



Configuring ArcGIS platform App Templates for Facilities Management

Pat Wallis

Configuring ArcGIS platform App Templates for Facilities Management

TOPIC

- **Create a Vacancy Dashboard using Campus Place Finder data**
- **Key use case met is managing organizational change management**
 - **Current occupancy**
 - **Current vacancies**
 - **Use occupancy and vacancy stats to determine inefficiencies**
- **Use stats to assign new staff and to make departmental utilization changes**

Agenda



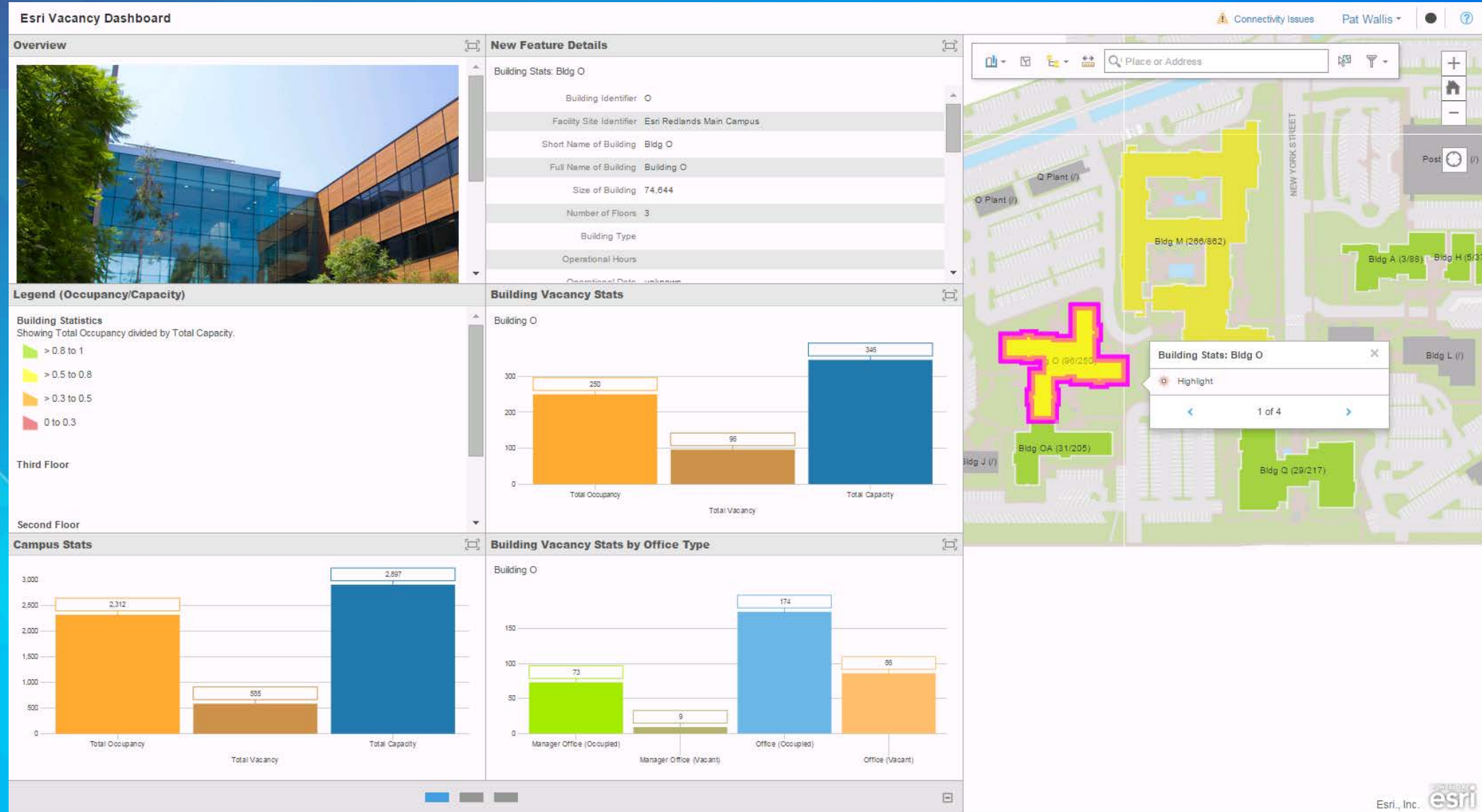
Configuring ArcGIS platform App Templates for Facilities Management

- **Review Dashboard Components**
- **Configuring the Dashboard**
 - **Review Facilities Data Model**
 - **Creating 'base metrics' for the dashboard**
 - **Model-builder**
 - **SQL server**
 - **Publishing Services**
 - **ArcGIS Server**
 - **AGOL**
 - **Data Interop**
 - **Operations Dashboard**

Dashboard Components



Vacancy Dashboard



Data Model



Facilities Schema – Local Government Information Model

- BridgePoint
- Building
- BuildingFloor
- BuildingFloorplanLine
- BuildingFloorplanPublish
- BuildingFloorSection
- BuildingInteriorSpace
- BuildingPhotoLocation
- CurbRamp
- Guardrail
- LandscapeArea
- ParkingSpace
- PavementMarkingLine
- PavementMarkingPoint
- PavementSchedule
- Pole
- RRCrossing
- Sidewalk
- SiteAmenityLine
- Street
- StreetFurniture
- StreetIntersection
- StreetPavement
- Tree

EmployeeInfo

Dashboard Base Metrics

SQL, Modelbuilder

Room Count

The screenshot shows a SQL Server Enterprise Manager window with two tabs: 'PATTOP2\PATTOP_...ployeeRoomCount*' and 'PATTOP2\PATTOP_2....SpacesEmployees*'. The active window displays a table design grid for 'EMPLOYEE_INFO' with columns: * (All Columns), OBJECTID, FIRST_NAME, LAST_NAME, KNOWN_AS_N, COST_CTR, COST_CTR_N, EMAIL, EXTENSION, BUILDING, and FLOOR. Below the grid is a table design grid with columns: Column, Alias, Table, Output, Sort Type, Sort Order, and Group By. The 'LOCATION' column is selected, and the 'Occupants' alias is used. The 'Output' column is checked. The 'Group By' column is set to 'Group By' and the 'Count' column is set to 'Count'. Below the table design grid is a query editor with the following SQL query:

```
SELECT LOCATION, COUNT(*) AS Occupants
FROM dbo.EMPLOYEE_INFO
GROUP BY LOCATION
HAVING (NOT (LOCATION IS NULL))
```

Below the query editor is a results grid with columns: LOCATION and Occupants. The results are as follows:

LOCATION	Occupants
	1467
A1-000	2
A1-200	1
A1-205	1
A1-210	1

At the bottom of the window, the status bar shows: 1 of 1641 | Cell is Read Only.

SpacesEmployee

Column

SPACEID
FLOORKEY

```
SELECT dbo.BUILDINGINTERIORSPACE.SPACEDID, dbo.BUILDINGINTERIORSPACE.FLOORKEY, dbo.BUILDINGINTERIORSPACE.BUILDING,
dbo.BUILDINGINTERIORSPACE.SECTION, dbo.BUILDINGINTERIORSPACE.SHORTNAME, dbo.BUILDINGINTERIORSPACE.LONGNAME,
dbo.BUILDINGINTERIORSPACE.SPACETYPE, dbo.BUILDINGINTERIORSPACE.SHAPE, dbo.BUILDINGINTERIORSPACE.LOCATION,
dbo.BUILDINGINTERIORSPACE.LASTEDITOR, dbo.BUILDINGINTERIORSPACE.LASTUPDATE, dbo.BUILDINGINTERIORSPACE.FLOORKEY,
dbo.BUILDINGINTERIORSPACE.BASEELEV, dbo.BUILDINGINTERIORSPACE.CEILINGHEIGHT, dbo.BUILDINGINTERIORSPACE.AREA,
dbo.BUILDINGINTERIORSPACE.DESCRIP, dbo.EMPLOYEE_INFO.KNOWN_AS_N, dbo.EMPLOYEE_INFO.COST_CTR, dbo.EMPLOYEE_INFO.COST_CTR_N,
dbo.EMPLOYEE_INFO.EMAIL, dbo.EMPLOYEE_INFO.EXTENSION, CASE WHEN dbo.BUILDINGINTERIORSPACE.SPACETYPE LIKE 'Restroom' THEN 0
WHEN dbo.EMPLOYEE_INFO.LOCATION = dbo.BUILDINGINTERIORSPACE.LOCATION THEN 1 ELSE dbo.EMPLOYEE_INFO.COST_CTR_N
CASE WHEN dbo.BUILDINGINTERIORSPACE.SPACETYPE IN ('Restroom', 'Computer Server Room', 'Conference Room', 'Copy Room') THEN 0
```

COST_CTR_N	EMAIL	EXTENSION	Vacant	Renderer	Capacity
NULL	NULL	NULL	NULL	Other	0
NULL	NULL	NULL	0	Office (Vacant)	1
Design Center	icas_noemail@...	5847.00000000	1	Office (Occupied)	1
Design Center	CANDICE_LAW...	6189.00000000	1	Office (Occupied)	1
Design Center	DI AURUJHN@F...	3535.00000000	1	Office (Occupied)	1

1 of 3555 | Cell is Read Only.

Task Scheduler

The screenshot displays the Windows Task Scheduler interface. The main window title is "Task Scheduler" and it includes a menu bar with "File", "Action", "View", and "Help". Below the menu bar is a toolbar with navigation icons. The left sidebar shows "Task Scheduler (Local)" and "Task Scheduler Library". The main area is titled "Task Scheduler Library" and contains a table with two tasks. Below the table are tabs for "General", "Triggers", "Actions", "Conditions", "Settings", and "History". The "Actions" tab is active, showing a table with one action: "Start a program" with details "C:\Python27\ArcGIS10.2\python.exe \"C:\ArcGIS\EsriCampusViewer_Dashboard\Python\ScheduledVacancyUpdate.py\"". On the right, there is an "Actions" pane with various options like "Create Basic Task...", "Create Task...", "Import Task...", "Display All Running Tasks", "Disable All Tasks History", "New Folder...", "View", "Refresh", and "Help". Below that is a "Selected Item" pane with options like "Run", "End", "Disable", "Export...", "Properties", "Delete", and "Help".

Name	Status	Triggers	Next Run Time	Last Run Time	Last Run Result	Author	Created
Esri Vacancy Statistics Dashboard ...	Ready	At 12:05 AM every day	7/13/2015 12:05:06 AM	7/12/2015 12:05:06 AM	The operation completed successfully. (0x0)	AWWORLD\campview_publisher	4/14/2015 12:24:37 PM
Esri_CampusViewer_VACANT_update	Ready	At 12:01 AM every day	7/13/2015 12:01:01 AM	7/12/2015 12:01:01 AM	The operation completed successfully. (0x0)	AWWORLD\edwa6332	3/11/2015 4:32:32 PM

Action	Details
Start a program	C:\Python27\ArcGIS10.2\python.exe "C:\ArcGIS\EsriCampusViewer_Dashboard\Python\ScheduledVacancyUpdate.py"

Task Scheduler Python

```
ScheduledVacancyUpdate.py - C:\ArcGIS\EsriCampusViewer_Dashboard\Python\ScheduledVacancyUpdate.py
File Edit Format Run Options Windows Help
#-----
# Name:      Scheduled Nightly Update (model)
# Purpose:  Execute model in a script to run on a schedule.
#-----
# Import modules
import arcpy, os, sys

# Parameters
bldgfloor_fc = arcpy.GetParameterAsText(0) or r"C:\ConnectionFiles\red_web_cv_s01.sde\LGDM_Esri_CV.DBO.BuildingFloor"
scratch_gdb = arcpy.GetParameterAsText(1) or r"C:\ArcGIS\EsriCampusViewer_Dashboard\Scratch_Test.gdb"
bldgspaces_fc = arcpy.GetParameterAsText(2) or r"C:\ConnectionFiles\red_web_cv_s01.sde\LGDM_Esri_CV.dbo.BUILDINGINTERIORSPPACES_0"
bldg_fc = arcpy.GetParameterAsText(3) or r"C:\ConnectionFiles\red_web_cv_s01.sde\LGDM_Esri_CV.DBO.Building"
bldgstats_fc = arcpy.GetParameterAsText(4) or r"C:\ConnectionFiles\red_web_cv_s01.sde\LGDM_Esri_CV.DBO.BUILDINGSTATS"
floorstats_fc = arcpy.GetParameterAsText(5) or r"C:\ConnectionFiles\red_web_cv_s01.sde\LGDM_Esri_CV.DBO.FLOORSTATS"

# Import the toolbox containing the model. This toolbox has an alias of "viewer"
print "\nImporting toolbox..."
arcpy.AddMessage("\nImporting toolbox...")
arcpy.ImportToolbox(r"C:\ArcGIS\EsriCampusViewer_Dashboard\Campus Viewer Tools.tbx")
print "Toolbox imported successfully\n"
arcpy.AddMessage("Toolbox imported successfully\n")

# Run the model. The model has two parameters, the source dataset, and the target dataset to update
print "Running the update model..."
arcpy.AddMessage("Running the update model...")
arcpy.Model1_viewer(bldgfloor_fc, scratch_gdb, bldgspaces_fc, bldg_fc, bldgstats_fc, floorstats_fc)
print "Model completed successfully\n"
arcpy.AddMessage("Model completed successfully\n")
```


Publish Services

ArcGIS Server, AGOL



Publishing to ArcGIS Server

- Publish the service once
- Use Task Scheduler to Delete and Append updated records to feature service in SDE

Publishing to AGOL

- **Create Feature Service Once**
- **Use Data Interop, using Feature Merger to update the services underlying records**

Publishing to AGOL

The screenshot displays the ArcGIS Desktop interface with a workflow designed for publishing data to ArcGIS Online (AGOL). The main workspace shows a 'Data Flow' diagram with the following components and connections:

- Reader Feature Types:** Contains two input tools: 'Build...mmary' and 'Building Stats'.
- FeatureMerger:** A central processing tool with a 'Requestor' and 'Supplier' property. It receives input from both 'Build...mmary' and 'Building Stats'.
- Writer Feature Types:** Contains one output tool: 'Building Stats', which receives input from the 'Merged' output of the 'FeatureMerger'.

The left-hand 'Navigator' pane shows the project structure, including two 'www.arcgis [ARCGISONLINEFEATURES]' items. The first item is expanded to show its parameters:

- Host: www.arcgis.com (Linked to 'SourceD...')
- Coordinate System: <not set>
- Parameters:
 - User: cwallis_esrilm
 - Password: *****
 - Feature Service: cwallis_esrilm/BLDG_St...
- Advanced
- Feature Types

The second 'www.arcgis [ARCGISONLINEFEATURES]' item is also expanded, showing similar parameters and a 'Feature Types' section.

The bottom-left pane shows the 'Transformer Gallery' with categories: All (372), Categorized, Embedded Transformers, and Recent (10), along with a search function.

Contact Information

Patrick Wallis, *AICP, Assoc. AIA, GISP*

Facilities Practice Lead | Esri Professional Services

cwallis@esri.com | 909.793.2853, x2224

380 New York Street
Redlands, CA 92373



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