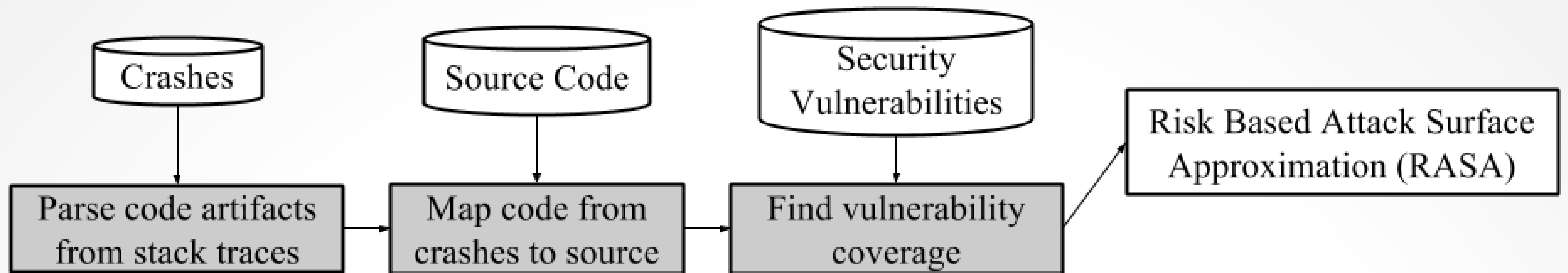


# Advanced Metrics for Risk-Based Attack Surface Approximation

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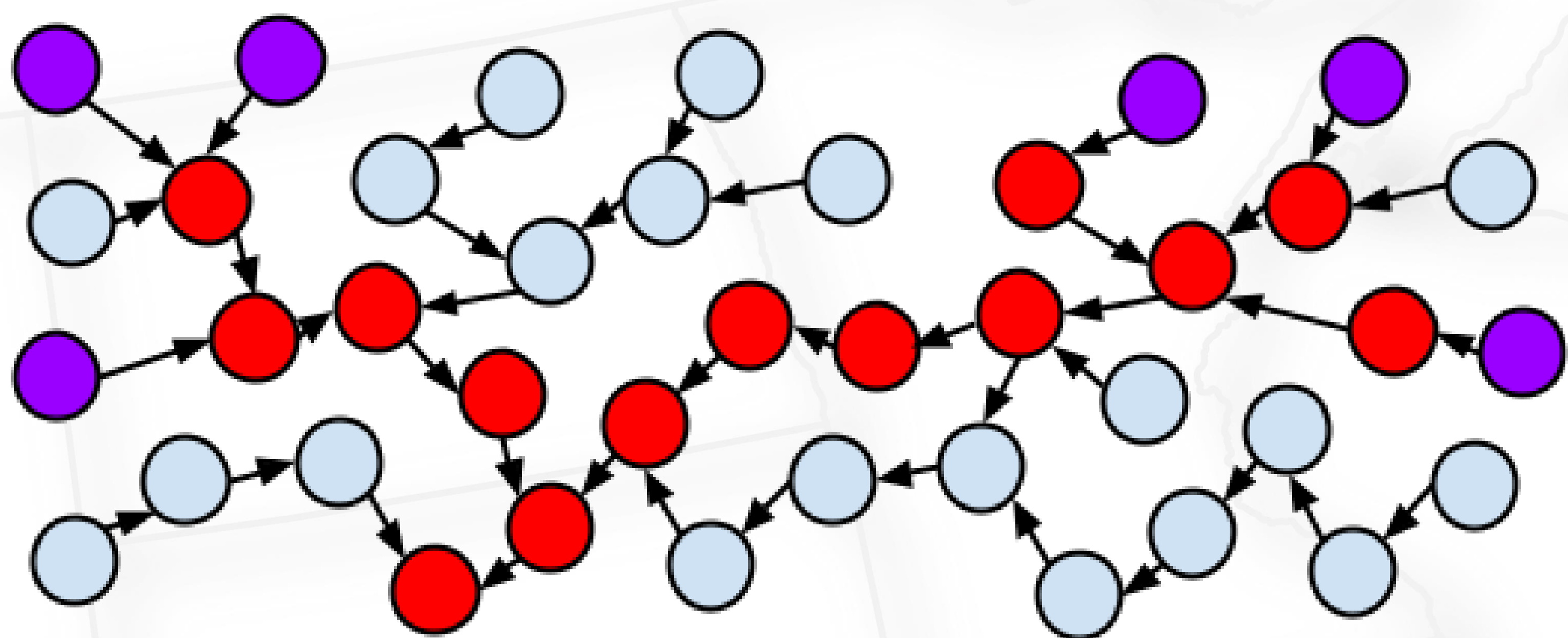


## Background

- The **Attack Surface** of a system is the paths into and out of the system and the code and data along those paths.
- Our goal is to *aid security professionals in prioritizing effort by developing attack surface metrics based on crash dump stack traces.*

## Case Study

- Windows 8 (9 million crashes)
- Windows 8.1 (9 million crashes)
- Windows 10 (6.5 million crashes)
- Crashes from 2014 and 2015



## Results

- The attack surface of software, as measured by crash dump stack traces, changes over time
- Complexity, as measured by crash dump stack traces, is correlated with security vulnerability density
- Vulnerabilities more likely to appear on the “edge” of software systems

