

Active, External Scans

- Active, external scans form the foundation of much research in the measurement community
- ZMap, Censys, Shodan, Massscan have changed our *access* to data
- Much of our understanding of the Internet + its devices comes from active, external scans

Research Question

- *What are the measurement biases introduced by only studying the public Internet?*
 - *Network services*
 - *Device type distributions*
 - *Known vulnerabilities*

Research Plan

- Collect raw data from Censys
 - Censys regularly scans IPv4 space on a fixed set of ports and collects application layer data
- Compare external perspective with internal perspective from Wi-Fi inspector
- Investigate and explain differences between the two vantage points