



NSF Campus Cyberinfrastructure PI and
Cybersecurity Innovation for Cyberinfrastructure PI Workshop
September 23 – 25, 2019 | Minneapolis, MN

NSF Program (either CC or CICI): CC*

Program Area: Network Integration Award Number: 125576

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Project Title: CC* Integration:

Rutgers University Next-Generation Edge Testbed (RU-NET)



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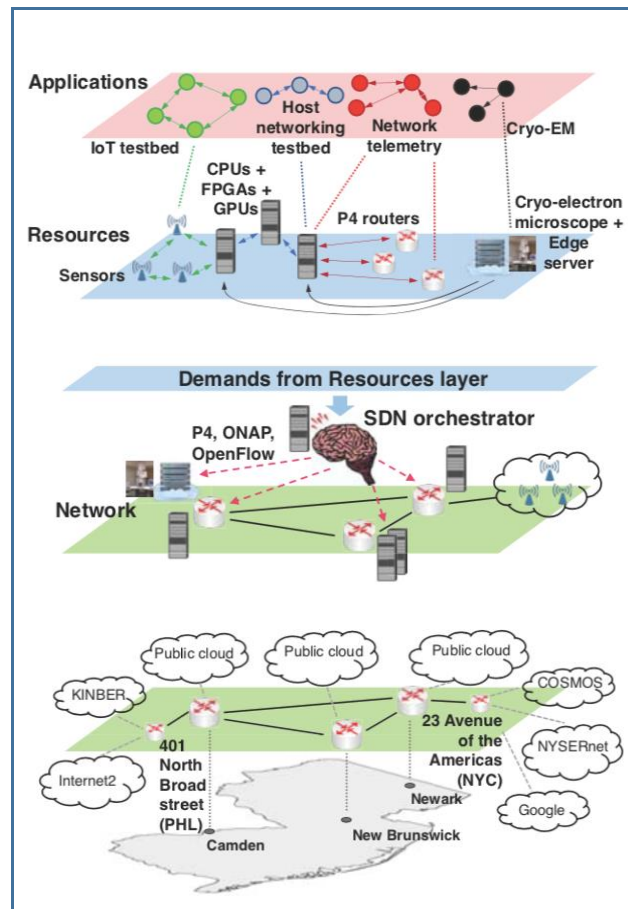
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Quad Chart for: *CC* Integration: Rutgers University Next-Generation Edge Testbed (RU-NET)*

Challenge Project Seeks to Address:

- Data transfers from the edge within a distributed federated hybrid environment
- Simplify the deployment of user owned devices at the edge
- Predictable network QoS
- Orchestration of services, including slices of the network
- How to couple AI/HPC with the network for real-time analysis + intelligence



Solution(s) or Deliverables Cont:

- Develop low-latency real-time traffic recognition and QoS with FPGAs
- Rapid re-programmable FPGA blocks for dynamic network management and flexible reporting

Scientific Impact or Broader Impact:

- Novel edge and core networking technology to support a flexible edge
- Development of labs and course material for students
- Act as a model for other campus and enterprise testbeds

Metadata tag:

- *We are interested in partnering with others who have interest in building edge solutions/testbeds*
- *Would like to know what QoS do your edge applications require*
- *We are open to suggestions and feedback*

Solution(s) or Deliverables:

- Programmable host networking testbed using new and emerging tech
- Hardware, software, and processes to on-board new testbeds to RU-NET
- Work with our actual “customers” to figure out & implement data transfer and QoS requirements