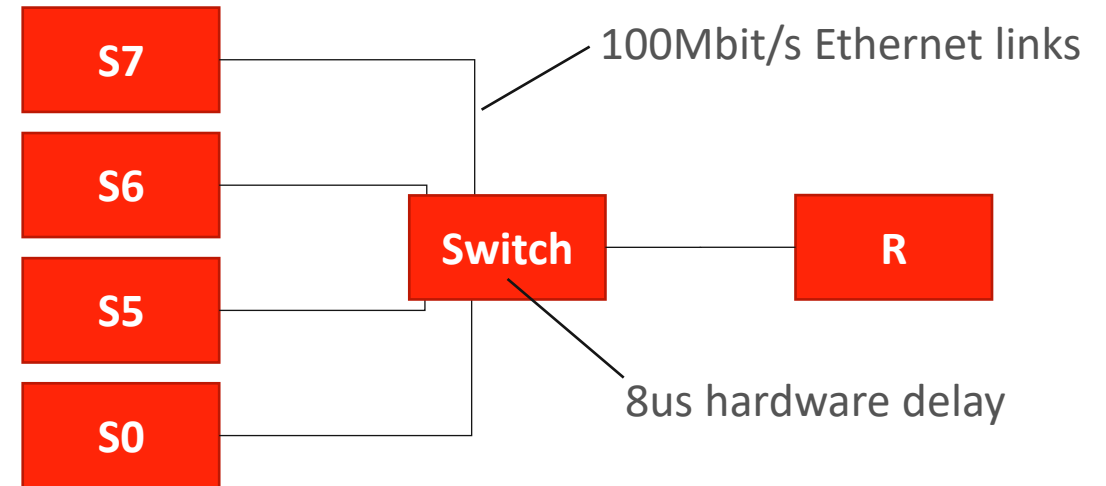# Network Definition CoRE4INET: examples/tsn/medium_network

- Oscillator
  - max_drift 200ppm
  - drift_change **uniform**(-**12.5**ppm,**12.5**ppm)
- DummySync
  - cycle 3ms
  - precision 500ns
- Queue
  - size = 4

100Mbit/s Ethernet links

8us hardware delay

Name	Sender	Receiver	Size (B)	Offset	Interval (us)	Priority	Shaping
CRITICAL	S7	R	L2: 1522	0s	300	7	-
HIGH	S6	R	L2: 322	0s	125	6	CBS SRCLASS A
MEDIUM	S5	R	L2: 322	1ns	250	5	CBS SRCLASS B
BEST EFFORT	S0	R	L2: 1518	0s	125	-	-

HAW HAMBURG

CoRE

Best/Worst Case CRITICAL(7)

- 8us
  - hardware delay

- 244.8us
  - 2x transmission (L1: 1530Byte)

- => **252.8us**

- 122.08us
  - BE Interference (L1: 1526Byte)

- 0.96us
  - IFG

- 8us
  - Hardware delay

- 244.8us
  - 2x transmission (L1: 1530Byte)

- => **375.84us**

HAW HAMBURG

CoRE

Simulation Results (4s) CRITICAL(7)

4s Simulation:

Count	13333	
Mean	2.985244671116778E-4	
StdDev	3.663349391817364E-5	
Min	2.5296E-4	=> 252.96us≈ **252.8us**
Max	3.7584E-4	=> 375.84us= **375.84us**

HAW HAMBURG

CoRE

Best/Worst Case HIGH(6)

- 8us
  - hardware delay
- 52.8us
  - 2x transmission (L1: 330Byte)
- => **60.8us**

- 244.48us
  - BE Interference (L1: 1526Byte)
  - CRITICAL Int. (L1: 1530Byte)
- 1.92us
  - 2x IFG
- 8us
  - Hardware delay
- 52.8us
  - 2x transmission (L1: 330Byte)
- => **307.2us**

Simulation Results (4s)
HIGH(6)

4s Simulation:

Count	32000		
Mean	1.61194955E-4		
StdDev	7.362117934390194E-5		
Min	6.08E-5	=> 60.8us	= **60.8us**
Max	3.072E-4	=> 307.2us	= **307.2us**

Best/Worst Case MEDIUM(5)

- 26.4us
  - HIGH Interference (L1: 330Byte)
- 0.96us
  - IFG
- 8us
  - hardware delay
- 52.8us
  - 2x transmission (L1: 330Byte)
- => **88.16us**

- 472.48us
  - BE Interference (L1: 1526Byte)
  - 2x CRITICAL Int. (L1: 1530Byte)
  - 4x HIGH Int. (L1: 330Byte)
- 6.72us
  - 7x IFG
- 8us
  - Hardware delay
- 52.8us
  - 2x transmission (L1: 330Byte)
- => **540us**

HAW HAMBURG

CoRE

Simulation Results (4s) MEDIUM(5)

4s Simulation:

Count	15999		
Mean	2.471058491780736E-4		
StdDev	1.0653374659967007E-4		
Min	8.8159E-5	+1ns Offset => 88.16us	= **88.16us**
Max	5.35999E-4	+1ns Offset => 536us	!! **540us**

Simulation Results
Worst Case MEDIUM(5)