National Geographic Maps uses Meta Lens to Manage Digital Assets
“increase the diffusion of geographic knowledge.”

Conservation, Research, Exploration, Education
..... and Stewardship

National Geographic Maps
Print:
  Reference
  Recreation
Digital:
  Recreation
Professional:
  GIS Professional
  Commercial entities
  Federal agencies
National Geographic Maps
Web map services

NG Political World Maps

• Distinctive foundation

• NG Maps cartography provides a rich platform for any 2D/3D Web application

• Emerging 1:1m db
National Geographic Maps
Web map services

Maps
NG TOPO! Map Archive

• Best in class hill shaded 24k & 100k topographic

• Provides intuitive terrain reference for any 2D/3D Web application
• Location-based (georeferenced) media, information, and their applications are in high demand

• Tools for georeferencing and leveraging media are limited and challenging to use for critical applications

• Sensitive, or classified information must be both secure and pliable

• Collaboration in real-time among globally distributed subject matter experts has been elusive

• Rapid publishing of interactive, geographic media applications on open visualization platforms
Ingest Services
- Extract metadata
- Map assets
- Build proxies
  - Web standard (image)
  - Streaming flv (audio/video)
NGS Staff
• NGM
• DM
• RCE
• Freelancers
API Content Core

Content

NGS Staff
- NGM
- DM
- RCE
- Freelancers

Sources
API Sources

NGS Staff
• NGM
• DM
• RCE
• Freelancers

NGS Partners
• NPS
• NatureServe

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Consumer Content
- Photos
- Audio
- Video

Applications

Sources

Content

API
API

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- Photos
- Audio
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Applications

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- RCE
  • Freelancers

NGS Partners
- NPS
- NatureServe

Consumer Content
- Photos
- Audio
- Video

Applications
- Google
- Microsoft
- Yahoo!

Sources
- API
- Content
- NGS Staff
- NGS Partners

API Sources
- Planning & sharing
- Guided tours

Content
- Photos
- Audio
- Video
Meta Lens services any open platform!
“Content is king”, but expensive to create and remains underutilized by many inside and outside NGS. Content capitalization in digital and handheld applications is largely untapped.

Content is more valuable and repurposable when location is known. Meta Lens supports intuitive georeferencing tools for all kinds of digital assets.

Content value is cultivated constantly through real-time collaboration and sharing from the desktop to the field. Subject matter expertise can be infused whenever and wherever it’s needed.

Content security and rights are as critical as pliability. This dynamic content capitalization and on-demand creates a new landscape for collaboration, and extension with partners.

Meta Lens is a harness for a vast range of geospatial Web applications.

NG Maps cartography assets are Web services adding value to content applications.
In a National Geographic Magazine article, the map shows where these pictures were taken somewhere along the path...
Background - Digital Georeferencing

- Digital representations of place within the context of digital cartography is a natural extension of NGS Legacies in exploration, photography and cartography.

- With the integration of GPS and cameras, georeferencing is now as easy as taking a picture, or dragging and dropping content onto the map.

- Georeferenced digital media delivers intuitive information about places like never before. For a new audience that is tech and mobile savvy.
Real-time Content Georeferencing

Commercial-off-the-Shelf hardware for georeferencing images, audio, and video in real-time...

...or time-matching with any digital still camera and any logging GPS receiver
Intuitive support for legacy, non-georeferenced digital assets of all kinds. Uploaded media can be easily georeferenced manually.

Type **known data** into fields, or...

Drag & Drop single/multiple digital assets onto the map.
Meta Lens Mobile

Push content from the field in real time
*Microsoft Windows Mobile devices*

Generate content using other devices and transfer to PDA via:
- Bluetooth
- WiFi
- Memory card

Or generate content on the PDA itself:
- Photos, Video, Audio, Documents, etc...

Transfer via:
- Mesh network
- GPRS/3G
- etc...

Any file available to the PDA local file system can be uploaded to the Meta Lens core using mesh networks or the wireless Web
Architecture

Meta Lens ASP or Appliance (Inline Corp):

• Media core is a shared repository

• Map Services delivered through the Internet or LAN

• Share with Meta Lens URL’s, streaming content services (KML, etc.)

• Mobile client services
Foundation

National Geographic Development Partnerships:
• Media Core, API, and Default Viewer
  • Windows Server IIS, .NET, Windows Mobile
  • SQL Server

ESRI:
• GIS & Web Services:
  ESRI ArcWeb Services, ArcGIS Server
• Solution Framework:
  ESRI ArcWeb Explorer

Adobe:
• Adobe Flex 2
• Adobe Flash Player 9
Integrated Solution with MetaCarta

- Combines GTS with rich media using Meta Lens
- Discovers open source content NOT in the core
- Enables infusion of entity/agency corpus geographically
3D Applications

Utilize Meta Lens content RESTful Web services with 3D reference

- ArcGlobe
- ArcGIS Explorer
- Google Earth
- ...open visualization platforms
NatGeoNarratives

Flash-based object

- Reusable and simple to repurpose
- Simple Web-based playlist development
- Leverages the dynamic Meta Lens content core
- Debrief a situation
- Create awareness
- Education
- Project showcase
- success stories
- etc...
Print on Demand

Customizing National Geographic Maps with user content

- Hi-res downloads, large-format prints, etc.
- NG custom-branded products
NatGeo Media Explorer

Immersive Consumer Experience

• Content discovery
• Filter by type, keywords
• Storytelling
• Integrated tours
• Integrated news (MetaCarta)
Meta Lens is a leap-frog platform built to enhance and leverage modern Web-based technologies.

Meta Lens connects digital assets to maps and metadata in a way that fundamentally changes the nature of content capitalization.

Meta Lens bridges the gap between the “pro” and “consumer” worlds—effectively creating a new space and increased market presence for National Geographic Society.

Meta Lens REST API and services open platforms securely facilitates many desktop and mobile applications.

NG Maps Web-based map service offerings leverage our existing cartographic content into commercial and consumer markets.