Estimation and Optimization of the Performance of Polyhedral Process Networks

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Notation

$\lvert \cdot \rvert$	Cardinality: $\lvert\mathcal{S}\rvert \equiv$ the number of elements in $\mathcal{S}$, page 20.
$[\cdot, \cdot)$	Interval: $[a, b) = \{x \in \mathbb{Z} \mid a \leq x < b\}$.
$\lceil \cdot \rceil$	Least integer: $\lceil x \rceil = n \Leftrightarrow n \in \mathbb{N} \wedge n - 1 < x \leq n$.
$\cdot \prec \cdot$	Lexicographical order, page 18.
D_p	Iteration domain of process p, page 27.
$d(e)$	Number of initial tokens on edge e, page 22.
δ_c	Process reading from channel c, page 27.
$\mathcal{E}$	The set of channels of a PPN, page 27.
II_F	Initiation interval of function F, page 38.
IPD_i^k	k-th Input Port Domain of process i, page 27.
Λ_F	Latency (input-to-output delay) of function F, page 38.
M_c	Channel relation of channel c, page 27.
$\mathbb{N}$	The set of natural numbers, including 0.
$\mathbb{N}^+$	The set of positive natural numbers, excluding 0.
OPD_i^k	k-th Output Port Domain of process i, page 27.
$\mathcal{P}$	The set of processes of a PPN, page 27.
$\mathbb{Q}$	The set of rational numbers.
σ_c	Process writing to channel c, page 27.
T_p	Period of a process p, page 55.
$t(a)$	Execution time of data flow node a, page 22.
τ_p	Throughput of a process p, page 55.
$\theta(\mathbf{i})$	Application of schedule θ to iteration vector $\mathbf{i}$, pages 111, 112.
$\mathbb{Z}$	The set of integers.