ATLANTIC-eVISION: Cross-Atlantic Experimental Validation of Intelligent SDN-controlled IoT Networks

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3rd Open Call

Objectives

- To test inter-testbed connectivity by performing experiments on EU and US testbeds
- To achieve automatic configuration of SDN/OpenFlow in Wireless Ad hoc Networks
- To achieve the best data-plane latency for an e-healthcare secure application
- Recover from a failure when it occurs in a network

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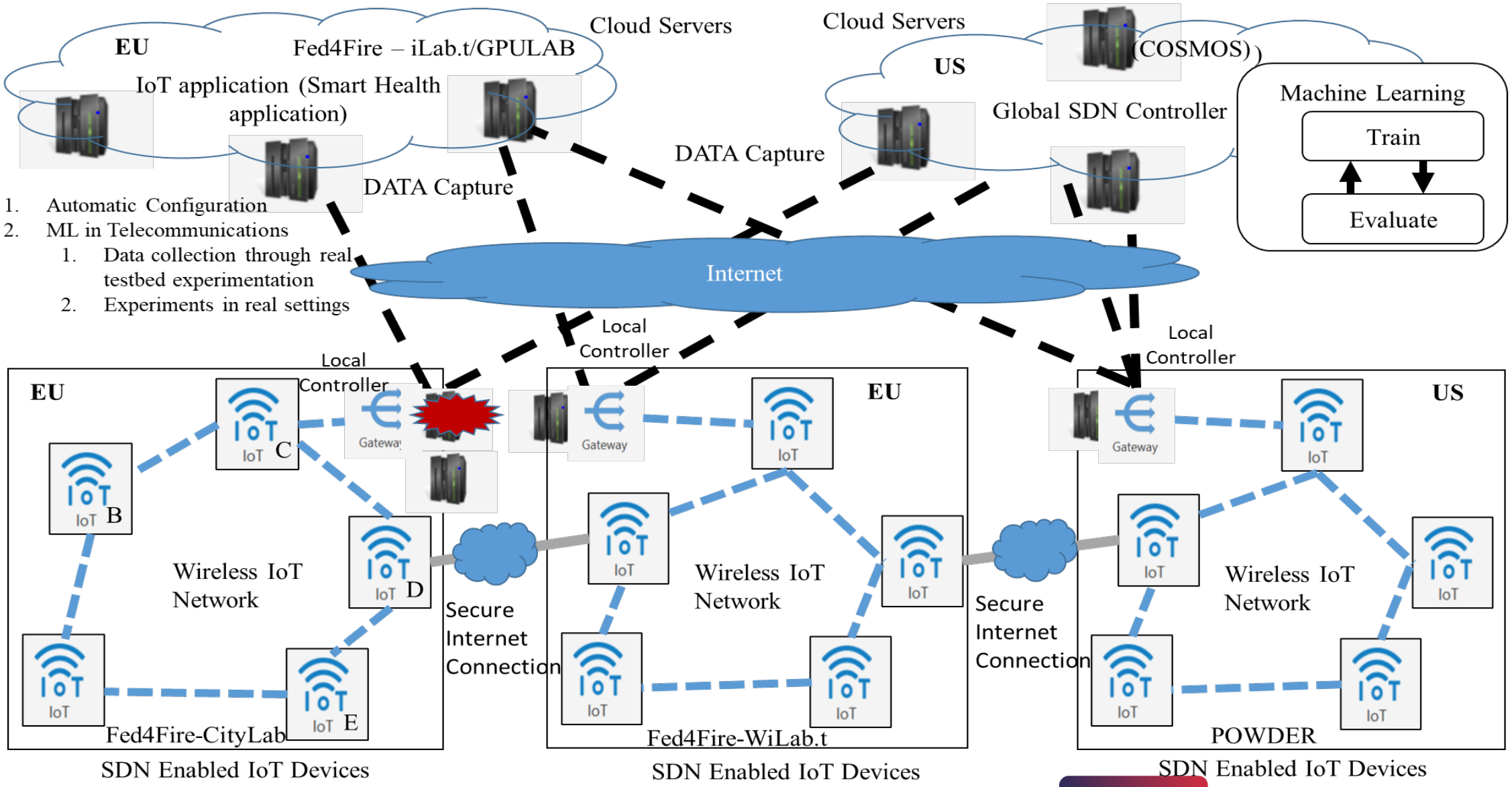
ML Assisted SDN Controlled IoT Experiment on EU-US Testbeds



1. Automatic Configuration
2. ML in Telecommunications
   1. Data collection through real testbed experimentation
   2. Experiments in real settings

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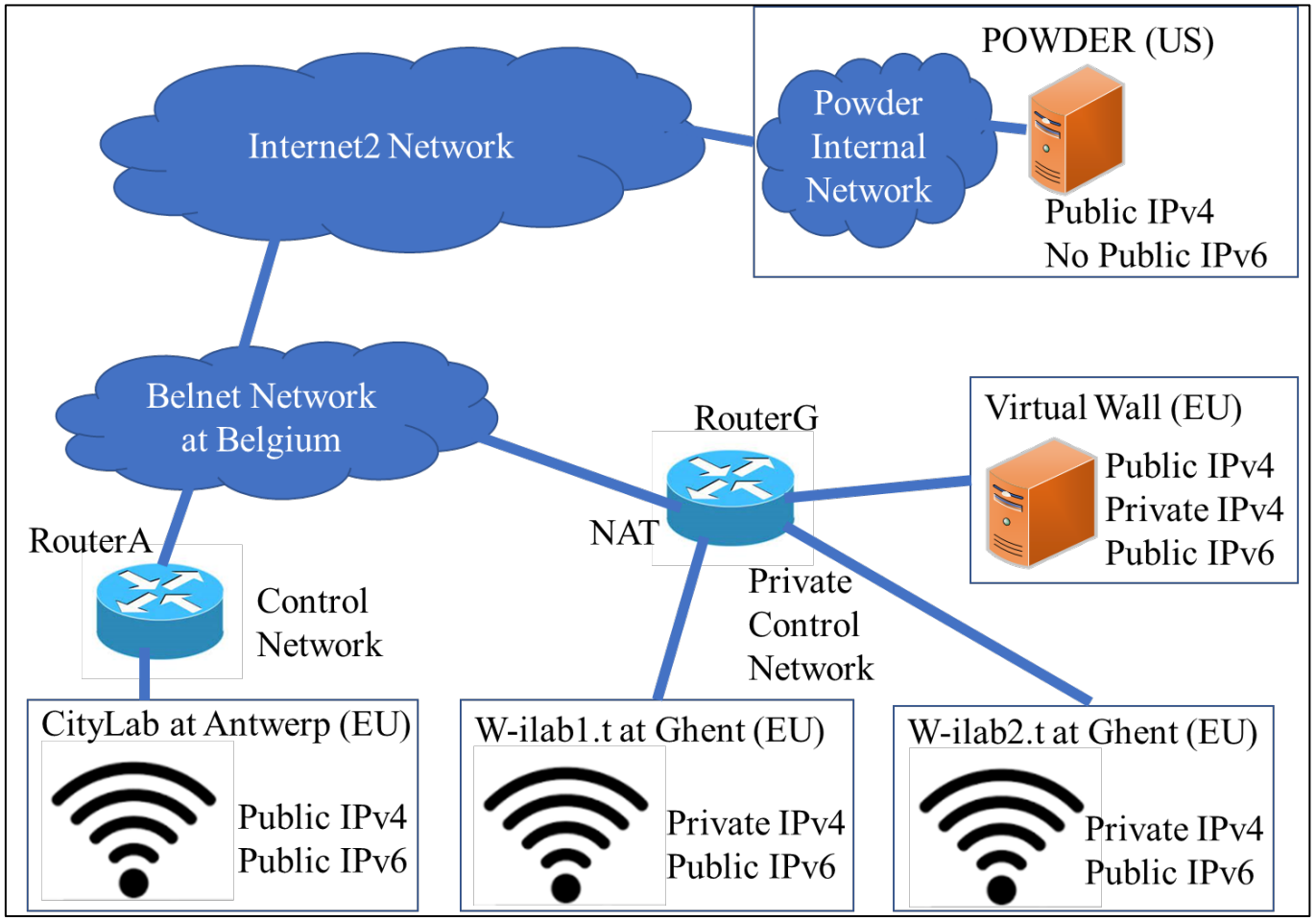
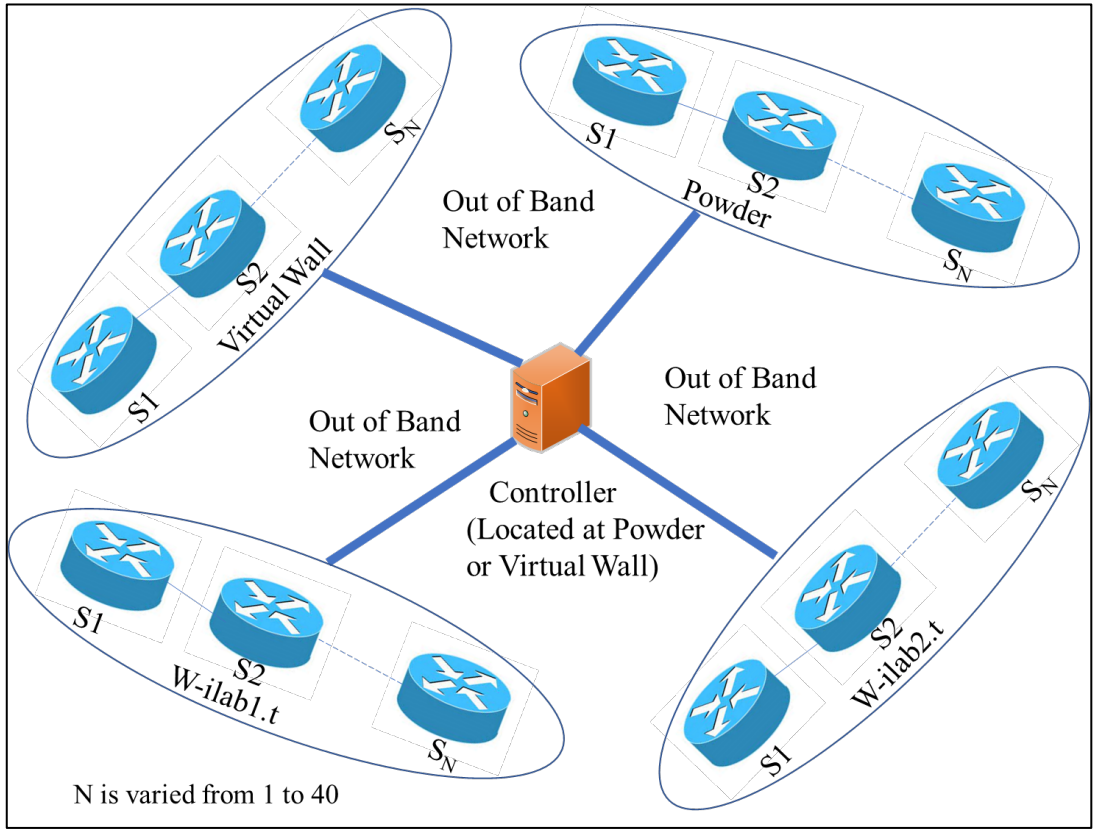
Current Inter-Testbed Experiment





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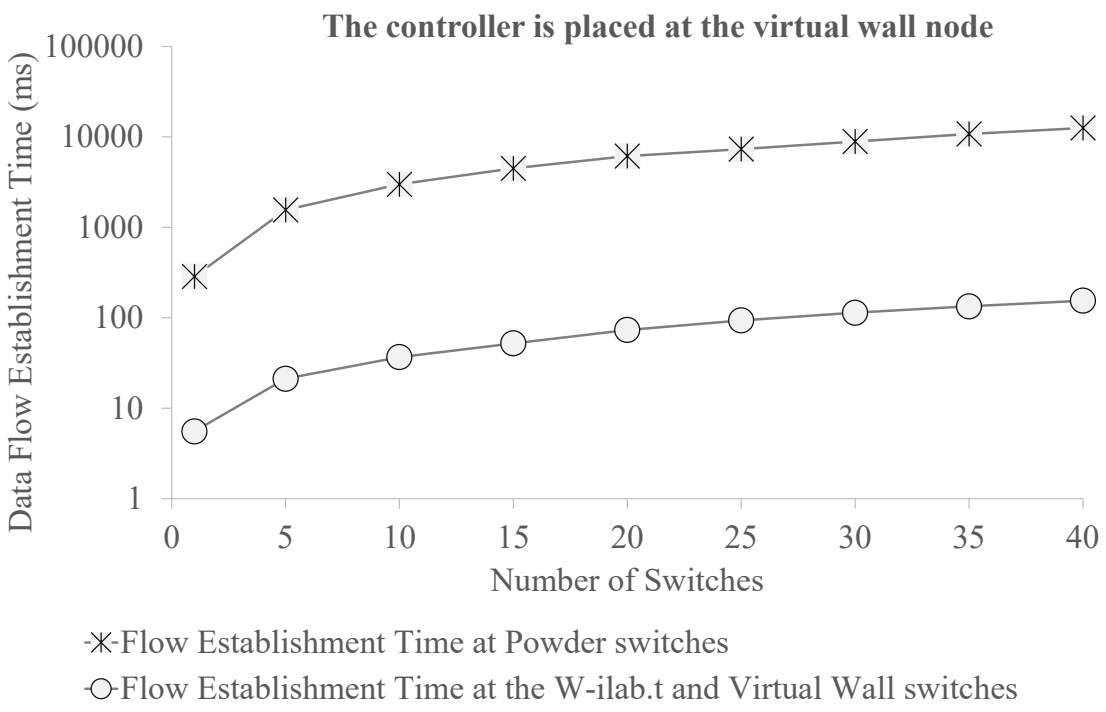
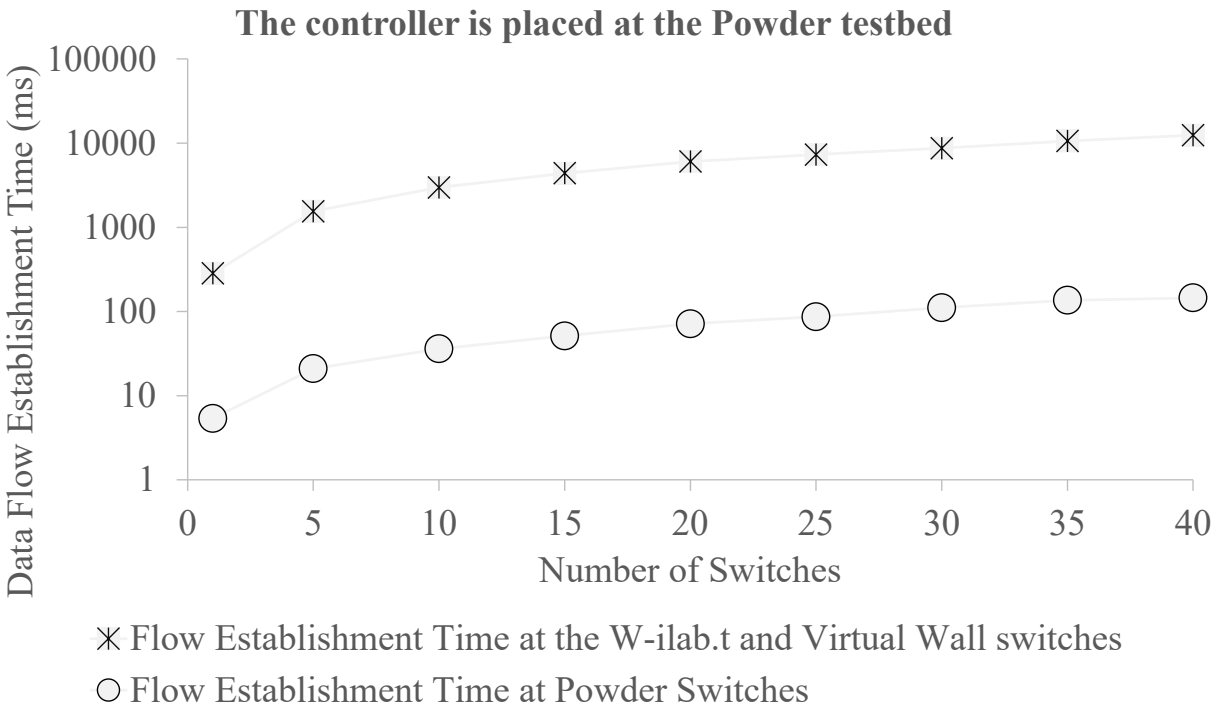
Results





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Published or Accepted Papers

1. S. Sharma, A. Nag and B. Ramamurthy, "Cross-Atlantic Experiments on EU-US Test-beds," IEEE Networking Letters, 2022 doi: 10.1109/LNET.2022.317771 (Published)
2. S. Sharma, S. Urumkar, G. Fontanesi, B. Ramamurthy, and A. Nag, "Future Wireless Networking Experiments Escaping Simulations", Future Internet. 2022; 14(4):120. https://doi.org/10.3390/fi14040120 (Published)
3. V. Tomer and S. Sharma, "Detecting IoT Attacks Using an Ensemble Machine Learning Model" Future Internet," 2022; 14(4):102. https://doi.org/10.3390/fi14040102 (Published)
4. V. Tomer and S. Sharma, "Experimenting an Edge-Cloud Computing Model on the GPULab Fed4Fire Testbed", 28th IEEE LANMAN Poster/Demo 2022 (Accepted)
5. S. Urumkar, G. Fontanesi, A. Nag, and S. Sharma," Demonstrating Configuration of Software Defined Networking in Real Wireless Testbeds", 28th IEEE LANMAN Poster/Demo Session, 2022 (Accepted)
6. S. Sharma, S. Urumkar, G. Fontanesi, V. S. Karanam, B. Hu, B. Ramamurthy and A. Nag, "Towards Emulation of Intelligent IoT Networks on EU-US Testbeds", 23rd International Seminar on Intelligent Technology and Its Applications (ISITIA), 2022 (Accepted)

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Thank You!

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