

Topic 40: Debugging information and DWARF

In our presentation we will discuss debugging information, and its usefulness in the development of modern applications. During compilation a lot of information is lost, such as variable names, their storage, number of lines or function names and arguments. However, this information is needed to properly debug applications. To preserve this data, we can use a standardized format such as DWARF, STABS or PDB used on Windows.

We will present the DWARF format, which is currently the most used on Linux/Unix operating system. We will describe the structure of DWARF as a tree of individual debugging entries. We will also present the advantages and disadvantages of the format itself.

In the second part of our presentation we will show the use of DWARF in a real-world example, how the debugger uses the debugging information to reconstruct the program flow, and how the end user benefits from it.