



# Understanding Performance Problems

Does this sound familiar? Your application is doing what it is supposed to do, but here and there, the performance leaves a lot to be desired? You have already performed profilings and identified performance-critical applications, programs and statements, but where exactly the problems come from, which dependencies exist, etc. is not clear to you?

### Understanding Performance Problems with AMELIO Logic Discovery



AMELIO Logic Discovery is an innovative analysis tool that helps you to better understand your native and generated COBOL, PL/I and Delta ADS applications and to comprehensively ensure the relevant functionality. In doing so, AMELIO

Logic Discovery offers a comprehensive set of general and language-specific analyses. The analyses and the presentation of their results can be customized for specific customers, projects and tasks.

To understand the cause of performance problems, AMELIO Logic Discovery has been extended. In addition to all sources of the application, the results of your profiling evaluation also flow into the analysis.

### A Question of Perspective

To understand the performance problems, AMELIO Logic Discovery presents the findings from the analyses in different degrees of abstraction and from different perspectives, starting with an overview and ending with the details.

### From a Bird's Eye View - an Overview

At the top level, AMELIO Logic Discovery provides an overview of which programmes are contributing to the performance problems after evaluating the profiling analyses, e.g.:

- ? Which main programs are the entry point to performance-critical applications?
- **?** Which programs are performance-critical?
- **?** Which programs contain performance-critical I/O accesses? And from which copybooks, includes or macros do they originate?



Critical points at first glance.





#### **Interrelations and Dependencies**

On the next level, AMELIO Logic Discovery then shows the interrelations and dependencies of the programs, even those that are not so easy to see with the naked eye. The interrelations and dependencies are shown in different interactive perspectives so that the problem can be viewed from different angles.

# From the perspective of a performance-critical application

- ? Which programs belong to the application? And under what condition can they be performed?
- **?** Which performance-critical subroutines are part of the application? Are these always performed or only in certain cases?
- **?** Which sub-programs with performance-critical I/O statements occur in the application? And when are they called?
- **?** Which (possibly) critical paths does the application contain?

ART1

ART2

ART4

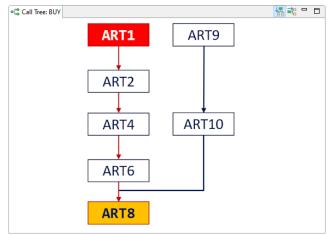
ART6

ART7

ART8

Conversely, from the point of view of a critical sub-program or a sub-program with critical I/O statements

- **?** To which applications does the program belong? Have all entry programs of the applications been marked as performance-critical?
- **?** Which critical paths lead to the program? And which other programs are passed through on these paths?



# Understanding Performance-critical Programs

For all programs, but especially for critical programs, AMELIO Logic Discovery provides the opportunity to dive deeper into them without having to look at the source code. Procedures and logical groups are analyzed - even for COBOL - and their call relationship as well as the conditions leading to the call, are clearly displayed. Control flows illustrate the flows within procedures. And much more.





### Performance-critical I/O Statements

Profiling can also identify I/O statements as critical. In this case, AMELIO Logic Discovery provides answers to the following questions, among others

- **?** From which program does the critical statement originate?
- ? Does the statement originate from a copybook or include? And if so, in which programs does it occur?
- **?** If the critical I/O statement is contained in a subroutine, which entry-level programs lead to the performance of the subroutine or critical statement?
- **?** Which condition must be fulfilled for the statement to be performed?

### **Recognizing recurring Patterns**

There are code patterns that are known to be inefficient in terms of performance, yet they are regularly found in code. Such generally valid or customer-specific patterns can be defined and reliably identified by AMELIO Logic Discovery.

### Get to the Root of your Performance Problems

You want to finally understand the performance problems of your application and get to the root of the problem? Then get in touch with us and test how AMELIO Logic Discovery can help you with your task.





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#### **AMELIO Logic Discovery**

Understand COBOL and PL/I applications: Reduce costs and risks for maintenance, modernization, and new implementations.

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