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The Rise of Certificate Transparency and Its Implications on the Internet Ecosystem

IMC'18, Boston, Nov. 1st, 2018

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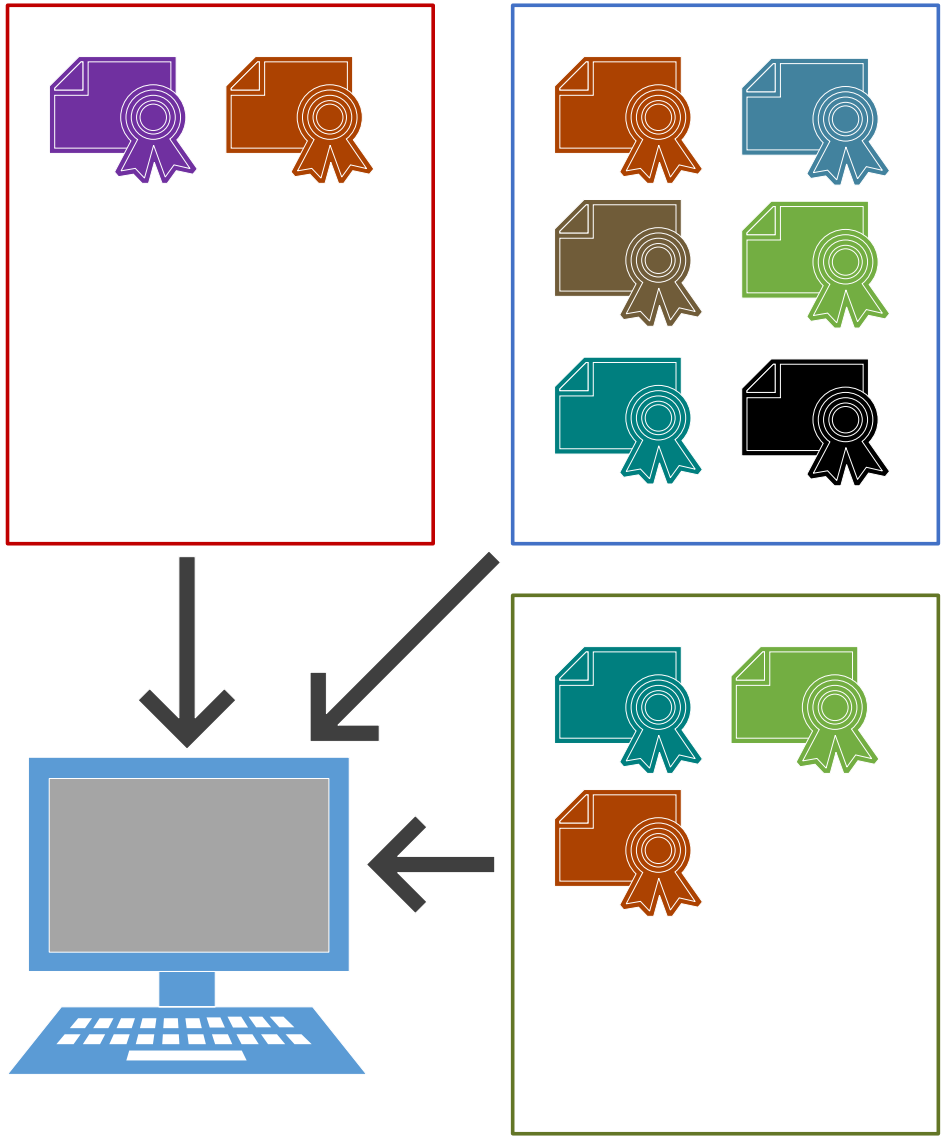

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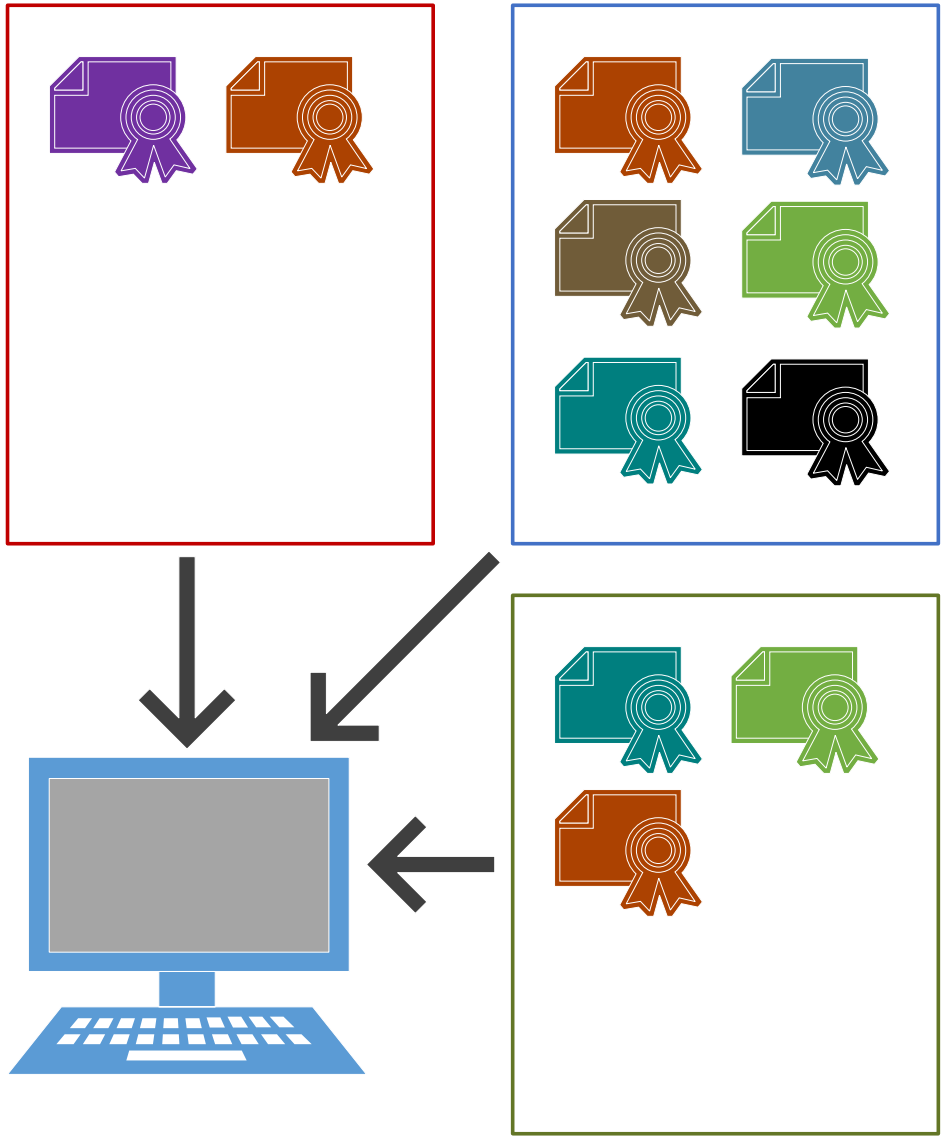
- Method: Uses public, append-only logs to record certificates
- **Rise and Implications?**



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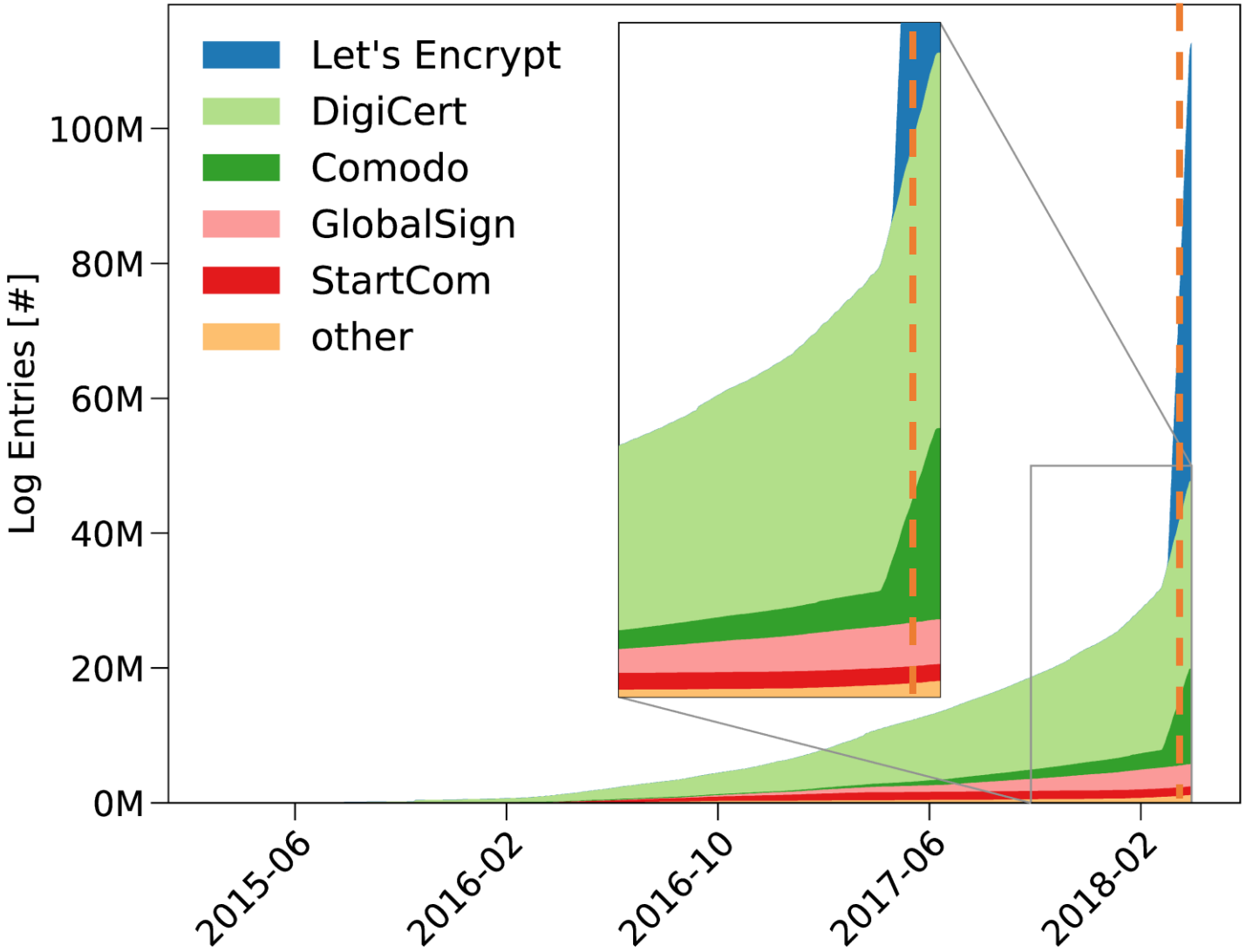
How did the log volume change over time?



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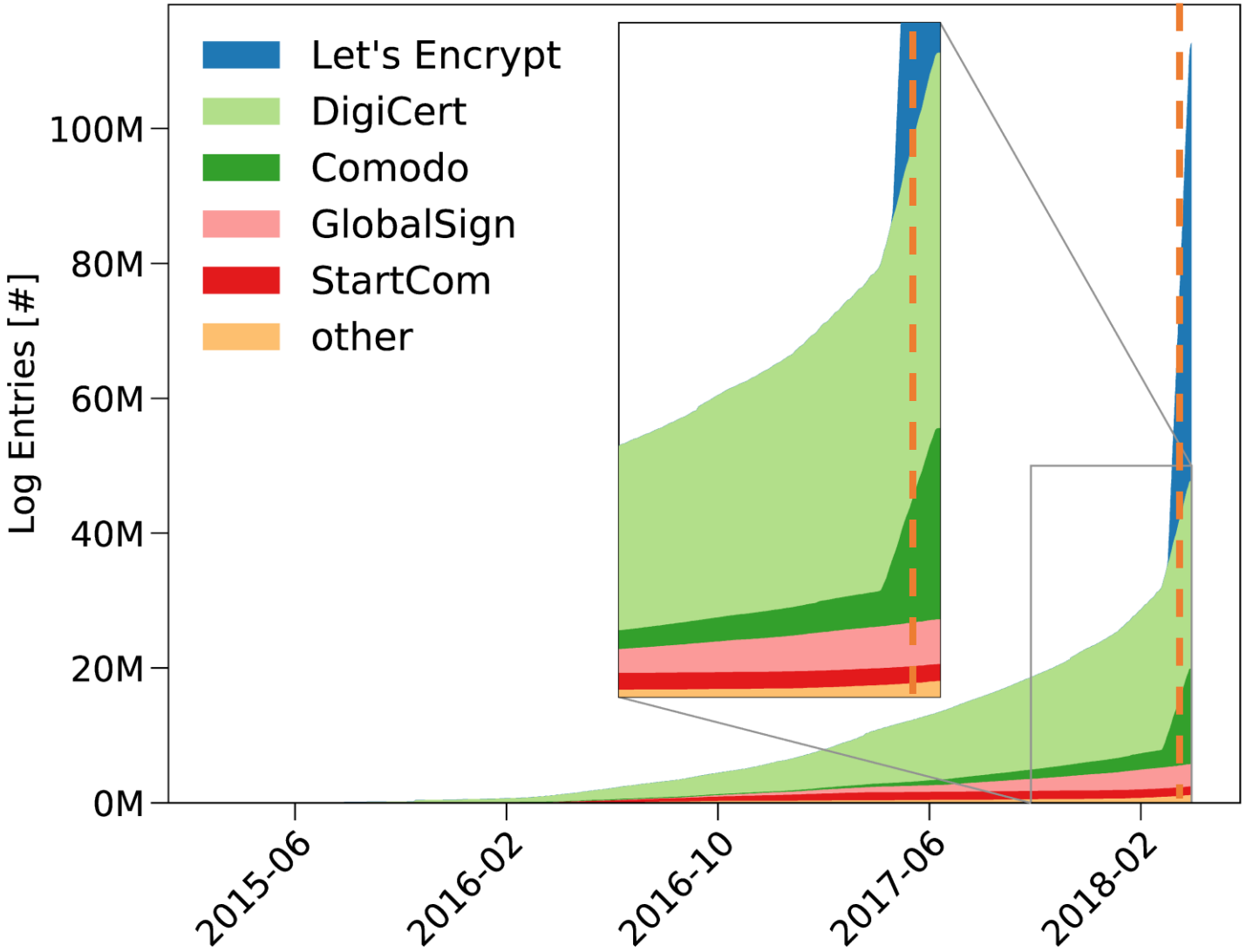

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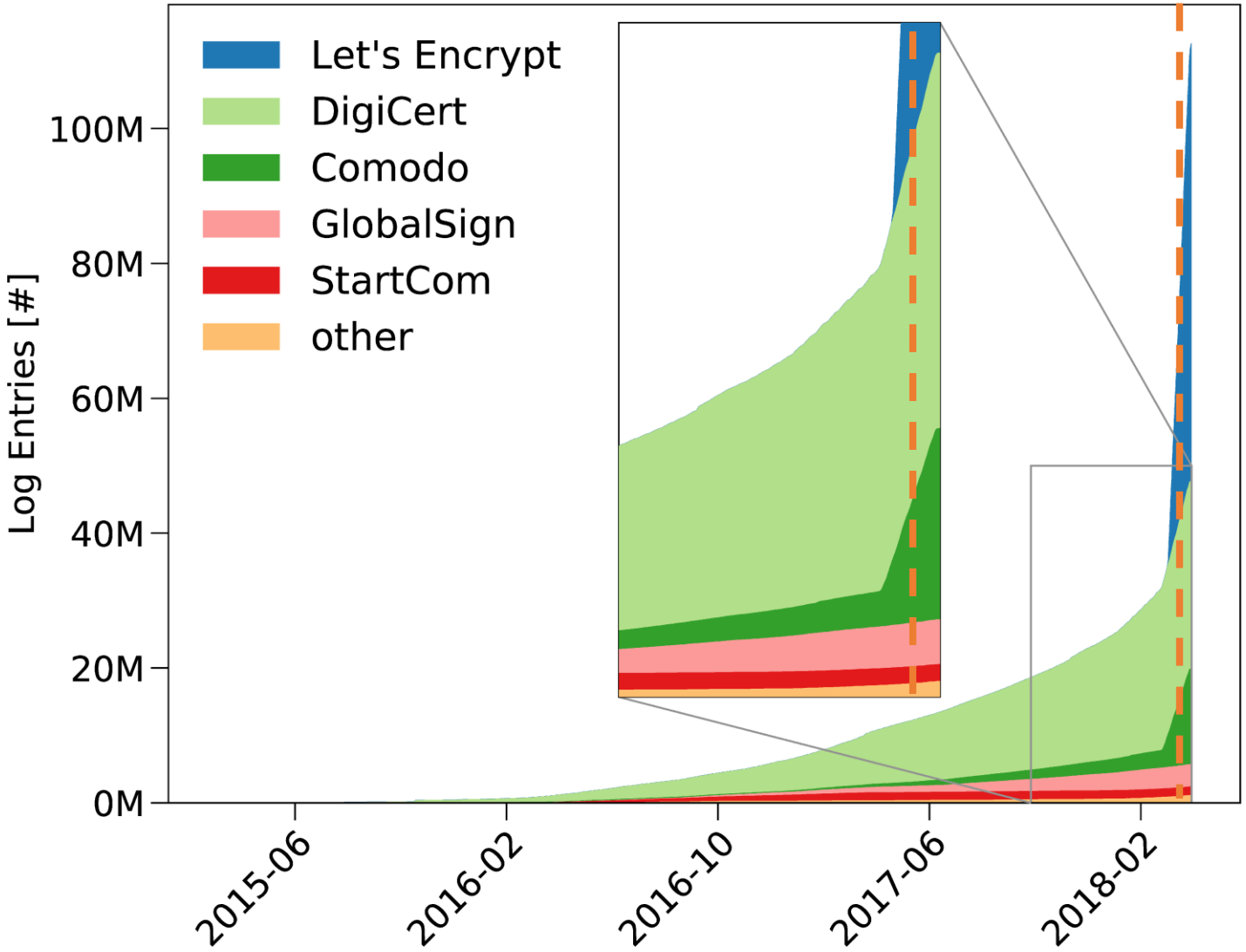

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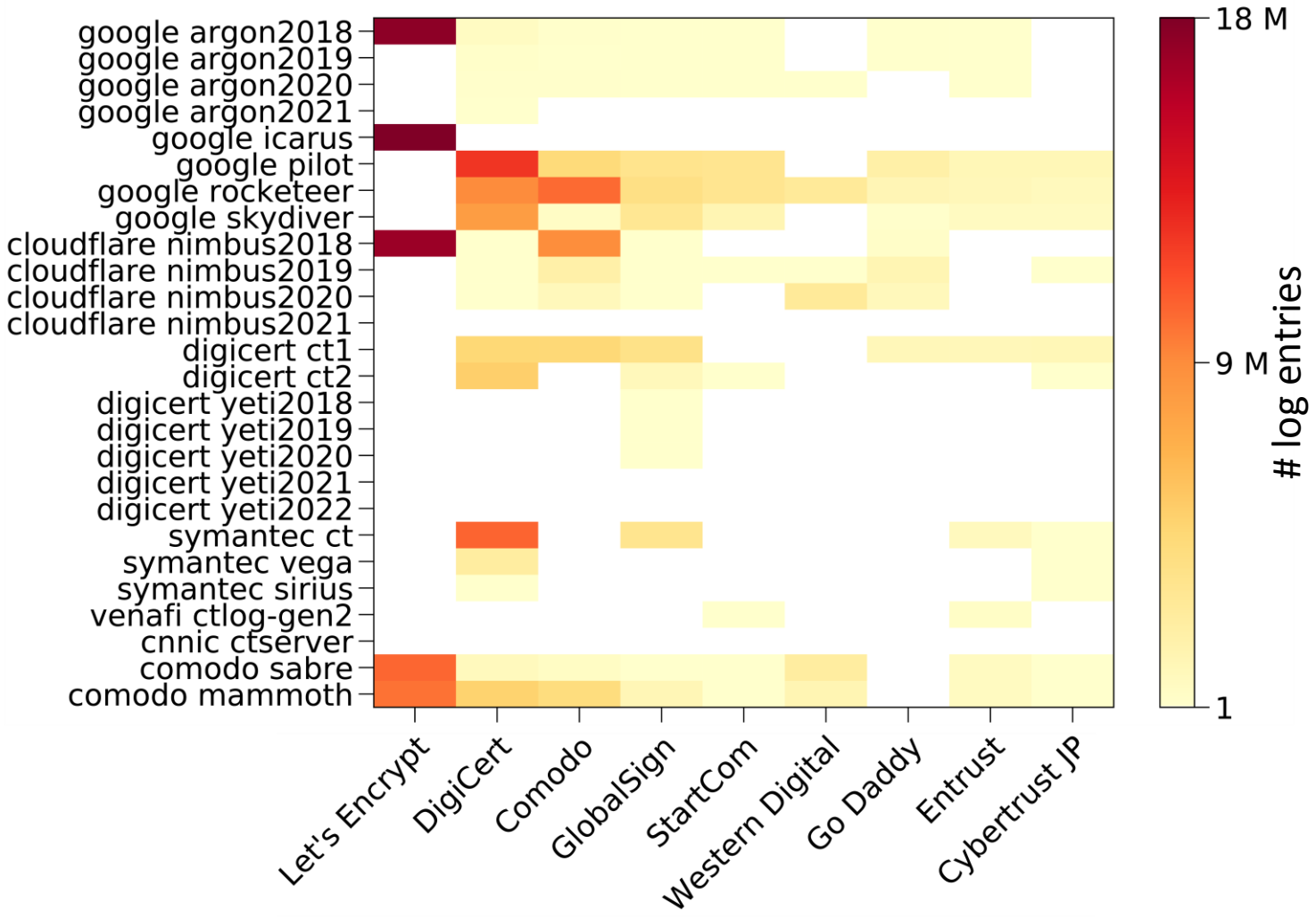
- Let’s Encrypt dominates
- **Strong rise**

Are CAs distributing certificates over many CT logs?



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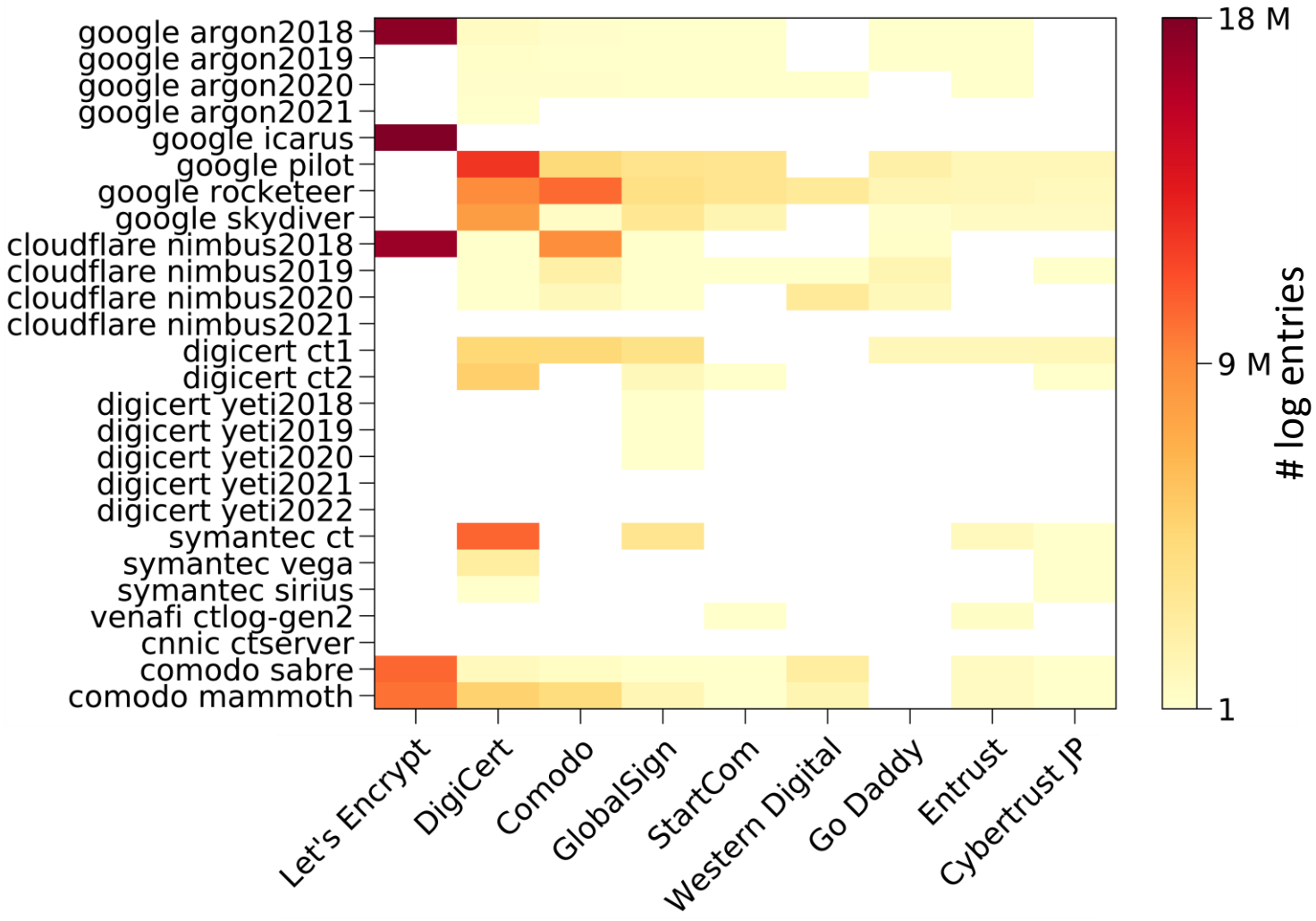

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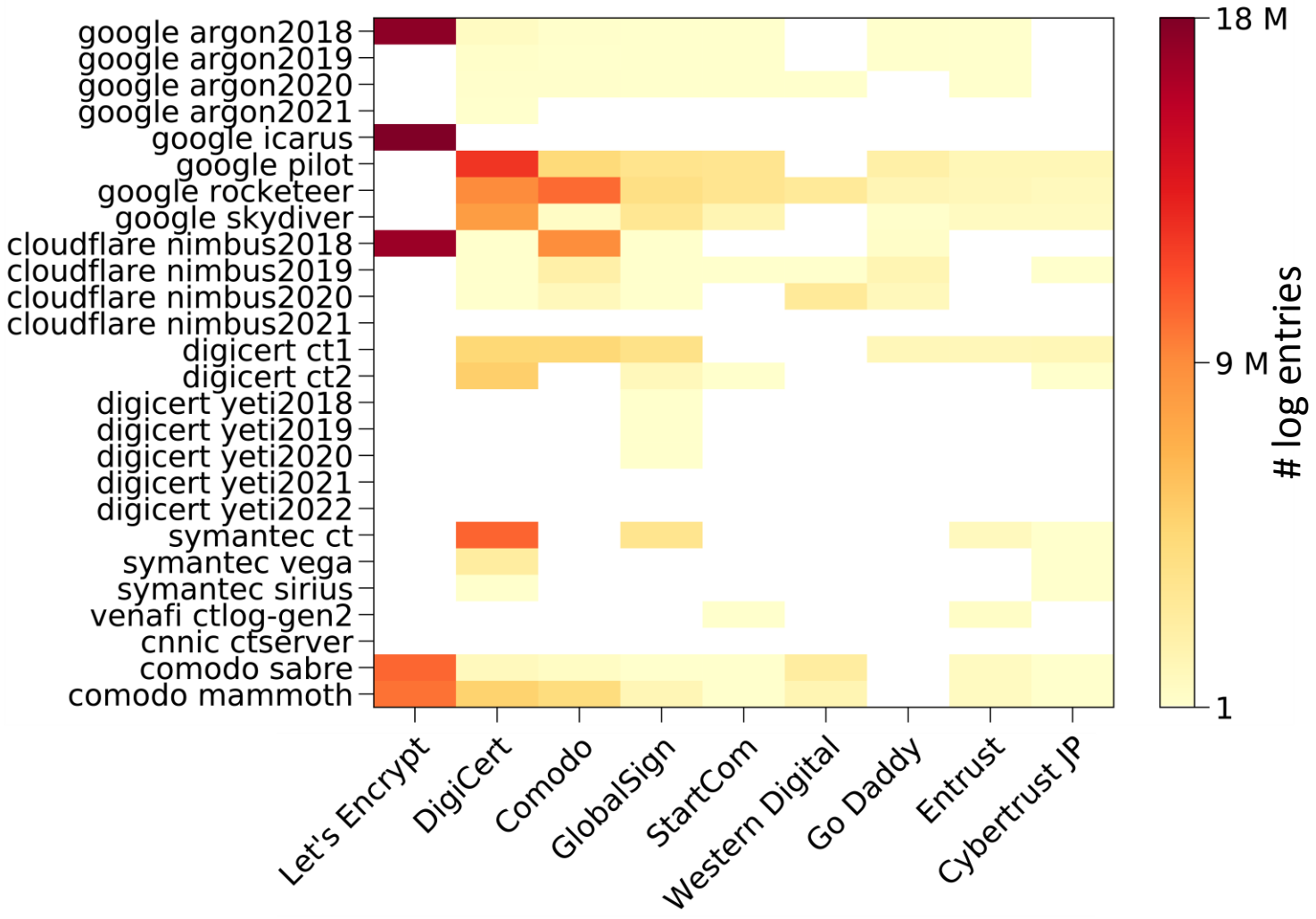

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- **No**, CAs use few logs which limits reliability

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- Inspect domains with similarities to domains from
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  - Hotmail
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- Most scanners without info in rDNS, WHOIS, or on website
- **Yes**, CT is being misused by actors with undeclared intent

Data and code available ✓

Take-Aways

CT ecosystem dominated by few stakeholders

Majority of logging volume from few CAs to few logs

CT helps in finding phishing domains

Enables near-time detection and reaction

CT helps attackers

Find previously unknown domains
Scans from dubious actors within minutes