



Sandia
National
Laboratories

Modernizing the Asset Inventory Process

Plus Other Modernizations to the Oracle Assets Module at SNL

Aaron Griffith
Senior Software Systems Engineer
Oracle Fixed Assets Technical Lead

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About Me



- Senior Software Systems Engineer in the Supply Chain Systems Department
 - Oracle Fixed Assets Module Lead
 - Been at SNL for 7.5 Years
 - Previously worked in Finance, Business Intelligence, and IT Audit
 - Also worked at the Savannah River Site as a Summer Cyber Scholar
- Graduate of the University of New Mexico
 - BBA in Management Information Systems
 - MS Information Systems and Assurance

Agenda

1. Property Inventory Background
2. Network Inventory Solution
3. How it was Built
4. Looking Forward
5. Constraints and Lessons Learned
6. Other IT Modernizations to the Oracle Assets Module
7. Questions

Project Background



- A property inventory is conducted annually to demonstrate that SNL's property management policy and procedures are being followed and effective.
- Two Types of Inventory
 - Statistical Sample (~2,500 items)
 - Wall-to-Wall (~100,000+ items)
- Previously, only two methods of inventory
 - Scans
 - Memos
- Inventories can be time-consuming
 - Especially during a wall-to-wall



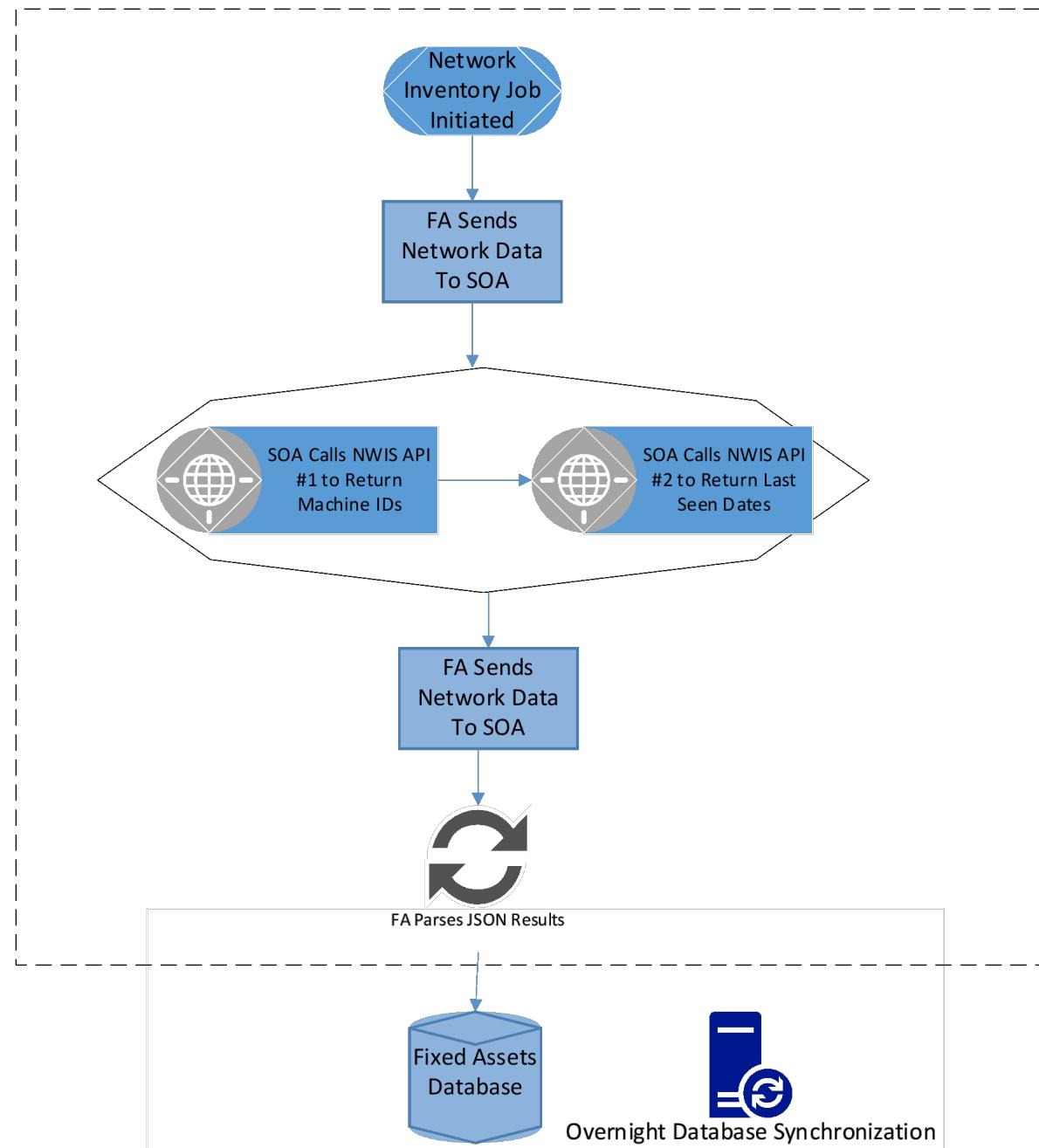
Inventory by Network Identification Solution



- A Fueling Innovations funded, cross-functional team implemented a solution that will account for ~51% of property from a network connection during annual inventory reviews.
 - Team consisted of members from Supply Chain Systems (Oracle), Network Information System, Networking.
 - Oracle Fixed Assets leverages network data to inventory items using Last Seen On Network log times.

How We Did It

- Process is kicked off by a Control-M automated job that runs a PL/SQL Package.
- Oracle Assets makes calls to SOA Suite
- SOA Suite calls 2 NWIS APIS, sends the results of the second API back to Oracle Assets
- Oracle Assets parses the results and inserts them into the database



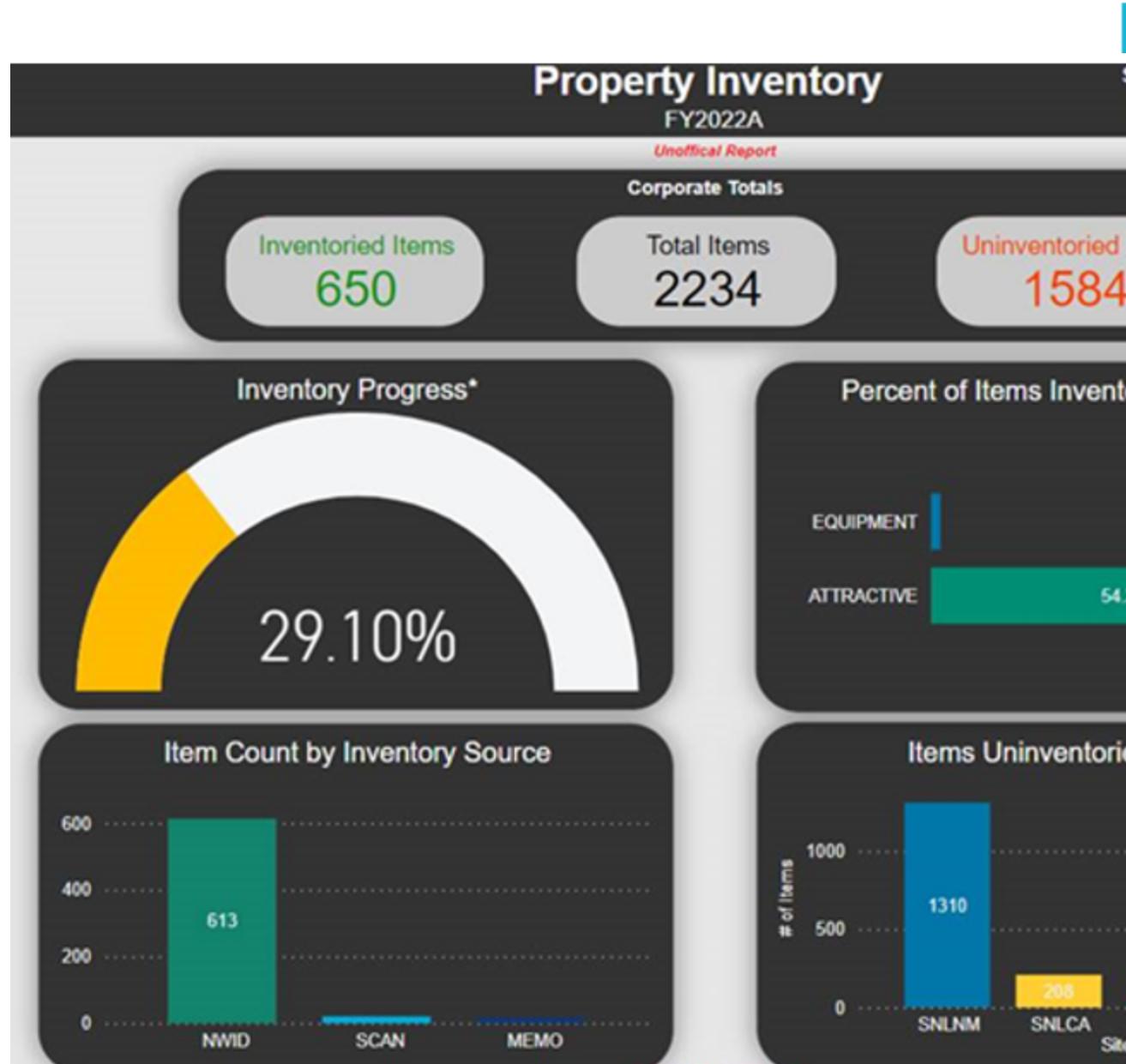
Output into Oracle Database



| | SL_TRANSACTION_ID | ASSET_NUMBER | SL_INV_SOURCE | SL_LAST_SEEN_ON_NW |
|---|-------------------|--------------|---------------|-----------------------|
| | 667543 | S1059601 | NWID | 9/18/2020 6:49:00 PM |
| | 667538 | S1036381 | NWID | 12/21/2020 8:30:00 PM |
| | 667540 | S974794 | NWID | 2/20/2020 9:11:00 PM |
| | 667539 | S1059601 | NWID | 9/18/2020 6:49:00 PM |
| | 667534 | S1036381 | NWID | 12/21/2020 8:30:00 PM |
| ▶ | 667536 | S974794 | NWID | 2/20/2020 9:11:00 PM |

Results

- In 2021, we were able to inventory 570 items (26%) using the network solution.
- In 2022, we surpassed 600 network items!
- Expected to save 10,000 labor hours.
- Avoids the purchase of additional scanners.
- 3 year ROI of ~\$900,000



Constraints and Lessons Learned



- Calling Microsoft API's from Oracle
 - Solution – Use SOA Suite as a “Middle-Man”
- Request Time-Outs Due to Record Size
 - Send requests in batches
- COVID-19 and Remote Work

Looking Forward



- Wall-to-Wall this year.
- Adding mobile device date.
- Minimal maintenance.



Inventory Reporting Modernization



- Canned Oracle Reports
 - Non-Interactive
 - Slow Run-Times

New Power BI Reports



Data as of **10/5/22**

[View All Item Details](#)

[Inventoried Items Details](#)

[Uninventoried Items Details](#)

Filter by SNL Site **All**

Filter by Division, Center, Group or Org

| Division | Inventoried | Total Items |
|----------|-------------|-------------|
| 00001 | 1 | 1 |
| 00002 | 39 | 40 |
| 00003 | 8 | 8 |
| 01000 | 444 | 445 |
| 02000 | 106 | 108 |
| 03000 | 31 | 31 |
| 04000 | 74 | 76 |
| 05000 | 454 | 456 |
| 06000 | 203 | 204 |
| 07000 | 270 | 272 |
| 08000 | 333 | 334 |
| 09000 | 183 | 183 |
| 10000 | 74 | 75 |
| 11000 | 1 | 1 |

Use ctrl + click for multiple filter selections

Property Inventory

FY2022A

Unofficial Report

Corporate Totals

| Category | Count |
|---------------------|-------|
| Inventoried Items | 2221 |
| Total Items | 2234 |
| Uninventoried Items | 13 |

Inventory Progress*

99.42%

Percent of Items Inventoried by Class*

| Class | Percent |
|------------|---------|
| EQUIPMENT | 99.85% |
| ATTRACTIVE | 99.31% |

Item Count by Inventory Source

| Source | Count |
|--------|-------|
| SCAN | 1445 |
| NWID | 646 |
| MEMO | 1 |

Items Uninventoried by Site

| Site | # of Items |
|------------|------------|
| SNLNM Site | 13 |

**Unofficial Percentages*

New Power BI Reports



Uninventoried Items
FY2022A
Unofficial Report

Percent Uninventoried by Class*

| Class | Percentage |
|------------|------------|
| EQUIPMENT | 0.15% |
| ATTRACTIVE | 0.69% |

Items Uninventoried by Site

Inventory Progress*

99.42%

Uninventoried Items

| PIT Property Number | PIT Orgn | PIT Major Category | PIT Minor Category | PIT Class | PIT Cost | PIT Ownership | PIT System |
|---------------------|--------------------|---------------------|--------------------|-----------|----------|---------------|------------|
| | EQUIPMENT:EXPENSED | LABORATORY | EQUIPMENT | | | | |
| | EQUIPMENT:EXPENSED | COMPUTER:DESKTOP | ATTRACTIVE | | | | |
| | EQUIPMENT:EXPENSED | LABORATORY | EQUIPMENT | | | | |
| | EQUIPMENT:EXPENSED | COMPUTER:SMARTPHONE | ATTRACTIVE | | | | |
| | EQUIPMENT:EXPENSED | COMPUTER:SMARTPHONE | ATTRACTIVE | | | | |
| | EQUIPMENT:EXPENSED | LABORATORY | EQUIPMENT | | | | |
| | EQUIPMENT | LABORATORY | EQUIPMENT | | | | |
| | EQUIPMENT:EXPENSED | RADIO:TWOWAY | ATTRACTIVE | | | | |
| | EQUIPMENT:EXPENSED | RADIO:TWOWAY | ATTRACTIVE | | | | |
| | EQUIPMENT:EXPENSED | LABORATORY | EQUIPMENT | | | | |
| | EQUIPMENT:EXPENSED | COMPUTER:LAPTOP | ATTRACTIVE | | | | |
| | EQUIPMENT:EXPENSED | COMPUTER:SMARTPHONE | ATTRACTIVE | | | | |
| | EQUIPMENT:EXPENSED | COMPUTER:DESKTOP | ATTRACTIVE | | | | |

*Unofficial Percentages

Inventory Details

Total Uninventoried: 13

Filter by SNL Site: All

Filter by Division, Center, Group or Org:

| Division | Total Items | Un-inventoried |
|----------|-------------|----------------|
| 00001 | 1 | 0 |
| 00002 | 40 | 1 |
| 00003 | 8 | 0 |
| 01000 | 445 | 1 |
| 02000 | 108 | 2 |
| 03000 | 31 | 0 |
| 04000 | 76 | 2 |
| 05000 | 456 | 2 |
| 06000 | 204 | 1 |
| 07000 | 272 | 2 |
| 08000 | 334 | 1 |
| 09000 | 183 | 0 |
| 10000 | 75 | 1 |

Use ctrl + click for multiple filter selections

Other Modernizations to the Oracle Assets Module

Oracle Rest Data Services - ORDS



- Built 13 REST services since 2019

| Resource Templates | | | |
|----------------------|----------|-----------|--|
| URI Template | Priority | ETag Type | |
| ws-approved-gfp/ | 0 | HASH | |
| webshipper-fa | 0 | HASH | |
| nwis-trans | 0 | HASH | |
| reapp-loc | 0 | HASH | |
| reapp-pickup | 0 | HASH | |
| reapp-reapply | 0 | HASH | |
| ws-po-data/ | 0 | HASH | |
| reapp-retire | 0 | HASH | |
| ws-po-data/{po} | 0 | HASH | |
| ws-approved-gfp/{po} | 0 | HASH | |
| wsUpdateFaGfp | 0 | HASH | |
| ws-gfp-update/:id | 0 | HASH | |
| transfer-trans | 0 | HASH | |

Transition to Modern Applications



Getting users away from outdated software or manual processes.

Sandia Oracle Financial and Manufacturing Apps - OAPR1 (Prod) - ACGRIFF- SID/Serial# 1433/11353

File Edit View Folder Tools Window Help

Assets Find Assets

By Asset Detail

| | |
|------------------|-------------|
| Property Number | Description |
| Prior Property # | Category |
| Serial Number | Asset Key |
| Warranty Number | Asset Type |
| Status | |

By Book

| | |
|------------------|---|
| Book | Group Asset |
| Dates in Service | <input type="checkbox"/> Show Disabled Groups |

By Assignment

| | |
|-------------------|----------------|
| Assigned To Name | Assigned To Id |
| Depreciation Acct | Location |

By Source Line

| | |
|-----------------------|--------------------|
| Supplier Name | Supplier Number |
| Invoice Number | Line Number |
| Acquisition PO # | Source Batch |
| Acquisition Project # | Acquisition Task # |

By Lease

| | |
|--------------|--------|
| Lease Number | Lessor |
| Description | |

Clear Find

SF 6432-PJU (7-2019) Subcontractor (11-2018) Issue

Government Furnished Property Request Form

Section 1: Questions About the Procurement ALL FIELDS REQUIRED (Ask your subcontracting professional if you are unsure of the answers)

| | |
|--|--|
| Procurement Type: <input type="checkbox"/> PO <input checked="" type="checkbox"/> CPA <input type="checkbox"/> PAA <input type="checkbox"/> Other: | Stage: <input type="checkbox"/> RFQ <input type="checkbox"/> PR <input checked="" type="checkbox"/> PO |
| RFQ/PR/PO#: <input type="text"/> | Subcontracting Professional: Shaina Saint-Lot SDR Name: Julie Smith |
| Period of Performance End Date: 10/31/2021 | Subcontractor Company Name: <input type="text"/> |

Section 2: Questions About the Furnishment (Check how property will be provided and answer all questions)

| | | |
|--|--|--|
| <input checked="" type="checkbox"/> Sandia will send property to the subcontractor. | <input type="checkbox"/> Sandia will authorize subcontractor acquisitions. | <input type="checkbox"/> Some or all GFP will be transferred from an existing subcontract. PO#: <input type="text"/> Enter PO number |
| In the box below, describe the work that will be done using the property. <input type="checkbox"/> Assembly Work? <input type="checkbox"/> R&D Work? | | |

Explain the complexity or requirement(s) of the work that necessitates the use of Sandia/Government property.

Section 3: Property Information (Check the type of property you will provide and respond to required explanations for why Sandia must provide the property)

| | |
|---|--|
| Did you check for excess property in Reapplication? No, using property available to my organization | |
| <input type="checkbox"/> Raw materials (Residuals to be returned) | <input type="checkbox"/> Specialized tools or equipment ¹ (Return to SNL Required) |
| <input type="checkbox"/> Raw materials (No expected residuals) | <input checked="" type="checkbox"/> Commercial-off-the-shelf (COTS) equipment (Return to SNL Required) |
| <input type="checkbox"/> These raw materials are from Product Store, or another Production Value Stream (PVS) PVSs have inherent measurable benefits of time/cost avoidance. Please indicate which in section 5 and enter an estimated amount of avoidance. | |
| <input type="checkbox"/> The property is not practically available ² from the marketplace. Explain why in the box below. | |
| Click or tab here to enter explanation for why this is not practically available. | |
| Required for all COTS equipment. Explain in the box below why the subcontractor should not be expected to provide this property for itself. See Note 1 (Please identify COTS equipment (not material) in section 4 and provide individual justifications when different below). | |



Administratively Controlled Property (ACP)

Griffith,Aaron Christopher [Feedback](#)

Add ACP Item(s)

DV2! This is a test environment!

SNL data and reports are for official business only and shall be protected from unauthorized use or disclosure. [More](#)

Please review the items assigned to you on the home page before adding more items to avoid duplication!

ACP Form

Assigned to Person

* = Required fields

* Assigned to Person

 Add multiple items for this person

ACP Items

NOTE: Do not add trackable property (S,R, or E numbered) to this application. Contact your property coordinator for assistance.**NOTE: DO NOT enter items such as headsets, mice, keyboards, docking stations, speakers, footrests, monitor raisers. They are considered smaller peripheral items which are associated with larger items.**

ACP Item 1: *

Qty:

1

Description:

Manufacturer Name:

Model Number:

Serial Number (Not S#):

[Back](#)[Save Items](#)



Reuse Report



Donations Gifting



You are working in OADV2! This is a test environment!

Reuse Report Form

SNL Site *

Fiscal Year *

Month *

Donations & Gifting

Donations & Gifting Type *

[Back](#)[Submit & Home](#)[Submit & New](#)

APEX Applications – GFP Tracker



Government Furnished Property (GFP) Tracker

Griffith,Aaron Christopher Feedback

GFP Request \ GFP Request Form

Draft GFP Request Id 231 created

Warning: You are working in OADV2! This is a test environment!

Draft → Submitted → Approved → Accepted → Completed

Created on 05-OCT-22 by Griffith,Aaron Christopher

GFP Request Form - Id: 231 Requestor: Griffith,Aaron Christopher

Section 1 - Procurement Help (?)

Procurement Type: * PO CPA PAA Task Order

Stage: * RFQ PR PO

SP/Buyer: * Last Name,First Name Help (?)

SDR: * Last Name,First Name Help (?)

POP End Date: * DD-MON-YYYY Help (?)

Vendor Name: * Vendor Name Help (?)

Section 2 - Furnishment Help (?)

How Will The GFP Be Provided? (Select All That Apply): *

Sandia Will Authorize Subcontractor Acquisitions Sandia Will Send GFP to the Subcontractor Some or All GFP Will Be Transferred From an Existing PO

APEX Applications – Lost and Stolen Property



Lost and Stolen Property

Griffith,Aaron Christopher

Home \ Lost and Stolen Request Form

Lost and Stolen Request Form Last Clone Date: 04/17/2022

Status Tracker

Draft Submitted Accepted Acknowledged

Created on 05-OCT-22 by Griffith,Aaron Christopher

Lost/Stolen Request Id: 114 Requestor: Griffith,Aaron Christopher

Date of Request
05-OCT-22

Are you submitting this request form for someone else? *

Yes
 No

Property Number (S.R.E): *
E.g 51234567

Search Clear

Lost or Stolen

Is The Property Lost or Stolen? *

Lost
 Stolen

Lost

Date of Property Loss (DD-MON-YY) *
Eg 31-JAN-22

Where was the property last seen? *

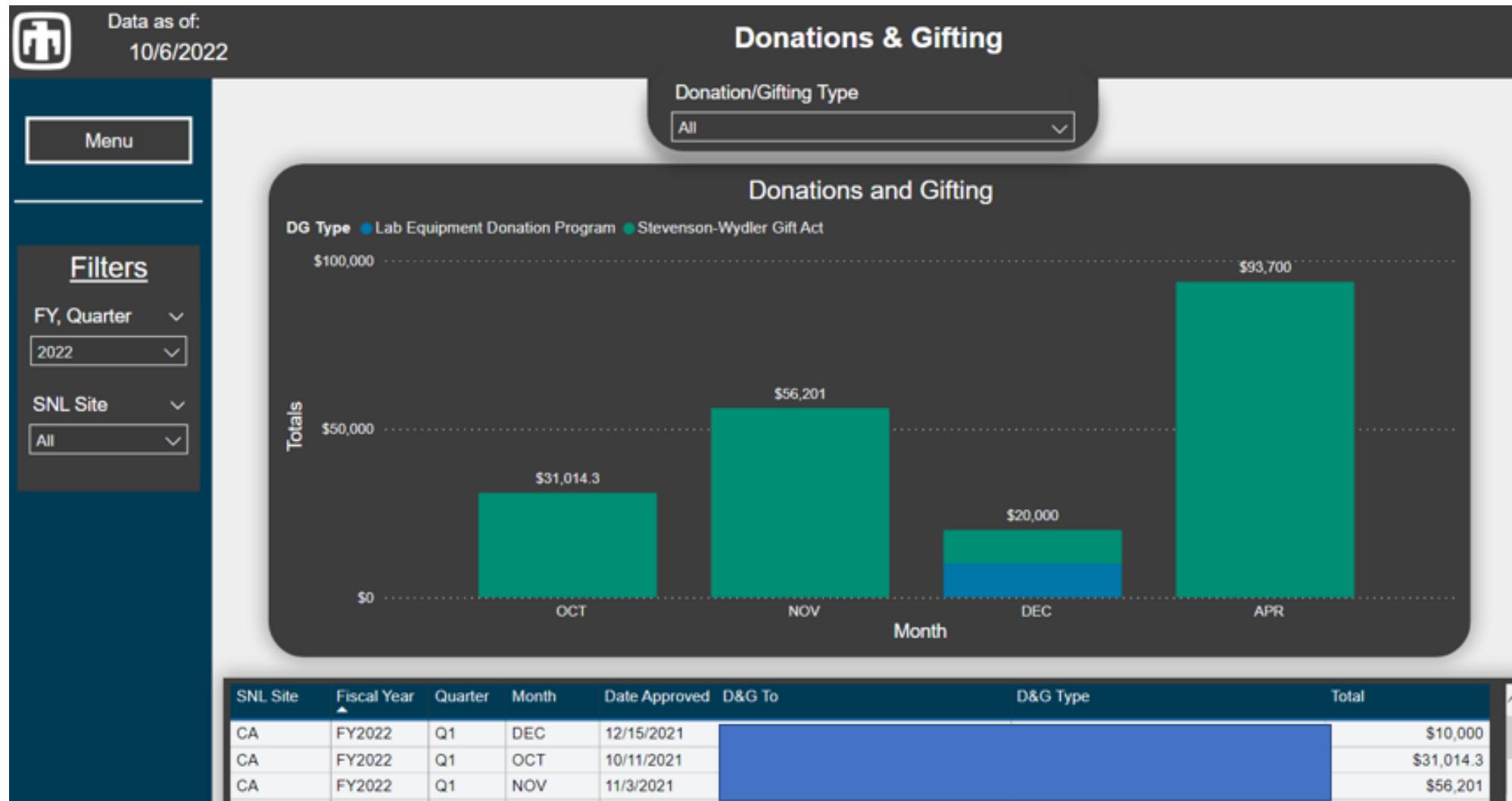
Location of Loss *

Who last saw the property? *

Steps taken to find the property *

Steps to prevent loss in the future *

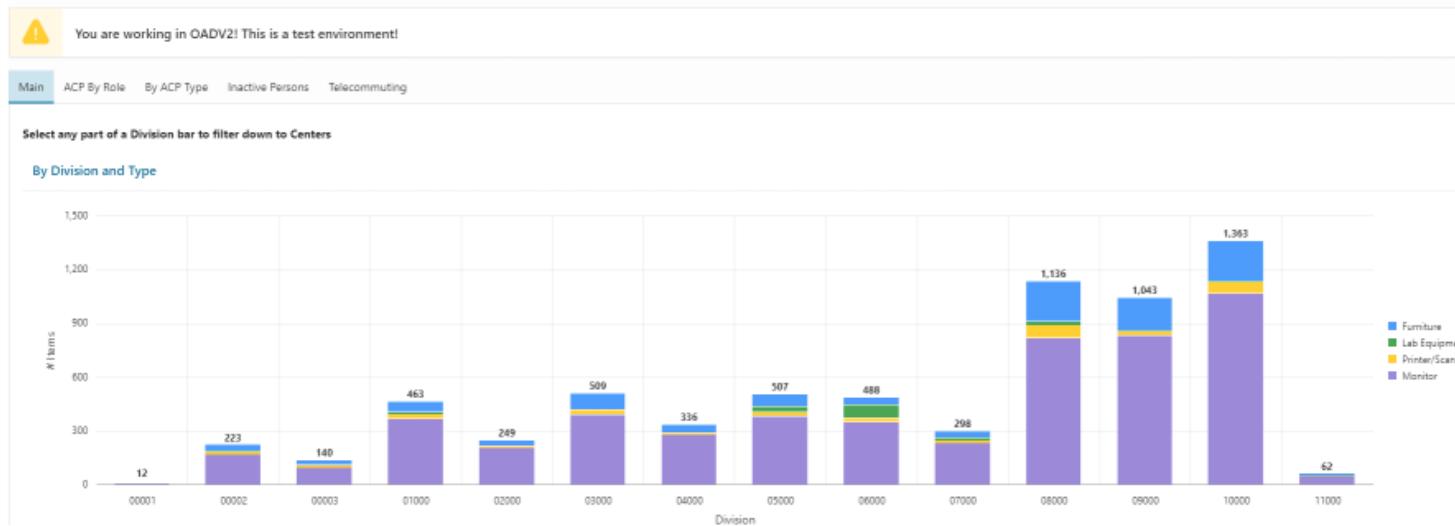
Modern Reporting – Power BI



Modern Reporting - APEX



Reporting



Telecommuting

These reports only look at active Sandians. Inactive Sandians with items, regardless of telecommuter status, will be in the Inactive Pe

Non-telecommuting employees with items

Q Go Actions

| Org | Name | Center | Division | Items | Relationship |
|-------|------|--------|----------|-------|--------------|
| 00515 | | 00500 | 00003 | 1 | Employee |
| 01984 | | 01900 | 01000 | 1 | Employee |
| 07578 | | 07500 | 07000 | 2 | Employee |
| 00515 | | 00500 | 00003 | 4 | Employee |

Future of the Oracle Assets Module at SNL



- More APEX Applications
- Growth of API Portfolio
- Continuous Improvement of Reporting Solutions
- Robotic Process Automation
- Oracle Enterprise Command Center
- Move to Oracle Cloud Infrastructure
- Continue to Modernize!

Thank You!
Questions?