Technical Report

of

Modifications

Z10 108316 0001 Rev. 00

**Software Tool
IPLM & VersIC**

Applicant

Perforce Software Inc.
400 North First Avenue
Minneapolis, MN 55401
USA

Report No.: PM105331T

Version 1.0 of 2025-07-28

Testing Laboratory for Safety Components

TÜV SÜD Rail GmbH
Rail Automation
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phone: +49 89 5791-2285, fax: +49 89 5791-2933   2025-07-28
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Modification History

Rev.	Status	Date	Author	Modification / Description
1.0	draft	2025-07-22	Cano Brian Dominik Zuerrer	Initial
	active	2025-07-28	Adrian Spalinger	Review and release

Table 1:   Modification history

List of Abbreviations

Abbreviation	Description
SIL	Safety Integrity Level
HFT	Hardware Fault Tolerance
SFF	Safe Failure Fraction
PFH	Probability of Failures per Hour
FSM	Functional Safety Management
ROC	Report on the Certificate
TR	Technical Report
TRM	Technical Report of Modifications

Table 2:   Abbreviations

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1 Description of Modifications

In May 2025, Perforce Software Inc. requested TÜV SÜD Rail GmbH to test and certify below listed modifications of IPLM & VersIC. The related project number is 717532558.

The product owner was previously the company Methodics, Inc. and changes to Perforce Software Inc.. In the same step, the previously named product Percipient changes to IPLM & VersIC. The previously known product VersIC Custom Compiler is no longer part of the scope of certification and is removed.

This Technical Report of Modifications (TRM) covers the following modification subtasks of IPLM & VersIC:

Task	Modification Description
Subtask 1	Recertifcation and update of Z10 certificate 1. new version Cadence Virtuoso (CDS) 2. new API support (Keysight ADS)
Subtask 2	Branding updates for product name and company

Table 3:   Modification description of subtasks

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2 Purpose of the Technical Report of Modifications

This report presents the modifications and the review results related to the certified product IPLM & VersIC. Therefore the testing is restricted to the modifications mentioned in chapter 1 and documented in chapter 3, regarding the standards listed in chapter 2.4.

2.1 Existing Certification Documentation – prior to Modification

The Software Tool IPLM & VersIC is already certified. The previously tested versions and the existing results of testing performed by TÜV SÜD prior to this modification have been documented in:

Ref.	Document	Document number	Rev.
/C1/	Certificate Methodics, Inc.	Z10 108316 0001 Rev. 00	
/C2/	Technical Report Percipient	MS95111T	1.0

Table 4: Existing certification documentation

2.2 Objectives

Based on the results of former testing activities (see chapter 2.1) of TÜV SÜD, the modifications (see chapter 1) of the IPLM & VersIC were examined.

The amount of the necessary activities and the phases of the existing safety lifecycle which need to be repeated were analysed and documented by Perforce Software Inc. and reviewed by TÜV SÜD.

2.3 Quality Management System

No.	Reference	Description
[M1]	QMS	Quality Management System TÜV SÜD Rail GmbH
	TR_RA_P_04.50	Test Program Functional Safety & Cybersecurity TR_RA_P_04.51 Definition Scope of testing TR_RA_P_04.52 Concept Phase & Safety Lifecycle TR_RA_P_04.53 Detail Phase Hardware TR_RA_P_04.54 Detail Phase Software TR_RA_P_04.55 Safety Manual TR_RA_P_04.56 Result of Testing
[M2]	D-PL-11190-08-00	DAkkS accreditation according to DIN EN ISO 17025:2018 / EN ISO/IEC 17025:2017

Table 5: Quality management system

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2.4 Standards

Evaluation of the modifications was performed in accordance with the standards and guidelines mentioned in the report referenced in the Table 4: Existing certification documentation above.

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3 Documentation and Results of the Review

The following chapters provide information about the impact of the product modification.

Based on impact analysis of Perforce Software Inc., TÜV SÜD Rail GmbH has assessed the mentioned modifications of the IPLM & VersIC.

The following chapters treat more general aspects of the product modifications, followed by the chapter "Modification Activities" of the subtasks.

3.1 Functional Safety Management and Fault Avoidance Measures

Not applicable. The tools are TCL1 therefore no further assessment is required.

3.2 System Failure Mode and Effects Analysis (System-FMEA)

Not applicable. The tools are TCL1 therefore no further assessment is required.

3.3 Quantitative Analysis

Not applicable for software tools.

3.4 Electrical Safety Tests

Not applicable for software tools.

3.5 Climatic Stress Tests

Not applicable for software tools.

3.6 Mechanical Stress Tests

Not applicable for software tools.

3.7 Electromagnetic Compatibility Tests

Not applicable for software tools.

3.8 Verification of the Degree of Protection

Not applicable for software tools.

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3.9 Modification Activities

Following chapters describe the subtask related modifications, including tables listing the related documents.

3.9.1 Assessment of Subtask 1

The modification is related to update of Z10 certificate since it expired on 2025-05-17.

The updates consist of:

1. Branding updates (Percipient → IPLM, Methodics → Perforce Software Inc)
2. For the new version (Cadence Virtuoso (CDS), verified via regression testing)
3. New API support (Keysight ADS, with no safety impact)

All other functionality remains unchanged from 2024.1. Any documentation not explicitly labeled 2024.1 corresponds to 2025.2, ensuring full traceability.

No.	Title	Document number / ID	Rev.	Date
The following documents were provided by Perforce Software Inc.:				
Design				
/D1/	IPLM & VersIC Impact Analysis.	IPLM & VersIC Impact Analysis.pdf	1.2	2025-06-27
/D2/	IPLM VersIC Safety Manual.	Perforce IPLM Safety Manual.pdf	1.6	2025-06-13
/D3/	VersIC ADS 2024.1 Release Notes.	VersIC ADS 2024.1 Release Notes screenshot.png	-	(2025-05-20)
/D4/	VersIC ADS 2024.1 Release Plan.	VersIC ADS 2024.1 Release Plan.pdf	-	(2025-05-20)
/D5/	VersIC ADS Design.	VersIC ADS Design.pdf	-	(2025-05-20)
/D6/	VersIC ADS Development & Demo Environment.	VersIC ADS Development & Demo Environment.pdf	-	(2025-05-20)
/D7/	VersIC ADS Jira ticket screenshots.	VersIC ADS Jira ticket screenshot 1.png VersIC ADS Jira ticket screenshot 2.png VersIC ADS Jira ticket screenshot 3.png	-	(2025-05-20)
/D8/	VersIC ADS MVP Requirements.	VersIC ADS MVP Requirements.docx	1	2024-08-26
/D9/	VersIC ADS Tool Behavior.	VersIC ADS Tool Behavior.pdf	-	(2025-05-20)
Testing				
/D10/	VersIC ADS Running Tests.	VersIC ADS Running Tests.pdf	-	(2025-05-20)
/D11/	VersIC Regression Testing.	VersIC Regression Testing.pdf	-	(2025-05-20)

Table 12: Documents provided for subtask 1

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Result:

No.	Title	Document number / ID	Rev.	Date
The following test documentation was issued by TÜV SÜD Rail GmbH:				
[R1]	Review Protocol	RP_ISO26262-2018_IPLMVersIC	2.0	2025-07-25

Table 13:   Test documentation for subtask 1

The modification described in this subtask was carried out and the verification and validation activities have shown that the changes did not raise any safety relevant objections. The approval of the modification of IPLM & VersIC shows that the test specimen is still compliant to the test basis defined in the Technical Report.

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3.9.2 Assessment of Subtask 2

The modification is related to the company name change and the product name change.

The updates consist of:

1. Branding updates (Percipient → IPLM, Methodics → Perforce Software Inc.)

No.	Title	Document number / ID	Rev.	Date
The following documents were provided by Perforce Software Inc.:				
Design				
/D12/	IPLM & VersIC Impact Analysis.	IPLM & VersIC Impact Analysis.pdf	1.2	2025-06-27

Table 14: Documents provided for subtask 2

Result:

No.	Title	Document number / ID	Rev.	Date
The following test documentation was issued by TÜV SÜD Rail GmbH:				
[R2]	Review Protocol	RP_ISO26262-2018_IPLMVersIC	2.0	2025-07-25

Table 15: Test documentation for subtask 2

The modification described in this subtask was carried out and the verification and validation activities have shown that the changes did not raise any safety relevant objections. The approval of the modification of IPLM & VersIC shows that the test specimen is still compliant to the test basis defined in the Technical Report.

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3.10 Updated Certification Documentation – after Modification

The results of testing of this modification of Software Tool IPLM & VersIC performed by TÜV SÜD are documented in:

Updated Certification Documentation			
Ref.	Document	Document number	Rev.
/C3/	New Certificate	Z10 108316 0001 Rev. 01	
/C4/	Report on the Certificate	PM105332C	1.0
/C5/	Technical Report of Modifications	This document	

Table 16: Updated certification documentation

3.11 Certified Product Versions

The modified IPLM & VersIC tested is identified by software version as follows:

Name	SW	Remarks
Perforce IPLM	2025.2	-
Perforce VersIC CDS	1.10.96	-
Perforce VersIC ADS	2025.2	-

Table 17: SW identification of IPLM & VersIC

The report remains valid for upcoming tool versions as long as the changes do not affect the use cases of the tool and the derived TCL.

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4 Approval by the Technical Certifier

Decision:	Yes	No	Remark
Do the documented changes have an impact to the product safety concept?	☐	☑	
Is the compliance of the product to the standards mentioned in the certification documentation still given?	☑	☐	
Does the modification imply an update of the related certification documentation (e.g. Annex, Report on the Certificate and Certificate)?	☑	☐	ROC and certificate

Table 18:   Approval by the Technical Certifier

Management   Project Manager

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