



# SAS9 und SAS Viya

SAS Club 2018, Wien

# SAS platform strategy

9.4 & ™

SAS Viya

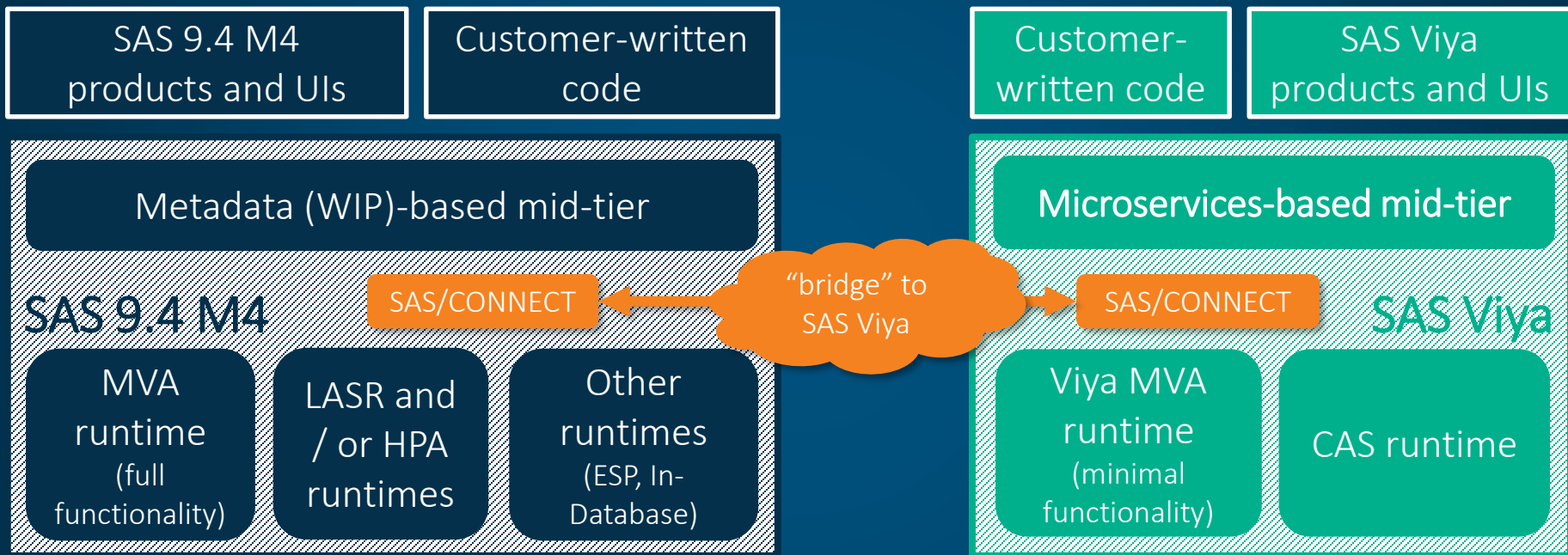
one SAS platform

SAS 9



# Data

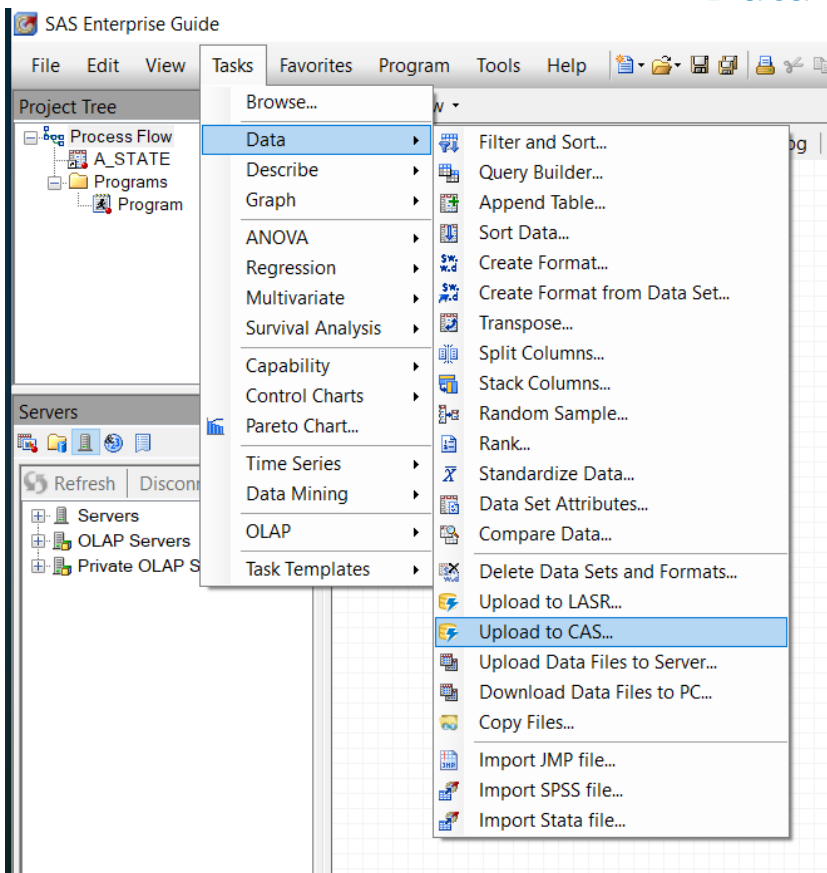
# SAS 9.4 releases below M5 (Sept. 17)



- ✓ SAS 9 data accessible within SAS Viya
- ✓ SAS Viya models publishable to SAS 9
- ✓ Remotely execute code from / to both (using SAS/Connect)

# SAS 9.4 <M5

## Data upload to CAS



# SAS 9.4 <M5

## Data upload to CAS

The screenshot shows the SAS Enterprise Guide interface. The 'Tasks' menu is open, and the 'Data' option is selected, which has opened a sub-menu. In this sub-menu, 'Upload to CAS...' is highlighted. A warning dialog box is overlaid on the right side of the screen. The dialog box has a yellow warning icon and the title 'Improve Performance with SAS 9.4M5'. The text inside the dialog box reads: 'This task uses SAS/CONNECT to move data to a remote server. Starting with SAS 9.4M5, there are more efficient ways to move data to a CAS server. For example, you can use the CAS LIBNAME engine or PROC CASUTIL.' There is a checkbox labeled 'Don't show this message again' which is currently unchecked. An 'OK' button is located at the bottom right of the dialog box.

SAS Enterprise Guide

File Edit View Tasks Favorites Program Tools Help

Project Tree

- Process Flow
- A\_STATE
- Programs
- Program

Servers

- Servers
- OLAP Servers
- Private OLAP S

Tasks

- Browse...
- Data
  - Filter and Sort...
  - Query Builder...
  - Append Table...
  - Sort Data...
  - Create Format...
  - Create Format from D
  - Transpose...
  - Split Columns...
  - Stack Columns...
  - Random Sample...
  - Rank...
  - Standardize Data...
  - Data Set Attributes...
  - Compare Data...
  - Delete Data Sets and
  - Upload to LASR...
  - Upload to CAS...
  - Upload Data Files to Server...
  - Download Data Files to PC...
  - Copy Files...
  - Import JMP file...
  - Import SPSS file...
  - Import Stata file...
- Describe
- Graph
- ANOVA
- Regression
- Multivariate
- Survival Analysis
- Capability
- Control Charts
- Pareto Chart...
- Time Series
- Data Mining
- OLAP
- Task Templates

SAS Enterprise Guide

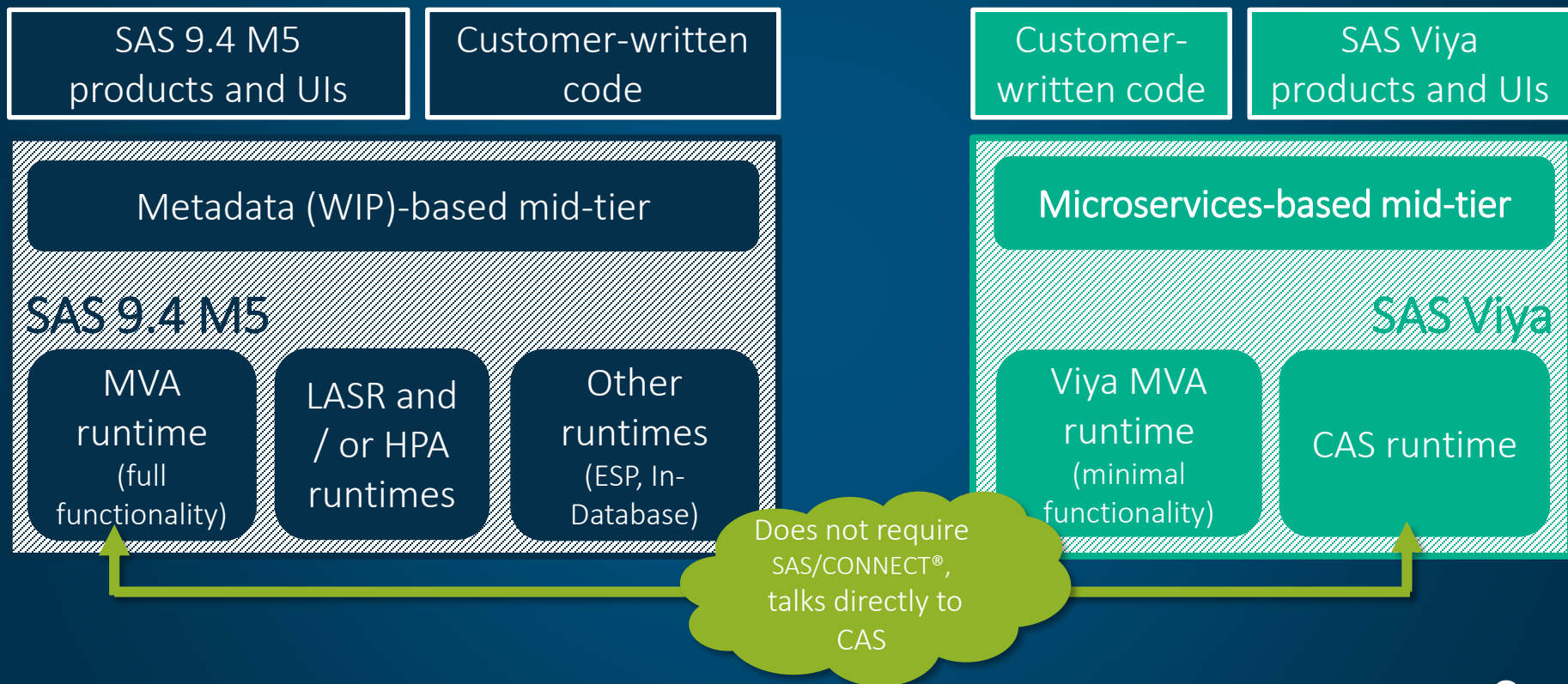
! Improve Performance with SAS 9.4M5

This task uses SAS/CONNECT to move data to a remote server. Starting with SAS 9.4M5, there are more efficient ways to move data to a CAS server. For example, you can use the CAS LIBNAME engine or PROC CASUTIL.

☐ Don't show this message again

OK

# SAS 9.4 M5 Architecture



# SAS 9.4 M5

## CAS Integration

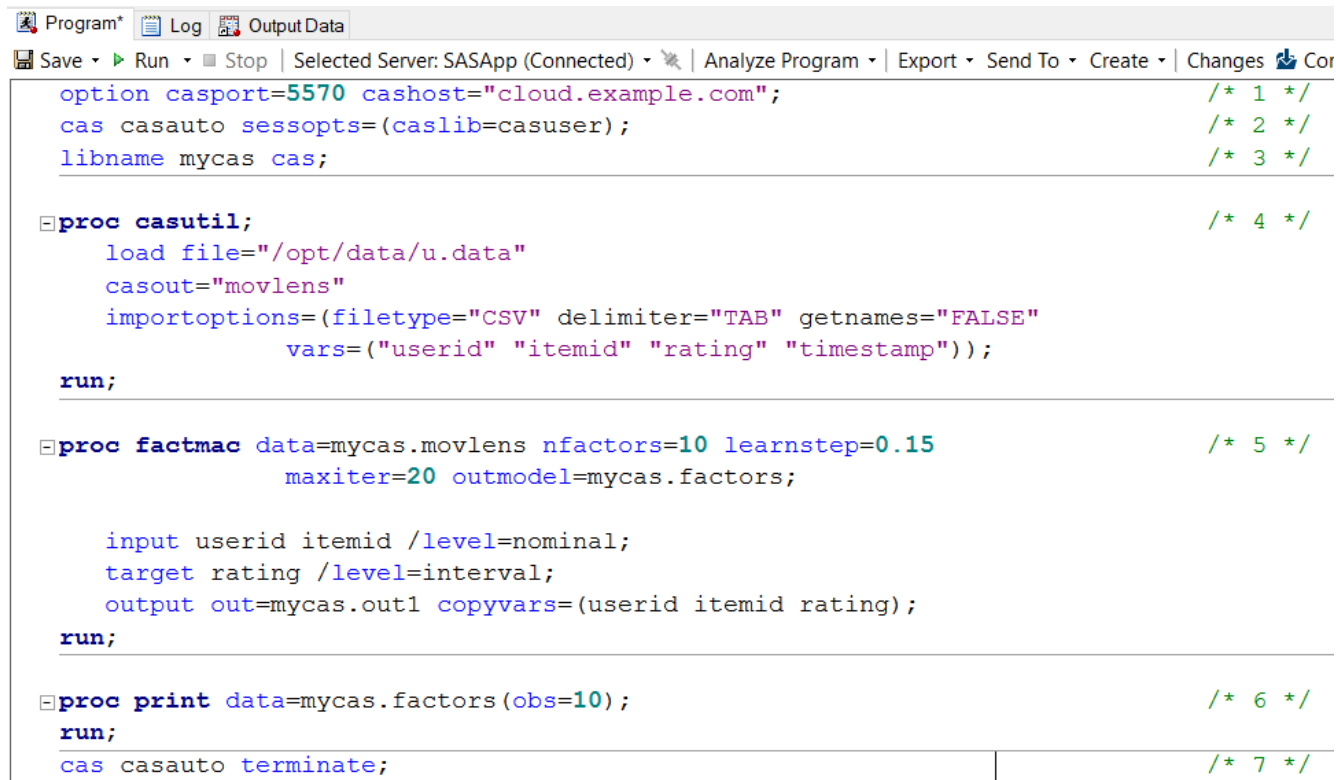
Turn SAS 9.4 into a first-class Viya citizen:

- Enable connectivity between MVA and CAS without SAS/CONNECT
- Accessing CAS server via SAS programming environments
  - (EG, SAS Studio, Display Manager, ...)
- Availability of CAS PROCs and statements
- CAS-enabled DATA step
- Transcoding of existing encodings (in MVA) to UTF-8 (CAS)
- All SAS9.4 platforms profit from new Viya bridges (except Windows 32-bit and z/OS)



# SAS 9.4 >=M5

## Data upload to CAS



The screenshot shows the SAS Studio interface with a program editor. The menu bar includes Program\*, Log, Output Data, Save, Run, Stop, Selected Server: SASApp (Connected), Analyze Program, Export, Send To, Create, Changes, and Cor. The program code is as follows:

```
option casport=5570 cashost="cloud.example.com"; /* 1 */
cas casauto sessopts=(caslib=casuser); /* 2 */
libname mycas cas; /* 3 */

proc casutil; /* 4 */
  load file="/opt/data/u.data"
  casout="movlens"
  importoptions=(filetype="CSV" delimiter="TAB" getnames="FALSE"
    vars=("userid" "itemid" "rating" "timestamp"));
run;

proc factmac data=mycas.movlens nfactors=10 learnstep=0.15 /* 5 */
  maxiter=20 outmodel=mycas.factors;

  input userid itemid /level=nominal;
  target rating /level=interval;
  output out=mycas.out1 copyvars=(userid itemid rating);
run;

proc print data=mycas.factors(obs=10); /* 6 */
run;
cas casauto terminate; /* 7 */
```

- LIBNAME CAS
- PROC CASUTIL



# Processing

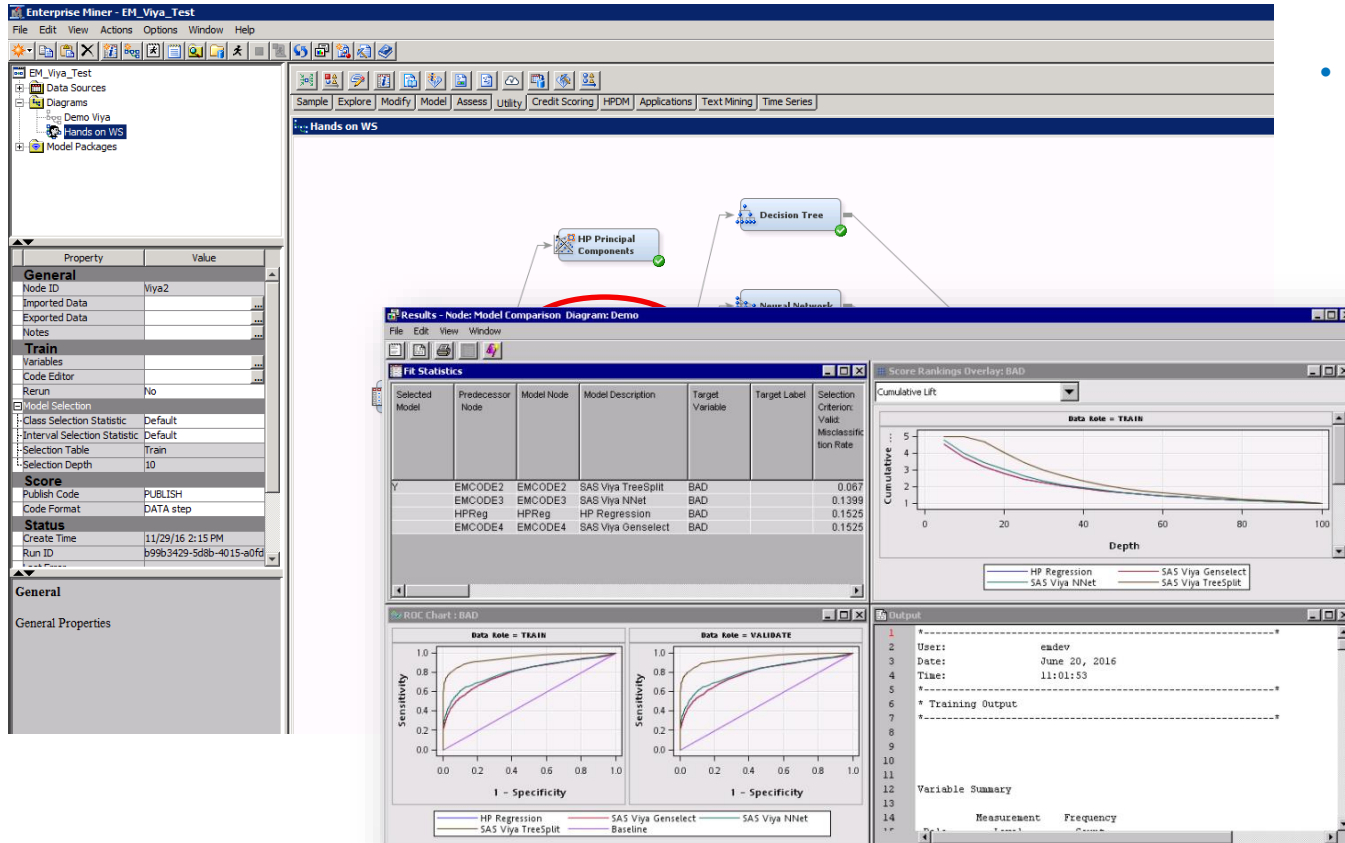
# SAS® 9.4 Integration with SAS® Viya™

# Run Viya Analytics

[illegible]

- SAS Macros
  - use Token
  - PROC HTTP

# SAS® 9.4 Integration with SAS® Viya™



- Use CAS analytics from Enterprise Miner
- Run models in SAS Viya
- Compare results with native SAS9 model outcomes

# SAS® 9.4 Integration with SAS® Viya™

- Metadata integration with SAS 9.4
- Synchronize table metadata with CAS server
- Transformations in DI Studio and Enterprise Guide to transfer data to CAS

The image displays two SAS software interfaces. The top window is the 'SAS Management Console' for user 'sasadm@saspw' on host 'intha1'. It shows a 'Server Manager' tree with various components like SASMeta, SASApp, and SASAppFCS. A 'New Server Wizard' dialog is open, prompting to 'Select the type of server you want to define.' The wizard lists several options, with 'SAS Cloud Analytic Services Server' highlighted. The bottom window is 'SAS Data Integration Studio 4.902' for user 'gerhje' on host 'intha1'. It shows a 'Transformations' pane on the left with a list of jobs. The main workspace displays a data flow diagram for a job named 'EMAIL\_201611\_201701 - Job laden 16.05.20171021 \*'. The diagram starts with a 'film' data source, followed by an 'Extract' transformation, then a 'Cloud Analytic Services...' transformation, and finally a 'SASDI\_FILM' target.

# Multiple interfaces, single code base

## Clients ask CAS to run “actions” on data

### Visual Interfaces



### Programming Interfaces



### API Interfaces

