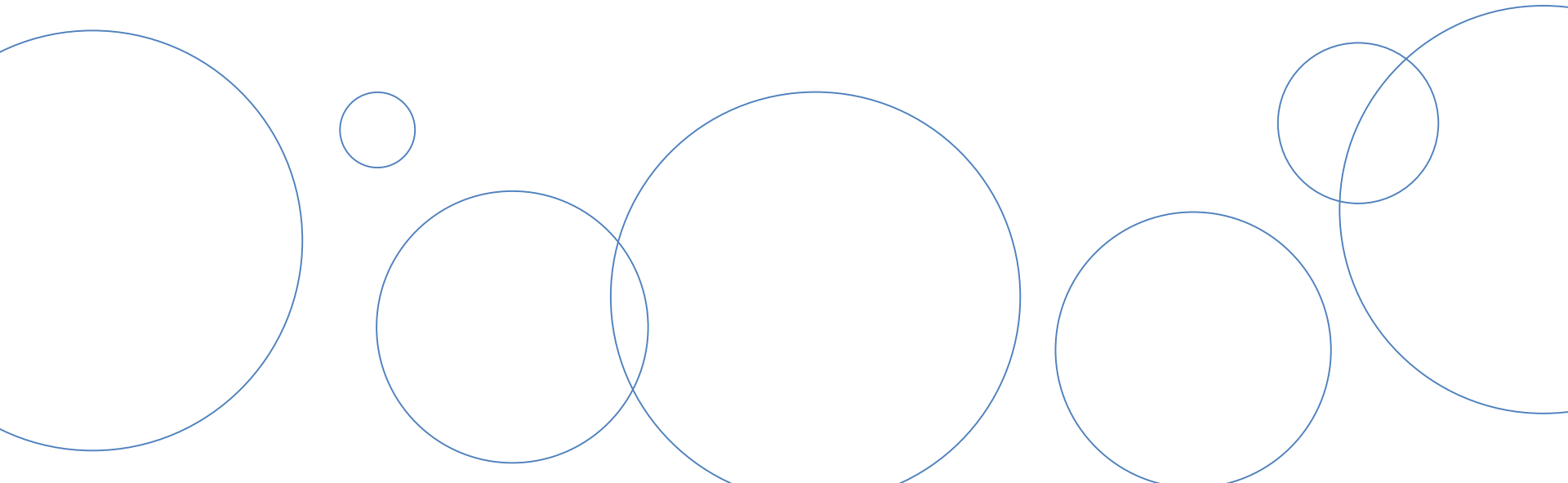
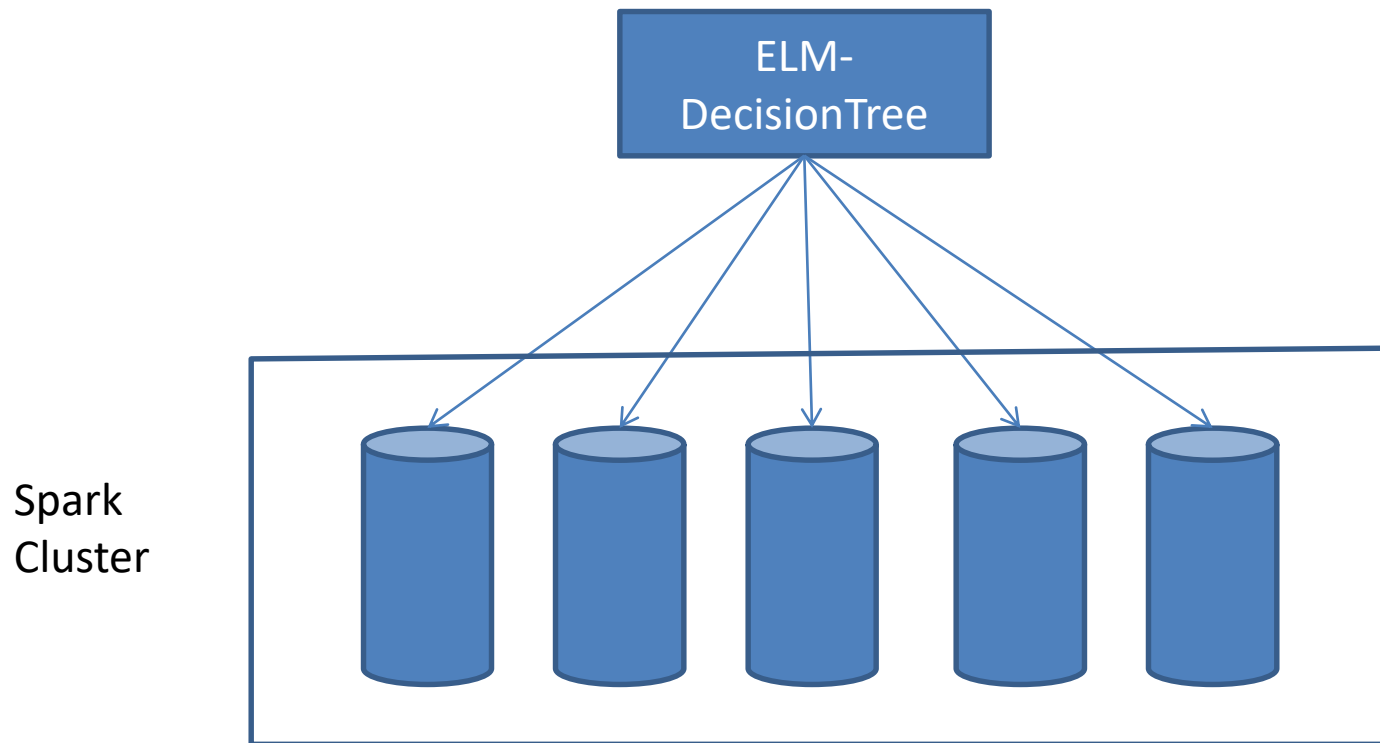


# Performance Analysis of Parallel Algorithms



# What we have done.



# Some metrics

**I. Speedup**

**II. Parallel efficiency**

**III. Scalability**

# Speedup

Speedup is a number that measures the relative performance of two systems processing the same problem.

The speedup can be denoted by :

$$S_p = \frac{T_l}{T_n}$$

$T_l$  :Running time of serial program

$T_n$  :Running time of parallel program

# Parallel efficiency

Parallel efficiency:

$$E_p = \frac{S_p}{N}$$

$S_p$  :Speedup

$N$  :Number of threads for parallel programs

# Scalability

Scalability represents the performance of parallel programs, when changing the scale of a problem or the number of processing units.

## **good scalability:**

If the scale of the problem and the number of processors increase, the program maintains the same parallel efficiency or has a higher parallel efficiency.

**Thanks**

