

# Contents

|                            |          |
|----------------------------|----------|
| CONTEXT <b>WeekContext</b> | <b>2</b> |
| MACHINE <b>Prune</b>       | <b>3</b> |

**CONTEXT** WeekContext

**CONSTANTS**

MAX\_TIME

MAX\_POINTS

to\_week

**AXIOMS**

**axm0:**  $MAX\_TIME \in \mathbb{N}$

Seconds from 1970-01-01 00:00:00

**axm1:**  $MAX\_TIME = 10 * 365 * 24 * 3600$

Years of seconds....

**axm2:**  $MAX\_POINTS \in \mathbb{N}$

**axm3:**  $MAX\_POINTS = 1000000$

One million snapshots

**axm11:**  $to\_week \in \mathbb{N} \rightarrow \mathbb{N}$

Map second to week nr. Week 0 began on 1970-01-01

**END**

**MACHINE** Prune**SEES** WeekContext**VARIABLES**

points\_in\_time

**INVARIANTS**invpnt1:  $points\_in\_time \subseteq \mathbb{N}$ invpnt2:  $finite(points\_in\_time)$ **EVENTS****Initialisation****begin**act1:  $points\_in\_time := \emptyset$ **end****Event** addPoint  $\langle ordinary \rangle \hat{=}$ **any**

p

**where**grd1:  $p \in \mathbb{N}$ grd2:  $p \notin points\_in\_time$ **then**act1:  $points\_in\_time := points\_in\_time \cup \{p\}$ **end****Event** prune  $\langle ordinary \rangle \hat{=}$ **any**

weeks

keep\_in\_weeks

**where**grd1:  $points\_in\_time \neq \emptyset$ grd2:  $weeks = \{w, p \cdot p \in points\_in\_time \wedge w = to\_week(p) | w\}$ grd3:  $keep\_in\_weeks = \{w \cdot w \in weeks | max(\{x \cdot x \in points\_in\_time \wedge w = to\_week(x) | x\})\}$ **then**act1:  $points\_in\_time := keep\_in\_weeks$ **end****END**