Pre-compiling Parallel Algorithms for Compilers into a Network

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Abstract

The paper presents a novel pre-compiler approach by introducing several algorithms to solve the NP-hard problem. The paper address the challenge of transferring a large number of files from a data center (DC), encrypt it using compilers and send it through a network in the optimum time possible. Due to the high usage of big data, one compiler is not sufficient to encrypt such data in a timely manner. In order to achieve high efficiency of sending encrypted data while guarantee security and time efficiency, a new novel architecture of two parallel compilers is proposed. The running time of a given application is calculated through program instructions running time, memory allocation time and the compilation time. To have an appropriate running time it is important to choose an efficient algorithm to schedule files to compilers. Several algorithms will be coded and experimented to show the performance in time and gap.

Full Text

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Figures

Figure 1

Data sent process

Figure 2

The reception process component

Figure 3

Files-compilers dispatching for example 1.