مجموعة مايكروسنتر
MICROCENTER GROUP

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GIS NEWSLETTER

Inside This Issue

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Plenary Session Highlights

We extend our thanks to the many participants and contributors who made the 2022 Esri User Conference (Esri UC) possible. The Plenary Session kicked it all off with boundless inspiration.

Here's the recap in case you missed it:
Esri president Jack Dangermond shared examples of incredible work from our users, his vision for the future, and advancements in ArcGIS technology. He then introduced our keynote and special guest speakers, including Esri staff for technical demonstrations.

Watch the Plenary Session

Enter the 2022 ArcGIS StoryMaps Competition

Are you ready to showcase your GIS and data visualization skills globally?

This year's ArcGIS StoryMaps Competition invites storytellers age 18 years and older to submit a story that communicates an idea, challenge, or solution through innovative data visualization techniques.

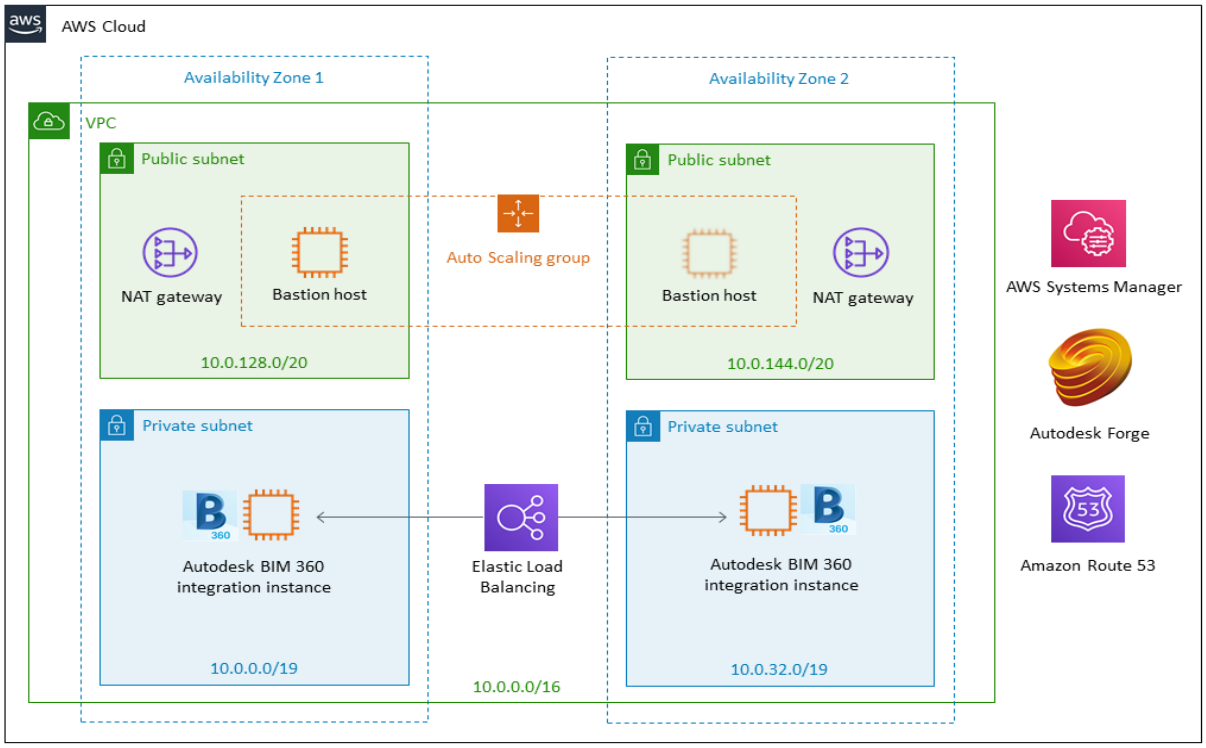
Simply build a data-driven story with ArcGIS StoryMaps—or refresh an existing story—and submit it to the 2022 ArcGIS StoryMaps Competition no later than October 7, 2022. Winners will be featured in an ArcGIS Blog article and receive a complimentary book from Esri Press.

For more details about the competition, visit our website. We can't wait to see what you create!

Competition Details

Autodesk Revit BIM Models & GIS data in AWS

Autodesk BIM 360 Integration on the AWS cloud is a viable solution for the customers to store their data on the cloud while maintaining high-speed access to it at all times. Its flexibility allows them to keep project related data in one place while providing quick access to other relevant information from other sources like CAD files and Point clouds. Using Autodesk Forge we can migrate BIM 360 data in AWS.



Cloudsfer Data Migration - cloud to cloud transfer

Cloudsfer is an On Premise to Cloud transfer, and Cloud-to-Cloud data transfer service that provides data backup, data mining, and disaster recovery services. Migrate, backup & sync your data from/to Autodesk Construction Cloud (BIM360 docs, Autodesk Docs and Build Files).

With the Cloudsfer BIM 360 integration**,** users can transfer documents between BIM 360 and cloud platform AWS.

AWS Snowball and S3 Service

AWS Snowball is a cloud-based data transfer service that has the ability to transfer petabytes of data. AWS Snowball is ideal for transferring BIM models because it can process large amounts of data quickly and move them efficiently.

It also offers other services like archiving and disaster recovery which make it useful for organizations with sensitive information.

Autodesk Revit models & GIS data in AWS

(BIM/ IFC models, I3S data)

IFC (Industry Foundation Classes) is a data model which describes real building and construction industry objects like stairs, pipes, doors, windows, curtain walls etc. in a way that it can be represented in a 3D digital model. It may include items such as plumbing, electrical, and other construction details within the file.

Indexed 3d Scene Layer (I3S)

Indexed 3D Scene Layer (I3S)- The I3S format is an open 3D content delivery format used to rapidly stream and distribute large volumes of BIM/ 3D GIS data to mobile, web and desktop clients.

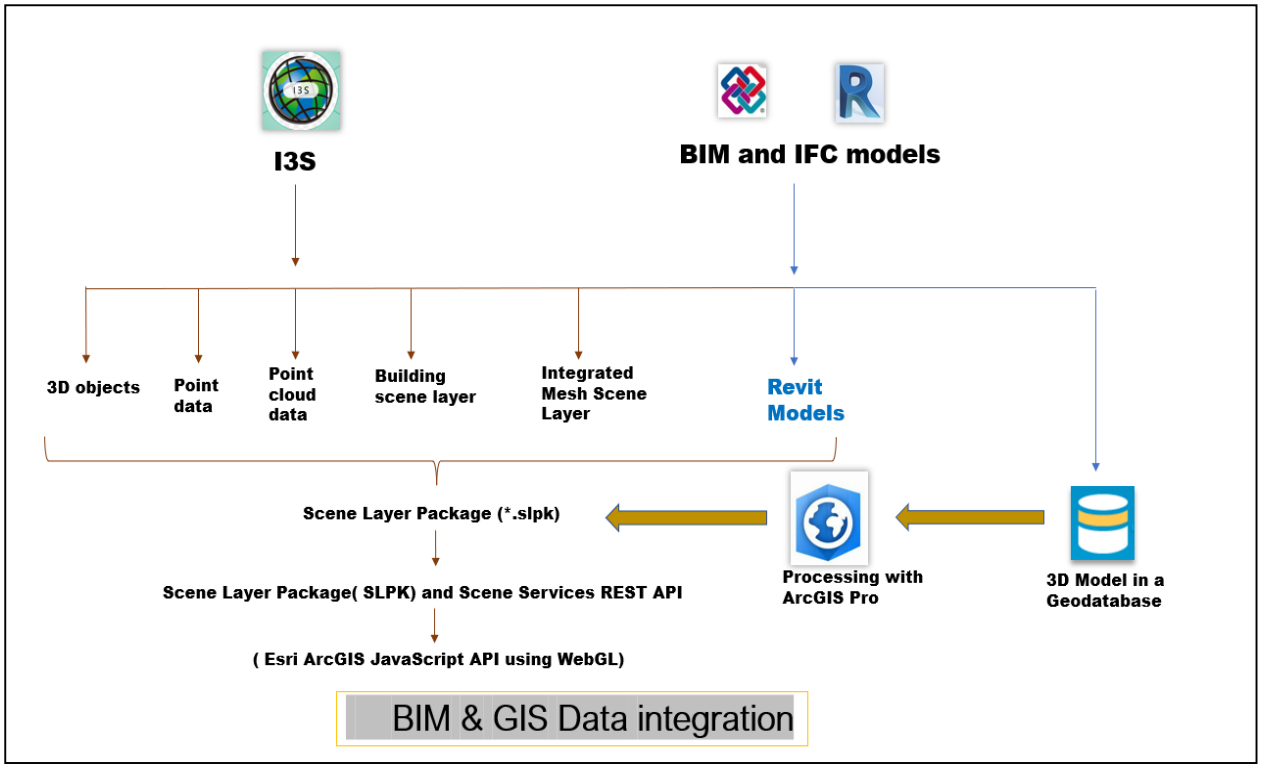
I3S provides an essential pathway to share massive, heterogeneous 3D geospatial data sets that can be viewed, explored, and analyzed across ArcGIS apps.

We can build a complete 3D GIS capability with **I3S data for five different content types.**

- **3D objects** (e.g., building exteriors, from GIS data as well as 3D models in various formats)
- **Point** (e.g., hospitals, schools, trees, street furniture, signs, from GIS data)
- **Point cloud** (e.g., large point data from LiDAR)
- **Building scene layer** (e.g., comprehensive building model including building components)
- **Integrated mesh data** is typically captured by an automated process for constructing 3D objects from large sets of overlapping imagery.
- **An integrated mesh** can represent built and natural 3D features, such as building walls, trees, valleys, and cliffs, with realistic textures.

I3S can be persisted on the client as an. slpk file or published as a service. An .slpk file can be created by third-party vendors or by using geoprocessing tools in ArcGIS Pro. Vendors can output 3D content in the different profile types following the I3S specification. You can use the following geoprocessing tools to create an. slpk file:

- Create 3D Object Scene Layer Package
- Create Building Scene Layer Package
- Create Integrated Mesh Scene Layer Package
- Create Point Cloud Scene Layer Package
- Create Point Scene Layer



ArcGIS Pro can directly read BIM files in **Industry Foundation Classes (IFC) format** in addition to Autodesk Revit (. rvt) and Autodesk Civil 3D (.dwg) files.

Conclusion

Data is the backbone of modern businesses and organizations. It is important to store it in a reliable, scalable and secure environment so that it can be analysed as needed. The BIM models & GIS data stored in AWS can take advantage of the following services: Amazon DynamoDB, Amazon S3, Amazon Kinesis, and Amazon Redshift. These services are capable of scaling up or down according to the need for data storage or data processing power.

Storing the large volume of GIS data & Autodesk Revit models in AWS is a is cost-effective with the benefits of scalability, security, flexibility.

Big Data Analytics and GIS for the Tourism

Introduction

Big Data Analytics is an effective way to understand what people want and need. It helps tourism organizations to create a personalized experience for each traveler which ultimately leads to increased customer satisfaction.

Big Data Analytics for Tourism is primarily dealing with the ***research and analysis of data.***

The analysis process has many exposure areas such as social media, emails, blogs, tweets, mobile data, security systems, health care, hotels, restaurants, geospatial mapping, sensor networks, and text mining among others. In tourism, it is used for making decisions about what areas should be targeted for investment or development programs. It can also be used for predicting tourist behavior or to monitor public health risks associated with tourism activities.

The role of Big Data Analytics in tourism is to study, analyze, and predict tourist behavior in order to create an optimal experience for the visitor. The tourism operators to plan their future activities and make better decisions on their marketing campaigns. The information collected from big data analytics can also help with advertising campaigns by showing how well they target a specific audience.

Data Engineering

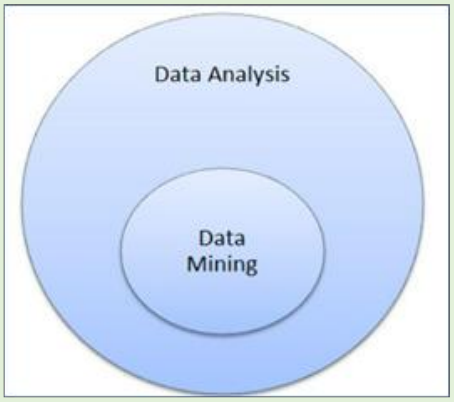
Big Data Analytics is a set of techniques, processes and technologies that are used to extract value from very large data sets. It refers to the extraction of useful information from raw datasets.

Big Data provides two kinds of information that include structured and unstructured data. The data collected from websites and social networking sites such as Facebook and Twitter, blogs, and forums will have unstructured information and will be based on individual opinion. Interpreting the unstructured data and acquiring relevant insights is a big challenge facing the tourism industry.

The Airlines and hotels use big data analytics to predict customer response to a promotion or deal, they can provide customized offers that are more profitable. This is why airlines have started using analytics to understand what kind of people are booking tickets and which advertisements are most effective.

AI is also making significant headway in the Tourism industry. A good example would be an AI-powered chatbot that helps travelers decide on what to see with tailored recommendations for hotels or restaurants in the area.

Big Data Analytics helps to find out the traveling needs and desires of a customer before they even know. Moreover, it helps with forecasting tours and predicting demand for tourism (in the coming years). The techniques include cluster analysis, classification trees, regression analysis, time series analysis and neural networks.



Data Mining is the process of extracting patterns from data in order to make predictions. Data mining and insights about Tourist customers are what makes big data so powerful. Data mining focuses on extracting raw data from the immense amounts of information gathered from different sources. It tracks how Tourist people behave in order to understand their needs and preferences with respect to products, services and solutions.

We can use " WebCrawlers and Tableau" to get data from the internet and use all of it. This information to provide more personalized service in order to attract more tourist customers. **For example**, identify what the customer is interested in: attractions or restaurants; then plan their itinerary accordingly.

Economic Statistics for Tourism

The economic statistics show a positive growth for tourism. The tourism sector is one of the largest contributors to the global economy. The number of travelers that are spending money on international tourism has increased; so, has the number of people who are traveling overseas.

Tourism needs a lot of infrastructure and investment, since it relies on both hotels, restaurants and tour operators. The tourism industry has benefited from technological progress and nowadays it is delivering high-quality services to tourists from all over the world.

GIS in Tourism

GIS mapping will be done in order to map various dimensions of collected data such as travel patterns, destination choice behavior and destination satisfaction level with respect to age demographics. A GIS mapping service can help to find out what is happening in the tourism industry around your region. It provides insights about travel patterns, visitor interest and tourism investments in a region.

ArcGIS GeoAnalytics Engine delivers spatial analysis to your big data by extending Apache Spark with ready-to-use SQL functions and analysis tools. ArcGIS GeoAnalytics Engine includes a Spark plugin and a Python library, geoanalytics, that is used to drive analysis.

Technology implementation & Conclusion

The Tourism industry is usually an adopter of big data analytics as they want to know more about their customers in order to serve them better and make more profit. One major application of big data is predictive analytics. Predictive analytics uses historical patterns from a large dataset to predict future outcomes based on an algorithm.

For Big data analytics we could apply the technology like Apache Spark, Python, R and IBM SPSS (Statistical Package for Social Sciences) for the advanced statistical analysis, Machine learning algorithms, Text analysis and Spatial analysis.

Challenges

Tourism sector have to be used data to make more informed decisions, create better products and services, forecast demand more accurately, manage their operations more efficiently and effectively, etc.

One of the biggest challenges for tourism industry is to keep up with increasing number of visitors. Digital transformation been there for decades and it is crucial to have a digital marketing strategy in place. It is important to use data analysis in order to optimize performance and make more accurate decisions.

Consider ArcGIS Enterprise 10.9.1 until you're ready to turn it up to 11

Get excited – ArcGIS Enterprise 11.0, part of the ArcGIS 2022 Q2 releases, will be available soon! In anticipation of this release, take time to prepare by making sure your organization is ready to upgrade to ArcGIS Enterprise 11.0.

Upgrading to ArcGIS Enterprise 11.0 will require a bit more preparation than previous upgrades. This release will be the first time we have increased the major version number of ArcGIS Server, now part of ArcGIS Enterprise, since ArcGIS 10.0 was released in 2010. We are moving to ArcGIS Enterprise 11.0 because of the significant under-the-hood changes in technology for our Windows and Linux deployment options.

Changes coming in ArcGIS Enterprise 11.0

You can anticipate the following changes in ArcGIS Enterprise 11.0:

- Removal of the ArcMap-based runtime
- Move of ArcGIS Enterprise SDK to .NET 6
- Removal of classic Esri Story Map templates
- Removal of ArcGIS Dashboards Classic
- Removal of Presentation for Map Viewer Classic
- Removal of many Configurable App templates

Avoid problems by upgrading to ArcGIS Enterprise 10.9.1

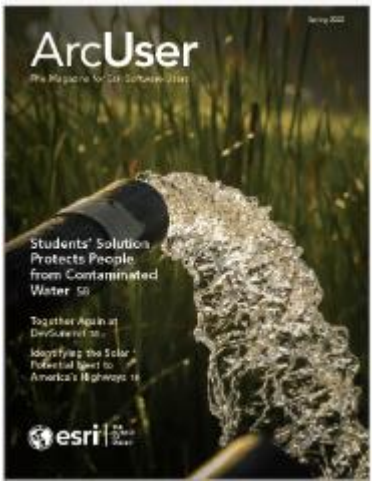
With all the changes to anticipate in ArcGIS Enterprise 11.0, the prospect of upgrading may feel a bit more daunting than usual – and that's okay! While upgrades from ArcGIS Enterprise 10.7 to 11.0 will be supported, this whole process doesn't have to be daunting; consider upgrading to Enterprise 10.9.1 before making the upgrade to 11.0.

There are a few reasons to consider upgrading to ArcGIS Enterprise 10.9.1 before 11.0.

- Migration tooling to help transition from ArcMap-based to ArcGIS Pro-based runtime
- Optional ArcMap Runtime Support feature
- ArcGIS StoryMaps, ArcGIS Dashboards, and ArcGIS Instant Apps
- ArcGIS Enterprise 10.9.1 will be supported until 2027

For more information, please **click here**.

Esri Publications



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