

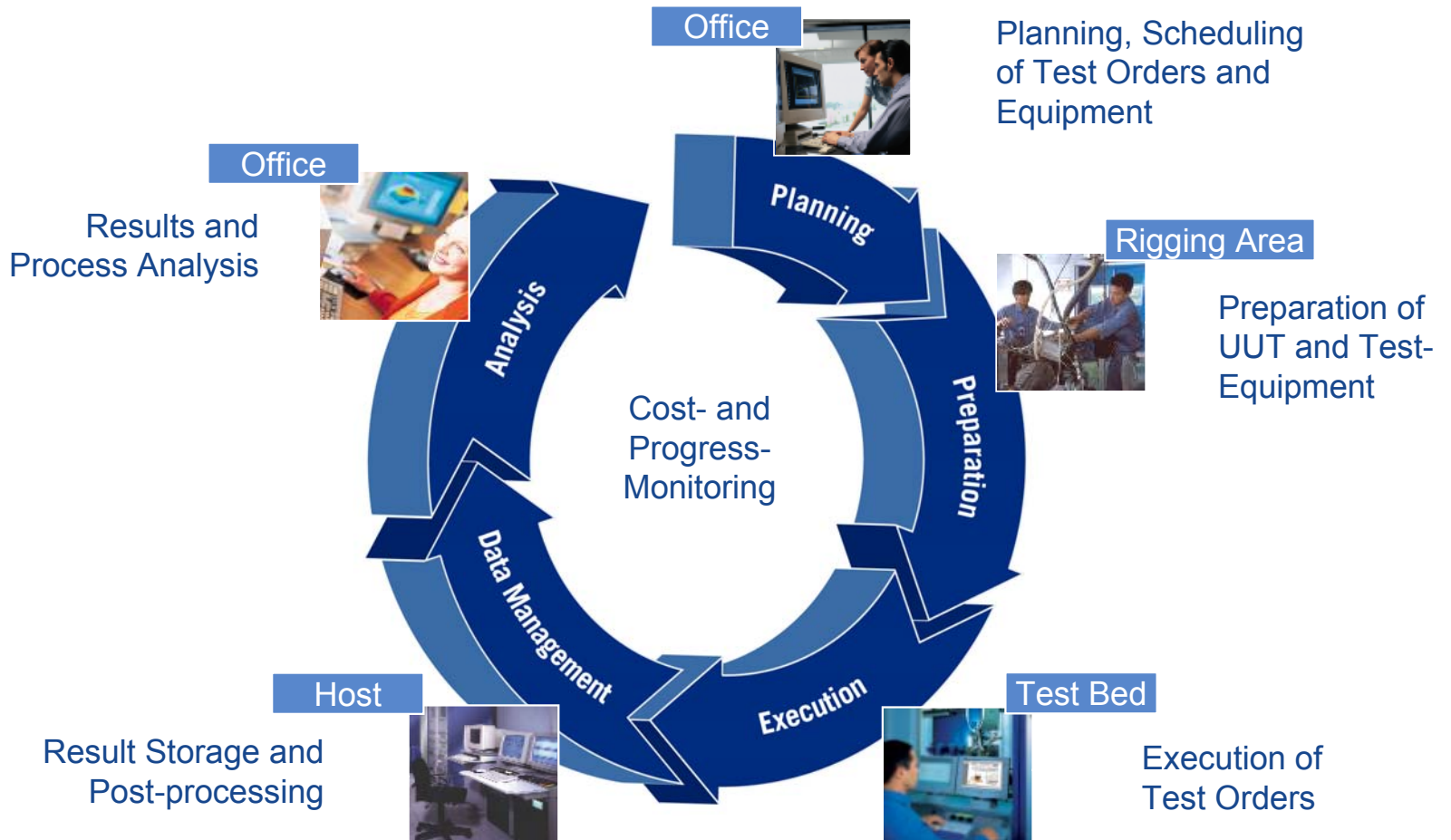
The background of the slide is a photograph of a large, modern test facility. The ceiling is high with exposed metal trusses and numerous fluorescent light fixtures. The floor is a smooth, light-colored concrete. In the distance, a white sedan is parked. In the foreground, a silver SUV is parked, partially obscured by a dark blue banner. The banner has a pattern of white binary code (0s and 1s) and white lines forming a network or circuit diagram.

# TestFactory Management Suite™

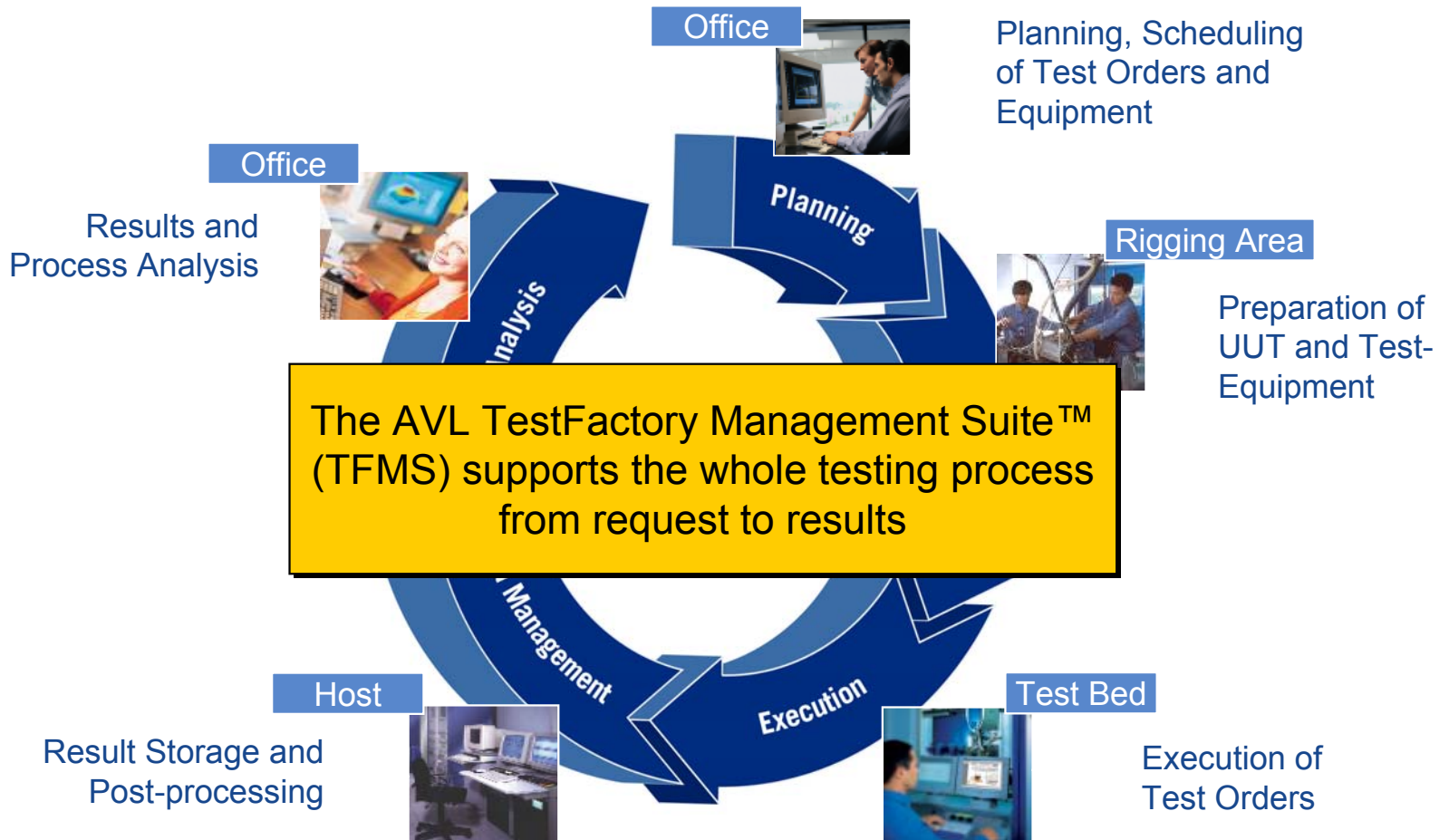
Test Field Process Management for Higher Efficiency

Gerald Sammer, May 2008

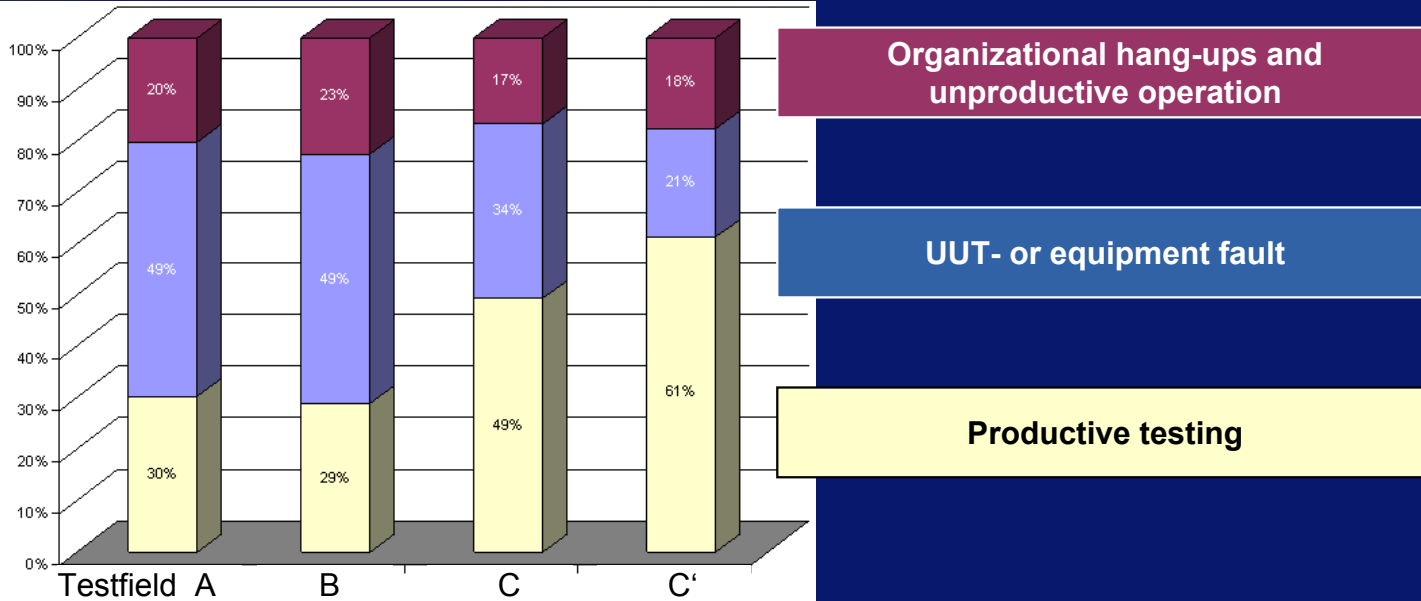
# Productivity boost for a test facility: Looking at the desired process



# Productivity boost for a test facility: Looking at the desired process



# Efficiency Improvements



AVL study: Test field utilization in Germany

**At least 20% of the available capacity can be affected by using AVL TestFactory Management Suite™**

# Benefits of the TestFactory Management Suite™



## TFMS supports in ...

- Avoid missing or wrong test equipment
- Avoid unprepared unit under test
- Optimized utilization supported by scheduling tools

- **reducing down times of test beds**
- avoiding unnecessary test re-runs
- optimizing resource utilization
- providing process performance indicators for comparing “to be” with “as is” processes



# Benefits of the TestFactory Management Suite™



## TFMS supports in ...

- Using proven test order definitions
- Avoid unclear methodology
- Continuously improvement of test order definitions

- reducing down times of test beds
- **avoiding unnecessary test re-runs**
- optimizing resource utilization
- providing process performance indicators for comparing “to be” with “as is” processes

# Benefits of the TestFactory Management Suite™

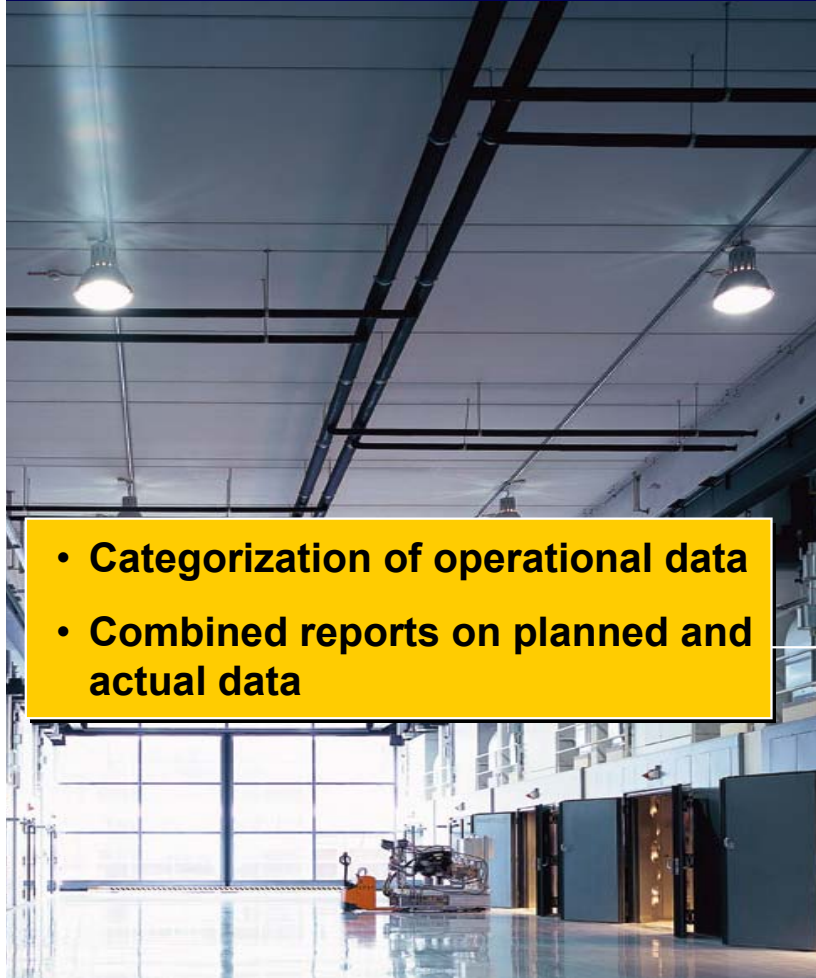


## TFMS supports in ...

- Optimized utilization supported by scheduling tools
- Integration of all relevant data sources into the scheduler tool

- reducing down times of test beds
- avoiding unnecessary test re-runs
- **optimizing resource utilization**
- providing process performance indicators for comparing “to be” with “as is” processes

# Benefits of the TestFactory Management Suite™



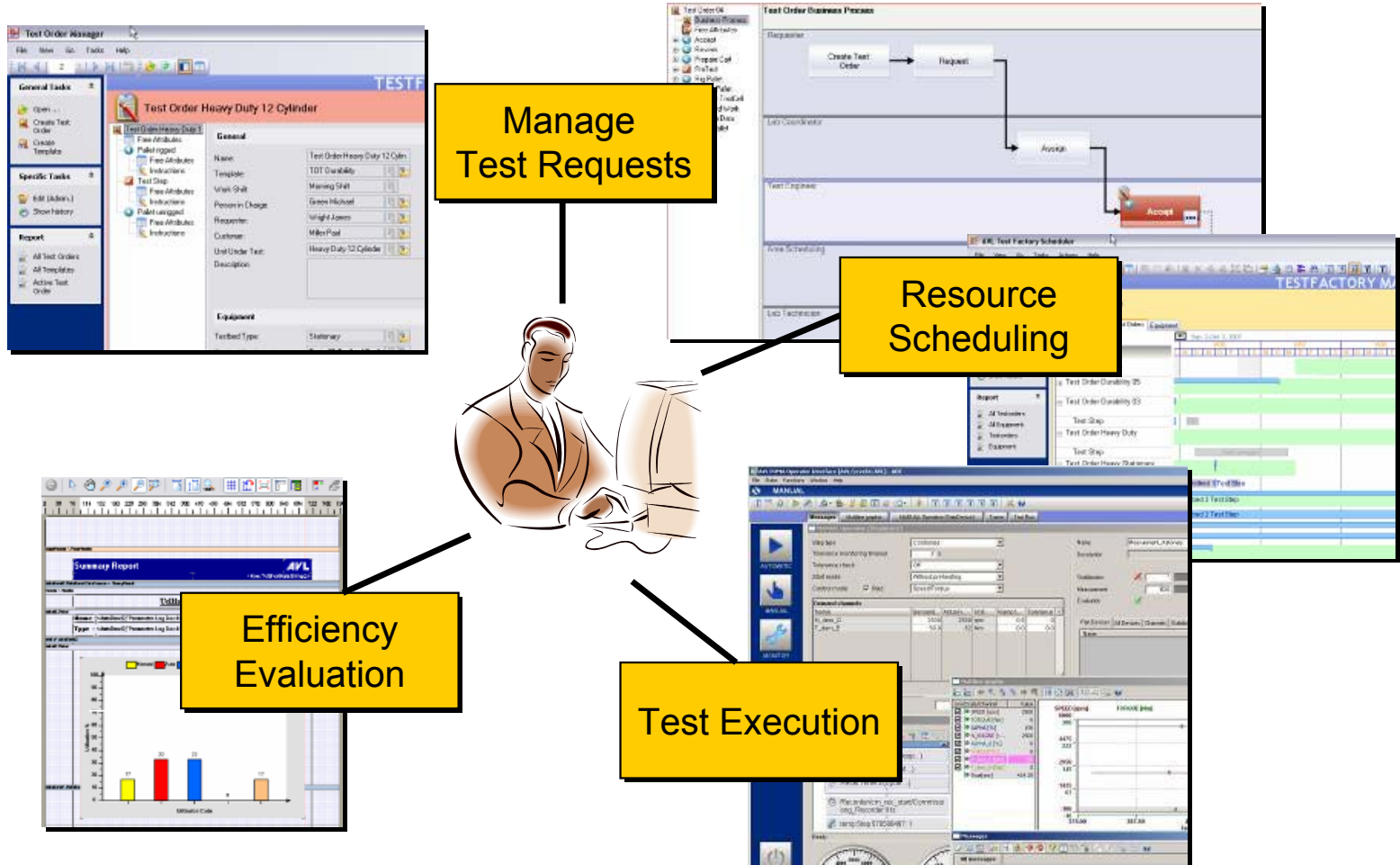
- **Categorization of operational data**
- **Combined reports on planned and actual data**

## TFMS supports in ...

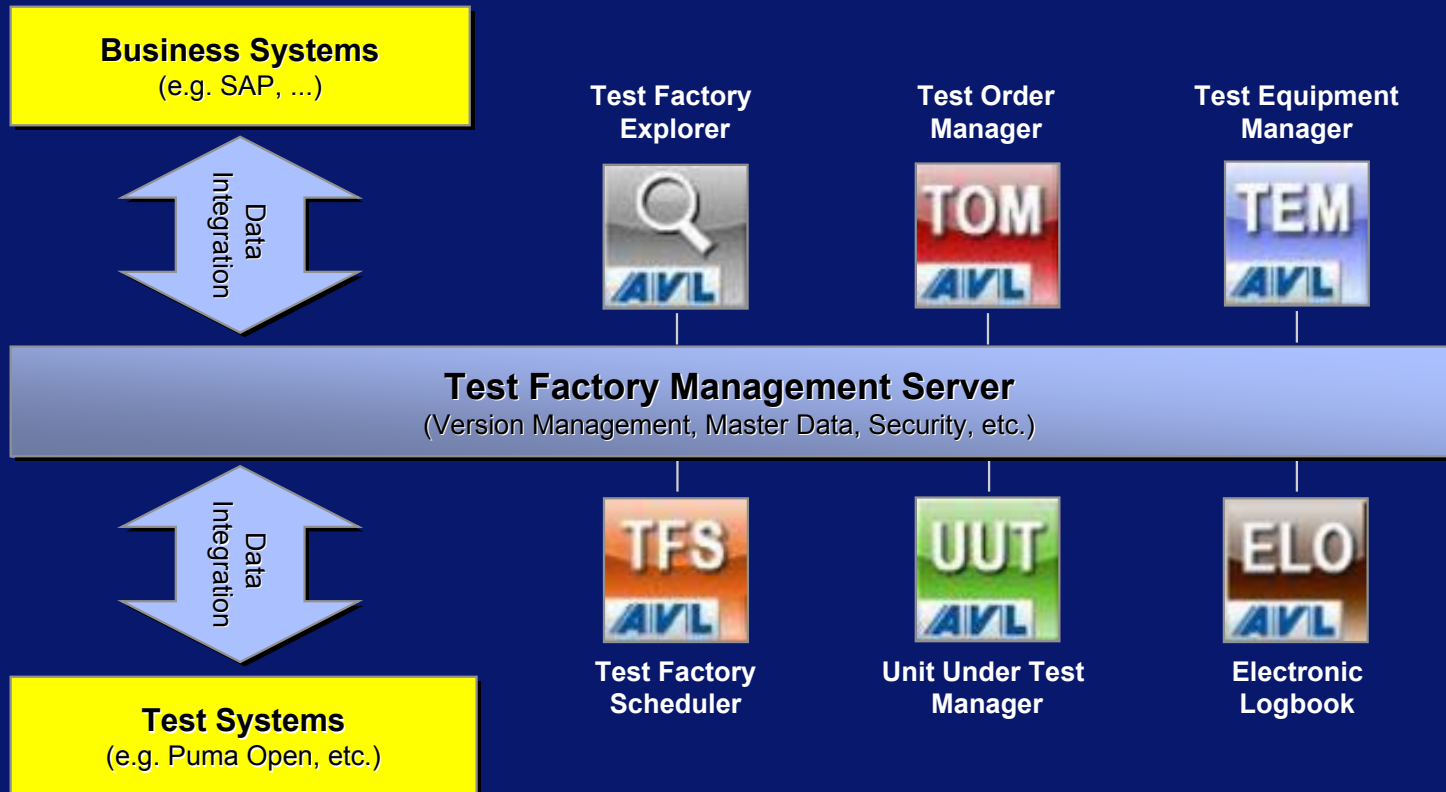
- **reducing down times of test beds**
- **avoiding unnecessary test re-runs**
- **optimizing resource utilization**
- **providing process performance indicators for comparing “to be” with “as is” processes**



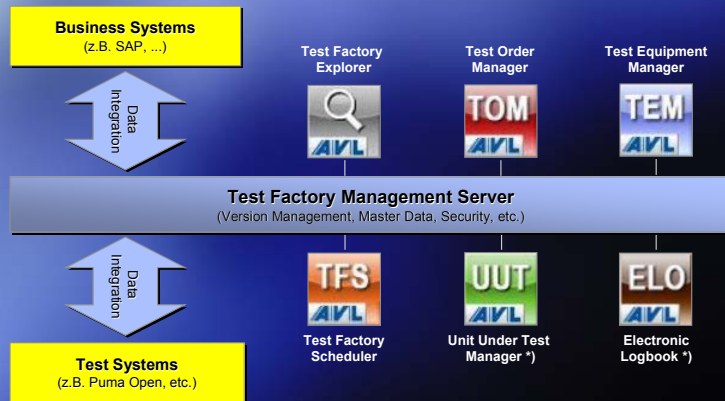
# Full Graphical Support for all Testing Tasks TFMS together with PUMA Open



# TestFactory Management Suite™ Product Structure



# TestFactory Management Suite™ Product Structure



## ▪ Test Order Manager

Application for processing test requests, providing and tracking all relevant data

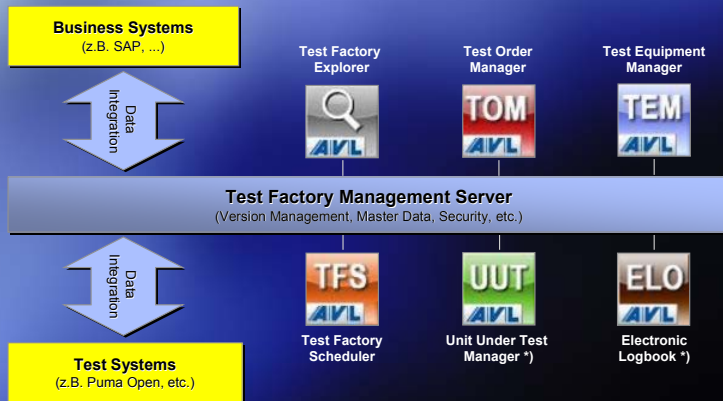
## ▪ Test Equipment Manager

Managing all test equipment, test beds and pallets including calibration and maintenance

## ▪ Test Factory Scheduler

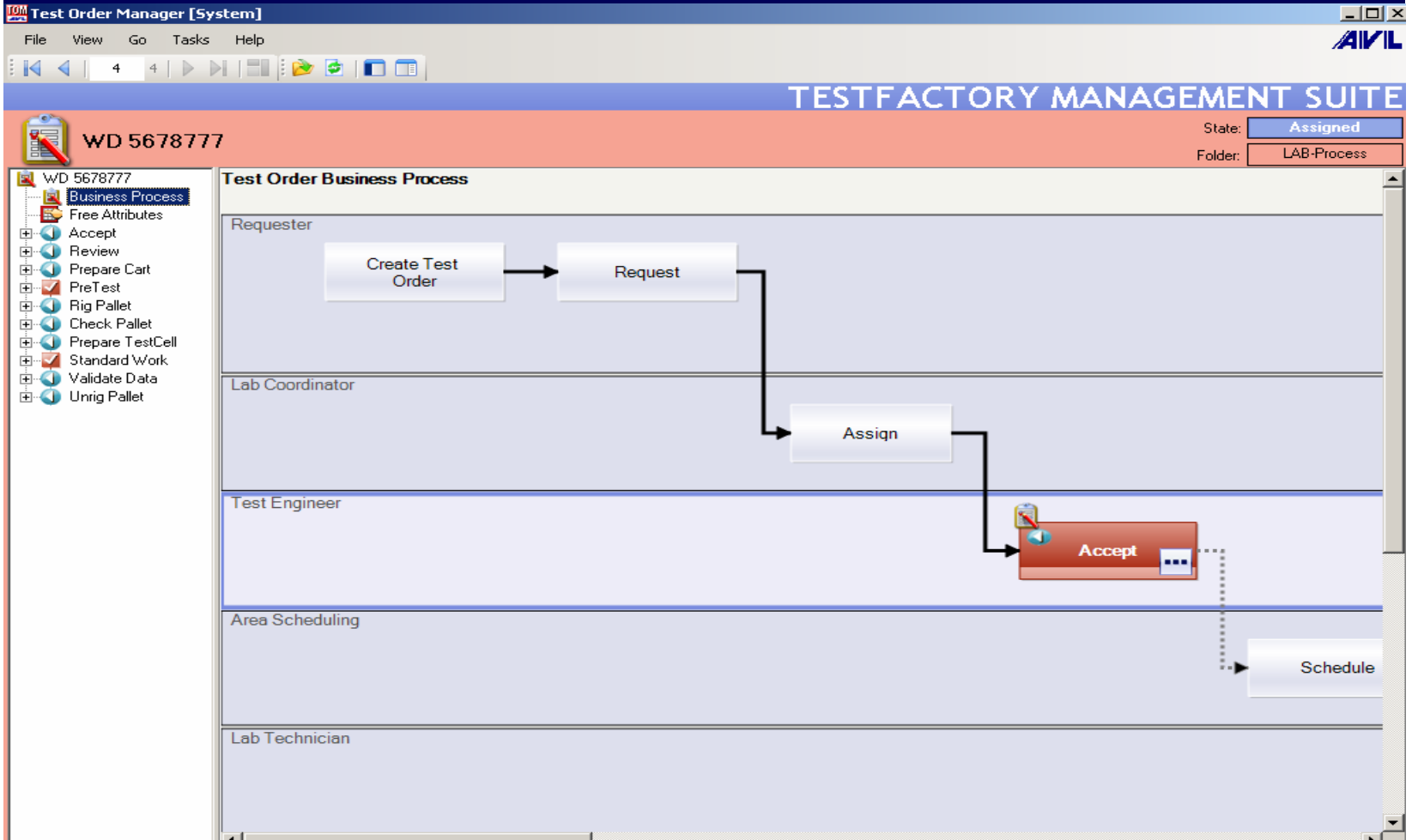
Supports the planning of test order and test equipment

# TestFactory Management Suite™ Product Structure



- **Unit Under Test Manager**  
For handling the technical data of the test units
- **Electronic Logbook**  
For capturing and analyzing actual day-to-day data and providing performance indicators
- **Test Factory Explorer**  
Central navigator with user oriented data presentation and filter / search functionality

# Test Order Manager - TOM





# Test Order Manager - TOM



**Test Order Manager [System]**

File View Go Tasks Help

TESTFACTORY MANAGEMENT SUITE

WD 5678777 State: **Assigned**  
Folder: LAB-Process

**General Tasks**

- Open ...
- Create Test Order
- Create Template
- Create Business Process Template

**Specific Tasks**

- Edit
- Accept
- Reject
- Admin-Edit
- Cancel
- Show history

**Report**

- All Test Orders
- All Templates
- Active Test Order
- Detail Report

Business Process

- Free Attributes
- Accept
- Review
- Prepare Cart
- PreTest
- Rig Pallet
- Check Pallet
- Prepare TestCell
- Standard Work**
- Validate Data
- Unrig Pallet

**General**

Name: Standard Work  
 Execution Step State: **Waiting**

Person in Charge: Campbell Patricia  
 Time Offset: 0 Days  
 ... Before / After: Before  
 ... Test Step: PreTest

Schedule the Test Order via this Step  
 Consider this Step for time calculation  
 Consider this Step for Pallet scheduling

Description: StandardWork (Importet from TestOrderTemplate)

Mount Duration: 1 Hours  
 Dismount Duration: 1 Hours  
 Additional Duration: 1 Hours  
 Total Duration: 85 Hours  
 Scheduled Start: Date undefined  
 Scheduled End: Date undefined

**Equipment**

Testbed Type: Stationary  
 Testbed Configuration: Testbed Standard  
 Testbed Wiring: Testbed Wiring Extend  
 Testbed:

**Test Order-specific Adaptations**

Testbed Rig Order: [Show/Edit](#)

**Test Sequences:**

Name	TST Parameter Set Name	Duration	State	DRV Parameter S...	Project	Test Series	T
▶ Sequence1	AVL\CatAging	0	Open	AVL\DriverGearsh...	AVL	Serie 1	
Sequence2	AVL\Fullload	7	Open	AVL\DriverGearsh...	AVL	Serie 2	
Sequence3	AVL\EngineMap	5	Open	AVL\DriverGearsh...	AVL	Serie 2	
Sequence4	AVL\CAMEOV12Std	20	Open	AVL\DriverGearsh...	AVL	Serie 3	
Sequence5	AVI\VMRCFexecute	12	Open	AVI\DriverGearsh...	AVI	Serie 4	

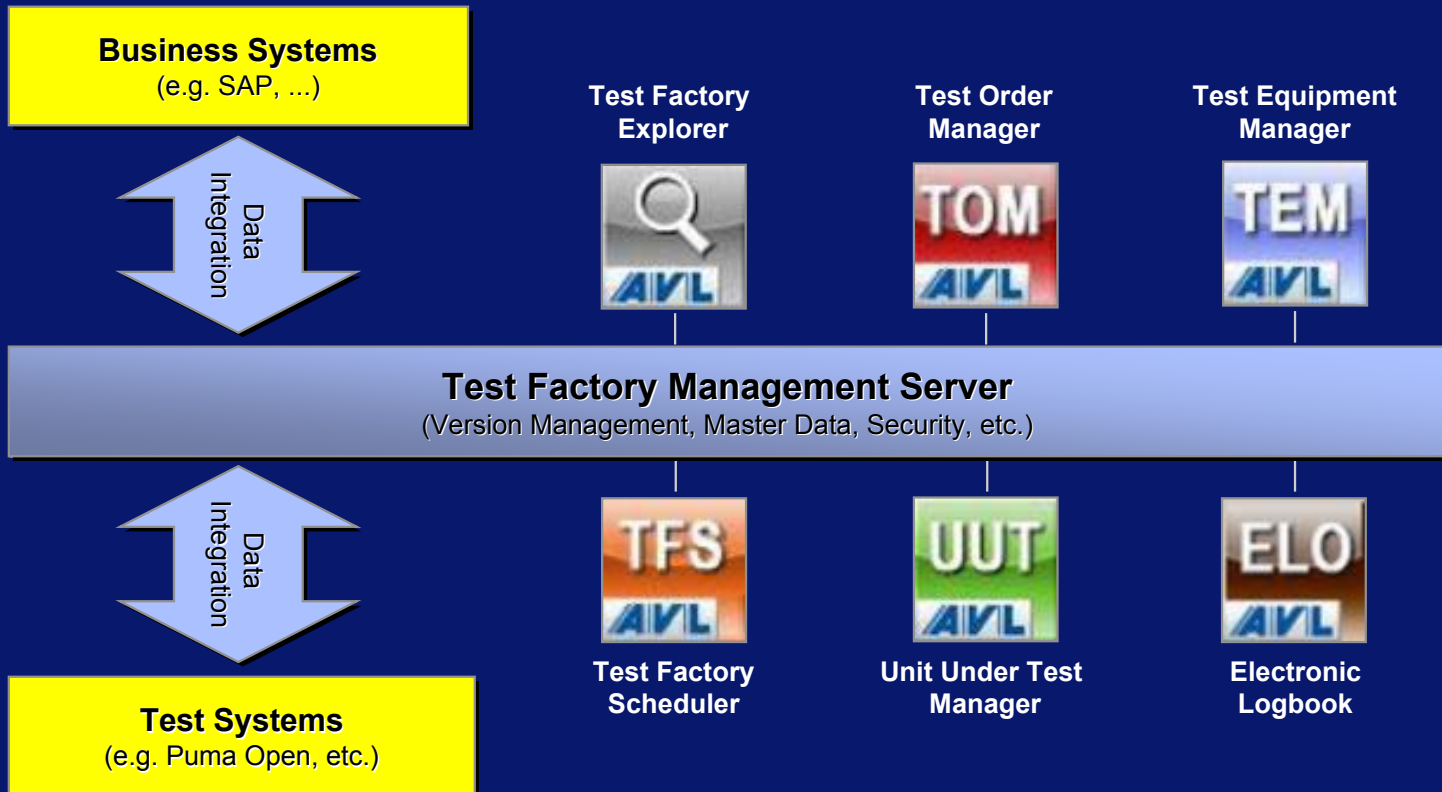
# Release Roadmap



- **TFMS 1.0:** available
- **TFMS 1.0.1:** available
- **TFMS 1.1:** Q3 2008
- **TFMS 1.2:** Q2 2009

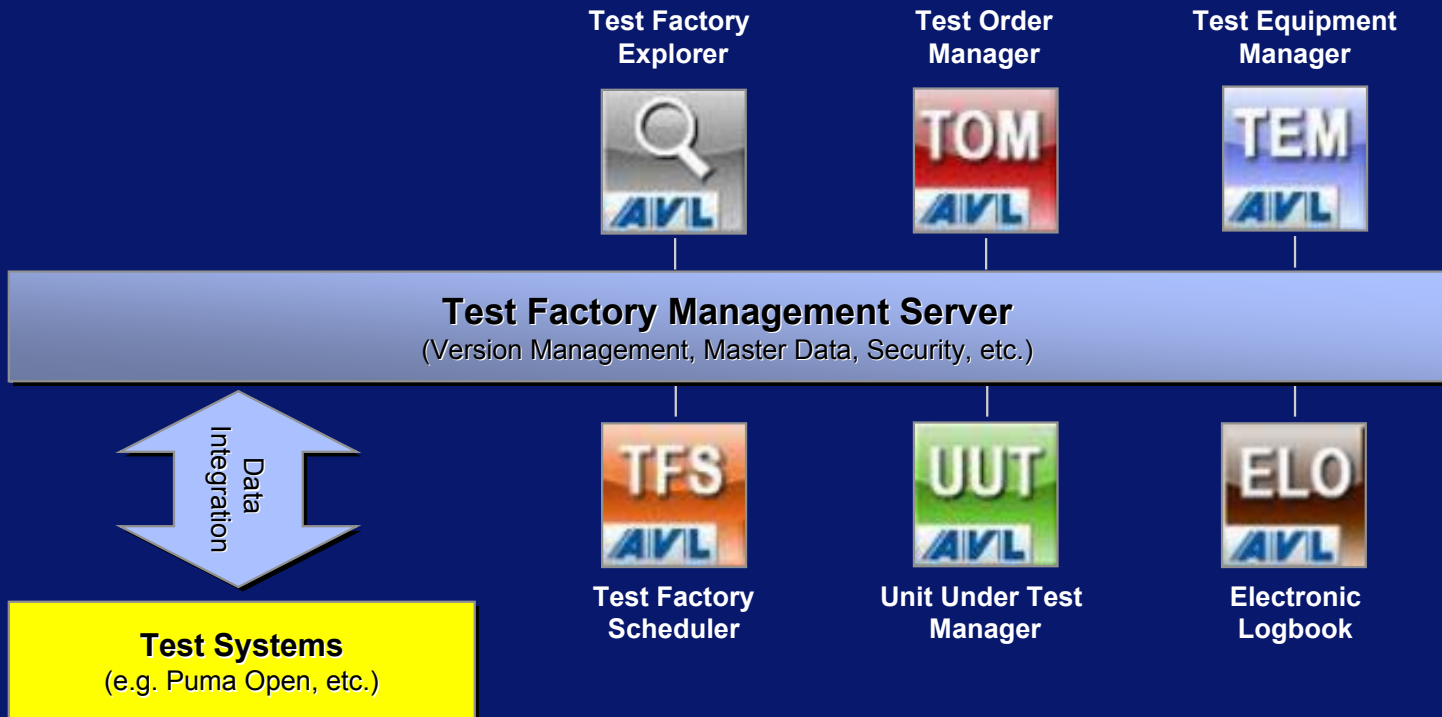
# TFMS Implementation Scenarios

## Full Scope



# TFMS Implementation Scenarios

## Standalone without external Business Systems



# TFMS Implementation Scenarios

## Standalone



Test Factory  
Explorer



Test Order  
Manager



Test Equipment  
Manager



**Test Factory Management Server**  
(Version Management, Master Data, Security, etc.)



Test Factory  
Scheduler



Unit Under Test  
Manager

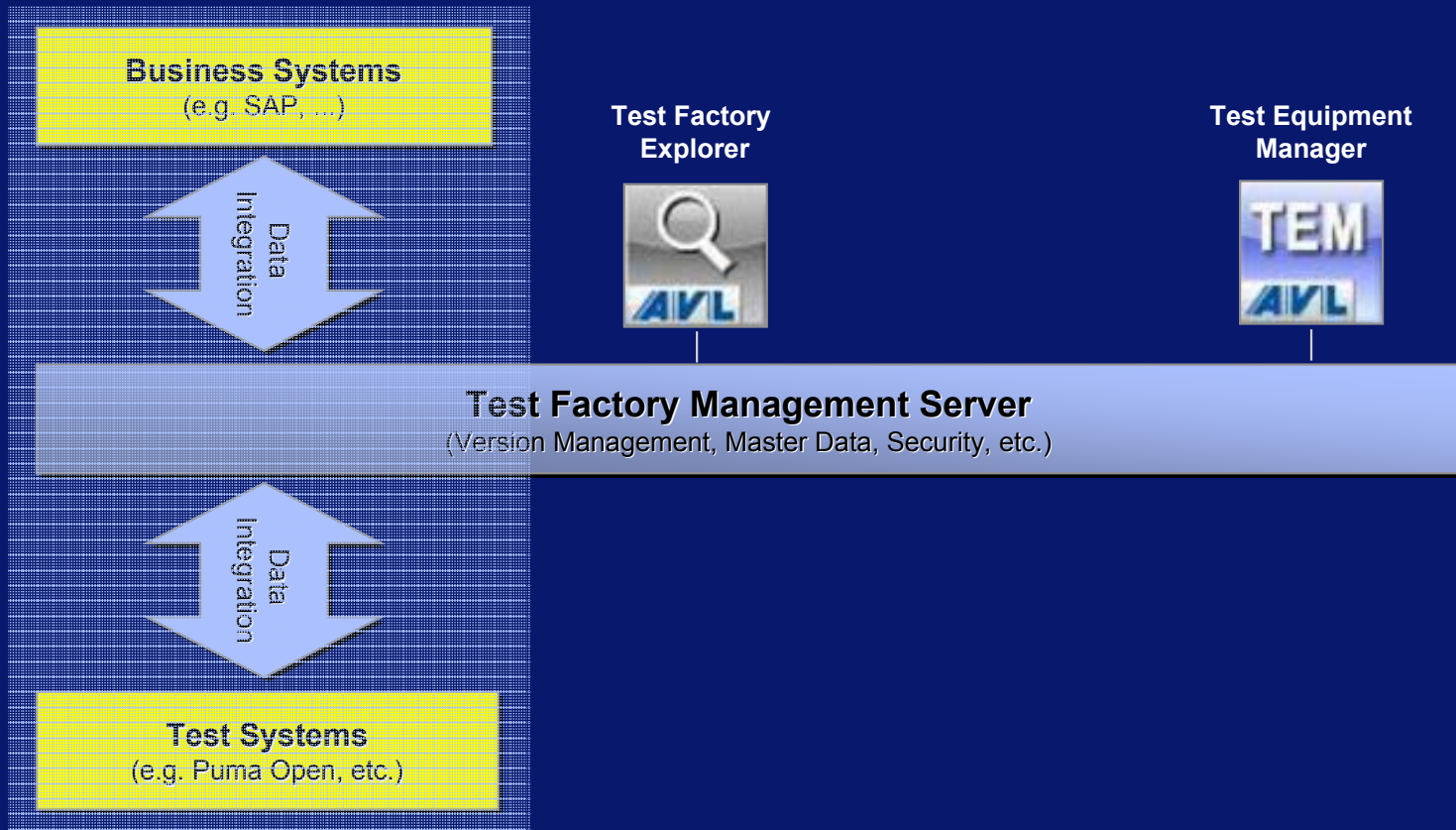


Electronic  
Logbook



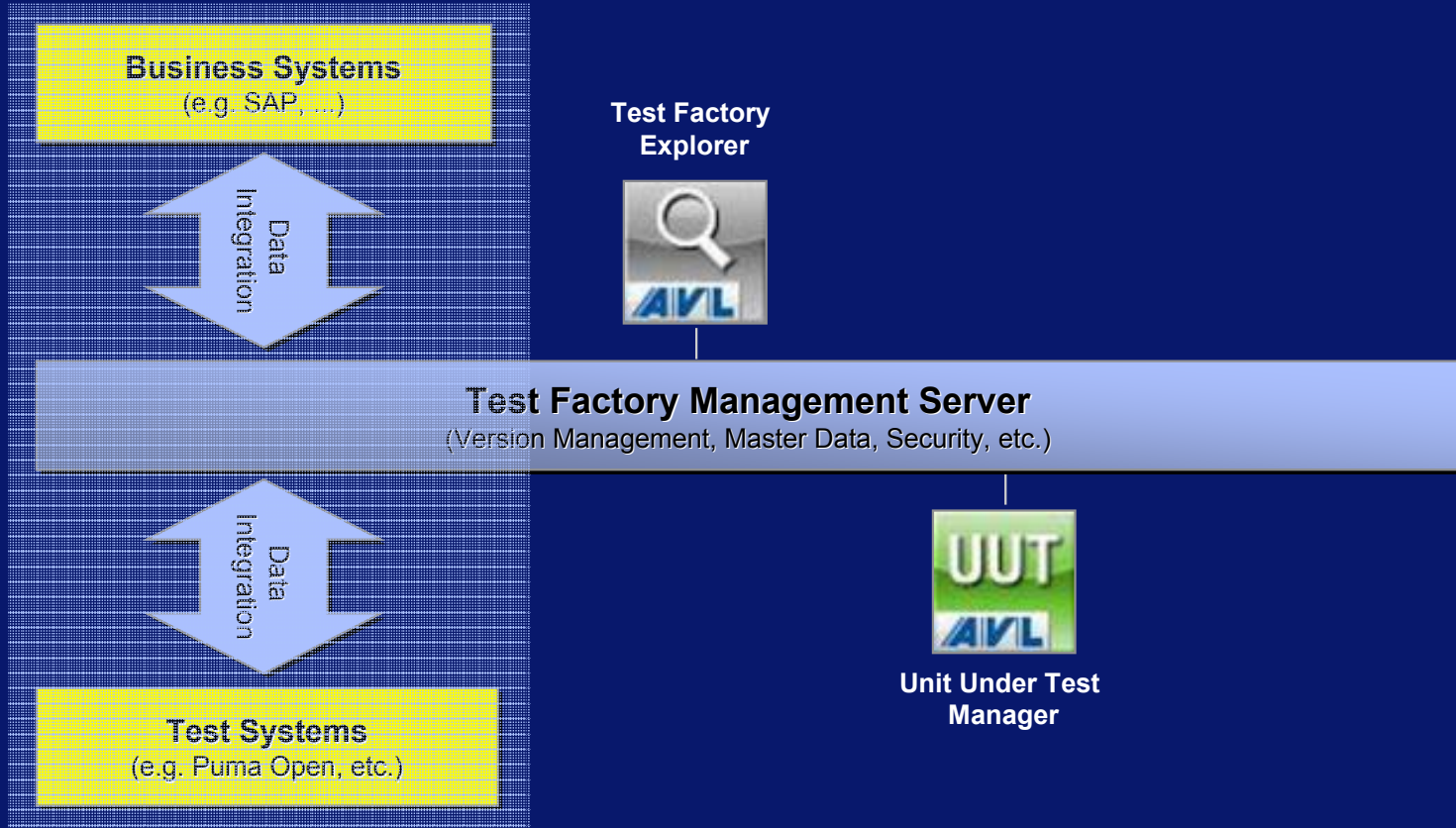
# TFMS Implementation Scenarios

## TEM Only



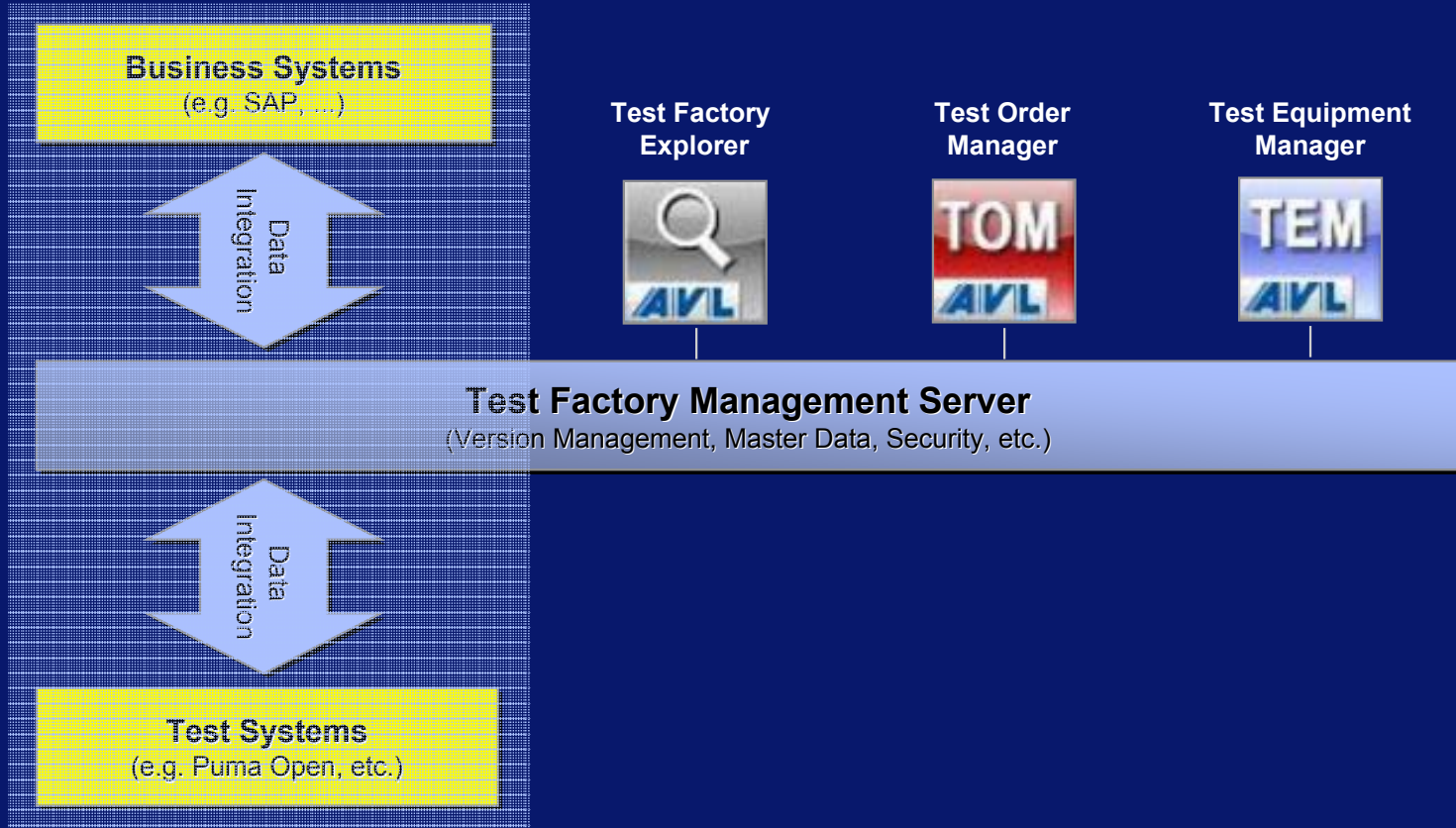
# TFMS Implementation Scenarios

## UUT Only



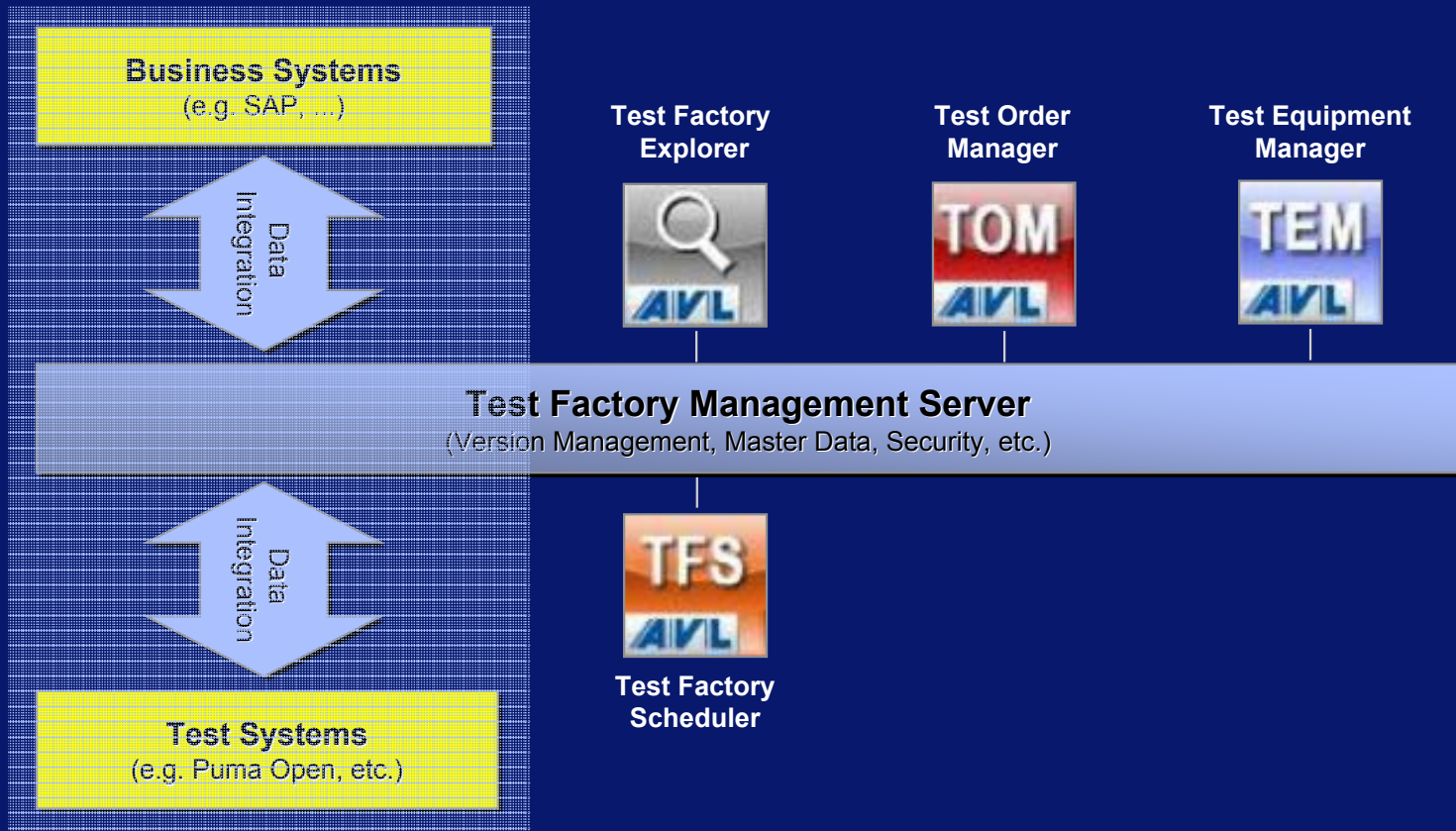
# TFMS Implementation Scenarios

## TOM Only without Scheduling



# TFMS Implementation Scenarios

## TOM Only including Scheduling



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