

Generic Distributed Exact Cover Solver

Jan Magne Tjensvold

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Chapter 1

Introduction

1.1 Related work

1.2 Paper organization

This paper is organized into several chapters. Chapter 2 describes the Dancing Links algorithm. Chapter 3 explains the concept of Grid computing. Chapter 4 discusses different aspects of the implementation. Chapter 5 describes the test results with the system and Chapter 6 concludes this paper.

1.3 Architecture

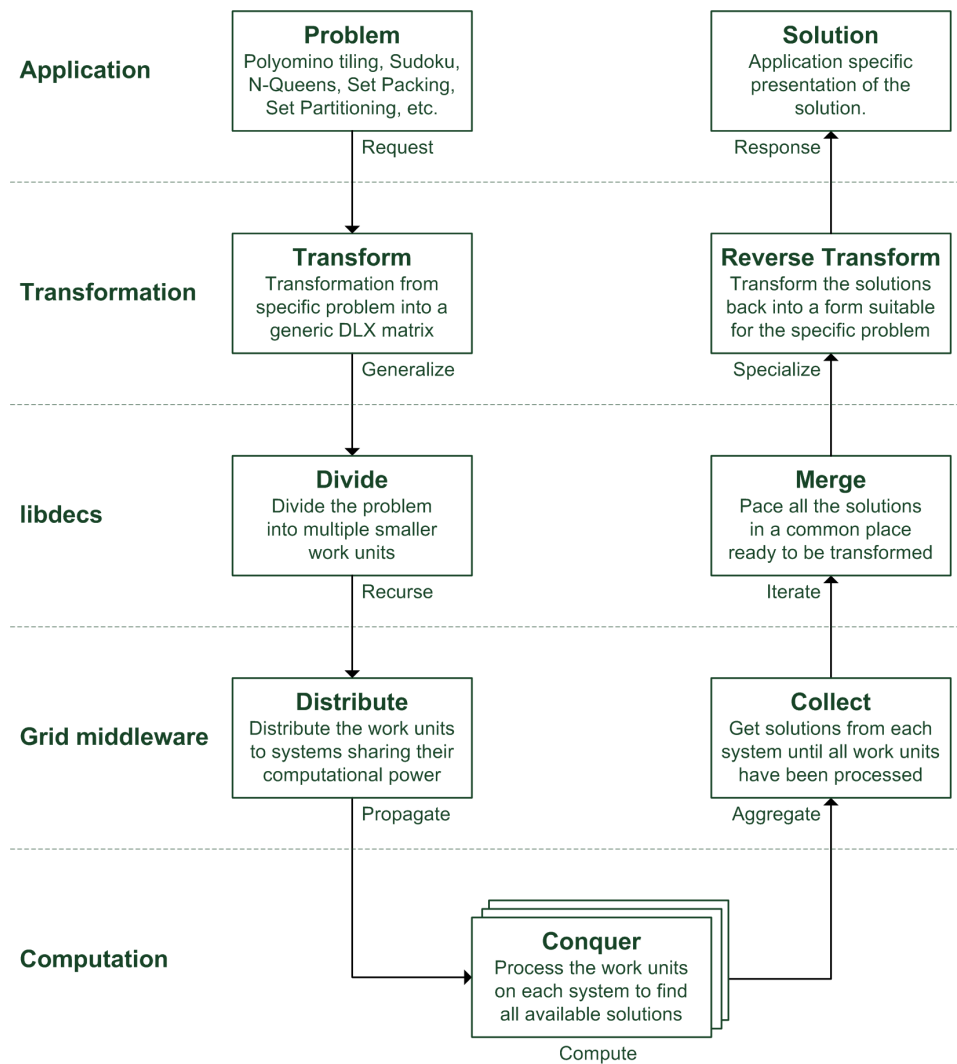


Figure 1.1: Architecture of the Distributed Exact Cover Solver system

Chapter 2

Dancing Links

2.1 Background

2.2 Exact cover

Chapter 3

Grid computing

3.1 History

3.2 Applications

3.3 BOINC

Chapter 4

Implementation details

4.1 File format

4.1.1 Storing sparse boolean matrices

4.2 Transforms

4.2.1 N-Queens

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4.3 libdecs

4.4 BOINC

4.4.1 Architecture

4.5 libdlx

Chapter 5

Test results

5.1 Performance

Chapter 6

Conclusion

6.1