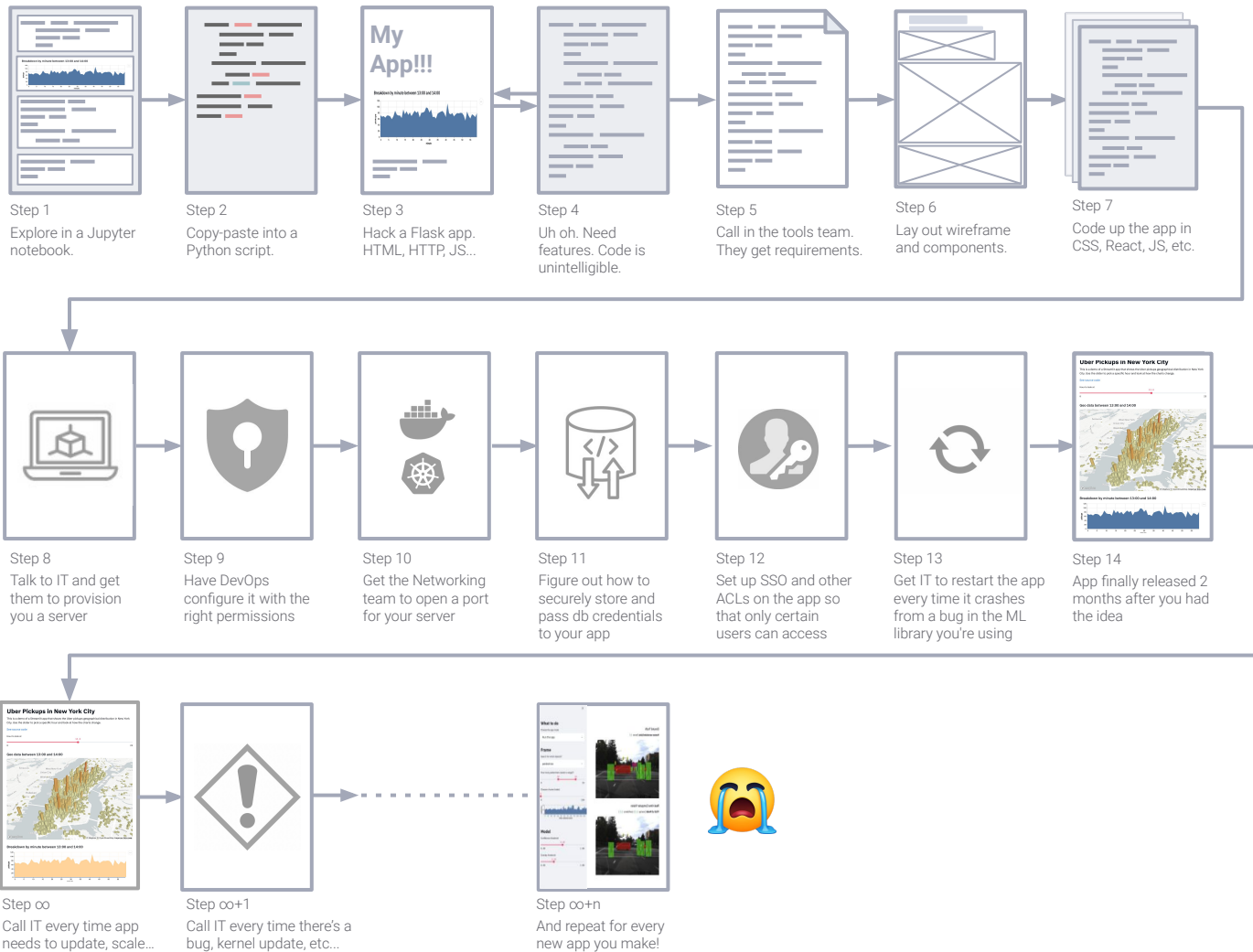




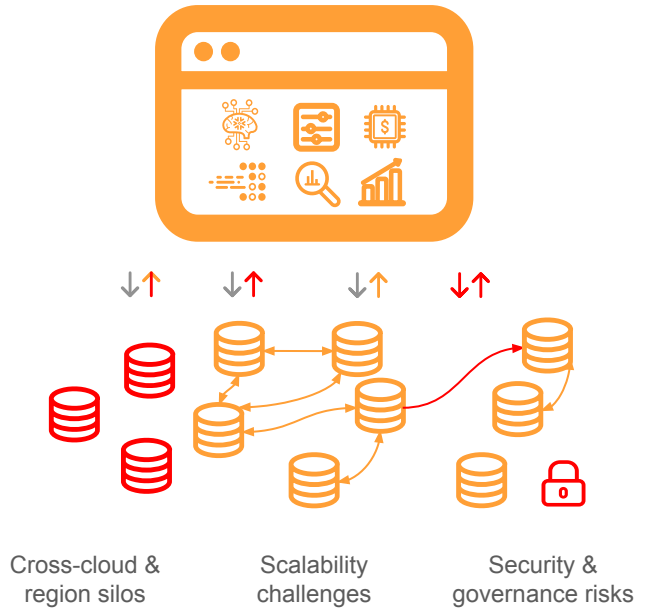
SNOWFLAKE + Streamlit

POWERED BY  snowflake®

Getting from data to action is a long, slow journey



Modern application development is complex, slowing innovation and hurting growth

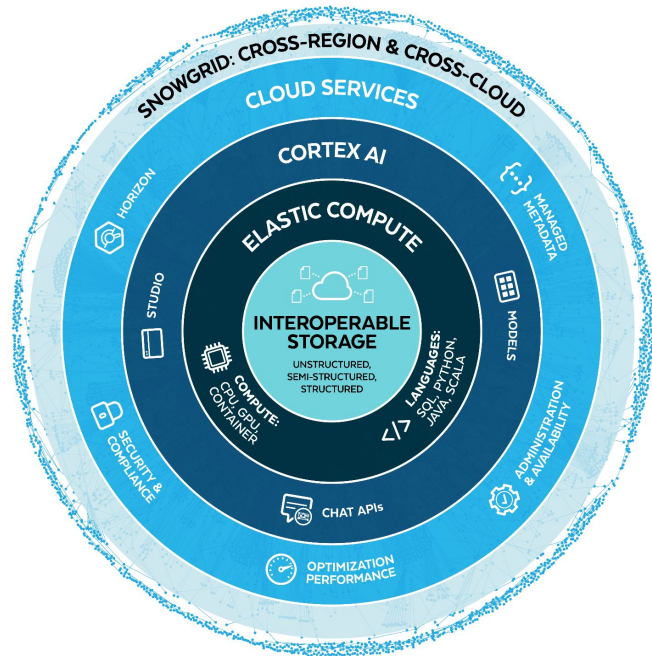


Slower time-to-market

Operational burden

Limited revenue growth

Snowflake makes it simple with a single platform for development and distribution



BUILD FASTER

Streamline your architecture and ship faster with a unified platform for data and AI applications

SCALE EASILY

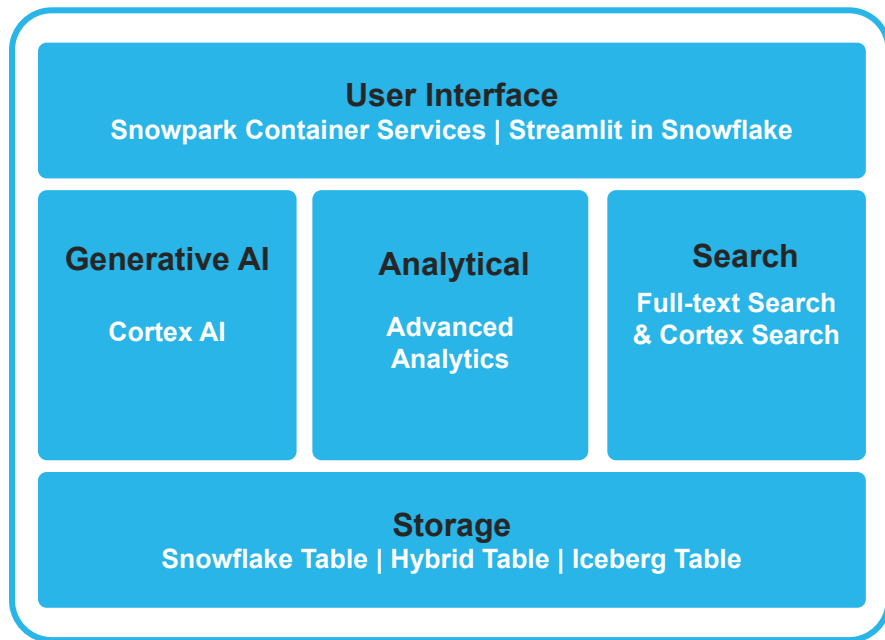
Reduce operational burden with a fully managed service that allows you to automatically scale to meet demand.

DISTRIBUTE SECURELY

Distribute and monetize data and full-stack applications to thousands of customers in the AI Data Cloud.



Build faster with a unified platform



INTERACTIVE INTERFACES

Build visually rich interfaces with Streamlit in Snowflake or bring your own frontend with Snowpark Container Services.

AI & DATA SERVICES

Securely build generative AI and analytical components with serverless access to top-tier LLMs and on-demand access to CPUs & GPUs.

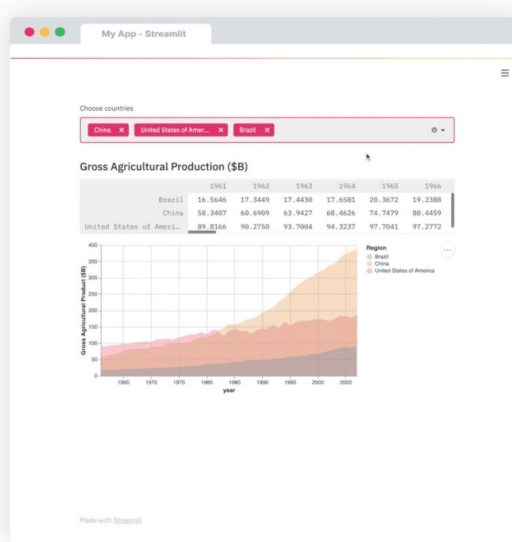
UNIFIED DATA

Access unstructured, semi-structured, and structured data and data on-premises or in open table formats to adapt to any architectural pattern.



Streamlit Open Source Python Library

```
1 import streamlit as st
2 import pandas as pd
3 import altair as alt
4
5 @st.cache
6 def get_url_data():
7     AWS_BUCKET_URL = "https://streamlit-demo-data-s3-us-west-2.amazonaws.com"
8     df = pd.read_csv(AWS_BUCKET_URL + "/agri.csv.gz")
9     return df.set_index("Region")
10
11 df = get_url_data()
12
13 countries = st.multiselect(
14     "Choose countries", list(df.index), ["China", "United States of America"]
15 )
16
17 data = df.loc[countries]
18 data /= 1000000.0
19
20 st.write("### Gross Agricultural Production ($B)", data.sort_index())
21
22 data = data.T.reset_index()
23 data = pd.melt(data, id_vars=["index"], rename(
24     columns={"index": "year", "value": "Gross Agricultural Product ($B)"})
25 )
26
27 chart = {
28     "alt": alt.Chart(data)
29     .mark_area(opacity=0.3)
30     .encode(
31         x="year:Y",
32         y="alt('Gross Agricultural Product ($B):Q', stack=None,
33             color='Region:O')",
34     )
35 }
36
37 st.altair_chart(chart, use_container_width=True)
```



Bring your data to life in minutes by building an interactive app – all in Python

Get started today

- Install Streamlit
- Connect to Snowflake with Snowflake's Python connector
- Create!



Streamlit Open Source Ecosystem



Streamlit Open Source

Data apps bring the power of analytics, machine learning, Generative AI. Get started by building on your laptop



Community Cloud

Deploy public apps for free on Community Cloud



Streamlit in Snowflake

What is it?

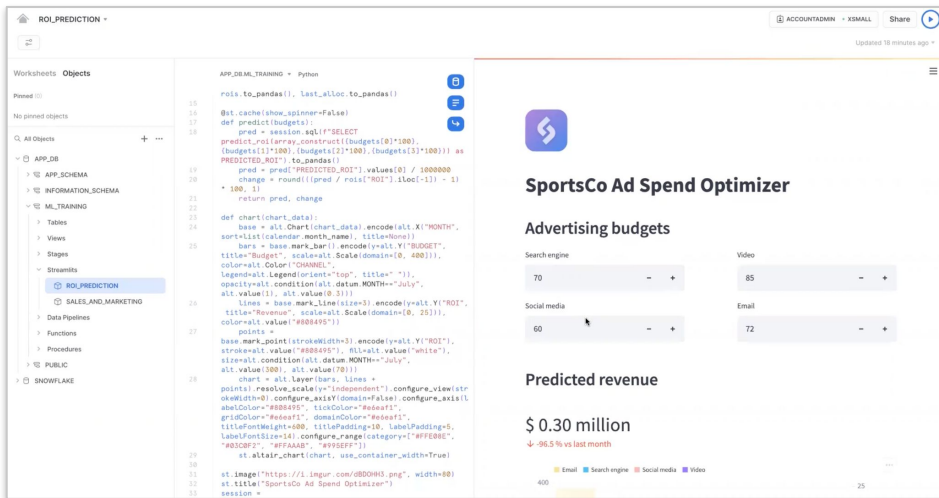
Streamlit is an open-source Python library for app development natively integrated into Snowflake for scalable, reliable, and secure deployment

Value

Use Python to turn data and ML models into interactive applications that empower stakeholders to self-serve insights and gain trust in results

How it works

Quickly add, adjust or remove components in code editor, visualize changes in the preview screen, and deploy to share URL with coworkers with one click



Key Features of Streamlit in Snowflake

Snowflake manages the underlying compute and storage for Streamlit apps.

Streamlit apps are Snowflake objects and use Role-based Access Control (RBAC) to manage access to Streamlit apps.

Streamlit apps run on Snowflake warehouses and use internal stages to store files and data.

Streamlit in Snowflake works seamlessly with Snowpark, user-defined functions (UDFs), stored procedures, and Snowflake Native App Framework.

When working with Snowsight, you use the side-by-side editor and app preview screen to quickly add, adjust, or remove components. In this way, you can modify your code and see changes in the app right away.



Challenges and Benefits

Current Challenges

Getting from data to action is a long, slow journey

Time to value is long and expensive

Customers use multiple tools to collect data, visualize data, interact with data, write back data to Snowflake

Feature Benefits

Streamlit in Snowflake(SiS) provides a one stop shop platform for customers to build, deploy and share data apps.

Built on top of Snowflake's governance, RBAC and security



Which, Who, and Why?



Which Workloads?

Applications

- Dashboarding
- CRUD Applications
- Writing back data to DB
- Traditional AI/ML
- GenAI Apps



Who Does This Impact?

Industries

All industries can benefit

Builder Personas

- Data scientists / analysts
- Engineers
- Anyone who uses Python

Consumer Personas

Business stakeholders



Why Is This Important?

Customers can build internal applications that unlock insights for business stakeholders

Further, they can also use Streamlit as a UX within the Native Apps Framework

Snowpark Container Services Overview

WHAT IS IT

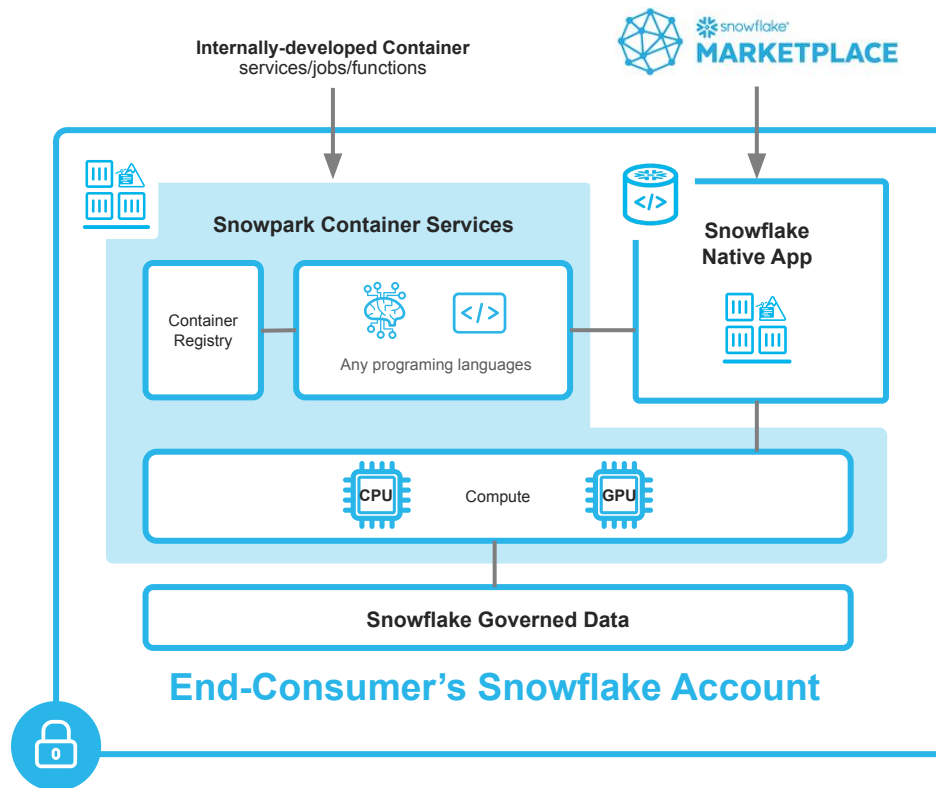
Fully managed container service for teams to effortlessly deploy apps and models (packaged as containers) in configurable CPU & GPU compute instances.

WHY USE IT

- Flexibility to run any programming language
- Streamline container operations including monitoring
- Easy to monitor costs with single metric for both the compute instances and managed kubernetes-based clusters

HOW TO USE IT

Build and package image using your tool of choice such as docker. Register image and deploy in a few lines of code by defining desired set of compute resources





DEMO

THANK YOU



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