Towards an Abstract Framework for Business Process Regulatory Compliance

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\[ \Theta(P, \text{ann}) \]

- \(((\text{start}, \{\emptyset\}), (t_1, \{a\}), (t_3, \{a, c, d\}), (t_4, \{\neg a, c, d\}), (\text{end}, \{\neg a, c, d\}))\)
- \(((\text{start}, \{\emptyset\}), (t_2, \{b, c\}), (t_3, \{b, c, d\}), (t_4, \{\neg a, b, c, d\}), (\text{end}, \{\neg a, b, c, d\}))\)
- \(((\text{start}, \{\emptyset\}), (t_3, \{c, d\}), (t_1, \{a, c, d\}), (t_4, \{\neg a, c, d\}), (\text{end}, \{\neg a, c, d\}))\)
- \(((\text{start}, \{\emptyset\}), (t_3, \{c, d\}), (t_2, \{b, c, d\}), (t_4, \{\neg a, b, c, d\}), (\text{end}, \{\neg a, b, c, d\}))\)
Obligations

Types of Obligations

- single
- set
- local
- global
- compensation
- atomic

Basic Problem
Definition (Process Obligation Compliance)

Given an annotated process \((P, \text{ann})\) and an obligation \(\varnothing\).

- **Full Compliance** \((P, \text{ann}) \vdash^F \varnothing\):
  \[\text{if } \forall \theta \in \Theta(P, \text{ann}), \theta \vdash \varnothing.\]

- **Partial Compliance** \((P, \text{ann}) \vdash^P \varnothing\):
  \[\text{if } \exists \theta \in \Theta(P, \text{ann}), \theta \vdash \varnothing.\]

- **Not Compliant** \((P, \text{ann}) \not\vdash \varnothing\):
  \[\text{if } \neg \exists \theta \in \Theta(P, \text{ann}), \theta \vdash \varnothing.\]
Thanks : )