

Table 1: Simulation Configuration

Parameter	Value	Reference
Simulation Time	02 days	-
Tuple characteristics	Table 2	[3,1,2,4]
RAM Module	10MB	
Fog Device characteristics	Table 3	
IoT device Latency	1 ms	
Gateway Latency	100 ms	
Sensor reading distribution	-Leak detector sensor: 1 detection/day. -Motion sensor: 1 detection/ 4-10 minutes. -Smoke sensor: 1 detection/3 hours.	Human activity trace
Failure Frequency	02 times / day	[6]
Failure Type	High Variance, Stuck-at	-
Failure Distribution	Uniform	CloudSimPlus ¹ , [5]
Failure Detection Time	Negligible	-
Time to repair Legacy solution	15-20 minutes	Orange Customer Care Service

Table 2: Tuple Characteristics

Tuple Type	CPU Length (MIPS)	N/W Length
MOTION	1000	2000
LIGHT_CONTROL	100	100
LEAK	2500	2000
VALVE_CONTROL	14	500
ALARM_CONTROL	14	100
SMOKE	2000	2000

References

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3. Mahmud, R., Pallevatta, S., Goudarzi, M., Buyya, R.: ifogsim2: An extended ifogsim simulator for mobility, clustering, and microservice management in edge and fog computing environments. *Journal of Systems and Software* **190**, 111351 (2022). <https://doi.org/https://doi.org/10.1016/j.jss.2022.111351>, <https://www.sciencedirect.com/science/article/pii/S0164121222000863>

Table 3: Resource Characteristics

Resource	Speed (MIPS)	RAM (GB)	Uplink (MBPS)	Downlink(MBPS)
Cloud	44800	40000	10000	10000
Gateways	500	1000	10000	10000

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5. Nita, M.C., Pop, F., Mocanu, M., Cristea, V.: Fim-sim: Fault injection module for cloudsim based on statistical distributions. Journal of telecommunications and information technology **4** (2014)
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