



NSF Campus Cyberinfrastructure PI and
Cybersecurity Innovation for Cyberinfrastructure PI Workshop
October 3-4 | Albuquerque, New Mexico

NSF Program (either CC or CICI): CICI

Program Area:
Secure & Resilient Architecture

Award Number: 1642161

PI: Johanna Amann (ICSI)

co-PIs: Robin Sommer (ICSI), Michael Dopheide (ESnet)

Project Title: CICI: Secure and Resilient Architecture: Effective and Economical Protection for High-Performance Research and Education Networks

Johanna Amann

Senior Researcher

ICSI

johanna@icir.org

Michael Dopheide

Senior Security Engineer

ESnet

dopheide@es.net



NSF Campus Cyberinfrastructure PI and Cybersecurity Innovation for Cyberinfrastructure PI Workshop

October 3-4, 2017 | Albuquerque, NM

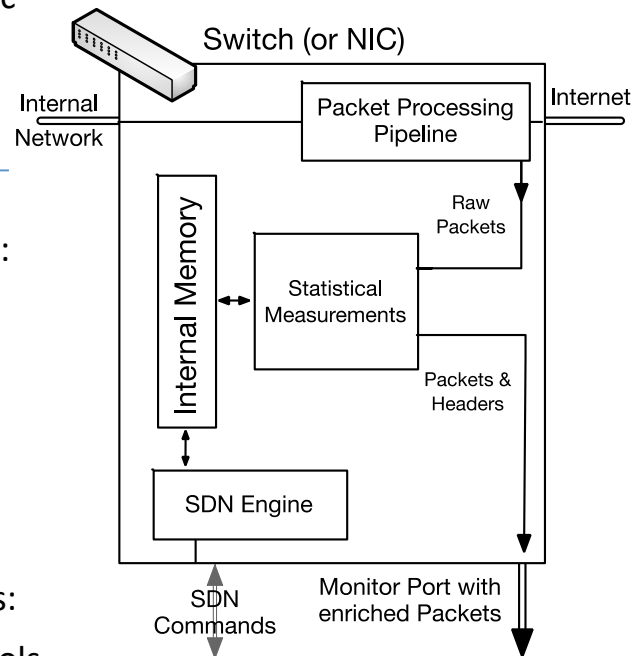
Quad Chart for: CICI: Secure and Resilient Architecture: Effective and Economical Protection for High-Performance Research and Education Networks

Challenge :

- Increase performance of network monitoring for high-speed scientific environments.
- Expand visibility into research and education networks.

Solution:

- Hardware/Software co-design with:
 - Accelerated statistics
 - Connection establishment offloading
 - TCP stream reassembly
 - Hardware pattern matching
- Advance visibility for R&E networks:
 - Support domain-specific protocols
 - Enable network profiling
 - Enable better active response
 - Enforce security policies



Broader Impact:

- Enable better protection of high-speed research and education networks, specifically DMZ environments.
- Integrates with Bro network monitor already widely used in R&E community.

Metadata tag:

- Needs feedback on:
 - Network visibility issues
 - Protocols used in environments
 - Current monitoring performance pain points

Contact:

- johanna@icir.org
- robin@icir.org
- dopheide@es.net