

# Reengineering a Standard process from Single to Environment Macro Management

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Vivienne, living with osteoporosis



Inspired by **patients.**  
Driven by **science.**

# Agenda

## Introduction

- ✓ Changing a study folder structure

## Objectives

- ✓ Objectives

## Single Macro Management

- ✓ Life Cycle
- ✓ Development - Phase I
- ✓ Testing - Phase II
- ✓ Deployment - Phase III
- ✓ Support - Phase IV

## Environment Macro Management

- ✓ Life Cycle
- ✓ Development - Phase I
- ✓ Testing - Phase II
- ✓ Deployment - Phase III
- ✓ Support - Phase IV

## Summary

- ✓ Summary

# Introduction

## Question:

What is the impact when changing a study folder structure?

### Problems



- 1** Revalidation was not fast & reliable
- 2** What goes where
- 3** Avoid human errors during release

### Solutions

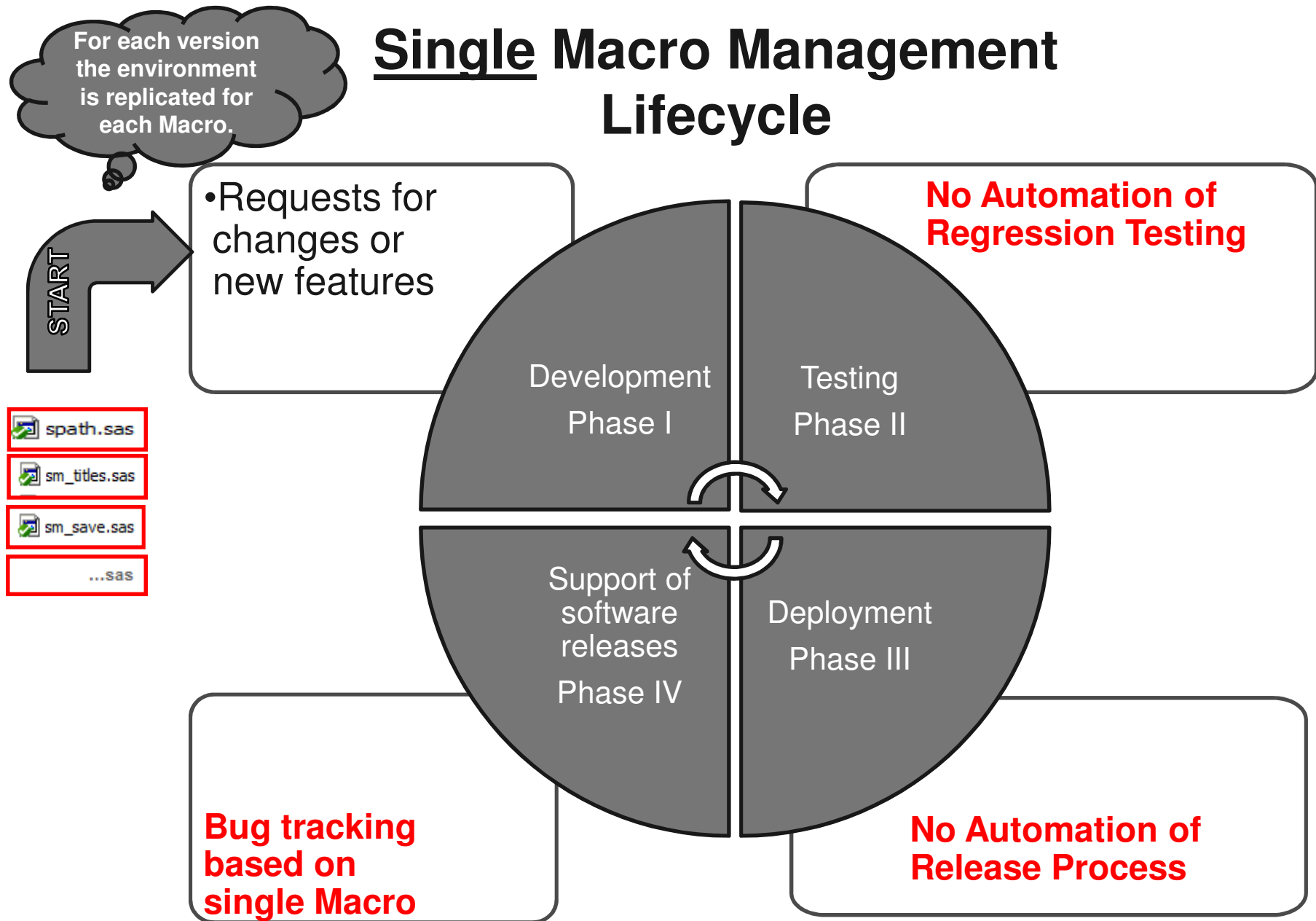


- 1** Automation of Regression testing
- 2** Release of the complete framework
- 3** Automation of release process

# Objectives

The **Subject** of this presentation is to compare two different approaches of Macro Management. The Single Macro versus the Environment Macro.

The **Purpose** is to demonstrate the benefit of adopting the Environment Macro Management over the Single Macro Management.

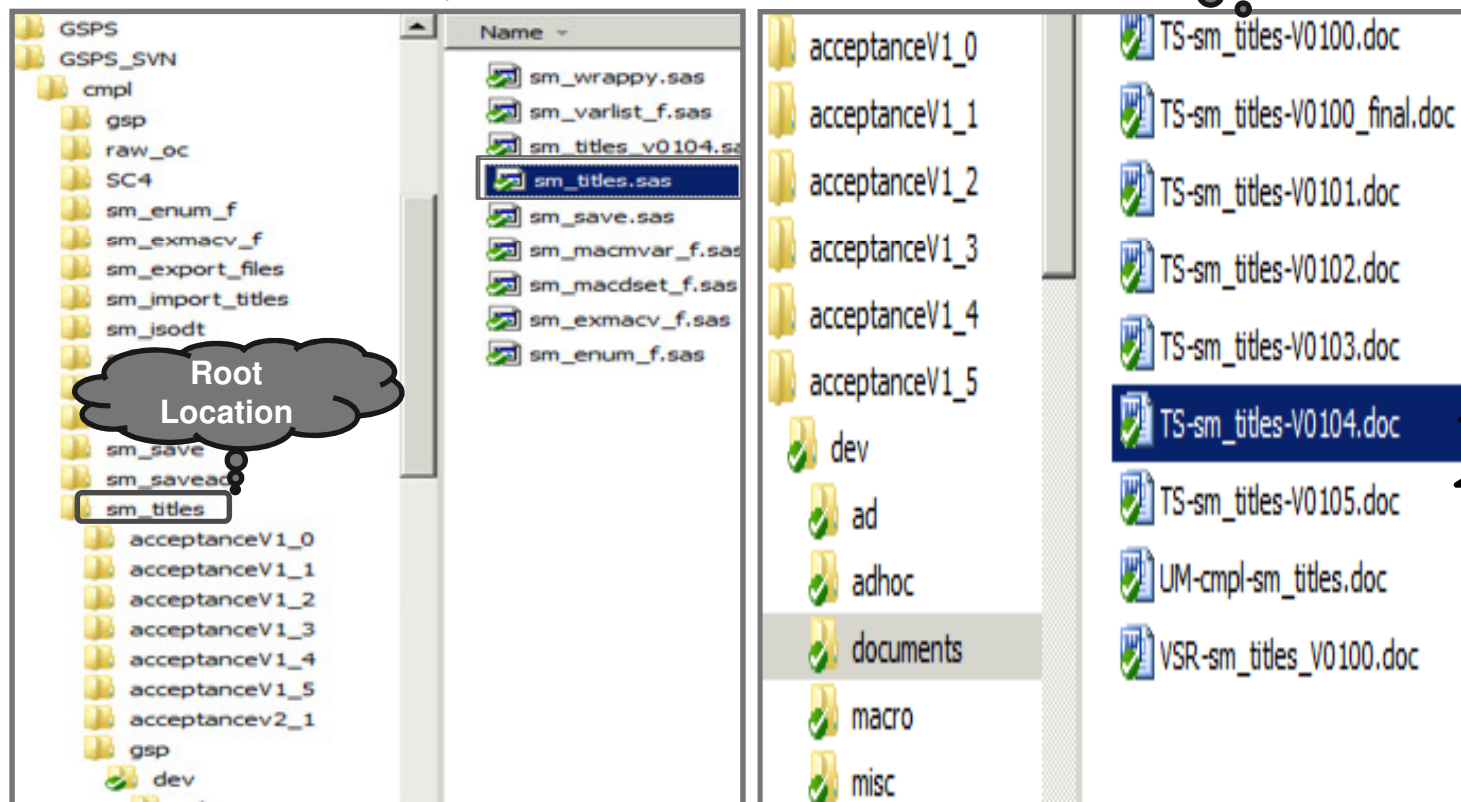


# Single Macro Management - Development - Phase I

Environment  
replicated at each  
release version

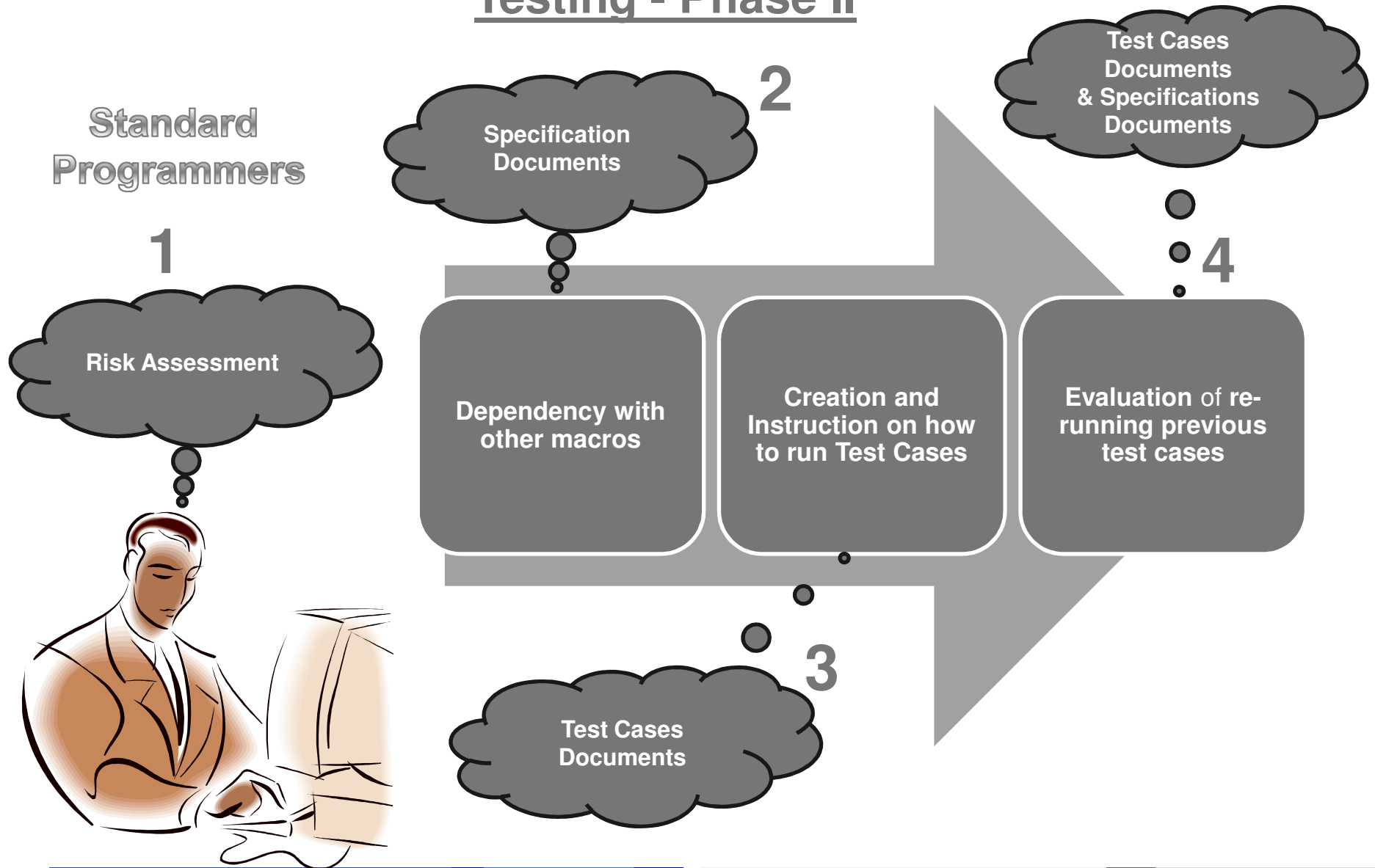
Multiple documents  
for each macro  
based on release  
versions

Example:  
20 macros:  
4 documents,  
10 versions



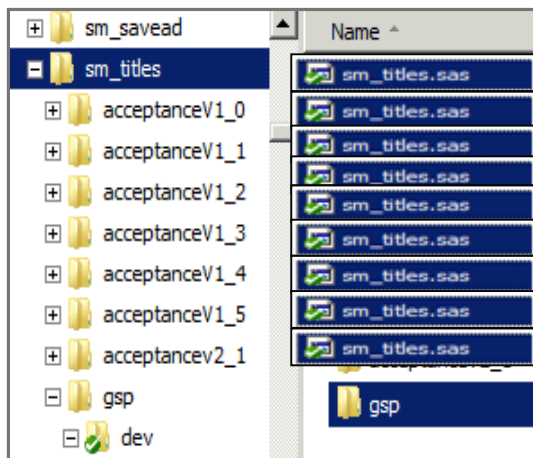
# Single Macro Management – Testing - Phase II

7

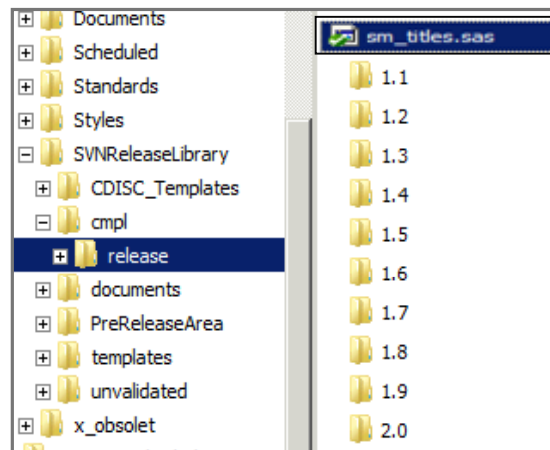


# Single Macro Management - Deployment - Phase III

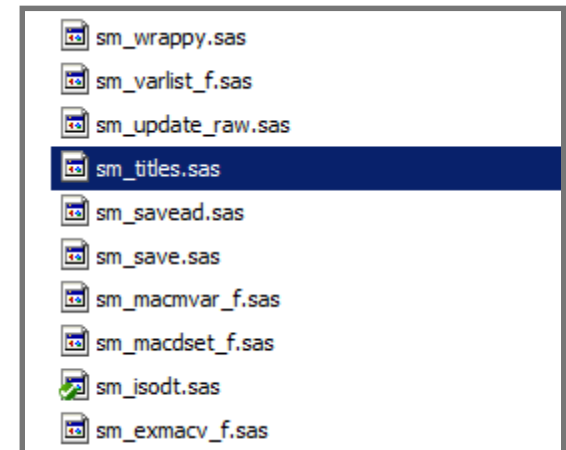
Working Location



Release Location



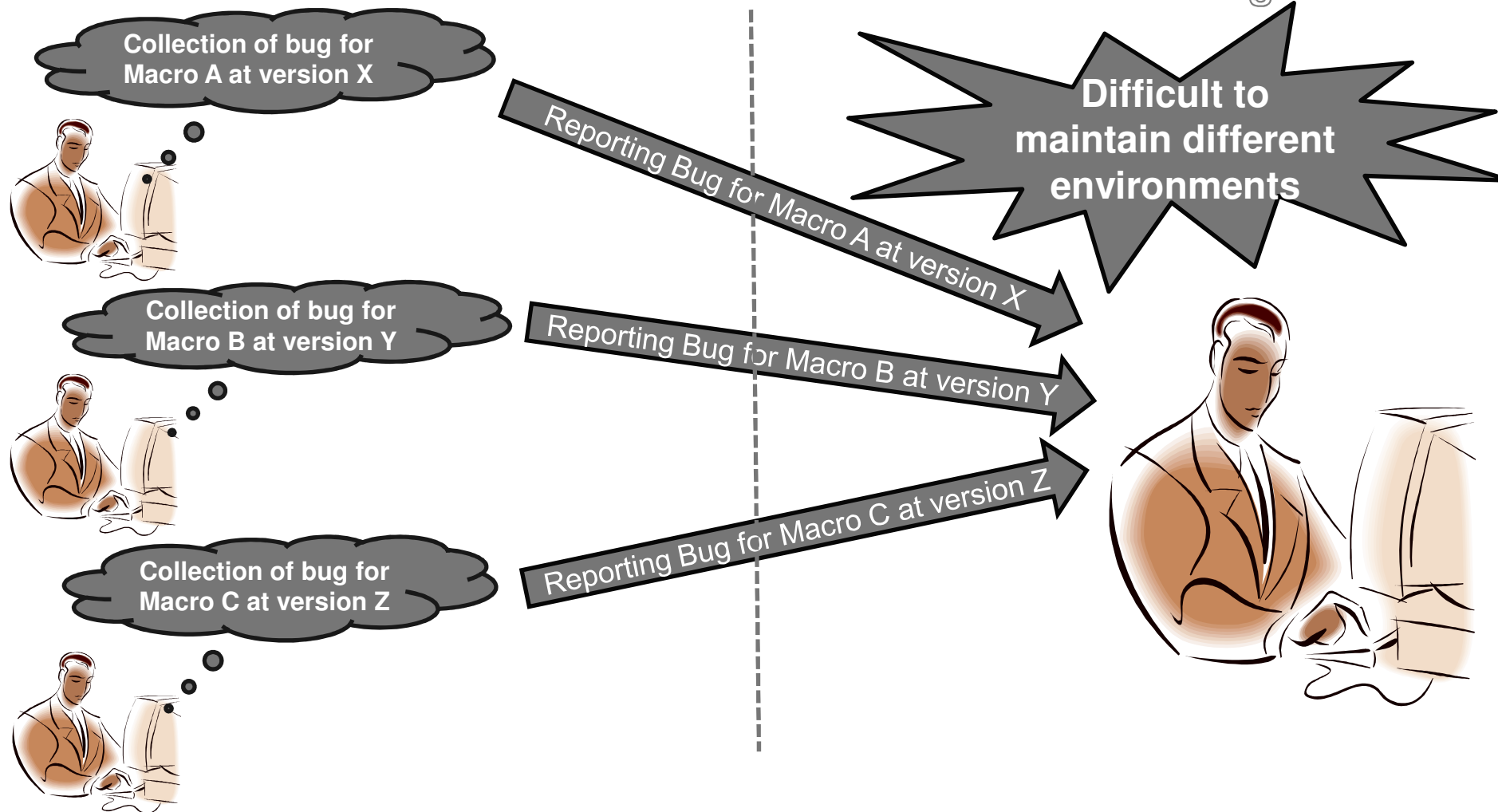
Study Location



# Single Macro Management - Support of Software Release - Phase IV

## Study Programmers

## Standard Programmers

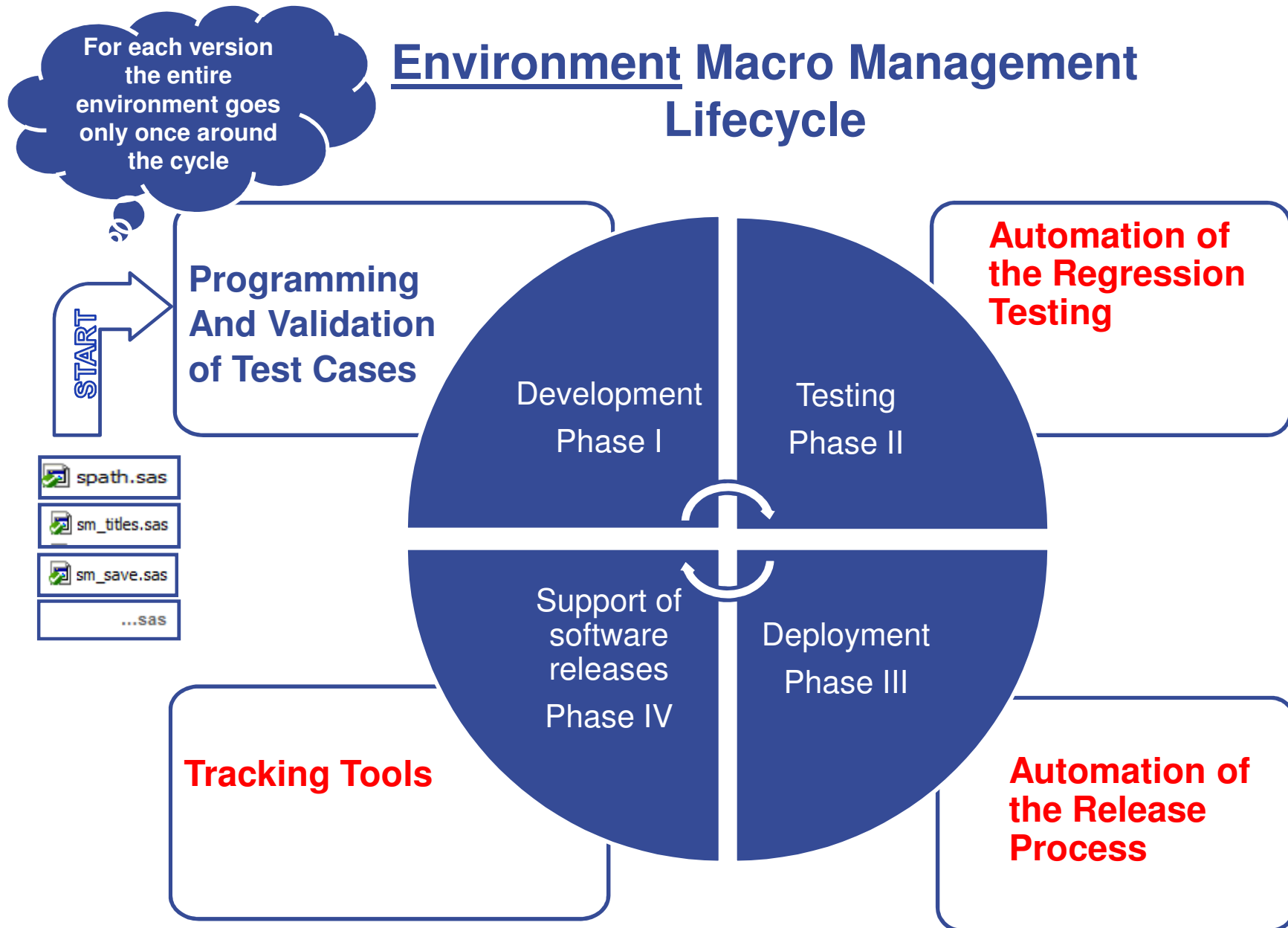


# Why Not keeping the Single Macro Management?



- Copying macros, documents and test cases across releases is error prone
- Automation of regression testing and release Process would be difficult to implement
- We still would NOT have a solution to the question “What goes where” (on slide 3)

# Environment Macro Management Lifecycle

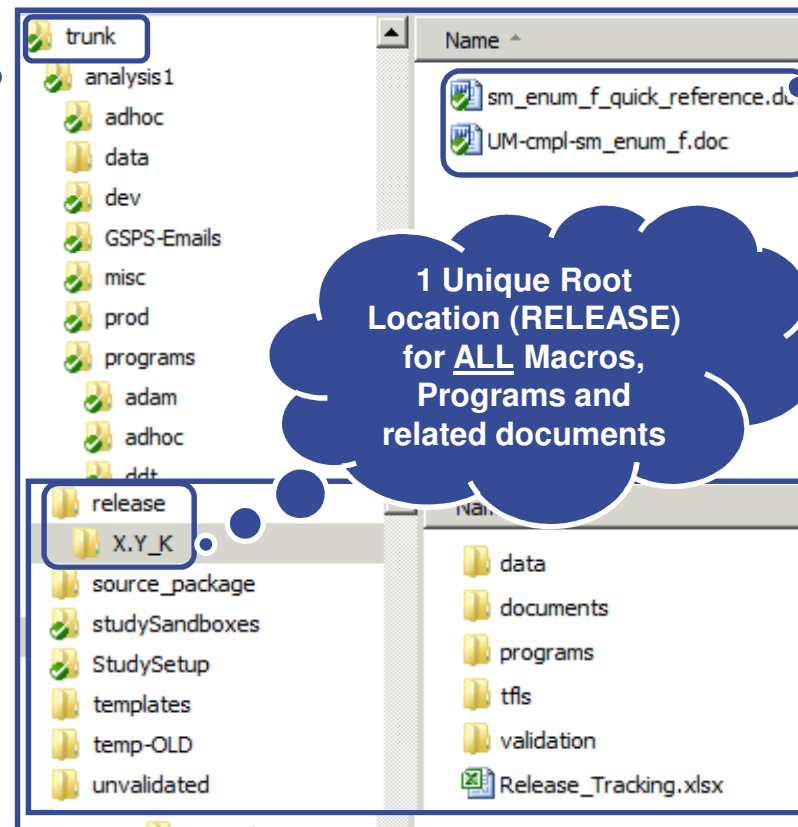


# Environment Macro Management - Development - Phase I

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Subversion is used to maintain current and historical versions of the entire environment

1 Unique Root Location (TRUNK) for ALL Macros, Programs and related documents



1 Unique Root Location (RELEASE) for ALL Macros, Programs and related documents

1 Unique and cumulative version of document for each macro to be released together with the environment

# Environment Macro Management - Testing - Phase II

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Standard  
Programmers

1

No Risk  
Assessment.  
Risk is High  
by default



Specification  
Documents

2

Dependency with  
other macros  
tracked  
(On the tracking  
tools)

No Manual  
Instructions  
Test Cases are run  
automatically

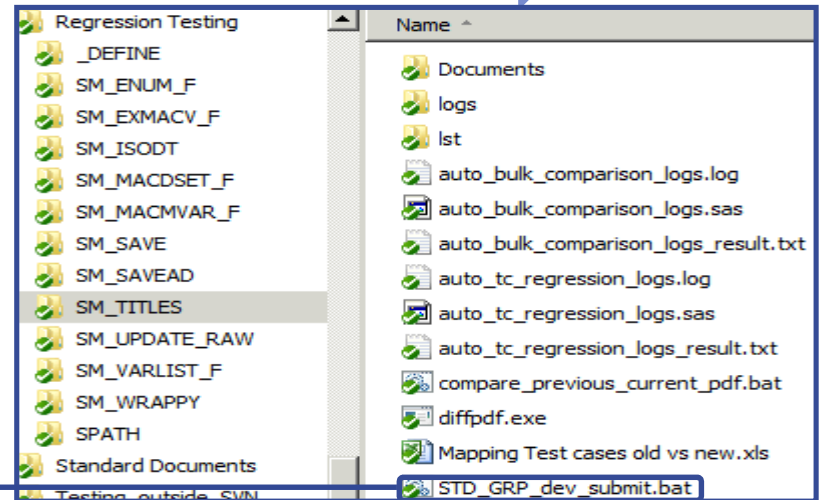
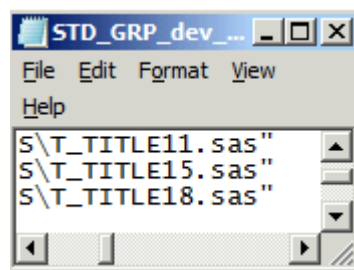
Test Case documents &  
Specification Documents

4

No Evaluation of re-  
running previous  
test cases.  
All previous Test  
Cases run by  
default

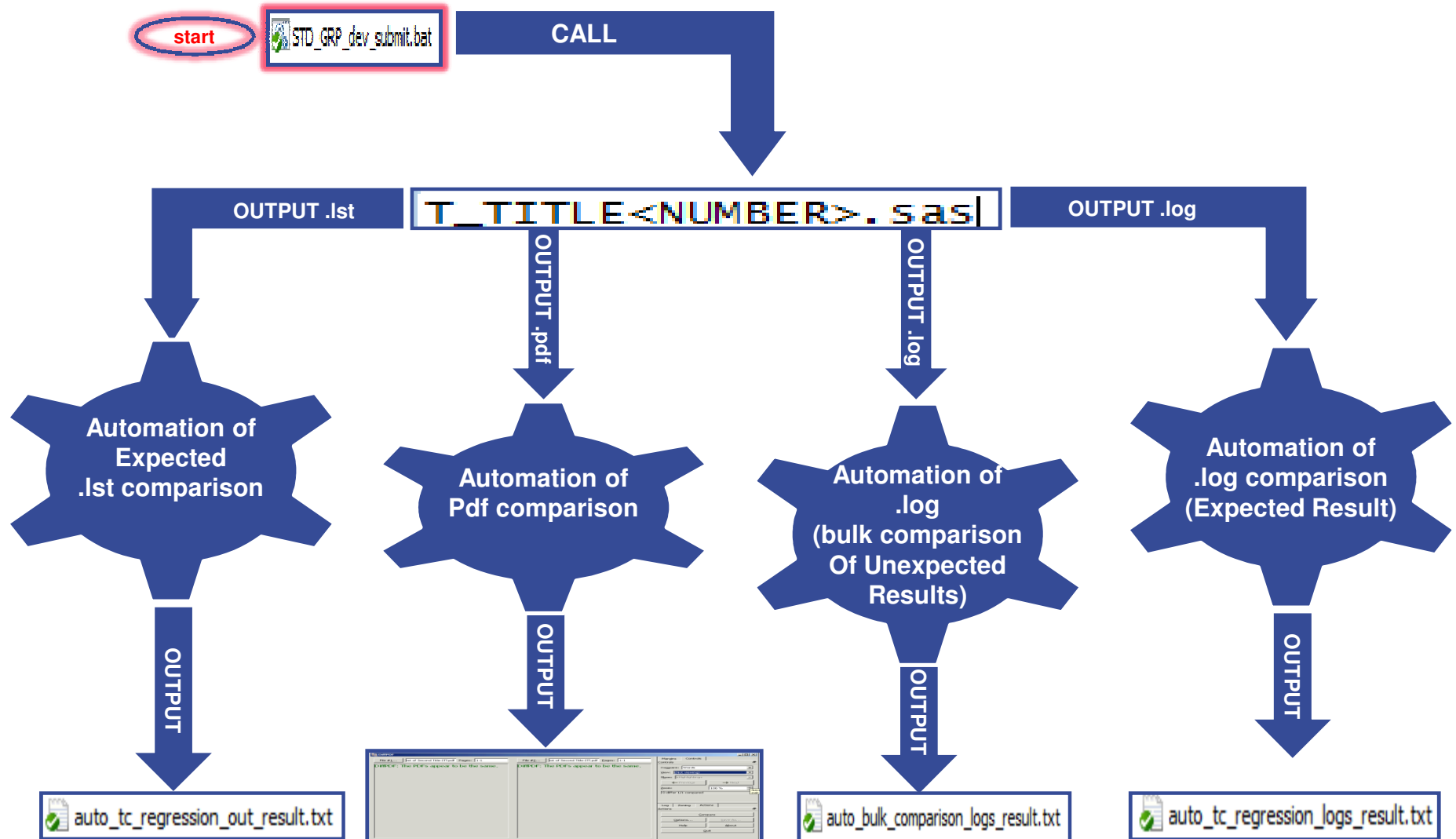
Test Cases  
Documents

3



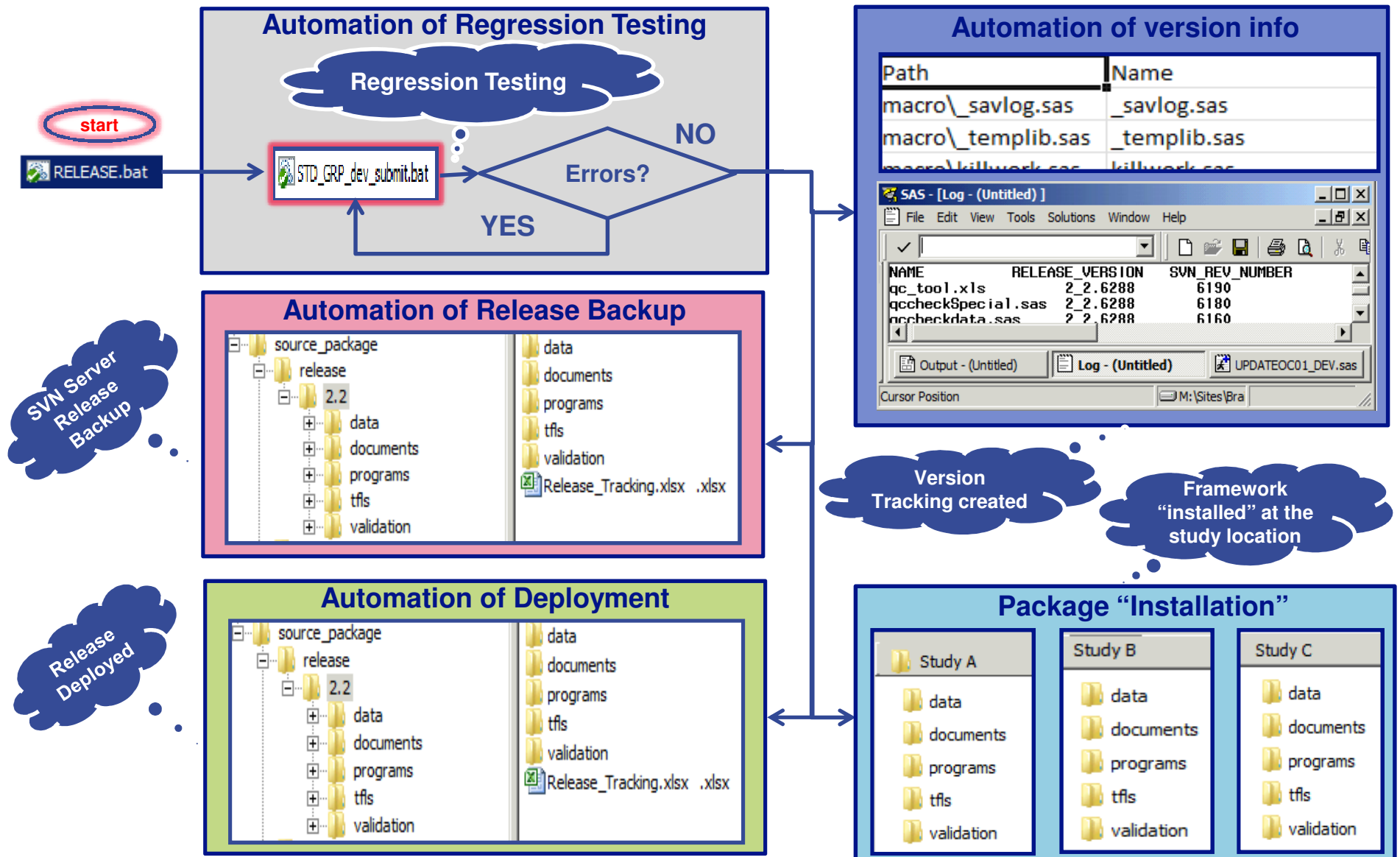
# Environment Macro Management - Testing - Phase II

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# Environment Macro Management - Deployment - Phase III

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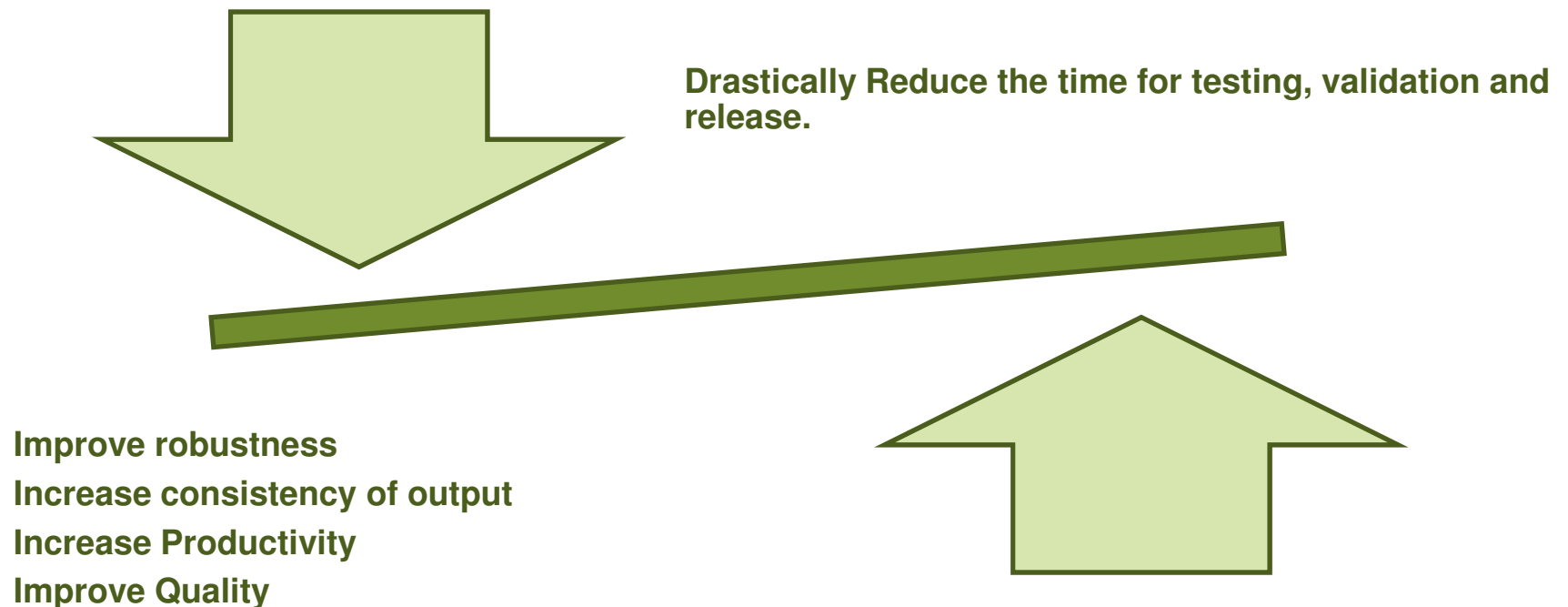
# Environment Macro Management – Support - Phase IV

Control over the Processes through tracking tools. A visual map for the entire Environment. For each macro we can see how many test cases, inputs, outputs and related documentation without searching in the folder structure

| Bugs                                                                                                                        |                              |                                   |                                           |                    |                            |                     |                           |                        |                 |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------------------------|-------------------------------------------|--------------------|----------------------------|---------------------|---------------------------|------------------------|-----------------|
| Bugs                                                                                                                        | Issue Noted By:              | Issue Noted Date                  | Description                               | Assigned to        | Resolution                 | Issue Resolved Date | Comments                  | Validation assigned to | Validation Date |
| 1                                                                                                                           | Giuseppe Di Monaco           | 05-Sep-13                         | Special chars<br>When zip file            | Giuseppe Di Monaco | Added 2>NUL<br>Added The   | 05-Sep-13           |                           |                        |                 |
| <div>▶   SPATH / SM_TITLES / SM_EXMACV_F / SM_MACDSET_F / SM_VARLIST_F / SM_ENUM_F / SM_ISODT / SM_SAVE / SM_SAVE   ◀</div> |                              |                                   |                                           |                    |                            |                     |                           |                        |                 |
| Test Cases & Inputs                                                                                                         |                              |                                   |                                           |                    |                            |                     |                           |                        |                 |
| DEV Programs                                                                                                                |                              |                                   |                                           |                    | Input datasets             | Other Inputs        | PROD Programs             | Input datasets         | Other Inputs    |
| <a href="#">T TITLE11.sas</a>                                                                                               |                              |                                   |                                           |                    |                            |                     |                           |                        |                 |
| <a href="#">T TITLE15.sas</a>                                                                                               |                              |                                   |                                           |                    |                            |                     |                           |                        |                 |
| <a href="#">T TITLE18.sas</a>                                                                                               |                              |                                   |                                           |                    |                            |                     |                           |                        |                 |
| <a href="#">T TITLE19.sas</a>                                                                                               |                              |                                   |                                           |                    |                            |                     |                           |                        |                 |
| <a href="#">T TITLE20.sas</a>                                                                                               |                              |                                   |                                           |                    |                            |                     |                           |                        |                 |
| <a href="#">T TITLE29.sas</a>                                                                                               |                              |                                   |                                           |                    |                            |                     |                           |                        |                 |
| Documents                                                                                                                   |                              |                                   |                                           |                    |                            |                     | Dependencies              |                        |                 |
| <a href="#">spec sm titles</a>                                                                                              | <a href="#">TS-sm titles</a> | <a href="#">UM-cmpl-sm titles</a> | <a href="#">sm titles quick reference</a> |                    | <a href="#">SM Release</a> |                     | <a href="#">sm wrappy</a> |                        |                 |
| Shared documents                                                                                                            |                              |                                   |                                           |                    |                            |                     |                           |                        |                 |
| <a href="#">GSS Required Macros on the collaboration site</a>                                                               |                              |                                   |                                           |                    |                            |                     |                           |                        |                 |

# Summary

In this presentation we have seen the Life-Cycles of both Single and Environment Macro Management, we have demonstrated how to answer the question “What goes where” and how to:



# Questions?

# Thanks!