97-0611
Modifications to the Latency Section of Performance Testing Baseline Text

Gojko Babic, Arjan Durresi, Raj Jain, Justin Dolske,
The Ohio State University

Raj Jain is now at
Washington University in Saint Louis
Jain@cse.wustl.edu
http://www.cse.wustl.edu/~jain/

Overview

- More precise measurement procedures
- Complete list and description of foreground and background traffic characteristics
- Scalable test configurations
- Reporting requirements

Latency Measurement

- Precise procedure description
- Includes mean and standard deviations
- Various intensities of foreground traffic (0+%, 50%, 75%, 87.5%, ...)
- Various intensities of background traffic (0%, 50%, 75%, ... of max background load)

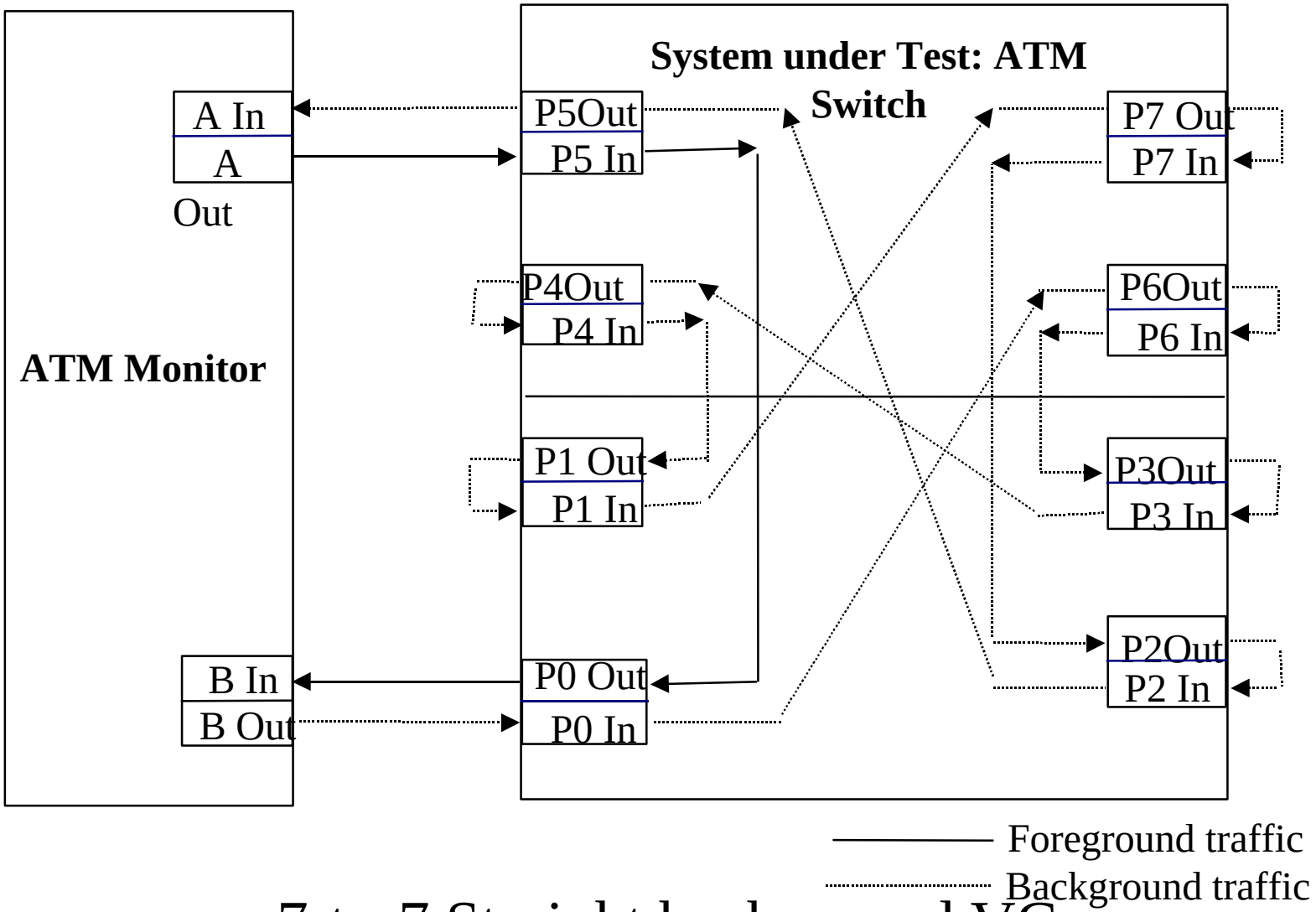
Foreground Characteristics

- Type of VCCs: PVP, SVP, **PVC**, SVC,
- VCCs between ports on same/**different modules**/fabrics.
  "Same module" may or may not be better.
- Service class: **UBR**, ABR
- Arrival patterns: **equally spaced frames**, self-similar, random
- Frame length: 64 B, **1518 B, 9188 B** or 64 kB, variable;
- Full foreground load (FFL)
- Input rate/FFL = $\mathbf{0}^{+}$, 0.5, **0.75**, ... $1-2^{-k}$, k = 1, 2, ...

Background Characteristics

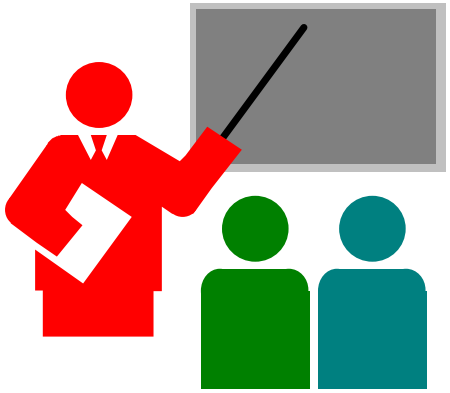
- Type of VCCs: PVP, SVP, **PVC**, SVC,
- VCCs between ports on same/**different modules**/fabrics
- Connection configuration: n-to-n straight,
  n-to-(n-1) full cross,
  n-to-m partial cross with m = 2, **3**, 4, ...,n-1
- Service class: **UBR**, ABR, **CBR**, and VBR
- Arrival patterns: **equally spaced frames**, self-similar, random
- Frame length: 64 B, 1518 B, **9188 B** or 64 kB, variable
- Maximum background load (MBL) = Σ Link Rates
- Input rate/MBL = **0**, 0.5, 0.75, **0.875**,... $1-2^{-k}$, k = 0, 1, 2, ...

Scaleable Test Configuration



7-to-7 Straight background VCs

Motion



- Adopt the text of 97-0611 to replace section 3.2 of Performance Testing Baseline Text.