Zero Copy Cloning

Hello, Clone !

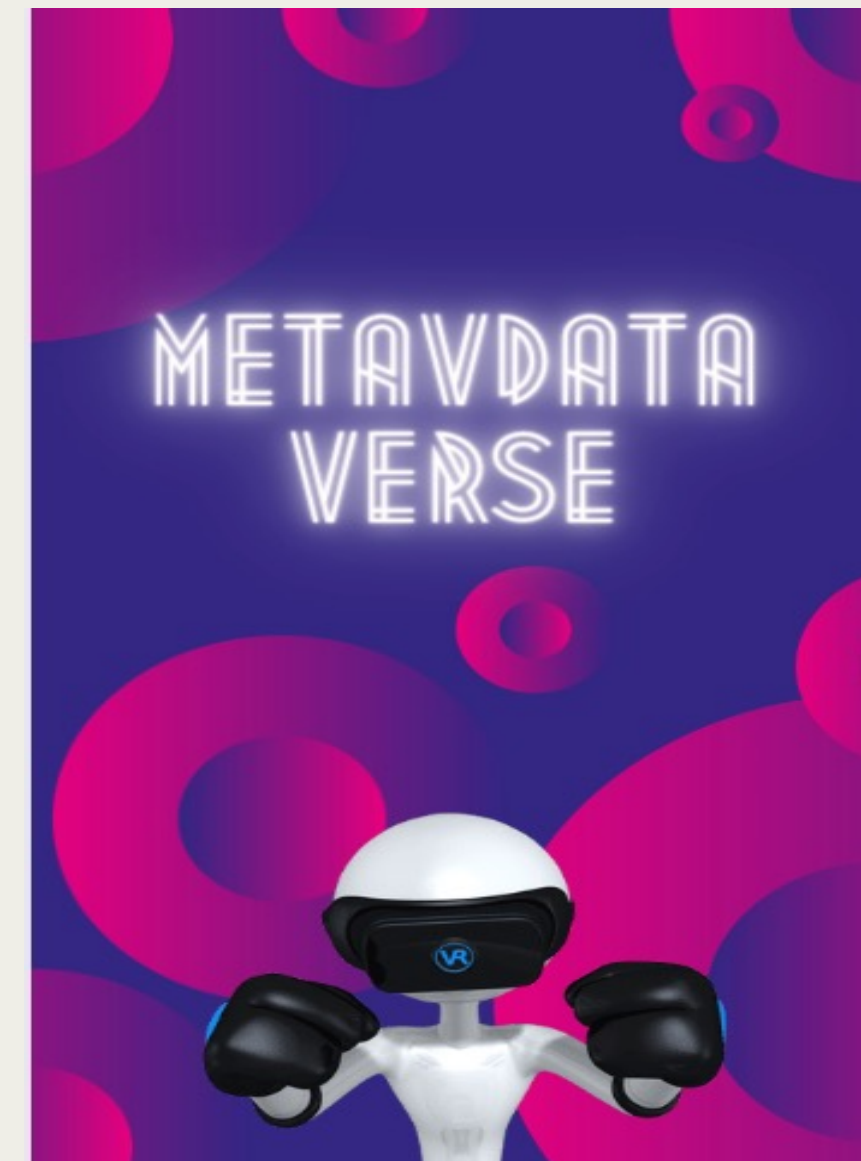**Sujith Nair**
Cloud Data Architect
Snowflake Snowpro Certified

What is zero copy cloning, what are its advantages over create table as select ?

Zero Copy cloning is a metadata operation which creates an exact copy of the object being cloned. Because it is a metadata operation the data is not being replicated when a table ,schema or database is being cloned, rather it creates a pointer to the same data.

Advantages:
- It is faster to create
- Saves credit consumption
- Saves storage space

The grants do not get copied over when we clone a table, we need to use the COPY GRANTS command along with the clone to ensure that the privileges get copied over.

CREATE TABLE CLONE_CUSTOMER CLONE CUSTOMER

The grants do not get copied over when we clone a table, we need to use the COPY GRANTS command along with the clone to ensure that the privileges get copied over.

CREATE TABLE CLONE_CUSTOMER CLONE CUSTOMER COPY GRANTS

When cloning a table do the CLUSTER Keys get copied over?

When we clone a table all the properties including comments, cluster keys, data get copied over, the only thing that does not get copied over are grants which can be included with the COPY GRANTS command

CREATE TABLE CLONE_CUSTOMER CLONE CUSTOMER

Zero copy cloning can be used to backup tables that are required after the time travel retention period is complete.

Zero copy cloning can be used to create new DEV/QA environments or when data needs to be fully refreshed in these env.
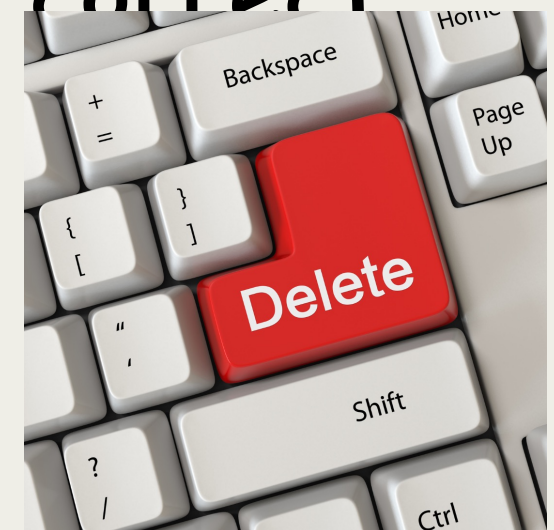
The way I would do this is by

- creating a clone of the prod table with the help of time travel to a point before the data was truncated/updated.

```
CREATE TABLE MYDB.PUBLIC.CLONE_CUSTOMER   CLONE   MYDB.PUBLiC.CUSTOMER
AT (TIMESTAMP => TO_TIMESTAMP_TZ('04/05/2024 01:02:03', 'mm/dd/yyyy hh24:mi:ss'));
```

- Validating the data to verify that the clone table data is correct
- Truncating the original table
- Inserting data from the clone to the original table

You have a table in a snowflake prod account and you want to clone it and bring it to a snowflake database in a different account(QA), can you use zero copy cloning to do that ?

Zero Copy cloning works only across databases inside an account, we cannot do zero copy cloning across accounts.

If zero copy cloning does not work, how can you bring the data from one account to another?

- We can use SHARES to share the data a between the accounts and then create a new table from that shared data

- We can unload the data from snowflake into cloud storage and then use the COPY command to copy data to the data in a different account.

- We can use python to copy data from one snowflake account to another

- Database replication

If I clone a table and update the clone will the original table also get updated

When the clone is created, they reference the same data files at creation, however whenever there is an update/insert new micro-partitions are created which are used to store the changed data. Hence the 2 tables will diverge in what they will return when the table is updated

Thank you!

Learn2CloudData Solutions