

GXP XPLORER®

TAKE COMMAND OF
YOUR DATA UNIVERSE



BAE SYSTEMS

TAKE COMMAND OF YOUR DATA UNIVERSE.

Our vision for GXP Xplorer is to minimize time spent searching for data. Analysts spend more than 50% of their time locating products to get the job done — time better spent actually performing analysis and getting the intelligence to those who need it most.

WHAT IS GXP XPLORER®

A revolutionary data management application that makes it easy to locate, retrieve, and share geospatial data, wherever it is.

GXP Xplorer® provides a convenient way to manage and access images, terrain, features, maps, charts, videos, reports, Microsoft Office® files, GeoPDF® files, unstructured text, and virtually any type of data. Geospatial, temporal, free-text, or advanced metadata searches are performed across multiple data stores with a single query without switching between systems. Federation enables data from several GXP Xplorer servers and other data stores to be searched on demand and by standing orders, and seamlessly combined, visualized, and filtered.

BAE Systems designed GXP Xplorer as an open enterprise system built from Web services that scales from a laptop, to a single-server computer, to distributed server clusters in cloud environments. It utilizes a plug-in design that simplifies integration with other data sources, software applications, and custom data types, and runs on virtual machines. Using dynamic discovery techniques, GXP Xplorer

crawls the enterprise network for files in existing data systems, on shared network drives, and in an analyst's local shoebox. The crawler reads the properties, internal metadata, and text from both structured and unstructured files and indexes the information into a powerful search engine catalog. It identifies files where it finds them without moving them and builds an online catalog for easy retrieval. The catalog is searchable through GXP Xplorer Web, mobile, and workflow improvement applications to produce geotagged search results graphically on a map and textually within a list with attributes. Data can be visualized, downloaded, processed, or opened directly into other applications.

The GXP Xplorer server supports 64-bit Microsoft Windows® platforms and its Web application is supported on the latest Internet Explorer, Mozilla Firefox, and Google Chrome browsers. GXP Xplorer Mobile supports iOS and Android.

enterprise data cataloging and discovery + geospatial data visualization + processing services

+ publishing and dissemination

**Indicates availability in a future version*

CATALOG IN PLACE

GXP Xplorer reads files in their current location, which eliminates the need to move or copy large amounts of data across the network, and enables sites to leverage existing data storage investments.

Files can be moved automatically to a user-defined location during the cataloging process, providing organization to products scattered across the enterprise.

Cataloger

- Tailor the directories and types of data to catalog
- Customize data validation rules to exclude undesirable products
- Configure cataloger to utilize multiple CPUs for high performance
- Turn off or defer image thumbnail creation
- Track status of catalog process in a control panel
- Text inside all files is indexed and searchable, including documents
- Geotags are extracted from structured files to pin product to map
- Ground coordinates and place names are extracted from textual files to pin to map*
- Notifications are delivered when bad files fail to ingest
- Multi-file products, such as shapefiles, are associated into single catalog items
- Stale data is eliminated and purged based on configurable aging rules

MULTIPLE DATA STORES

GXP Xplorer connects to intelligence data store catalogs and reference data to provide a comprehensive operating picture without moving from one application to another to locate data. The different source results are uniquely marked for identification of source.

GXP Xplorer has an open architecture and an Application Programming Interface (API) with support for plug-in connections to data store catalogs. The architecture is standards-based for ease of connection to third-party applications as mash-ups to monitor, geotag, and visualize social media and world events.

Data store catalog connectors*

- Product and national libraries
- Map and chart libraries
- Tactical data stores
- Video catalogs
- Activity Based Intelligence (ABI) data catalog
- Target databases
- Geographic Information System (GIS) and feature databases

Third-party mash-ups

- News
- Web feeds
- Twitter/Facebook
- Blogs

CRAWLER

GXP Xplorer's dynamic discovery agent crawls directories across the enterprise to find data products of interest.

A cataloger agent reads properties and relevant details from inside the files to create a searchable repository, making every data product discoverable via these ingested attributes.

Structured and unstructured data types

- Imagery
- Terrain
- LiDAR
- Maps and charts
- Raster-derived products
- Vector-derived products
- Shapefiles
- Video
- Documents
- Slides
- Spreadsheets
- Custom types

Change detection

- Listens for file system changes in all selected directories
- Discovers new files, deletions, and changes
- Keeps catalog updated in near-real-time
- Notifies and flags file duplicates*

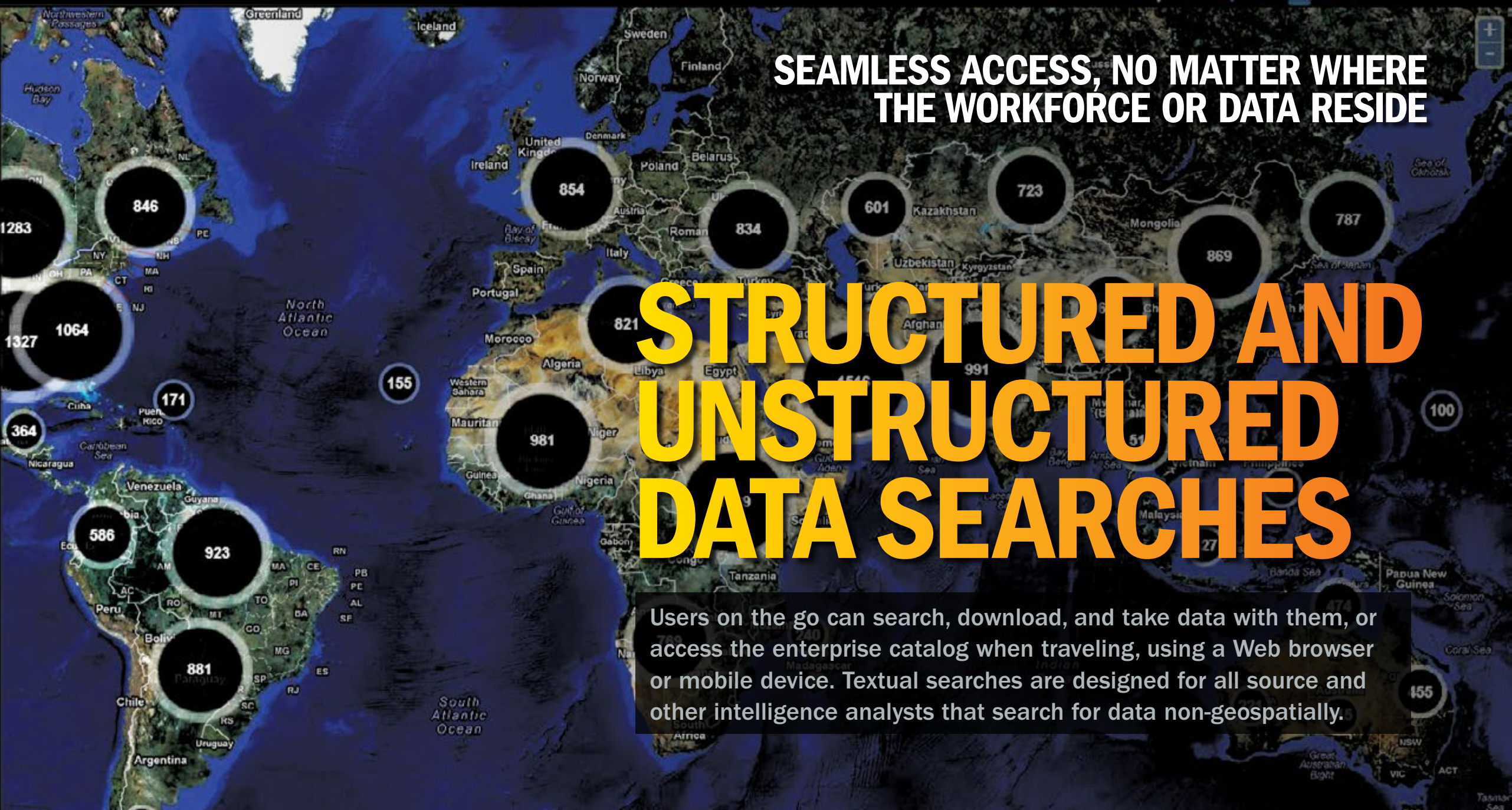
SEARCH RESULTS

DATA TYPE

- BARO (2)
- Maps and Charts (8476)
 - Global Navigation Chart (1:5M) (219)
 - Jet Navigation Chart (1:2M) (1097)
 - Joint Operations Graphic - Air (1:250k) (4,309)
 - Low Flying Chart (1:500k) (325)
 - Low Flying Chart - Day (325)
 - Miscellaneous Maps and Charts (various) (200)
 - Topographic Line Map (1:250K) (1048)
 - Tactical Pilotage Chart (1.500k) (1278)
- Imagery (404)
 - CIB (1)
 - DPPDB (2)
 - JPEG (7)
 - NITF (145)
 - SOCET GXP Support File (180)
 - TIFF (69)
- Documents (5)
- Terrain (16964)
 - GEOPDF (1)
 - IMAGETIFF (69)
 - Raster Maps (8475)
- Video (3)
- Image / Maps and Charts RPF

REFINE BY

- ICAT
- Obliquity Angle
 - 0.0 - 10.0 (16)



SEAMLESS ACCESS, NO MATTER WHERE THE WORKFORCE OR DATA RESIDE

STRUCTURED AND UNSTRUCTURED DATA SEARCHES

Users on the go can search, download, and take data with them, or access the enterprise catalog when traveling, using a Web browser or mobile device. Textual searches are designed for all source and other intelligence analysts that search for data non-geospatially.

Simple search

- Search both structured and unstructured information within the data
- Search by
 - Product type
 - Keywords
 - Geospatial areas
 - Product attributes (e.g., Author, Cloud Cover, Target ID)
 - Time and date ranges
 - Free-text search of all text in catalog
- Grid overlay for systematic searches by grid cell
- Results returned by relevance and proximity

All source searches

- Text search for words and strings with wildcards such as * and ?
- Boolean options such as AND, OR, NOT
- Spelling corrections and similar words suggested for concept searches*
- Filter, sort, and refine search results to find the right data
- View, print, export configurable list or table of products, attributes, and thumbnails
- Optional mini-map shows location

Visualize results

- Selectable map such as Google Maps, Fusion, True Marble™, Compressed Arc Digitized Raster Graphics (CADRG), or any Web Map Service (WMS)
- Cluster results for a condensed view of overall coverage
- Break clusters into individual color-coded product markers or coverage footprints
- Summary of results by type and quantity
- Filter results hierarchically by type and sub-type
- Filter results by product attributes such as Ground Sample Distance (GSD), accuracy, and content

- Time Slider filters map markers in real-time and groups products on the slider itself
- Compare selected results in a filmstrip
- Display reference data feed services to help make data selection decisions*

ELIMINATE EXTRA STEPS AND SAVE TIME WITH AUTOMATED ALERTS, ACCESS, AND PROCESSING

ALERTS AND NOTIFICATIONS

GXP Xplorer can automatically perform common searches and notify the analyst of the results, eliminating the time-consuming steps of frequently repeating the same searches manually.

Notify

- Name and save search parameters for subsequent use as Favorite Searches
- Share saved Favorite Searches with colleagues
- Generate and subscribe to RSS feeds
- All RSS-subscribed users are notified when new data becomes available
- Standing Order option automatically delivers new results of Favorite Searches via FTP
- KML option creates network links and overlays for dynamic updates from GXP Xplorer to Google Earth

Collaborate

- Collaborate via the Web, email, download, and mobile
- Email a link that zooms GXP Xplorer to the product location and attributes
- Email products as attachments from within GXP Xplorer
- Send products to an FTP site
- Subscribe to popular feeds provided by a colleague
- Receive notifications, view product and report submissions in GXP Xplorer and the GXP Xplorer Mobile app

FEDERATION

Decrease the need for data duplication and increase collaboration across an enterprise by performing federated searches simultaneously on geographically dispersed data.

Federation connects multiple GXP Xplorer servers together in direct communication; searching from one GXP Xplorer Web application returns results from all federated GXP Xplorer servers.

Federated sharing

- Sites can easily disseminate their data and products to others by joining a federation
- Search and download data from federated GXP Xplorers
- Connects permitted users that may not be aware of each other's data
- Extends to the external non-GXP Xplorer data stores that are connected to a GXP Xplorer
- Users are presented with login screens when necessary

Synchronization

- Deliver both files and catalog metadata automatically from one GXP Xplorer to another
- Dynamically copy an existing GXP Xplorer as a failover to prevent operational interruptions
- Configure for direct feed of selected data from a primary GXP Xplorer to downstream GXP Xplorers

DATA PROCESSING

GXP Xplorer data processing services convert data into usable finished products. Change the format of the product, combine it with valuable reference data, clip, combine or create derived products, and work in batch mode when multiple files require similar modifications.

Process

- Convert data to selected formats before download
- Clip an image into its native format or into PowerPoint® in JPEG format
- Orthorectify imagery
- Generate image RSETS
- Triangulate images*
- Mosaic images and other data*
- Clip video to area or event criteria*
- Batch operations act on multiple products

Jobs panel

- Detailed information about every data processing job
- Control processing via pause, resume, postpone, and cancel options
- Status indicates when jobs complete
- Continue working while jobs run

Update

- Update the attribute metadata for a product
- Change or add geospatial footprints
- Perform batch updates



**VIEW, MEASURE, ANNOTATE, AND
DISSEMINATE GEOSPATIAL IMAGE REPORTS
DIRECTLY FROM A WEB BROWSER**

GXP WEBVIEW

The GXP WebView add-on module for GXP Explorer is a lightweight Electronic Light Table (ELT) designed as a quick and easy tool for report creation and simple image viewing.

Integrated with the GXP Explorer search capability, WebView provides fast, HTML 5 access to imagery of any format, as well as functionality to modify the image, exploit it, and publish the resulting finished product.

GXP PIXEL STREAMING

GXP Pixel Streaming powers WebView's capability to load full resolution images from GXP Explorer and quickly turns any image, regardless of format or location, into a standards-based stream viewable in a Web browser.

Streaming

- Delivers pixels from any image file format to GXP WebView on-the-fly without reformatting to a new file
- Eliminate waiting for very large images to download
- Make Federation even more versatile by allowing direct access to products
- SO CET GXP® and other applications can integrate the GXP Pixel Streaming functionality
- Turn reference imagery into streamed backgrounds*

Annotation in a Web browser

- View image as if it were locally on your system
- Displays the optimal presentation of the image automatically
- Dynamically adjust imagery brightness, contrast, and sharpness in the browser as desired
- Draw lines, polygons, circles, and buffers
- Insert icons in many shapes and sizes (e.g., tanks, planes, markers)
- Enter text annotations
- Measure geographic coordinates using sensor model geometry, not approximations
- Underlying terrain used if available for geospatially correct measurements
- Measure distances and height calculations using sensor model
- Color-code every annotation and entry
- Overlay a Web Feature Service (WFS) on the image for additional detail
- Load shapefiles to burn into the image report
- Collaborate via chat and jointly edit products in real-time*

Publish

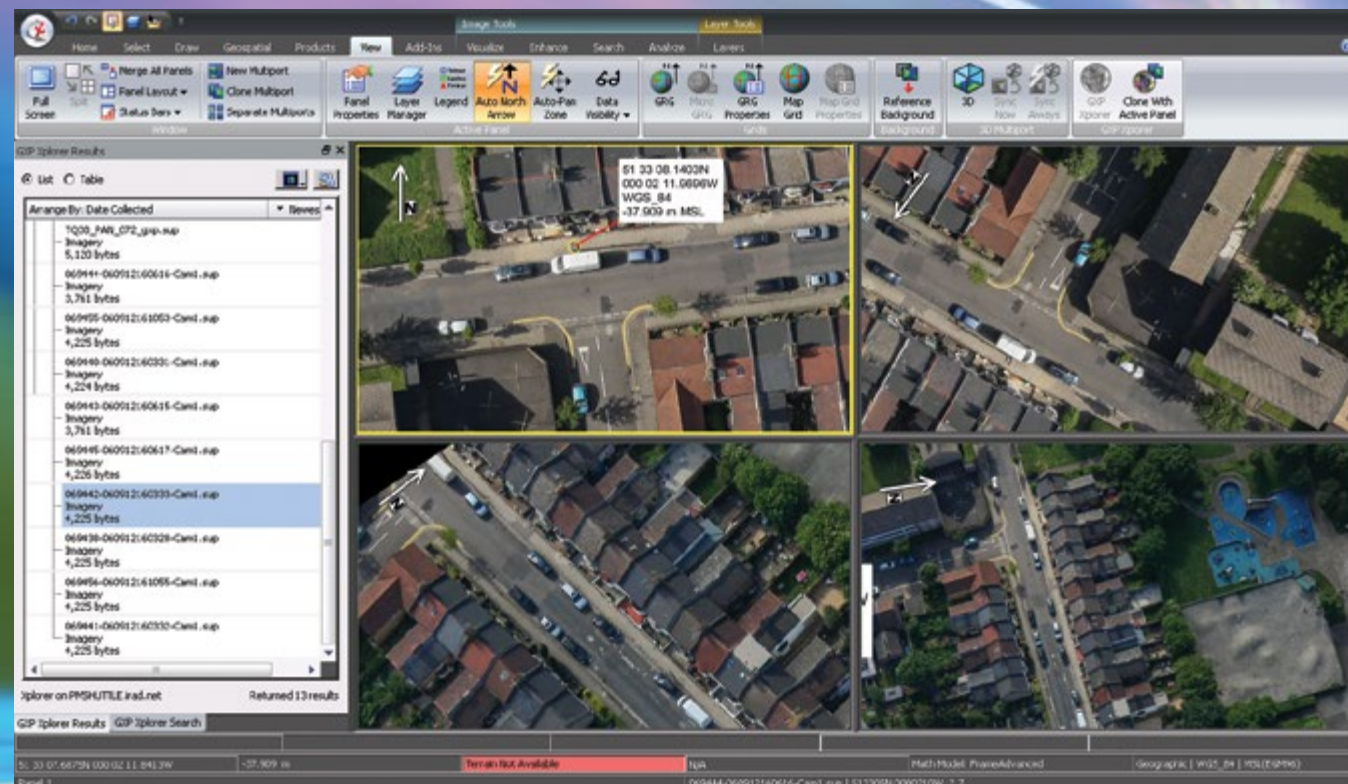
- Build the final brief in the Web browser
- Publish the annotated image product into PowerPoint, GeoPDF*, PNG, and more
- Deliver via email and FTP
- Catalog the products in GXP Explorer for subsequent use and availability



**SAVE 20 TO 30 MINUTES
PER FINISHED PRODUCT**

WORKFLOW IMPROVEMENT

Analysts estimate that they spend more than 50% of their time looking for imagery and reference data. The GXP Xplorer Workflow Improvement Module integrates GXP Xplorer and SOCET GXP, enabling SOCET GXP to search and discover products while eliminating the need to switch between tools.



This direct integration improves workflow performance by building into the standard SOCET GXP Multiport®, and providing reference imagery and products geospatially overlapping with the original imagery automatically, which results in a time savings of 20 to 30 minutes per finished product generated.

Advanced searching

- View a list of related imagery and nearby products from GXP Xplorer in the SOCET GXP Multiport
- Filter the text index created in GXP Xplorer for specific words
- Filter by date and time to control the temporal relevance of the results displayed
- Filter by product attributes such as Cloud Cover and Target ID
- View coverage footprints in the Multiport
- Download or open accessible products directly into the SOCET GXP Multiport
- Incorporate a GXP Xplorer image immediately into the exploitation workflow
- Display images side-by-side or overlaid for comparison

OPEN ARCHITECTURE

Open-architecture standards allow developers to integrate GXP Xplorer services with other applications.

SECURITY

GXP Xplorer supports the many diverse security postures and allows administrators to update this posture according to changing site requirements.

Connect securely

- Operate the GXP Xplorer Web application over a Hypertext Transfer Protocol Secure (HTTPS) connection
- Employ secured certificate authentication
- Optional Lockdown mode to remove anonymous access and require all users to log in
- User roles are assigned to upload, make changes, or delete
- Manage user credentials in GXP Xplorer
- Password policies are customizable
- Integrate with an organization's existing user authentication, such as Passport or Lightweight Directory Access Protocol (LDAP)
- More information on security features including software development is available upon request

Access

- Control user access to data by assigning roles within GXP Xplorer
- Hide data completely, prevent manipulation, or allow editing, based on role
- Compartmentalize data based on accessibility
- Define which groups of users can view and access data through Discretionary Access Control (DAC)
- Logging records all transactions including log-ins, searches, downloads, uploads, edits, and deletions

The GXP Xplorer server provides a flexible architecture comprised of services and plug-ins to quickly add new data formats, with simple configuration to support and accept data feeds from third-party tools.

Extensible

- Flexible ingest services
- Flat metadata model that can be extended by developers
- Plug-in metadata extraction for custom data types
- Plug-in data processing services
- Plug-in data store connections
- Customizable Web user interface
- Supports multiple external interfaces
- OZONE framework ready

Scalable

- Server virtualization
- Distributed processing capable
- Heterogeneous federation

Open interfaces

- REST/JSON/KML/RSS Web Services
- Open Geospatial Consortium (OGC) Web Services
- DIB Web Services
- Geospatial Imagery Access Services (GIAS)
- NATO STANAGs 4559*
- Use of metadata standards such as Dublin Core

REMOTE ACCESS TO ONE OR MORE
GXP XPLOER SERVERS USING A
CELLULAR DATA CONNECTION OR WIFI

GXP XPLOER MOBILE

Built for field operations to view server products and create and upload reports, the GXP Xplorer Mobile app relays notable tactical information between everyone connecting to the GXP Xplorer server.

Access your data on the go

- Obtain up-to-date imagery and documents from a connected GXP Xplorer server on your device
- Search your data by times and dates, keywords, types, and geospatial location
- Results focused around specific areas of interest
- Chip and download tools ensure that complex data types can be simplified and kept on the device, even after going offline
- Tablet-optimized mobile application available on Google Play and the Apple App Store

Reporting back

- Create reports while in the field
- Take a picture from the device, or use existing pictures in the gallery
- Enter a title and notes about the image
- Upload images with GPS location from the device to the GXP Xplorer server
- Keep everyone at site and in the field using the GXP Xplorer Mobile app up to date
- Reports created when not connected are uploaded when connection is restored* (i.e., when out of cell or WiFi range or when in Airplane Mode)





WORLDWIDE SUPPORT AND TRAINING

BAE Systems offers flexible training modules and support options for your organization, whether you need to train an entire project team or require one-on-one instruction.

Our worldwide training centers offer free training to our customers at a number of regional facilities with tailored curriculum based on your learning requirements. On-site training is available at the time of initial software installation to introduce you to the core features and functionality of GXP Xplorer.

Training can also be supplemented at a later date with refresher courses or advanced workflows.

Contact a GXP customer support representative to schedule your training.

The MyGXP.com self-service customer portal is your online resource for support, exportable software builds, patches, and other critical product information.

Update your profile, manage support requests and email preferences, request license keys and software, and search the FAQ technical knowledgebase for quick answers to outstanding issues at any time, in any time zone.

About BAE Systems


BAE Systems is a global defense and security company with approximately 100,000 employees worldwide. The Company delivers a full range of products and services for air, land, and naval forces, as well as advanced electronics, security, information technology solutions, and support services.

BAE Systems is a global provider of software for image analysis, geospatial production, mapping, 3-D visualization, video analysis, and photogrammetry. For more than 40 years, BAE Systems has been a trusted supplier of imagery, geospatial products, and services to the defense and intelligence communities, and commercial markets. BAE Systems has experience and depth in managing, implementing, and developing products with a wide variety of other industry-standard applications that support geospatial and related tradecrafts, and experience developing GIS tools. This experience requires knowledge of the scientific underpinning of the technologies, methods, and techniques in use to solve geospatial production challenges.

Geospatial eXploitation Products (GXP®)

GXP develops powerful software tools used to deliver highly accurate geospatial and intelligence data. Based in San Diego, Calif., GXP provides direct worldwide sales and support. In some areas, this is done in conjunction with a select team of distributors to facilitate greater coverage and to provide effective customer service. GXP offers its customers top-quality technical support and training to optimize their return on investment.

GXP also offers professional engineering services to customize GXP Xplorer and provide support for integration with other applications in an enterprise.



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