AC500 V3 Static Code Analysis

Best practice webinar

Ben Schroeter, Global Product Manager – AC500 Software
Dominik Franz, Global Technical Support
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Ben Schroeter
Global Product Manager – AC500 Software

Dominik Franz
Global Technical Support

Synopsis:
Static Code Analysis is an Add-On feature for V3 PLCs. It helps to improve the quality and robustness of the code

Objectives:
• Specifying coding guidelines
• Checking naming conventions
• Calculate metrics
• Reduce code clones
1 Introduction into Static Code Analysis

2 Hands-on session
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Introduction

What is static code analysis

- Static analysis is generally good at finding coding issues such as
  - Programming errors
  - Coding standard violations
  - Undefined values
  - Unreachable code

- Characteristics
  - Offline and application independent analysis of code
  - Typically, it is an automated process

Why?

- **Early detection of issues**
  Potential issues become visible in an early stage, allowing them to be addressed before they become bigger problems.

- **Better code quality**
  Static analysis helps identify coding standards violations and other issues that can impact code quality.

- **Better collaboration**
  Following coding guidelines makes it easier to share and understand code from other developers

- **Reduced cost**
  Good quality code without formal errors reduces cost especially during maintenance and debugging.
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Availability

Static analysis light

- Installation by default
- No need for additional licenses
- But: limited number of compile checks only:

![Static Analysis Light]

Professional static code analysis

- Installation via dedicated option: “Professional Static Analysis”
- More than 100 different compile checks
- Checking for naming conventions
- Metrics for showing coding KPIs
- Subject to licensing (demo licenses available on request):
  - DM210-PSA (1SAS010010R0102, single license)
  - DM217-PSA-NW (1SAS010017R0102, network license)
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