Michelle Homes
Metacoda
@homesatmetacoda

KEEPING
YOUR SAS SYSTEM
SECURE

Nils Erik Fossum
Posten Norge
@nefossum

#SASFANS #SASadmin @metacoda

IMAGINE

SAVING A FEW

HOURS

A DAY

METACODA HELPS YOU TO …

Gain Visibility
Metacoda provides comprehensive metadata visibility for SAS 9.

Increase Productivity
Metacoda makes it quick and easy to access SAS metadata for analysis, reporting and troubleshooting.

Improve Security
SAS platform administrators trust Metacoda to provide the insight required for security management and auditing.

Mitigate Risk
Enhance platform security, governance, and implementation of best practices.

Reduce Cost
Metacoda delivers proven ROI.

@nefossum @homesatmetacoda

WHAT

YOUR PEERS SAY

ABOUT US

Quentin Baudewijns 1st
Consultant at SAS Belgium & Luxembourg

Loading metadata identities into SAS Metadata from AD using the tool was very easy. It worked like a charm. This is a great tool!

Ferymtok
@ferymtok

Follow

Woohoo! I've got #metacoda on the new SAS platform I've nearly finished building for Dept of Health Aus. It's the icing on the cake (and it's a delicious cake). Loving it.

Leslie Shroot 1st
Senior Consultant at Servian

Used this with a client yeasterday. All I can say is WOW!

Wouter Germishuys 1st
Analytics Operations Manager at Telstra

The Metacoda set of plugins is worth it's weight in gold if you have SAS deployment. We couldn't have migrated our system without the plugins. Please keep building excellent tools.

David Moors
@moorsd

Following

@metacoda your plug-ins have saved me days not hours with validating metadata for the LBG upgrade. Customer service is also totes amaze 😊

Charyn Faenza

Vice President and Manager, Corporate Business Intelligence Systems at F.N.B. Corp...

3y

SAS Admins - If you have not looked at Metacoda before, I highly recommend it. It has saved me immeasurable hours of work when preparing for audits, or planning to make changes to my security program!

Metacoda

232 followers

Benefits of Metacoda Security Plug-ins: Promotes Documentation, Testing & Audit. The ability to easily review and document a SAS metadata security implementation regularly, generating documentation and reports t …see more

WHERE DOES METACODA HELP?
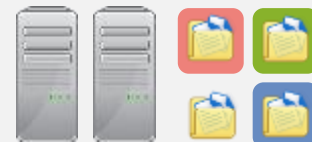
ABOUT METACODA

SAS Silver Partner SINCE 2007

Provide add-ons to SAS® Software for enhanced metadata visibility and exploitation

- Metacoda Identity Sync
- Metacoda Security Plug-in
- Metacoda Testing Framework
- Metacoda Utility Plug-ins – free
- Custom Tasks (for Enterprise Guide & AMO) – free

Goals

- Improve your productivity through enhanced metadata visibility
- Helping to keep your SAS platform secure

@nefossum @homesatmetacoda
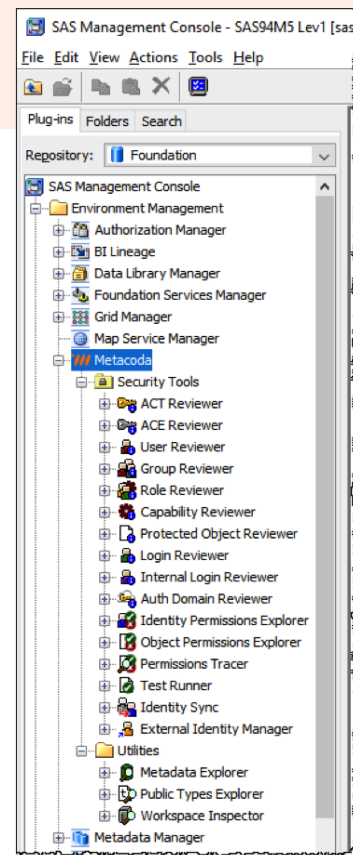
BUSINESS

PROBLEMS

METACODA

SOLVES

METACODA IDENTITY SYNC

Keeping SAS Users & Groups in sync with Active Directory
- Including large & complex directories … all without code!

METACODA SECURITY PLUG-INS

Knowing/documenting your SAS Metadata Security. Easily showing an Auditor …
- what someone has access to
- who has access to something

METACODA TESTING FRAMEWORK

Verifying & proving to an Auditor your SAS Metadata Security is still intact and you can quickly detect and act on changes
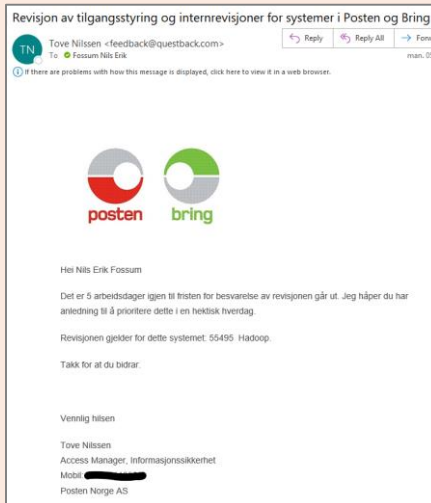
@nefossum @homesatmetacoda

POSTEN NORGE

EXAMPLES

WHY KEEP YOUR

SYSTEM (DATA)

SAFE?

Different levels of requirements

- Global Regulations
- National Regulations
- Company Requirements
- Best practice
- "Look nice"

Compliance ("safe enough")

- There will always be deviations, but if you can document them and show that you have plans to correct them, its accepted.
- You need to be able to document/report:
  - Access to data / sensitive data
  - Usage pattern / traceability
  - React to "delete my data" requests
  - Police requests (suspect mail/parcel deliveries)

Operational Excellence

- Less operational issues
- Easy and fast troubleshooting

METACODA IDENTITY SYNC

Easy "**MAP & SYNC**" our SAS Metadata with Microsoft Active Directory using the Metacoda plug-in for SAS Management Console. The generated code runs in batch and can be altered with the same GUI.
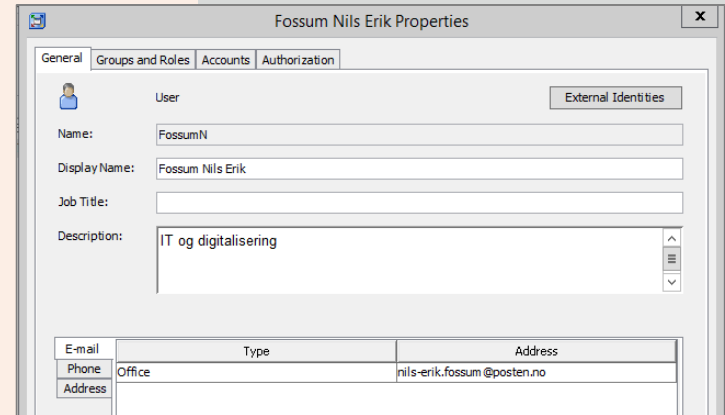
Sync MSAD roles, groups and users

- From multiple Domain Controllers
- From multiple Organization Units

Map desired information

- User ID
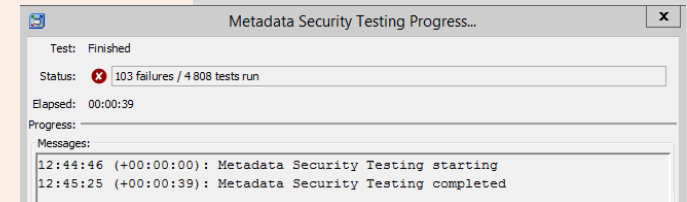- Name and title
- Email / mobile
- Accounts
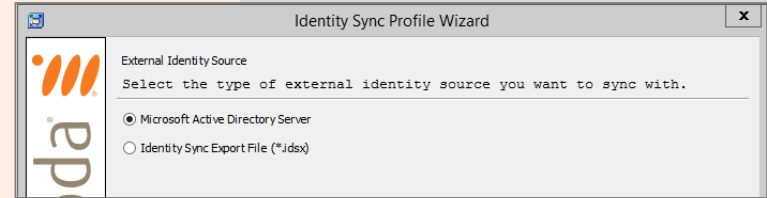
TESTING FRAMEWORK

Testing usually has its own processes, but with the Metacoda Testing Framework we can «dry run» our SAS Metadata changes and test:

- How one env. compare to the other(s)

- If the changes comply with the requirement in the current environment?

- You can use the given "best practice baseline" or create your own – different environments or repositories may have different requirements.

- Its automatic – you can even schedule it to run and validate just the output. Hence its easy to included in standard test procedure.

NB: if you have a lot of old code / have done many version upgrades on the same metadata instance, be aware that best practice have changed, and that every new version of SAS is usually stricter than the version it replaces.

SECURITY TOOLS

The Metacoda Plug-in has a lot of different «Security Tools».

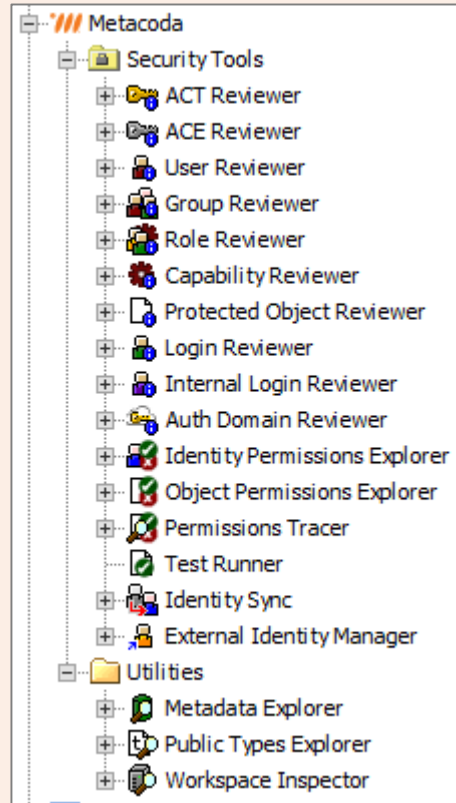**Troubleshooting**

Many of them are frequently in use as part of trouble shooting access issues:

- I cannot access table X
- I need the same access as N.N.
- I get "access denied" for report Y

Access Revisions

Who has access to given sensitive data, and how is that access provided / controlled?

The **Identity Permissions Explorer** provides you with comprehensive, whole-of-server views of effective permissions for a specific user or group across multiple objects. It is used to easily see what level of access an individual has across the various objects in your SAS metadata repository, including libraries, tables, cubes, folders, information maps, reports, stored processes etc. It makes it very easy to spot, at a glance, areas **where a user has more, or less, permissions than would be expected**.

The **Object Permissions Explorer** is used to easily and see what level of access an individual has to the various **objects** in your SAS metadata repository; including libraries, tables, cubes, folders, information maps, reports, and stored processes.

The **Permissions Tracer** provides the ability to trace permissions and access controls for a combination of a metadata object and a metadata identity (user or group). It is used to easily review the relevant access controls and permissions **for the selected identity on the selected object**.

The **Protected Object Reviewer** provides comprehensive, whole-of-server views of any objects in your metadata that have been specifically protected with access controls such as Access Control Templates (ACTs). It is used to easily and efficiently **review all objects in your SAS metadata that have access control directly applied to them**, including both Access Control Templates (ACTs) and Access Control Entries (ACEs or explicit permissions).

GENERAL METADATA REPORTING

How well do you know your users that run code or use SAS Enterprise Guide?

- What data they query?
- What queries they run and their runtimes?
- Is tuning needed? Change of tooling?
- Security breaches?

It's all in the SAS Metadata and in the logs, but there are regulations for what you can store and how to use this insight.

starttime	endtime	duration	total_real_time	total_cpu_time	status
01OCT20:01:00:01	01OCT20:02:48:48	01:48:47	00:01:58	00:00:49	ERROR
01OCT20:02:49:00	01OCT20:02:51:21	00:02:21	00:00:00	00:00:00	ERROR
01OCT20:02:51:29	01OCT20:03:06:26	00:14:57	00:00:00	00:00:00	ERROR
01OCT20:03:06:33	01OCT20:03:12:01	00:05:29	00:00:00	00:00:00	OK
01OCT20:04:01:42	01OCT20:06:01:54	02:00:12	00:31:52	00:12:20	OK
01OCT20:04:02:20	01OCT20:08:06:03	04:03:43	02:51:26	01:23:40	ERROR
01OCT20:04:03:11	01OCT20:07:39:50	03:36:39	02:44:29	00:38:17	ERROR
01OCT20:05:01:49	01OCT20:16:59:36	11:57:48	00:23:18	00:00:00	ERROR
01OCT20:05:57:43	01OCT20:07:44:33	01:46:50	01:29:24	00:21:51	OK
01OCT20:05:58:40	01OCT20:07:10:29	01:11:49	00:02:13	00:00:39	ERROR
01OCT20:06:00:51	01OCT20:06:09:06	00:08:15	00:05:35	00:04:58	OK
01OCT20:06:19:03	01OCT20:20:05:24	13:46:21	00:55:37	00:15:18	ERROR
01OCT20:06:39:47	01OCT20:12:37:49	05:58:02	00:24:00	.	ERROR
01OCT20:06:39:53	01OCT20:12:37:49	05:57:56	00:34:36	.	ERROR
01OCT20:06:39:58	01OCT20:12:37:49	05:57:51	00:20:04	00:03:57	ERROR
01OCT20:06:44:23	01OCT20:12:37:36	05:53:14	01:16:57	.	ERROR

ADDITIONAL INFO

5 papers on security model best practices:

https://communities.sas.com/t5/SAS-Communities-Library/Five-papers-on-Recommended-SAS-9-4-Security-Model-Design-part-1/ta-p/361569
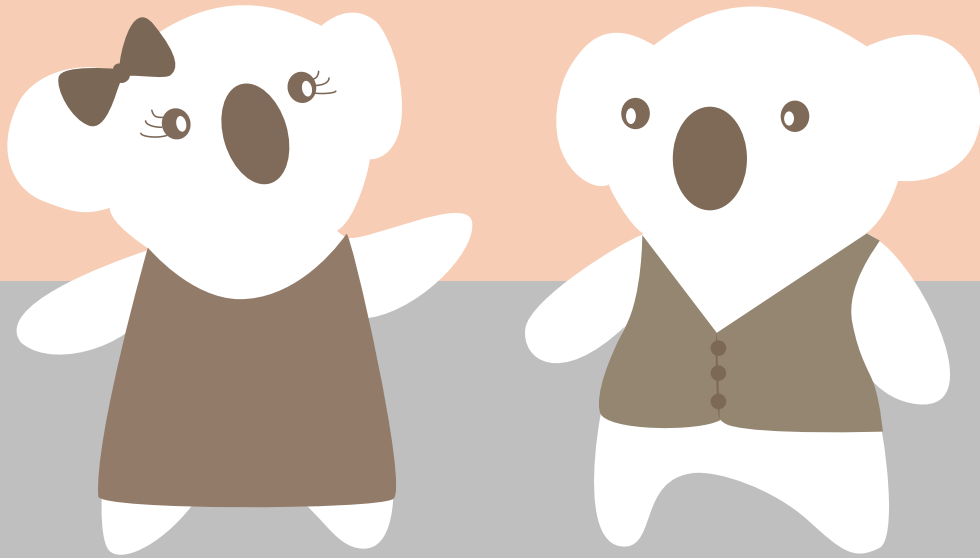
Metacoda Security test files:

https://github.com/Metacoda/metacoda-plugins-batch-setup/blob/master/src/env/batch-sectest/metacoda-recommended-practices.xml

QUESTIONS?

info@metacoda.com
nils-erik.fossum@posten.no

www.metacoda.com

twitter.com/metacoda

facebook.com/Metacoda

linkedin.com/company/metacoda

www.youtube.com/user/metacoda