

# ***OP Tableau User Group***

## ***UC Davis Tableau Program Overview***

# Agenda

1. Data Analyst Community Engagement Strategies
2. Tableau Server (AggieDash) Architecture
3. Partner Program and RDOH
4. Tableau Prep Use Case Example
5. Tableau Dashboard Example (LOD / Context filters)

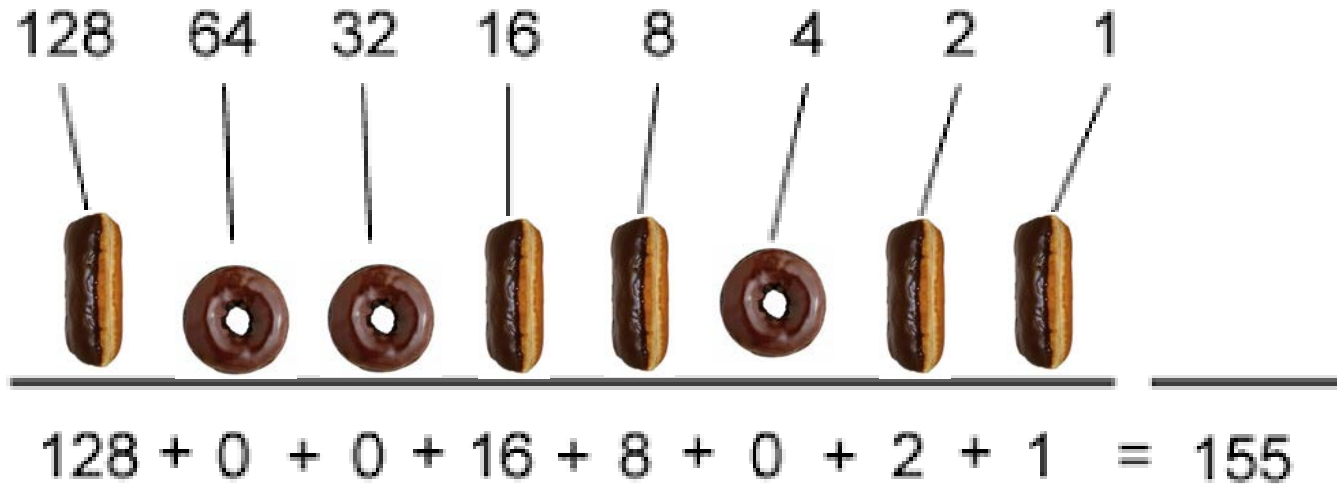
# Data and Donuts

## Engaging the Distributed Community of Expertise

1. Presentations on data analysis projects and processes
2. New dashboards developed by BI and Partners
  - a) Design Tips and Tricks
3. Data requests and requirements
  - a) I manually get this data now, how can it be automated?
  - b) Security / FERPA guidance for data handling

# Data and Donuts

March 12, 2018



# Today's Agenda

**Erika Jackson**

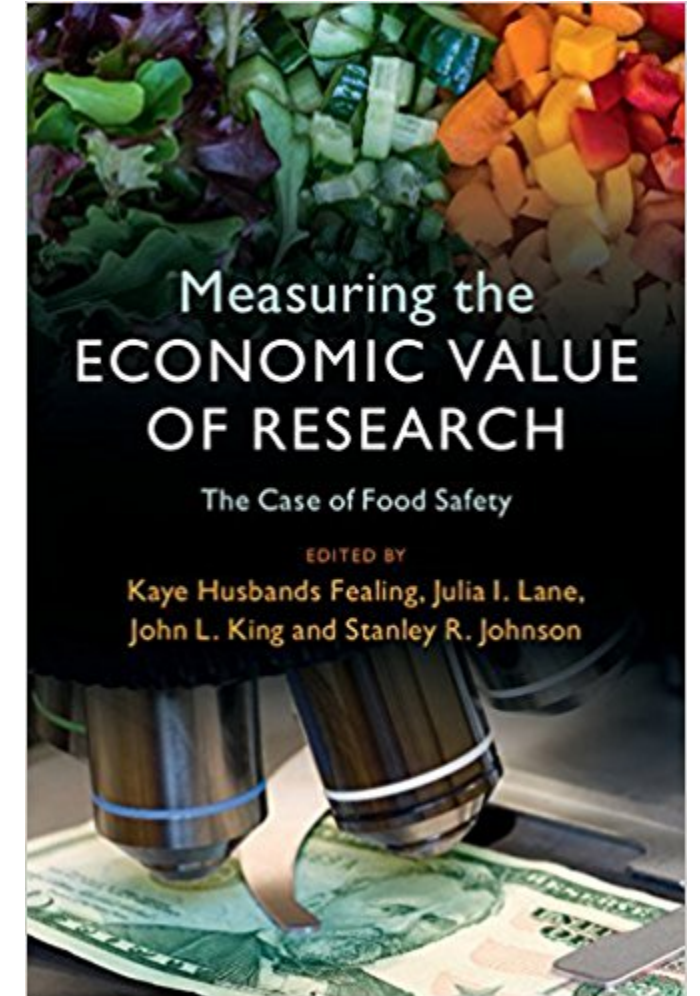
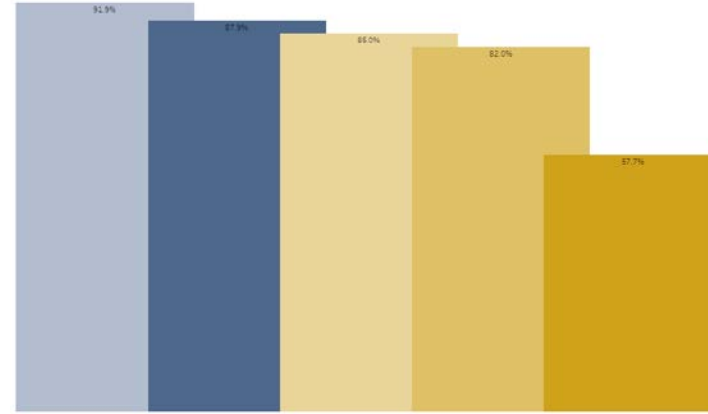
Gradation / Retention

**Nick Barbulesco / Maksym  
Monastyrskyy**

BI Program Update and Discussion  
Groups

**John L. King**

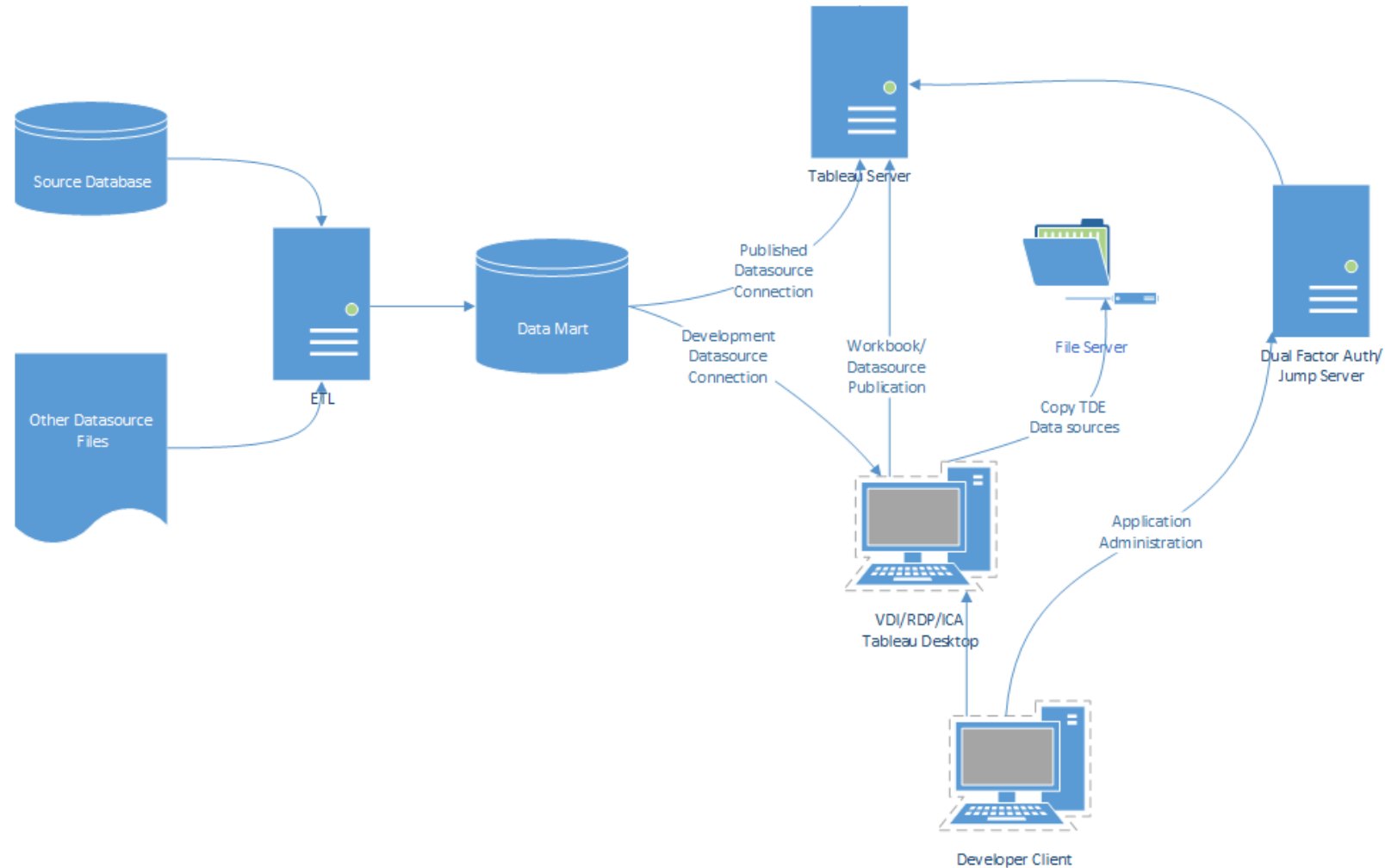
Measuring the Economic Value of  
Research



# On February 8<sup>th</sup>, 2017, I presented at the *first* Data and Donuts...

1. What is Tableau and why Tableau?
2. Tableau Server is coming!
3. Business Intelligence Overview
  - a) Facilitate a network of Tableau developers on campus
  - b) Engage with Tableau developers – consult on data sources, design dashboards, style guide, etc.
  - c) Explore consolidation solutions for Institutional Data Areas (ex. Student, Research)
  - d) Integrate Institutional Data (ex. Student with Study Abroad, Research Awards with Expenditures)

# Our original sketch of the components and requirements from a meeting with IET in March 2017...



# Over the last 9 months, what have we (a small, cross-functional team) achieved?

## Business Intelligence

- Greg Siino
- Nick Barbulesco

## Institutional Analysis

- Thomas Campbell & ETL Developers

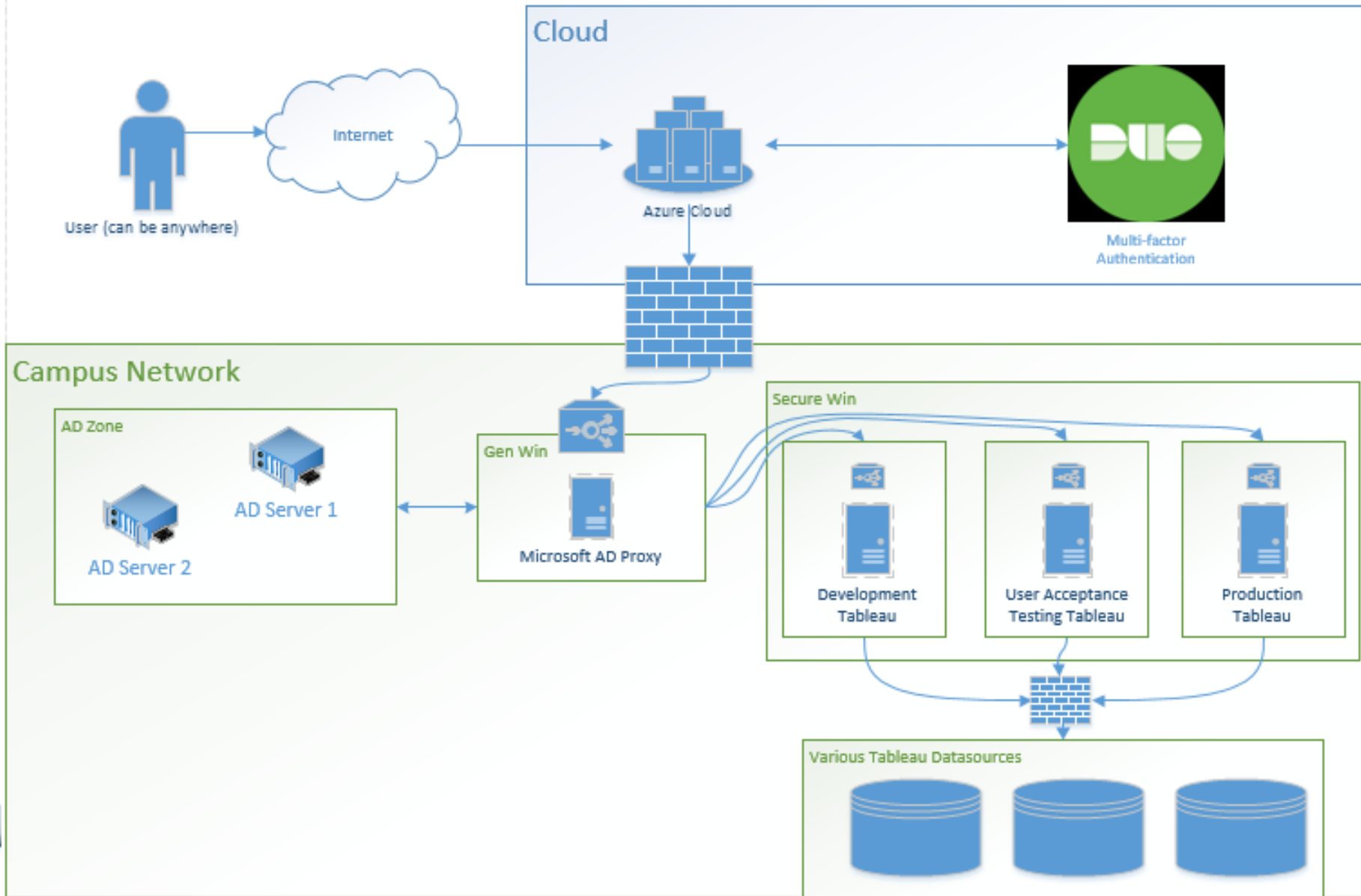
## Information and Educational Technology

- Quico Gonzales
- Kevin Murakoshi
- Justin Woods
- Rick Leos



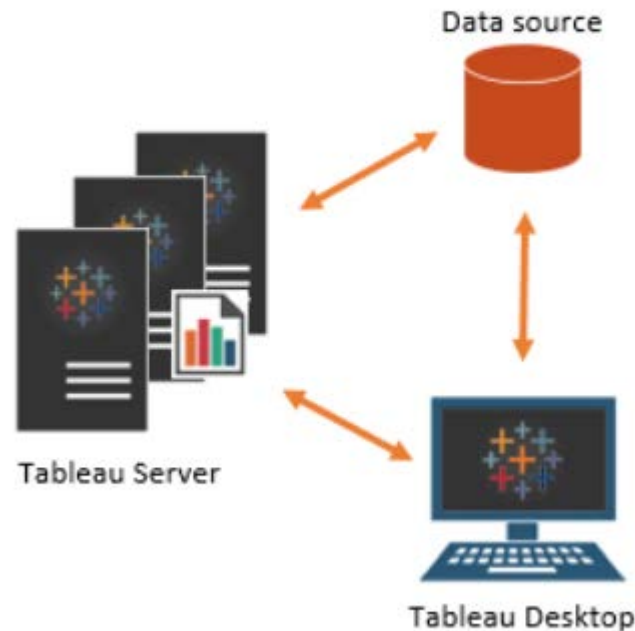
# AggieDash Architecture implemented by BI / IET

Design as of 7/28/2017



# The AggieDash Delivery Platform

**Tableau Server** – Share Data Visualizations with **your** audience



**University Data Warehouse** – Migrate and Transform Data Sources for Analytics and Visualization

**Tableau Desktop** – Create Data Sources and Visualizations

# Part 1: Tableau Server



**Tableau Server** – Share Data Visualizations with **your** audience

**University Data Warehouse** – Migrate and Transform Data Sources for Analytics and Visualization



**Tableau Desktop** – Create Data Sources and Visualizations

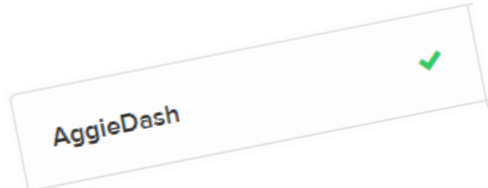
# Business Intelligence and IET deployed AggieDash!

## ***Tableau Server at UC Davis***

- Flexibly designed to meet or exceed FERPA access control and security requirements
- BI engaged Chief Information Security Office in design reviews
- Login with Campus Computing Account /  Dual Factor Authentication
- Secure Network Placement
- Encryption
  - Data Connections and Refresh Processes
  - Application Server is encrypted-at-rest

# AggieDash Service Components

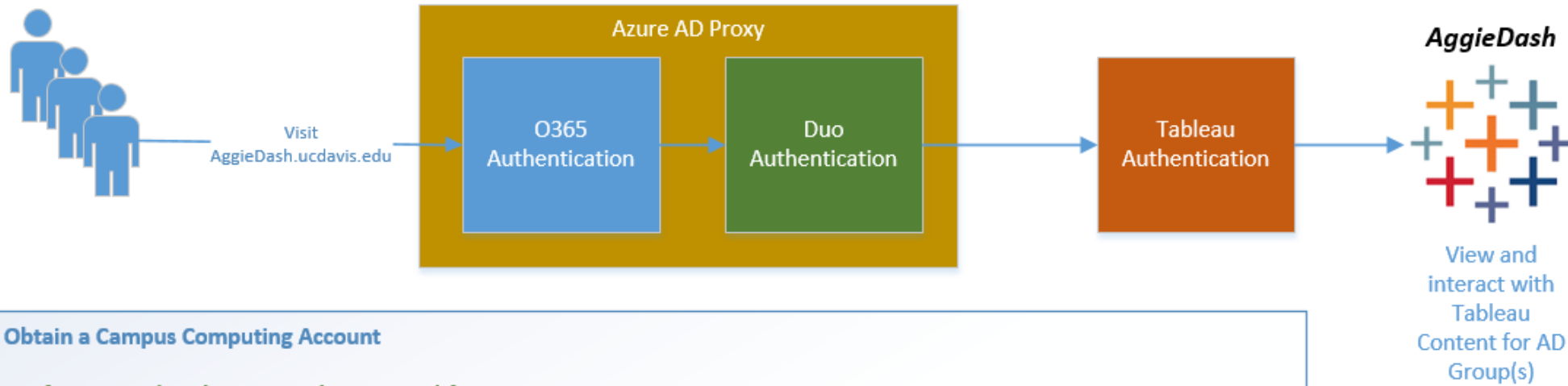
- AggieDash is on [status.ucdavis.edu](https://status.ucdavis.edu)
- servicenow integrated support model
- Auditable Access Control Change Management
-  Custom Documentation about Dual Authentication
- IT Express Support for  IT Express Service Desk
- RDOH for quick onboarding of visualization content



First, check out, [businessintelligence.ucdavis.edu](http://businessintelligence.ucdavis.edu)

The screenshot shows the homepage of the UC Davis Business Intelligence website. At the top left is the UC Davis logo. Below it is the main heading "Business Intelligence" and a "Quick Links" button. A navigation menu includes "HOME", "EVENTS", and "BLOG", along with a search icon. The main content area features a large graphic of a computer monitor displaying data charts, with a magnifying glass over it, set against a background of numbers. Below this graphic is the text "Creating an environment for data-driven insights". To the right, there are two sections: "Upcoming Events" featuring "November Data and Donuts!" on Nov 17, 2017 at Mrak Hall, Room 203; and "Recent Presentations" featuring "Exploration of Metrics; Campus Metrics in Tableau" on May 15, 2017.

# AggieDash User Experience



## 1. Obtain a Campus Computing Account

## 2. Configure Duo (Dual Factor Authentication) for Campus Computing Account

### 3. AD Groups:

#### A) Proxy Access Group

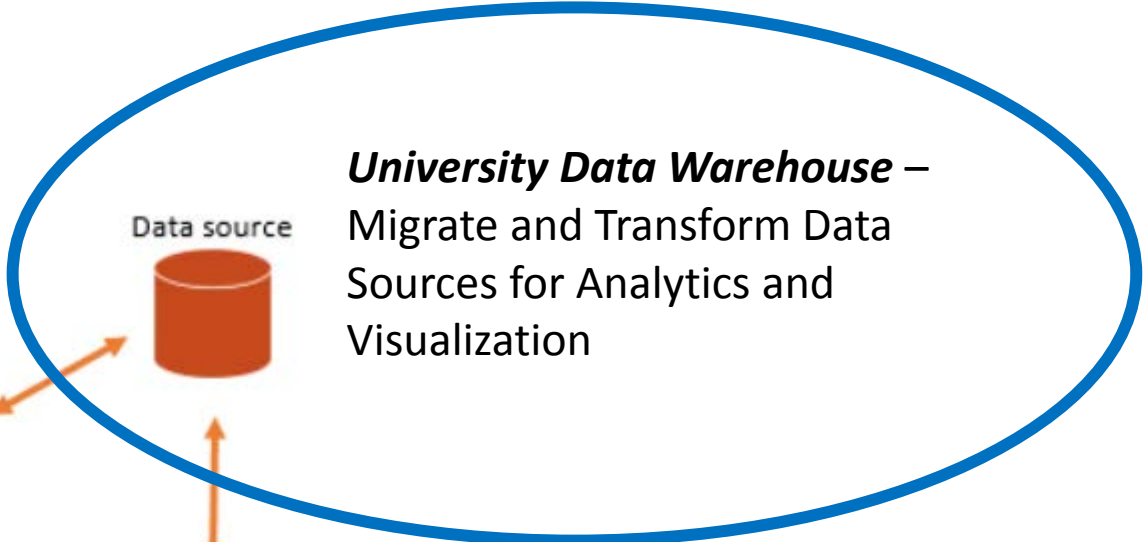
All customers of AggieDash must be in this AD Group to access the Tableau Server via the O365 / Azure AD Proxy Authentication.

#### B) Content-Specific AD Group

Once the AggieDash user is authorized by the AggieDash Content Owner / Data Steward, the Business Intelligence Office will place their campus computing account in one or more AD groups. This AD group membership will allow the user to access certain dashboard/data/content once logged into AggieDash.

# Part 2: Data - RDOH, ETL, Modelled for Analytics

**Tableau Server** – Share Data Visualizations with **your** audience



Data source



Tableau Desktop – Create Data Sources and Visualizations



# Business Intelligence – Core and Partner

**UCDAVIS**  
BUSINESS  
INTELLIGENCE

CORE

Business Intelligence **Core** indicates that the visualizations are *developed by Business Intelligence* and sourced from *institutional data sources*.

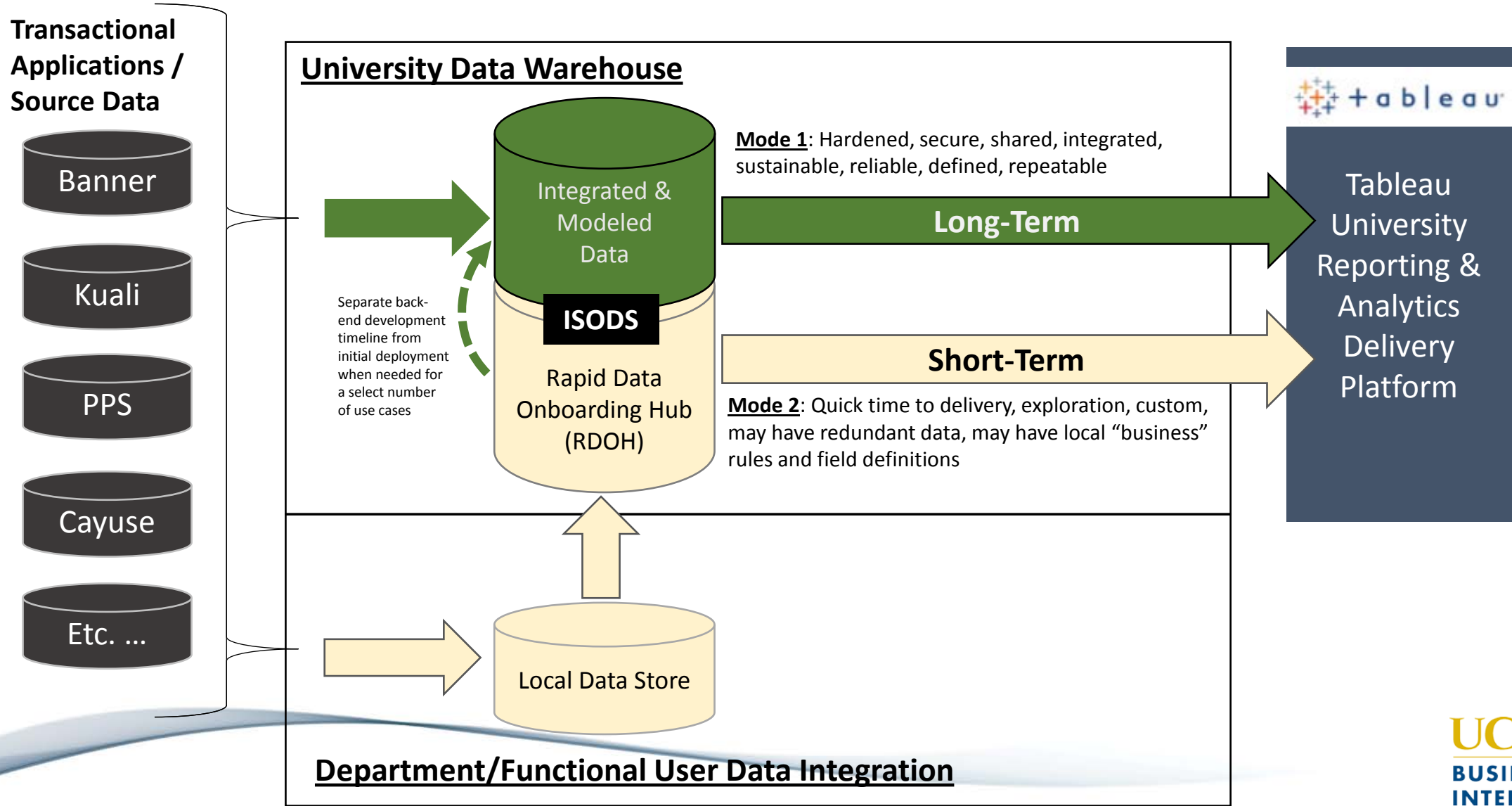
**UCDAVIS**  
BUSINESS  
INTELLIGENCE

PARTNER

Business Intelligence **Partner** indicates that the visualizations are *developed by the Partner Organization* in collaboration with Business Intelligence and sourced from *partner data sources via RDOH*.

# Bi-Modal Business Intelligence Deployment Model

*Onboard Now -- Optimize and Operationalize on a Planned Release Schedule*



# University Data Warehouse vs. RDOH (Rapid Data Onboarding Hub)

In the short-term - RDOH:

- Tableau Server can securely connect to migrated, partner-developed, data
- Scheduled refreshes of data from partner sources
- No data transformations or models created by BI

In the long-term – UDW Data Integration:

- Business Intelligence and Institutional Analysis will transform and model data for a variety of analytics use cases
- First subject area: ***Student*** Data Model

# Part 3: Securely Developing Dashboards

**Tableau Server** – Share Data Visualizations with **your** audience



Data source



**University Data Warehouse** – Migrate and Transform Data Sources for Analytics and Visualization



Tableau Desktop – Create Data Sources and Visualizations

# Secure Development Environments

Tableau Desktop installed on a secure, remote desktop:

1. Protect sensitive data sets from exposure on developer's local machine
2. Authenticate through Bastion Host – similar to Banner Connectivity
3. DUO dual-authentication
4. Connect to Data Sources (RDOH and CORE) via encrypted Oracle connections
5. Develop and publish dashboards to User Acceptance Testing (UAT) Tableau Server

# How do these 3 parts fit together?



**Tableau Server** – Share Data Visualizations with **your** audience



Data source



**University Data Warehouse** – Migrate and Transform Data Sources for Analytics and Visualization



**Tableau Desktop** – Create Data Sources and Visualizations

Tableau Desktop

# BI Initiative #1: Core Student Data Model(s)

- Institutional Analysis ETL Developers - delivered the first dimensionally modeled enrollment and demographic data!
- In collaboration with the Office of the University Registrar (OUR) and Enterprise Student Applications, we are developing Tableau Dashboards for student data request fulfillment
- Three main goals:
  - Expand the OUR governed student data model
  - Create self-serve reports (access control governed by OUR/ESA)
  - Author aggregated data marts for various reporting and analytics use cases

# BI Initiative #2: AggieDash Partners

When we meet with potential partners, we are looking for:

1. A team with enthusiastic data analysts willing to learn and develop Tableau skills
2. IT / DBAs willing to distill their data sources into Tableau-friendly formats for proof of concept development
3. Leadership commitment to contribute to long-term design and convergence of a campus-wide, curated, and integrated data model



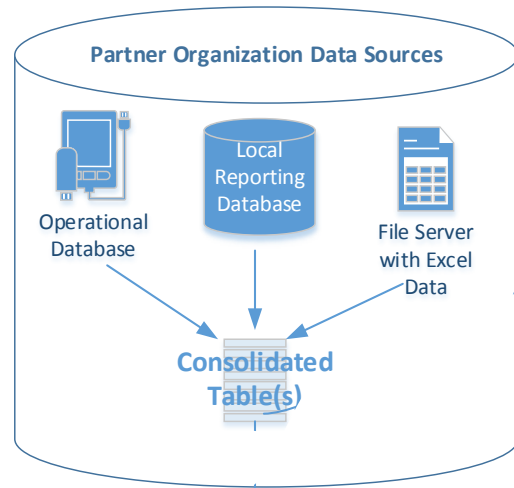
# BI Partner Projects – In Progress

- Office of Research
- Institutional Analysis (example: Grad/Retention)
- Office of the University Registrar – Live Student Data Model
- Procurement (AggieBuy / AggieTravel)
- Center for Student Affairs Assessment
- Center for Educational Effectiveness
- University Extension
- Financial Aid

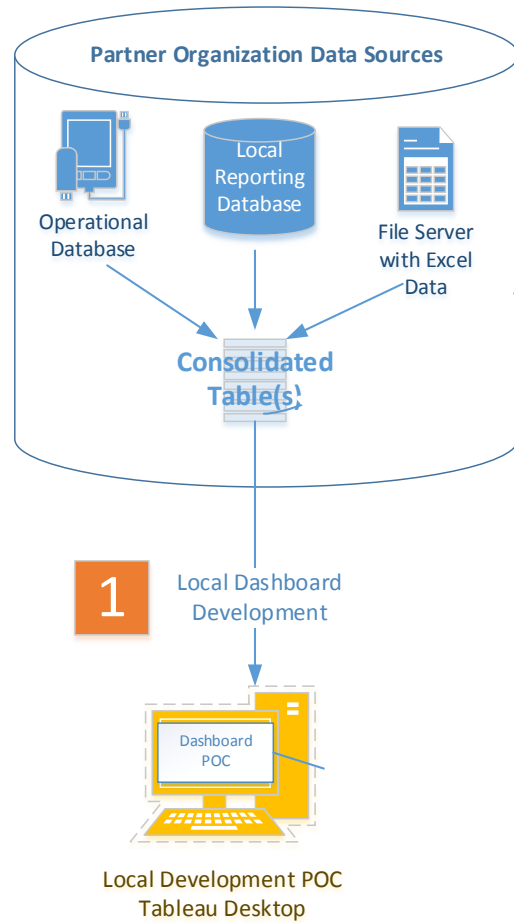
# Partner Program – *Local Data Sources*



# Partner Program – Local *Distilled* Data Sources

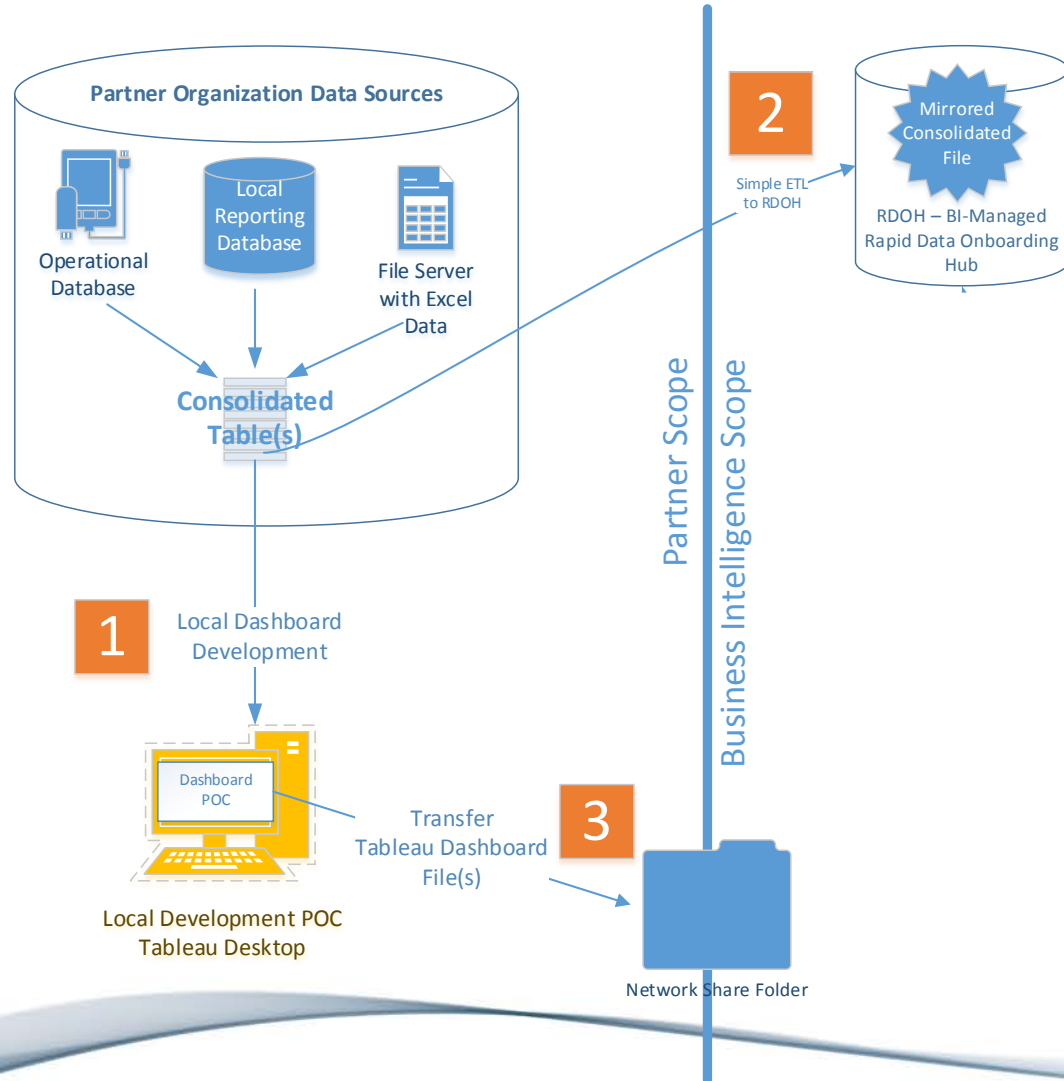


# Partner Program – Local *Tableau Development*



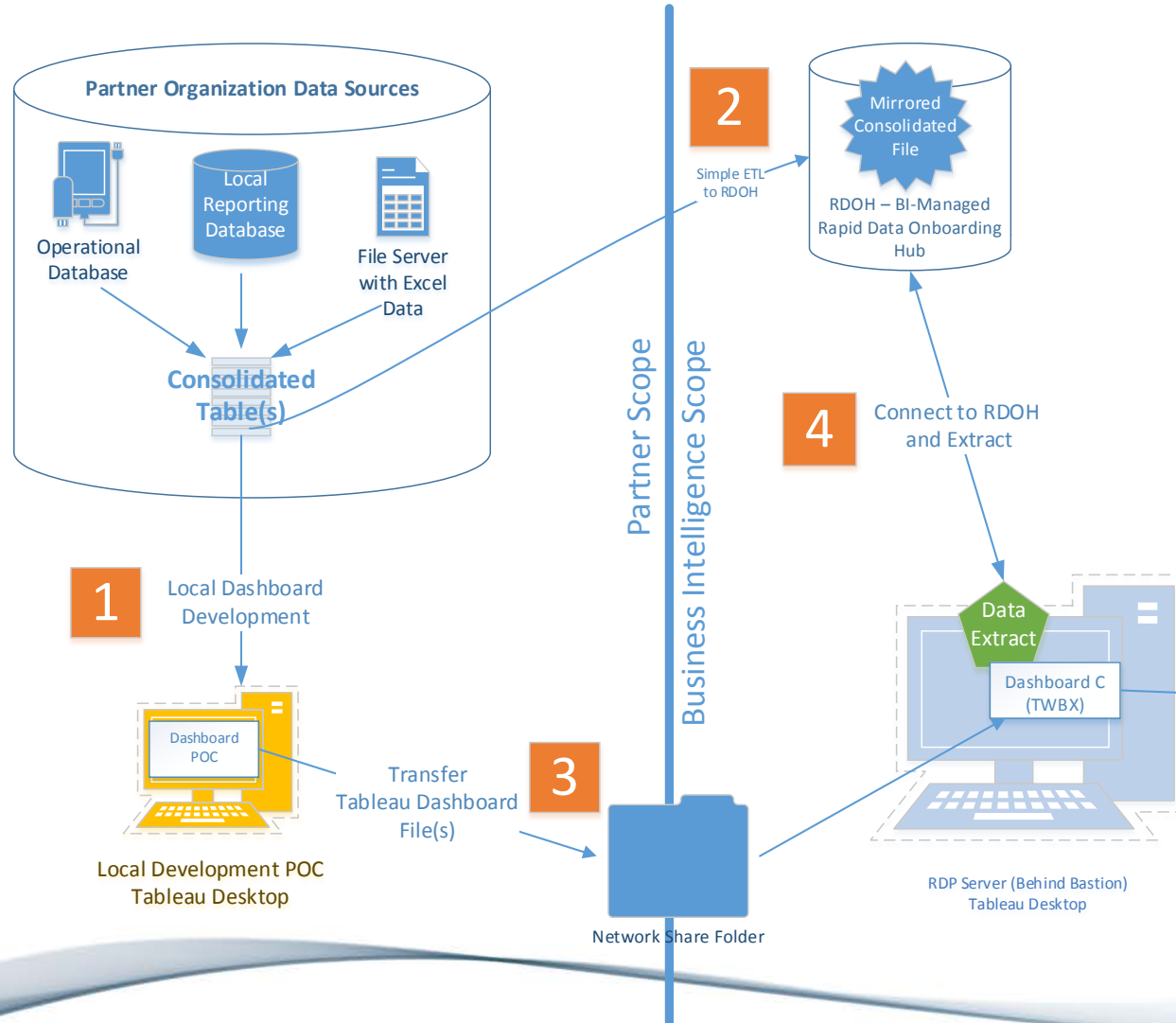
# Partner Program

## RDOH Distilled Data and Transfer Tableau Files



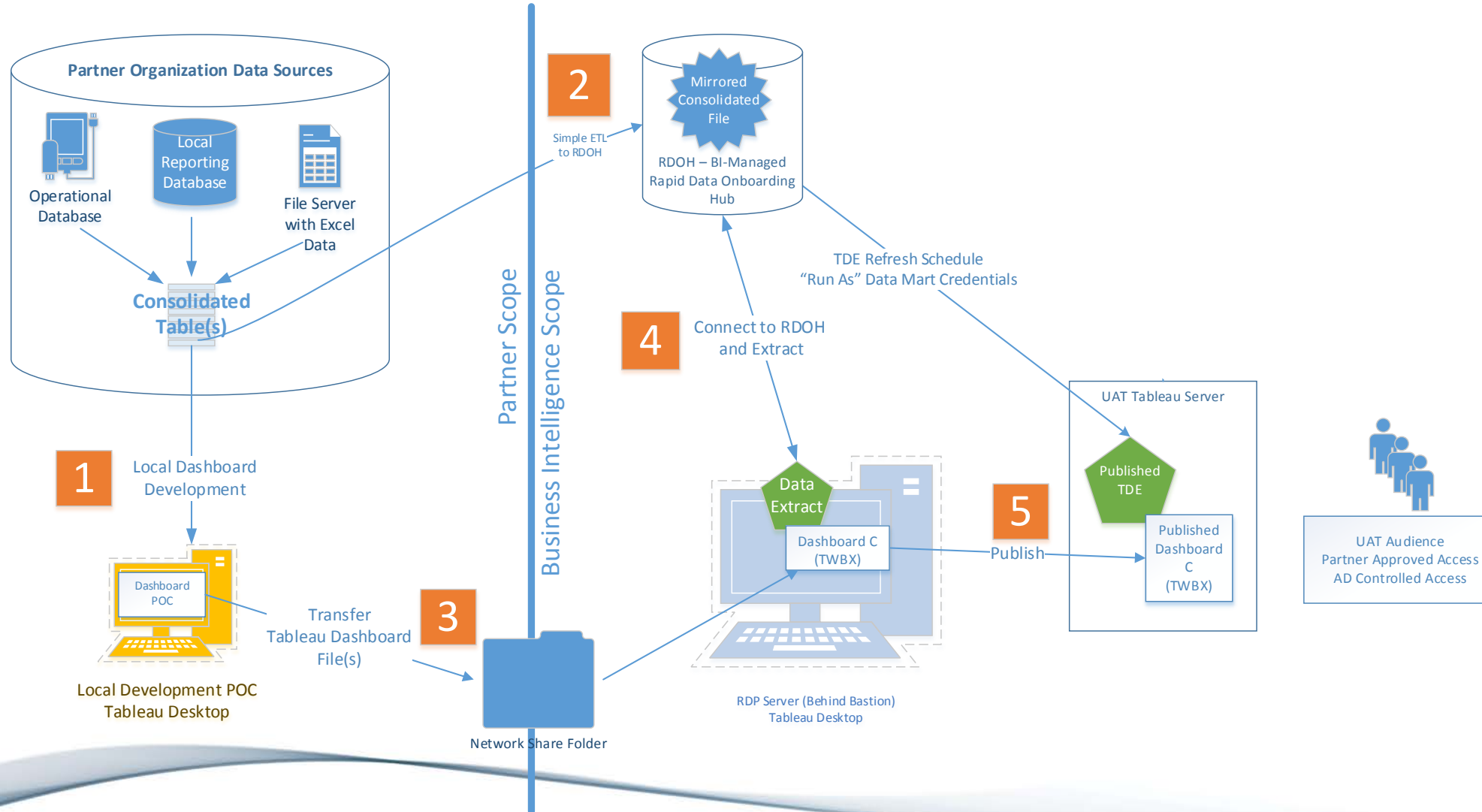
# Partner Program

## Reconnect Tableau Files to RDOH Datasource



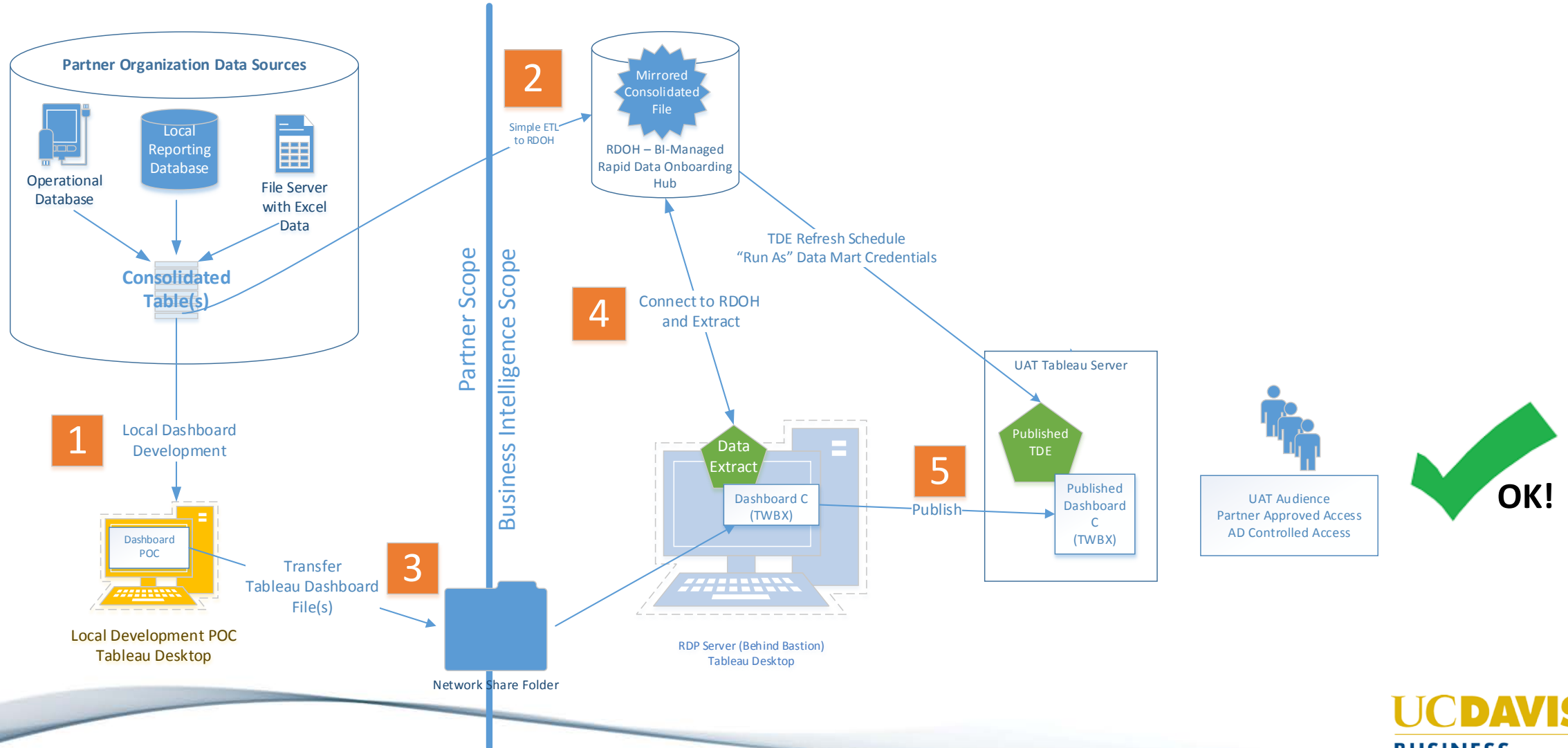
# Partner Program

## Publish to User Acceptance Testing (UAT) Server



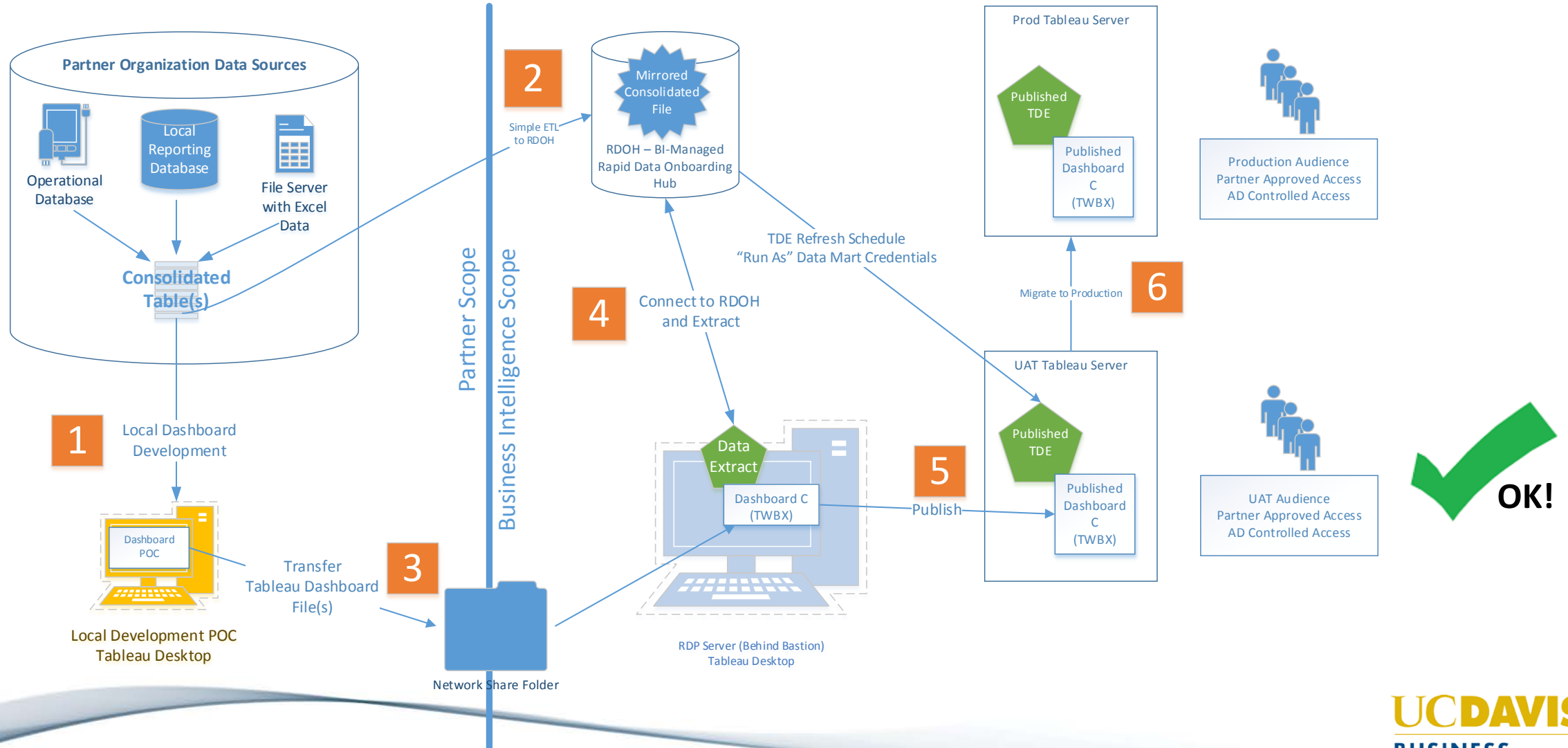
# Partner Program

## User Acceptance Testing (UAT) Complete!





# Partner Program Go Live - Publish to Production AggieDash!



# Questions?

# Thank you!