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QUESTION 39

A GIS administrator is getting reports from users that they are unable to edit data within a traditionally versioned feature dataset. A feature class was added to a feature dataset during a maintenance window. The following troubleshooting steps were performed but do not correct the behavior:

* Checked permissions on feature dataset

* Checked connection file for versioning type

* Rebuilt indexes and statistics

What should the administrator do?
* Connect as data owner and edit data

* Unregister the feature dataset as versioned
* Re-register the feature dataset as versioned

When users cannot edit a traditionally versioned feature dataset after a new feature class is added, the feature dataset must bere-registered as versioned.

1. Why Re-Register as Versioned?

* Adding a feature class to a versioned feature dataset requires re-registering the entire feature dataset for versioning.

* This step ensures that the new feature class is included in the versioning system and can participate in versioned workflows.

2. Why Other Steps Didn’t Resolve the Issue?

* Checked Permissions: Correct permissions do not address the need to re-register after adding a feature class.

* Checked Connection File: Ensuring the connection file uses traditional versioning does not resolve missing registration.

* Rebuilt Indexes and Statistics: While this improves performance, it does not affect versioning.

3. Why Not Other Options?

* Connect as Data Owner and Edit Data:

* Even as the data owner, edits would not be possible until the feature dataset is re-registered.

* Unregister the Feature Dataset as Versioned:

* Unregistering would delete the versioning information, potentially causing data loss in the delta tables.

Steps to Re-Register the Feature Dataset as Versioned:

* OpenArcGIS Proand connect as the data owner.

* Right-click the feature dataset and selectManage > Register As Versioned.

* Choose the option toPreserve edits to base tables(if required).

* Save and test edits on the feature dataset.

References from Esri Documentation and Learning Resources:

* Registering Data as Versioned

* Managing Versioned Feature Datasets

Conclusion:

The administrator shouldre-register the feature dataset as versionedto include the newly added feature class and resolve editing issues in the traditionally versioned environment.

QUESTION 40

A data owner creates a one-way replica parent-to-child for a single feature class to share data from a production geodatabase to a public-facing geodatabase.

* The data owner synchronizes once a week to share updated data

* In time, the data owner wants to add a new attribute field/field type and calculates new attribute values

* The data owner synchronizes the replicas, but the new field and values are not present in the child replica

* In the public-facing geodatabase, the data owner adds the same attribute field and field type

* The data owner synchronizes the replicas again, and the values are not replicated in the child replica How should the data owner resolve this issue?
* Unregister the replica pair?, run Enable Replica Tracking and Synchronize Change?
* Unregister the replica pairs, run Feature Compare and Synchronize Changes
* Unregister the replica pairs, recreate the replica, and Synchronize Changes
Scenario Overview:

* A one-way replica from parent to child geodatabase is created for a single feature class.

* The data owner adds anew attribute fieldin the parent geodatabase, calculates values, and attempts to synchronize the replica.

* The new field and its values do not appear in the child replica, even after manually adding the field to the child geodatabase.

Why Recreate the Replica?

* The issue arises becauseschema changes(e.g., adding new fields) are not automatically propagated in one-way replication workflows. Synchronization only applies to data changes, not schema updates.

* To ensure the schema changes are recognized, thereplica pair must be recreatedwith the updated schema.(ArcGIS Documentation: Geodatabase Replication and Schema Changes) Steps to Resolve the Issue:

* Unregister the Replica:Remove the existing replica pair from both the parent and child geodatabases.

* Recreate the Replica:Create a new one-way replica between the parent and child geodatabases. This new replica will include the updated schema.

* Synchronize Changes:Perform synchronization to transfer data, including the new field and calculated values, to the child geodatabase.

Alternative Options:

* Option A:Enabling replica tracking does not address schema synchronization and would not resolve the issue.

* Option B:Running Feature Compare is helpful for analyzing schema differences but does not propagate schema changes.

Thus, the data owner mustunregister the replica pairs, recreate the replica with the updated schema, and synchronize changesto resolve the issue.

QUESTION 41

An organization needs to distribute data to a regional office. The regional office does not have ArcGIS Enterprise orArcGIS Online accounts. The regional office also does not have access to an enterprise geodatabase.

Which data distribution solution should be used?
* Geodatabase replication
* Distributed collaboration
* Partnered collaborations
Understanding the Scenario:

* The regional office lacks access toArcGIS Enterprise,ArcGIS Online accounts, or anenterprise geodatabase.

* Data must be distributed in a format that the regional office can use independently of enterprise-level systems.

Data Distribution Solutions Overview:

* Geodatabase Replication:

* Geodatabase replication allows data to be exported and shared with external systems, such as file or personal geodatabases.

* Replicas can be set up in adisconnected mode, enabling regional offices to work with the data offline.

* Distributed Collaboration:Distributed collaboration facilitates sharing data and content between ArcGIS Enterprise and ArcGIS Online environments. It is unsuitable for offices without these systems.

* Partnered Collaborations:Partnered collaborations extend distributed collaboration to partner organizations, but they also require ArcGIS Online accounts, making them incompatible with this scenario.

Steps to Implement Geodatabase Replication:

* Create aone-way replicaof the data in a format compatible with the regional office’s systems (e.g., file geodatabase).

* Transfer the replica to the regional office via portable media or secure file sharing.

* Set up periodic updates if the data needs to be refreshed.

References:

* Esri Documentation: Geodatabase Replication.

* Disconnected Workflows: Best practices for sharing data in offline environments.

Why the Correct Answer is A:Geodatabase replication is the most suitable solution for sharing data with a regional office that lacks enterprise-level systems. Distributed and partnered collaborations require ArcGIS Enterprise or ArcGIS Online accounts, which are unavailable in this scenario.

QUESTION 42

A GIS analyst needs to share a large repository of lidar data with the organization. This lidar data will have surface constraints applied for breaklines.

Which type of dataset should the GIS analyst use?
* Mosaic dataset
* Feature dataset
* LAS dataset
Understanding the Scenario:

* The GIS analyst needs to share a large repository oflidar data.

* The data includes surface constraints like breaklines, which are used to enforce terrain or surface rules.

Dataset Types Overview:

* Mosaic Dataset:Designed for managing large collections of raster data, such as imagery or elevation grids. It is not specifically optimized for lidar point cloud data.

* Feature Dataset:A container for related feature classes in a geodatabase. It is unrelated to managing lidar data or surface constraints.

* LAS Dataset:A specialized dataset designed for managing lidar point clouds. It supports point classification, surface constraints (like breaklines), and efficient querying or visualization of lidar data.

Steps to Create and Share a LAS Dataset:

* Create a LAS dataset in ArcGIS Pro and add lidar files (LAS or ZLAS format).

* Define surface constraints (breaklines) in the LAS dataset properties.

* Share the LAS dataset as a service or package for organizational access.

References:

* Esri Documentation: LAS Datasets.

* Managing Breaklines in LAS Datasets: Instructions for incorporating surface constraints.

Why the Correct Answer is C:LAS datasets are explicitly designed for managing and sharing lidar data with surface constraints like breaklines. Mosaic and feature datasets are unsuitable for this purpose.

QUESTION 43

A GIS administrator needs to make a synchronized copy of a branch versioned dataset. Editing must be performed on both copies.

How should the data be replicated?
* Distributed collaboration
* Geodatabase replication
* DBMS replication
Scenario Overview:

* The GIS administrator needs to create asynchronized copyof a branch versioned dataset.

* Both copies must allowediting.

Why Geodatabase Replication?

* Geodatabase replicationsupports the creation of synchronized copies of datasets while allowing edits in both the parent and child geodatabases.

* Forbranch versioned data, replication ensures that edits made in either the parent or child geodatabase can be synchronized using a two-way replica.(ArcGIS Documentation: Geodatabase Replication) Key Features of Geodatabase Replication for This Scenario:

* Two-way replicationenables editing on both sides while synchronizing changes.

* Supportsbranch versioning, ensuring versioned workflows remain intact.

* Maintains schema consistency across both geodatabases.

Alternative Options:

* Option A: Distributed Collaboration

* Collaboration is suitable for sharing data across ArcGIS Enterprise environments but does not support active synchronization for editing on both sides.

* Option C: DBMS Replication

* DBMS-level replication handles raw data replication but does not preserve geodatabase-specific functionalities, such as branch versioning.

Thus,geodatabase replicationis the correct method for synchronizing and editing branch versioned datasets in both geodatabases.

QUESTION 44

A GIS administrator receives reports of slowing performance across the entire geodatabase. Users report that the time for edits to be made and drawing are affected when adding 10.000 records. Traditional versioning is being used.

The following processes are completed weekly:

* Rebuilding of indexes and statistics

* Geodatabase compress

* Remove orphaned connections

Which action should be taken?
* Change to use Default version
* Update records via Python
* Reconcile and post versions

Scenario Overview:

* Users experienceslowing performanceacross the geodatabase, particularly for edits and drawing when adding 10,000 records.

* The organization performs weekly maintenance tasks:

* Rebuilding indexes and statistics

* Compressing the geodatabase

* Removing orphaned connections

Why Reconcile and Post Versions?

* Slow performance in traditional versioning often results from excessive unreconciled versions and a bloatedstate tree.

* Reconciling and posting versions reduces the number of states, enabling geodatabase compression to fully collapse redundant states and improve performance.(ArcGIS Documentation: Reconcile and Post) Alternative Options:

* Option A: Change to use Default version

* This bypasses versioning workflows and does not address the root cause of performance degradation.

* Option B: Update records via Python

* Using Python to update records does not resolve issues caused by unreconciled versions or state tree inefficiencies.

Thus, the correct action is toreconcile and post versions, ensuring the geodatabase state tree is optimized and performance is restored.

QUESTION 45

A database administrator needs to move the enterprise geodatabase to a new server. The new enterprise geodatabase must be kept intact.

Which process should be used?
* Export to file geodatabase
* Two-way replication
* RDBMS export/import
To move an enterprise geodatabase to a new server while keeping it intact, theRDBMS export/importprocess is the appropriate method.

1. Why Use RDBMS Export/Import?

* Enterprise geodatabases are tightly integrated with the underlying RDBMS (e.g., SQL Server, PostgreSQL, Oracle). Exporting and importing the entire database ensures that:

* All geodatabase configurations (e.g., tables, indexes, metadata) are preserved.

* No data integrity is lost during the migration process.

* This method maintains the geodatabase’s structure and relationships.

2. Why Not Other Options?

* Export to File Geodatabase:

* While exporting to a file geodatabase allows for data transfer, it does not preserve the enterprise geodatabase structure, including user permissions, versioning, and replication configurations.

* Two-Way Replication:

* Replication is designed for synchronizing data changes between geodatabases, not for moving an entire geodatabase to a new server. It may also leave some administrative configurations behind.

3. Steps for RDBMS Export/Import

* Export the Database:

* Use the RDBMS tools (e.g., pg_dump for PostgreSQL, SQL Server Management Studio) to create a full backup of the geodatabase.

* Ensure all related schemas, indexes, and metadata are included.

* Import to the New Server:

* Set up the RDBMS on the new server and configure it for enterprise geodatabases.

* Import the backup file to restore the geodatabase on the new server.

* Post-Migration Steps:

* Reconfigure connections in ArcGIS Pro or ArcGIS Server to point to the new geodatabase.

* Test to ensure all functionality works as expected.

References from Esri Documentation and Learning Resources:

* Backing Up and Restoring an Enterprise Geodatabase

* RDBMS Tools for Backup and Restore

Conclusion:

TheRDBMS export/importprocess ensures a complete migration of the enterprise geodatabase to a new server while preserving all configurations and data integrity.

QUESTION 46

AGIS analyst who usesArcGIS Pro needs to reload data into a versioned feature class stored in a feature dataset. The feature class

participates in a geodatabase topology.

Which steps should the GIS analyst take?
* Run the Truncate Table tool and load data using Append
* Delete all rows in the feature class and load data using Load Objects
* Delete all rows in the feature class and load data using Append
Understanding the Scenario:

* The feature class is versioned and participates in a geodatabase topology.

* The goal is to reload data while maintaining versioning and topology integrity.

Key Considerations for Reloading Data:

* Truncate Table:TheTruncate Tabletool efficiently deletes all rows in the feature class without logging individual row deletions in the geodatabase. It is the preferred method for clearing data while minimizing impact on performance.

* Append Tool:After truncating the table, theAppendtool can load new data into the feature class, ensuring that the topology and versioning structure remain intact.

* Avoiding Delete Rows:Deleting rows manually logs each deletion in delta tables, leading to a potential performance bottleneck and unnecessary transaction logging, especially for versioned datasets.

* Geodatabase Topology Consideration:Topology rules will need to be validated after reloading the data to ensure spatial integrity.

Steps to Reload Data:

* Use theTruncate Tabletool to remove existing records.

* Use theAppendtool to load the new data into the feature class.

* Validate the topology in the geodatabase to check for any errors after the reload.

References:

* Esri Documentation: Truncate Table.

* Loading Data into Versioned Feature Classes: Best practices for versioned and topology-aware datasets.

Why the Correct Answer is A:Running theTruncate Tabletool ensures efficient data clearing, and using the Appendtool maintains the geodatabase’s versioning and topology structure. Options B and C involve unnecessary row-level deletions, which are inefficient and could disrupt the versioned workflow.

QUESTION 47

A GIS administrator needs to facilitate the collaboration of two teams of GIS analysts in two different offices.

Each office needs a copy of the data in its own enterprise geodatabase. and analysts in both offices will edit the same feature classes. Changes will be synchronized nightly.

The GIS administrator needs to set up the information infrastructure so that both teams can work together.

What should the administrator use to meet the requirements?
* Geodatabase replication
* Database replication
* Distributed collaboration

To facilitate collaboration between two teams of GIS analysts located in different offices, each requiring a copy of the data in their own enterprise geodatabase with the ability to edit the same feature classes and synchronize changes nightly, geodatabase replication is the appropriate solution.

Understanding Geodatabase Replication:

Geodatabase replication is a data distribution method in ArcGIS that allows you to create copies of data across two or more geodatabases. This enables multiple users to work with the same datasets in different locations, with the ability to synchronize changes to ensure consistency.

ARCGIS PRO

Types of Geodatabase Replication:

There are three types of geodatabase replication:

One-Way Replication: Changes are sent in a single direction-from the parent to the child replica.

Two-Way Replication: Changes are synchronized in both directions between the parent and child replicas.

This is suitable when multiple editors need to update the same datasets in different locations.

Checkout/Check-in Replication: Data is checked out to a child replica for editing and then checked back in to the parent replica.

In this scenario, two-way replication is ideal, as it allows both teams to edit the same feature classes and synchronize changes nightly, ensuring that both geodatabases remain consistent.

ARCGIS PRO

Alternative Options:

Database Replication: This refers to replicating entire databases at the DBMS level. While it can synchronize data, it doesn’t account for the geodatabase-specific behaviors, rules, and relationships managed by ArcGIS.

Therefore, it may not be suitable for scenarios requiring synchronization of geodatabase-specific functionalities.

Distributed Collaboration: This is a framework in ArcGIS Enterprise that allows sharing of content, such as maps, layers, and apps, across multiple ArcGIS Enterprise deployments or between ArcGIS Enterpriseand ArcGIS Online. However, it doesn’t provide the fine-grained control over data editing and synchronization required in this scenario.

GEODATABASE RESOURCES

Therefore, to meet the requirements of both teams being able to edit the same feature classes in their respective enterprise geodatabases and synchronize changes nightly, geodatabase replication is the most appropriate solution.

QUESTION 48

AGIS data administrator needs to migrate the enterprise geodatabase to another server and wants to have the following changes:

* New enterprise geodatabase name

* Changed Repository tables owner from SDE to DBO

Which migration workflow should be used?
* Restore a database backup
* Create a new enterprise geodatabase
* Migrate Storage geoprocessing tool
To migrate an enterprise geodatabase to another server while changing its name and repository table owner, creating anew enterprise geodatabaseis the most appropriate workflow.

1. Why Create a New Enterprise Geodatabase?

* New Geodatabase Name: Creating a new geodatabase allows specifying a different name for the database.

* Change Repository Table Ownership: During the setup of the new geodatabase, the repository tables can be assigned to a new owner (e.g., DBO instead of SDE).

* Fresh Configuration: This method provides full control over database settings, structure, and ownership during migration.

2. Why Not Other Options?

* Restore a Database Backup:

* Restoring a backup would preserve the original database name and ownership settings, which conflicts with the requirement to change these configurations.

* Migrate Storage Geoprocessing Tool:

* This tool is used for changing the storage type of geodatabase tables (e.g., from binary to XML).

It is not designed for migration or renaming geodatabases or altering repository table ownership.

3. Steps to Create a New Enterprise Geodatabase:

* Create the New Geodatabase:

* Use theCreate Enterprise Geodatabasegeoprocessing tool in ArcGIS Pro or database-specific tools to set up the new geodatabase on the target server.

* Configure the repository tables to use the desired owner (e.g., DBO).

* Export Data from the Old Geodatabase:

* UseGeodatabase replication,Export to File Geodatabase, or other export tools to migrate data to the new geodatabase.

* Import Data to the New Geodatabase:

* Load the exported data into the new geodatabase using theImport/Load Datatools.

* Update Services and Connections:

* Update database connection files and any published services to point to the new geodatabase.

References from Esri Documentation and Learning Resources:

* Creating an Enterprise Geodatabase

* Migrating Enterprise Geodatabases

Conclusion:

Creating anew enterprise geodatabaseis the best method to meet the requirements of renaming the database and changing the repository table owner.

QUESTION 49

ArcGIS Pro users must be able to use the Undo and Redo buttons while editing a dataset. At the same time, SQL users must be able to edit this dataset.

How should the ArcGIS data administrator configure this dataset?
* Nonversioned editing
* Traditional versioning
* Branch versioning

Understanding the Scenario:

* ArcGIS Pro users needUndo/Redo functionality, which is available in versioned workflows.

* SQL users also need to edit the dataset, requiring direct access to the database tables.

* These requirements point to a need for a versioning method that supports both ArcGIS client workflows and SQL-based edits.

Versioning Methods Overview:

* Nonversioned Editing:Nonversioned editing allows direct editing of the database but does not support Undo/Redo functionality in ArcGIS Pro, making it unsuitable for this scenario.

* Traditional Versioning:

* Supports Undo/Redo functionality for ArcGIS Pro users.

* Stores edits in delta tables (adds and deletes) to manage versions.

* SQL users can access and edit the base tables, making it compatible with their needs.

* Branch Versioning:Branch versioning supports modern workflows and web services but requires a service-based approach for editing. It does not allow direct SQL edits, making it unsuitable for this scenario.

Steps to Implement Traditional Versioning:

* Enable traditional versioning on the dataset in the enterprise geodatabase.

* Ensure appropriate permissions are set for SQL users to access and edit the base tables.

* ArcGIS Pro users will work in the versioned environment, allowing Undo/Redo operations during their edits.

References:

* Esri Documentation: Understanding Versioning.

* Traditional Versioning Concepts: Best practices for using traditional versioning with multiple user types.

Why the Correct Answer is B:Traditional versioning fulfills both requirements: Undo/Redo functionality for ArcGIS Pro users and SQL accessibility for direct edits.

QUESTION 50

The GIS administrator does not have the database administrator credentials and needs to create an enterprise geodatabase for storage of vector data. The database administrator will provide a database with the appropriate users and permissions for use.

Which tool should the GIS administrator use?
* Create Feature Dataset
* Enable Enterprise Geodatabase
* Create Enterprise Geodatabase

Understanding the Scenario:The GIS administrator lacks database administrator credentials but requires an enterprise geodatabase for vector data storage. In this setup, the database administrator (DBA) is responsible for preparing the database, including setting up users and permissions, while the GIS administrator is tasked with enabling it as an enterprise geodatabase.

Tool Selection Overview:

* Create Feature Dataset:This tool is for creating a logical grouping of related feature classes inside an existing geodatabase. It is unrelated to enabling or creating an enterprise geodatabase.

* Enable Enterprise Geodatabase:This tool is used when a database has already been created and configured by the DBA, and the GIS administrator needs to enable it as an enterprise geodatabase. It adds geodatabase system tables and functionality to the database. This aligns with the scenario described.

* Create Enterprise Geodatabase:This tool creates a new database and configures it as an enterprise geodatabase in one step.However, this tool requires database administrator credentials, which the GIS administrator in this scenario does not have.

Key Steps to Enable an Enterprise Geodatabase:

* Preparation by DBA:The DBA sets up the database, ensuring the appropriate users and permissions are in place. They also provide connection details to the GIS administrator.

* Using the Enable Enterprise Geodatabase Tool:

* Navigate toArcGIS ProorArcGIS Enterprise tools.

* Open theEnable Enterprise Geodatabasetool.

* Specify the database connection file for the target database.

* Provide the authorization file (a valid ArcGIS Server Enterprise license file) to enable geodatabase functionality.

* Execute the tool to add system tables, stored procedures, and geodatabase functionality to the database.

References:

* ArcGIS Pro Documentationon Enable Enterprise Geodatabase.

* Esri Enterprise Geodatabase Concepts: Official Esri documentation provides comprehensive details on the role of DBAs and GIS administrators in setting up enterprise geodatabases.

* ArcGIS Enterprise Licensing Guide: Detailed information about authorization files for enabling geodatabases.

Why the Correct Answer is B:The tool “Enable Enterprise Geodatabase” is specifically designed for situations where the database setup is handled by a DBA, and the GIS administrator is responsible only for enabling geodatabase capabilities. Since the GIS administrator does not have DBA credentials, they cannot use the “Create Enterprise Geodatabase” tool, which would require those credentials to create and configure a new database.

QUESTION 51

A GIS data administrator frequently changes the map based on definition queries. A noticeable lag occurs when changing the parameter value of the definition query.

Which action should be taken?
* Add Attribute Index
* Add Spatial Index
* Recalculate Extent

Scenario Overview:

* The GIS data administrator is experiencinglagwhen changing the parameter value of adefinition query.

* Definition queries dynamically filter data based on attribute values. Slow performance often indicates inefficient attribute searches.

Solution: Add Attribute Index

* Anattribute indexallows the database to quickly locate rows based on values in the indexed column, significantly improving query performance.

* When definition queries rely on non-indexed fields, the database must scan the entire dataset to filter records, leading to noticeable delays.

* By creating an attribute index on the fields used in the definition query, the database can optimize filtering, reducing lag.(ArcGIS

Documentation: Attribute Indexes) Steps to Add Attribute Index:

* In ArcGIS Pro, open theAttribute Indexestool.

* Select thefeature class or tableused in the definition query.

* Specify the field(s) that the definition query is based on.

* ClickRunto create the index.

Alternative Options:

* Option B: Add Spatial Index

* Spatial indexes optimize spatial queries (e.g., finding features within an area). This does not address attribute-based definition query lag.

* Option C: Recalculate Extent

* Recalculating the extent corrects boundary discrepancies in spatial datasets but has no impact on attribute query performance.

Thus, adding anattribute indexis the correct action to resolve lag in definition queries.

QUESTION 52

A GIS data administrator needs to implement an offline mobile editing workflow that will include feature classes that participate in a geometric network.

Which versioning model should the data administrator use?
* Branch versioning
* Traditional versioning with move edits to base
* Traditional versioning without move edits to base

Geometric networks are not supported inbranch versioningor workflows where edits are moved directly to the base table. Therefore,traditional versioning without move edits to baseis the only viable option for implementing an offline mobile editing workflow with feature classes that participate in a geometric network.

1. Why Use Traditional Versioning Without Move Edits to Base?

* Support for Geometric Networks:

* Geometric networks are only compatible with traditional versioning workflows. Branch versioning does not support geometric networks, and using the “move edits to base” option bypasses the versioning framework required for geometric networks.

* Offline Mobile Editing:

* Traditional versioning supports creating replicas that allow offline editing and subsequent synchronization. This workflow is critical for mobile editing scenarios.

2. Why Not Other Options?

* Branch Versioning:

* Branch versioning is designed for feature services and web-based workflows but does not support geometric networks.

* Traditional Versioning with Move Edits to Base:

* This option moves edits directly to the base table, which is incompatible with geometric networks and versioning workflows that require offline editing.

Steps to Configure Traditional Versioning Without Move Edits to Base:

* Register the feature classes and datasets (including geometric networks) with traditional versioning in ArcGIS Pro.

* Create a replica to support offline editing workflows.

* Synchronize edits back to the geodatabase after offline editing, reconcile, and post to integrate changes into the Default version.

References from Esri Documentation and Learning Resources:

* Traditional Versioning Overview

* Geometric Networks and Versioning

Conclusion:

Usingtraditional versioning without move edits to baseis the only method that supports offline mobile editing workflows while maintaining compatibility with geometric networks.

QUESTION 53

A telecommunications company implements branch versioning for their organization. The default version is the published version that portal users see and editors can post edits to.

Which version access level should be set?
* Public
* Protected
* Private

In a branch versioning workflow where thedefault versionis the published version that users see and editors can post edits to, setting the access level toProtectedis the best choice.

1. What Does the Protected Access Level Do?

* TheProtectedaccess level allows users to view and query the version but restricts editing to authorized users only.

* This ensures that only authorized editors can post changes to the default version, maintaining data integrity while allowing portal users to access the published version.

2. Why Not Other Options?

* Public:

* A public version allows anyone with appropriate permissions to edit the version. This could lead to uncontrolled changes and data integrity issues.

* Private:

* A private version restricts access to the version to only the owner and specific users, which is unsuitable when the default version is meant to be the published version visible to all portal users.

Steps to Configure Protected Access Level:

* OpenArcGIS ProorArcGIS Enterprise Manager.

* Navigate to the version management settings for the default version.

* Set theAccess LeveltoProtected.

* Ensure that editors with appropriate privileges are assigned to post changes to the default version.

References from Esri Documentation and Learning Resources:

* Version Access Levels in Branch Versioning

* Branch Versioning Workflows

Conclusion:

Setting the default version toProtectedensures a balance between providing access to portal users and restricting edits to authorized personnel.

QUESTION 54

An organization needs to edit GIS data using web services. The data must be stored locally in the organization’s servers. Specific business fields must be indexed in the database to help with performance.

Which storage should be used for thedata?
* Enterprise geodatabase
* File geodatabase
* Hosted relational database

Comprehensive Detailed Step-by-Step Explanation with All Enterprise Geodata References:

AnEnterprise geodatabaseis the most appropriate choice for this scenario due to the following reasons:

1. Requirement to Store Data Locally on Organization’s Servers

* AnEnterprise geodatabaseallows organizations to store GIS data locally in their own database management systems (DBMS), such as PostgreSQL, SQL Server, or Oracle.

* This meets the requirement of maintaining control over data storage and ensuring the data resides within the organization’s

infrastructure.

2. Editing GIS Data via Web Services

* Enterprise geodatabases seamlessly integrate with ArcGIS Server, enabling data editing via web services.

* Organizations can publish feature services to allow authorized users to edit GIS data in real-time or in a disconnected environment (via sync).

* These services support advanced editing workflows, including versioning and conflict resolution.

3. Indexing Specific Business Fields for Performance

* Enterprise geodatabases offer robust indexing options to enhance query and editing performance.

* You can:

* Create attribute indexeson fields that are frequently queried.

* Usespatial indexesto improve the speed of spatial queries.

* This level of customization helps meet the performance demands of specific business workflows.

4. Advantages Over Other Storage Options

* File Geodatabase:

* While it is suitable for smaller datasets and local storage, it does not support multi-user editing, integration with web services, or advanced indexing for business fields.

* Hosted Relational Database:

* This option is part of ArcGIS Online or ArcGIS Enterprise managed services and stores data in the cloud, which contradicts the requirement for local storage.

* It also does not provide the same level of control or indexing capabilities as an enterprise geodatabase.

References from Esri Documentation and Learning Resources:

* Enterprise Geodatabases-ArcGIS Pro Documentation

* Configuring Indexes in Geodatabases

* Publishing Feature Services for Editing

Conclusion:

AnEnterprise geodatabasenot only meets all the stated requirements (local storage, web service editing, and indexed fields for performance) but also provides additional scalability, security, and multi-user editing capabilities.

QUESTION 55

A GIS data administrator is unable to upgrade the geodatabase while editors have active sessions and are working on editing workflows.

What should the editors do?
* Reconcile and post edit versions
* Disconnect from their active session
* Save edits and stop editing session

Scenario Overview:

* The GIS data administrator is unable to upgrade the geodatabase because editors have active sessions and are working on editing workflows.

* Active connections lock the geodatabase, preventing upgrades or maintenance operations.

Solution:

* Editors mustdisconnect from their active sessionto allow the geodatabase upgrade to proceed.

Disconnecting ensures no locks are held on the database objects.

* The administrator can also useGeodatabase Administration toolsto manually disconnect all users if necessary.(ArcGIS Documentation: Disconnect Users) Alternative Options:

* Option A:Reconcile and post edit versions is unnecessary as the issue is related to active database sessions, not data versioning.

* Option C:Saving edits and stopping editing sessions alone does not close the database connection, leaving locks in place.

Therefore, editors mustdisconnect from their active sessionfor the geodatabase upgrade to proceed.

QUESTION 56

A GIS administrator learns that geodatabase users report decreasing performance when adding data from child versions to their map.

* The organization uses a complex traditional version tree architecture

* Python script completes batch-reconcile/post operations, compresses the geodatabase, and data owners rebuild indexes and update statistics

* Python script runs overnight with little to no geodatabase connections being made Which Analyze Datasets parameter should be checked?
* Include System Tables
* Analyze Archive Tables For Selected Datasets
* Analyze Base Tables For Selected Datasets

When users experience performance issues while adding data from child versions in a complex traditional version tree, it often indicates problems with thebase tables. TheAnalyze Base Tables For Selected Datasets parameter is the most relevant in this case.

1. Role of Base Tables in Traditional Versioning

* In traditional versioning, thebase tablestores the original data for the feature class or table. Changes made in child versions are tracked in delta tables (Adds and Deletes).

* If the base table is not optimized (e.g., outdated statistics, fragmented indexes), performance can degrade when querying or rendering data.

2. Why Analyze Base Tables?

* TheAnalyze Base Tables For Selected Datasetsparameter evaluates and updates the database statistics for the base tables to improve query optimization.

* This process ensures the database query optimizer can make efficient decisions when retrieving data.

3. Why Not Other Options?

* Include System Tables:

* This analyzes geodatabase system tables, which are crucial for administrative tasks but unrelated to performance issues with user datasets.

* Analyze Archive Tables For Selected Datasets:

* This is specific to datasets with archiving enabled. There is no mention of archiving being used in this scenario.

Steps to Analyze Base Tables:

* OpenArcGIS Proor use a Python script with theAnalyze Datasetstool.

* Specify the datasets with performance issues.

* Select theAnalyze Base Tables For Selected Datasetsparameter.

* Run the tool and monitor the updated statistics.

References from Esri Documentation and Learning Resources:

* Analyze Datasets Tool

* Improving Query Performance

Conclusion:

TheAnalyze Base Tables For Selected Datasetsparameter should be used to update statistics and improve performance when adding data from child versions in traditional versioning.

QUESTION 57

After running a Compress, the GIS administrator needs to check if the Adds and Deletes tables for Buildings are empty before unregistering as versioned.

What should be referenced by the GIS administrator?
* sdejayers
* table_registry
* gdbjtems
To determine if theAddsandDeletestables for the “Buildings” dataset are empty before unregistering as versioned, the GIS administrator needs to reference thesde_layerstable.

1. Purpose of the sde_layers Table

* Thesde_layerstable tracks the relationship between base tables and the associated delta tables (Adds and Deletes).

* For each versioned dataset, the sde_layers table contains entries linking the dataset to its corresponding A and D tables (e.g., A_<ObjectID> and D_<ObjectID>).

2. Steps to Verify Adds and Deletes

* Identify theObjectIDof the Buildings dataset in thesde_layerstable.

* Query the Adds table (A_<ObjectID>) and Deletes table (D_<ObjectID>) associated with the Buildings dataset:

SELECT COUNT(*) FROM A_<ObjectID>;

SELECT COUNT(*) FROM D_<ObjectID>;

* If both queries return 0, the Adds and Deletes tables are empty, and it is safe to unregister the dataset as versioned.

3. Why Not Other Options?

* table_registry: This table tracks registered datasets but does not provide information about delta tables or their contents.

* gdb_items: This table stores metadata for datasets but does not have details on delta table contents.

References from Esri Documentation and Learning Resources:

* Compressing a Geodatabase-ArcGIS Pro Documentation

* Delta Tables in Versioned Geodatabases

Conclusion:

The GIS administrator must query thesde_layerstable to verify the Adds and Deletes tables before unregistering the dataset as versioned.

QUESTION 58

A GIS data administrator is creating database connection files for all editors. For security reasons, the database connection files must point to the edit version for the user.

Which catalog option should be used?
* Connection Properties

* Database Properties
* Geodatabase Connection Properties

To create database connection files that point to a specific edit version for users, theGeodatabase Connection Propertiesoption should be used.

1. What are Geodatabase Connection Properties?

* This option allows you to set specific connection details, such as the target version (edit version) within a traditionally versioned geodatabase.

* It ensures that each user connects directly to their designated version, isolating edits and preventing conflicts in multi-user environments.

2. Why Use Geodatabase Connection Properties?

* Provides control over which version of the geodatabase the user accesses.

* Ensures security and consistency by directing users to their designated edit versions rather than the default version.

* Allows administrators to pre-configure connection files for distribution to users.

3. Why Not Other Options?

* Connection Properties:

* Refers to general connection details like username, password, and server but does not allow specifying a particular version.

* Database Properties:

* Refers to database-level settings but does not configure specific user-level connection details, such as the target version.

Steps to Use Geodatabase Connection Properties:

* InArcGIS Pro, go to theCatalog Pane.

* Create a new database connection by selectingAdd Database.

* In the connection properties dialog, specify:

* The user’s credentials.

* Thespecific versionthe user will edit under the Geodatabase Connection Properties section.

* Save the connection file and distribute it to the user.

References from Esri Documentation and Learning Resources:

* Database Connections in ArcGIS Pro

* Versioned Database Connections

Conclusion:

UsingGeodatabase Connection Propertiesensures that each database connection file is pre-configured to point to the appropriate edit version for the user, enhancing security and workflow efficiency.

QUESTION 59

An editor is loading records from a shapefile to a feature class that is registered as versioned using the following workflow:

* Create a child version from Default

* Append 500,000 records while connected to the child version

* Reconcile and post the child version to Default

The reconcile is taking a long time to complete.

What is causing this issue?
* Conflicting edits need to be resolved
* Default was updated since the new child version was created
* The new child version was not included in the Compress operation

Understanding the Scenario:

* Records are being appended to a child version of a feature class registered as versioned.

* Reconcile and post are taking longer than expected, suggesting complications during version synchronization.

Key Considerations for Reconciliation Performance:

* Conflicting Edits (Option A):Reconciliation time increases if there are many conflicts to resolve.

However, the question does not mention concurrent edits in Default or other child versions, making conflicts less likely to be the main issue.

* Updates in Default (Option B):If Default has been updated since the child version was created, the reconcile process must account for changes in Default. This can significantly increase processing time as it integrates the child version changes with the modifications in Default.

* Compress Operation (Option C):The Compress operation removes redundant states in the geodatabase but does not directly affect reconciliation speed. The question does not indicate that the child version is excluded from compression or that compression is related to the delay.

Steps to Improve Reconciliation Performance:

* Minimize edits to Default during the child version’s workflow.

* Reconcile frequently to avoid large differences between Default and the child version.

* Ensure that Compress operations are run regularly to optimize geodatabase state management.

References:

* Esri Documentation: Reconcile and Post.

* Versioning Best Practices: Guidance on managing Default and child versions to minimize reconcile conflicts.

Why the Correct Answer is B:The delay occurs because Default was updated after the child version was created. The reconciliation process must merge changes from Default with those in the child version, increasing processing time. Conflicts (A) are not mentioned, and compress operations (C) do not directly cause reconciliation delays.

QUESTION 60

Slow performance is observed on a query of an indexed attribute on a large feature class in an enterprise geodatabase.

* A SOL trace reveals that the attribute index is not being used in the query

* The indexed attribute values have a high degree of uniqueness

* The delta tables do not have very many rows

Which tool should be used to resolve this issue?
* Rebuild Indexes
* Compress Geodatabase
* Analyze Datasets
When experiencing slow performance on a query of an indexed attribute in a large feature class within an enterprise geodatabase, and a SQL trace reveals that the attribute index is not being utilized despite the attribute values having a high degree of uniqueness and the delta tables containing few rows, the appropriate action is to rebuild the indexes.

Understanding Indexes in Enterprise Geodatabases:

Indexes are critical for enhancing query performance in databases. They allow the database management system (DBMS) to locate and retrieve data efficiently. Over time, as data is inserted, updated, or deleted, indexes can become fragmented or outdated, leading to suboptimal query performance.

ARCGIS PRO

Rebuilding Indexes:

The Rebuild Indexes tool in ArcGIS Pro is designed to rebuild existing attribute or spatial indexes in enterprise geodatabases. This process reorganizes the index structure, ensuring that the DBMS can effectively utilize the indexes during query execution.

ARCGIS PRO

Steps to Rebuild Indexes:

Access the Rebuild Indexes Tool:

In ArcGIS Pro, navigate to the Analysis tab and click on Tools.

In the Geoprocessing pane, search for and select the Rebuild Indexes tool.

Configure the Tool Parameters:

Input Database Connection: Specify the connection to your enterprise geodatabase.

Include System Tables: Decide whether to include system tables in the rebuild process. Including system tables can help maintain the overall health of the geodatabase but may increase processing time.

Execute the Tool:

Click Run to initiate the index rebuilding process. Monitor the progress and ensure the process completes without errors.

Alternative Options:

Compress Geodatabase: The Compress operation reduces the size of the geodatabase by removing redundant states and versions. While it can improve performance, it doesn’t directly address index fragmentation.

Analyze Datasets: The Analyze Datasets tool updates database statistics, which helps the DBMS optimize query execution plans. However, if indexes are fragmented, analyzing datasets alone may not resolve performance issues.

Given the symptoms described-specifically, the attribute index not being used in queries-the most effective solution is to rebuild the indexes to ensure they are properly structured and utilized by the DBMS during query execution.

QUESTION 61

A wells feature class has one row per well. A well_inspections table has one row for each time a well was inspected. All inspection dates need to be displayed as labels clustered around each well on the map.

Which kind of association should be used to meet this requirement?
* Join
* Relationship class
* Relate

QUESTION 62

A user wants to share a frequently edited points feature class as a web layer. The points contain sensitive attributes and will be read-only for online viewers.

The following workflow is applied:

* Points is registered as versioned

* A standard database view is created for points, which hides the sensitive attributes

* The view is published as a web layer from the Default version

As the points feature class is edited throughout the week, edits are not visible in the web layer.

What should the GIS administrator do?

* Have all editors reconcile and post points edits to Default
* Rebuild indexes and calculate database statistics on points
* Alter the view to use a versioned view as the source

The issue arises because the standard database view is based on the base table of the points feature class, which does not include edits made in child versions. To resolve this, the database view must reference a versioned viewto reflect changes in the Default version.

1. What Is a Versioned View?

* Aversioned viewis created when a feature class is registered as versioned.

* It allows querying and editing versioned data, including edits made in the Default version and child versions.

* A standard database view does not account for the Adds and Deletes delta tables used in versioning, which is why edits are not visible.

2. Why Alter the View to Use a Versioned View?

* By modifying the standard database view to reference the versioned view, the published web layer will reflect changes made in the Default version, including ongoing edits.

* This ensures that updates to the points feature class are visible in the web layer without requiring manual intervention.

3. Why Not Other Options?

* Have All Editors Reconcile and Post Points Edits to Default:

* While this ensures edits are moved to the Default version, it requires continuous manual reconciliation and posting, which is impractical for a frequently edited dataset.

* Rebuild Indexes and Calculate Database Statistics on Points:

* These actions improve query performance but do not address the core issue of the standard view not reflecting versioned edits.

Steps to Alter the View:

* Identify the versioned view associated with the points feature class. It typically has a name like points_EVW.

* Modify the SQL for the existing view to reference the versioned view:

CREATE OR REPLACE VIEW points_web AS

SELECT <fields> FROM points_EVW;

* Update the web layer to use the modified view as the data source.

* Test the web layer to confirm that edits made to the Default version are now visible.

References from Esri Documentation and Learning Resources:

* Versioned Views in Enterprise Geodatabases

* Publishing Data from Views

Conclusion:

To ensure edits made to the points feature class are visible in the web layer, thedatabase view should be altered to reference the versioned view, which accounts for edits in the Default version.