National Geographic Maps uses Meta Lens to Manage Digital Assets

National Geographic Society

"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

Maps

NG Political World Maps

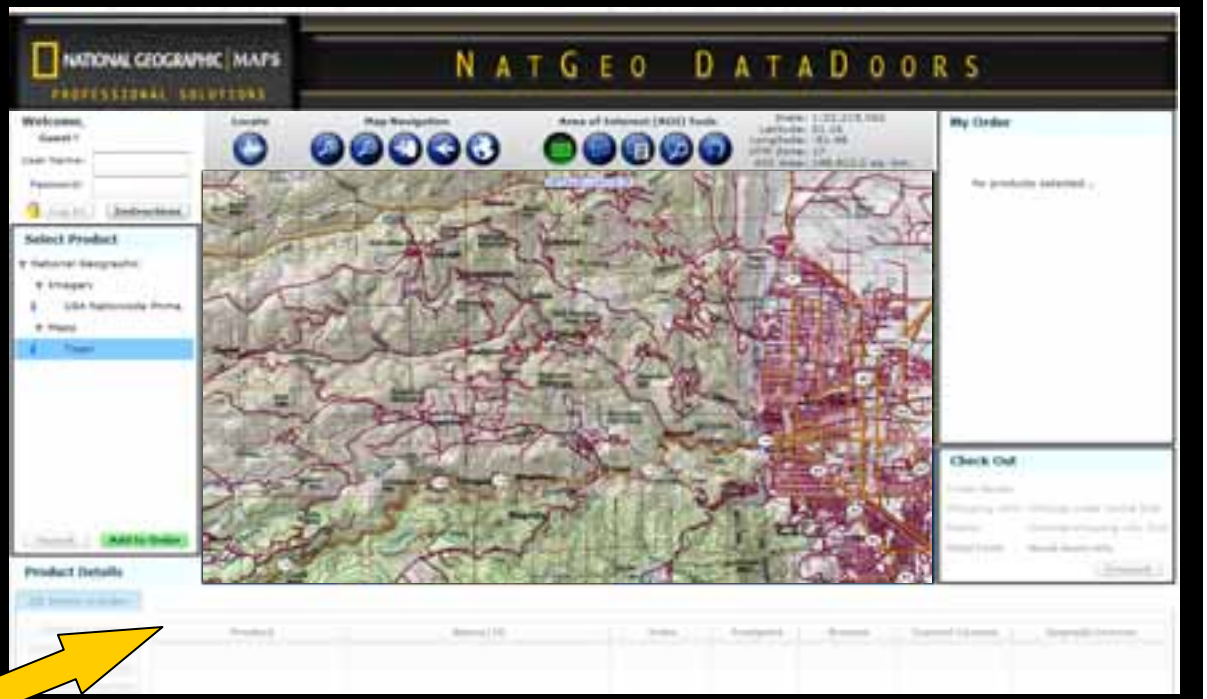
- Distinctive foundation
- NG Maps cartography provides a rich platform for any 2D/3D Web application
- Emerging 1:1m db

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



i-cubed
information integration and imaging LLC

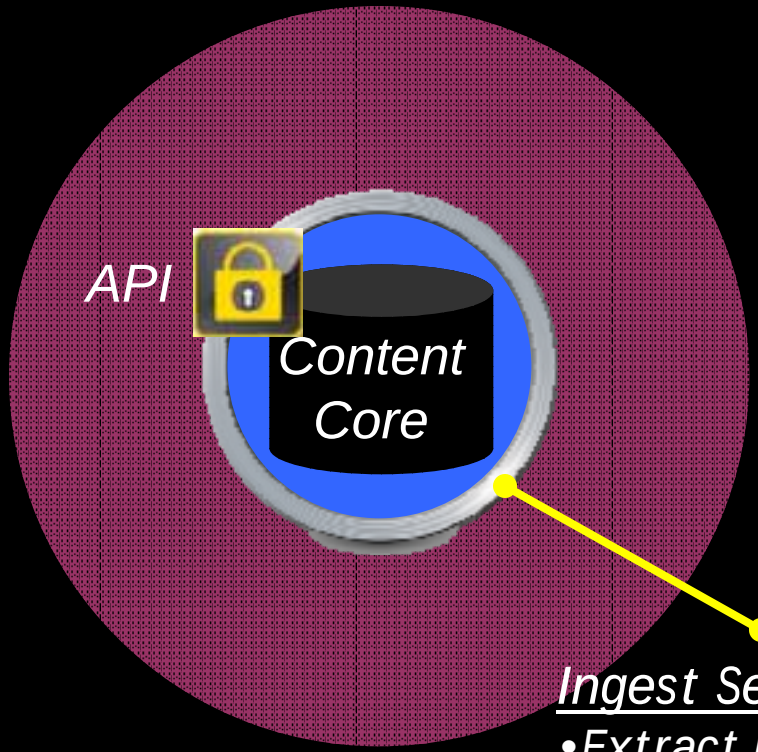
Background – Needs Assessment

- 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

Content

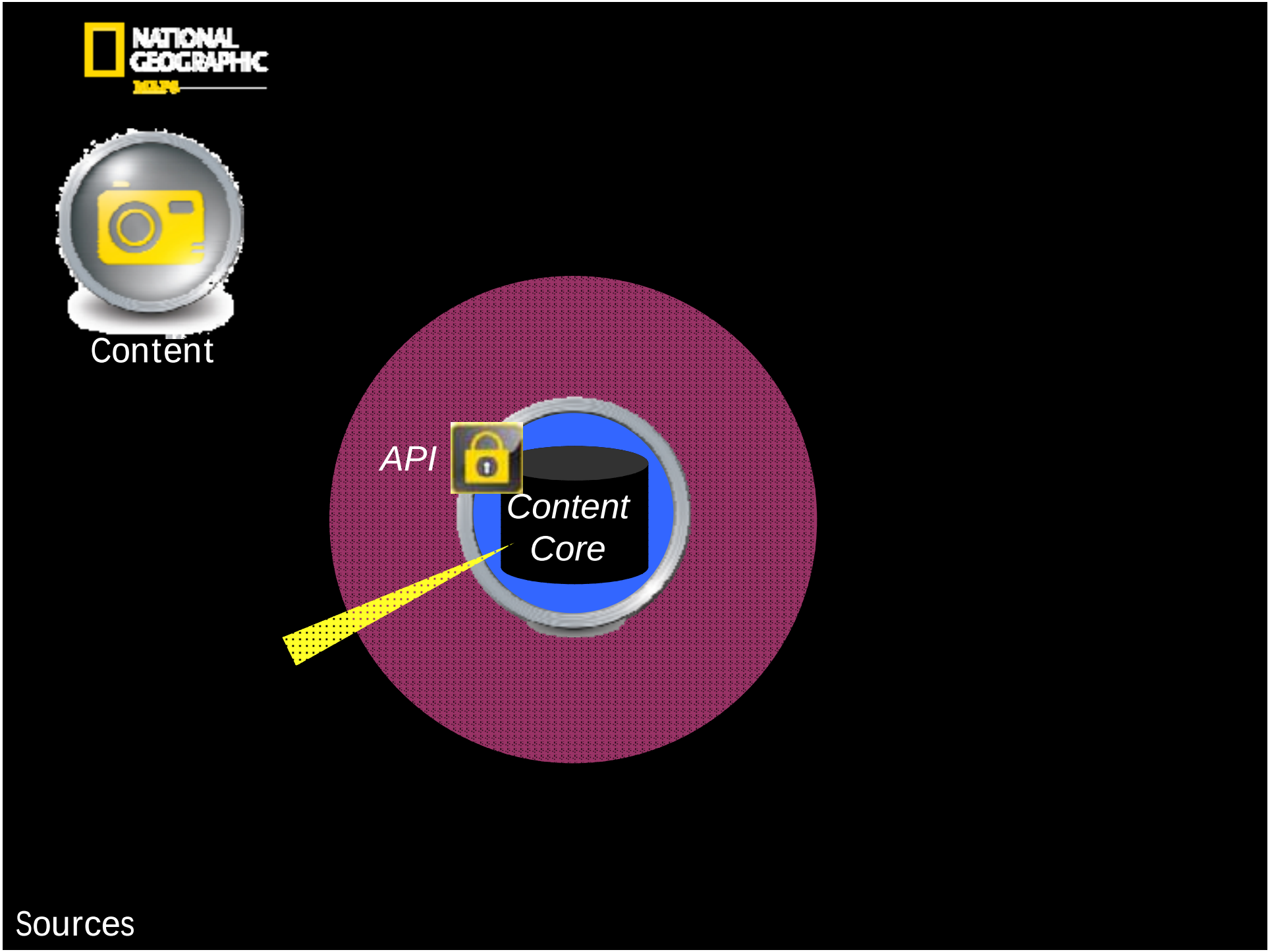
Content

Content



Ingest Services

- *Extract metadata*
- *Map assets*
- *Build proxies*
  - *Web standard (image)*
  - *Streaming flv (audio/video)*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Content Core
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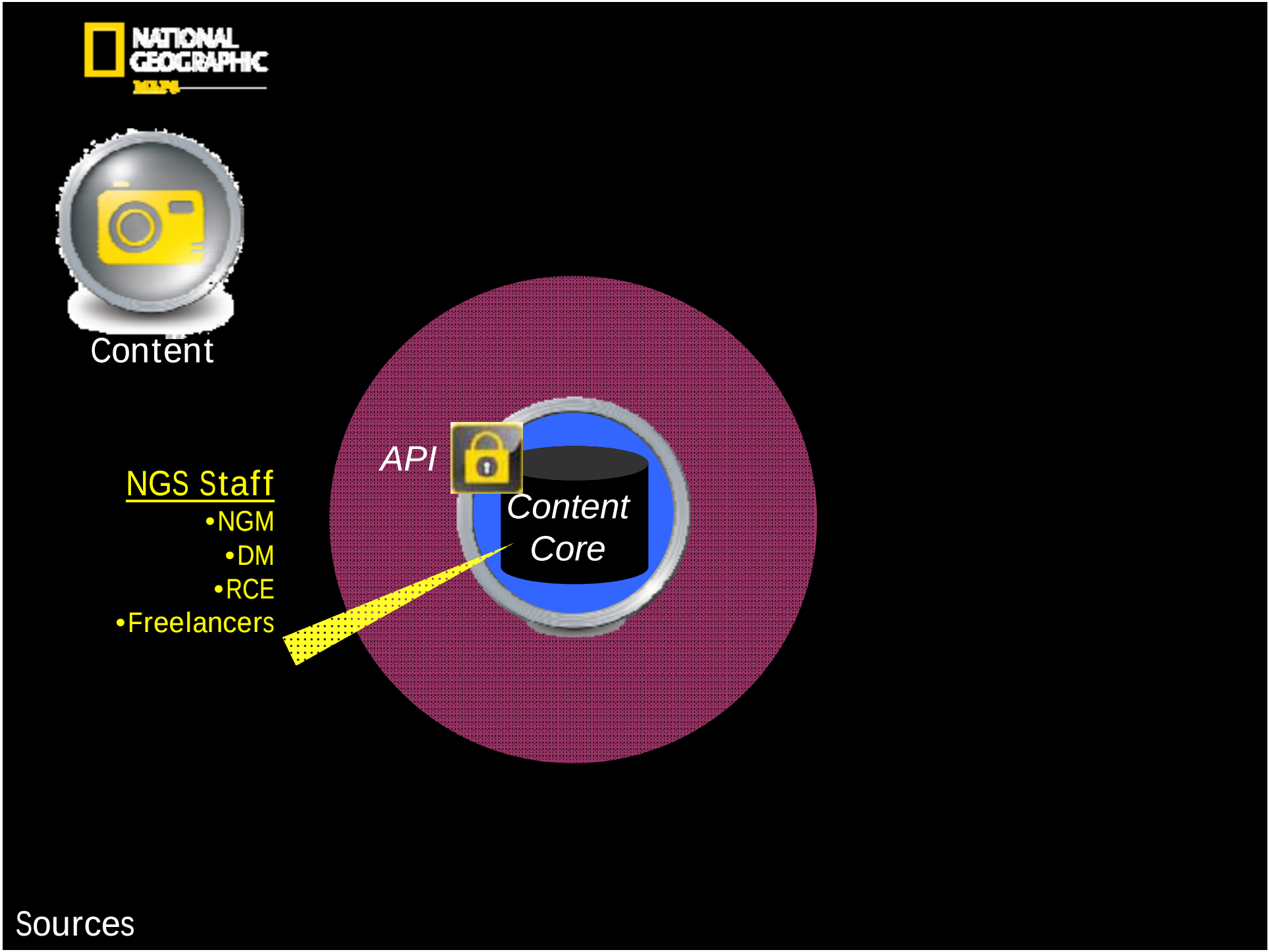
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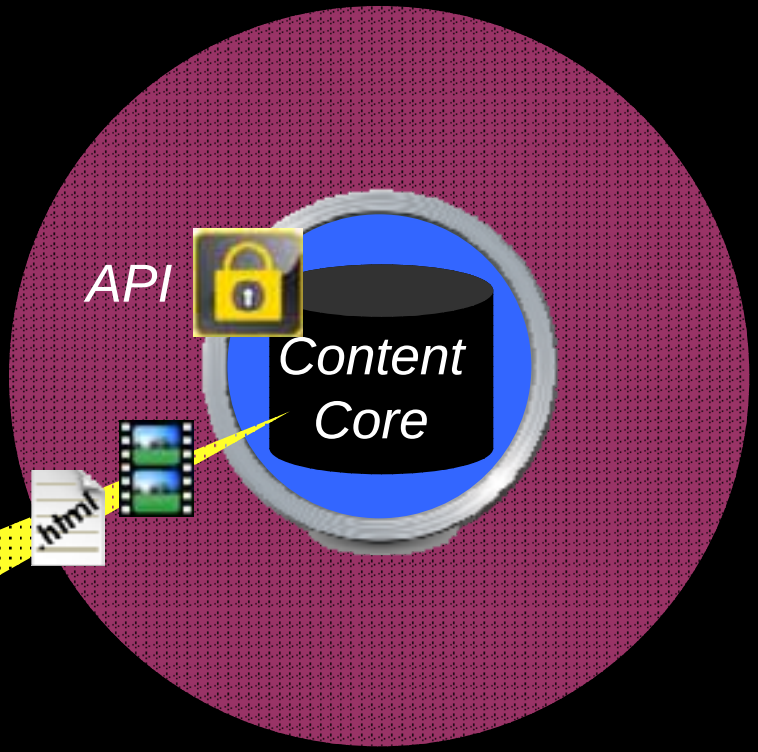

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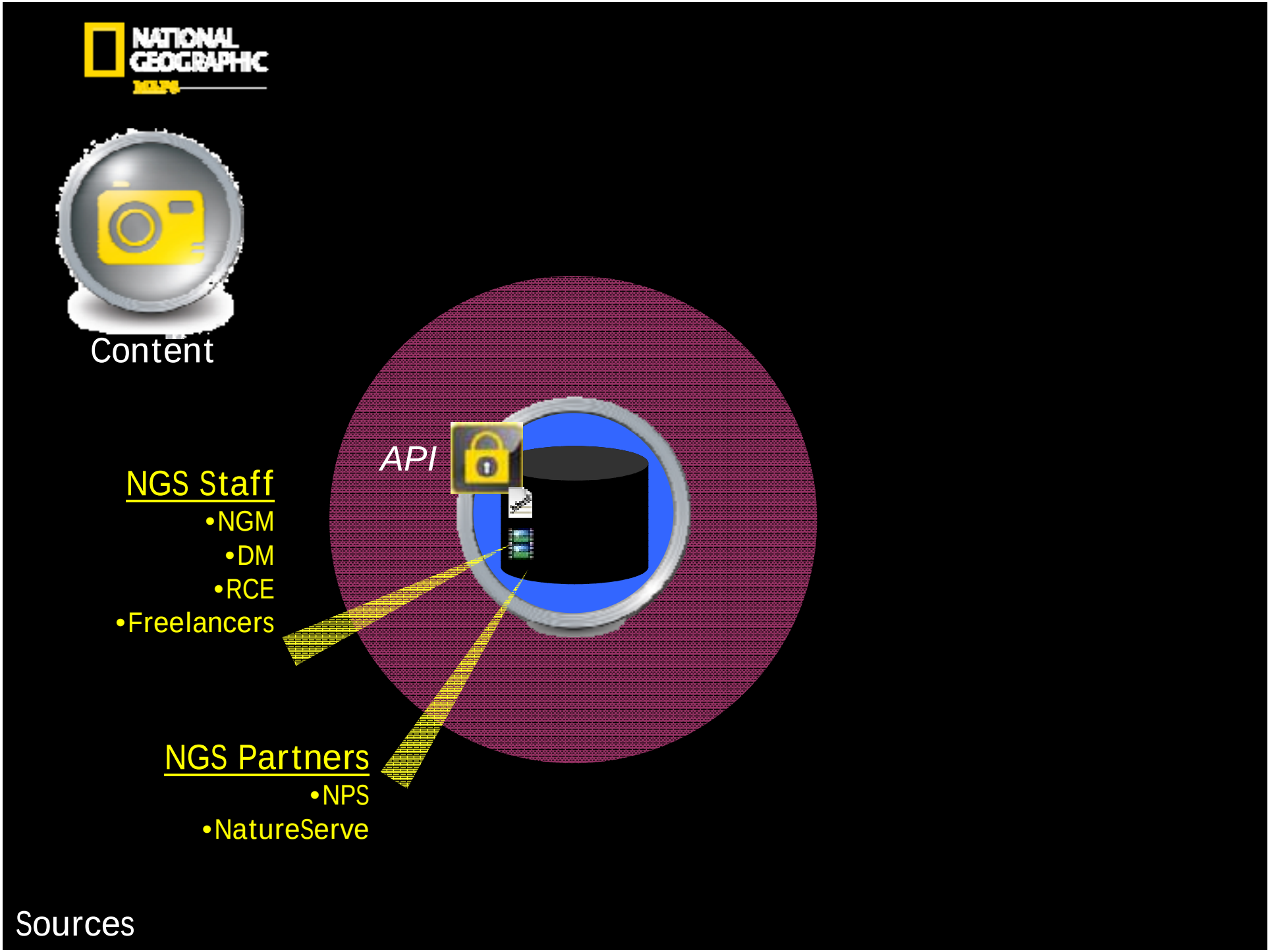
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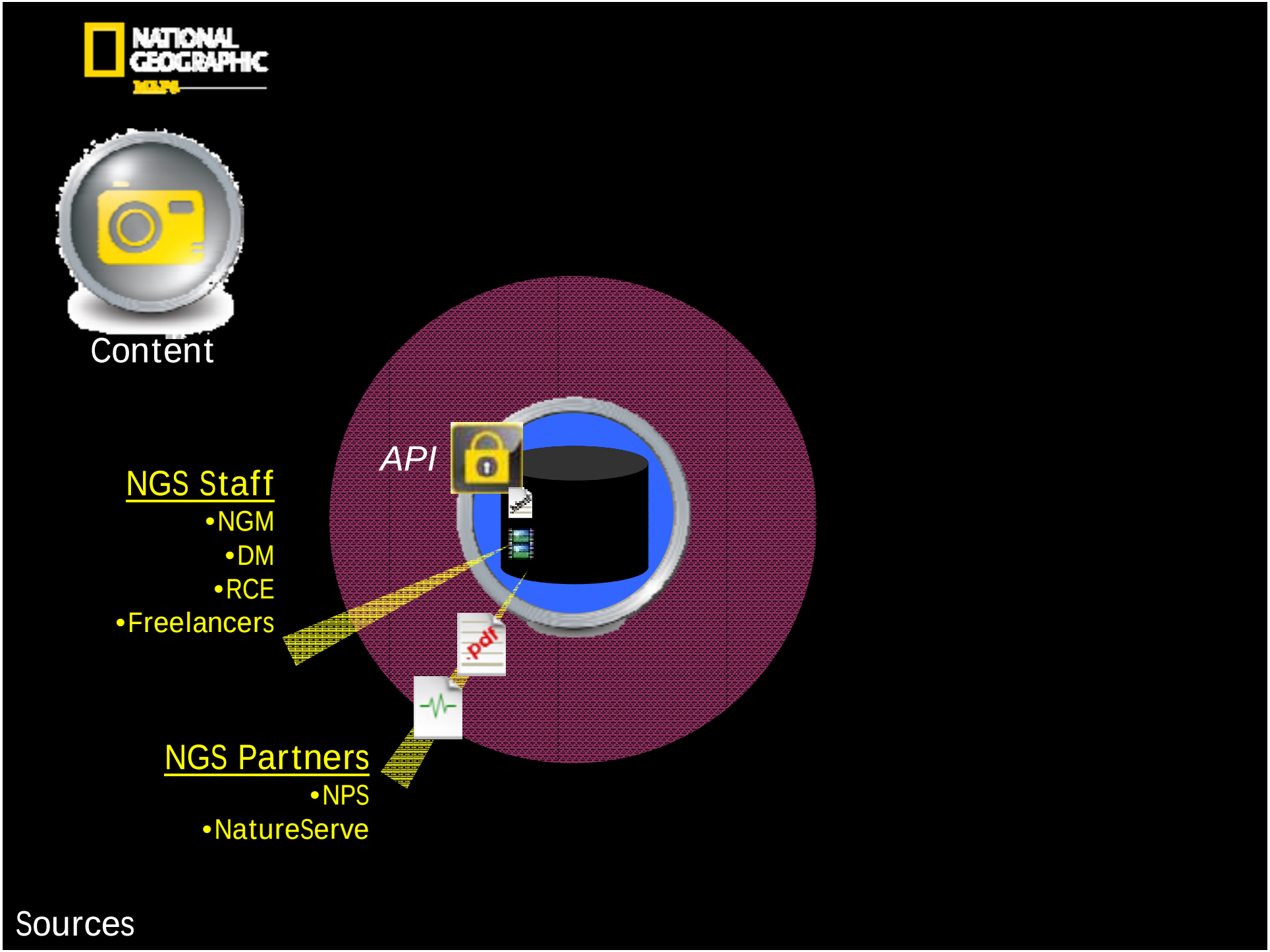
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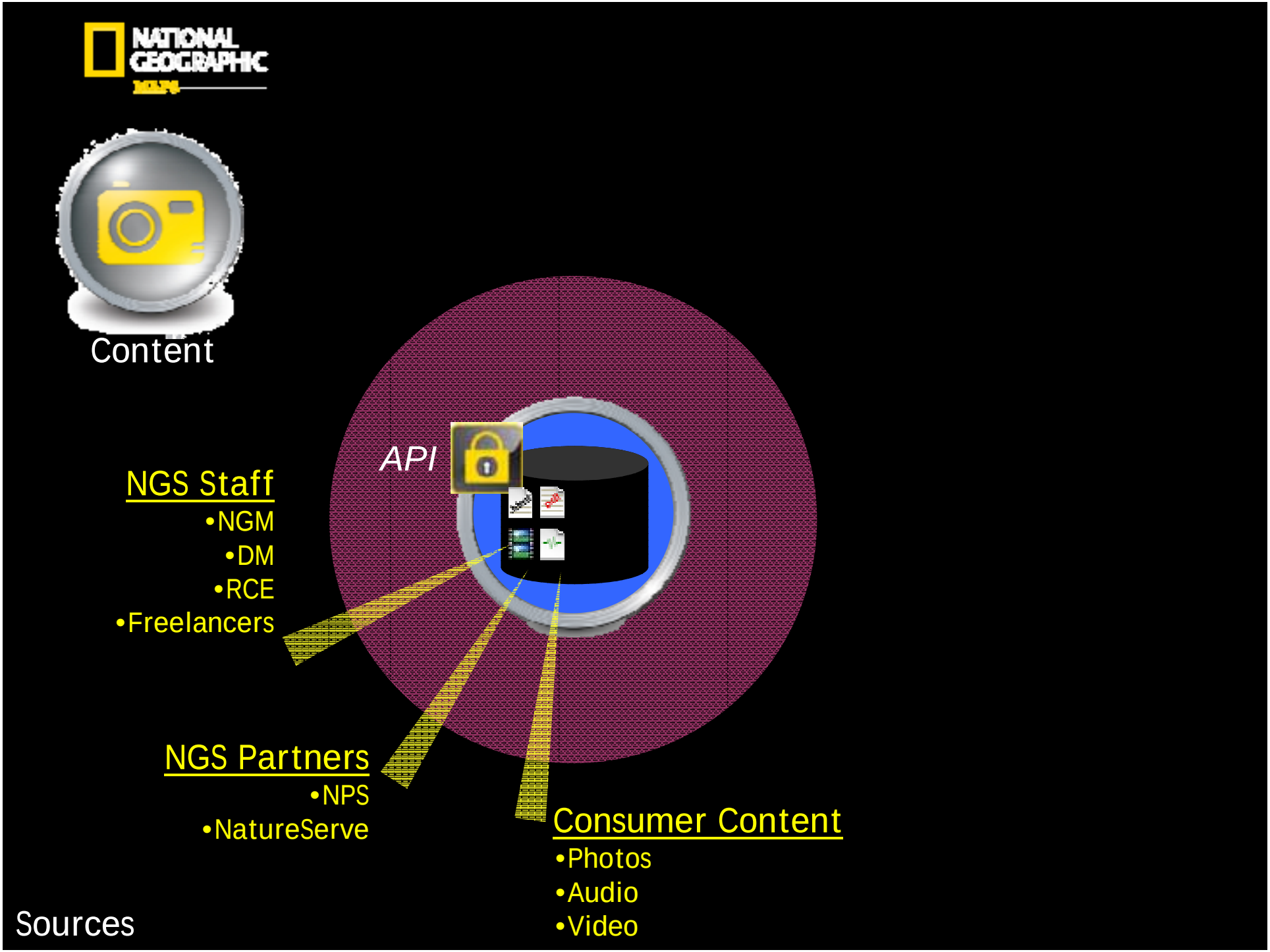
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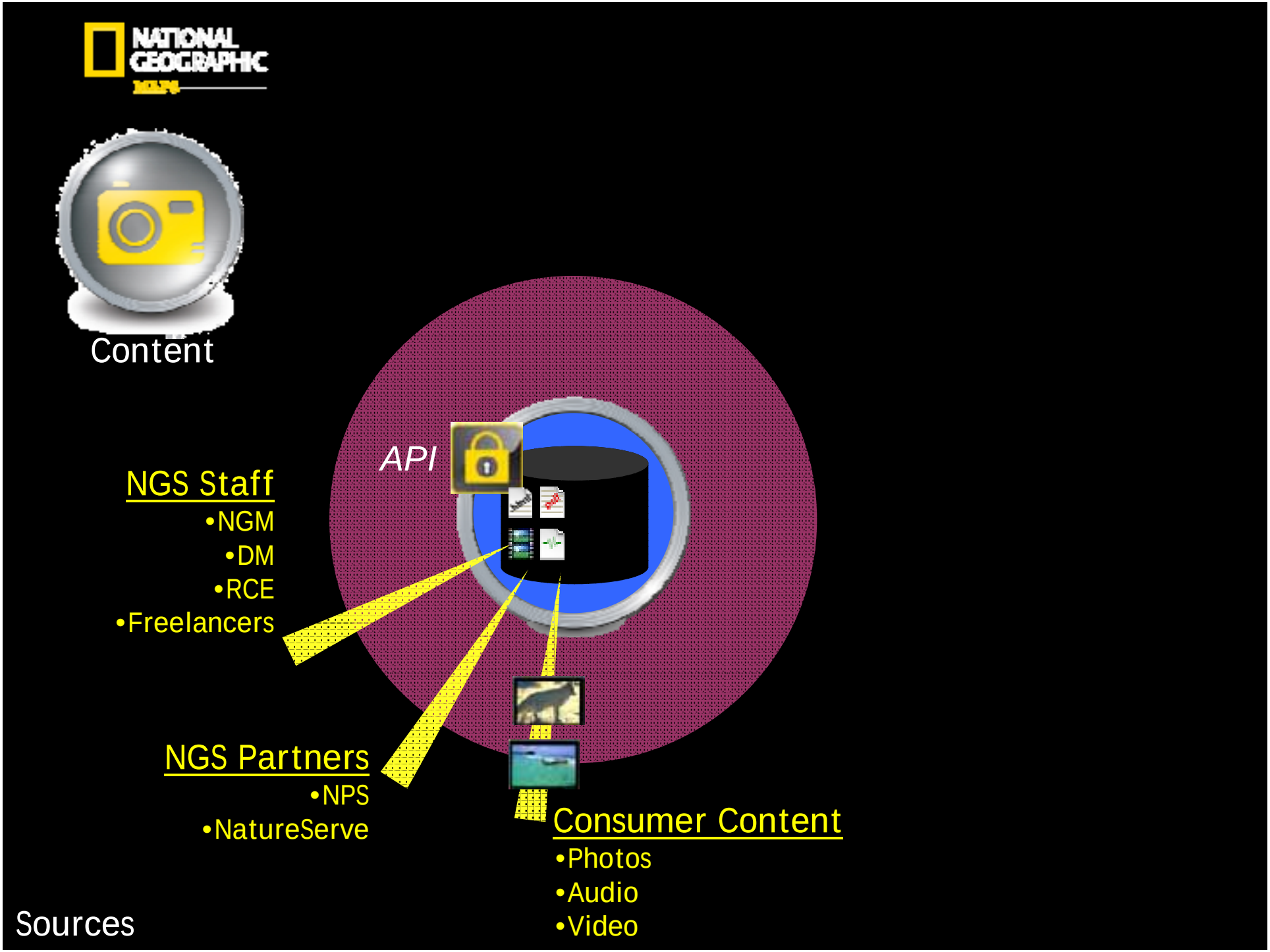
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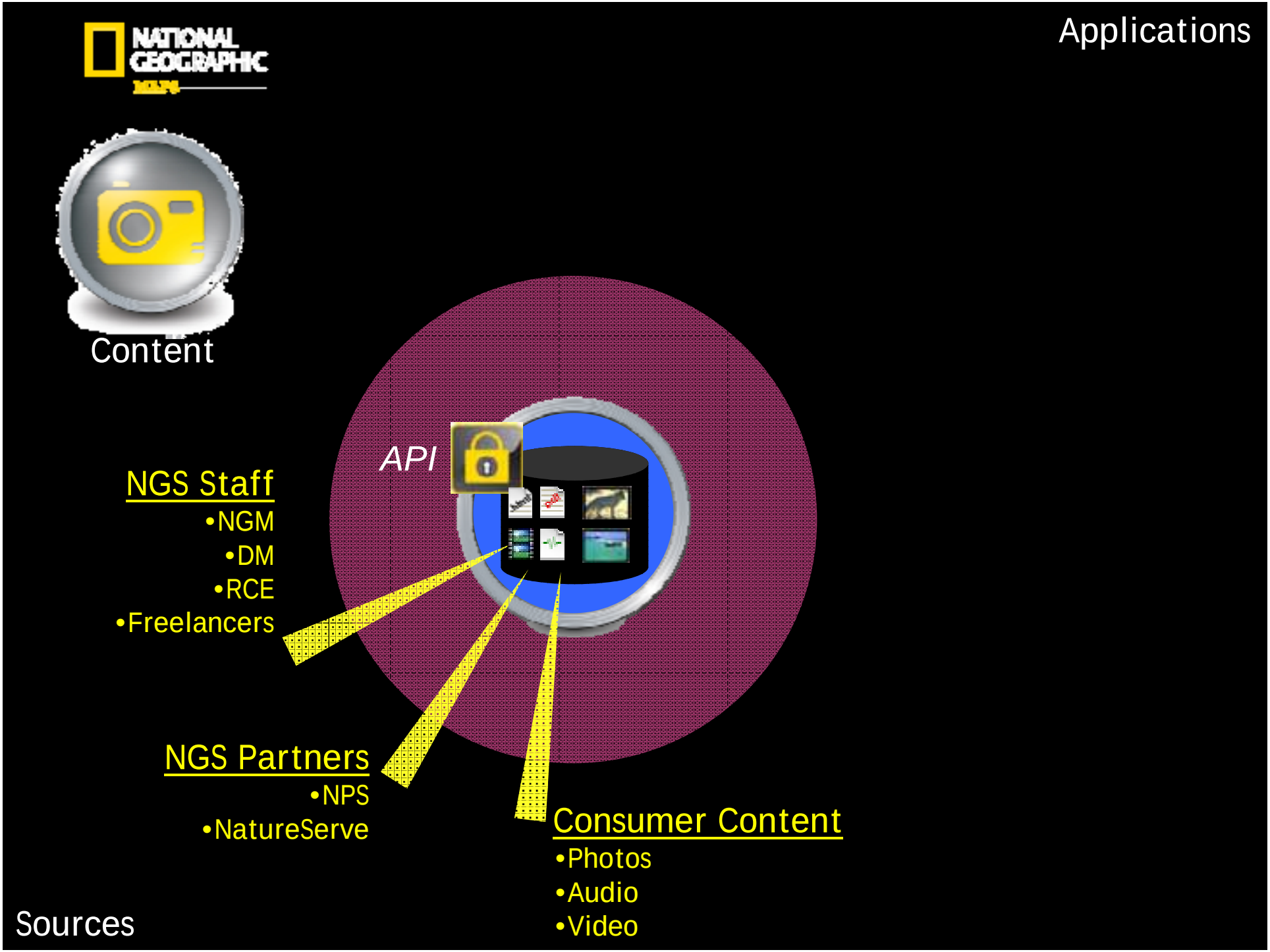
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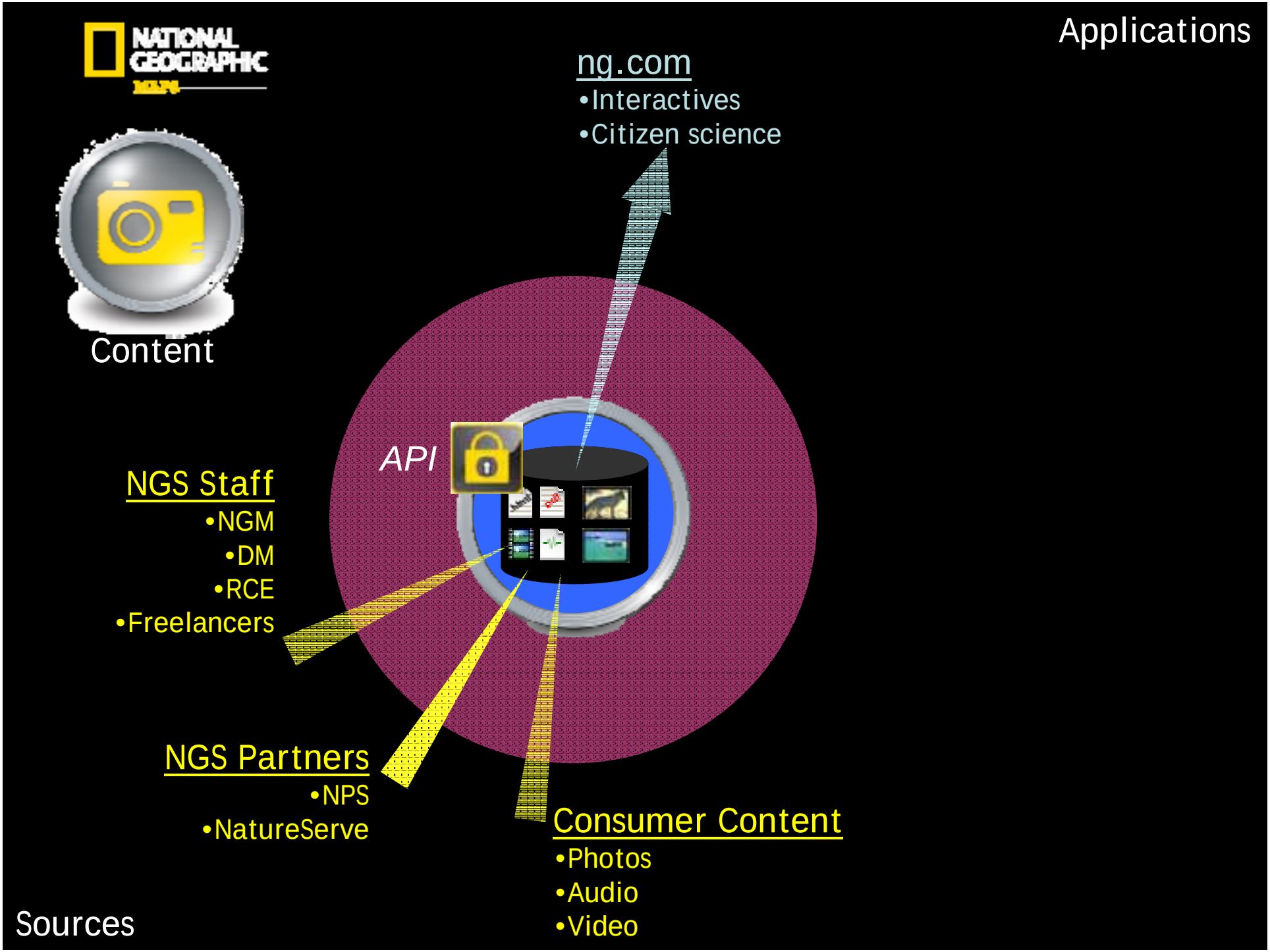
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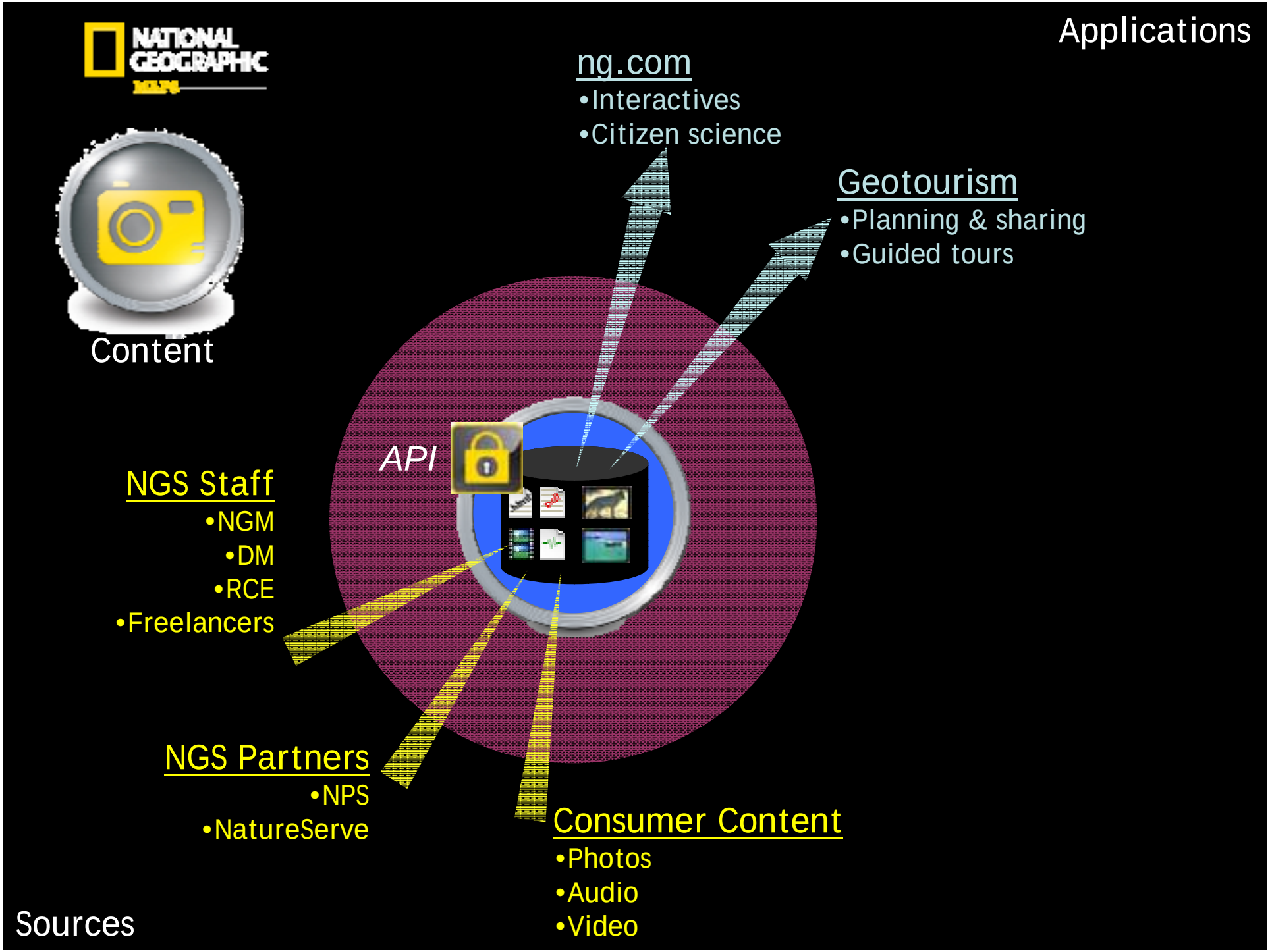
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•Planning & sharing
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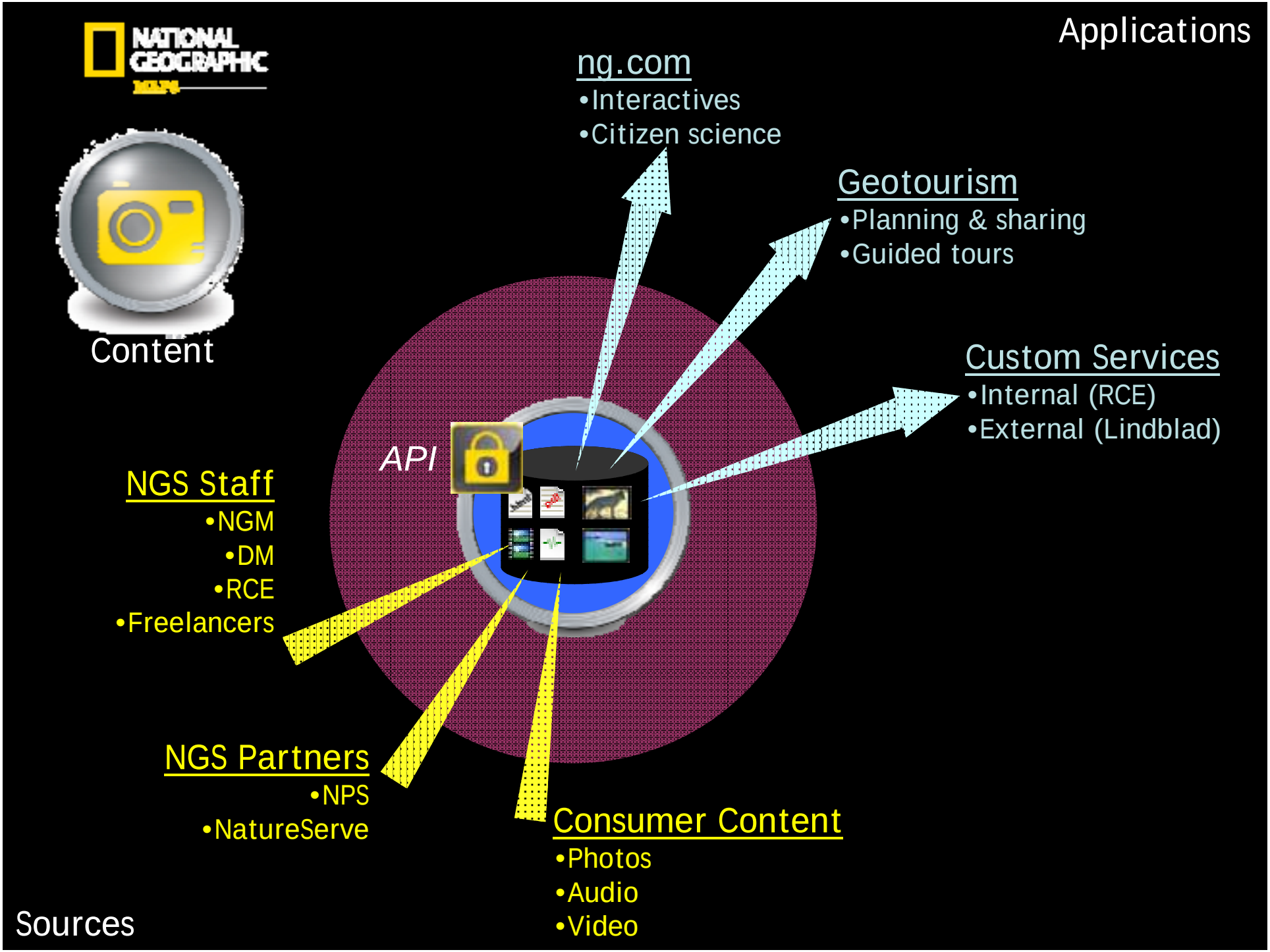
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Custom Services
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•External (Lindblad)
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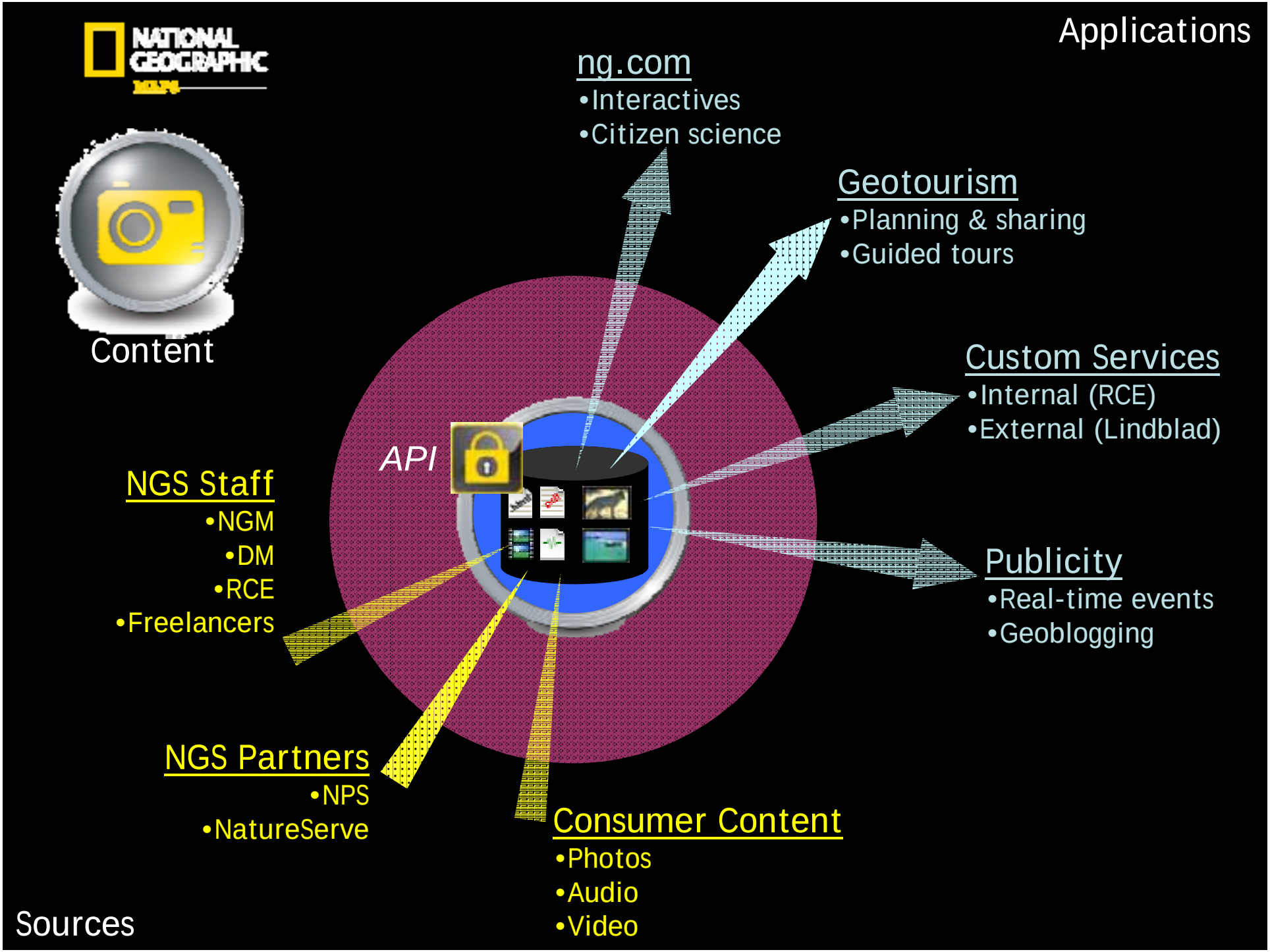
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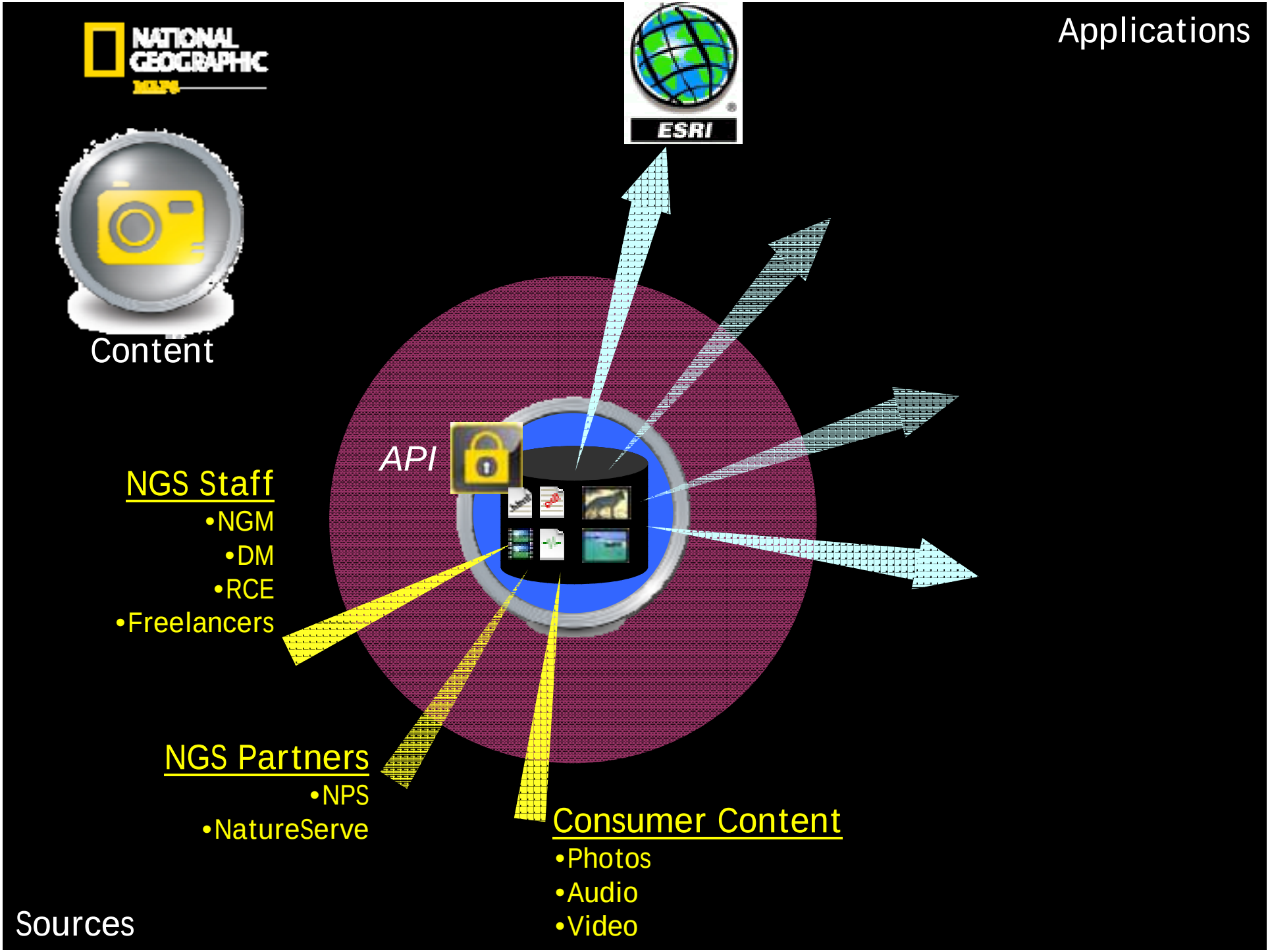
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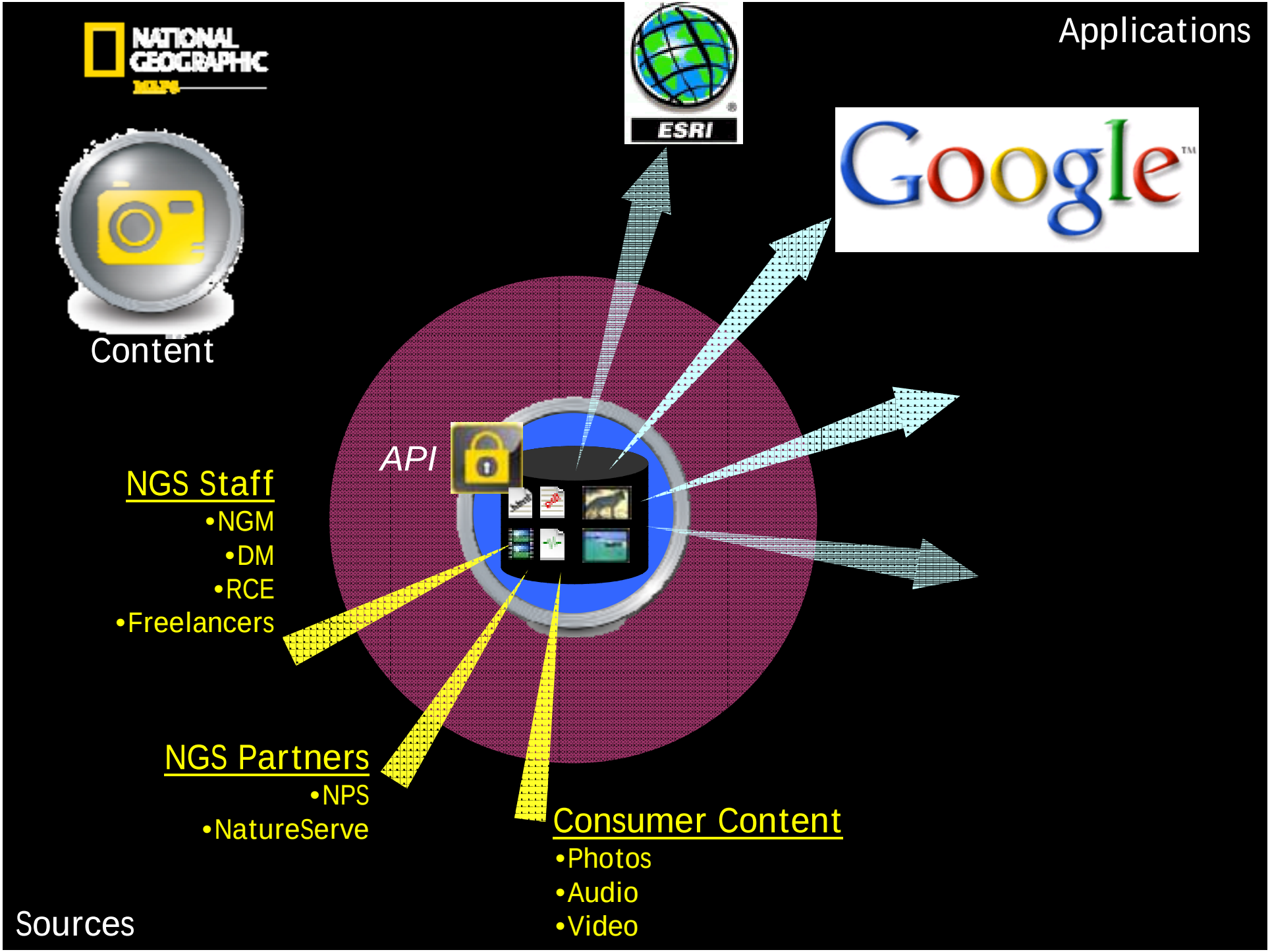
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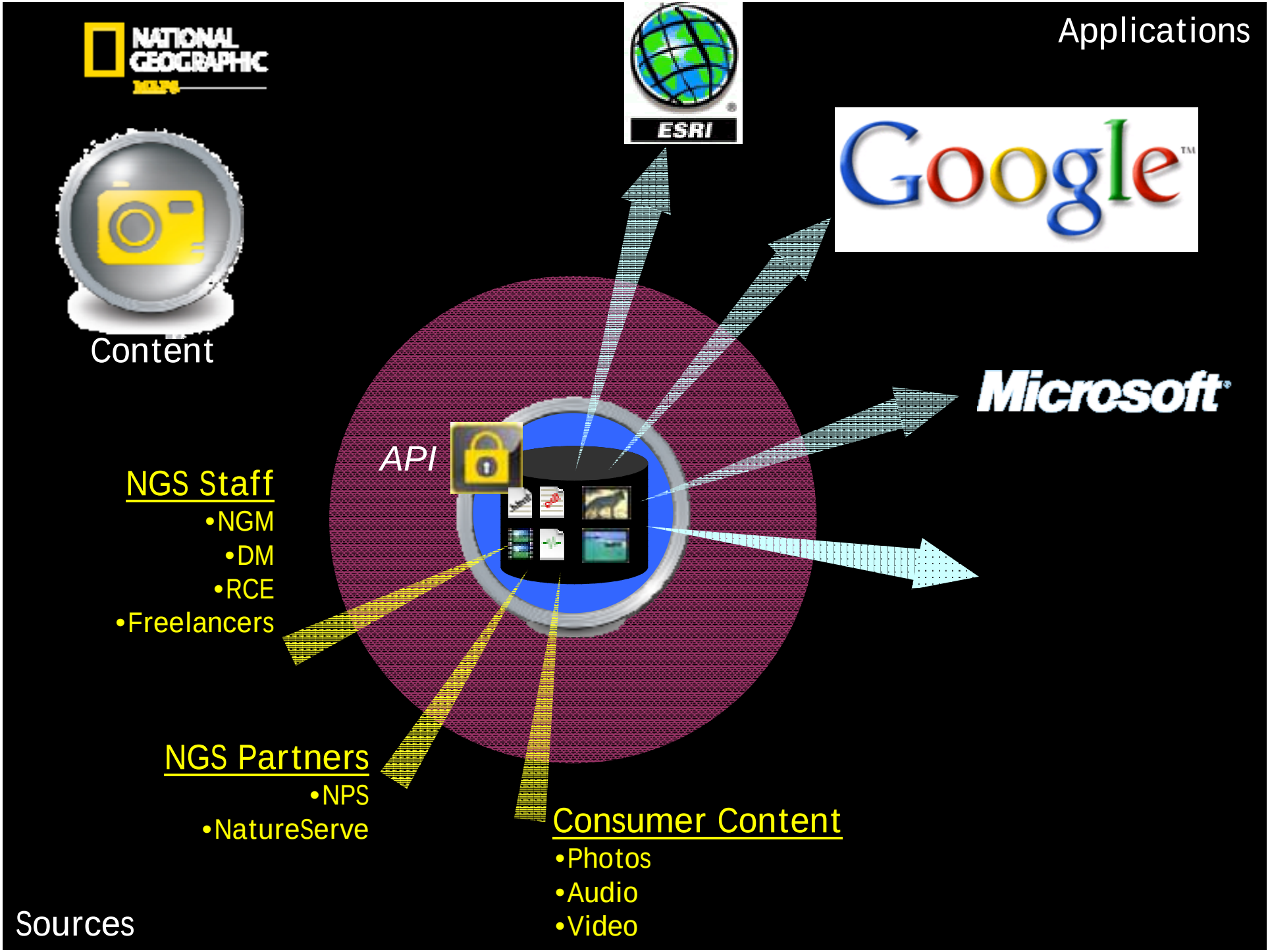
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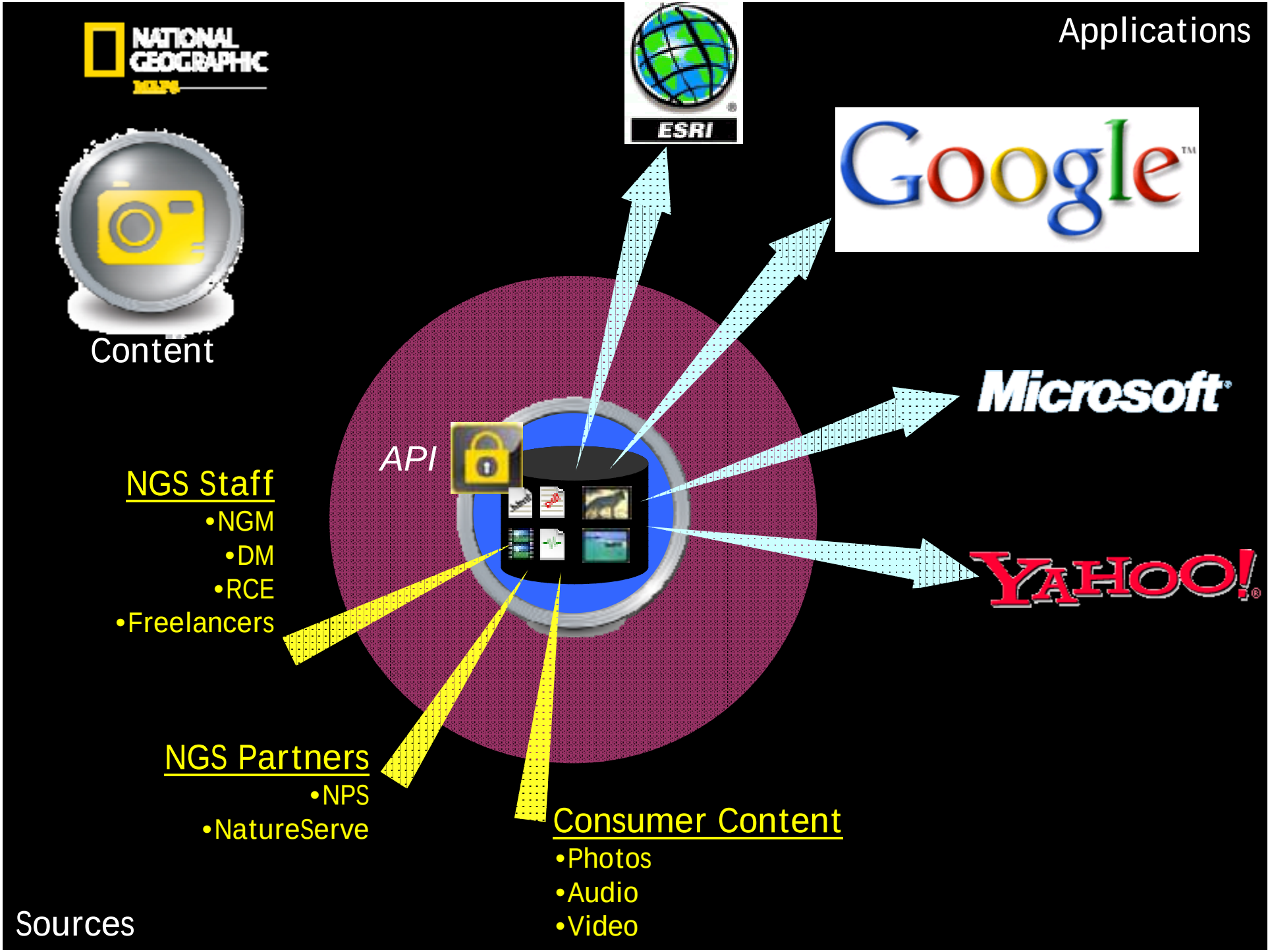
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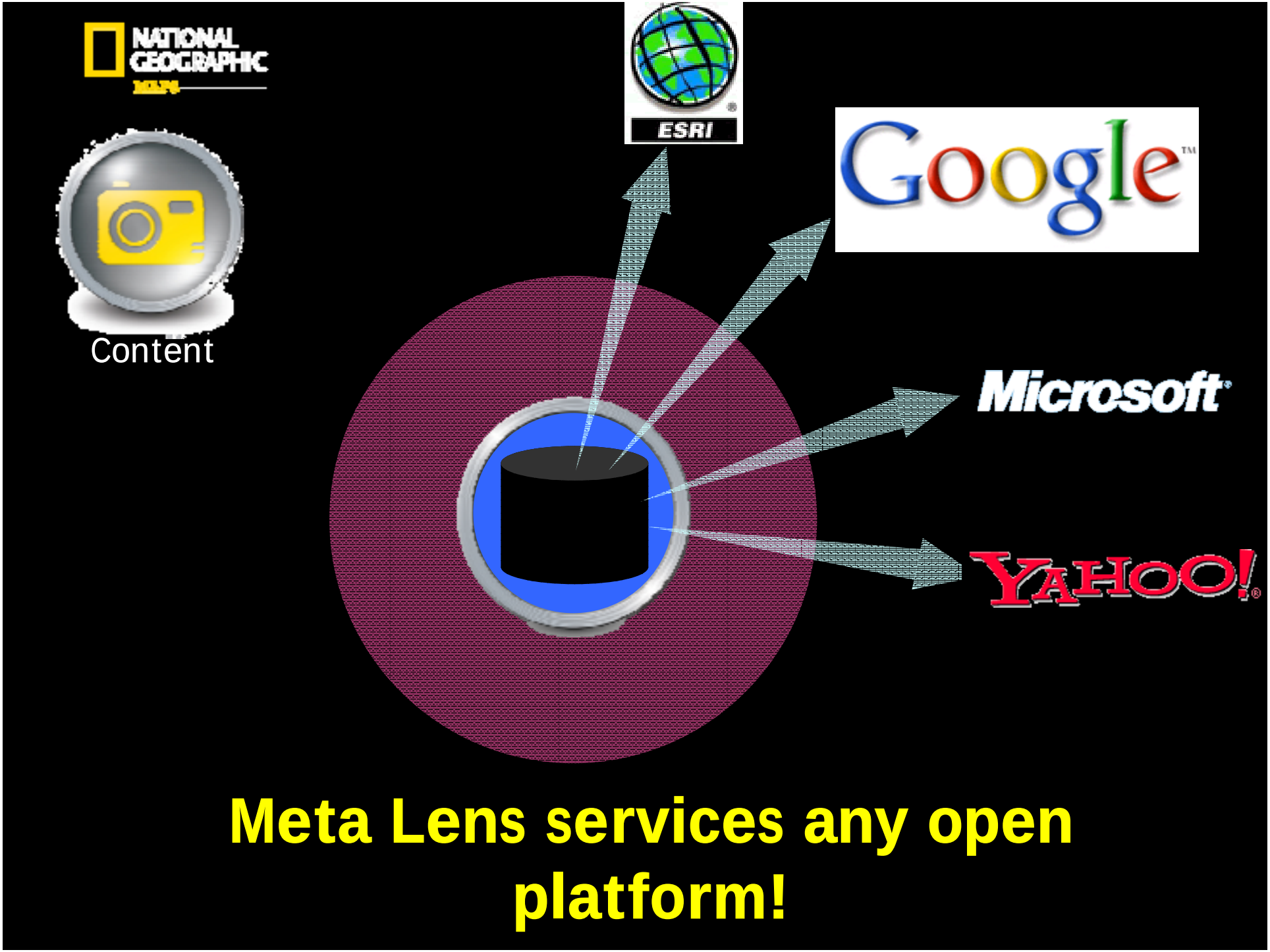
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MAPS
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YAHOO!
Meta Lens services any open platform!

Value to NGS

"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

Background – Print Georeferencing

In a National Geographic Magazine article, the map shows where (in a general sense)

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

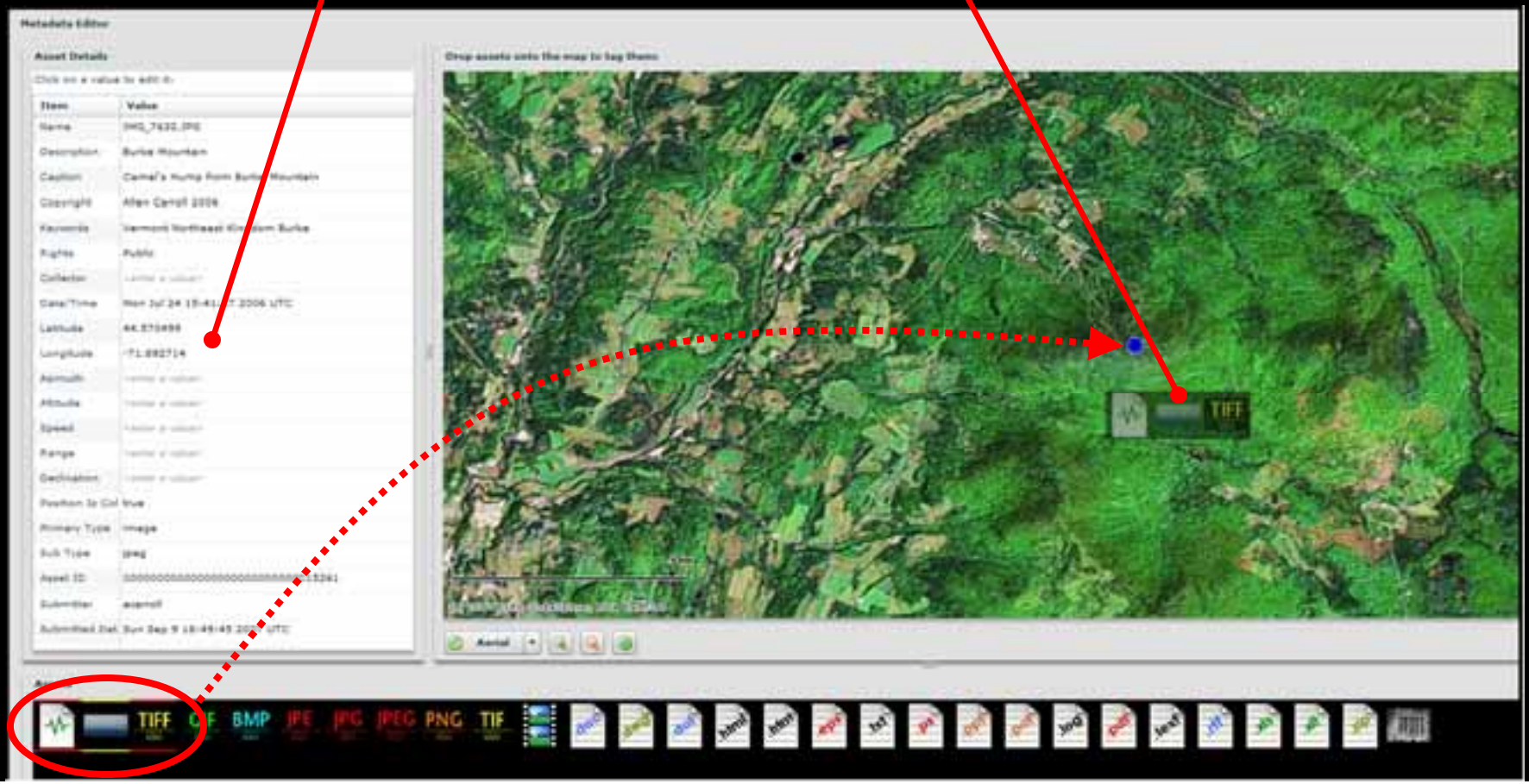
Georeferencing Legacy Digital Assets

Intuitive support for legacy, non-georeferenced digital assets of all kinds.

Uploaded media can be easily georeferenced manually

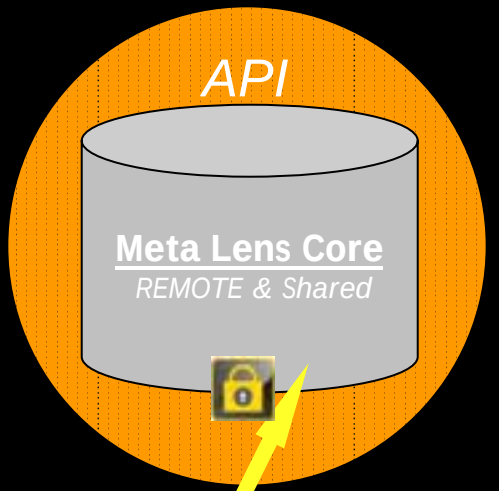
Type known data into fields, or…

Drag & Drop single/ multiple digital assets onto the map

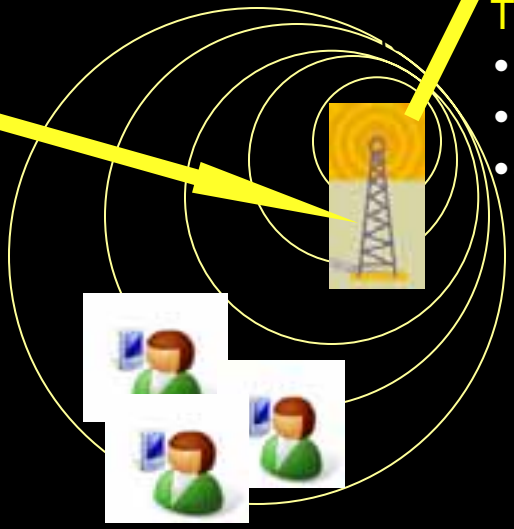


Meta Lens Mobile

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



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

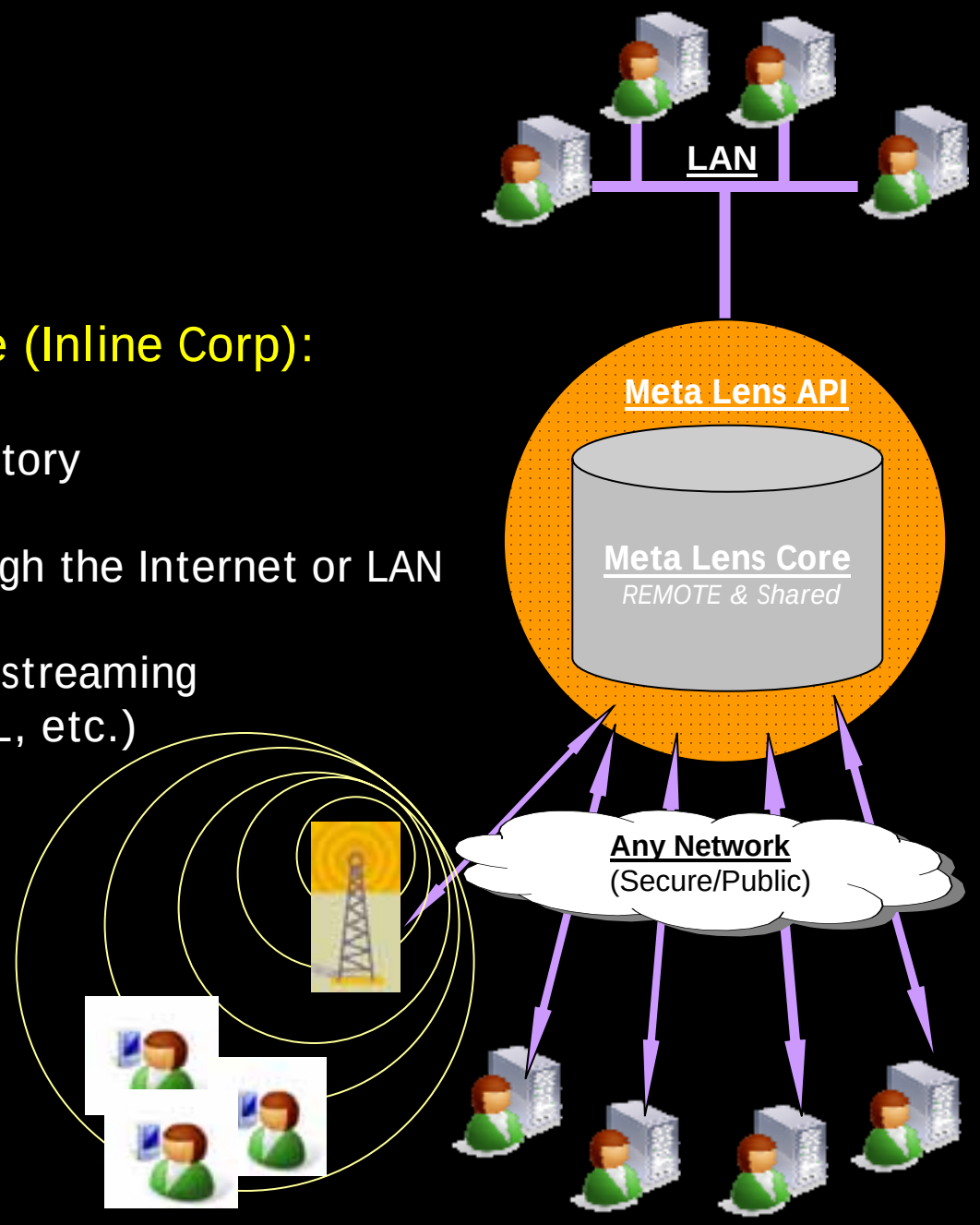
Or generate content on the PDA itself:
- Photos, Video, Audio, Documents, etc…

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:

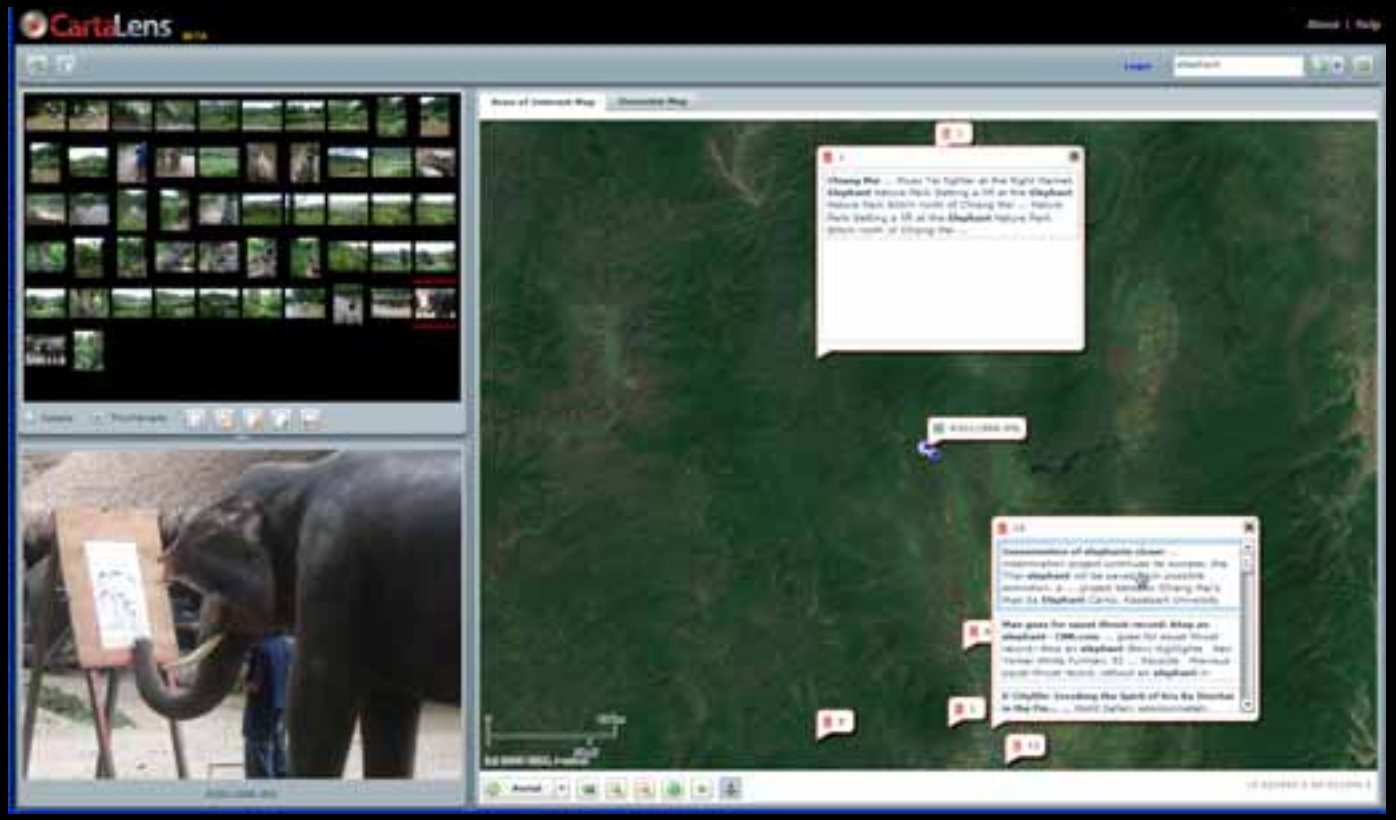
- Adobe Flex 2
- Adobe Flash Player 9

NATIONAL GEOGRAPHIC

CartaLens

Integrated Solution with MetaCarta

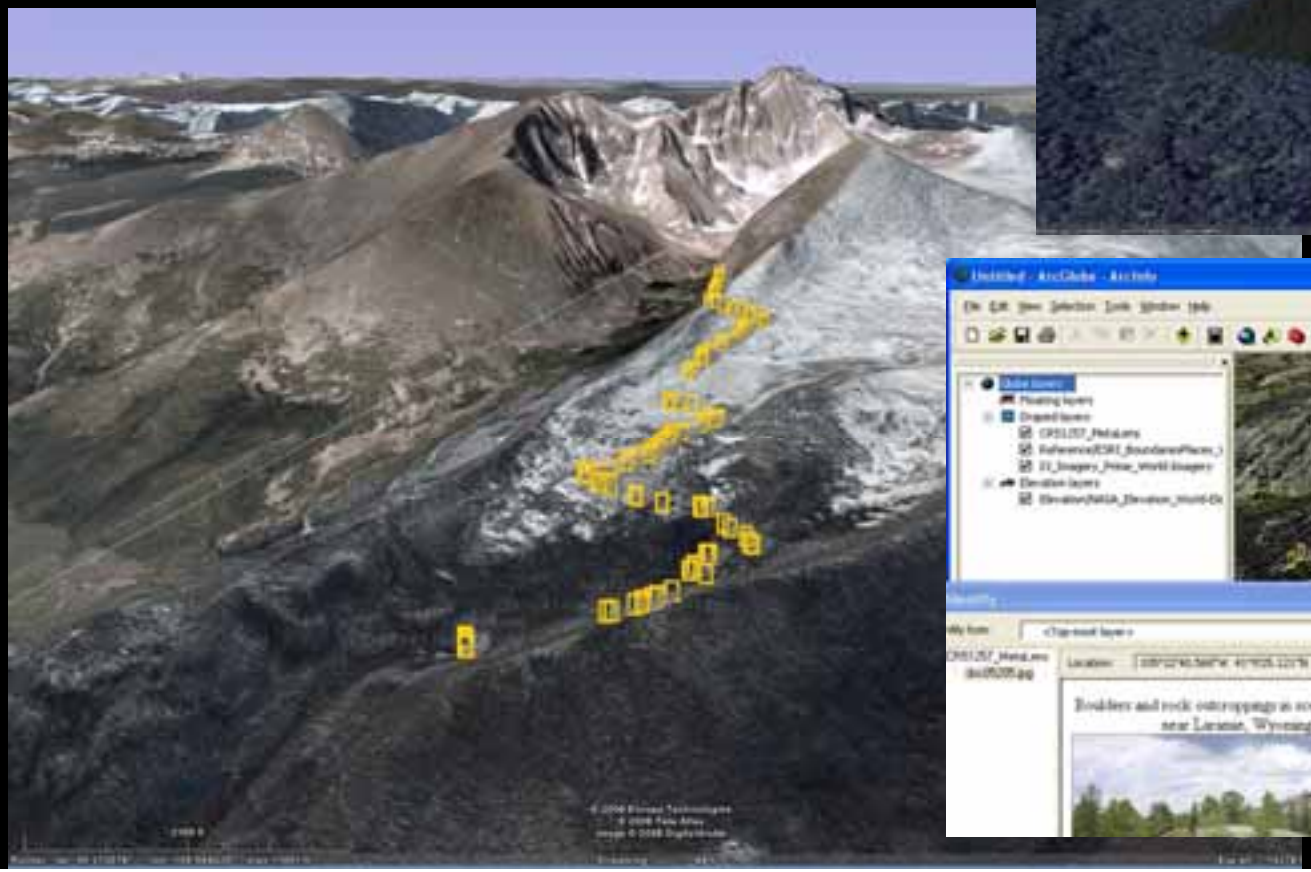
- Combines GTS with rich media using Meta Lens
- Discovers open source content NOT in the core
- Enables infusion of entity/agency corpus geographically

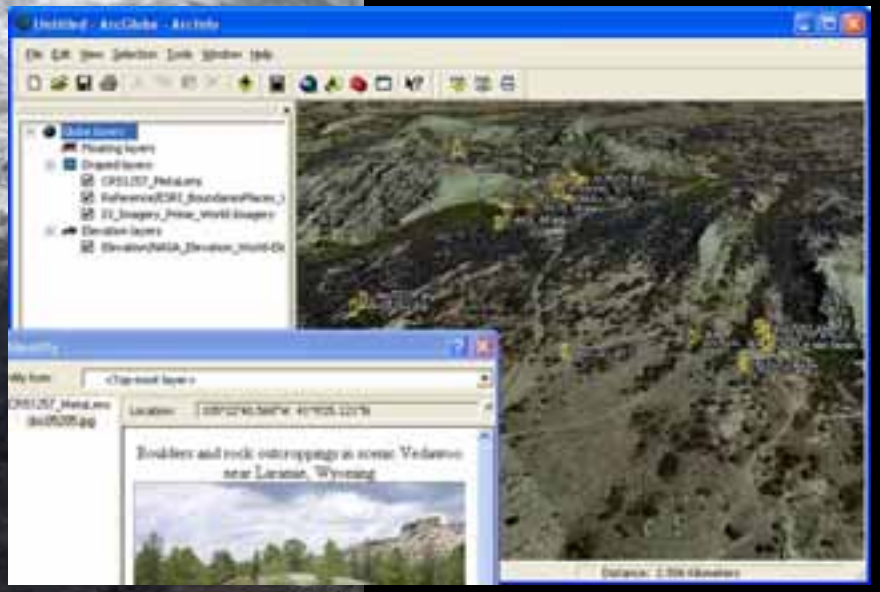


3D Applications

Utilize Meta Lens content RESTful Web services with 3D reference

- ArcGlobe
- ArcGIS Explorer
- Google Earth
- …open visualization platforms

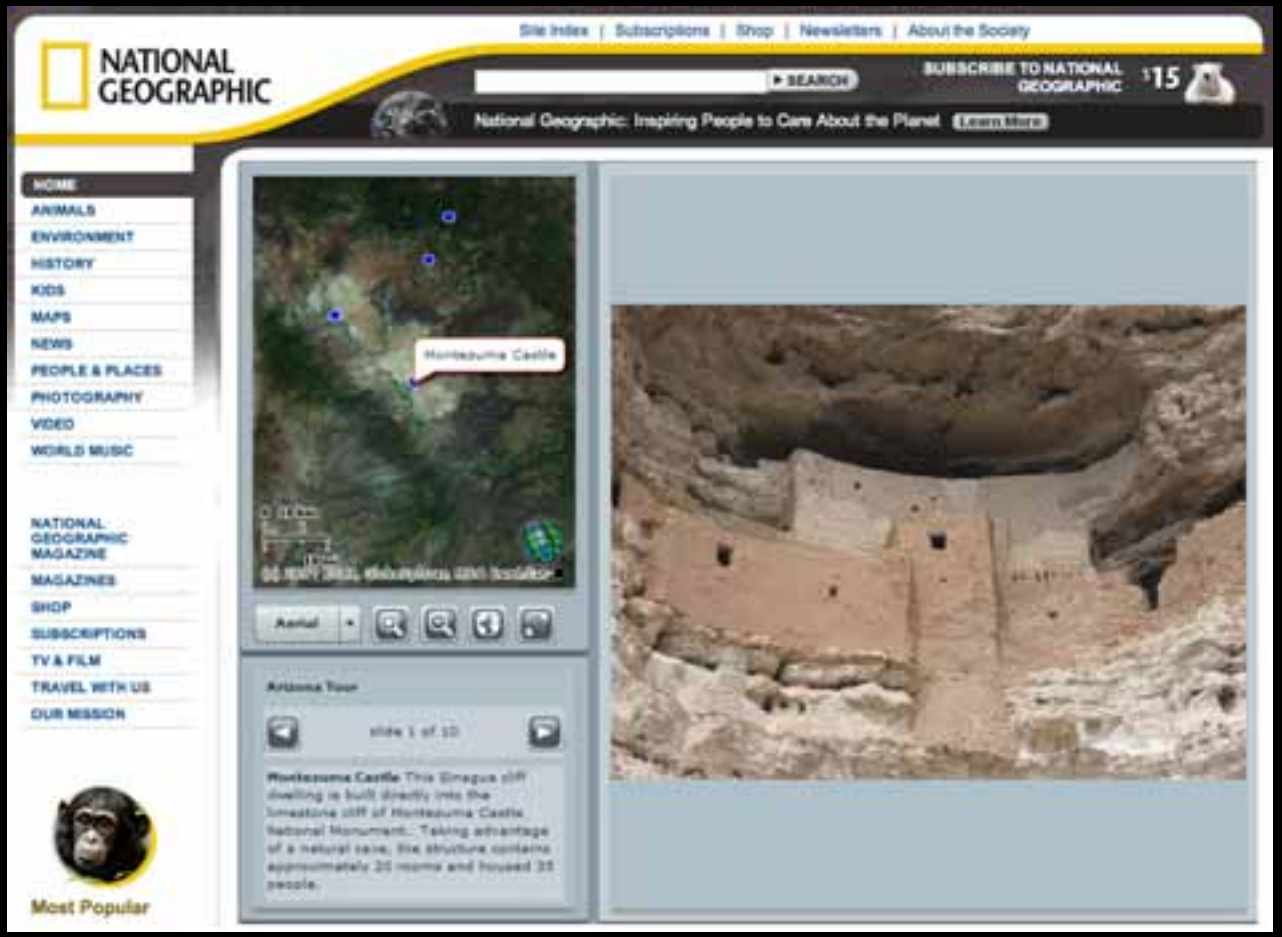




NatGeoNarratives

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

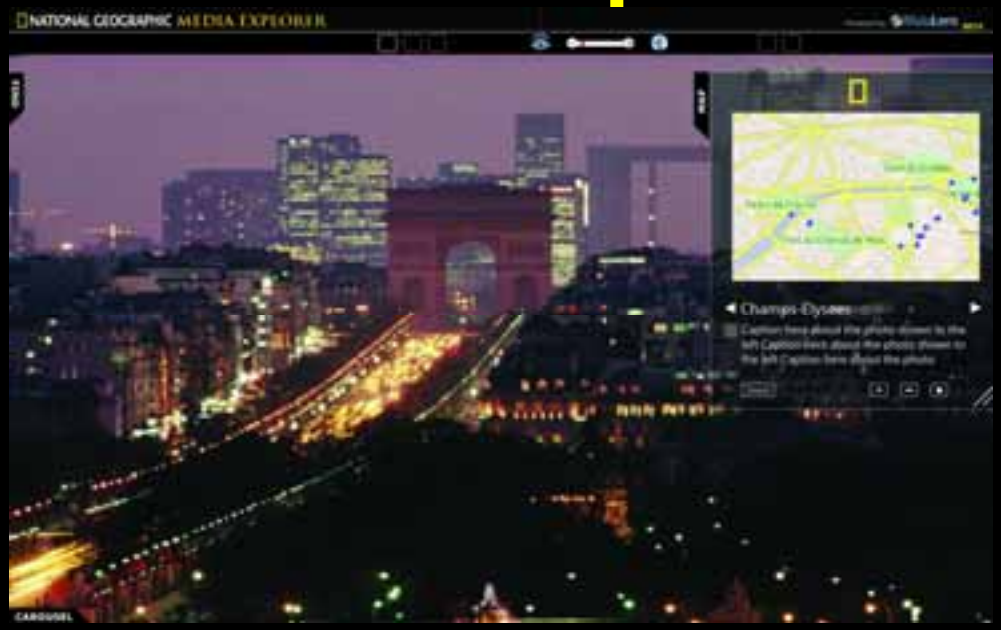
- Hi-res downloads, large-format prints, etc.

- NG custom-branded products

NatGeo Media Explorer

Immersive Consumer Experience

- Content discovery
- Filter by type, keywords
- Storytelling
- Integrated tours
- Integrated news (MetaCarta)



Summary

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