GIS on Cloud Computing

Ken Leung

Assistant GIS Solution Manager

Individual System Server Specific Purpose

Data Management

Collect, Organize, & Exchange Data

Planning & Analysis

Transform Data Into Actionable Information

Field Mobility

Get Information Into and Out of the Field

Visualization

Disseminate Information Where and When it is Needed

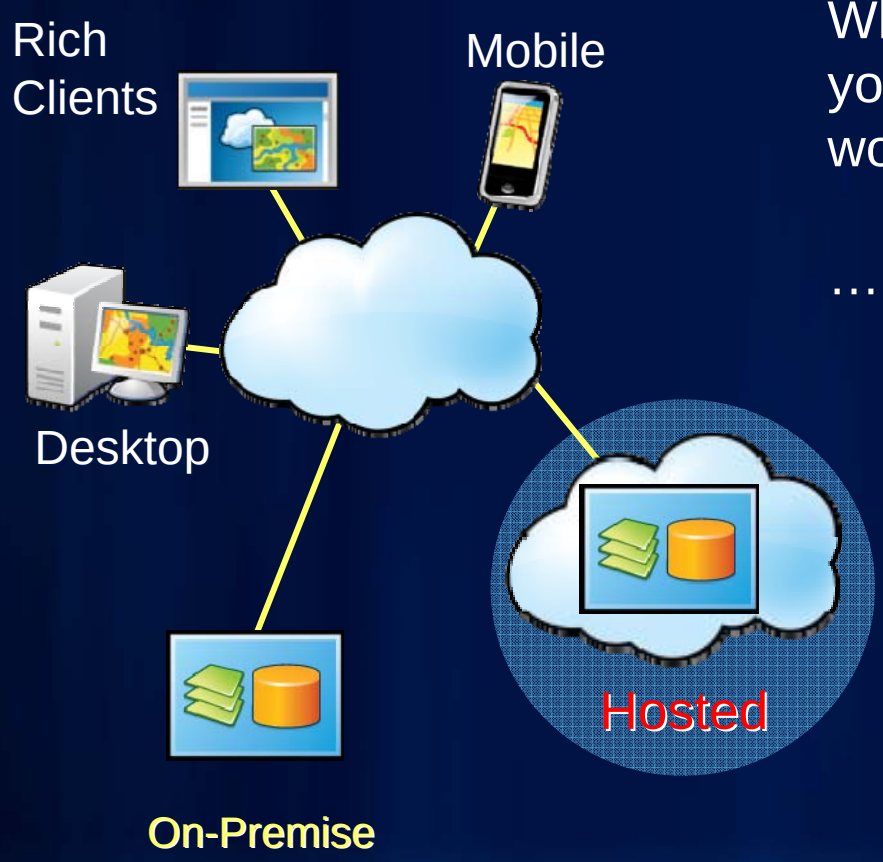
Constituent Engagement

Get Feedback and Make Informed Decisions

Existing Market / Situation

- less time to spin up servers and capacity
- Easy to set up and administer
- Extremely fast release of web maps
- Non constraining for innovation
- Lowering Cost
- Simplicity
- Scalability

The Cloud is a Deployment Option



What part of IT is core to your mission critical workflows?

…is GIS part of it?

Elasticity:

”…the tendency of a body to return to its original shape after it has been stretched or compressed…”

Source: wordnetweb.princeton.edu, and Andy Hendrickson

Elasticity

- Can adjust for peaks and troughs in demand for…
- *Data Management*
  - High Availability w/ Web Map Server + EGDB

Data Management

- Enhanced & Dynamic Processing -- Batch Data Processing, Large Scale *Analysis*
  - Cache cooking / Cache deployment
  - Geocoding

Analysis

Elasticity

- *Visualization & Mobile enablement*
  - Grow out capacity as needed
  - Expand capabilities in near real time
  - High Availability

Operational Awareness

Mobile

Constituent Engagement

Deployed How You Want

Aligning with the Maturity Of Your Organization

On Premises

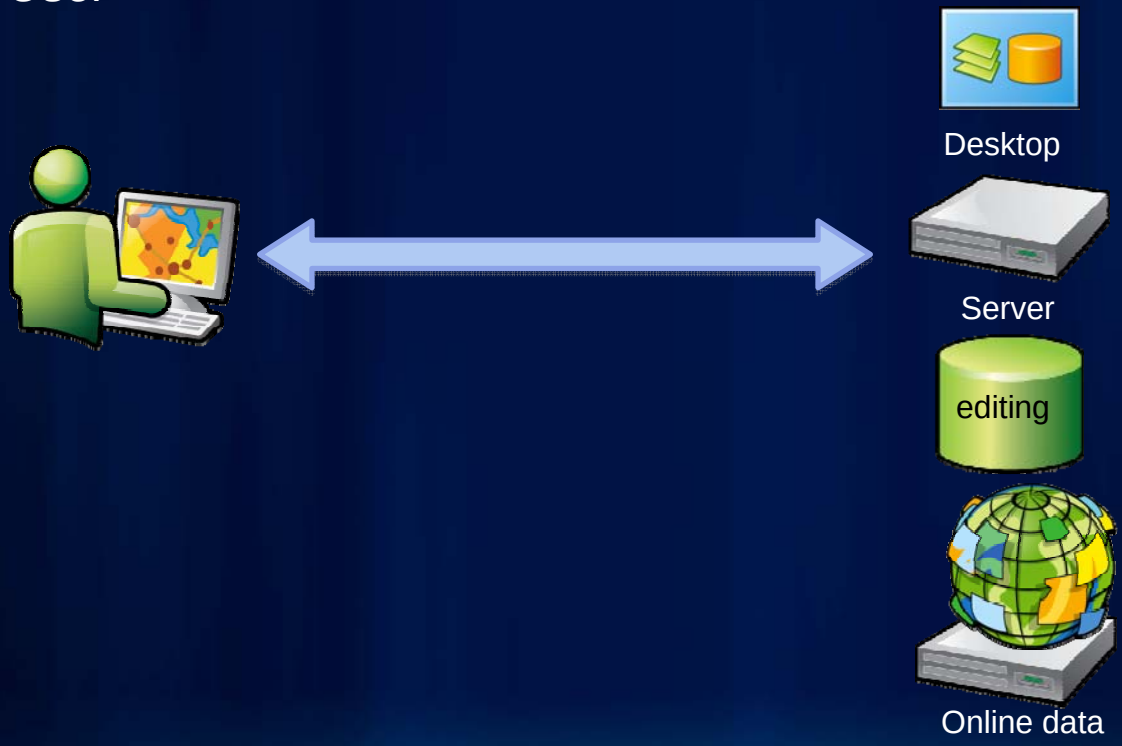
Cloud

Hybrid

Complimenting Existing Desktops & Servers

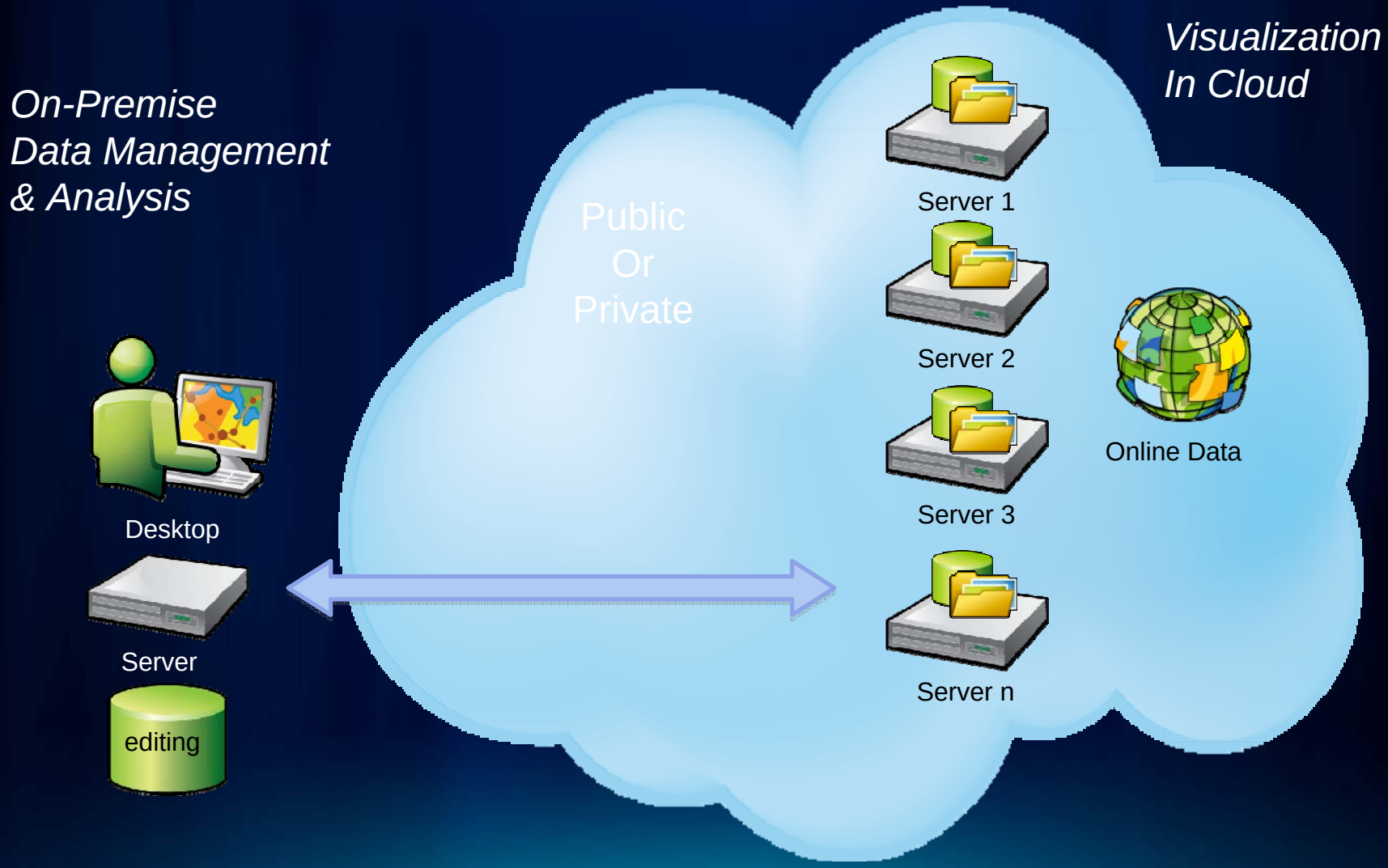
Traditional GIS Application

User

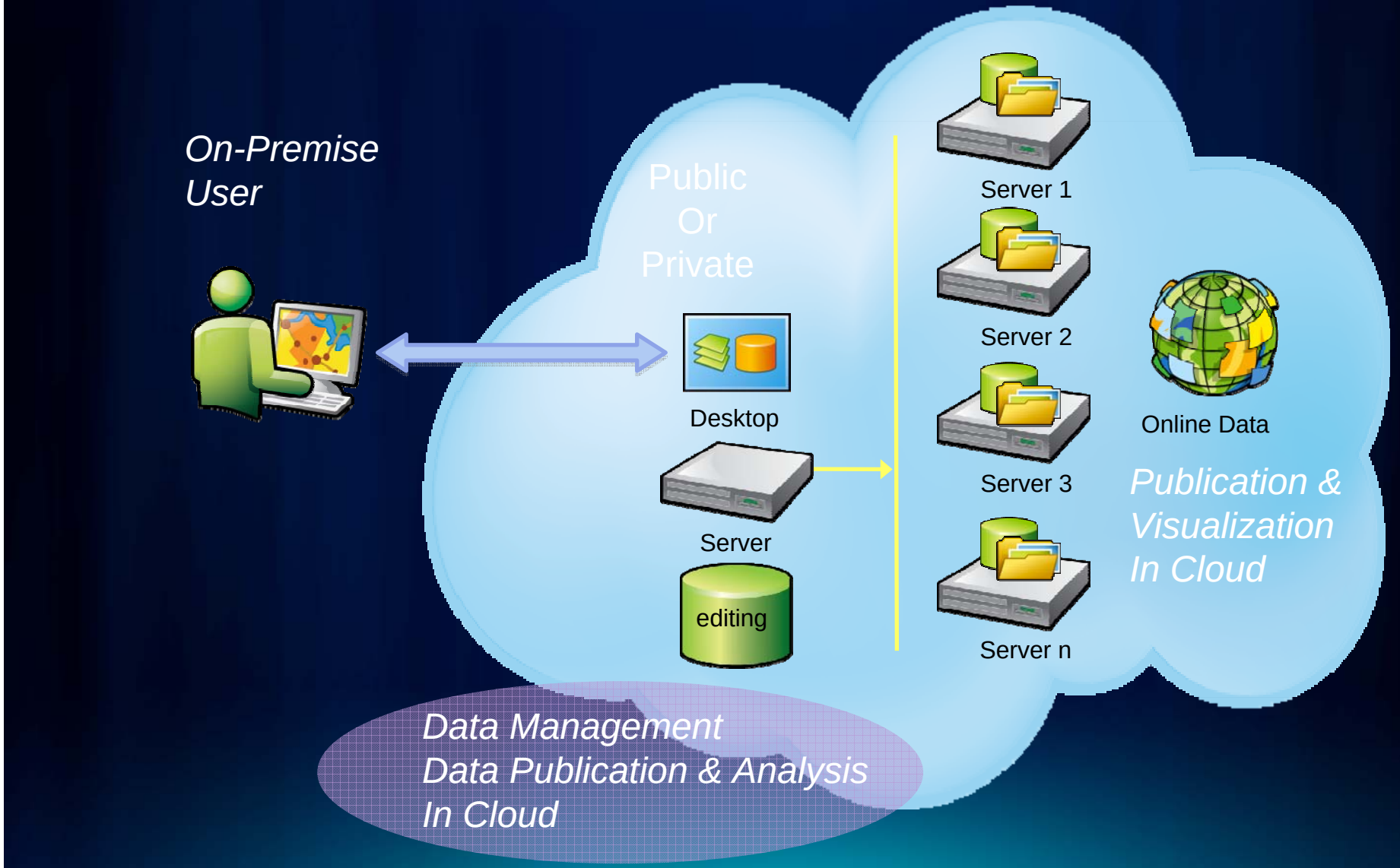


Data Management deployment to Cloud

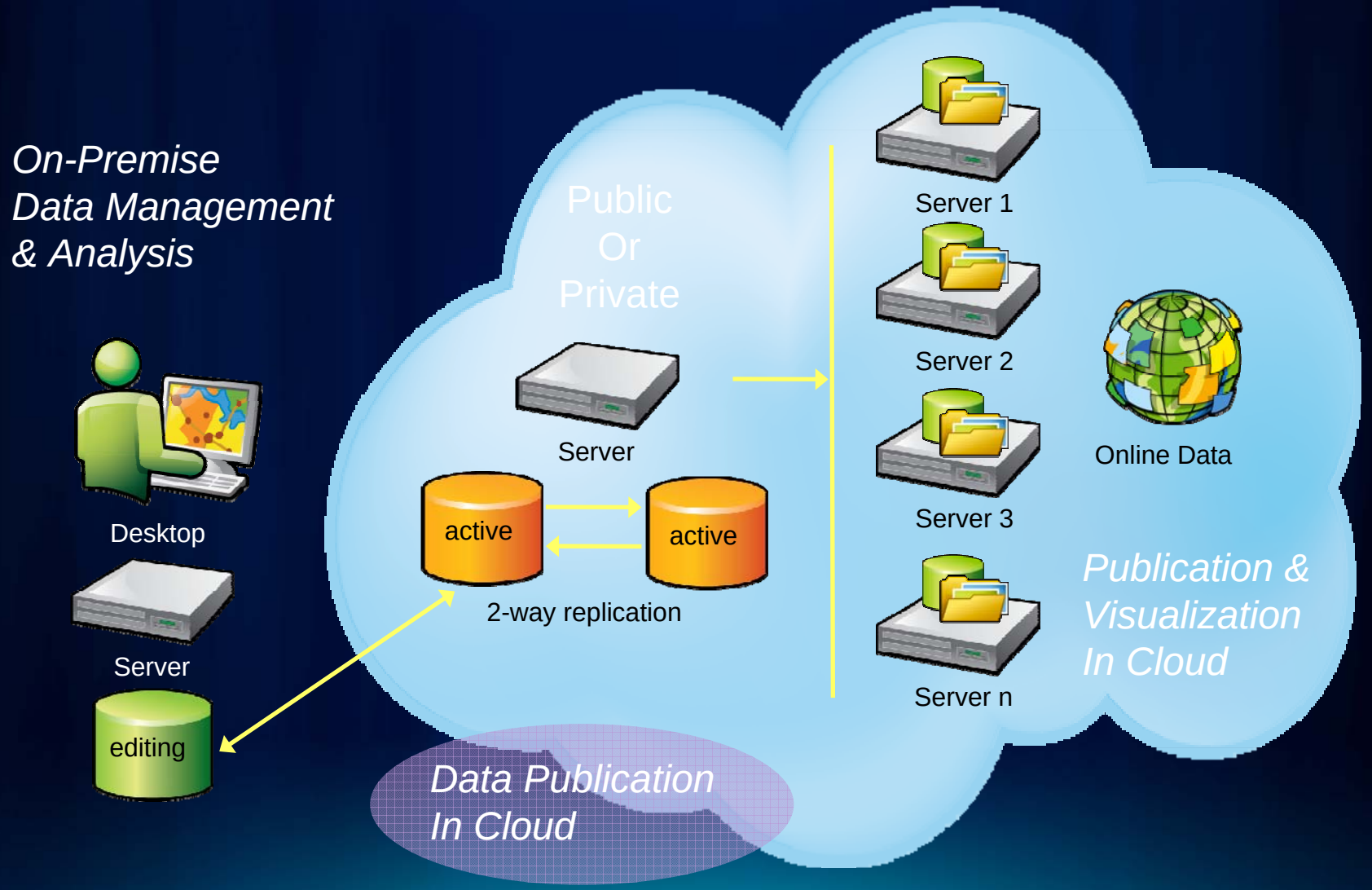
Hybrid Deployment with Redundancy



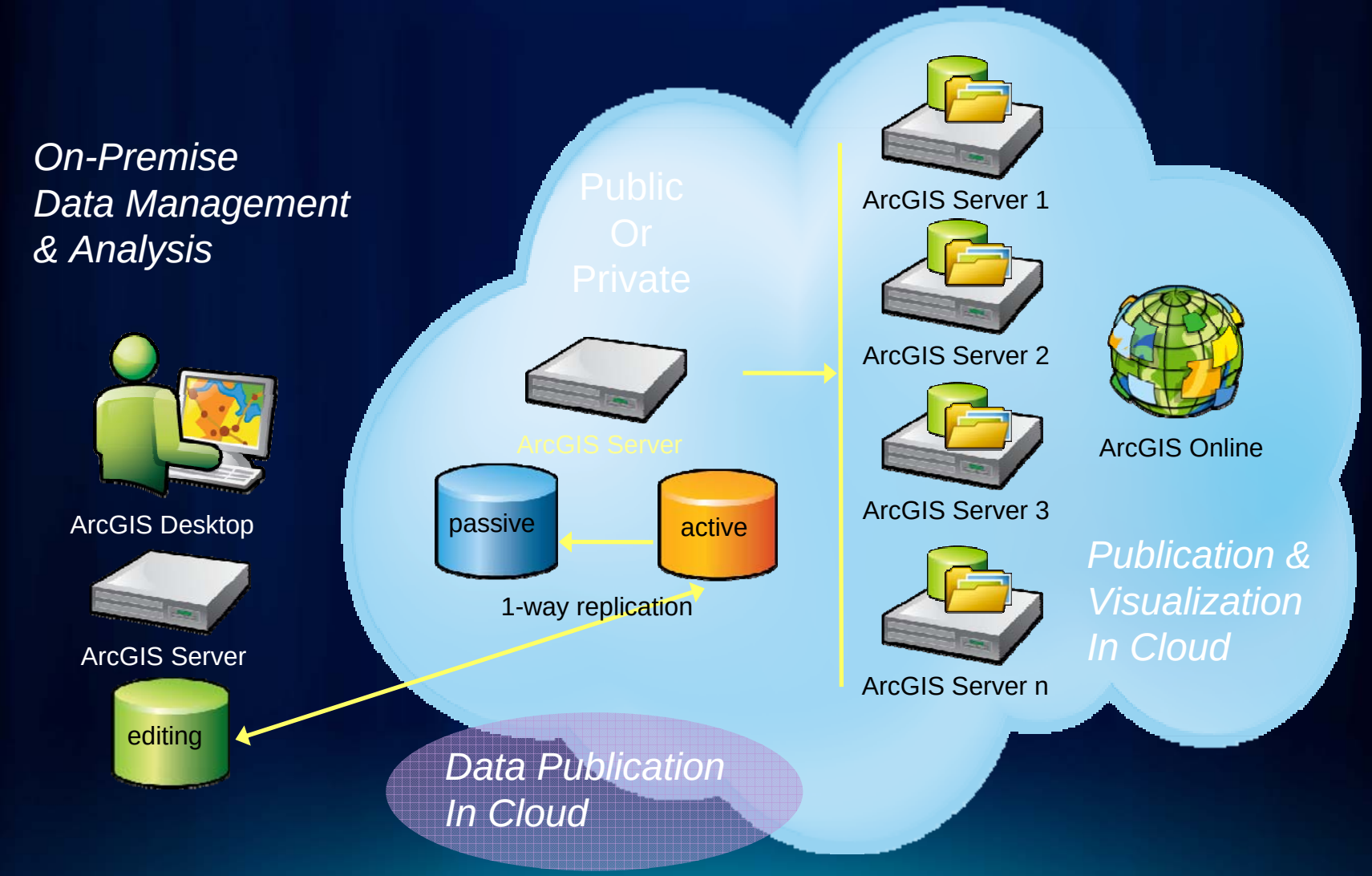
Deployment with redundancy



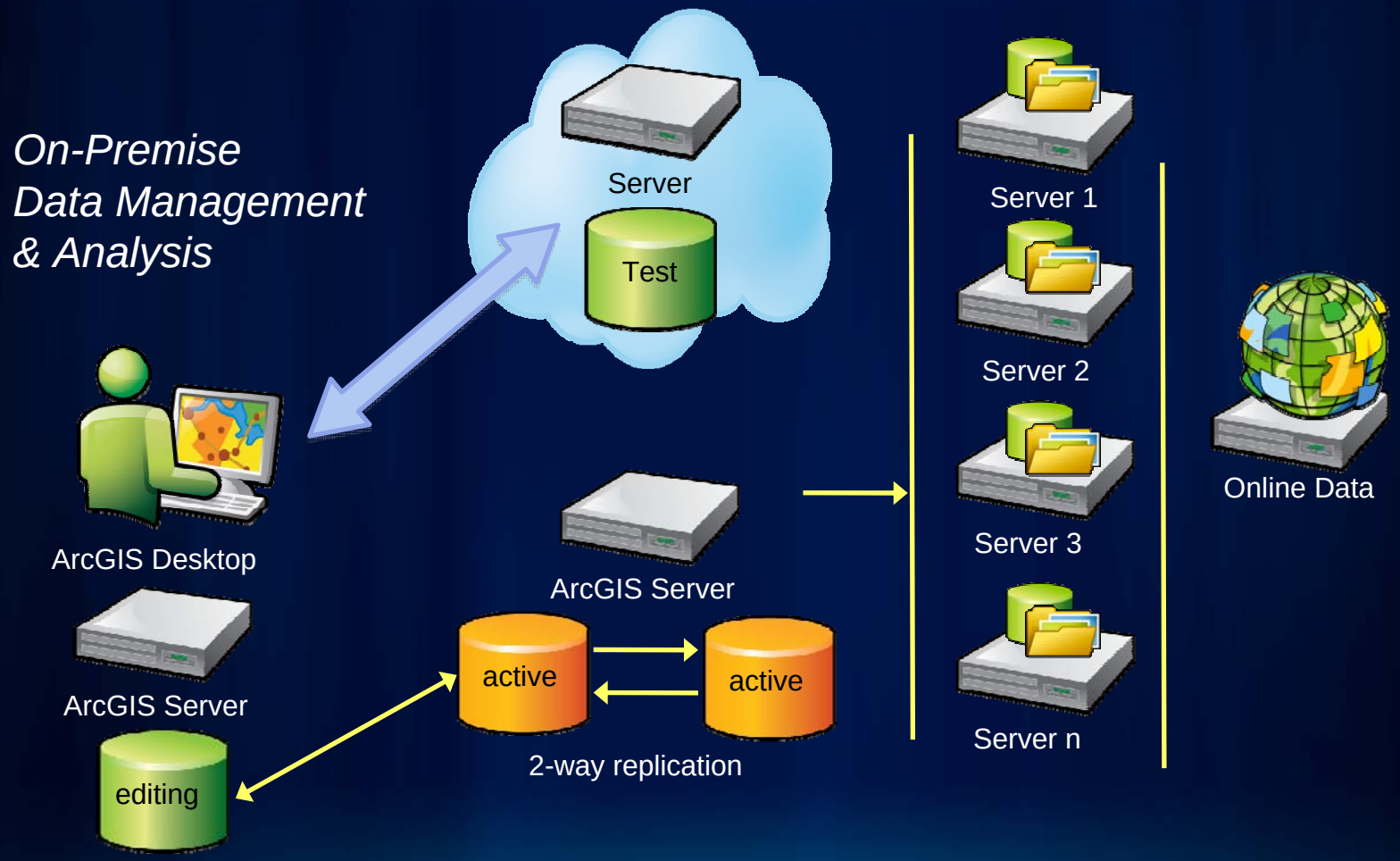
Hybrid Deployment with Redundancy



Hybrid Deployment with Redundancy



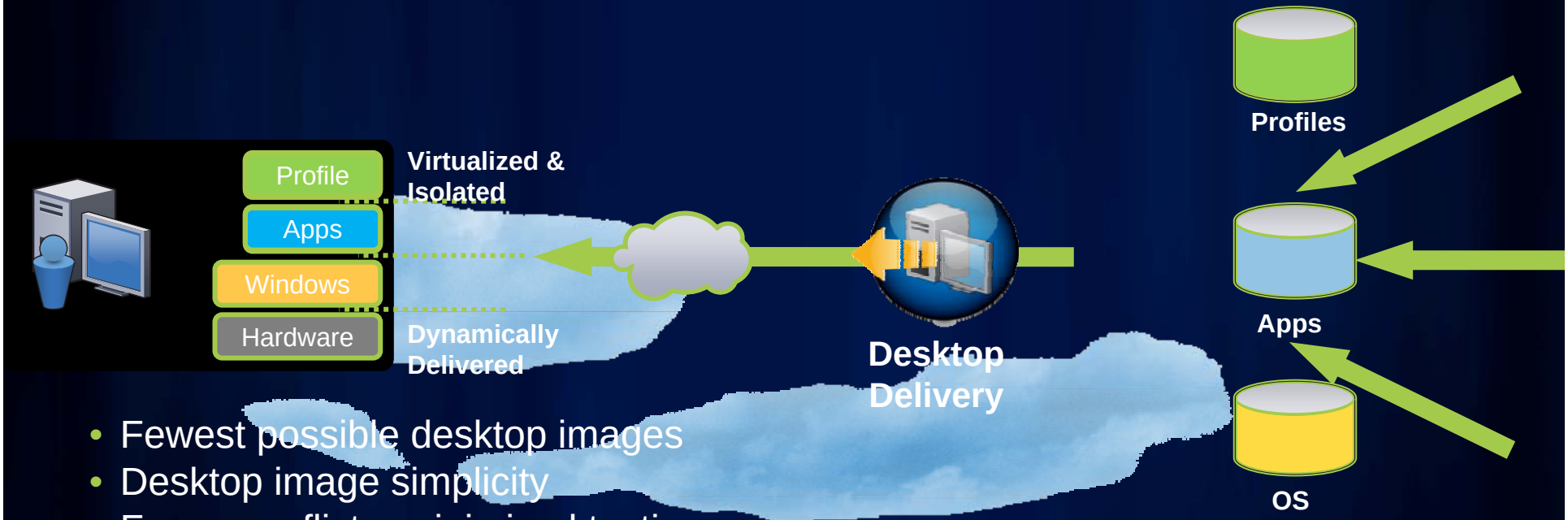
Deployment with Test



Limit Risk

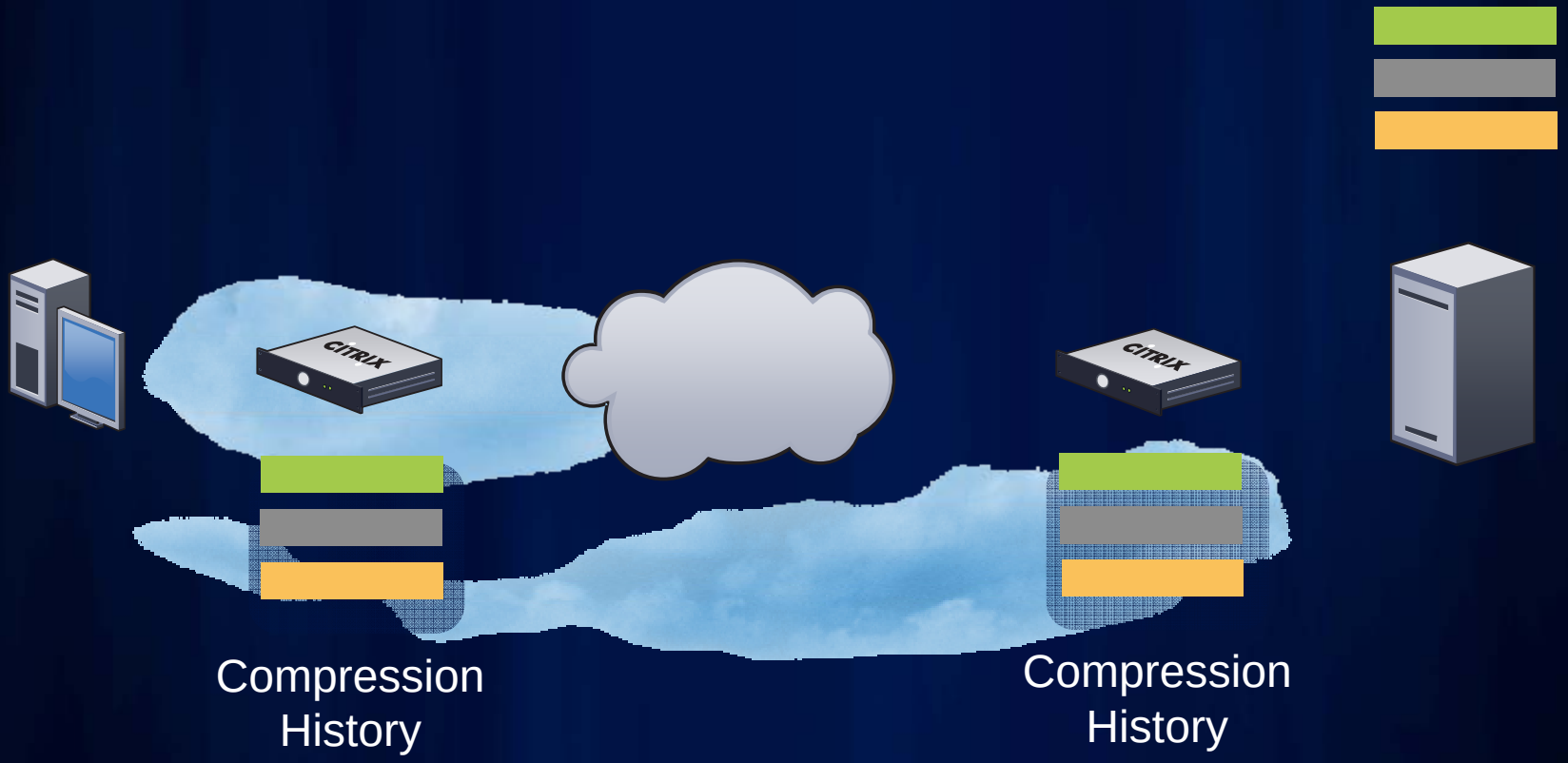
- Performance & Scalability
- The Cloud may not be reliable enough - you need to evaluate - SLA
- Is the the cloud secure enough?
- Real Utilization of owned equipment vs. rented

Application Delivery Optimization

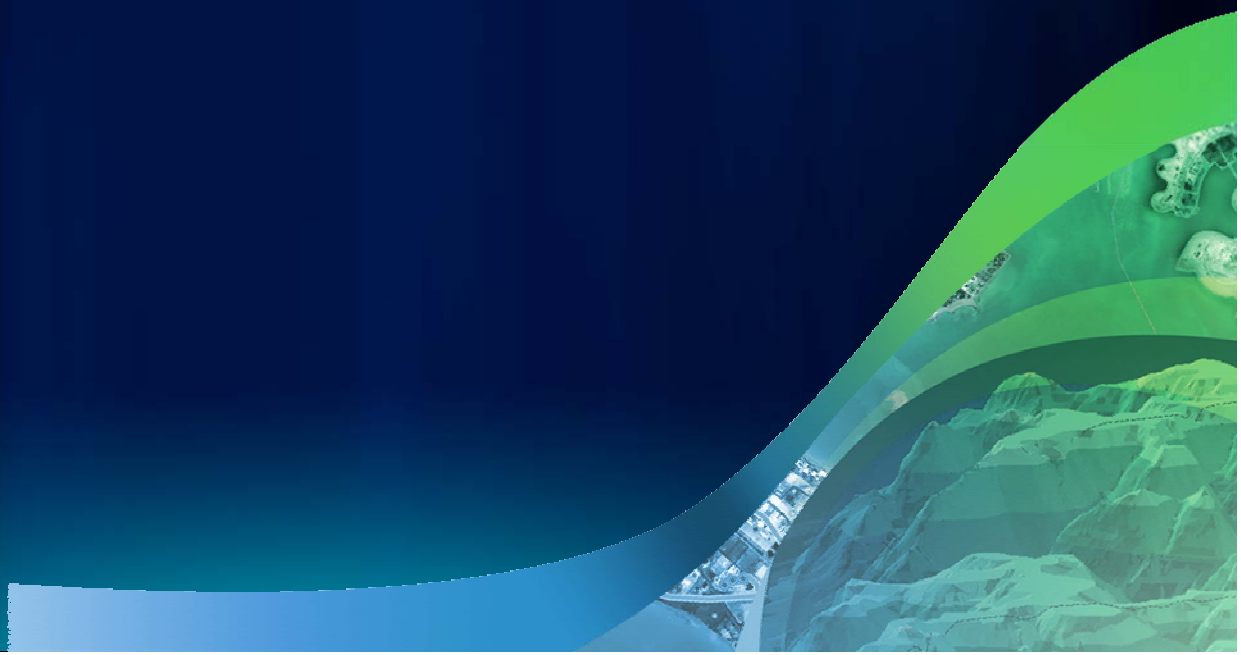


- Fewest possible desktop images
- Desktop image simplicity
- Fewer conflicts, minimized testing
- Low-touch, self-serve re-imaging

Application Delivery Optimization



Public Map Sharing



Share Map in Different Topics

Open data platform for maps and geographic information

- **Easily create and share maps**
- **Delivered as intelligent maps**
- **Access on virtually any device – anyone, anywhere**
- **Compliments and extends the value of your GIS**
- **Use within an organization or share with larger communities and/or public**

Extend the value and reach of your GIS

Intelligent Maps

Intelligent Maps

Services
And Data

Supporting

- Visualization
- Editing
- Popups
- Analysis
- Time

Upload, Connect and Share

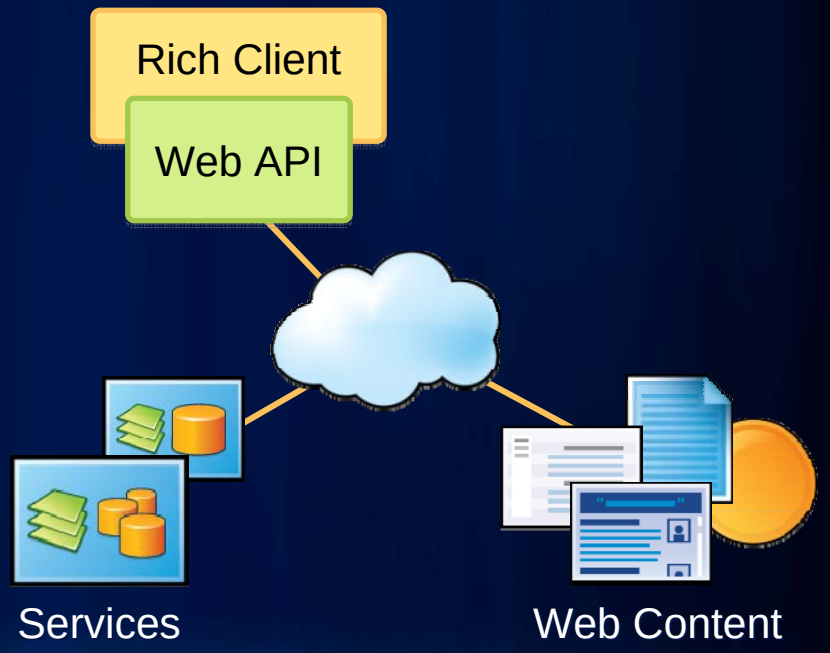
- Open and standards-based
- Use and store geospatial info
  - GIS datasets and services
  - OGC web services - WMS
  - KML & GPX
  - Spreadsheet data (CSV's)
- You decide how it is shared
  - Public/private
  - Embed in web page or blog
  - Links & social networks

Interact with Intelligent Maps Anywhere

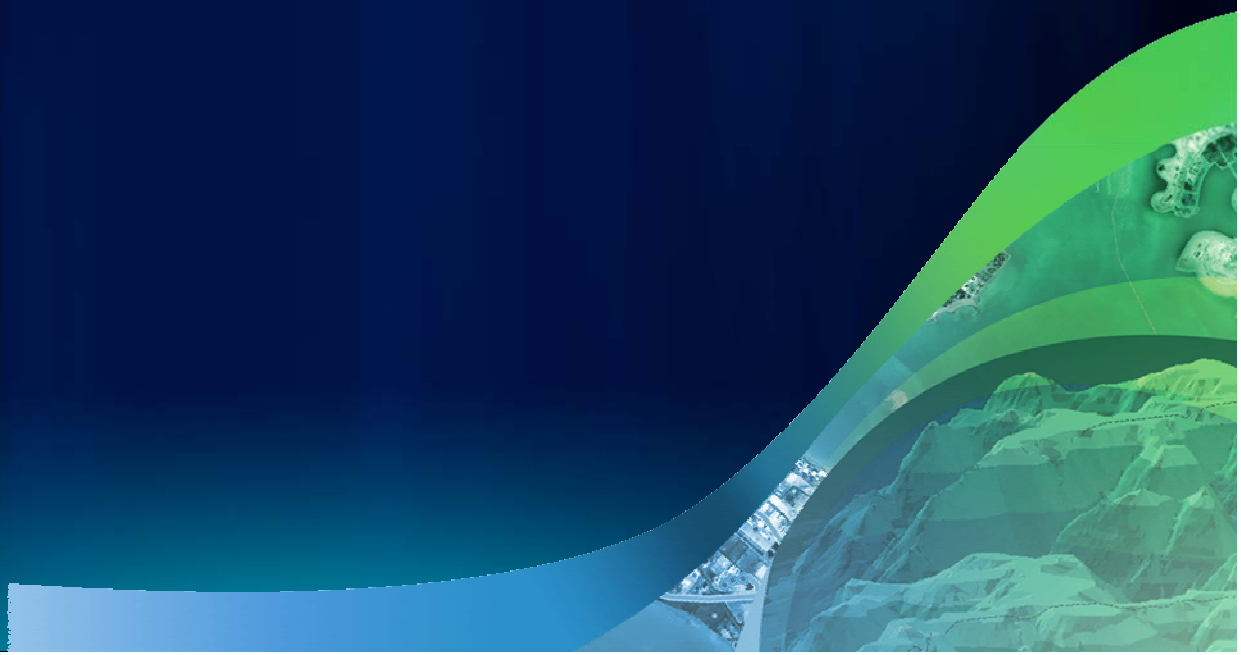
Use Webmaps in Applications

Build rich, interactive apps with mapping and geographic functionality

- **Custom web pages**
- **Web applications**
- **Stand-alone applications**
- **Client libraries for building rich GIS applications**
  - **Javascript**
  - **Flex**
  - **Silverlight**
  - **REST**
- **Mobile API's**



Example
ArcGIS Explorer Online



Basemaps | Demographic Maps | Reference Maps | Specialty Maps

World Ir

Basemaps | Demographic Maps | Reference Maps | Specialty Maps

USA Average Household Size

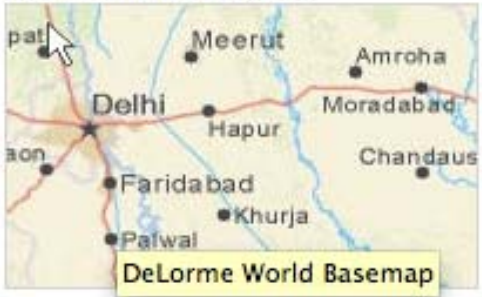
USA Daytime Population

USA Diversity Index

Wor

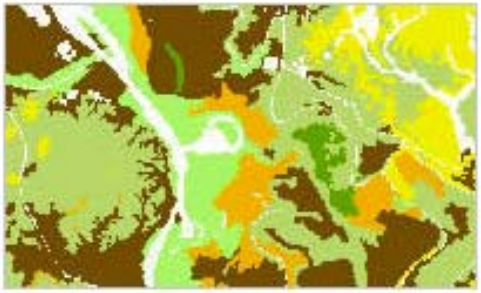
Basemaps | Demographic Maps | Reference Maps | Specialty Maps

DeLorme World Basemap

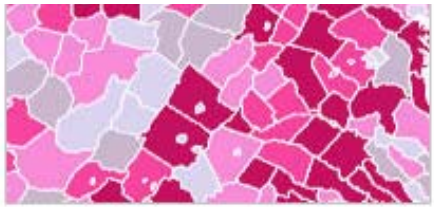


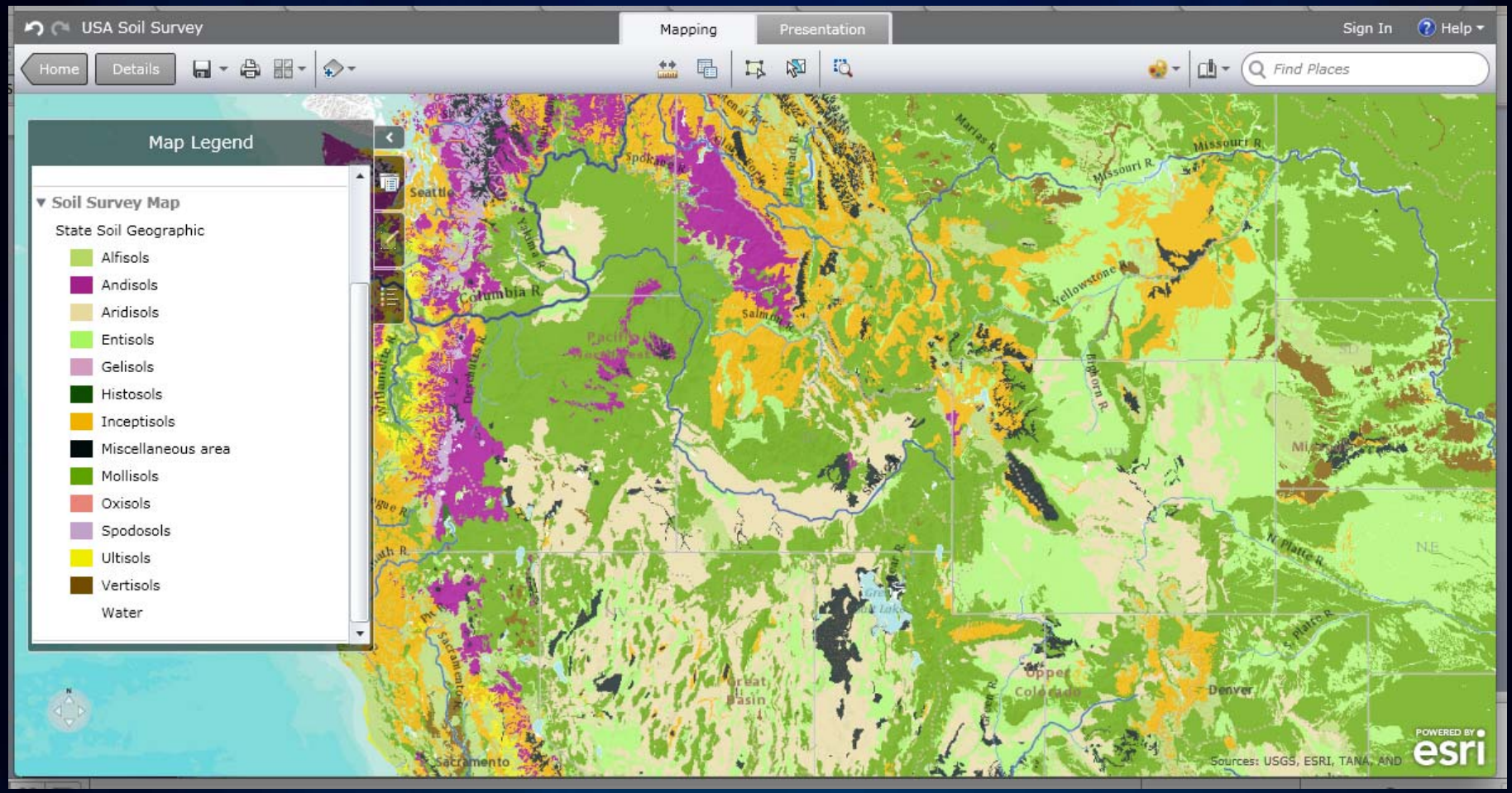
World Navigation Charts

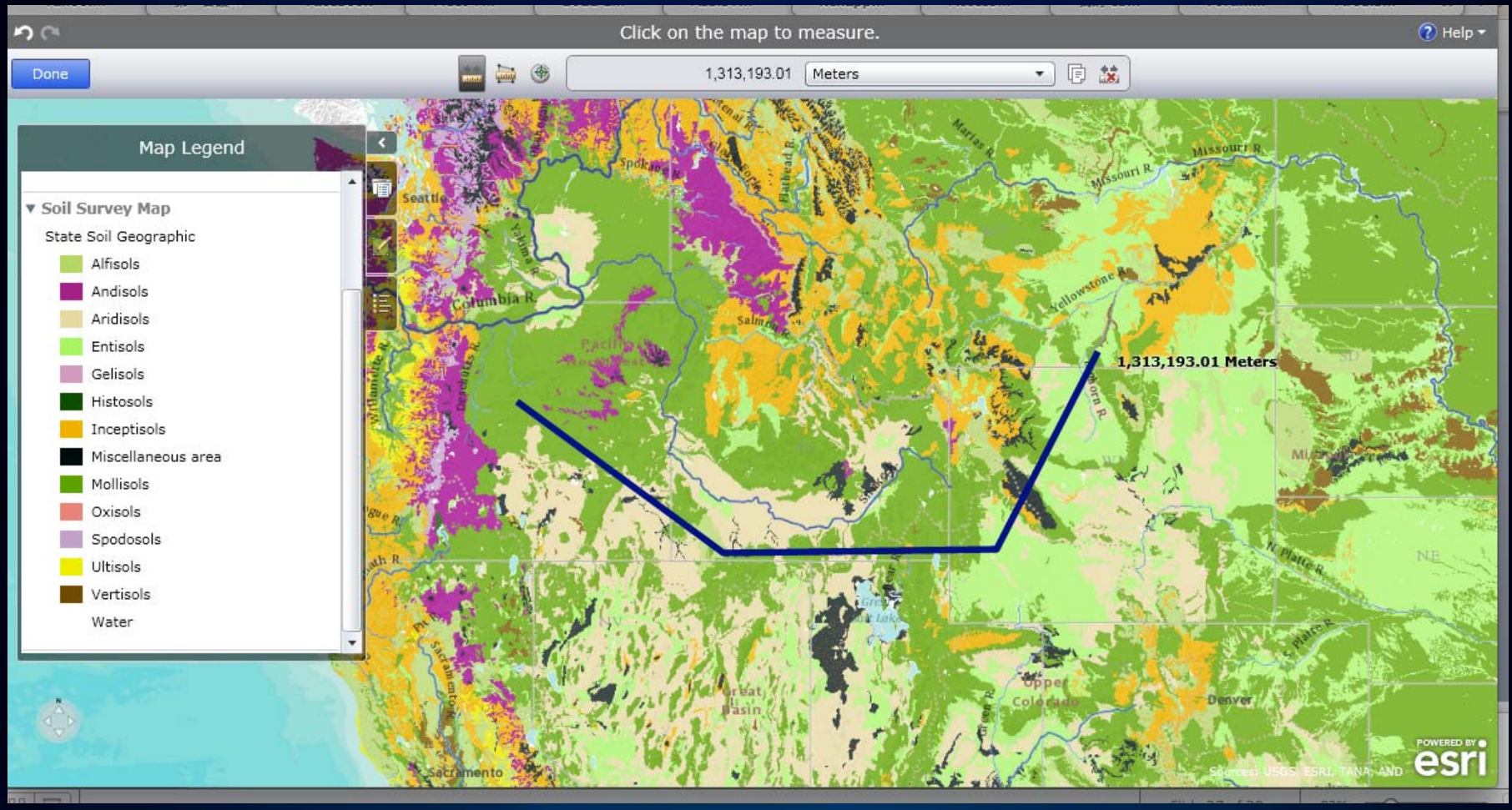
Soil Survey Map



USA




USA Soil Survey
Mapping
Presentation
Sign In
Help
Home
Details
Find Places
Map Legend
Soil Survey Map
State Soil Geographic
Alfisols
Andisols
Aridisols
Entisols
Gelisols
Histosols
Inceptisols
Miscellaneous area
Mollisols
Oxisols
Spodosols
Ultisols
Vertisols
Water
Seattle
Columbia R.
Missouri R.
Yellowstone R.
Denver
Sacramento
Great Basin
Upper Colorado
POWERED BY esri
Sources: USGS, ESRI, TANA, AND


Click on the map to measure.
Help
Done
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Meters
Map Legend
Soil Survey Map
State Soil Geographic
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Andisols
Aridisols
Entisols
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Denver
Sacramento
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Upper Colorado
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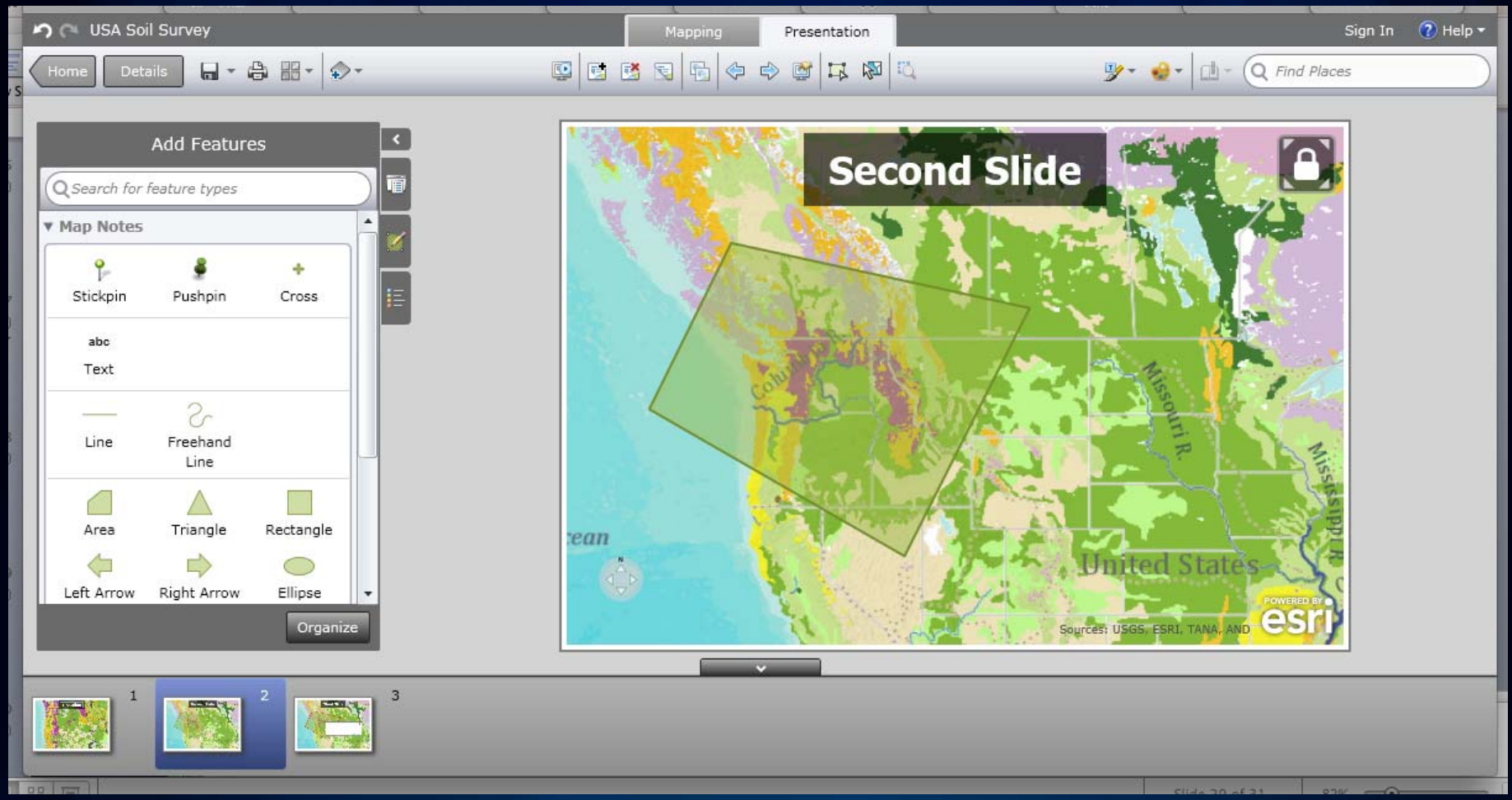
USA Soil Survey
Mapping
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Home
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Find Places
Add Features
Search for feature types
Map Notes
Stickpin
Pushpin
Cross
abc
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Line
Freehand Line
Area
Triangle
Rectangle
Left Arrow
Right Arrow
Ellipse
Organize
Second Slide
Missouri R.
Mississippi R.
United States
Sources: USGS, ESRI, TANA, AND
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1
2
3

Third Slide
Alaska
Pacific Ocean
United States
Mississippi R.
Ohio R.
Target Place
Please check it
Zoom To
Sources: USGS, ESRI, TANA, AND
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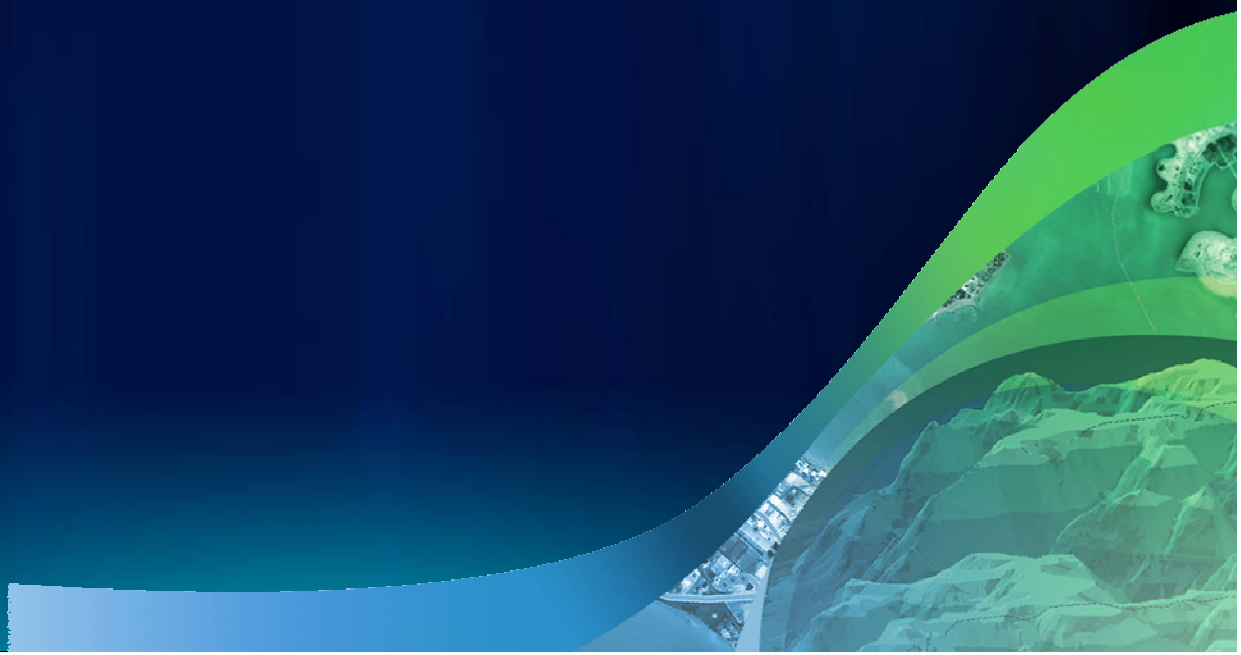
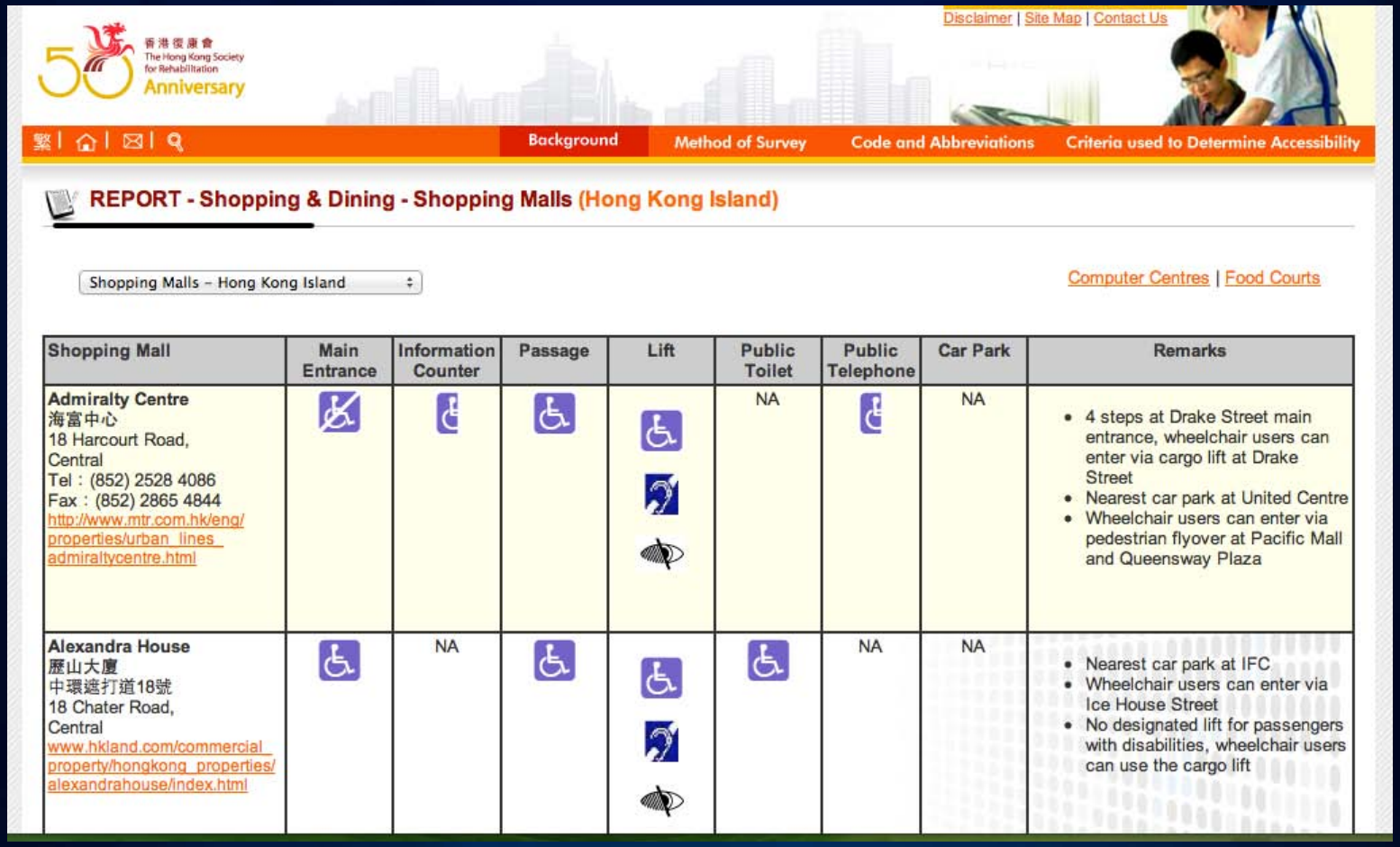
The Hong Kong Society for Rehabilitation

Hong Kong Access Guide



Traditional Access Guide Website

List of the Facilities



香港復康會 The Hong Kong Society for Rehabilitation 50 Anniversary

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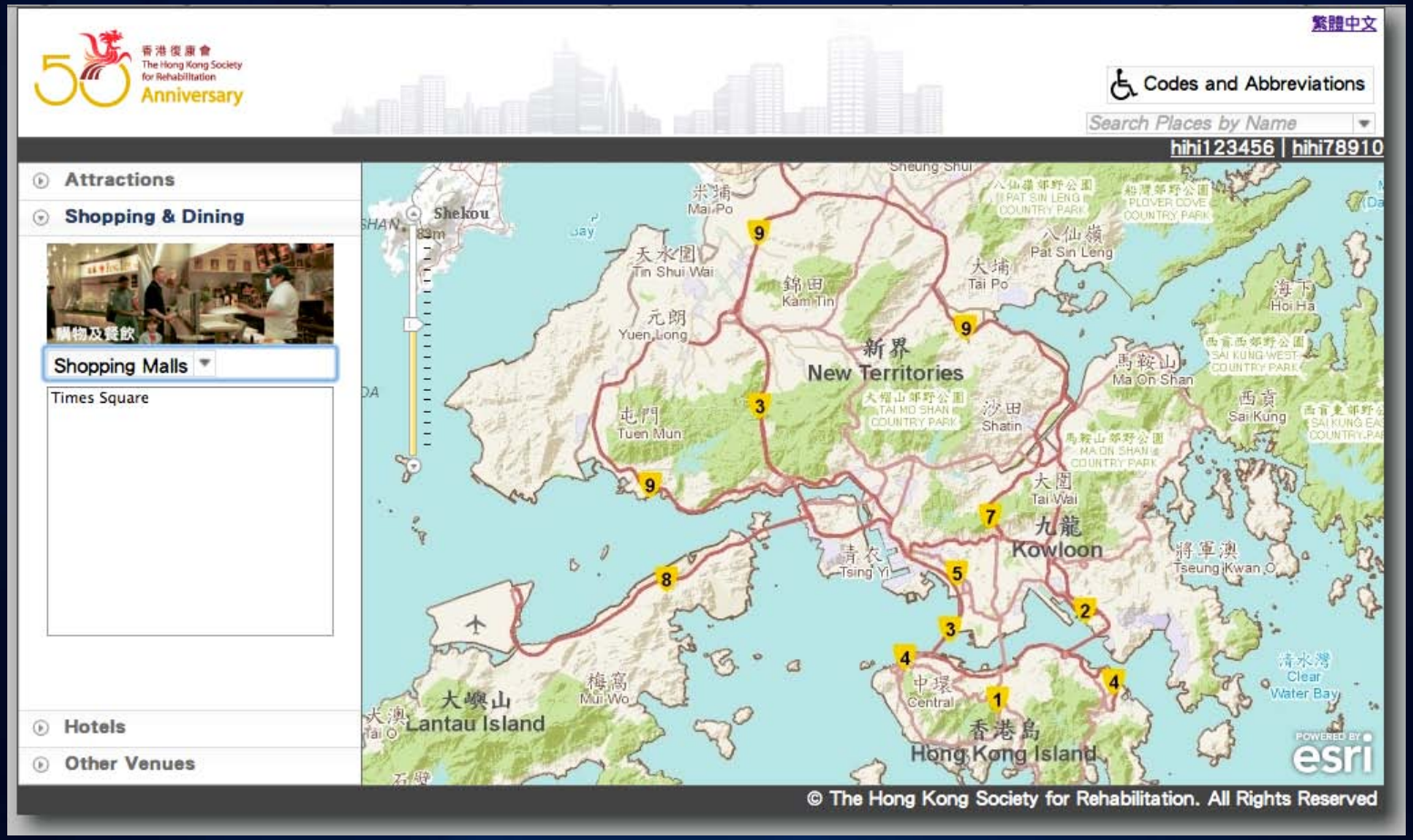
繁 | | | | Background | Method of Survey | Code and Abbreviations | Criteria used to Determine Accessibility

REPORT - Shopping & Dining - Shopping Malls (Hong Kong Island)

Shopping Malls – Hong Kong Island

Computer Centres | Food Courts

Shopping Mall	Main Entrance	Information Counter	Passage	Lift	Public Toilet	Public Telephone	Car Park	Remarks
Admiralty Centre 海富中心 18 Harcourt Road, Central Tel : (852) 2528 4086 Fax : (852) 2865 4844 http://www.mtr.com.hk/eng/properties/urban_lines_admiraltycentre.html					NA		NA	• 4 steps at Drake Street main entrance, wheelchair users can enter via cargo lift at Drake Street • Nearest car park at United Centre • Wheelchair users can enter via pedestrian flyover at Pacific Mall and Queensway Plaza
Alexandra House 歷山大廈 中環遮打道18號 18 Chater Road, Central www.hkland.com/commercial_property/hongkong_properties/alexandrahouse/index.html		NA					NA	• Nearest car park at IFC • Wheelchair users can enter via Ice House Street • No designated lift for passengers with disabilities, wheelchair users can use the cargo lift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The Hong Kong Society for Rehabilitation
50 Anniversary
繁體中文
Codes and Abbreviations
Search Places by Name
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Attractions
Shopping & Dining
購物及餐飲
Shopping Malls
Times Square
Hotels
Other Venues
Shekou
83m
米埔
Mai Po
天水圍
Tin Shui Wai
錦田
Kam Tin
元朗
Yuen Long
新界
New Territories
大埔
Tai Po
八仙嶺
Pat Sin Leng
海下
Hoi Ha
馬鞍山
Ma On Shan
西貢
Sai Kung
沙田
Shatin
屯門
Tuen Mun
大圍
Tai Wai
九龍
Kowloon
將軍澳
Tseung Kwan O
清衣
Tsing Yi
梅窩
Mui Wo
大嶼山
Lantau Island
中環
Central
香港島
Hong Kong Island
清水灣
Clear Water Bay
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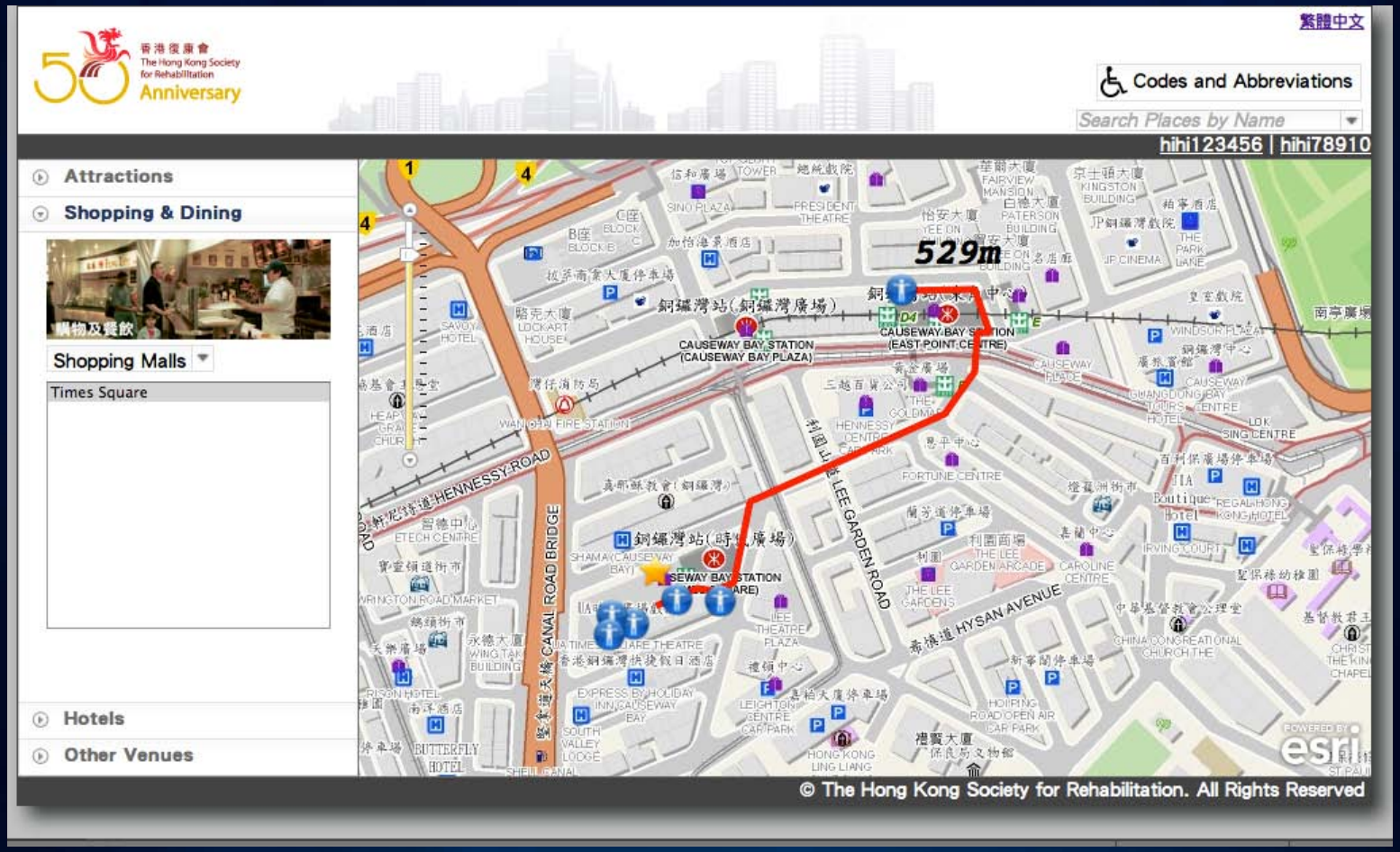
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529m
CAUSEWAY BAY STATION (CAUSEWAY BAY PLAZA)
CAUSEWAY BAY STATION (EAST POINT CENTRE)
HENNESSY ROAD
CANAL ROAD BRIDGE
LEE GARDEN ROAD
HYSAN AVENUE
POWERED BY esri
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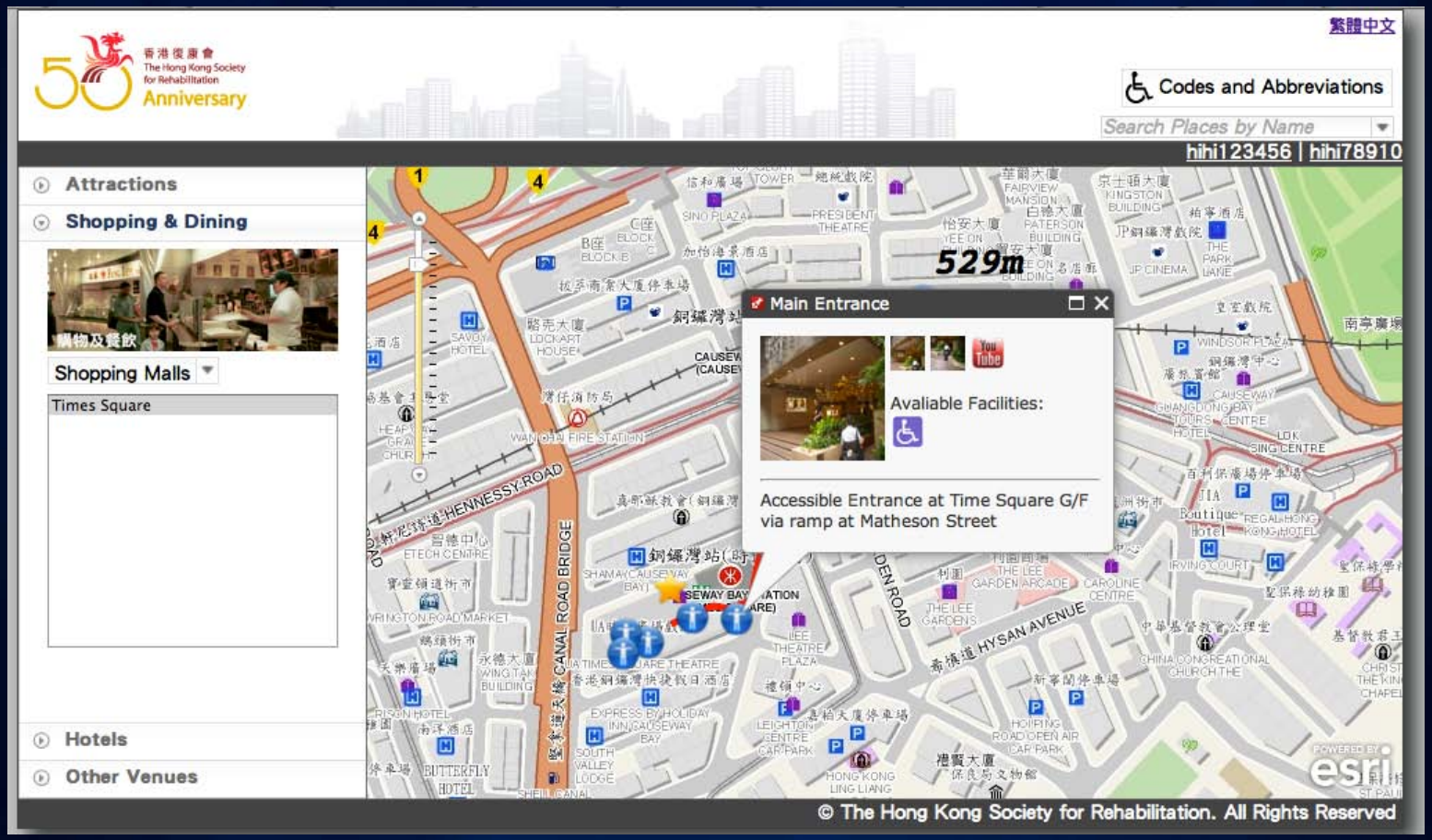
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Main Entrance
Avaliable Facilities:
Accessible Entrance at Time Square G/F via ramp at Matheson Street
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CANAL ROAD BRIDGE
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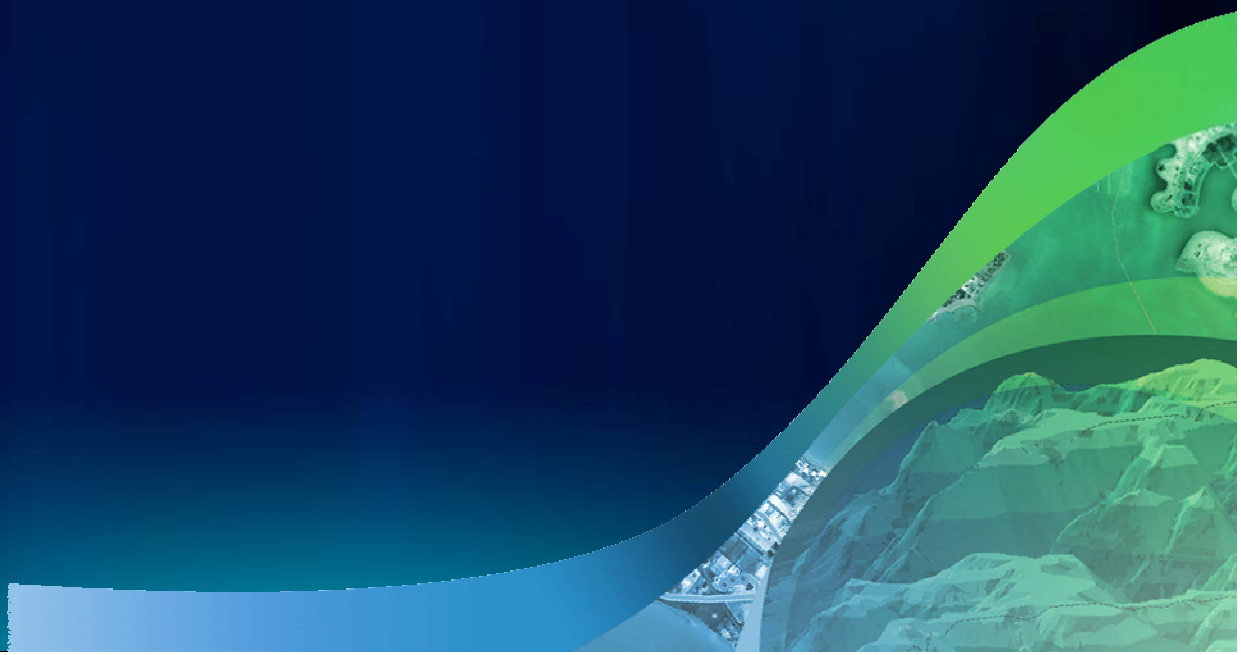
Q&A



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