# Towards Efficient Algorithms for Constraint Satisfaction Problems

Poster = Goal_1DL451_work_at_weekend

Huu-Phuc Vo, Uppsala University, Sweden

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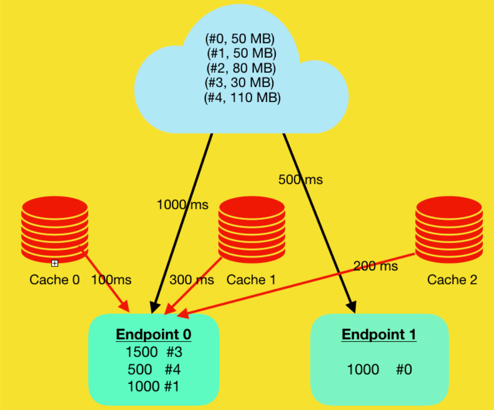
## MiniZinc

A Constraint-Based Modelling Language for Satisfaction and Optimisation Problems With Independent Solving Technologies Which Supports for Diverse Technologies [Nethercote Et. Al, CP 2007]

## Example

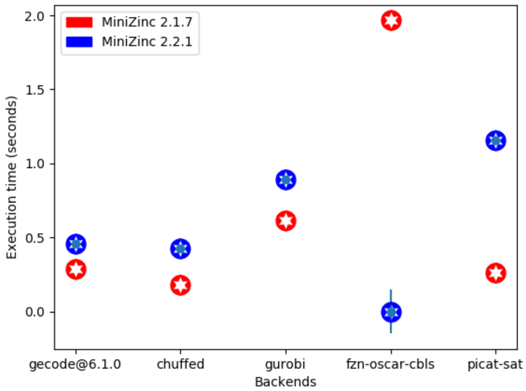


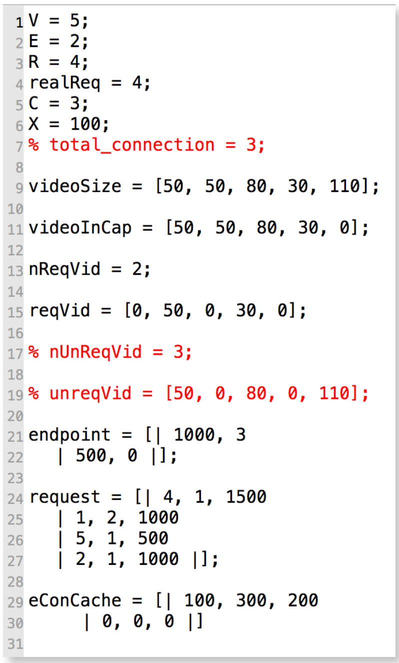
## Models

Model 1. Manually implement constraints:
Add constraints to perform the requested video allocations, and the capacity of each cache servers.

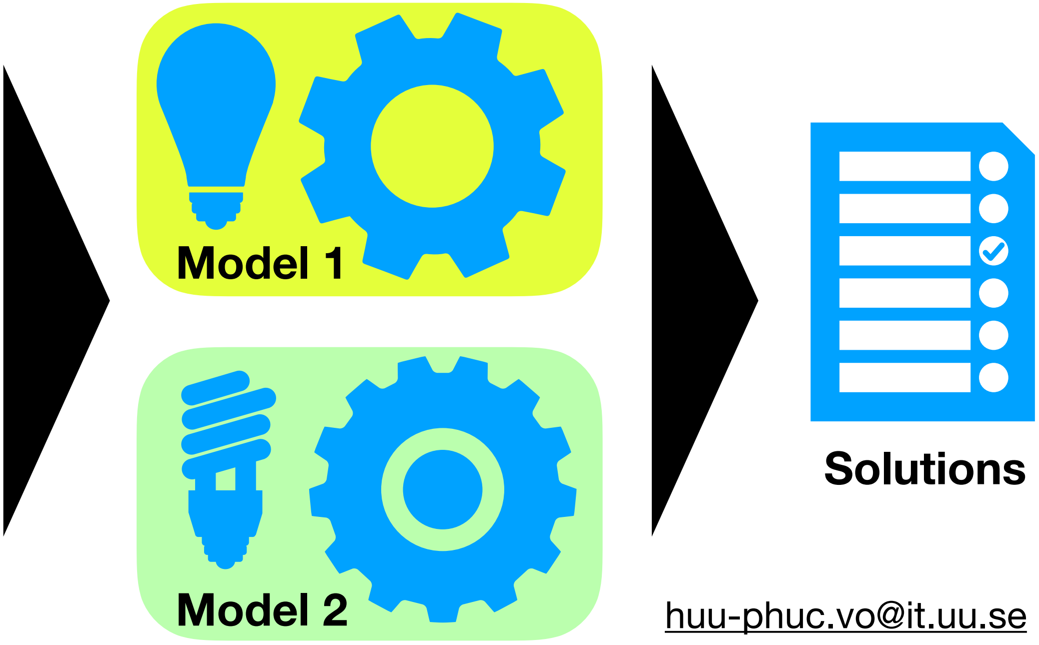
Model 2. Use global constraint:
Use bin_packing_load(load, bin, w) constraint to allocate the requested videos in cache servers connecting to clients

## Experiments





```
V = 5;
E = 2;
R = 4;
realReq = 4;
C = 3;
X = 100;
% total_connection = 3;

videoSize = [50, 50, 80, 30, 110];

videoInCap = [50, 50, 80, 30, 0];

nReqVid = 2;

reqVid = [0, 50, 0, 30, 0];

% nUnReqVid = 3;

% unreqVid = [50, 0, 80, 0, 110];

endpoint = [| 1000, 3
   | 500, 0 |];

request = [| 4, 1, 1500
   | 1, 2, 1000
   | 5, 1, 500
   | 2, 1, 1000 |];

eConCache = [| 100, 300, 200
      | 0, 0, 0 |]
```



huu-phuc.vo@it.uu.se