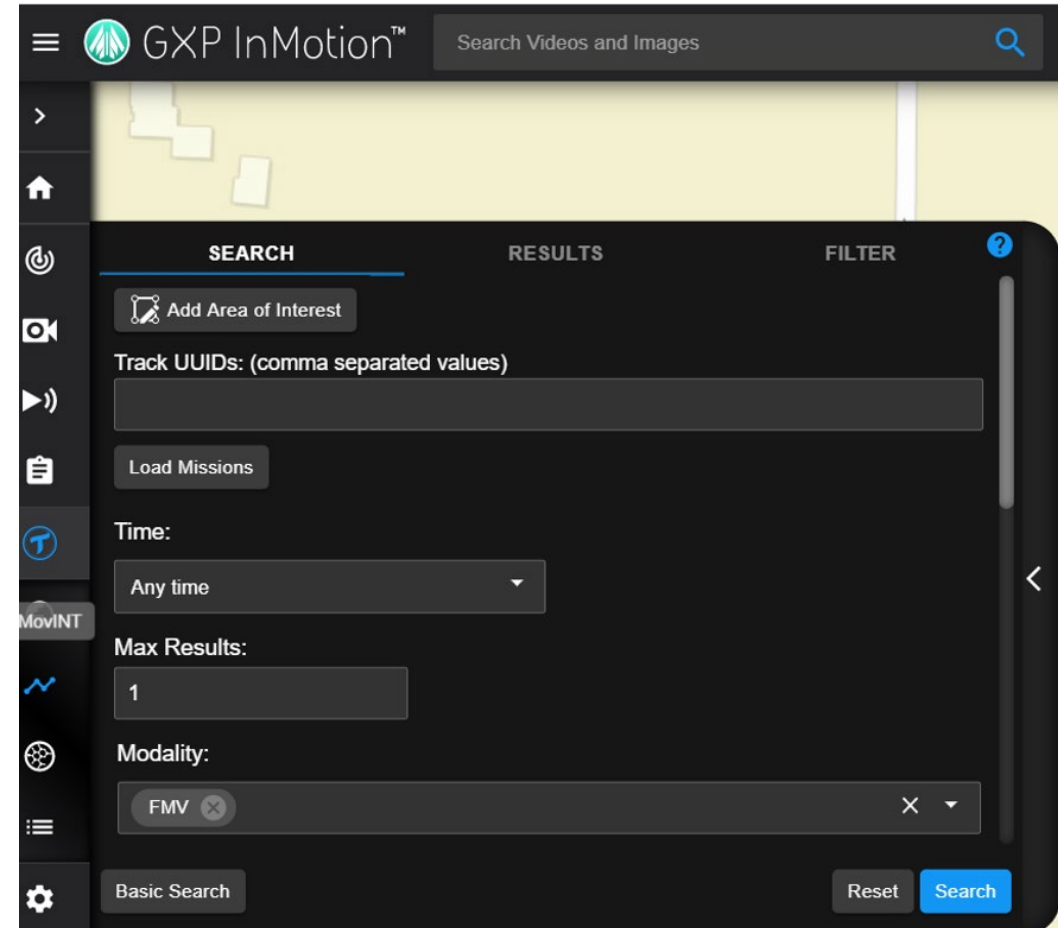
GXP InMotion bugs resolved

- General issues:
  - Reformat captures to AVI errors out
  - Changing filter to Date Collected breaks Custom Range search in GXP InMotion web
  - "Copy" Mission missing from GXP InMotion Server
  - "Recorded Videos" filter option includes cataloged videos
  - Video clipped using GXP InMotion Web degrades quality of video saved and reduces the file size
  - Clipping is disabled for live HLS

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GXP OpsView® v2.4.4 release details

Mike Zipperer
GXP Product Development

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GXP OpsView

A situational awareness module now integrated into the GXP Xplorer Platform

Created to provide a live, interactive Command view into any operation, GXP OpsView and its companion mobile app, GXP OnScene™, improve the effectiveness and safety of both operators and leadership.

Extending the GXP ecosystem to the warfighter and first responder with leading situational awareness and real time capability.

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GXP OpsView – a web-based common operating picture for command and control

GXP OpsView bridges the gap between analysis and operations, delivering all of the imagery products, related content, and reports directly to Command and operators in the field.

- Operations map with overlays like Gridded Reference Graphics (GRG) and OGC® content

- Real-time location sharing layered on top of the GRG, data overlays, and map

- Command-field data sharing including imagery, photos, and videos

- Shareable mobile markers with turn-by-turn directions for users in the field

- Enhanced coordination and collaboration tools, including active incidents and teams

- Rapid assignment, tasking, and deployment of field personnel

- Mass notification and operational broadcast

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GXP OnScene – mobile situational awareness in the field

GXP OnScene connects field operators both to each other and back to Command with imagery products, real-time location and data sharing, as well as coordination and collaboration.

- Receive mission plans and imagery wirelessly in the field

- Securely share real-time location among teams and coalition partners

- Share field photo/video reports with geotags and timestamps

- Personnel profiles with photos, assignments, and info

- Field communication – text, call, and email with a live rolodex

- Incident map visualization, assignments, and teams

- Markers – instantly share map "push-pins" with turn-by-turn directions

- Support for Connected or Disconnected operations
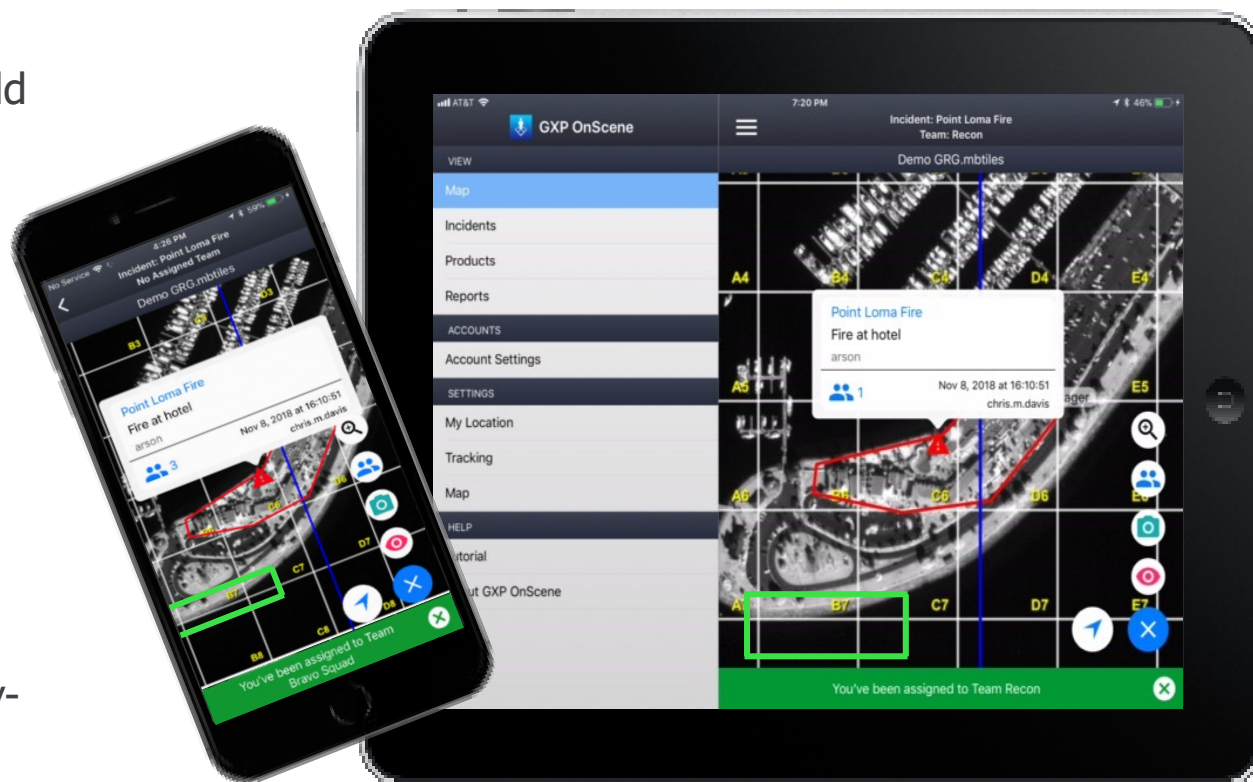
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Thank You

Nicholas Rosengarten
GXP Product Development
571.205.9397
Nicholas.Rosengarten@baesystems.com

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