

ASK THE EXPERT

Why is SAS[®] 9 Content Assessment Key in
Migrating to SAS[®] Viya[®] ?

Christiana Lycan
Steven Sober





Christiana Lycan

Principal Product Manager, SAS

Christiana has extensive experience in the software industry, partnering with customers to transform business challenges into software solutions. Her current focus is guiding SAS customers through their migration experiences.

Steven Sober

Advisory Solutions Architect, SAS

Steven is an Advisory Solutions Architect with 42+ years SAS programming experience. During his tenure at SAS, Steven has traveled globally working with customers in their adoption of SAS® Viya, SAS® 9 Content Assessment, SAS® Workload Manager, SAS® Enterprise Session Monitor, SAS® Grid Manager, SAS® In-Database technologies, and SAS® Scalable Performance Data Server. Before joining SAS in 1989 Steven worked for the U.S. Geological Survey, Water Resources Division, assisting hydrologists to leverage the SAS platform to derive intelligence on ground and surface water in Southern Colorado.

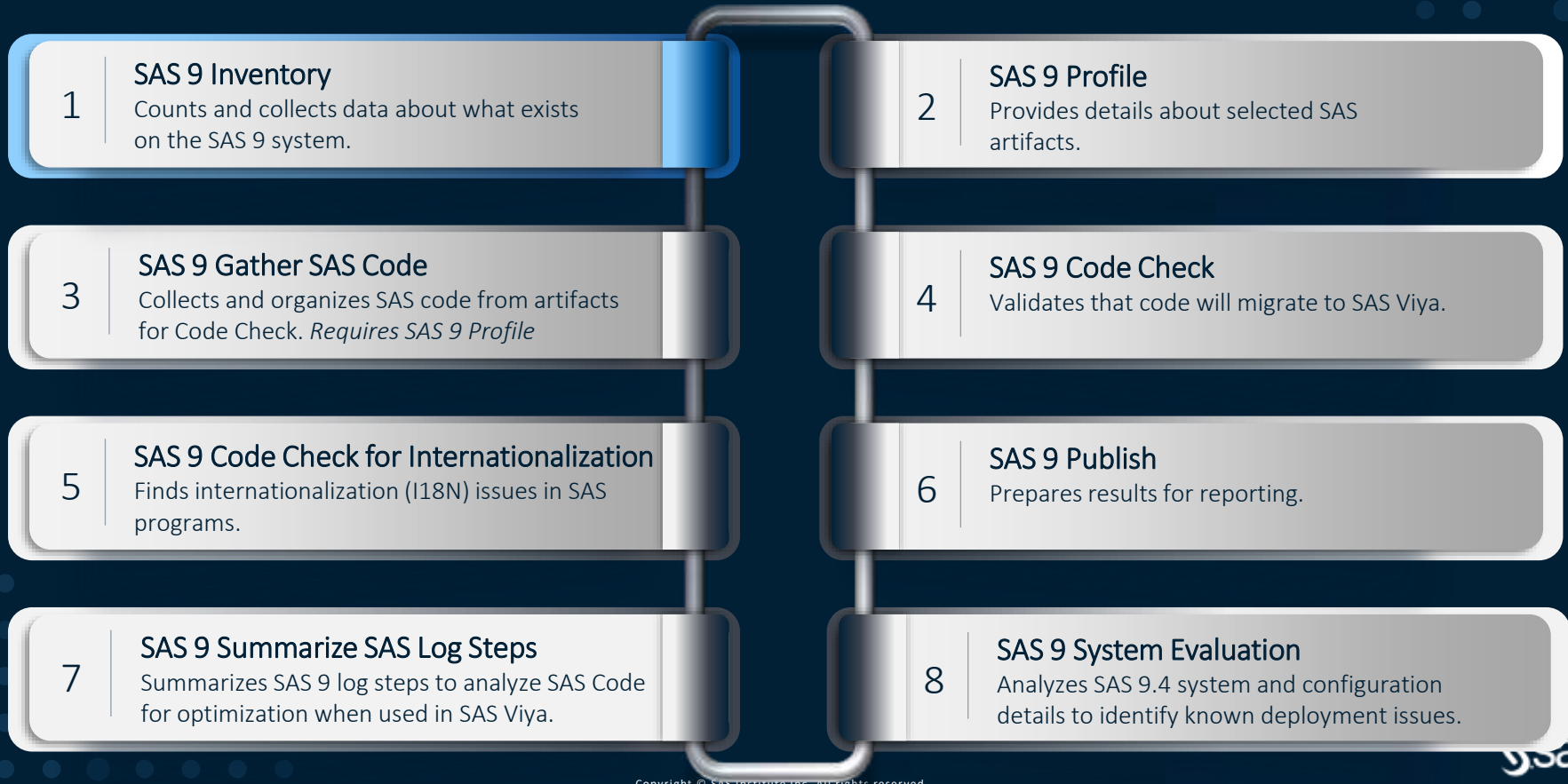




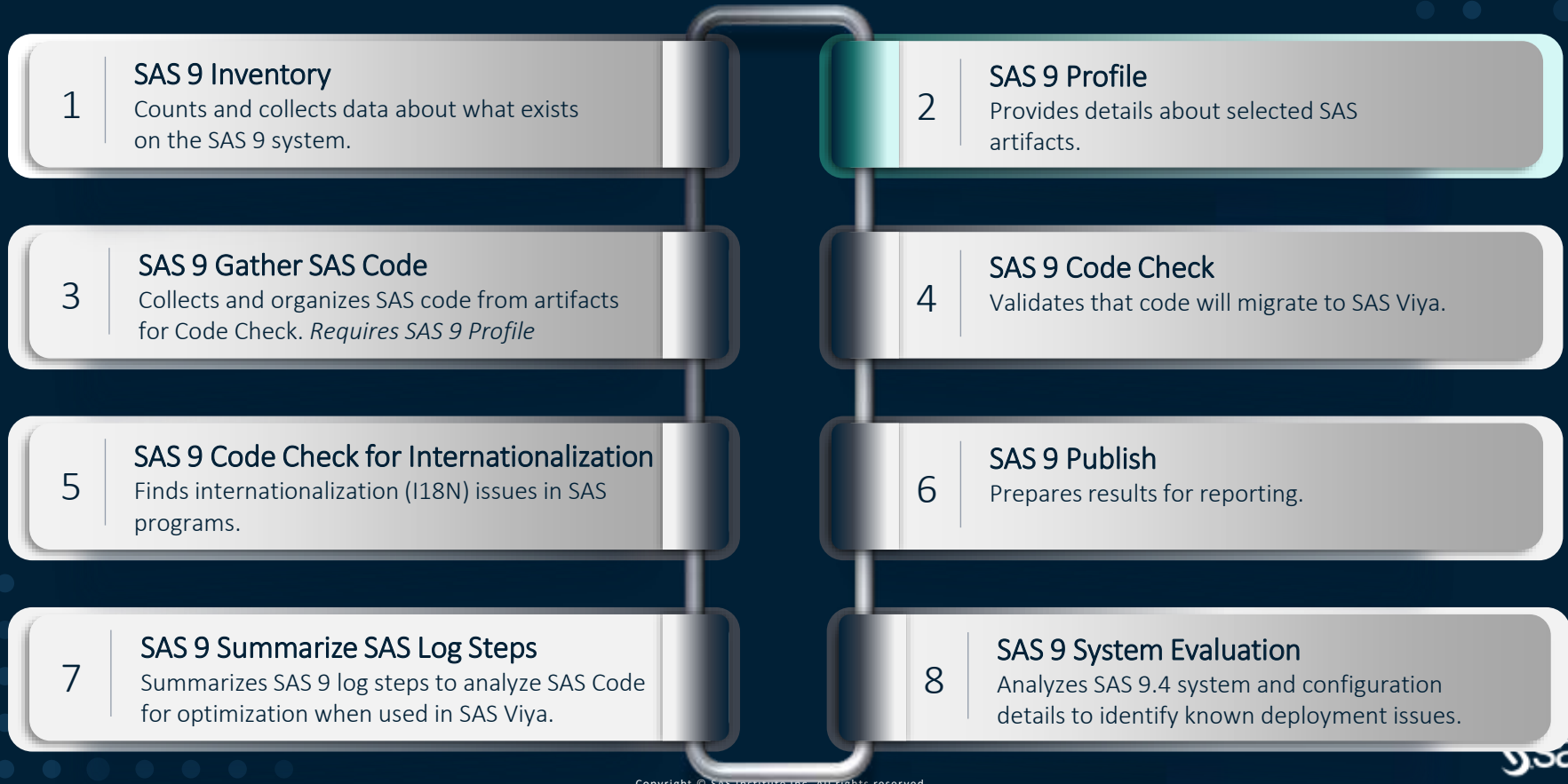
The SAS 9 Content Assessment helps organizations understand the state of their SAS 9 systems.



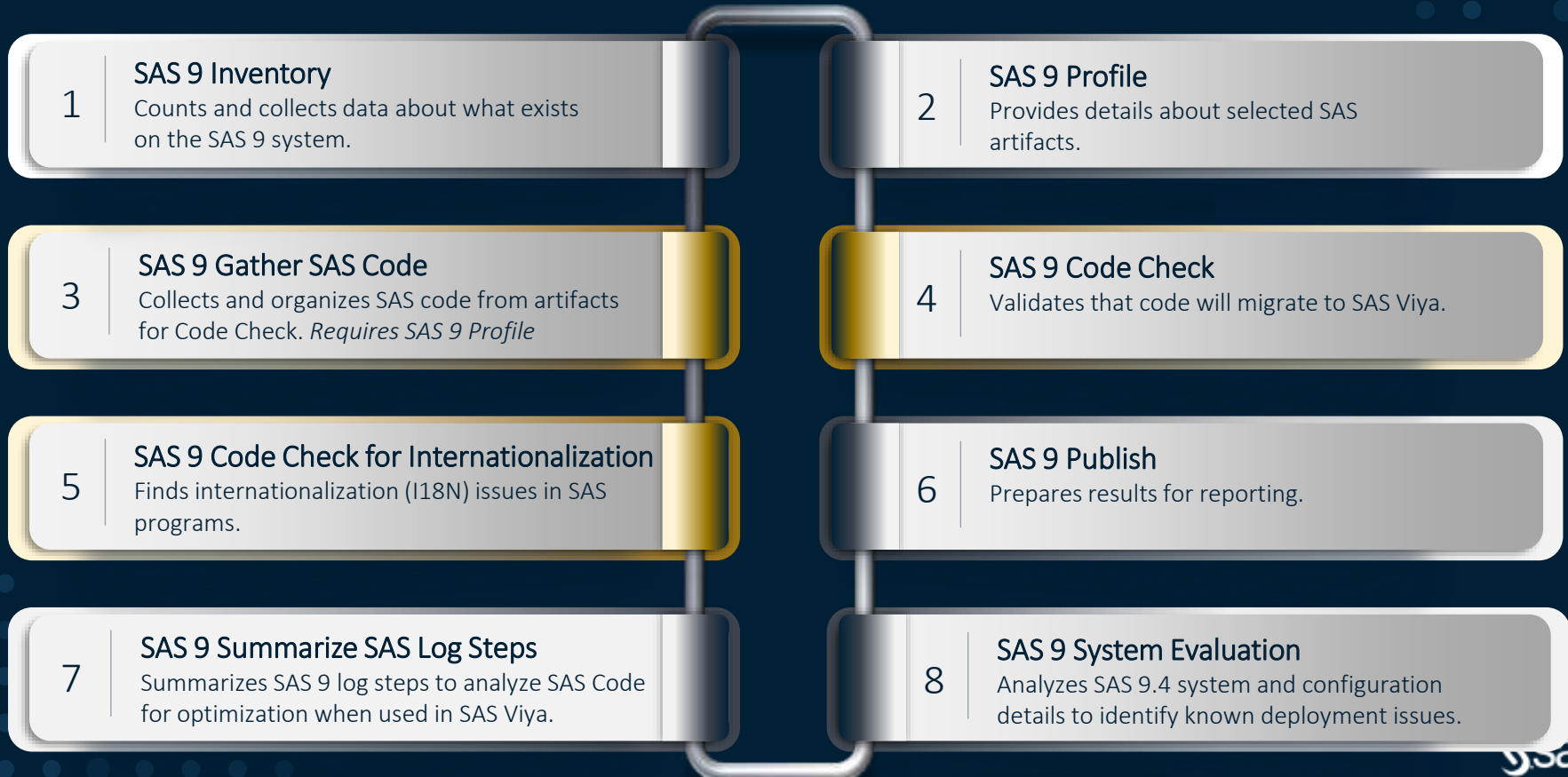
The SAS 9 Content Assessment helps organizations understand the state of their SAS 9 systems.



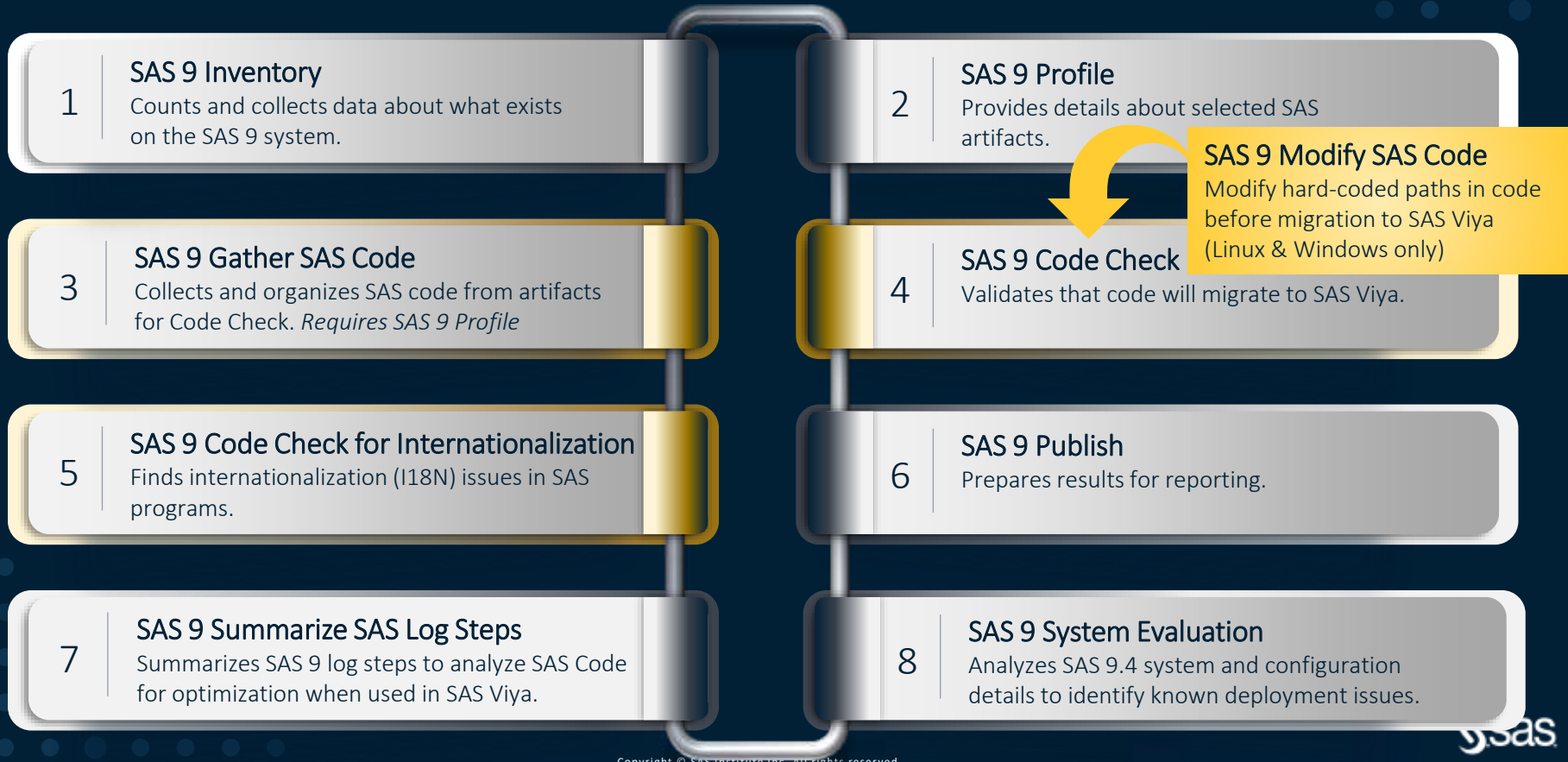
The SAS 9 Content Assessment helps organizations understand the state of their SAS 9 systems.



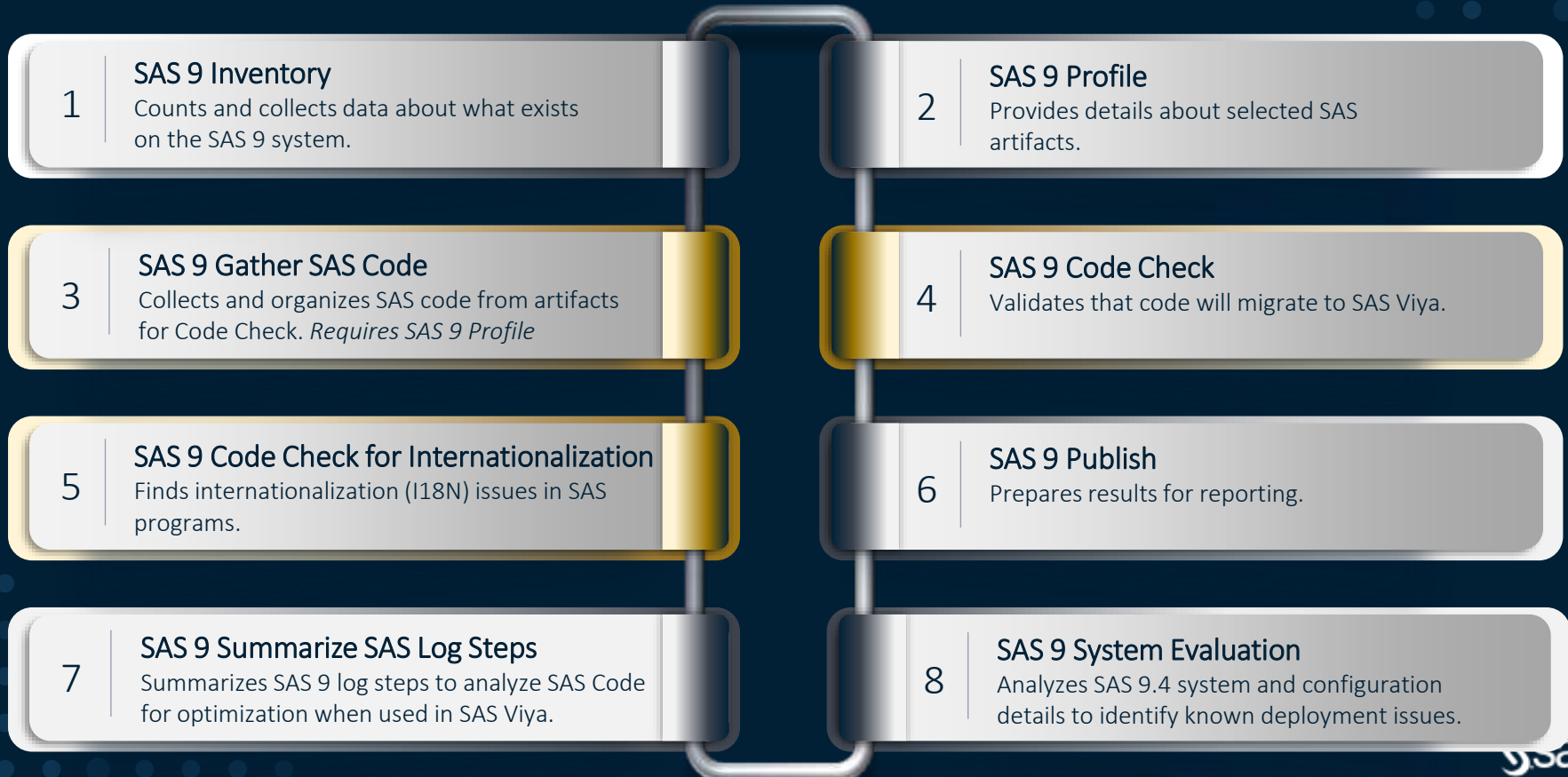
The SAS 9 Content Assessment helps organizations understand the state of their SAS 9 systems.



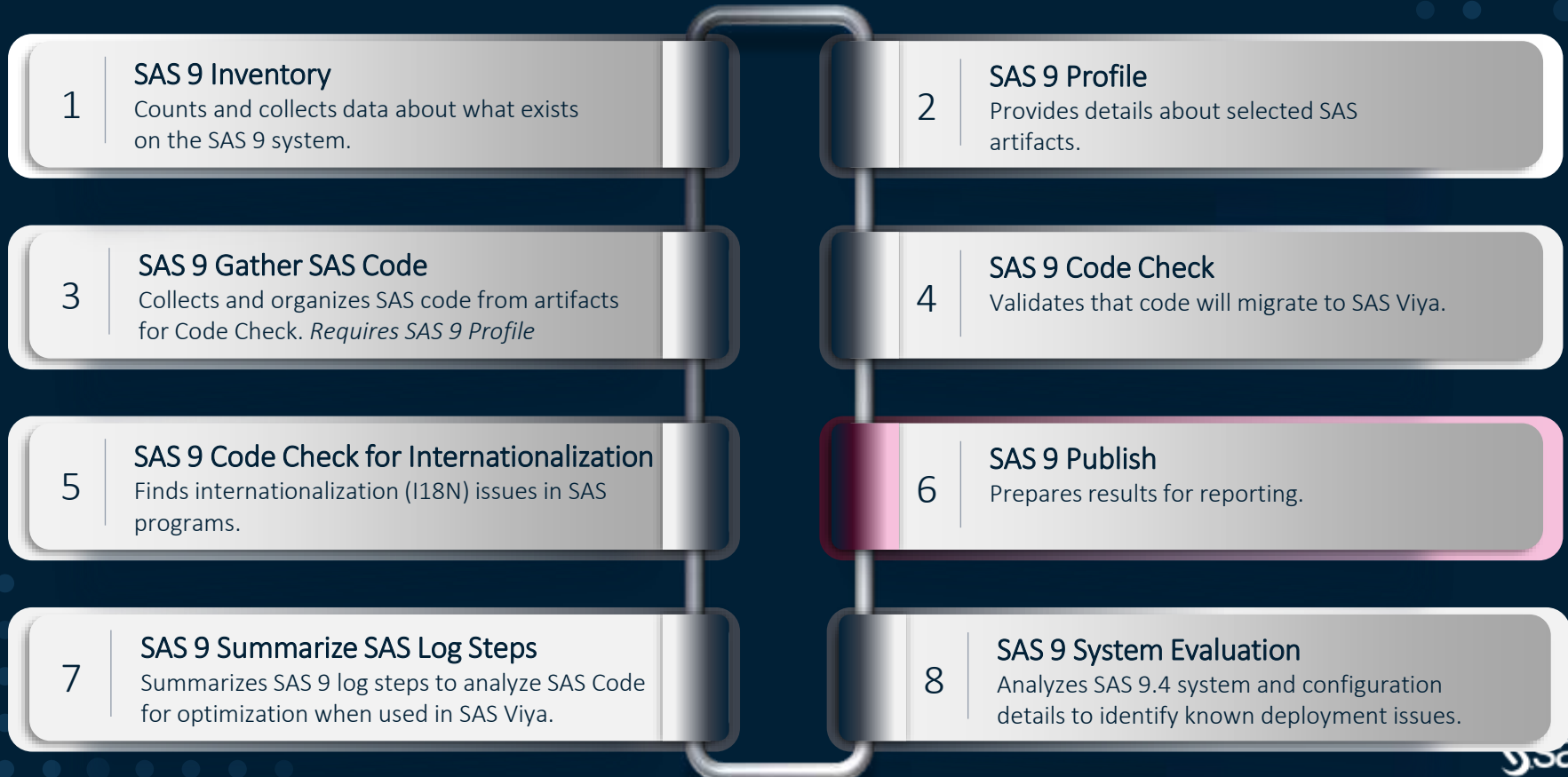
The SAS 9 Content Assessment helps organizations understand the state of their SAS 9 systems.



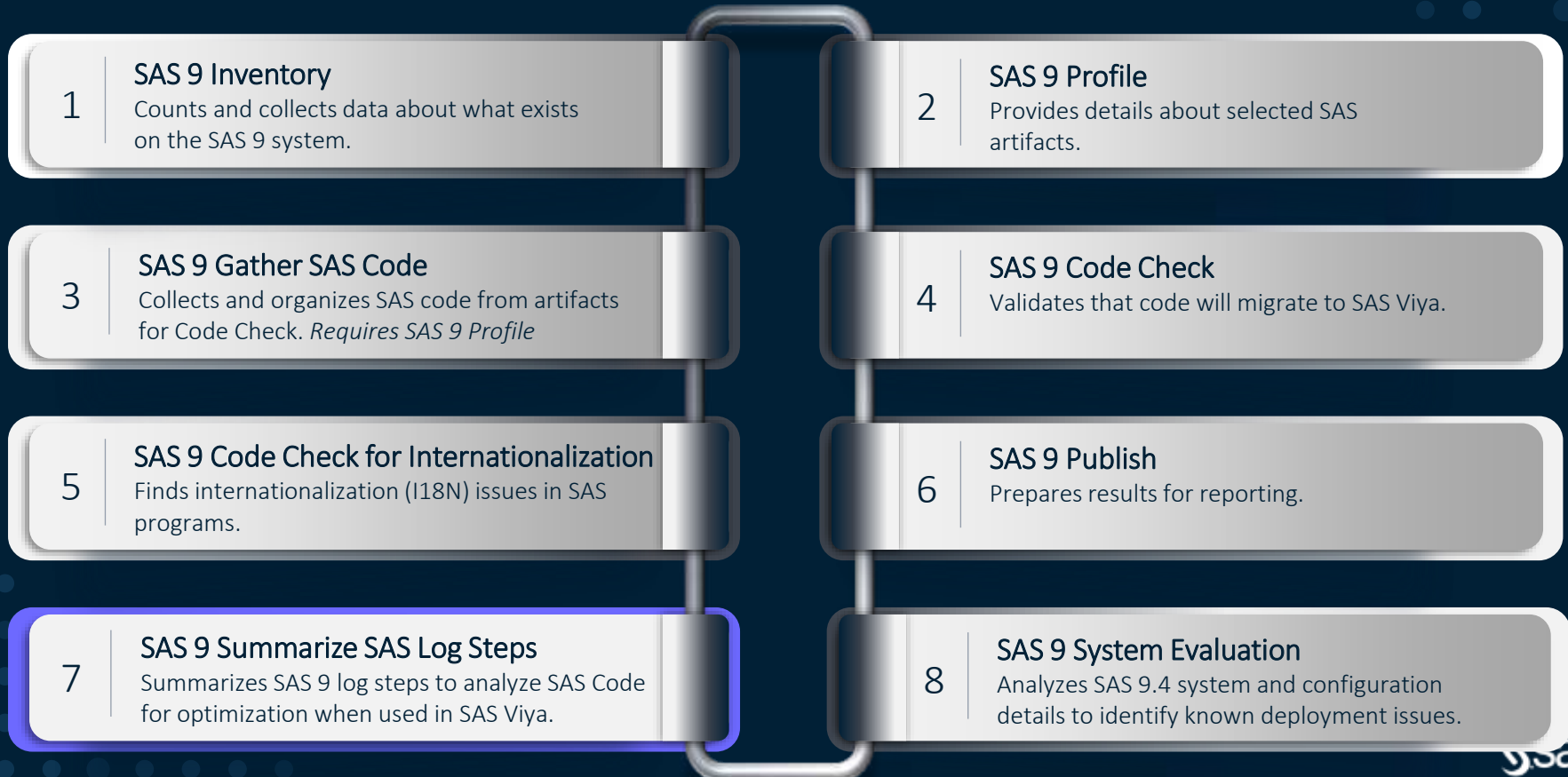
The SAS 9 Content Assessment helps organizations understand the state of their SAS 9 systems.



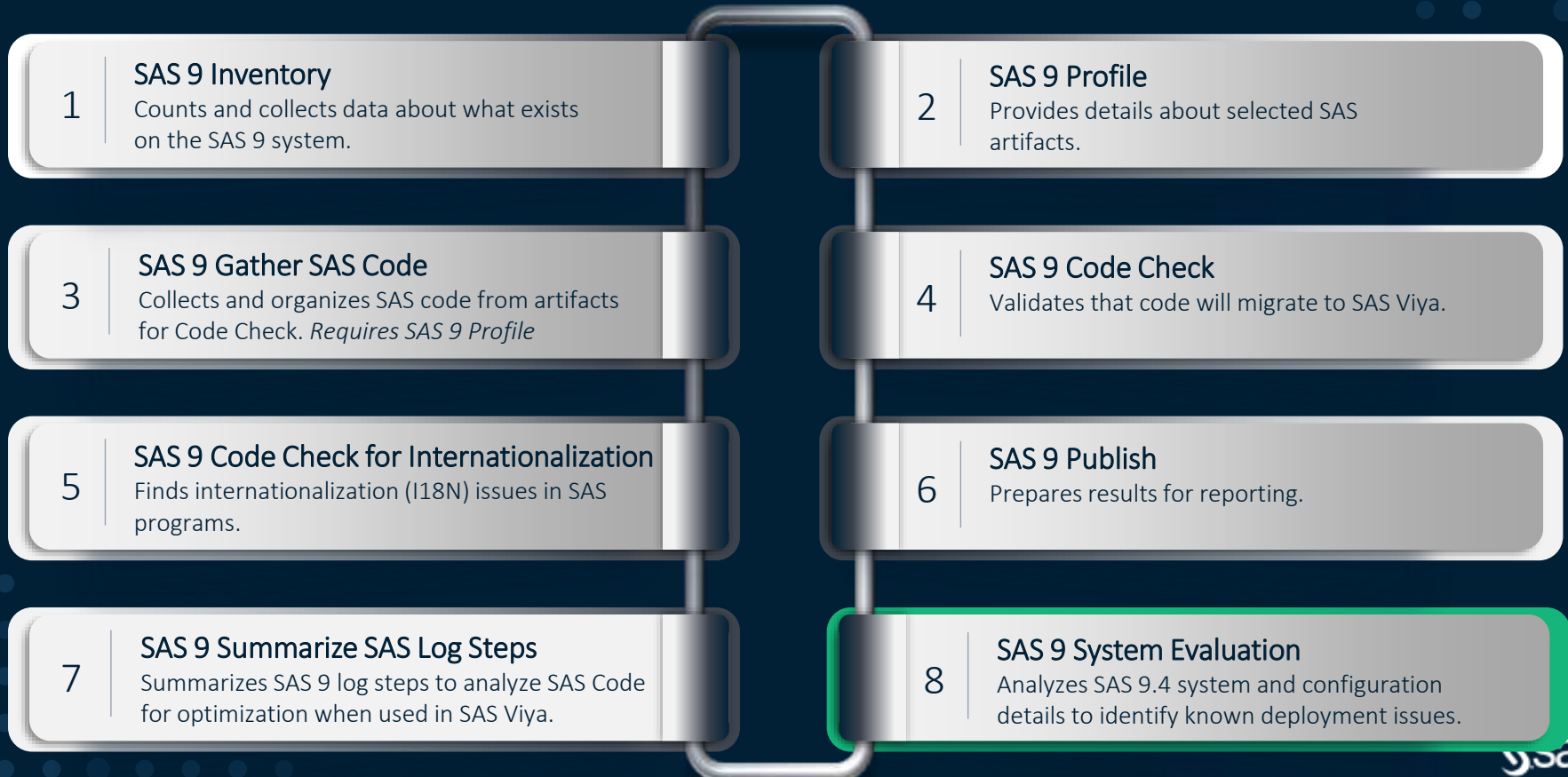
The SAS 9 Content Assessment helps organizations understand the state of their SAS 9 systems.



The SAS 9 Content Assessment helps organizations understand the state of their SAS 9 systems.



The SAS 9 Content Assessment helps organizations understand the state of their SAS 9 systems.



SAS 9.4



Linux

Microsoft
Windows

IBM AIX

Download and Share

Share SAS 9 Content Assessment results with SAS when you need help with results or want to influence future migration development priority.

The [SAS 9 Content Assessment](#) download is available from SAS Downloads and Hotfixes.



1

2

3

4

5

8

9

10

11

15

16

17

22

23

22

23

30

27

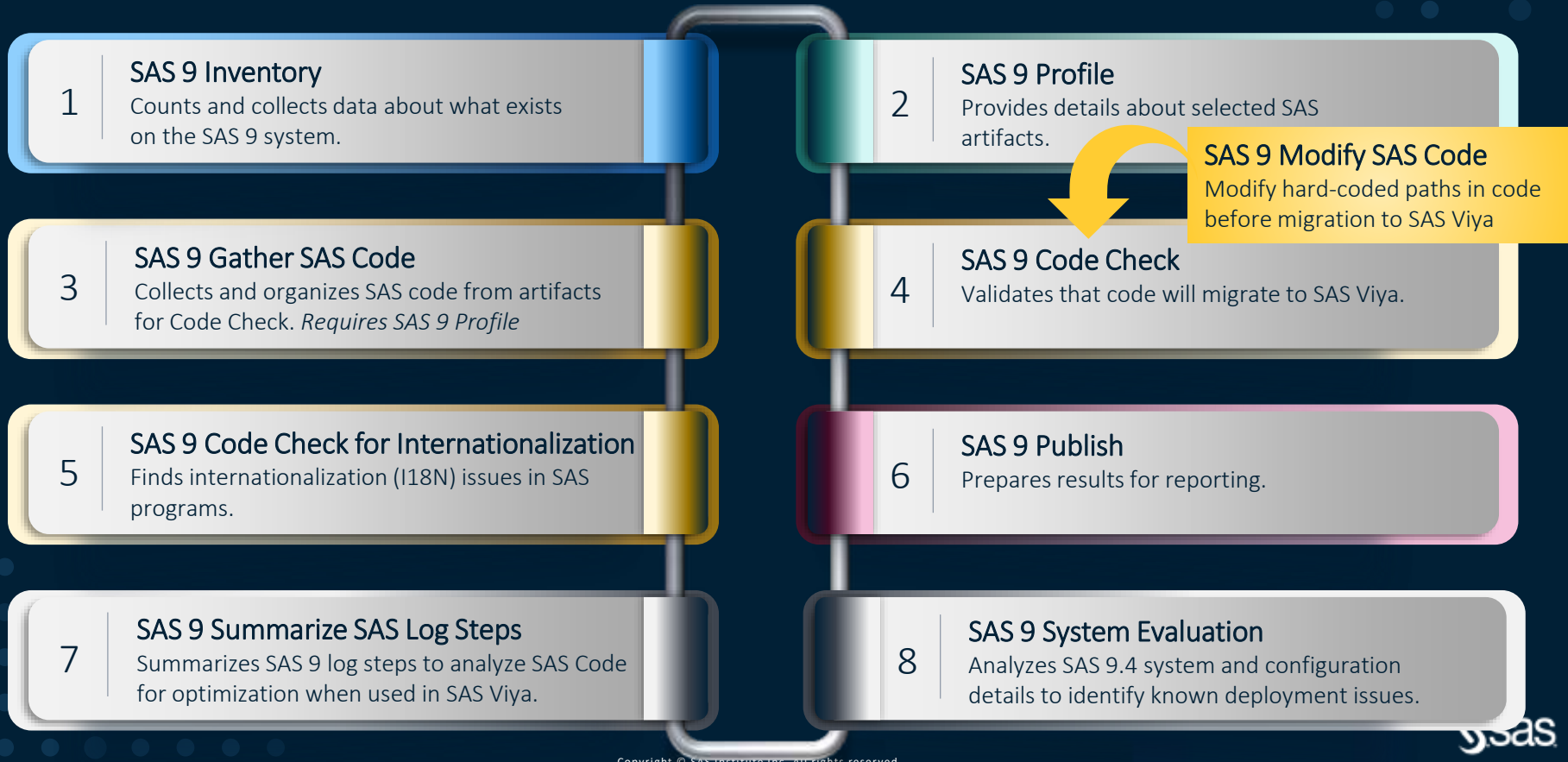
28

29

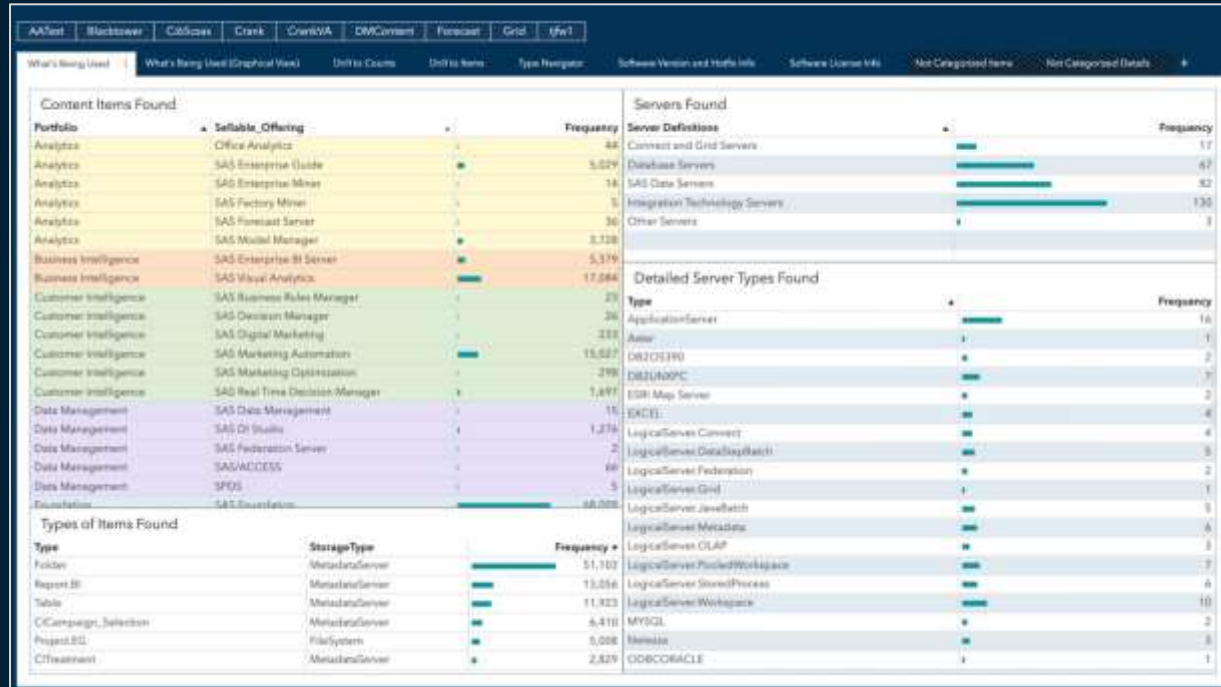
28

29

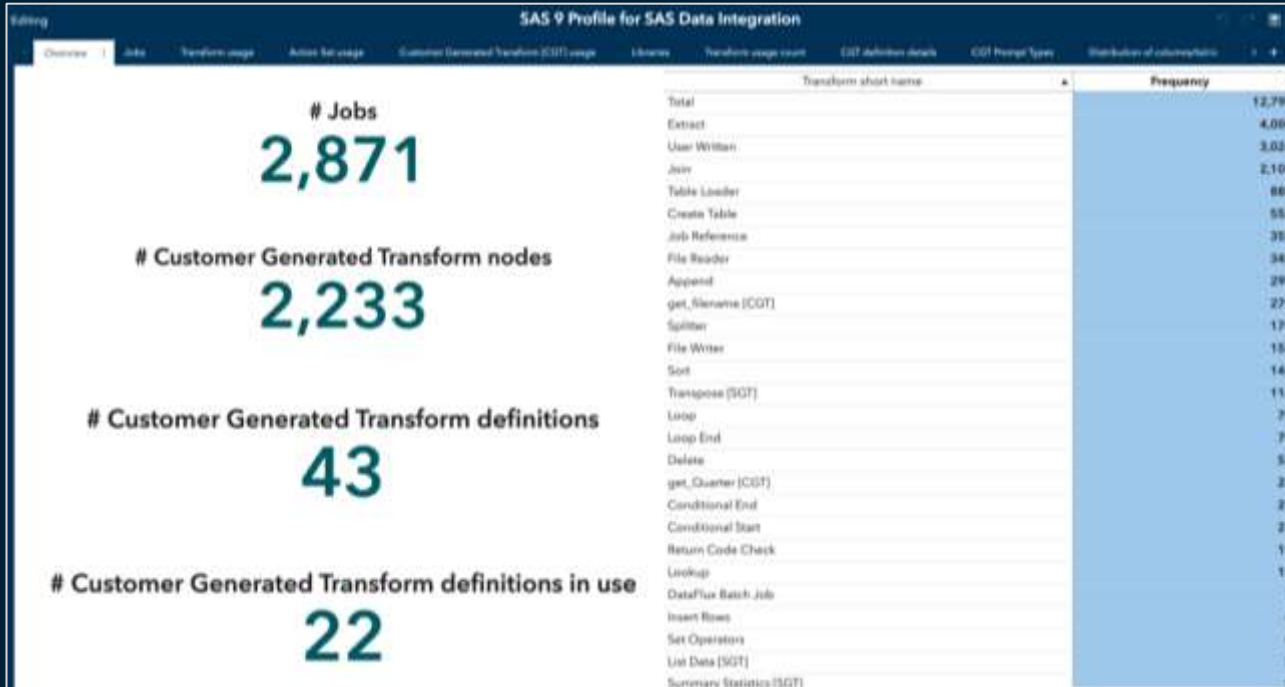
The SAS 9 Content Assessment helps organizations understand the state of their SAS 9 systems.



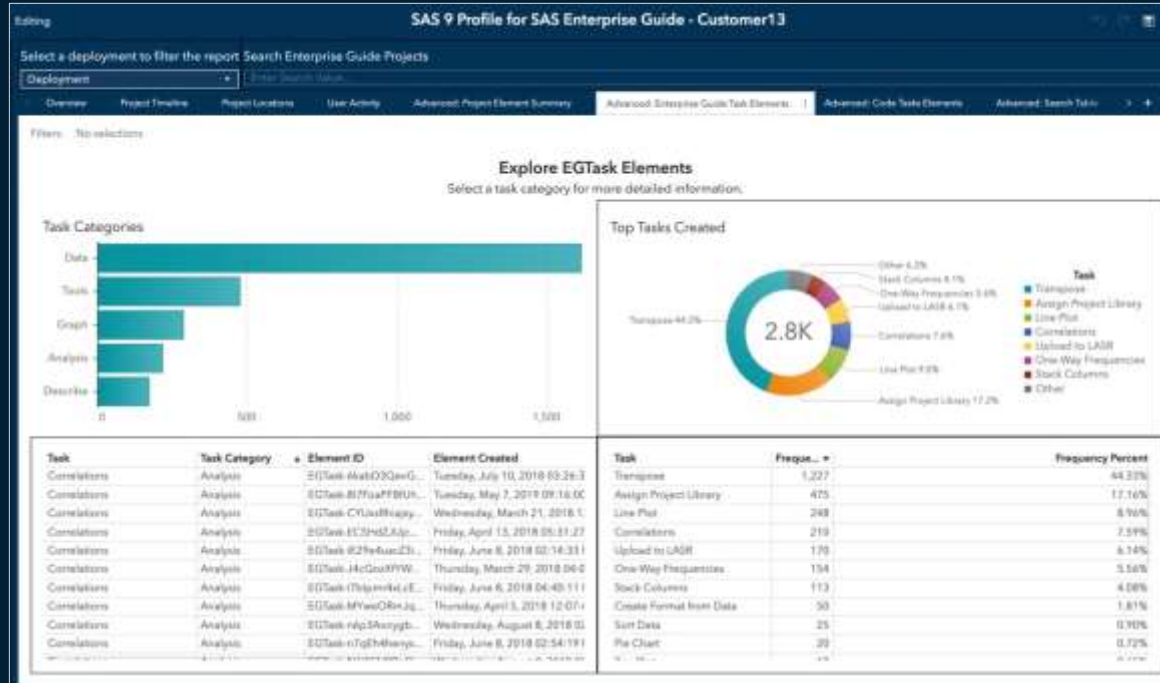
SAS 9 Content Assessment – Inventory Report



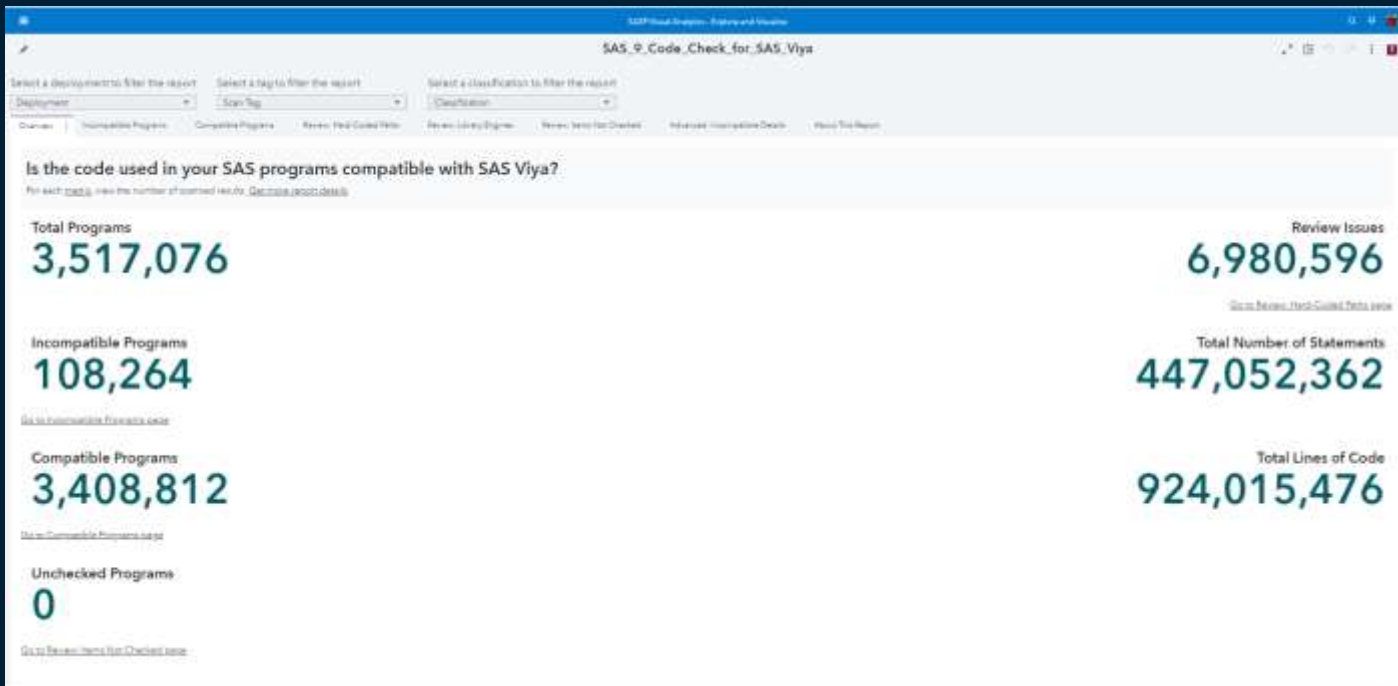
SAS 9 Content Assessment – Profile Report



SAS 9 Content Assessment – Profile Report



SAS 9 Content Assessment – Code Check Report



SAS 9 Content Assessment – Code Check Report

Select a deployment to filter the report: Deployment
Select a tag to filter the report: Start Tag
Select a classification to filter the report: Classification

Which SAS 9 library engines are used in your SAS programs?
Select items in the list to filter the table.

Before migrating, verify that the library engines are available on the SAS Viya system.

Library Engine	Library Engine	Full Program Name	Statement Line Number	Source Code Statement
<input type="checkbox"/> BASE	SAS9OL	(Project)Digital Intelligence Center-MemoryDIGITAL_ACTIVITY_PATH...	8	LIBNAME VALBLE SAS9OLA TAG=HPS PORT=10010 HOST='XXXXXXXXXXXXXXXXXXXXXXX' SIGNER='X'
<input type="checkbox"/> MAIL	SAS9OLA	(Project)Digital Intelligence Center-MemoryDIGITAL_CUCKSTREAM_DA...	8	LIBNAME VALBLE SAS9OLA TAG=HPS PORT=10010 HOST='XXXXXXXXXXXXXXXXXXXXXXX' SIGNER='X'
<input type="checkbox"/> SASNAME	SAS9OLA	(Project)Digital Intelligence Center-MemoryDIGITAL_HOOD_INTEREST...	8	LIBNAME VALBLE SAS9OLA TAG=HPS PORT=10010 HOST='XXXXXXXXXXXXXXXXXXXXXXX' SIGNER='X'
<input type="checkbox"/> IRON	SAS9OLA	(Shared)DataLASFICARDATA - Load Job Thu May 23 08_16_30 EDT 2019...	8	LIBNAME VALBLE SAS9OLA TAG=HPS PORT=10011 HOST='XXXXXXXXXXXXXXXXXXXXXXX' SIGNER='X'
<input type="checkbox"/> SASMEMD	SAS9OLA	(Shared)DataLASFICARD - Load Job Thu May 30 14_32_24 EDT 2019(CAR...	8	LIBNAME VALBLE SAS9OLA TAG=HPS PORT=10011 HOST='XXXXXXXXXXXXXXXXXXXXXXX' SIGNER='X'
<input type="checkbox"/> SAS	SAS9OLA	(Shared)DataLASFICLASS - Load Job Thu May 23 08_19_29 EDT 2019(CL...	8	LIBNAME VALBLE SAS9OLA TAG=HPS PORT=10011 HOST='XXXXXXXXXXXXXXXXXXXXXXX' SIGNER='X'
<input type="checkbox"/> SP	SAS9OLA	(Shared)DataLASFICARTHER - Load Job Thu May 22 08_19_47 EDT 2019...	8	LIBNAME VALBLE SAS9OLA TAG=HPS PORT=10011 HOST='XXXXXXXXXXXXXXXXXXXXXXX' SIGNER='X'
<input type="checkbox"/> PCFILES	SAS9OLA	(Shared)DataLASFIMIGHT_TOVA - Load Job Thu May 23 08_20_21 EDT...	8	LIBNAME VALBLE SAS9OLA TAG=HPS PORT=10011 HOST='XXXXXXXXXXXXXXXXXXXXXXX' SIGNER='X'
<input type="checkbox"/> SAS9ORP	SAS9OLA	(Shared)DataLASFIMEDACORP_NEW - Load Job Thu May 23 08_30_50 ED...	8	LIBNAME VALBLE SAS9OLA TAG=HPS PORT=10011 HOST='XXXXXXXXXXXXXXXXXXXXXXX' SIGNER='X'
<input type="checkbox"/> SAS9ORP	SAS9OLA	(Shared)DataLASFISGAFACE_NEW - Load Job Thu May 23 08_32_09 ED...	8	LIBNAME VALBLE SAS9OLA TAG=HPS PORT=10011 HOST='XXXXXXXXXXXXXXXXXXXXXXX' SIGNER='X'
<input type="checkbox"/> SAS9ORP	SAS9OLA	(Shared)DataLASFISYVA_DATA - Load Job Thu May 23 08_32_03 EDT 2019...	8	LIBNAME VALBLE SAS9OLA TAG=HPS PORT=10011 HOST='XXXXXXXXXXXXXXXXXXXXXXX' SIGNER='X'
<input type="checkbox"/> SAS9ORP	SAS9OLA	(Shared)DataLASFISCHDUALCHART_SIMPLE - Load Job Thu May 23 08_...	8	LIBNAME VALBLE SAS9OLA TAG=HPS PORT=10011 HOST='XXXXXXXXXXXXXXXXXXXXXXX' SIGNER='X'
<input type="checkbox"/> EXCEL	SAS9OLA	(Shared)DataLASFISAMPLE_PATH - Load Job Thu May 23 08_43_19 EDT...	8	LIBNAME VALBLE SAS9OLA TAG=HPS PORT=10011 HOST='XXXXXXXXXXXXXXXXXXXXXXX' SIGNER='X'
<input type="checkbox"/> ACCESS				
<input type="checkbox"/> FORTITEM				
<input type="checkbox"/> RAS9ORP				

SAS 9 Content Assessment – Code Check Report

SAS 9 Code Check for SAS Viya Report

Select a deployment to filter the report: Deployment | Select a tag to filter the report: Scan Tag | Select a classification to filter the report: Classification

Overview | Incompatible Programs | Incompatible Programs Where To | Compatible Programs | Review: New, Coded, Safe | Review: Library, Program | Review: Item, Not Checked | Advanced: Incompatible Details | Wood: This Report | Reference: Overview

Which SAS 9 programs have hard-coded paths?

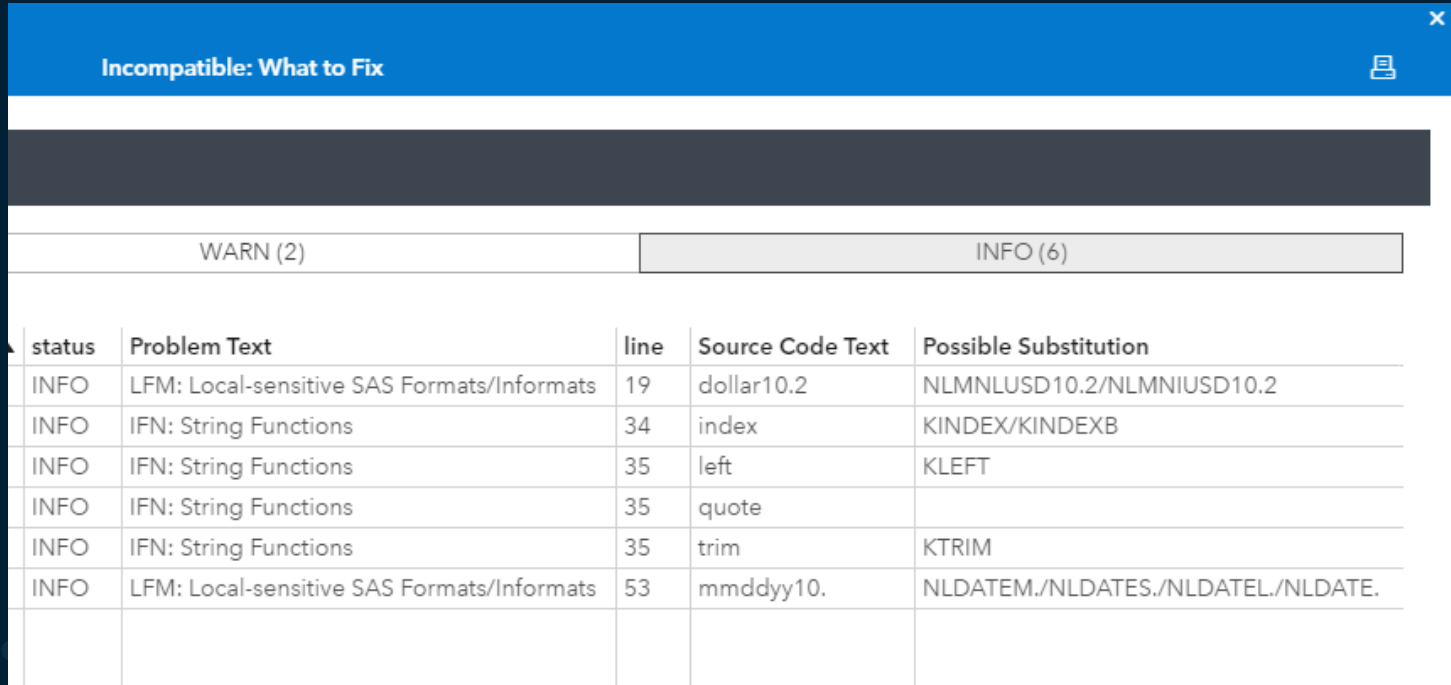
Select items in the list to filter the table. Macro variables were not evaluated during the code check. Select a button to filter macro variables in or out of the table.

Before migrating programs with hard-coded paths, verify that these hard-coded paths are available on the SAS Viya system.

SAS Program Element	Full Program Name	Statement Line Number	Source Code Statement
<input type="checkbox"/> FILENAME 280			
<input checked="" type="checkbox"/> LIBNAME 191			
<input type="checkbox"/> MFILE 112			
<input type="checkbox"/> %INCLUDE 95			
	<code>*Churn Statistics Department Shared Processes Summary Statistics Data Summary Statistics Data.sas</code>	17	<code>libname churn 'D:\MyDemo\ChurnStatistics';</code>
	<code>*Products\SAS Intelligence Platform\Sample\Sample_MCMSE Procedure Web Services\spwrma.sas</code>	115	<code>libname _WEBOUT out vintmeta = &BASESCHEMA;</code>
	<code>*Products\SAS Intelligence Platform\Sample\Sample_MCMSE Procedure Web Services\spwrma.sas</code>	119	<code>libname intstat vnc;</code>
	<code>*Project\Digital Intelligence\Demo\Memory\DIGITAL_ACTIVITY_PATH_ANALYSIS - Load Job 0707190332PM\DIGITAL_ACTIVITY_PA...</code>	1	<code>LIBNAME Digital BASE 'D:\Project\Digital Intelligence\Data';</code>
	<code>*Project\Digital Intelligence\Demo\Memory\DIGITAL_CLICKSTREAM_DATA - Load Job 0707190339PM\DIGITAL_CLICKSTREAM_DA...</code>	1	<code>LIBNAME Digital BASE 'D:\Project\Digital Intelligence\Data';</code>
	<code>*Project\Digital Intelligence\Demo\Memory\DIGITAL_PROD_INTEREST - Load Job 0707190339PM\DIGITAL_PROD_INTEREST_...</code>	1	<code>LIBNAME Digital BASE 'D:\Project\Digital Intelligence\Data';</code>
	<code>*Shared Data\Decision Optimization\Shared Processes\Optimization\Walmart\opton_sas</code>	21	<code>libname DO 'D:\MyDemo\Decision Optimization\Data';</code>
	<code>*Shared Data\Decision Optimization\Shared Processes\Optimization\Walmart\opton_sas</code>	301	<code>libname DO\work;</code>
	<code>*Shared Data\Decision Optimization\Shared Processes\Optimization\Walmart\opton_sas</code>	301	<code>libname DO\work;</code>
	<code>*Shared Data\CASR\CARDATA - Load Job Thu May 23 08:18:26 EDT 2019\CARDATA - Load Job Thu May 23 08:19:25 EDT 2019</code>	1	<code>LIBNAME DemoData BASE 'D:\opt\casr\demo\DemoData\TryData';</code>
	<code>*Shared Data\CASR\CARS - Load Job Thu May 30 18:30:24 EDT 2019\CARS - Load Job Thu May 30 18:32:04 EDT 2019</code>	1	<code>LIBNAME DemoData BASE 'D:\opt\casr\demo\DemoData\TryData';</code>
	<code>*Shared Data\CASR\CLASS - Load Job Thu May 23 08:19:09 EDT 2019\CLASS - Load Job Thu May 23 08:19:09 EDT 2019</code>	1	<code>LIBNAME DemoData BASE 'D:\opt\casr\demo\DemoData\TryData';</code>
	<code>*Shared Data\CASR\GARTNER - Load Job Thu May 23 08:19:47 EDT 2019\GARTNER - Load Job Thu May 23 08:19:47 EDT 2019</code>	1	<code>LIBNAME DemoData BASE 'D:\opt\casr\demo\DemoData\TryData';</code>
	<code>*Shared Data\CASR\INDOCHT_TONA - Load Job Thu May 23 08:20:21 EDT 2019\INDOCHT_TONA - Load Job Thu May 23 08:20:21</code>	1	<code>LIBNAME DemoData BASE 'D:\opt\casr\demo\DemoData\TryData';</code>
	<code>*Shared Data\CASR\MEGACORP_4M - Load Job Thu May 23 00:30:33 EDT 2019\MEGACORP_4M - Load Job Thu May 23 00:30:30</code>	1	<code>LIBNAME DemoData BASE 'D:\opt\casr\demo\DemoData\TryData';</code>
	<code>*Shared Data\CASR\ORGANICS_NEW - Load Job Thu May 23 00:32:09 EDT 2019\ORGANICS_NEW - Load Job Thu May 23 00:32:08</code>	1	<code>LIBNAME DemoData BASE 'D:\opt\casr\demo\DemoData\TryData';</code>
	<code>*Shared Data\CASR\PPA_DATA - Load Job Thu May 23 08:35:32 EDT 2019\PPA_DATA - Load Job Thu May 23 08:35:32 EDT 2019</code>	1	<code>LIBNAME DemoData BASE 'D:\opt\casr\demo\DemoData\TryData';</code>
	<code>*Shared Data\CASR\SCHEDULECHART_SIMPLE - Load Job Thu May 23 08:41:48 EDT 2019\SCHEDULECHART_SIMPLE - Load Job Thu</code>	1	<code>LIBNAME DemoData BASE 'D:\opt\casr\demo\DemoData\TryData';</code>
	<code>*Shared Data\CASR\SAMPLE_PATH - Load Job Thu May 23 08:43:19 EDT 2019\SAMPLE_PATH - Load Job Thu May 23 08:43:19</code>	1	<code>LIBNAME DemoData BASE 'D:\opt\casr\demo\DemoData\TryData';</code>

SAS 9 Content Assessment – i8n Code Check Report

Is the code used in your SAS files compatible with UTF-8 encoding in SAS Viya

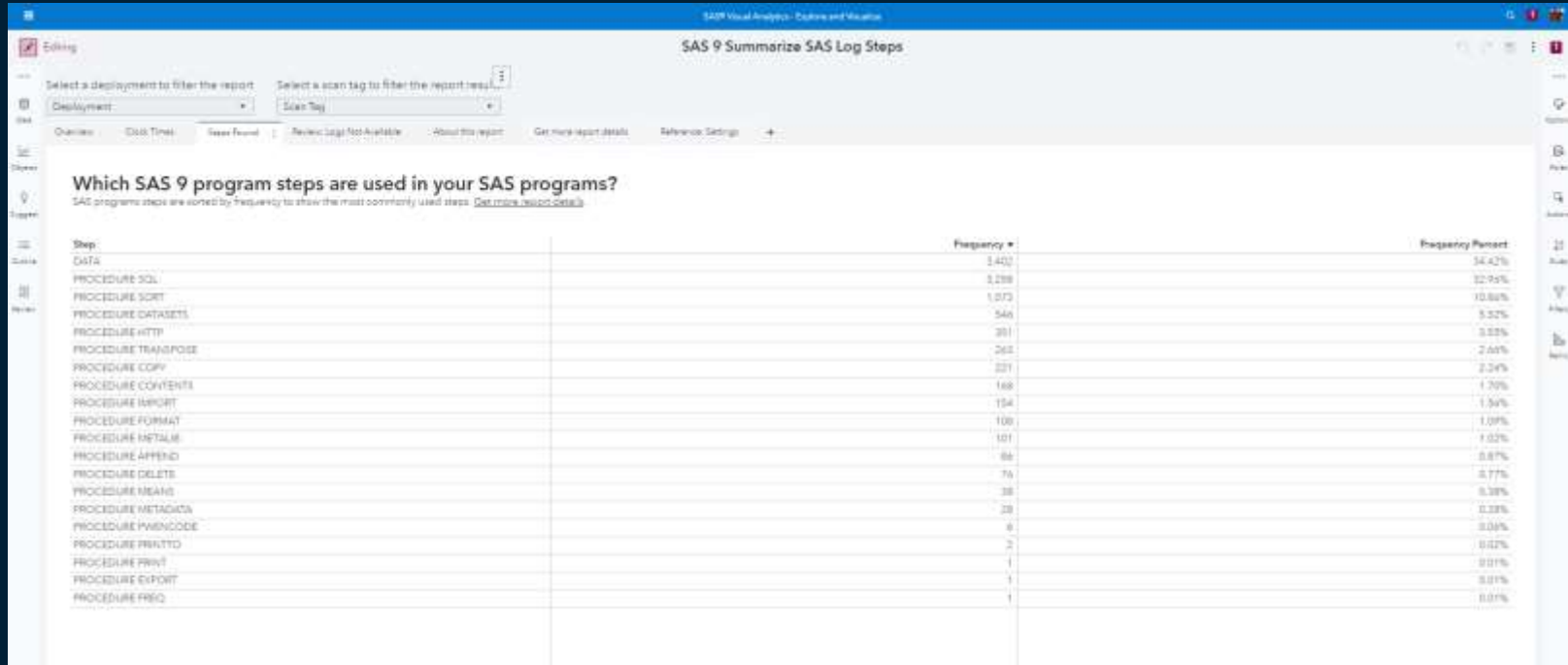


The screenshot shows a window titled "Incompatible: What to Fix" with a close button (X) in the top right corner. Below the title bar is a dark grey header area. Underneath is a summary bar with two sections: "WARN (2)" and "INFO (6)". The main content is a table with the following columns: status, Problem Text, line, Source Code Text, and Possible Substitution.

status	Problem Text	line	Source Code Text	Possible Substitution
INFO	LFM: Local-sensitive SAS Formats/Informats	19	dollar10.2	NLMNLUSD10.2/NLMNIUSD10.2
INFO	IFN: String Functions	34	index	KINDEX/KINDEXB
INFO	IFN: String Functions	35	left	KLEFT
INFO	IFN: String Functions	35	quote	
INFO	IFN: String Functions	35	trim	KTRIM
INFO	LFM: Local-sensitive SAS Formats/Informats	53	mmddy10.	NLDATEM./NLDATES./NLDATEL./NLDATE.

SAS 9 Content Assessment – summarizeSASLogSteps

Parses SAS 9 Batch Server, Store Process Server, Workspace Server Logs
and logs end-users save to disk with a file extension of “.log”



SAS 9 Content Assessment – summarizeSASLogSteps

Parses SAS 9 Batch Server, Store Process Server, Workspace Server Logs
and logs end-users save to disk with a file extension of “.log”

You can start by understanding which SAS program steps run the longest.

Select a content grouping to filter the table:
Context Grouping

Specify an optimization minimum for Real Time in minutes:
30

Which SAS program steps have the longest running time? The blue rows have times that exceed the optimization minimum.

Log File	Real Time	CPU Time	Step	Optimization Condition
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2194.log	1:21:03	9.9637	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2195.log	1:20:23	9.9637	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2891.log	0:46:13	9.9636	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2891.log	0:46:13	9.9637	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2892.log	0:31:08	9.9201	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2893.log	0:31:08	9.9646	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2894.log	0:28:26	9.9200	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2895.log	0:27:36	9.9200	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2896.log	0:19:03	9.9639	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2897.log	0:18:23	9.9640	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2898.log	0:18:09	9.9622	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2899.log	0:18:09	9.9636	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2900.log	0:18:09	9.9636	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2901.log	0:12:58	9.9140	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2902.log	0:12:58	9.9133	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2903.log	0:10:59	9.9103	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2904.log	0:10:59	9.9139	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2905.log	0:10:59	9.9614	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2906.log	0:10:59	9.9105	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2907.log	0:10:51	9.9100	PROCEDURE SQL	Yes
C:\sas\... \saslog\pmsr\logs\ProcSrv\BatchServer\ProcSrvBatchServerLog\SASLog_2021-05-14_Summitlog01_2908.log	0:10:51	9.9100	PROCEDURE SQL	Yes

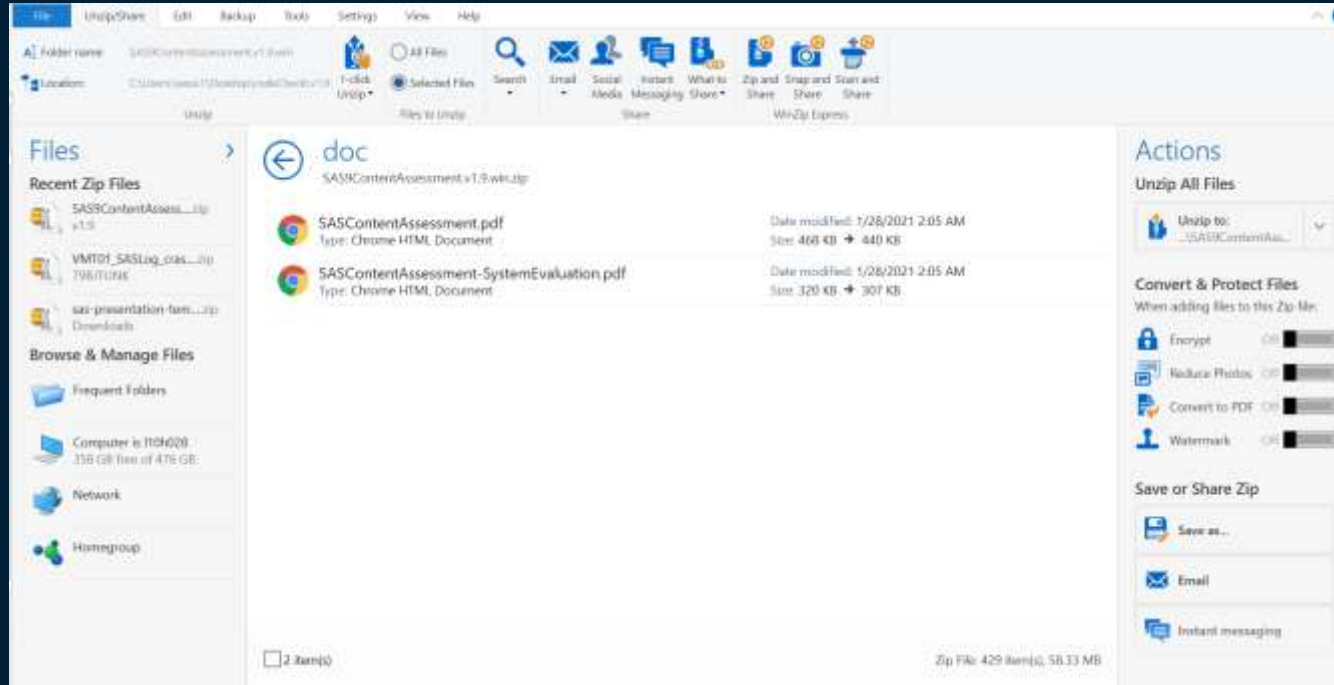
SAS 9 Content Assessment – Reports

SAS Viya 3.5+

- If you do not have a SAS Viya environment
 - SAS Secure SharePoint site
 - Copy encrypted data marts
 - All PII data is masked
 - SAS Viya 4 environment for SAS account team to review reports

How does it work?

Documentation located in the .../assessment/doc folder



How does it work?

How does it work?

Documentation located in the doc folder

- Task 0
- We need to understand the topology of the SAS environment(s) you want to run SAS 9 Content Assessment on
 - Do not install/run the applications on the Metadata Server machine
 - Install/run the applications on a machine that can access the SAS Metadata server and Mid-Tier as well as the SAS deployment
- If multiple planned deployments, we want to start with one deployment
 - What file systems are to be scanned
 - Can the machine the applications are run on see those file systems
 - If no, can you mount those file systems to the machine the applications are run on
- Validate the userid used to run the applications has read access to all files/paths that are scanned
- The SAS 9 Content Assessment documentation is in the doc directory of the download file you unzip
 - Take time to read this document before running any of the applications

How does it work?

Documentation located in the doc folder

- Task 0 – Linux and AIX
 - Because the apps can take hours to run, consider running the apps with nohup

```
nohup ./inventoryContent &  
nohup ./publishAssessedContent --create-uploads --encrypt-aes --datamart-type inventory &  
nohup ./profileContent &  
nohup ./publishAssessedContent --create-uploads --encrypt-aes --datamart-type profile &  
nohup ./gatherSASCode --all &  
nohup ./codeCheck --scan-tag SASCode --sources-file /.../assessment/pathslist.txt &  
nohup ./publishAssessedContent --create-uploads --encrypt-aes --datamart-type codecheck &
```

- To monitor the progress, use the tail command

```
tail -f nohup.out
```

How does it work?

Documentation located in the doc folder

- Task 0 – Linux & AIX

- To have read access to the files you scan you may need to use sudo when running the scripts

- `sudo ./inventoryContent`

- `sudo ./profileContent`

- `sudo ./codeCheck --scan-tag uniqueName --sources-files /path/to/pathlist.txt`

- If you do use sudo - after each scan i.e. inventoryContent, profileContent & codeCheck

- `chown -R userid .../assessment`

- `userid` is the userid running the apps

- `chmod -R 775 .../assessment`

How does it work?

Documentation located in the doc folder

- Task 0
 - Ensure there is disk space for the output files generated by the applications
 - The amount needed is dependent on the number of artifacts defined to the SAS Metadata Server and the number of “.sas” file scanned
 - 10GB+ for small
 - 100GB+ for medium
 - 500GB+ for large

How does it work?

Documentation located in the doc folder

- Task 0
- EG projects saved on the desktop, or in GitHub, or ...
 - The applications that process EG projects need to be located on a file system accessible by the applications i.e., inventory, profile, & gatherSASCode.
 - Create a location that end-users can copy a sampling of their EG project to which is also accessible by the server the applications are ran on.
 - Validate the userid used to run the applications has read access to all .egp file/paths that are scanned

How does it work?

Documentation located in the doc folder

- Task 0
 - EM projects processed are EM projects that were created and save to a file system the profileContent and gatherSASCode applications have access to.

Configuration Files

Modify pathlist.txt

```
#####
1 # Copyright (c) 2018-2021 SAS Institute Inc, Cary, NC, USA. All Rights Reserved. #
2 #####
3
4 # This file is of the form:
5 #
6 # /file/system/path1
7 # /file/system/path2
8 # /file/system/path3
9 #
10 #
11 #
12 #
13 #
14 #
15 # In general, any path specified should be accessible from the location the
16 # inventory/content application is executing. Some possible examples include
17 # paths referencing SAS configuration directories or shared project
18 # directories.
19 #
20 # Paths should point to SAS projects, files with a *.sas* extension, SAS data sets, SAS projects, and SAS Catalogs
21 #
22 # ALL PATHS SHOULD BE ENTERED BELOW THIS LINE
23
24
25 /path1
26 /path2
27 /path3
28 /...../sasworkenv/pathres/SASCode
```

```
#####
1 # Copyright (c) 2018-2021 SAS Institute Inc, Cary, NC, USA. All Rights Reserved. #
2 #####
3
4 # This file is of the form:
5 #
6 # /file/system/path1
7 # /file/system/path2
8 # /file/system/path3
9 #
10 #
11 #
12 #
13 #
14 #
15 # In general, any path specified should be accessible from the location the
16 # inventory/content application is executing. Some possible examples include
17 # paths referencing SAS configuration directories or shared project
18 # directories.
19 #
20 # Paths should point to SAS projects, files with a *.sas* extension, SAS data sets, SAS projects, and SAS Catalogs
21 #
22 # ALL PATHS SHOULD BE ENTERED BELOW THIS LINE
23
24
25 C:\path1
26 X:\path2
27 E:\path3
28 D:\.....\sasworkenv\pathres\SASCode
```

Configuration Files

Modify metaparms.sas

```
1  /*****  
2  /* Copyright (c) 2018-2021 SAS Institute Inc, Cary, NC, USA. All Rights Reserved. */  
3  *****/  
4  
5  /*  
6     Specify SAS Metadata Server connection details and encryption password.  
7     It is recommended to use an encrypted password such as SAS002 for all  
8     password values.  
9  */  
10 %let METADATACUSTOMER = CustomName;  
11 %let METADATALABEL = Server1;  
12 %let METADATAHOSTNAME = <metadata server host>;  
13 %let METADATAPORT = 8561;  
14 %let METADATAUSER = sasadm@saspw;  
15 %let METADATAUSERPASSWORD = <sas002 encrypted password>;  
16  
17 /*  
18     If SAS Proprietary encryption is going to be used in encrypting the  
19     published data mart, the specified value must result in a valid SAS name.  
20  */  
21 %let SASENCRYPTIONPASSWORD = <password for encrypting published data mart>;
```

Configuration Files

Modify setenv.yaml

```
#####
# Copyright (c) 2018-2022 SAS Institute Inc, Cary, NC, USA. All Rights Reserved.
#####
# This is a YAML file with the following syntax requirements:
#
# property: value
#
# NOTE: A single space between property: and value is required.
#
# WITH: Any properties using SAS HOME are resolved using the correct operating
# system syntax as needed during the SAS 9 Content Assessment process.
#
# Specify the SASHOME location.
SAS_HOME: /path/to/SASHome

# This should resolve to Java version 1.7 or higher.
SAS_JAVA_HOME: SAS_HOME/SASPrivate/JavaRuntimeEnvironment/9.4.0/jre/bin

# The following section lists to how SAS programs are executed. They represent actual SAS system settings.
#
# This option represents the SAS EXECUTOR option and specifies the limit on the T24 amount of virtual memory.
# This can be used by a SAS session. It defaults to the SAS system default of 3 Gigabytes. Be careful when
# specifying this option because an unexpected adjustment of the value specified can cause program values
# to fail and SAS process execution to fail.
ASSESSMENT_SAS_MEMORY_OPTION: 3G

# This option represents the SAS HOME system option and specifies the location of the SAS libraries. There is no default.
# Otherwise, a blank value results in SAS using the default path. If a path is specified, the path is validated
# to exist and to be writable. To use this library, uncomment it, and specify a value that meets the requirements below.
ASSESSMENT_SAS_PATH_OPTION:

# This section is experimental/development specific and does not need to be set for the other applications.
# This is a required value for experimental/development and can either be set here or via the "command-line"
# command-line option, which will override a setting in this file.
#
# Example values are as follows:
#
# $HOME - /home/username/
# $SAS - /opt/sas/bin/

ASSESSMENT_CONTEXT:
```

```
#####
# Copyright (c) 2018-2022 SAS Institute Inc, Cary, NC, USA. All Rights Reserved.
#####
# This is a YAML file with the following syntax requirements:
#
# property: value
#
# NOTE: A single space between property: and value is required.
#
#
# property:
#   - value 1
#   - value 2
#   - value 3
#
# NOTE: This is a YAML sequence written in block form. There is a space after property:
# and there must be a space after each - (dash) character preceding the value.
#
# NOTE: Any properties using SAS HOME are resolved using the correct operating
# system syntax as needed during the SAS 9 Content Assessment process.
#
# Specify the SASHOME location.
SAS_HOME: C:\Program Files\SASHome

# This should resolve to Java version 1.7 or higher.
SAS_JAVA_HOME: SAS_HOME/SASPrivate/JavaRuntimeEnvironment/9.4.0/jre/bin
```

Configuration Files

Modify setenv.yaml

```
1 # Path specification for the directories containing SAS Enterprise Guide Projects that will be profiled or
2 # gathered. No projects outside of the specified directories will be profiled but setting
3 # EXTRACTED_ENTERPRISE_GUIDE_PROJECTDIR allows that location to be gathered from. If multiple paths are to be
4 # specified, enter the paths one per line as follows, using the syntax defined at the beginning of this file.
5
6 # Consider the following example:
7 #
8 # Windows
9 # - C:\eg_projects01
10 # - C:\eg_projects02
11 # Unix
12 # - /eg_projects01
13 # - /eg_projects02
14
15 # Please note this value only needs to be set if SAS Enterprise Guide Projects are intended to be profiled or
16 # gathered. If SAS Enterprise Guide Projects are intended to be inventoried, this property may be set
17 # and will be used to populate the file system paths that are inventoried.
18 ENTERPRISE_GUIDE_PROJECTDIR:
19 - %path1
20 - %path2
```

```
1 # Path specification for the directories containing SAS Enterprise Guide Projects that will be profiled or
2 # gathered. No projects outside of the specified directories will be profiled but setting
3 # EXTRACTED_ENTERPRISE_GUIDE_PROJECTDIR allows that location to be gathered from. If multiple paths are to be
4 # specified, enter the paths one per line as follows, using the syntax defined at the beginning of this file.
5
6 # Consider the following example.
7 #
8 # Windows
9 # - C:\eg_projects01
10 # - C:\eg_projects02
11 # Unix
12 # - /eg_projects01
13 # - /eg_projects02
14
15 # Please note this value only needs to be set if SAS Enterprise Guide Projects are intended to be profiled or
16 # gathered. If SAS Enterprise Guide Projects are intended to be inventoried, this property may be set
17 # and will be used to populate the file system paths that are inventoried.
18 ENTERPRISE_GUIDE_PROJECTDIR:
19 - %path1
20 - %path2
```

Configuration Files

Modify setenv.yaml

```
218 # Path specification for the directories containing SAS catalogs that will be gathered.
219 # No catalogs outside of the specified directories will be gathered. If there are multiple paths
220 # to be gathered, enter the paths as a comma-delimited sequence of paths with no spaces between
221 # each entry. Please note this value only needs to be set if SAS catalogs are intended to be
222 # gathered. If SAS catalogs are intended to be inventoried, this property may be set and will be
223 # used to populate the file system paths that are inventoried.
224 SAS_CATALOGSDIR: /path1,/path2
```

```
225 # Path specification for the directories containing SAS catalogs that will be gathered.
226 # No catalogs outside of the specified directories will be gathered. If there are multiple paths
227 # to be gathered, enter the paths as a comma-delimited sequence of paths with no spaces between
228 # each entry. Please note this value only needs to be set if SAS catalogs are intended to be
229 # gathered. If SAS catalogs are intended to be inventoried, this property may be set and will be
230 # used to populate the file system paths that are inventoried.
231 SAS_CATALOGSDIR: D:\path1;C:\path2
```


How does it work?

Documentation located in the doc folder

- Task 1 – Inventory – SAS Metadata Server is scanned
- Modify metaparms.sas
- Run the inventory application
 - `./inventoryContent`
- Once inventory completes, run the publish application
 - `./publishAssessedContent --create-uploads --encrypt-aes --datamart-type inventory`
 - Three tar/zip files are written to the uploads directory
 - Do not rename these files
- Once publish completes, upload the files in the uploads directory to the secure SharePoint site that SAS provided a link to via an email
- SAS will set up a meeting to review the inventory reports

How does it work?

Documentation located in the doc folder

- Task 2 – Profile (SAS Metadata Server and middle tier are scanned) – gatherSASCode (SAS Metadata Server might be scanned)
- Run the profile application
 - ./profileContent
- Once profile completes, run the gatherSASCode application
 - ./gatherSASCode --all
- Once gatherSASCode completes, run the publish application
 - ./publishAssessedContent --create-uploads --encrypt-aes --datamart-type profile
 - Three tar/zip files will be written to the uploads directory
 - Do not rename these files
- Once publish completes, upload the files in the uploads directory to the secure SharePoint site that SAS provided a link to via an email
- SAS will setup a meeting to review the profile reports

How does it work?

Documentation located in the doc folder

- Task 2 – Profile (SAS Metadata Server and middle tier are scanned)
- If your SAS installation is earlier than SAS 9.4M3 or the Relationship Loader (sasrelationship-loader) has not been run recently you may get a failure for that step
 - Ignore the failure

How does it work?

Documentation located in the doc folder

- Task 3 – Code Check – Only the files system(s) are scanned
- Ensure SAS_HOME parameter in the setenv.yaml file is set:
 - # Specify the SASHOME location
 - SAS_HOME: D:\opt\sasinside\SASHome
- Run the code check application
 - ./codeCheck --scan-tag SASCode --sources-file /path/to/pathslst.txt
 - ./i18nCodeCheck --scan-tag i18n --sources-file /path/to/pathslst.txt

How does it work?

Documentation located in the doc folder

- Task 3
- Once the two code check scans completes, run the publish application
 - `./publishAssessedContent --create-uploads --encrypt-aes --datamart-type codecheck`
 - `./publishAssessedContent --create-uploads --encrypt-aes --datamart-type i18n`
 - Six tar/zip files will be written to the uploads directory
 - Do not rename these
- Once publish completes, upload the files in the uploads directory to the secure SharePoint site that SAS provided a link to via an email
- SAS will setup a meeting to review the code check reports

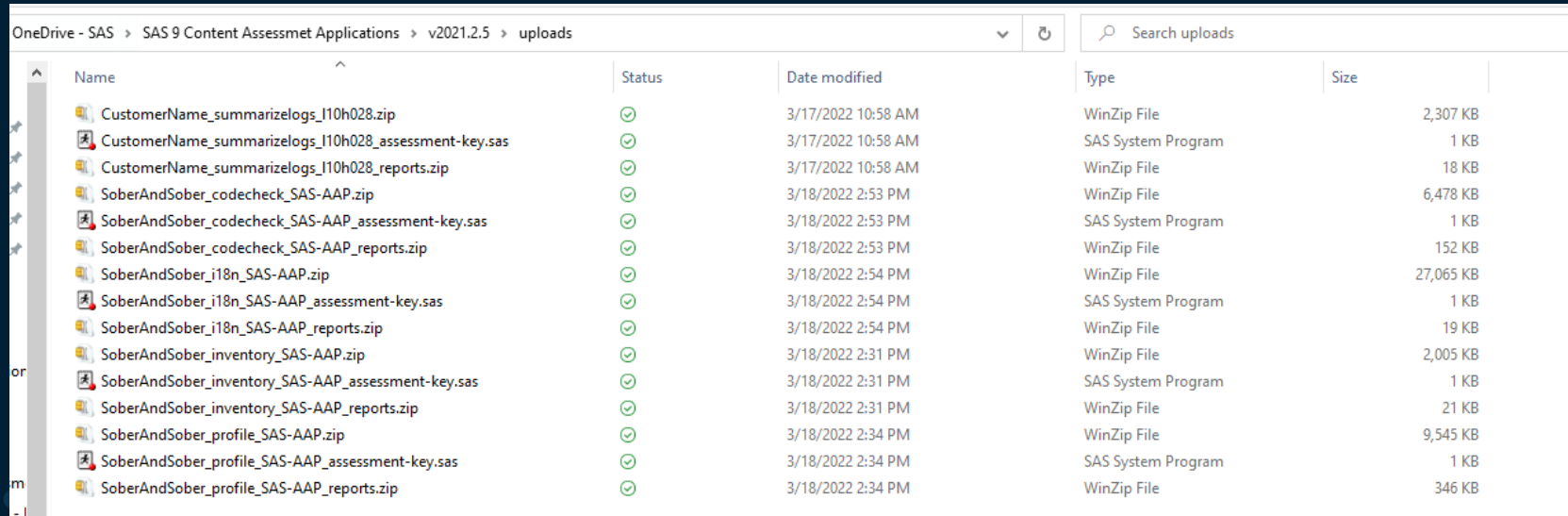
How does it work?

Documentation located in the doc folder

- Task 4
- summarizeSASLogSteps – parses SAS 9 logs
 - Batch Server, Workspace Server and with v2021.2.6 Store Process Server logs
 - Logs end-users save to disk and have the extension of “.log”
 - `./summarizeSASLogSteps.exe --scan-tag SAS9Logs --sources-file "....s9ca/v2021.2.5/assessment/pathslogs.txt"`
 - `./publishAssessedContent --create-uploads --encrypt-aes --datamart-type summarizelogs`
 - Three tar/zip files will be written to the uploads directory
 - Do not rename these
- Once publish completes, upload the files in the uploads directory to the secure SharePoint site that SAS provided a link to via an email
- SAS will setup a meeting to review the code check reports

How does it work?

Uploads directory contains the files you share with SAS



Name	Status	Date modified	Type	Size
CustomerName_summarizelogs_I10h028.zip	✓	3/17/2022 10:58 AM	WinZip File	2,307 KB
CustomerName_summarizelogs_I10h028_assessment-key.sas	✓	3/17/2022 10:58 AM	SAS System Program	1 KB
CustomerName_summarizelogs_I10h028_reports.zip	✓	3/17/2022 10:58 AM	WinZip File	18 KB
SoberAndSober_codecheck_SAS-AAP.zip	✓	3/18/2022 2:53 PM	WinZip File	6,478 KB
SoberAndSober_codecheck_SAS-AAP_assessment-key.sas	✓	3/18/2022 2:53 PM	SAS System Program	1 KB
SoberAndSober_codecheck_SAS-AAP_reports.zip	✓	3/18/2022 2:53 PM	WinZip File	152 KB
SoberAndSober_i18n_SAS-AAP.zip	✓	3/18/2022 2:54 PM	WinZip File	27,065 KB
SoberAndSober_i18n_SAS-AAP_assessment-key.sas	✓	3/18/2022 2:54 PM	SAS System Program	1 KB
SoberAndSober_i18n_SAS-AAP_reports.zip	✓	3/18/2022 2:54 PM	WinZip File	19 KB
SoberAndSober_inventory_SAS-AAP.zip	✓	3/18/2022 2:31 PM	WinZip File	2,005 KB
SoberAndSober_inventory_SAS-AAP_assessment-key.sas	✓	3/18/2022 2:31 PM	SAS System Program	1 KB
SoberAndSober_inventory_SAS-AAP_reports.zip	✓	3/18/2022 2:31 PM	WinZip File	21 KB
SoberAndSober_profile_SAS-AAP.zip	✓	3/18/2022 2:34 PM	WinZip File	9,545 KB
SoberAndSober_profile_SAS-AAP_assessment-key.sas	✓	3/18/2022 2:34 PM	SAS System Program	1 KB
SoberAndSober_profile_SAS-AAP_reports.zip	✓	3/18/2022 2:34 PM	WinZip File	346 KB

How does it work?

Documentation located in the ...assessment/doc folder

modifySASCode – bulk modification of hard coded paths

```
C:\Users\sassy1\OneDrive - SAS\SAS 9 Content Assessment Applications\v2021.2.5\assessment-modifySASCode.exe --help
NAME:
  modifySASCode - this application will update paths via a specified CSV file for all SAS code associated with a specified SAS 9 Code Check execution.

VERSION:
  2021.2.5

USAGE:
  modifySASCode [command options...]

COMMAND OPTIONS:
  --generate-map
    Specifies the name of the file that will be generated with a mapping of old paths to new paths based on the SAS 9 Code Check run associated with the specified scan tag. This option is mutually exclusive with --map-file.
  --map-file
    Specifies the mapping file of old paths to new paths based on the SAS 9 Code Check run associated with the specified scan tag. This option is mutually exclusive with --generate-map.
  --help
    Shows help.
  --output-location
    Specifies the directory to write the updated SAS program files to.
  --scan-tag
    Specifies the scan tag to use that corresponds to the SAS 9 Code Check results to process.
  --version
    Displays the application's version.

ADDITIONAL DOCUMENTATION:
  C:\Users\sassy1\OneDrive - SAS\SAS 9 Content Assessment Applications\v2021.2.5\assessment\doc\SASContentAssessment.pdf
```


How does it work?

modifySASCode – bulk modification of hard coded paths

```
./modifySASCode.exe --scan-tag SAS9Code --generate-map mapping.txt
```

```
C:\Users\sasss1\OneDrive - SAS\SAS 9 Content Assessmet Applications\v2021.2.5\assessment>modifySASCode.exe --scan-tag SAS9Code --generate-map mapping.txt
Beginning the SAS 9 Modify SAS Code application: [ 22Mar22:11:46:36 ]

Validating the environment.
Validating the environment: SUCCESS

Initializing SAS 9 Modify SAS Code directories.
Initializing SAS 9 Modify SAS Code directories: SUCCESS

Processing the results for the specified SAS 9 Code Check execution.
Determined 190 unique file(s) with issues.
Determined 263 unique path(s) that need to be potentially updated.
Generated the mapping file mapping.txt.
Processing the results for the specified SAS 9 Code Check execution: SUCCESS

Logging information for this SAS 9 Modify SAS Code execution can be found here:
  C:\Users\sasss1\OneDrive - SAS\SAS 9 Content Assessmet Applications\v2021.2.5\assessment\logs\modify\Server1\modifySASCode110h028_2022-03-22-11.46.36.log

A mapping file for use in a future replacement operation has been generated:

  mapping.txt

This mapping file contains columns that represent the "old" and "new" paths and will need to be edited.
In the event, the "old" path was not calculated correctly, a reference line of code using that path is provided.

After editing, the updated mapping file can be used with this application to make the corresponding updates to
all SAS code identified with hard-coded path issues for the specified SAS 9 Code Check run.

SAS 9 Modify SAS Code is complete. [ 22Mar22:11:46:41 ]
```

How does it work?

modifySASCode – bulk modification of hard coded paths



```
1 OLD_PATH,NEW_PATH,ORIGINAL_LINE
2 C:\downloads\filename.txt,C:\newpath\filename.txt,"filename ""C:\downloads\filename.txt"";"
3 C:\downloads,C:\newpath,"%include ""C:\downloads\sascode.sas"";"
4 &demodir.dbf\,&demodir.dbf\abc\,%let dbfdir=&demodir.dbf\;
5 &demodir.jmp\,&demodir.jmp\abc\,%let jmpdir=&demodir.jmp\;
```

How does it work?

modifySASCode – bulk modification of hard coded paths

```
./modifySASCode.exe --scan-tag SAS9Code --output-location ".../v2021.2.5/mappings" --map-file mapping.txt
```

```
C:\Users\sasas1\OneDrive - SAS\SAS 9 Content Assessment Applications\v2021.2.5\assessment\modifySASCode.exe --scan-tag SAS9Code --output-location "C:\Users\sasas1\OneDrive - SAS\SAS 9 Content Assessment Applications\v2021.2.5\mappings" --map-file mapping.txt
Beginning the SAS 9 Modify SAS Code application: [ 22Mar22:11:40:40 ]

Validating the environment.
Validating the environment: SUCCESS

Initializing SAS 9 Modify SAS Code directories.
Initializing SAS 9 Modify SAS Code directories: SUCCESS

Processing the results for the specified SAS 9 Code Check execution.
Determined 190 unique file(s) with issues.
Processing the results for the specified SAS 9 Code Check execution: SUCCESS

Processing the specified mapping file.
Processed 4 mappings.
Processing the specified mapping: SUCCESS

Running the SAS 9 Modify SAS Code application.
Updated 190 SAS program files.
Time to update 190 SAS program files: [ 4.057 seconds ]
Running the SAS 9 Modify SAS Code application: SUCCESS

Logging information for this SAS 9 Modify SAS Code execution can be found here:
C:\Users\sasas1\OneDrive - SAS\SAS 9 Content Assessment Applications\v2021.2.5\assessment\logs\modify\server1\modifysascode110f028_2022-03-22-11.40.40.log

SAS 9 Modify SAS Code is complete. [ 22Mar22:11:40:50 ]
```

How does it work?

modifySASCode – bulk modification of hard coded paths

New “.sas” files are written to --output-location ".../v2021.2.5/mappings"

```
1 libname "C:\downloads";
2 %* Modified by modifySASCode: 22Mar22:11:40:45;
3 %* Original: filename "C:\downloads\filename.txt";;
4 %* Changes Made;;
5 %* C:\downloads was changed to C:\newpath;
6 filename "C:\newpath\filename.txt";
7 %* Modified by modifySASCode: 22Mar22:11:40:45;
8 %* Original: %include "C:\downloads\sascode.sas";;
9 %* Changes Made;;
10 %* C:\downloads was changed to C:\newpath;
11 %include "C:\newpath\sascode.sas";
12 %* Modified by modifySASCode: 22Mar22:11:40:45;
13 %* Original: file "C:\downloads\filename.txt";;
14 %* Changes Made;;
15 %* C:\downloads\filename.txt was changed to C:\newpath\filename.txt;
16 file "C:\newpath\filename.txt";
17 %* Modified by modifySASCode: 22Mar22:11:40:45;
18 %* Original: %let path = "C:\downloads";;
19 %* Changes Made;;
20 %* C:\downloads was changed to C:\newpath;
21 %let path = "C:\newpath";
22
```

Q&A

Please submit your questions using the Q&A icon located in the menu at the bottom of your screen



Explore Helpful Resources

[Ask the Expert](#)

View other user webinars that provide insights into using SAS products to make your job easier.

[FREE Training](#)

Learn from home – free for 30 days. Get software labs to practice and online support if needed.

[SAS Support Communities](#)

Ask questions, get answers and share insights with SAS users.

[SAS Analytics Explorers](#)

An exclusive platform to collaborate, learn and share your expertise. Gain access to a diverse network to advance your career. Special rewards and recognition exclusively for SAS users.

[SAS Users YouTube Channel](#)

A plethora of videos on hundreds of topics, just for SAS users.

[Newsletters](#)

Get the latest SAS news plus tips, tricks and more.

[Users Groups](#)

Meet local SAS users, network and exchange ideas – virtually.

[SAS Profile](#)

If you haven't already done so, create your SAS Profile to access free training, SAS Support Communities, technical support, software downloads, newsletters and more.



Thank you
for joining us for
this SAS webinar