

Troubleshooting SQL Server Enterprise Geodatabase Performance Issues

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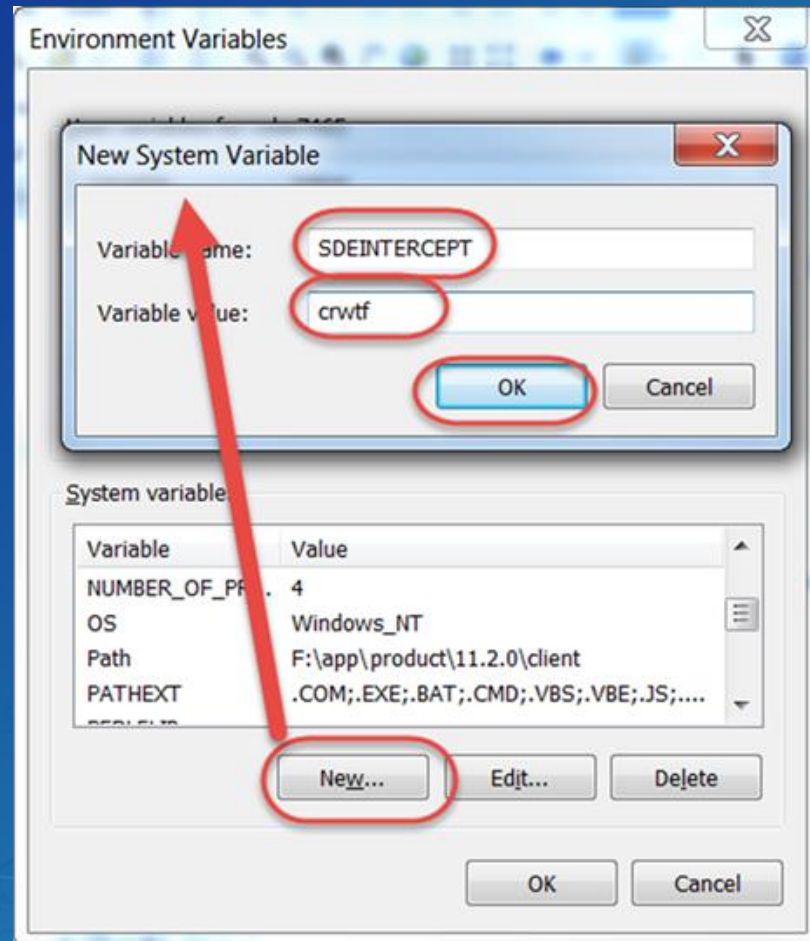
Agenda

- **SDE Intercept (client-side trace)**
- **SQL Server Extended Events (database server trace)**
- **New Storage Method for SQL Server Geometry Attribute in ArcGIS 10.5**
- **Demos**
- **Q & A**

SDE Intercept

- How do we set it up?
 - System Environment Variables
 - Two variables:
 - SDEINTERCEPT
 - crwtf (or crwTf)
 - SDEINTERCEPTLOC
 - C:\TEMP\sdeintercept_file
- What is inside?
 - Esri ArcObjects commands performed by client
 - Time stamp

SDE Intercept



SDE Intercept

```
=====
[ R 17:17:21.091] Command:      TableListTables
[ R 17:17:21.091] Long:         4
[ W 17:17:34.125] Long:         0
[ W 17:17:34.125] Long:        869
```

TablelistTables command took 13 seconds.

SQL Server Extended Event

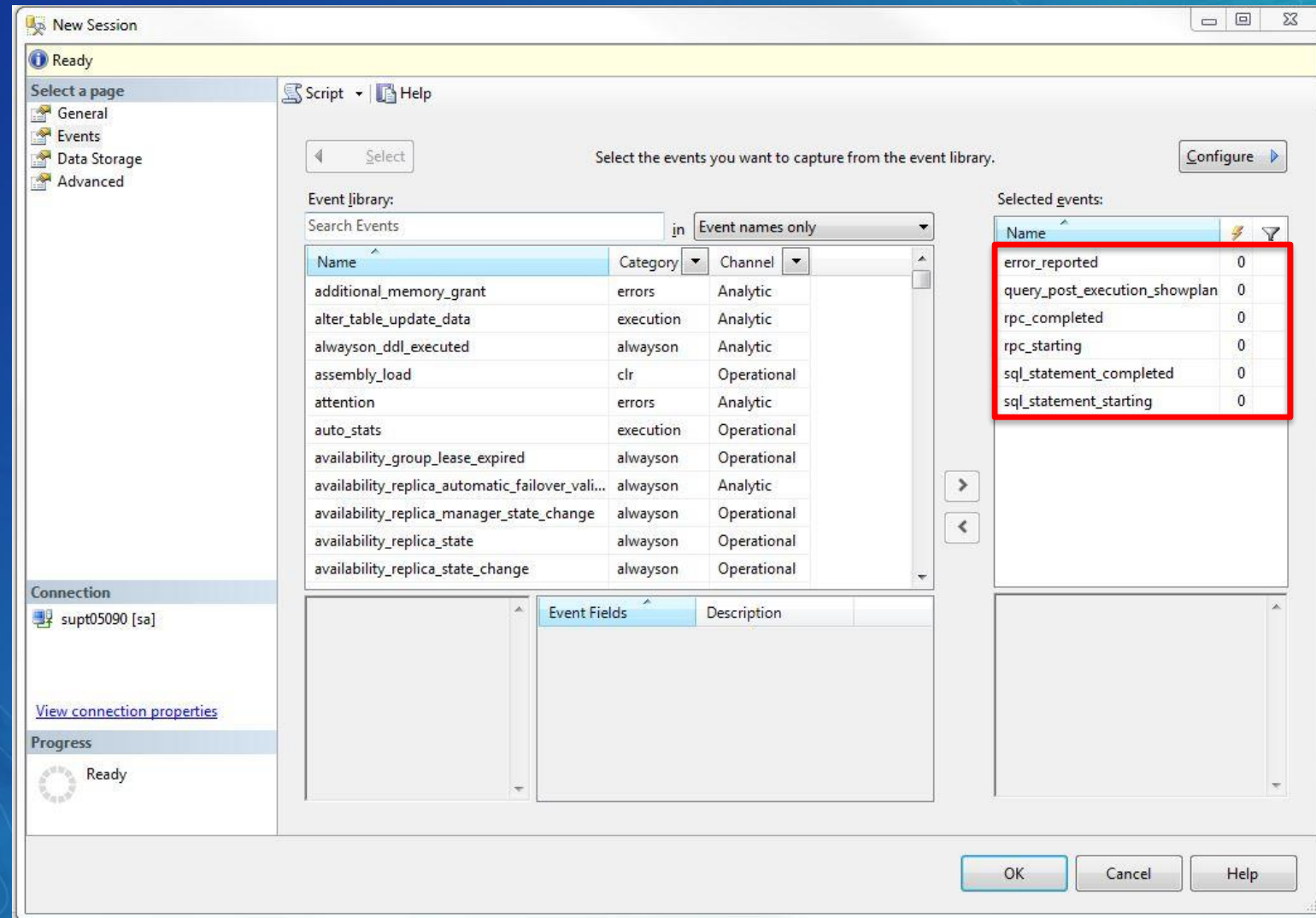
How to set it up?

- Management Studio> Management folder
- Select the most relevant events
- Apply filter to specific events

- `rpc_completed`
- `rpc_starting`
- `sql_statement_completed`
- `sql_statement_starting`
- `query_post_execution_showplan`

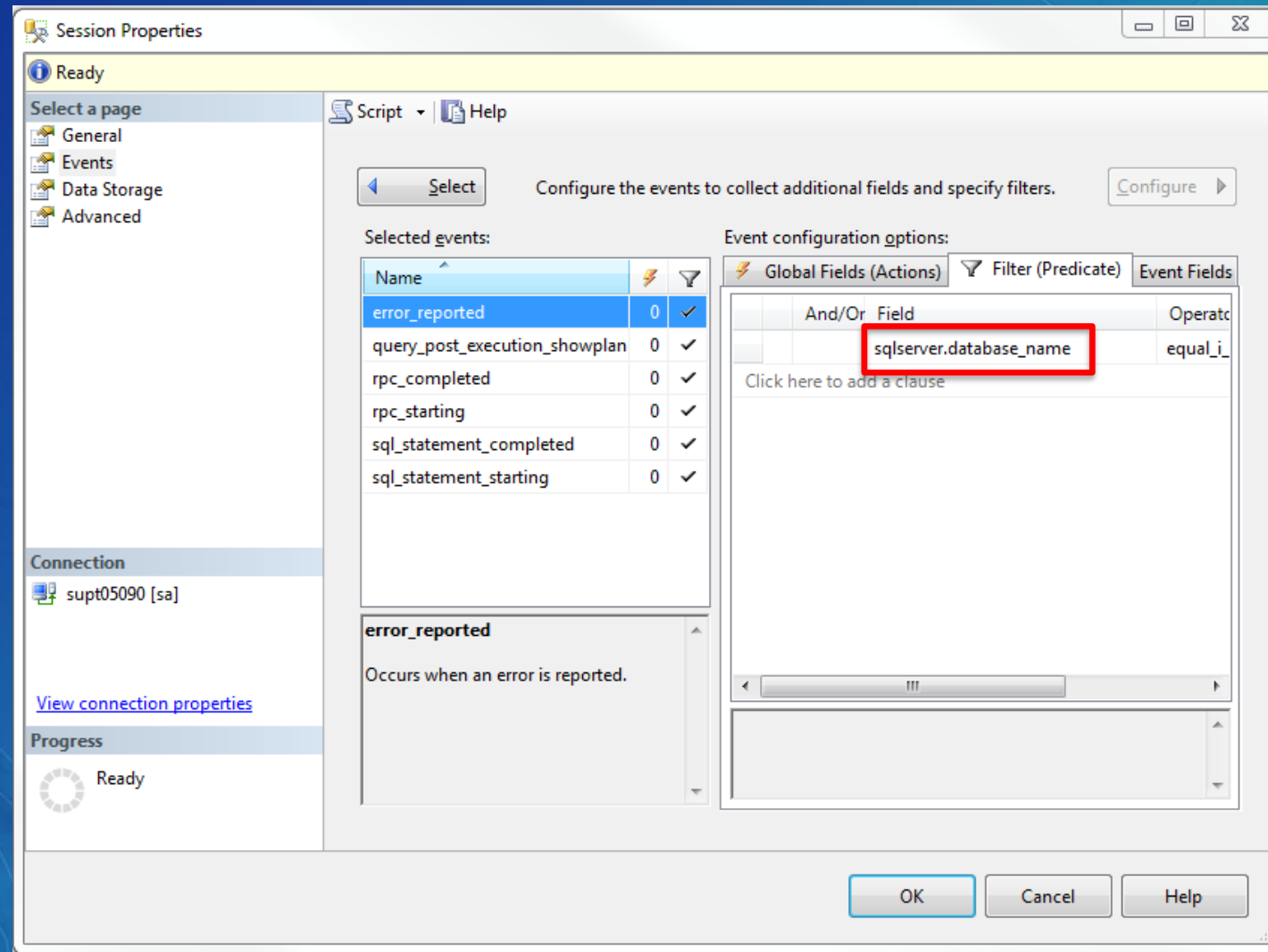
SQL Server Extended Event

Typical Events Used in Troubleshooting Geodatabase Issues



SQL Server Extended Event

Apply Filter to Specific Events



SQL Server Extended Event

- **How to interpret extended event trace**
 - **Sorted events by duration**
 - **Execution plan**

SQL Server Extended Event

Trace Result

supt05090 - GDB: Live Data - Microsoft SQL Server Management Studio (Administrator)

File Edit View Extended Events Project Debug Tools Window Help

Connect supt05090 (SQL Server 12.0.2269 - sa)

Object Explorer

Displaying 1245 Events

name	timestamp	duration
rpc_completed	2017-06-15 16:51:16.5461230	21309
rpc_completed	2017-06-15 16:51:16.4981203	20269
rpc_completed	2017-06-15 16:51:15.7820793	19792
rpc_completed	2017-06-15 16:51:16.0210930	15125
query_post_execution_showplan	2017-06-15 16:51:16.5451230	15000
query_post_execution_showplan	2017-06-15 16:51:16.4971202	14000
rpc_completed	2017-06-15 16:51:16.0370939	12515
rpc_completed	2017-06-15 16:51:16.0520948	11730
rpc_completed	2017-06-15 16:51:15.0140354	10785
rpc_completed	2017-06-15 16:51:14.9870339	10215
rpc_completed	2017-06-15 16:51:16.2911084	10163
rpc_completed	2017-06-15 16:51:15.7560778	9899
rpc_completed	2017-06-15 16:51:15.4600609	9756

Event: query_post_execution_showplan (2017-06-15 16:51:16.5451230)

Details Query Plan

Query 1: Query cost (relative to the batch): 100%

Compute Scalar Cost: 0 %

Clustered Index Insert [CWI_PrimaryKey] Cost: 3 %

Sequence Project (Compute Scalar) Cost: 0 %

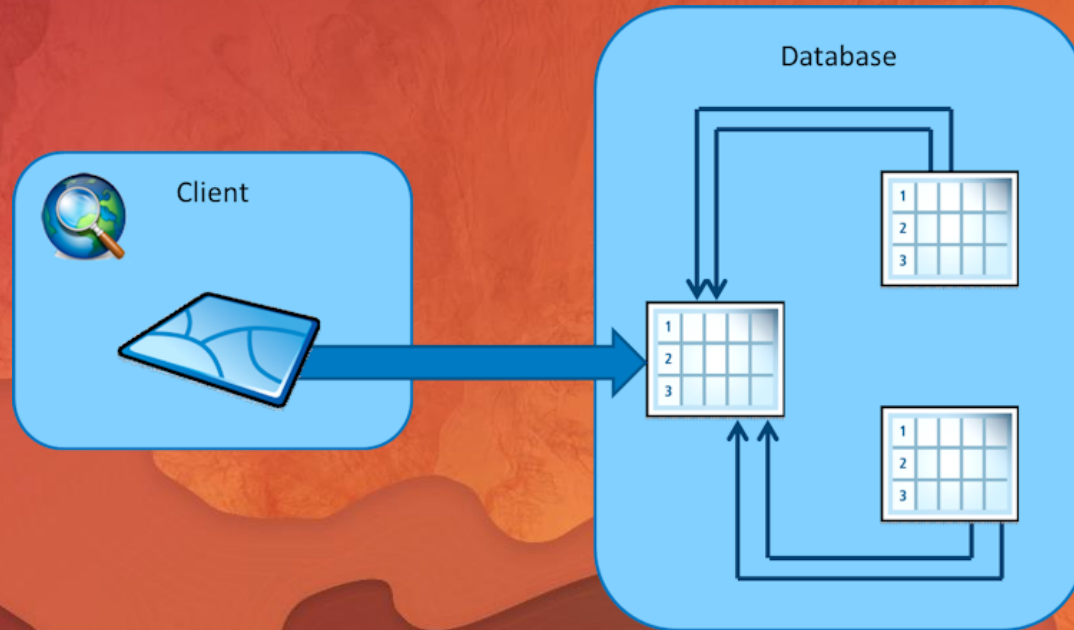
Segment Cost: 0 %

Sort Cost: 4 %

Find "1073741892", Entire Solution

New Geometry Attribute Storage in ArcGIS 10.5

- Geometry attribute will be stored directly in business table.
- Better performance without join.
- 10.3 client connection is not supported.



Demo

“My Views are performing slowly”

Demo - “My views are performing slowly”

- ArcGIS Client vs. SQL Server Management Studio
- What tools will be most helpful in understanding this?
 - Trace
 - Execution
 - Client Statistics



Demo

New storage for improved
performance in 10.5

Conclusion

- SDE Intercept
- SQL Server Extended Event
- New storage for improved performance in 10.5
- Contact Esri Technical Support for assistance

Additional Resources

How To: Diagnose ArcSDE connection and performance issues using SDEINTERCEPT

<http://support.esri.com/technical-article/000010355>

What's new in ArcGIS Server 10.5.1

<http://server.arcgis.com/en/server/latest/get-started/windows/what-s-new-in-arcgis-for-server.htm>

FAQ: How can ArcSDE performance be improved?

<http://support.esri.com/technical-article/000006051>

Geodatabase maintenance

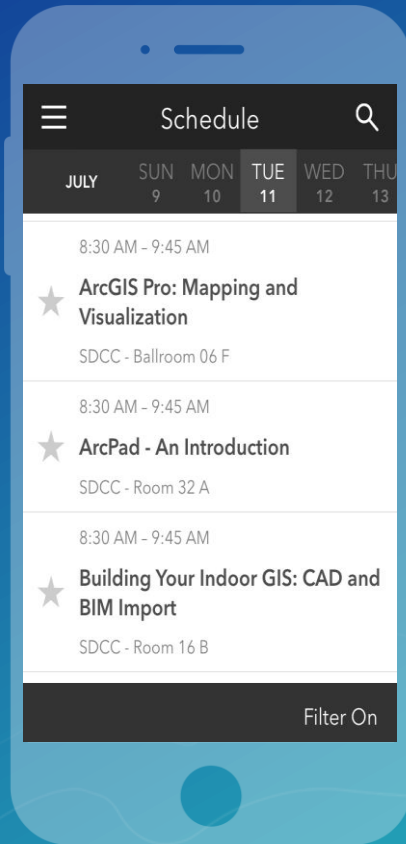
<http://desktop.arcgis.com/en/arcmap/10.3/manage-data/gdbs-in-db2/overview-maintenance.htm>

Please Take Our Survey on the Esri Events App!

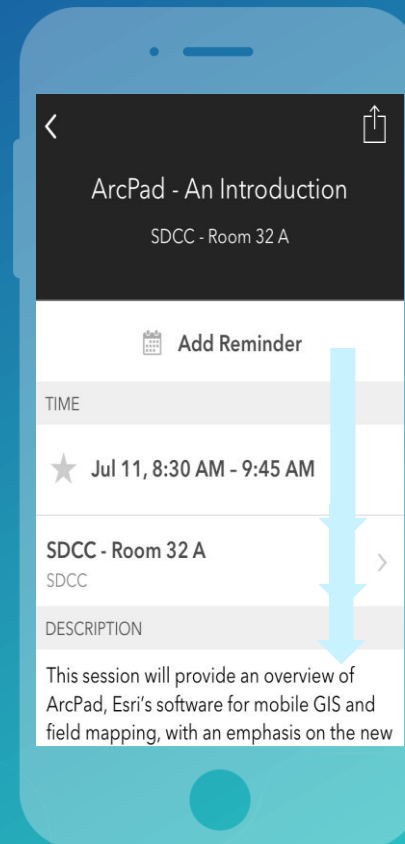
Download the Esri Events app and find your event



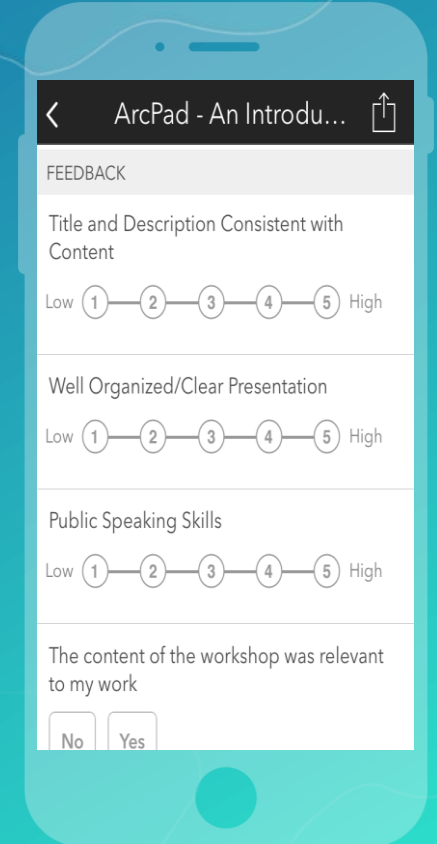
Select the session you attended



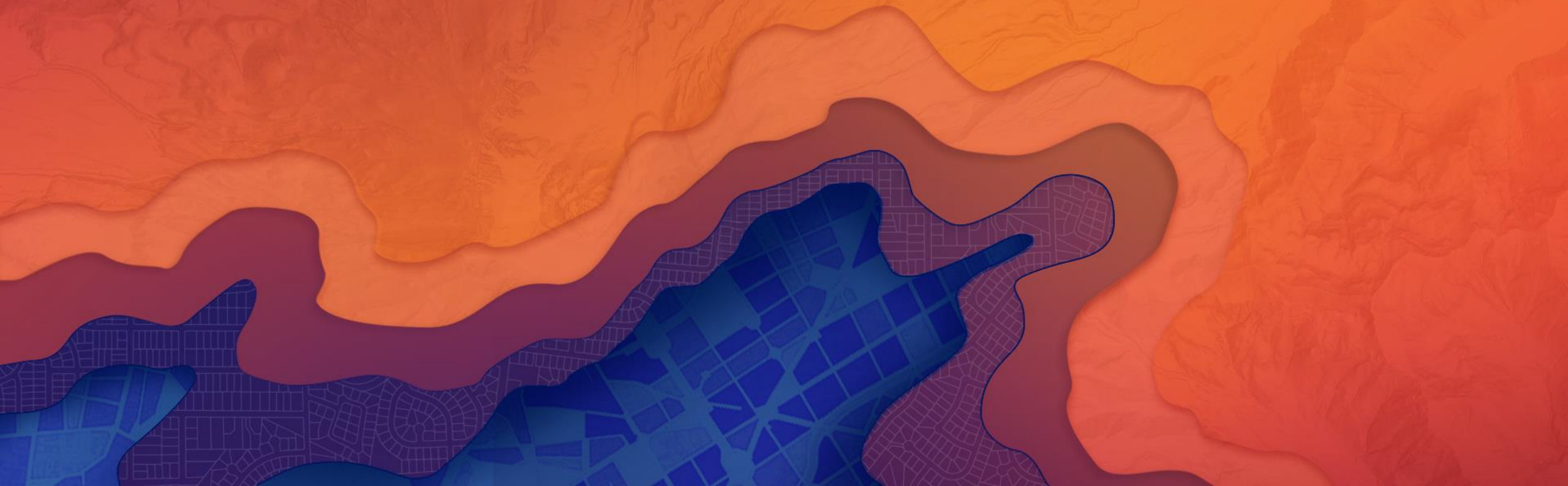
Scroll down to find the survey



Complete Answers and Select "Submit"



Questions?





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