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Pruning Kernel CVEs With Code Reachability Analysis

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PROBLEM: Too many CVEs for Linux

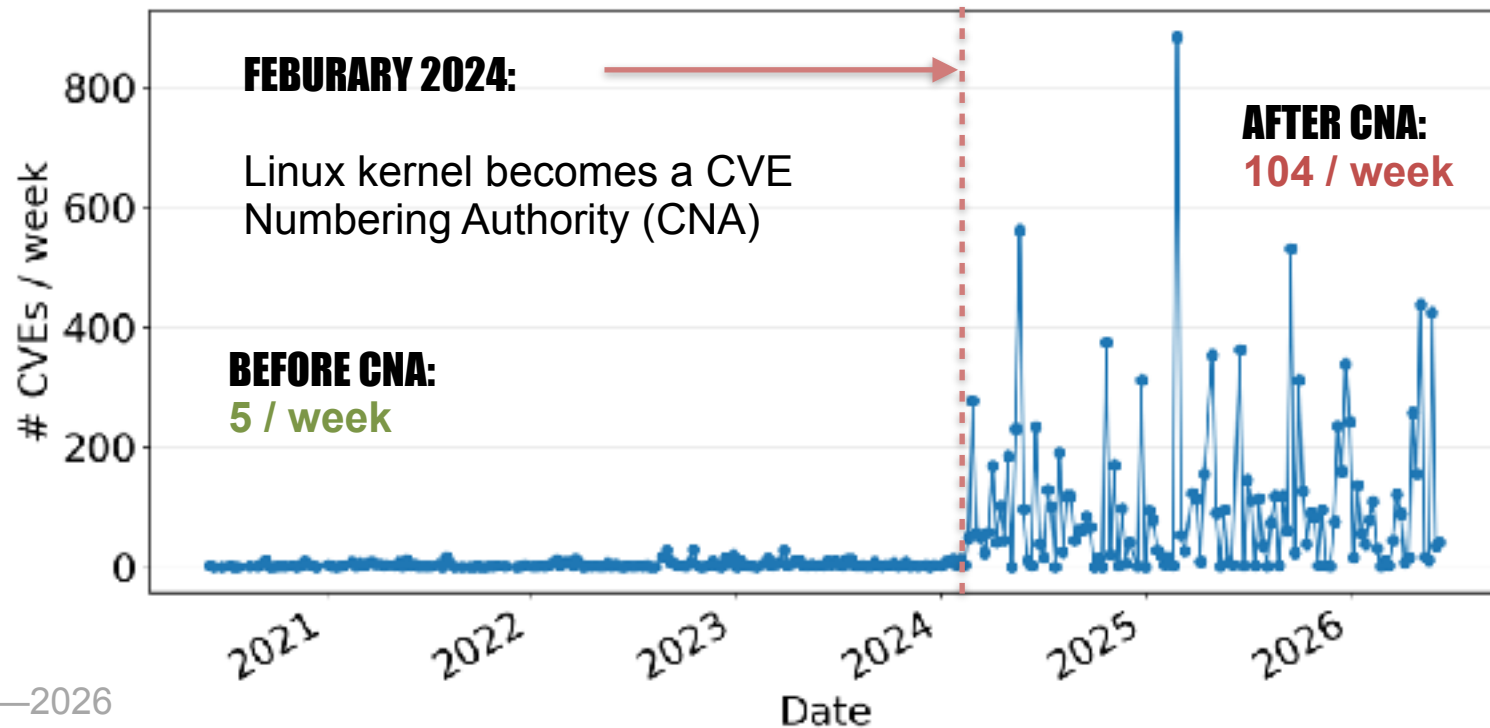


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2020—2026
Source: NVD

Linux has several use cases



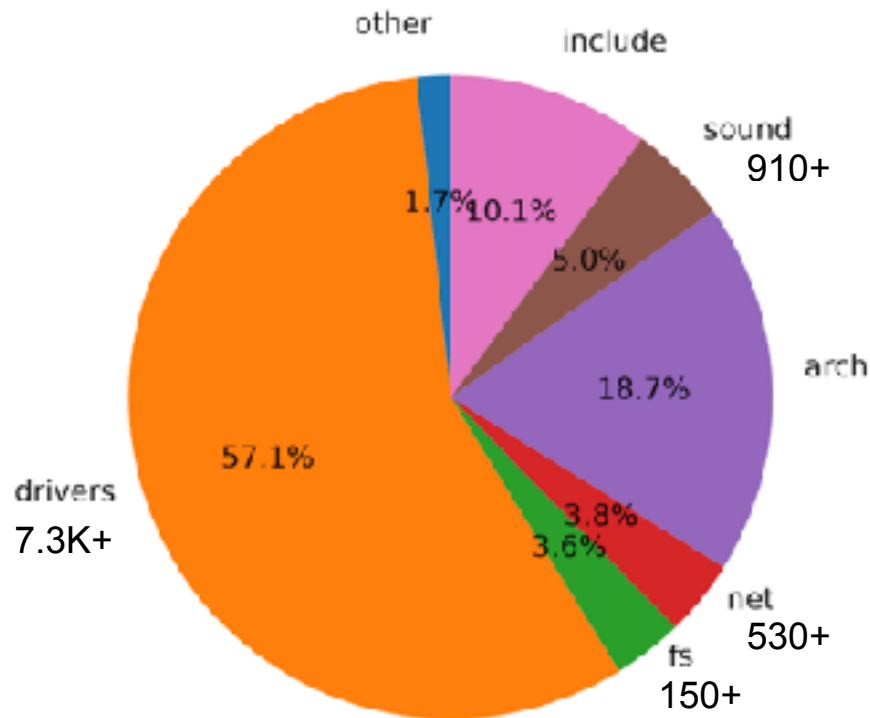
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- Bloated code base
 - 62.8K files, 25.3M LoC
- Supports many devices
 - Embedded, Server
- Growing every day
 - New hardware, features



Source: Linux 6.1.175

Linux kernel CVE breakdown



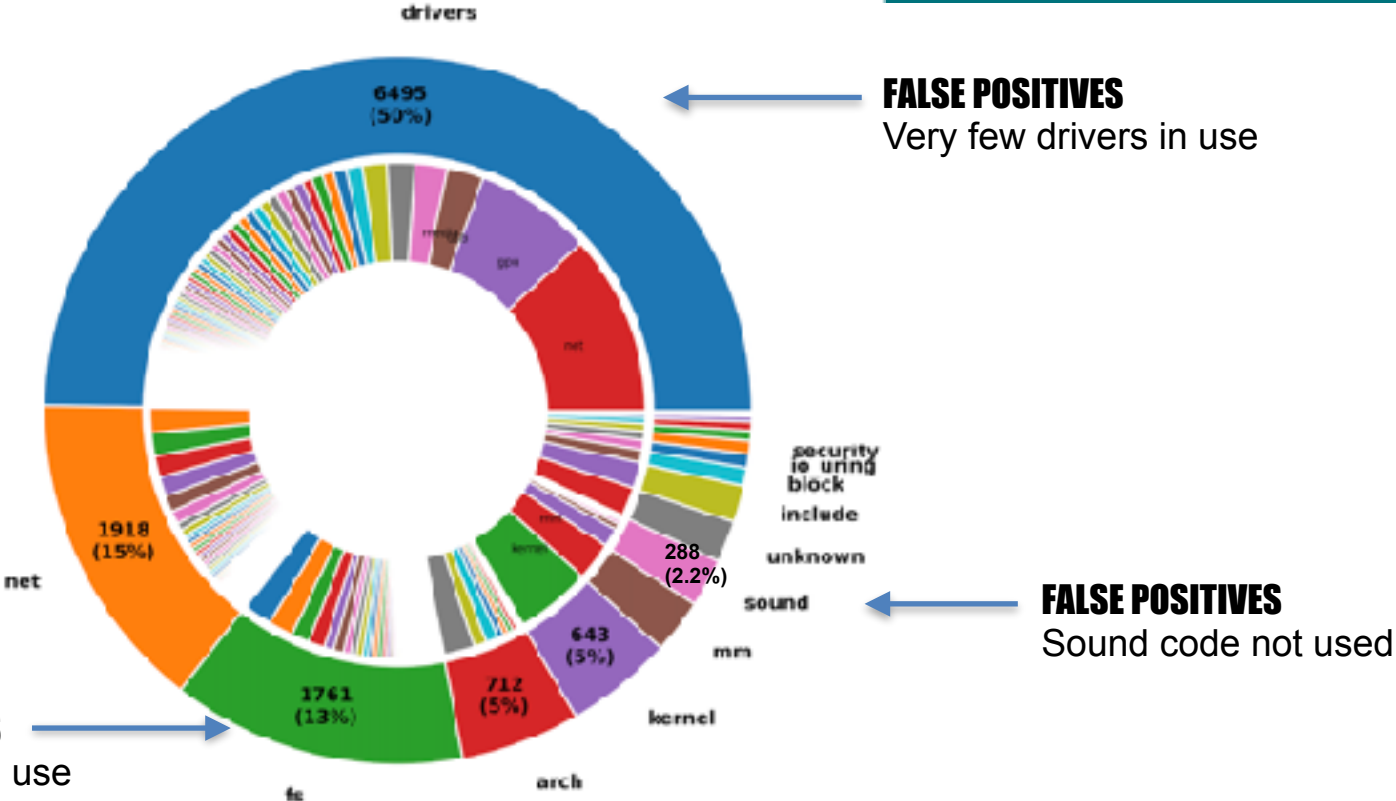
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2020—2026
Source: NVD



Code reachability for filtering CVEs

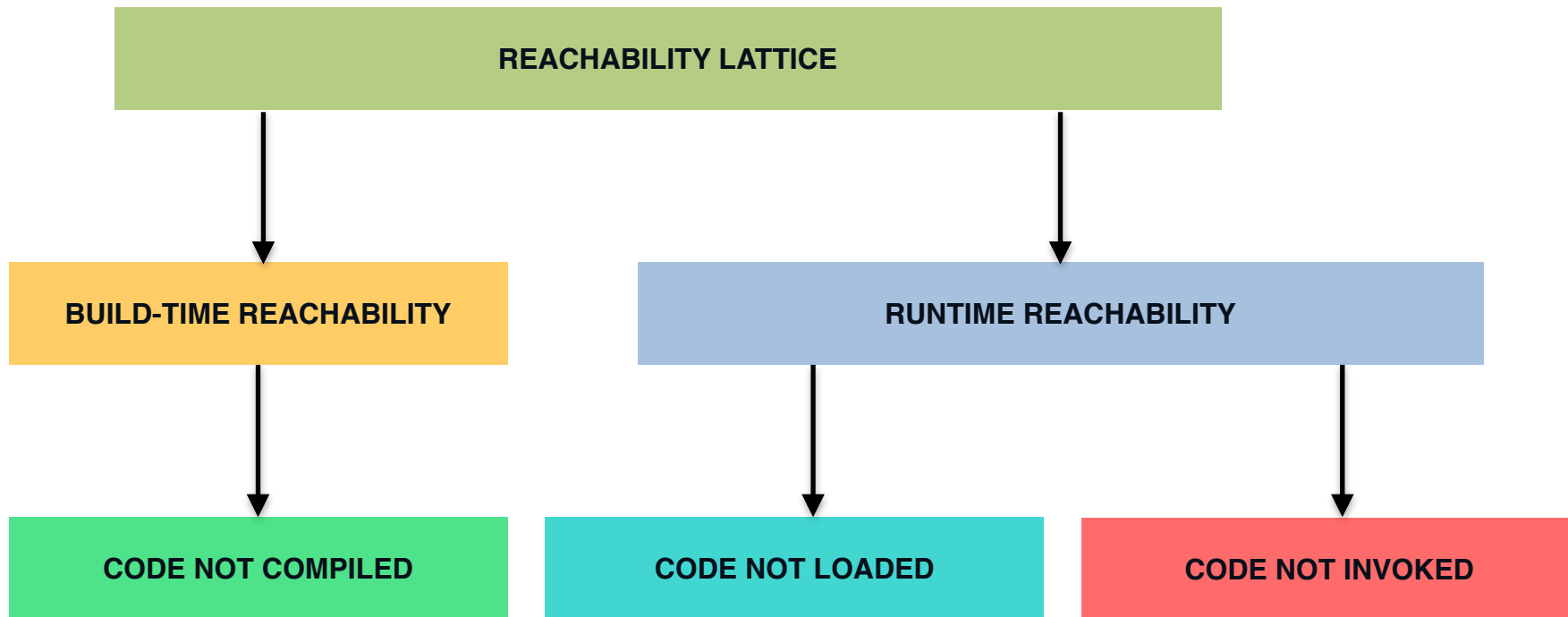


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Build-time CVE pruning : case study

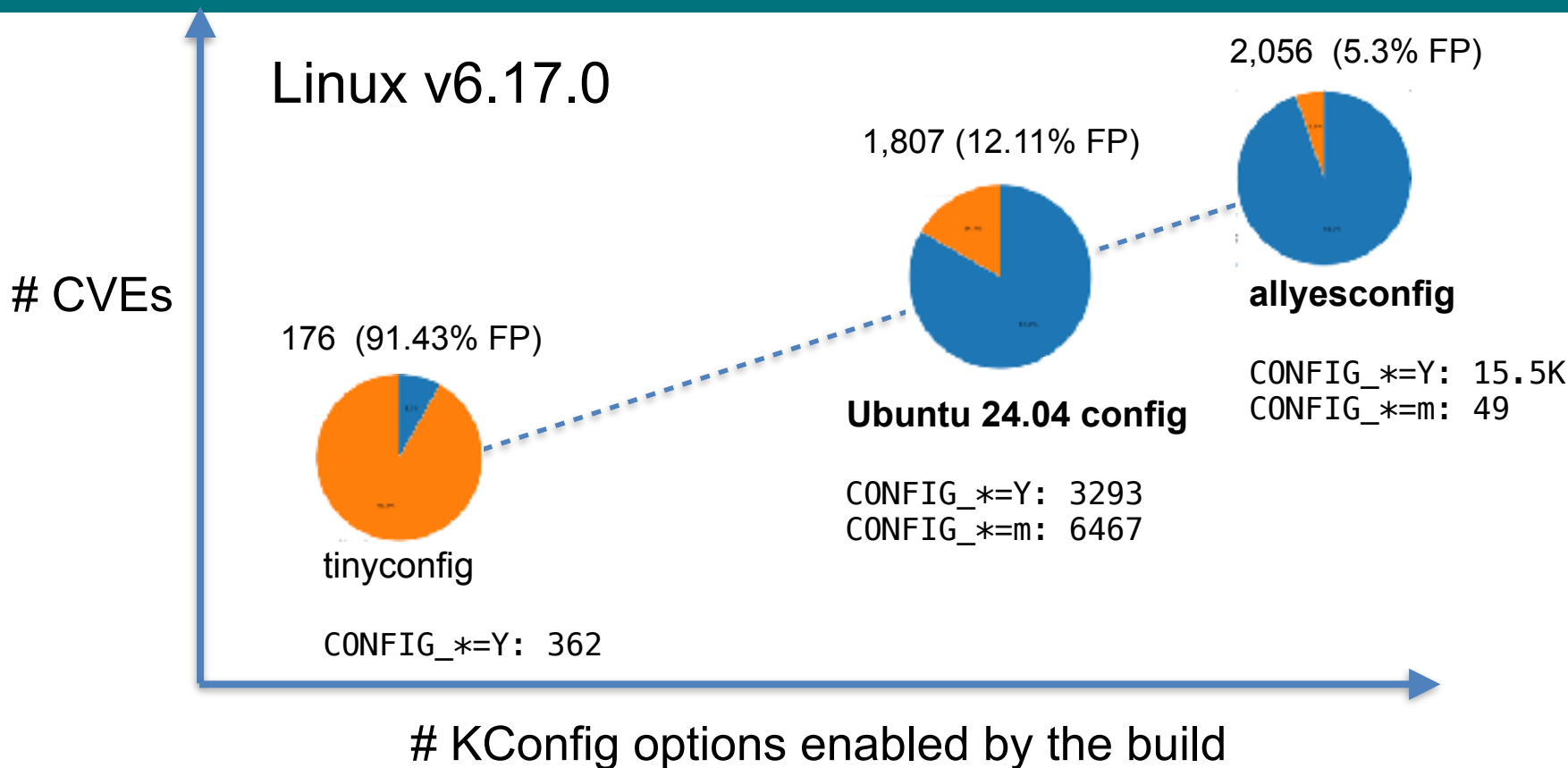


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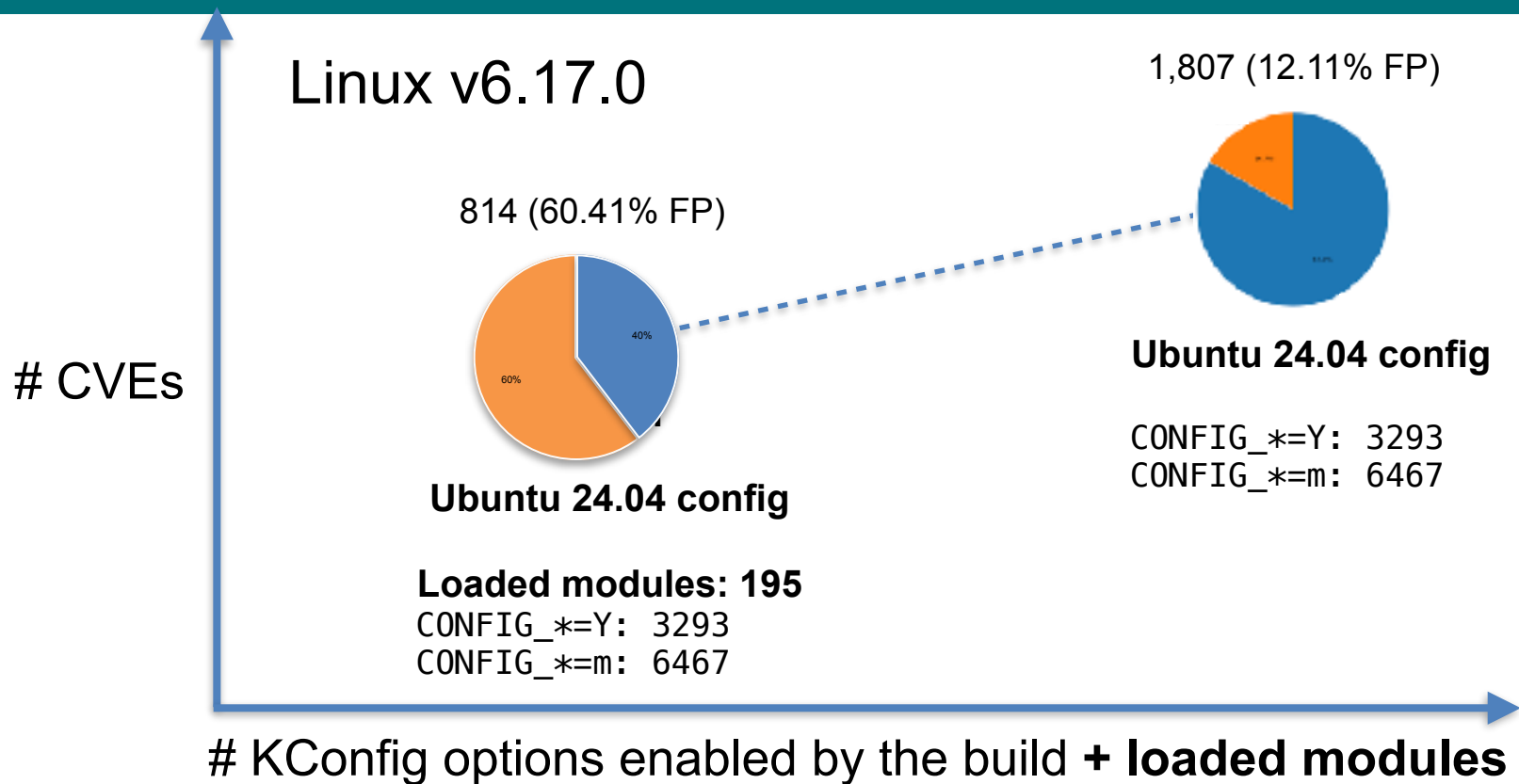


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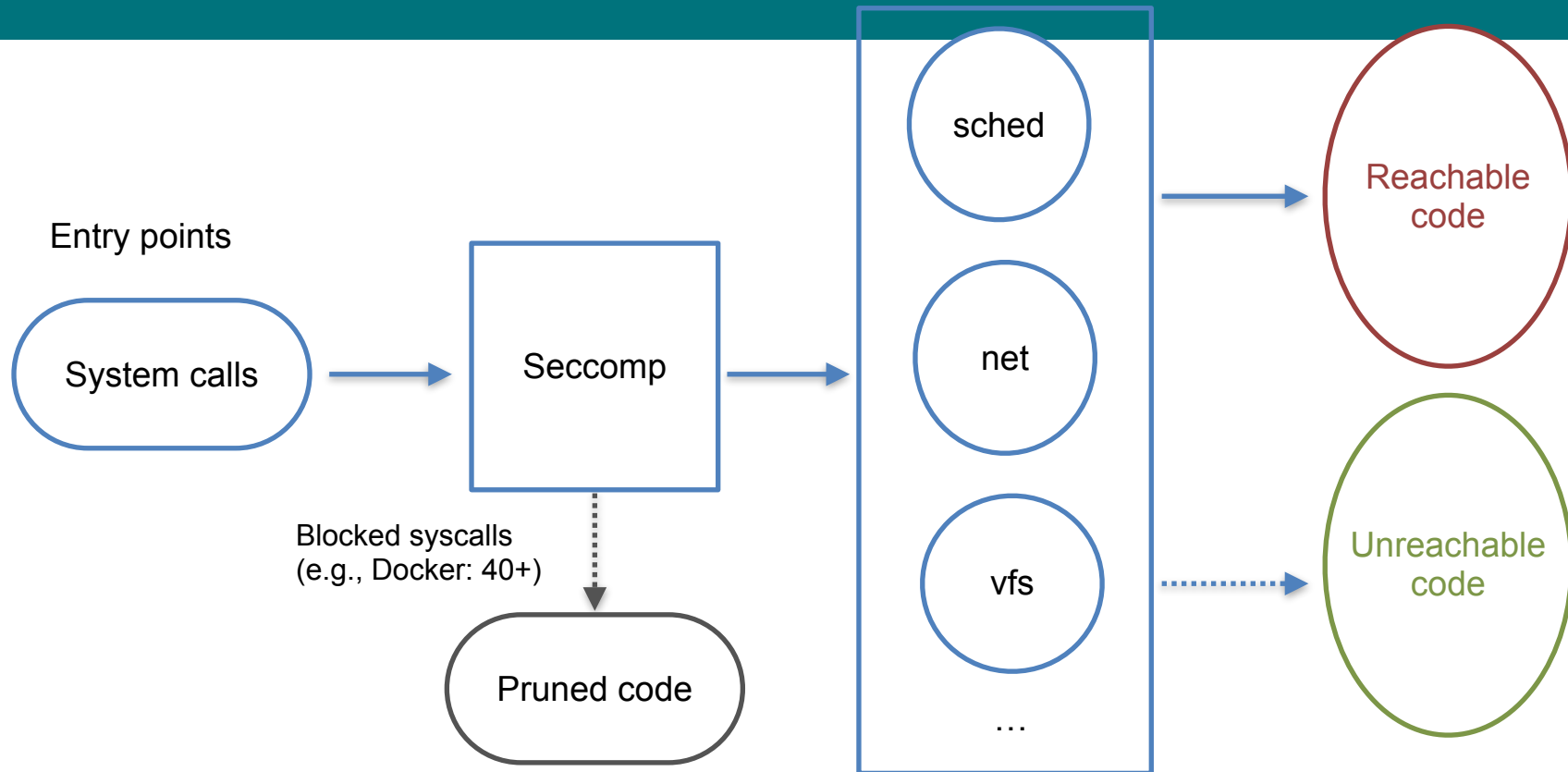
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Load-time CVE pruning : case study



System call reachability



Thank you!



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Ashish Bijlani



KCVEPruner hosted on [Github](#)



send questions/comments at oss@ossillate.com



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