Release Enhancements

GXP Xplorer® • GXP WebView® • GXP InMotion™

v2.3.3

BAE SYSTEMS

INSPIRED WORK

An unrivaled capacity for discovery, visualization, and exploitation of mission-critical geospatial and temporal data

The v2.3.3 release of our GXP Platform™ based solutions delivers exciting new geospatial capabilities including enhanced data management and synchronization, new data structures, a new Feature Object Database (FODB), and continued integration of Movement Intelligence (MOVINT) throughout our platform applications. Current release enhancements include:

- Advanced data management capabilities via synchronization of catalogs between GXP Xplorer® servers, support for file bundles, and metadata mapping
- An FODB providing temporal detail regarding the activities of objects of interest over time
- Introduction of GXP InForm for mobile field awareness and reporting
- Integration of Spire Automatic Identification Systems (AIS) for tracking of ships
- Continued incorporation of MOVINT via the Tracking Analytics Software Suite (TASS)

Based on customer requests, these enhancements ensure an optimal user experience while expanding synergies between all of the GXP Platform solutions.

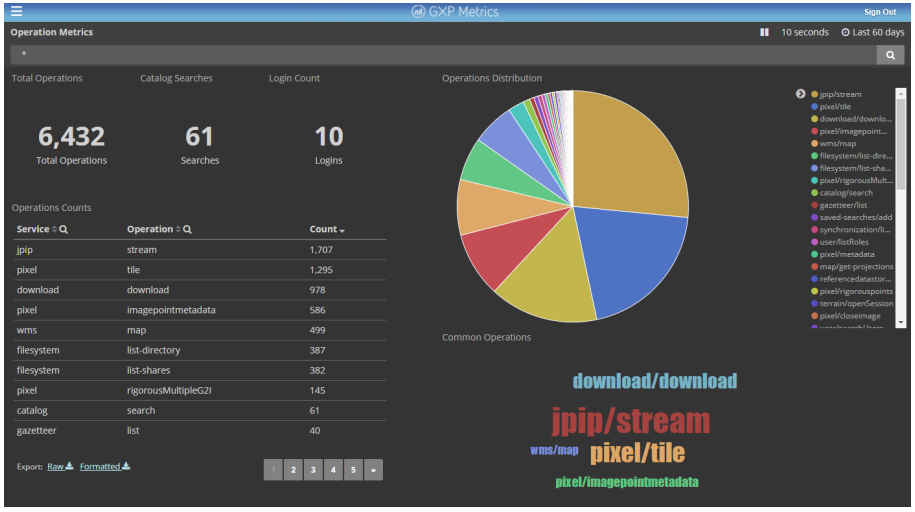
System administration, configuration, and monitoring

System administration and software configuration enhancements provide browser-based configuration management to customize GXP Xplorer, GXP WebView®, and GXP InMotion™.

Browser-based system administration enables management of:

- User accounts, user groups, and associated roles
- Authentication settings and Sign-in settings
- Network settings, licensing, client services, and hosted Web services
- GXP Xplorer settings including cataloging, discovery, access controls, services, federation, and plug-ins
- Cataloged data
- User metrics and monitoring of operations
- GXP InMotion Missions
- Global settings which customize the GXP Xplorer, GXP WebView and GXP InMotion applications

Note: Restarting the server is no longer required for many configuration changes.



User metrics displaying 60 days of GXP Platform operations and distribution.

GXP Xplorer v2.3.3

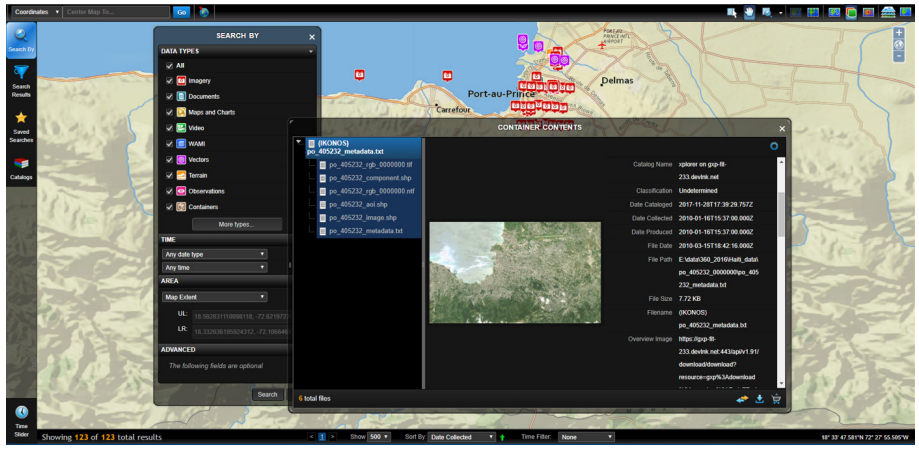
Updates to GXP Xplorer include a range of new data synchronization, cataloging, and management capabilities.

Foundational support:

- Supporting Operating Systems Windows® 10 64-bit, Windows Server 2008 R2, 2012 R2, and 2016
- InstallAnyware 2017
- Mensuration Services Program (MSP) updated to version 1.5.3
- Data Reformattting Service (DRS) 5.6.0.R2 or later
- Supporting SOCET GXP® CoreSDK v4.3.0.2

Key enhancements:

- Containers
  - Support file bundles (containers) and their associated contents
  - View elements within bundle
  - View metadata for elements within a bundle file
  - View and perform supported operations for the bundle and elements within the bundle
    - Stream
    - Download
    - Gallery
    - Cart
    - Open
    - Delete

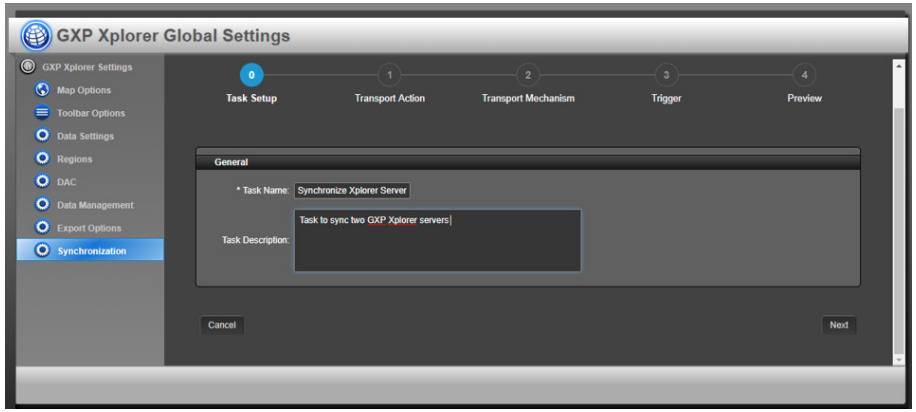


GXP Platform data container using DigitalGlobe® GeoEye-1 product with components that include two image formats and associated metadata.

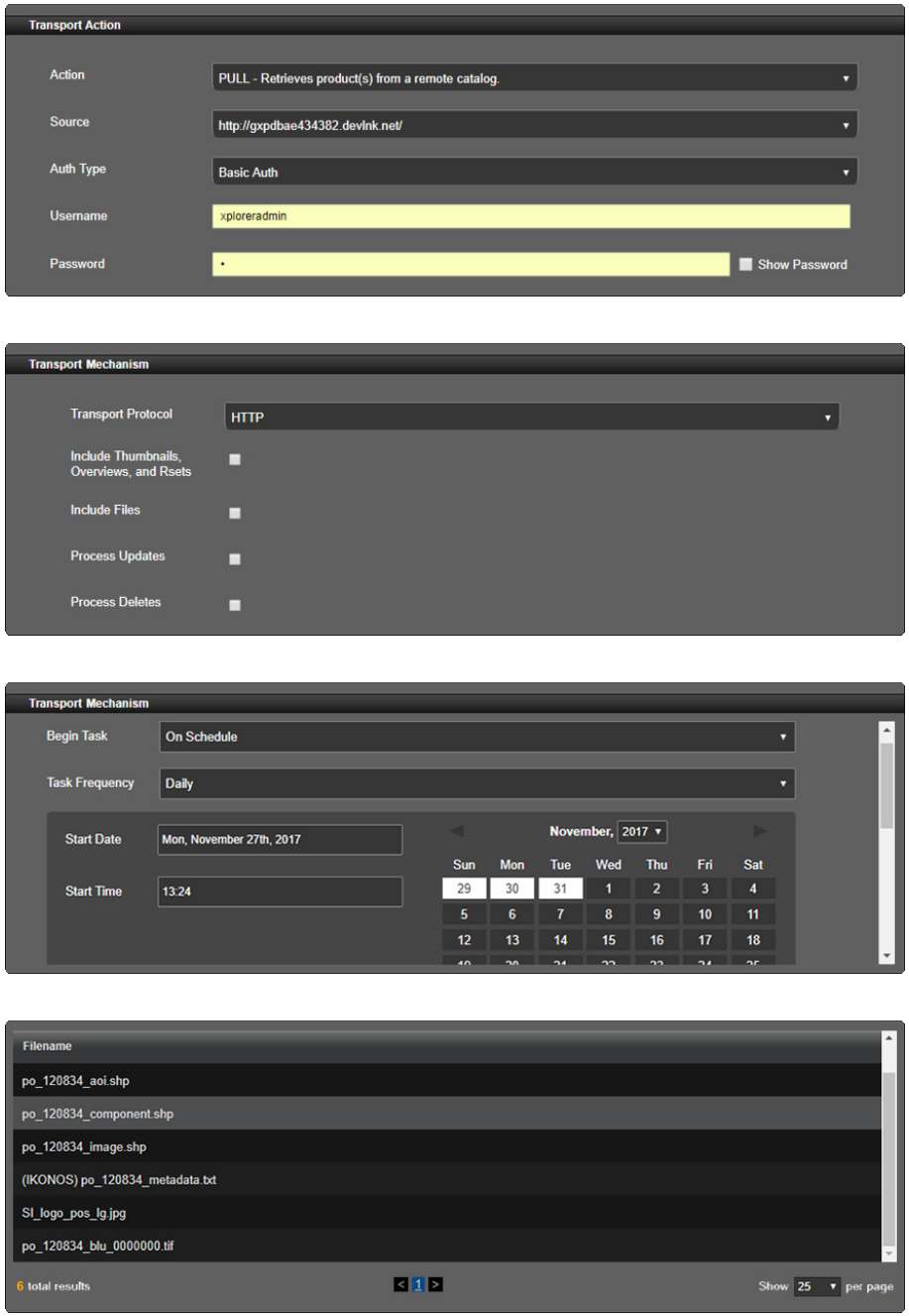
Key enhancements (continued):

» Metadata mapping
- – When metadata is mapped to a catalog entry, the metadata mapping capability informs the user where specific metadata originates
  - The Application Program Interface (API) provides the method for documenting specifics about metadata

» Data synchronization and replication
- – Catalog harvesting
  - Data remains in place
  - GXP Xplorer catalogs are synchronized providing visibility into metadata between servers
  - Synchronize cataloged metadata including data ingest and delete operations
- – Data management
  - Copy (Pull or Push between GXP Xplorer servers)
  - Synchronize catalogs including purge operations
- – Product retention time for purge allows for number of days instead of discrete selections starting at one month
- – Data synchronization supports future disconnected solutions for GXP Xplorer combined with SOCET GXP



Data synchronization Task Setup.



Data synchronization Transport Action, Transport Mechanism, and Trigger setup with Preview.

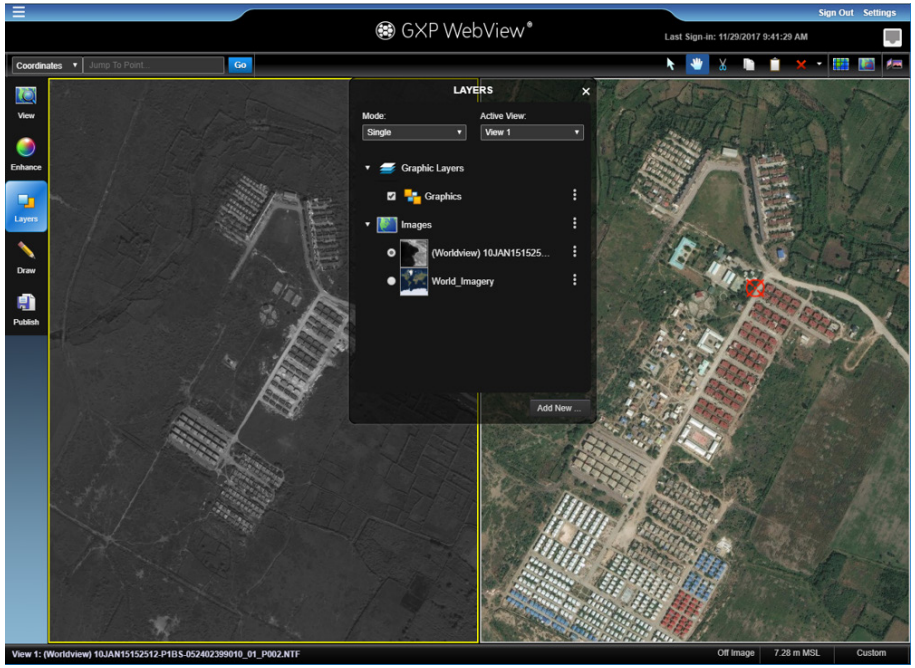
GXP WebView v2.3.3

Updates to GXP WebView include improved JPEG 2000 Interactive Protocol (JPIP) streaming, Web Map Service (WMS) and Web Map Tile Service (WMTS) support.

Key enhancements:

» Performance improvements of greater than 4x for JPIP streaming into GXP WebView

» Native GXP WebView WMS and WMTS support



Imagery over Port Au Prince, Haiti comparing a historical DigitalGlobe WorldView-1 image from January 2010 with current imagery supplied as a WMTS from an Esri® supported service.

GXP InMotion v2.3.3

Updates to GXP InMotion include image/video previews and the continued integration of MOVINT into the video suite.

Key enhancements:

» Turn on video preview and thumbnails by default

» Merge the MOVINT database into the GXP Platform as a catalog plug-in

» Improve cataloging performance for video and MOVINT data sets

  – Improve rendering of MOVINT data (points and polylines)

  – Improve moving the camera perspective for near real-time display of data

» Provide capability to generate tracks from Ground Moving Target Indicator (GMTI) and STANAG 4676 (placing this data into the MOVINT database)

GXP Platform v2.3.3

Updates across the GXP Platform include general integration of a Controlled Image Base/ Compressed ARC Digitized Raster Graphics (CIB/CADRG) map background, an FODB, ship tracking services, and a mobile field awareness and reporting tool.

Key enhancements:

» CIB/CADRG map background

  – WMS and WMTS publishing provided for CIB/CADRG foundation data

    • Cataloged data

    • File system path

    • Use as a raster layer or basemap

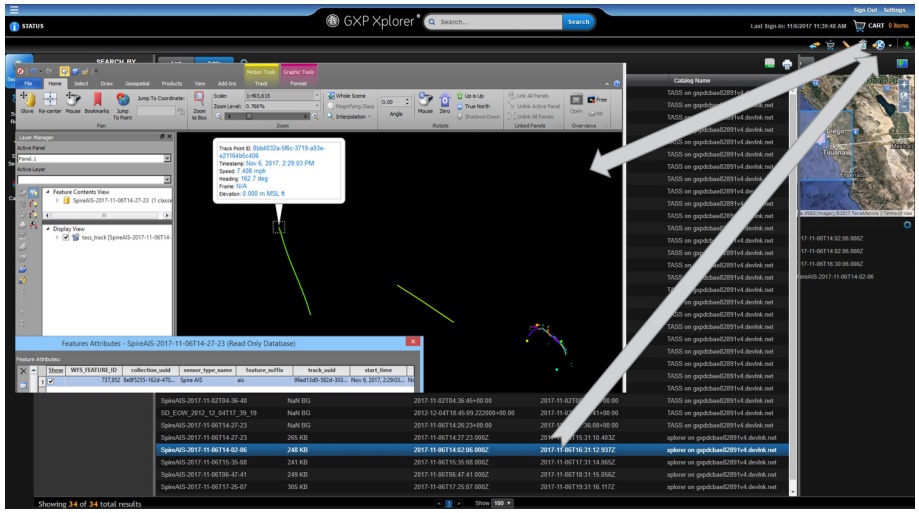
» FODB integration into the GXP Platform

  – FODB supports the concept of "object-based knowledge"

    • Knowledge about an object of interest's attributes and activities can be pulled for analysis from various Structured Observation Management (SOM) databases

  - FODB content is objects and their observed activities
    - Delivered with basic schema where objects are facilities, equipment, and people (schema is tailorable to objects and nomenclature relevant to a specific type of investigation)
    - Stores textual attributes of objects and observed activities
    - Stores spatial features such as points, lines, and polygons of objects (ex., a type of airplane can be represented by a specific polygon geometry)
    - Stores spatial features of observations (ex., an airplane can be observed at a specific point location at an instant in timeFile system path)

» Spire AIS service integration
  - Enable Spire AIS ship tracking services
    - Define captured data
    - Area of Interest
    - Polling frequency
    - Attributes
    - Output location
  - Catalog track data
  - Store track data in Tracking Analytics Software Suite (TASS)
  - Exploit tracks using SOCET GXP



Spire AIS ship tracking data discovered in GXP Xplorer, stored in the TASS MOVINT database, and exploited in SOCET GXP including location, time and vessel attributes.

» Integration of GXP InForm
  - GXP InForm is a mobile field awareness and reporting tool
  - Support fielded operators by sharing the organization's data managed with GXP Xplorer
  - Unified enterprise search includes GXP InForm content to enhance situational awareness, productivity, and decision-making

GXP Platform foundational updates

» Welcome Page has been updated to use React user interface open source software

» Improve performance in page loading speed

» Usability improvement for the default search setting of the map set to marker mode

» Update installation to prevent configuration management tool failures and help support non-English language installations

» Package Java JRE with GXP Platform instead of JDK to comply with Security and Technical Implementation Guides (STIGS)

» Manage installation logs for debugging

» Improve rendering and graphics backend with ground space framework used in visualization components in GXP Platform client applications

» Define and implement a new top-level folder structure for the web client that will make it easier to manage files and improve web client developer productivity

» Create and apply JavaScript and CSS linting rules that can be used to analyze web client code for potential errors and normalize JavaScript and CSS coding styles (this will help ensure that web standards are applied across the platform)

GXP® Geospatial solutions to ensure a safer world.

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