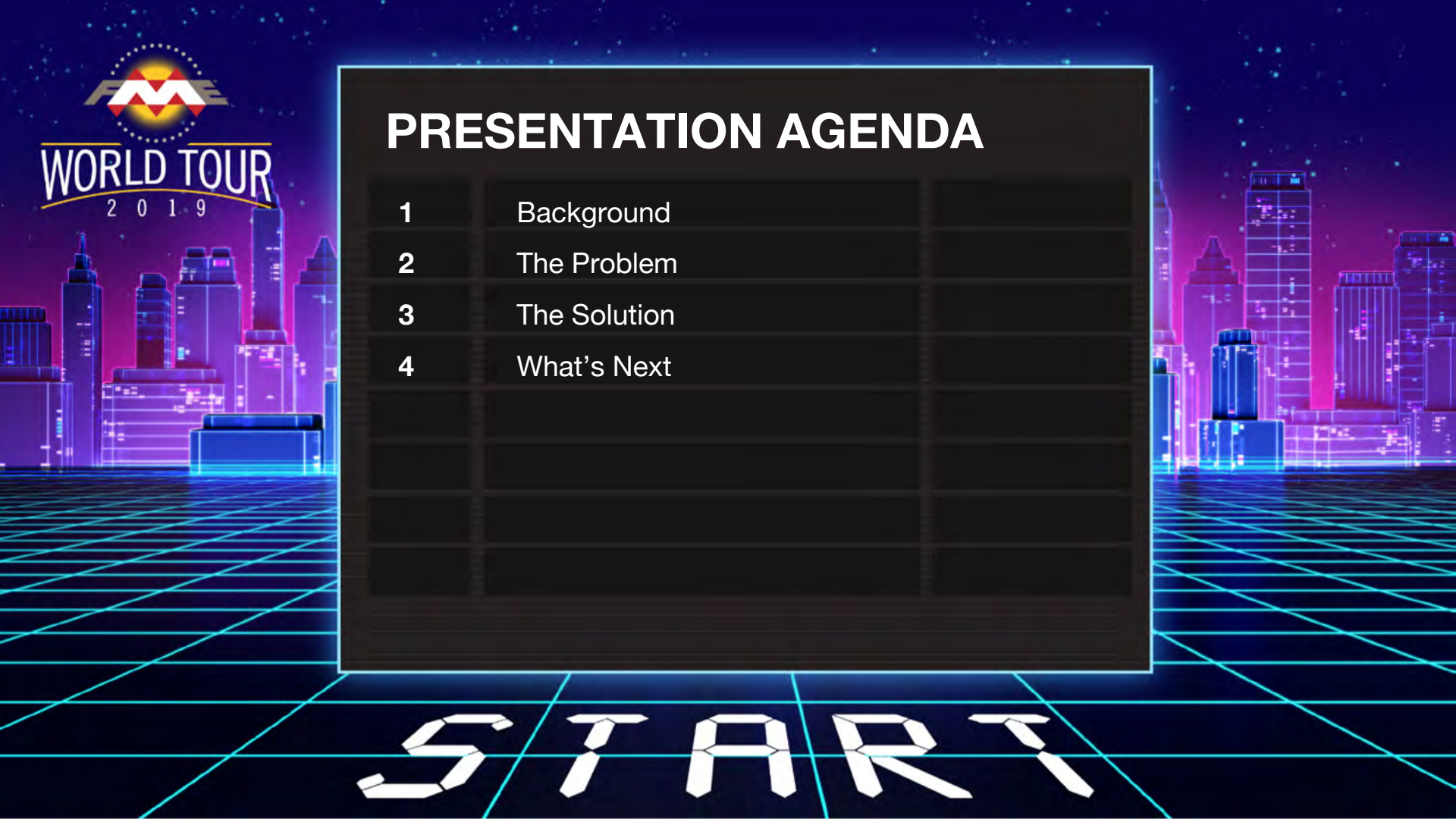
SAFE SOFTWARE

Auditing FME Server and Esri Portal/ArcGIS Online utilising FME

Todd Davis


WORLD TOUR
2019
PRESENTATION AGENDA
1 Background
2 The Problem
3 The Solution
4 What's Next
START

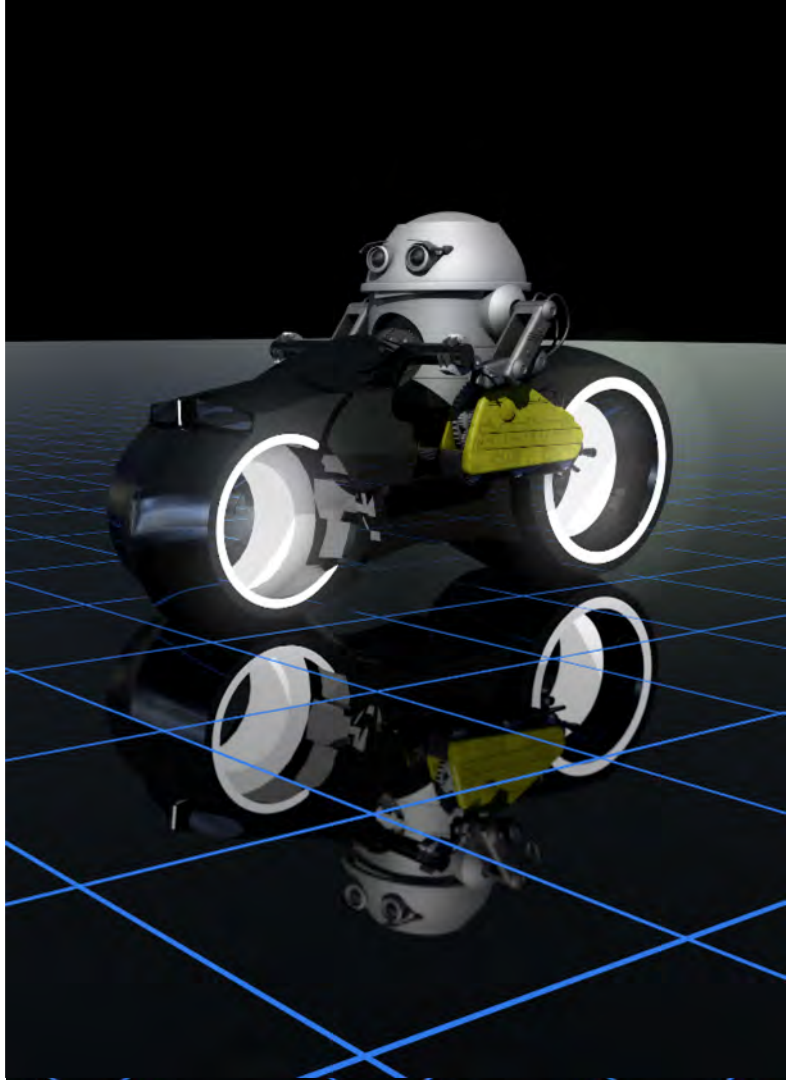
What we do

- Abley is a specialist professional services company, long experienced in transportation planning and engineering, spatial and data intelligence
- Abley empower our clients to make effective decisions by providing clear and insightful advice
- Legacy of transportation and spatial capabilities
- And a Safe Software Partner

Partners

Background

Today the likes of Esri ArcGIS Online/Portal and Safe FME Server empowers Users and Creators to develop, work in and distribute in a centralised environment.



The Easy Answer

For the Administrator

DON’T GIVE PEOPLE RIGHTS TO DO THINGS

But negate the benefits that FME Server and the Esri Platform now offer for productivity increases

But someone is still responsible….

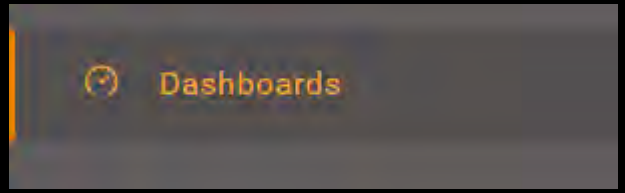
The poor administrator often has the ultimate responsibility to make sure that:

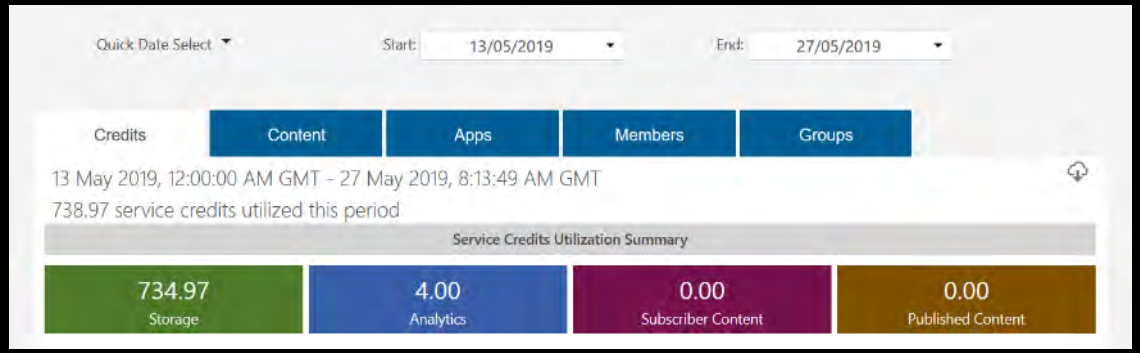
- Things work
- Things are secure
- We can fix things when they go wrong
- Provide details to those above in the org

(Admin)

The Problem

Where are the tools to Audit the systems?





How do I?

Some of many, many things to confirm in FME Server

See when a workspace was last published and who published

That emails can be sent and received by the FME Server

Know what workspaces use which topic

Know which events triggers start what process

Make sure transformers inside workbenches don’t use a users password

What python libraries are used by which workspaces

How do I?

Now for ArcGIS Online/Portal

See if tags, metadata exist

Who has access to each item

Are all the webmaps linking to existing current data

Know when it was last viewed

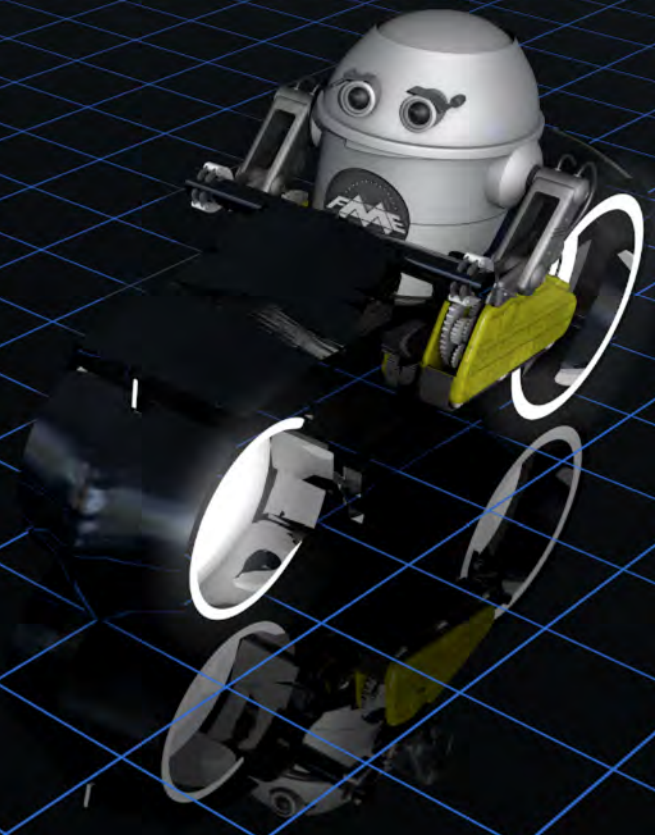
Know who is viewing our data

Know which groups don’t have associated items

Who is using ArcGIS Pro and when


So how can we give users what they want, but make sure the environment is tidy and deal with possible risks

So we need a way of auditing the systems that Esri and Safe currently don’t publicly have

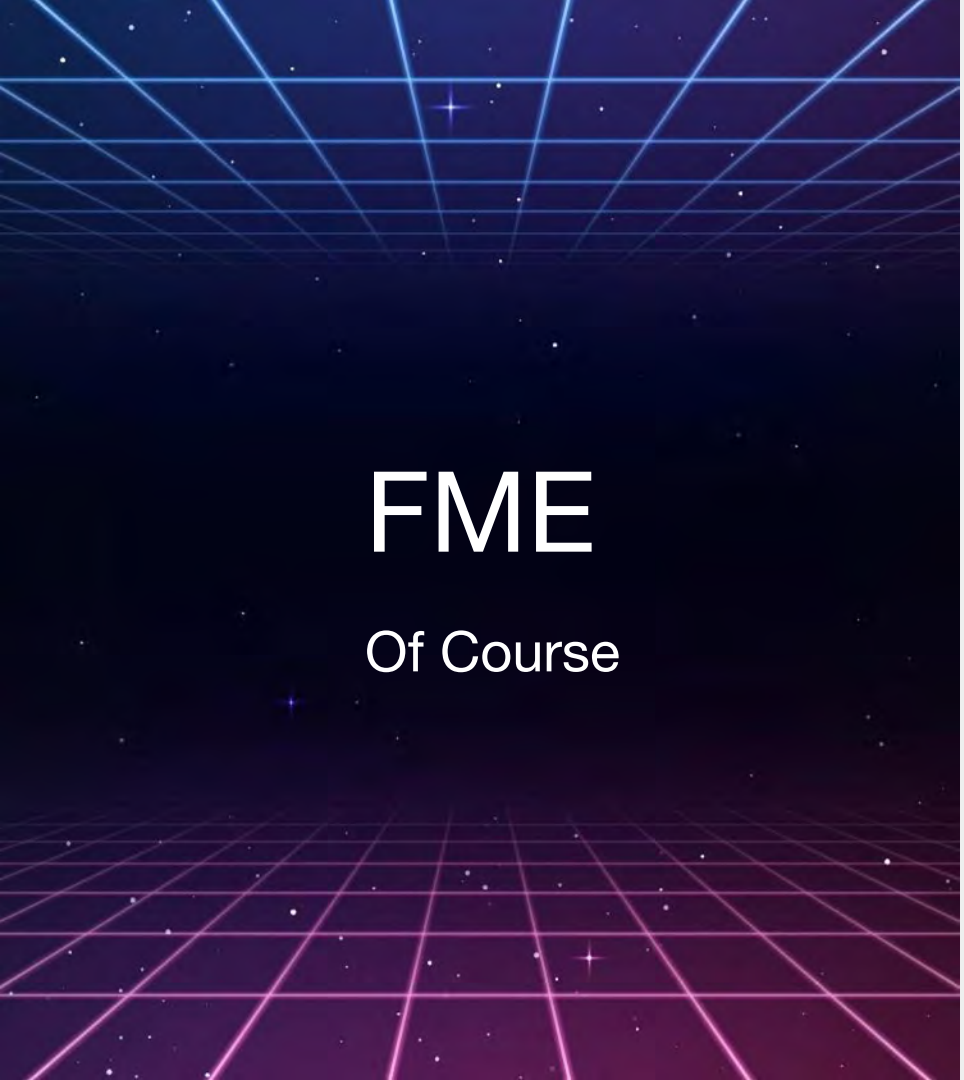


The Solution

Both systems have wide ranging Rest API's

- FME Server runs most things via Rest API and what calls are listed are well documented (although many still aren't listed)
- Esri ArcGIS Online/Portal Rest api is complex but has lot of functions, even though many calls still aren't listed.

So the next question is how to work with the API calls and the resulting JSON???



Were needed we can make custom transformer to perform specific functions

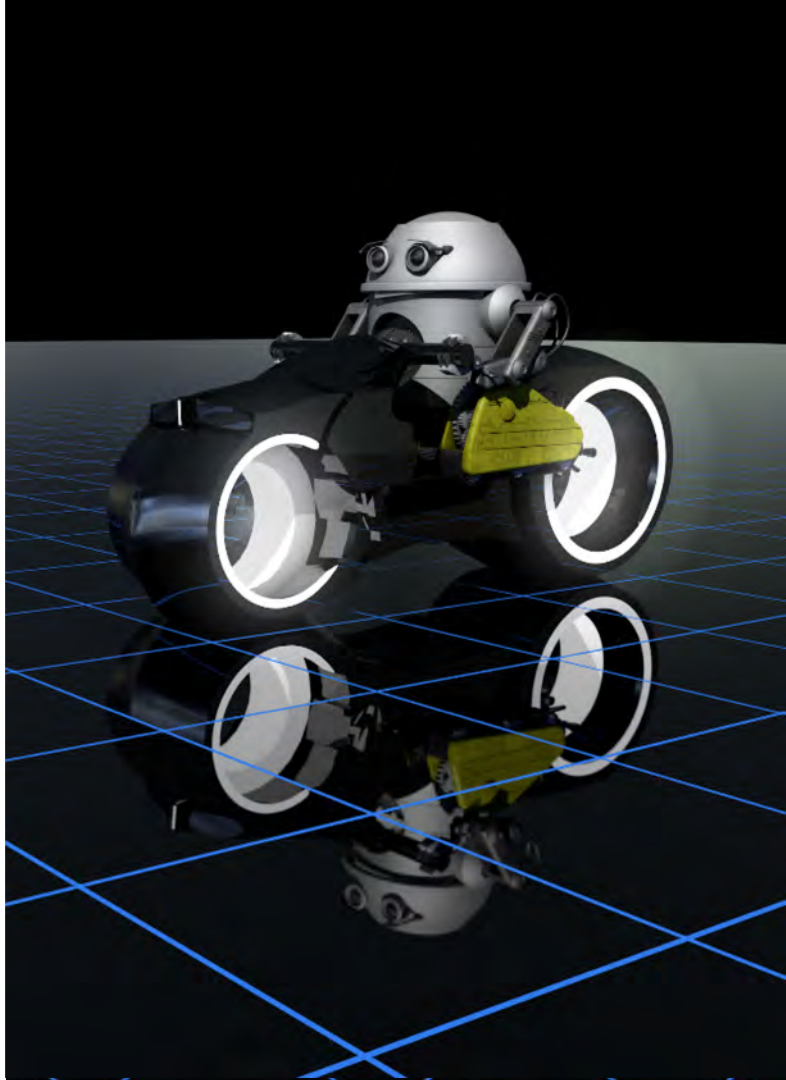
We can merge/join results to draw the conclusion we need to

We can setup repetition of the process in FME Server

And FME Server can provide the Dashboards that allow us to consume generalised data

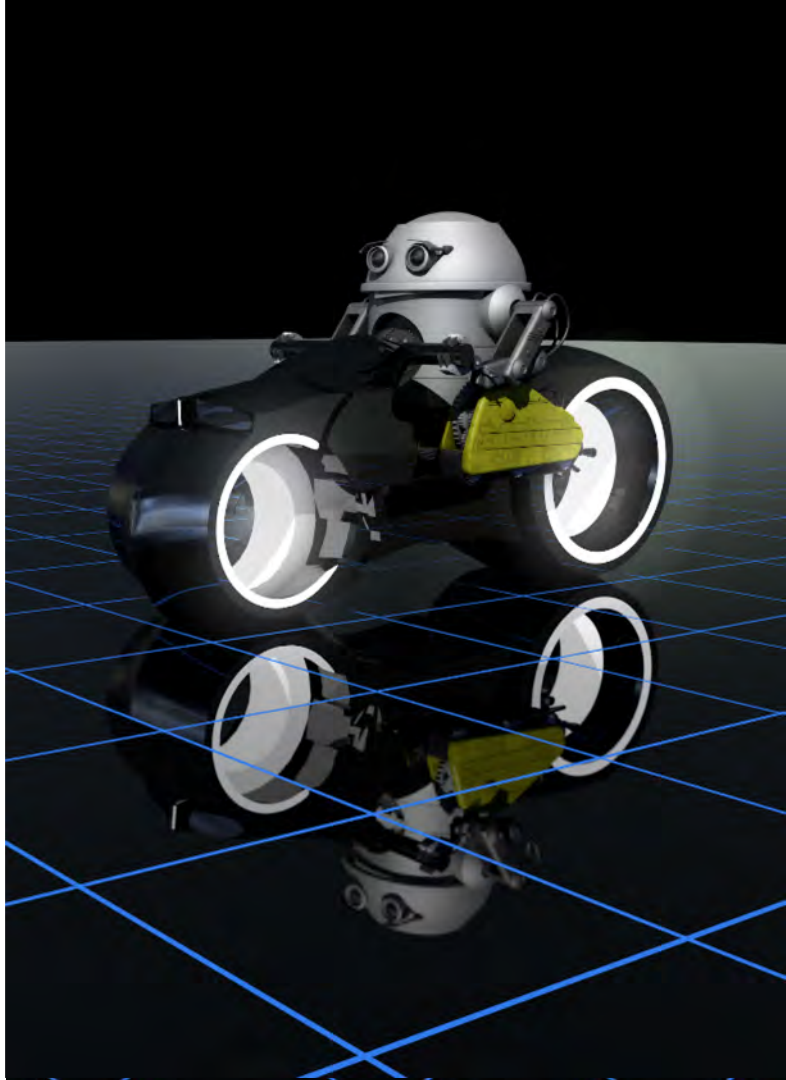
Audit FME Server

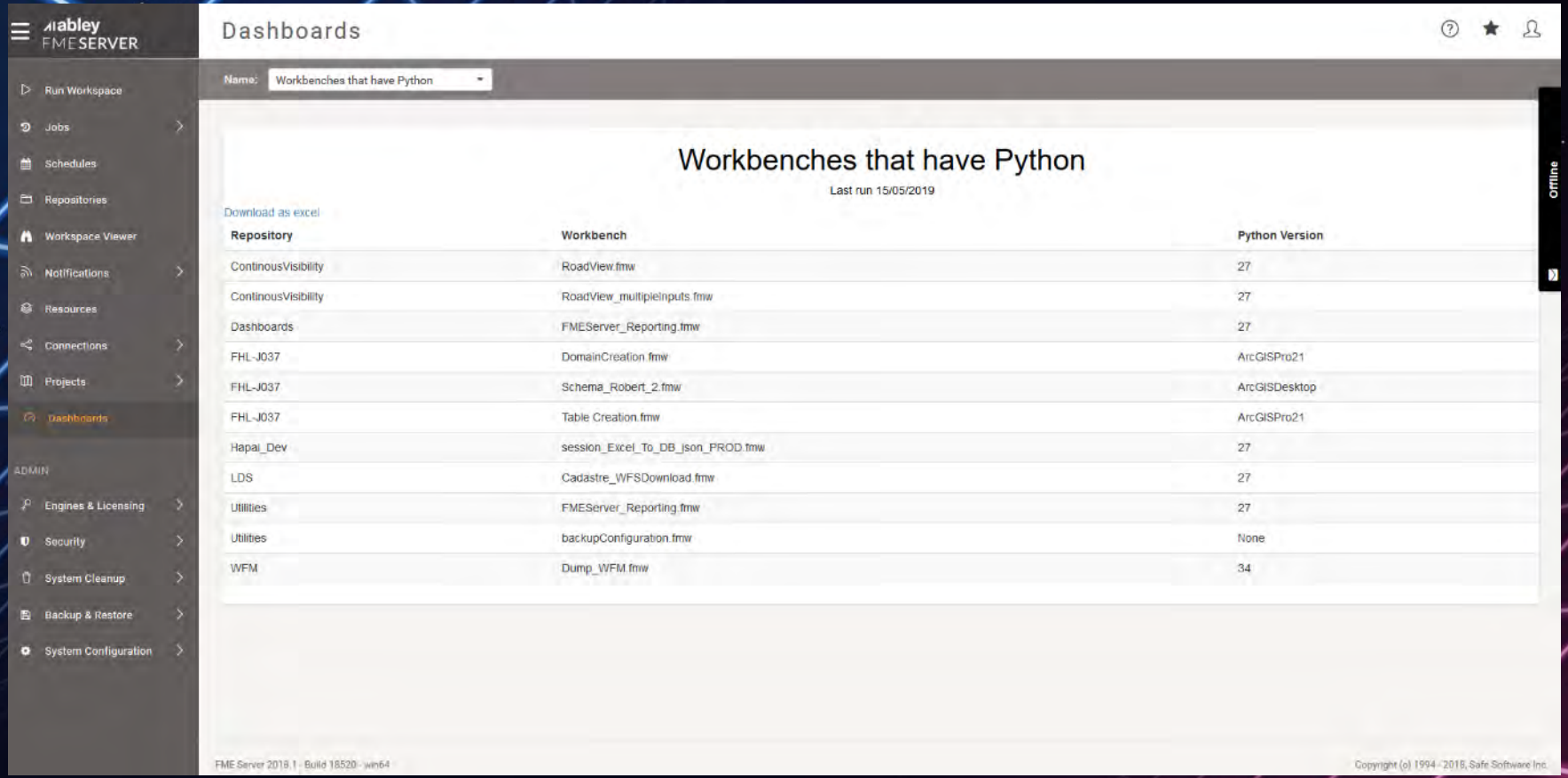
- Process set to run daily on FME Server
- Creates Dashboard and data
- Data can be interrogated to provide all sorts of detail
- Processes to confirm that FME Server is working correctly (send sms if finds issues)



What do we have

- Workspaces with Python
- Python libraries used
- Workspaces associated to Topic
- Workspaces started by Publication
- Schedule
- Publishers and Subscribers
- Workspaces
- User (dashboard required)
- Roles (dashboard required)
- Connections (dashboard required)
- Security (dashboard required)
- Workspace last run (dashboard required)
- Publication and Subscriber validation
- Publish to Github
- Email send/receive confirmation
- etc




Ordnance Survey
FME SERVER
Dashboards
Run Workspace
Jobs
Schedules
Repositories
Workspace Viewer
Notifications
Resources
Connections
Projects
Dashboards
ADMIN
Engines & Licensing
Security
System Cleanup
Backup & Restore
System Configuration
Name:
Workbenches that have Python
Workbenches that have Python
Last run 15/05/2019
Download as excel
Repository
Workbench
Python Version
ContinousVisibility
RoadView.fmw
27
ContinousVisibility
RoadView_multipleInputs.fmw
27
Dashboards
FMEServer_Reporting.fmw
27
FHL-J037
DomainCreation.fmw
ArcGISPro21
FHL-J037
Schema_Robert_2.fmw
ArcGISDesktop
FHL-J037
Table Creation.fmw
ArcGISPro21
Hapai_Dev
session_Excel_To_DB_json_PROD.fmw
27
LDS
Cadastre_WFSDownload.fmw
27
Utilities
FMEServer_Reporting.fmw
27
Utilities
backupConfiguration.fmw
None
WFM
Dump_WFM.fmw
34
Offline
FME Server 2018.1 - Build 18520 - win64
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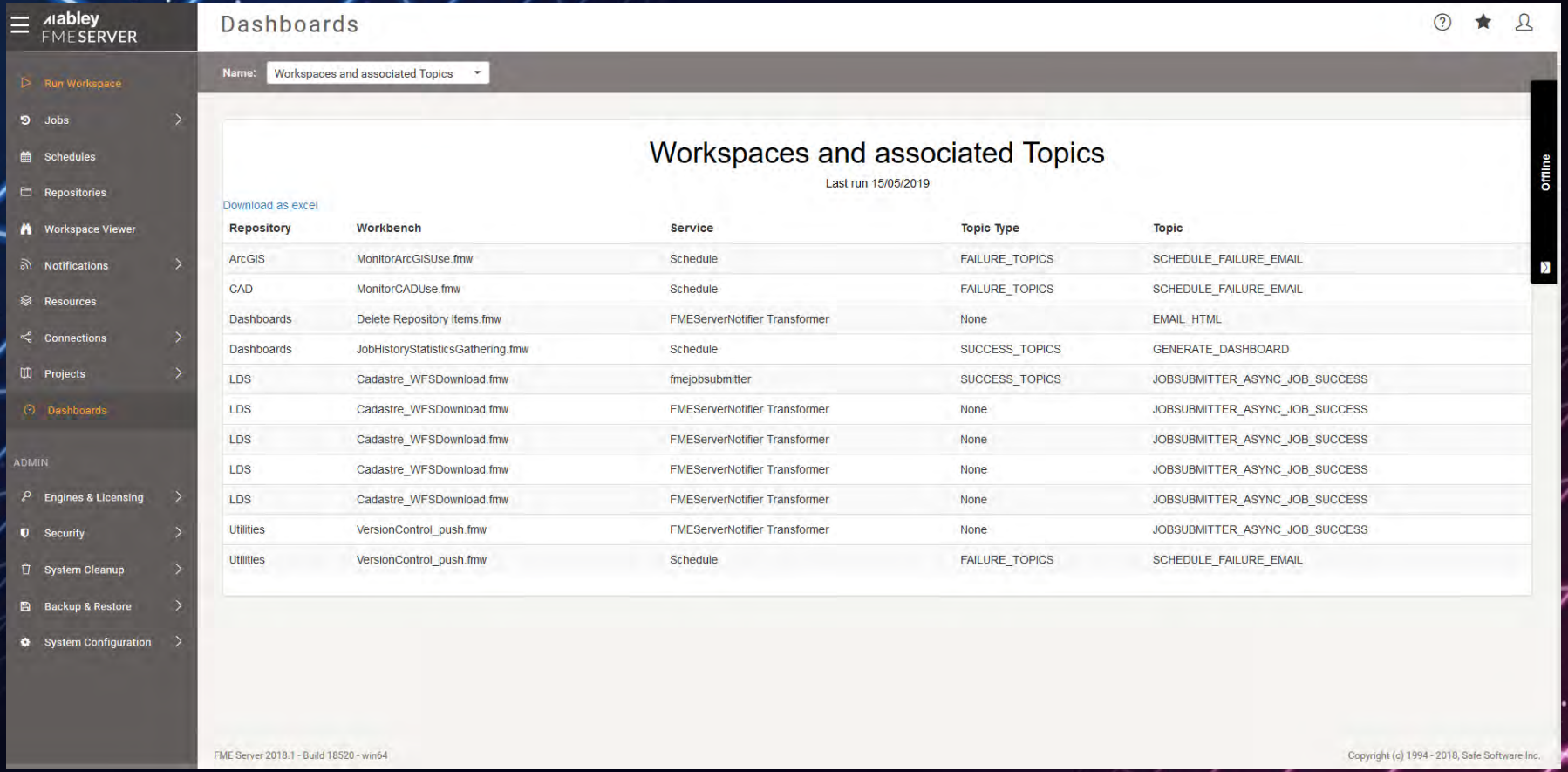
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Dashboards
ADMIN
Engines & Licensing
Security
System Cleanup
Backup & Restore
System Configuration
Name:
Workspaces and associated Topics
Offline
Workspaces and associated Topics
Last run 15/05/2019
Download as excel
Repository
Workbench
Service
Topic Type
Topic
ArcGIS
MonitorArcGISUse.fmw
Schedule
FAILURE_TOPICS
SCHEDULE_FAILURE_EMAIL
CAD
MonitorCADUse.fmw
Schedule
FAILURE_TOPICS
SCHEDULE_FAILURE_EMAIL
Dashboards
Delete Repository Items.fmw
FMEServerNotifier Transformer
None
EMAIL_HTML
Dashboards
JobHistoryStatisticsGathering.fmw
Schedule
SUCCESS_TOPICS
GENERATE_DASHBOARD
LDS
Cadastre_WFSDownload.fmw
fmejobsubmitter
SUCCESS_TOPICS
JOBSUBMITTER_ASYNC_JOB_SUCCESS
LDS
Cadastre_WFSDownload.fmw
FMEServerNotifier Transformer
None
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Utilities
VersionControl_push.fmw
FMEServerNotifier Transformer
None
JOBSUBMITTER_ASYNC_JOB_SUCCESS
Utilities
VersionControl_push.fmw
Schedule
FAILURE_TOPICS
SCHEDULE_FAILURE_EMAIL
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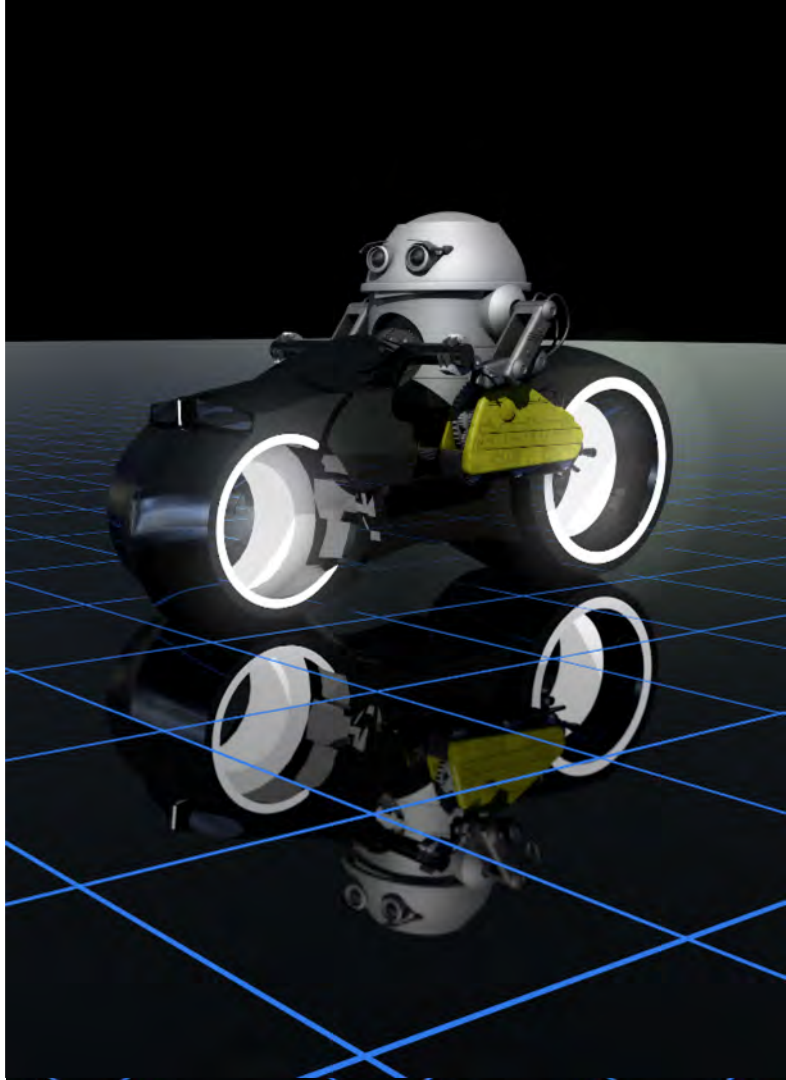
Any issues

- JSON returned by FME Server is nested, with multiple arrays. This can be hard to break down and difficult to put into a ‘table’

- Lots of calls aren’t documented, so the “web developer” browser extensions come out

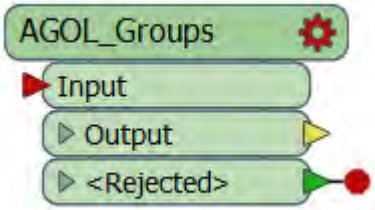
- Have looked at the 2019 automations calls, but decided not to implement just yet, as I expect the backend to change

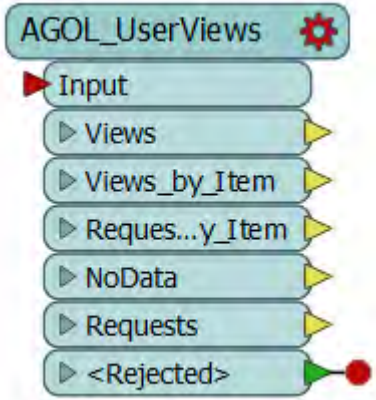


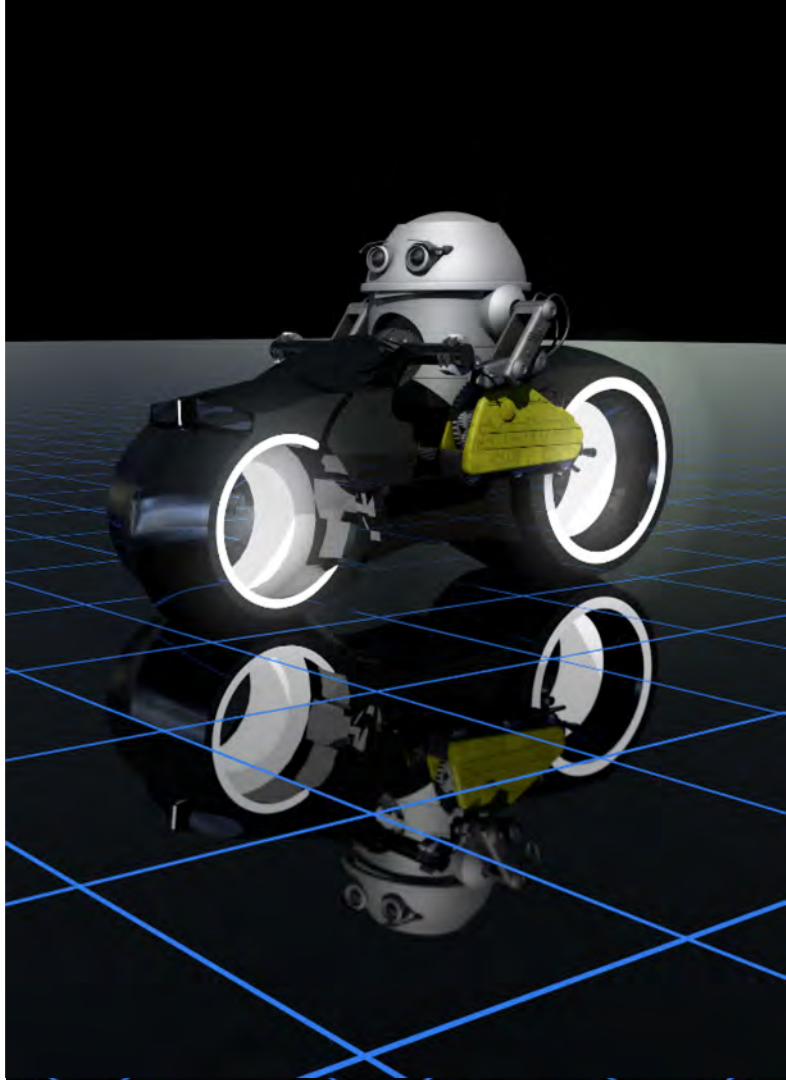
Audit Esri ArcGIS Online/Portal

- Currently continue to build custom transformers

- Developing processes to utilise these custom transformers to return specific outcomes







What do we have

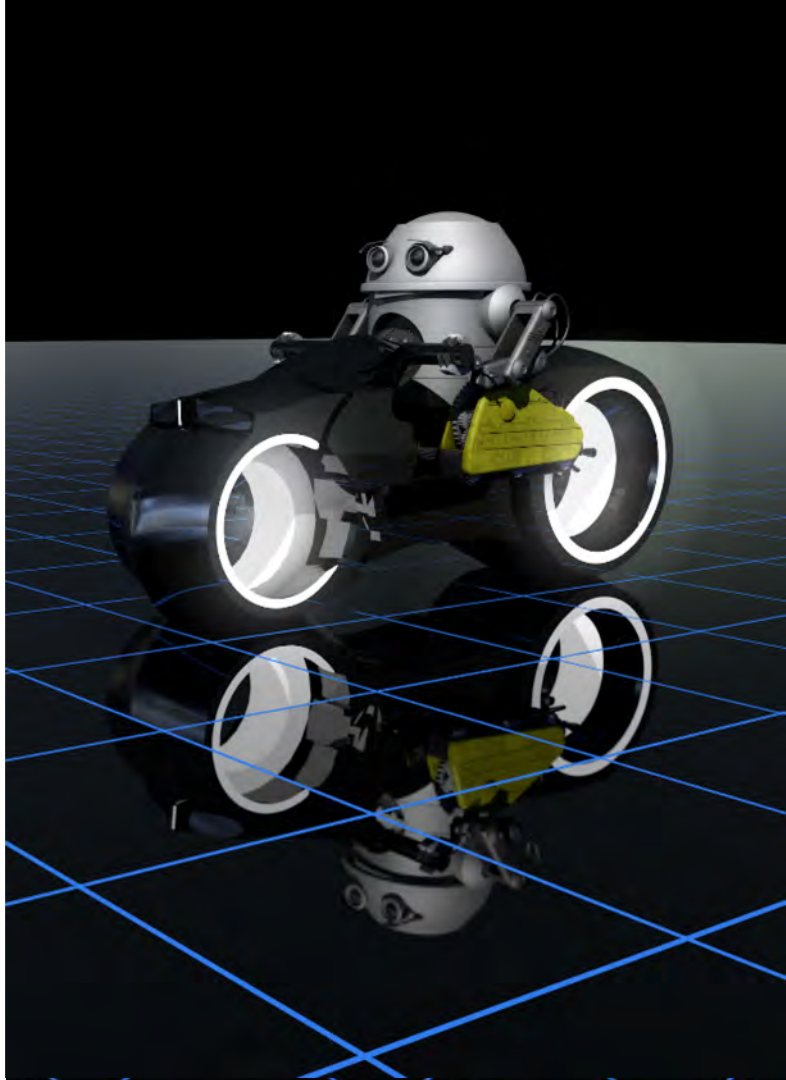
- Get all Items and associated data
- Get all Users from Org
- Get all groups from Org
- View and Requests against Org

Current processes to be made custom:

- Credit usage for users/functions in Org
- ArcGIS Pro license usage
- Confirming webmaps still link to live data

Others:

- Bulk edits of webmaps
- Archive/Restore of items
- And a bunch of ArcGIS Enterprise processes



Who's viewing what items? (below is based on views over a month)

views	date	name	stype	username
2	20181001000000	4921b4fc41ad49568db3521b69a7711f	portal	elvin.infante_opus_NZTA
2	20181101000000	4921b4fc41ad49568db3521b69a7711f	portal	elvin.infante_opus_NZTA
9	20181001000000	8252835226ce4930a1a8bb4994316fcf	portal	elvin.infante_opus_NZTA
10	20181101000000	8252835226ce4930a1a8bb4994316fcf	portal	elvin.infante_opus_NZTA
2	20181001000000	b3655ebcca4c4093863d1934653cad25	portal	elvin.infante_opus_NZTA
2	20181101000000	b3655ebcca4c4093863d1934653cad25	portal	elvin.infante_opus_NZTA
2	20181001000000	bc858172b019440d971f0a5bfb473b28	portal	elvin.infante_opus_NZTA
2	20181101000000	bc858172b019440d971f0a5bfb473b28	portal	elvin.infante_opus_NZTA
2	20181001000000	cac672f08bab4e12a33868f4220b6733	portal	elvin.infante_opus_NZTA
2	20181101000000	cac672f08bab4e12a33868f4220b6733	portal	elvin.infante_opus_NZTA
1	20181001000000	91aa326f9655464cb50efe497a53908e	portal	emcalister_DOC
3	20181101000000	05fc8c3c0c6d4013b133cd1368d46b1e	portal	evan.willcocks_NZTA
3	20181101000000	8252835226ce4930a1a8bb4994316fcf	portal	evan.willcocks_NZTA
1	20181101000000	8b86444d4e13475ca382cc8dd449241b	portal	ewc_eaglegis
1	20181101000000	a8d8fc65368846fca9e63edc894dd99a	portal	ewc_eaglegis
1	20181101000000	cc0841977b6147cf956881e59000782e	portal	ewc_eaglegis

Or the size of data being stored in items

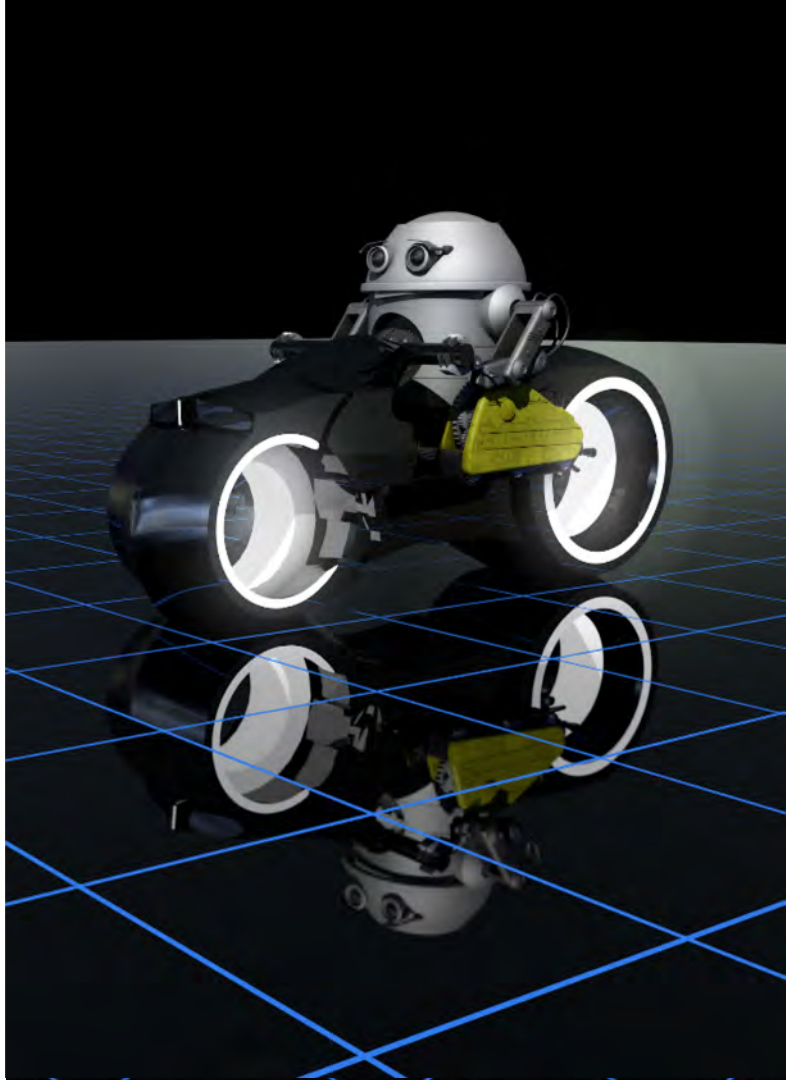
itemContr	protecte	tot	sharing	size
admin	FALSE		{"access":"org","groups":[]}	4022272000
admin	FALSE	15	{"access":"private","groups":[]}	2651253483
admin	FALSE	15	{"access":"private","groups":[]}	2651194263
admin	FALSE		{"access":"private","groups":[]}	1011075985

And some of the poor metadata associated

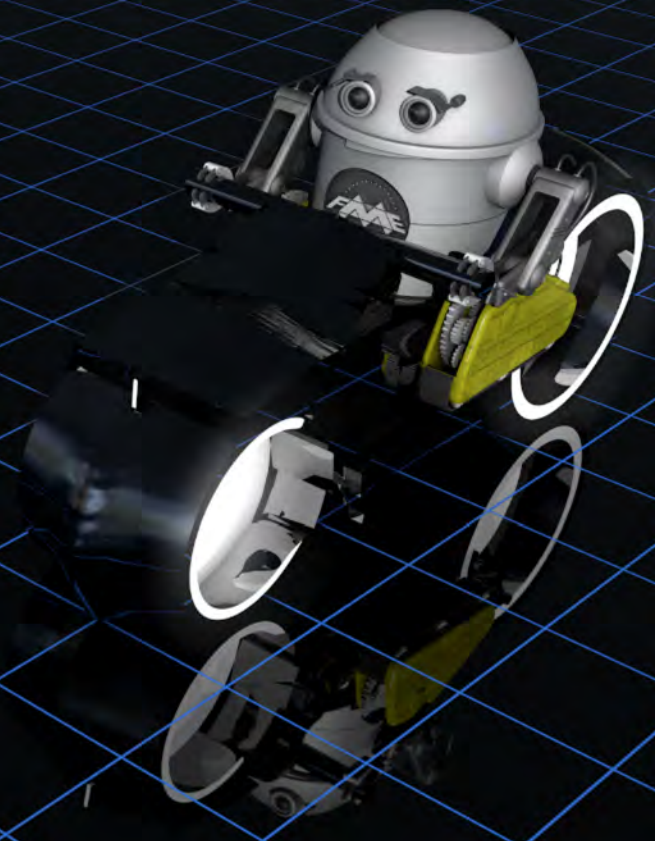
scoreCompletene	snippet
45	Demo test for nationwide NZTA accessibility maps

Any Issues

- Esri has so many calls and a number return duplicated information
- Items relation to there organisation. Org → Item ☺, Item → Org ☹
- While a another organisation can control a group that is linked to your org, you do not have permission to look at it.
- Each person has a “favourites” group, but this is not an group that is searchable at org level.
- No documentation for “usage” calls



Being oblivious of what is in your environment is easy; but there is significant value in knowing your environment



What’s next

- Keep building…
- Find out what others are doing in the AGOL monitoring space…talking to York Region in Canada, talking to Auckland City Council
- Keep pushing Safe for Auditing in FME Server…it is certainly on the list
- For Ableyroll out requirements, and then make sure they are adhered

THANK YOU!

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