

# OneStepIntegrator and derived classes.

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## 1 Introduction

This document is only a sequel of notes and remarks on the way OneStepIntegrators are implemented in Siconos.

It has to be completed, reviewed, reorganized etc etc for a future Developers' Guide.

See also documentation in Doc/User/OneStepIntegrator for a description of various OSI.

## 2 Class Diagram

## 3 Misc

OSI review for consistency between Lsodar and Moreau:

- add set of DynamicalSystem\*
- add set of Interaction\*
- add link to strategy that owns the OSI
- remove td object in OSI -> future: replace it by a set of td (one per ds)
- add strat in constructors arg list

osi -> strat -> Model -> nsds -> topology

osi -> strat -> timeDiscretisation

let a timeDiscretisation object in the OSI? set of td (one per ds)?  
create a class of object that corresponds to DS on the simulation side ?  
will contain the DS, its discretization, theta for Moreau ... ?  
Allow setStrategyPtr operation? Warning: need reinitialisation.

Required input by user:

- list of DS or list of Interactions ?
- pointer to strategy
- ...

## 4 Construction

Each constructor must:

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## 4.1 Moreau

Two maps: one for  $W$ , and one for  $\theta$ . To each DS corresponds a  $\theta$  and a  $W$ .  
Strategy arg in each constructor.

**Required data:**

**Optional:**

**Always allocated in constructor:**

**Warning:** default constructor is always private or protected and apart from the others and previous rules or remarks do not always apply to it.

## 4.2 Lsodar

**Required data:**

**Optional:**

**Always allocated in constructor:**