IPv4 SWIP Analysis

What Is SWIP?

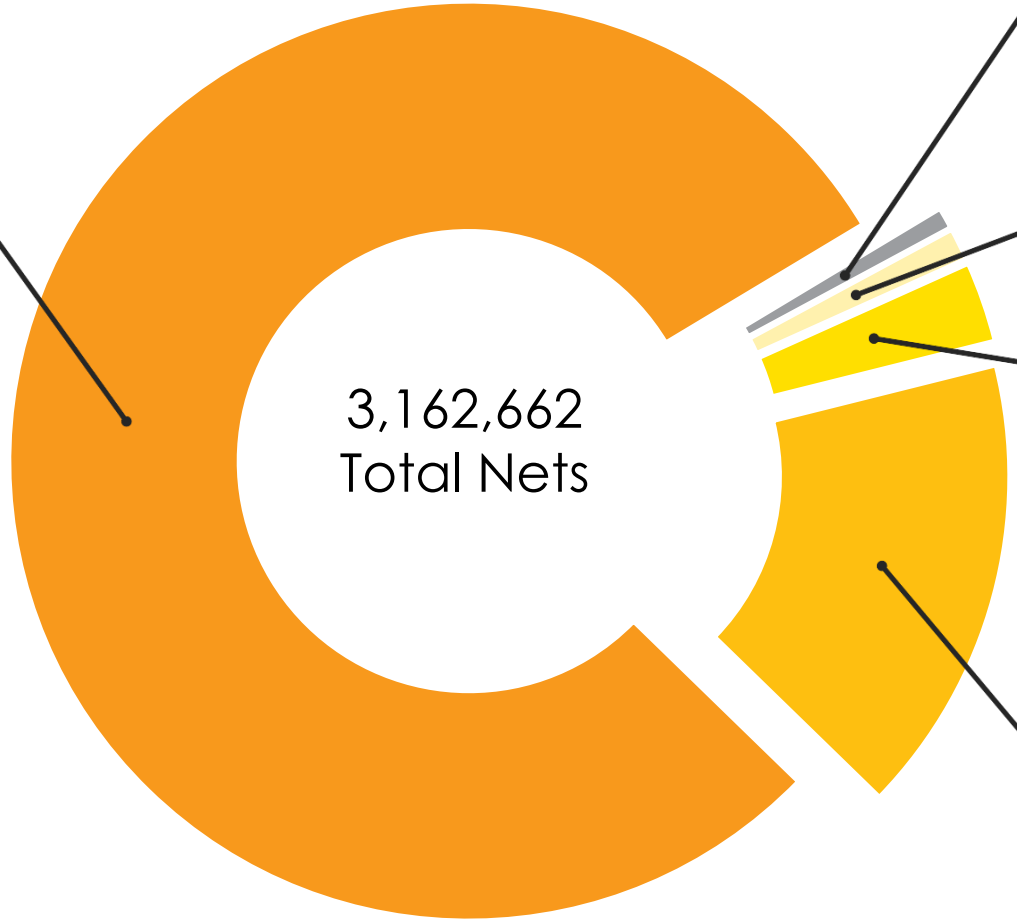
- SWIP = Shared Whois Project
- Enables ISPs to publish reassignments/reallocations of IP blocks to customers
  - **Includes both legacy and non-legacy**
- Direct Record Types
  - **Direct Assignment: issued by ARIN to end users; cannot publish SWIPs**
  - **Direct Allocation: issued by ARIN to ISPs; can publish SWIPs**
- SWIP Record Types
  - **Simple Reassignment: customer name and address**
  - **Detailed Reassignment: org name, address, and points of contact (POCs)**
  - **Reallocation: org name/address/POCs & can further reassign/reallocate**
- Ensuring accuracy of SWIP records is an ongoing concern

SWIP Data Analyzed

- How many networks are in Whois?
- How many ISPs publish SWIP records?
- How many SWIP records has each ISP published?
- How many annually validated SWIPs has each ISP published?
- How many reallocations has each ISP published?
- What does this tell us?

* self-swips (SWIP to same Org ID) excluded

How many networks are in Whois?



Simple Reassignment
2,502,016 (79%)

Direct Allocation
23,665 (1%)

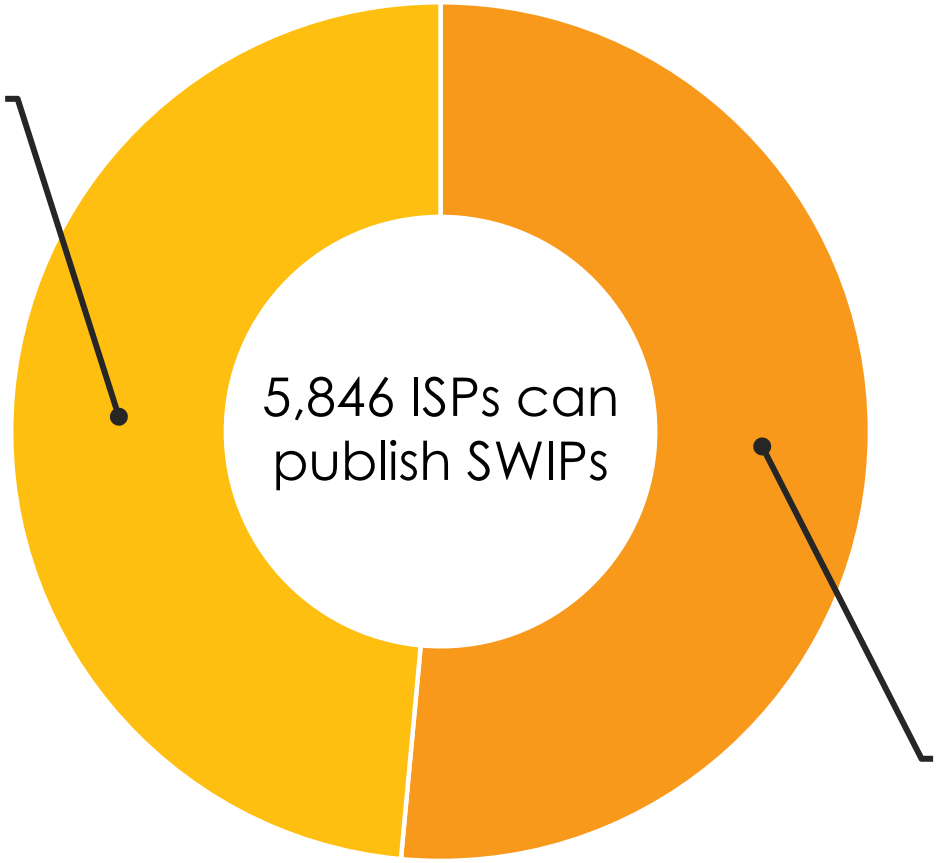
Direct Assignment
35,755 (1%)

Reallocation
89,612 (3%)

Detailed Reassignment
511,637 (16%)

How many ISPs publish SWIPs?

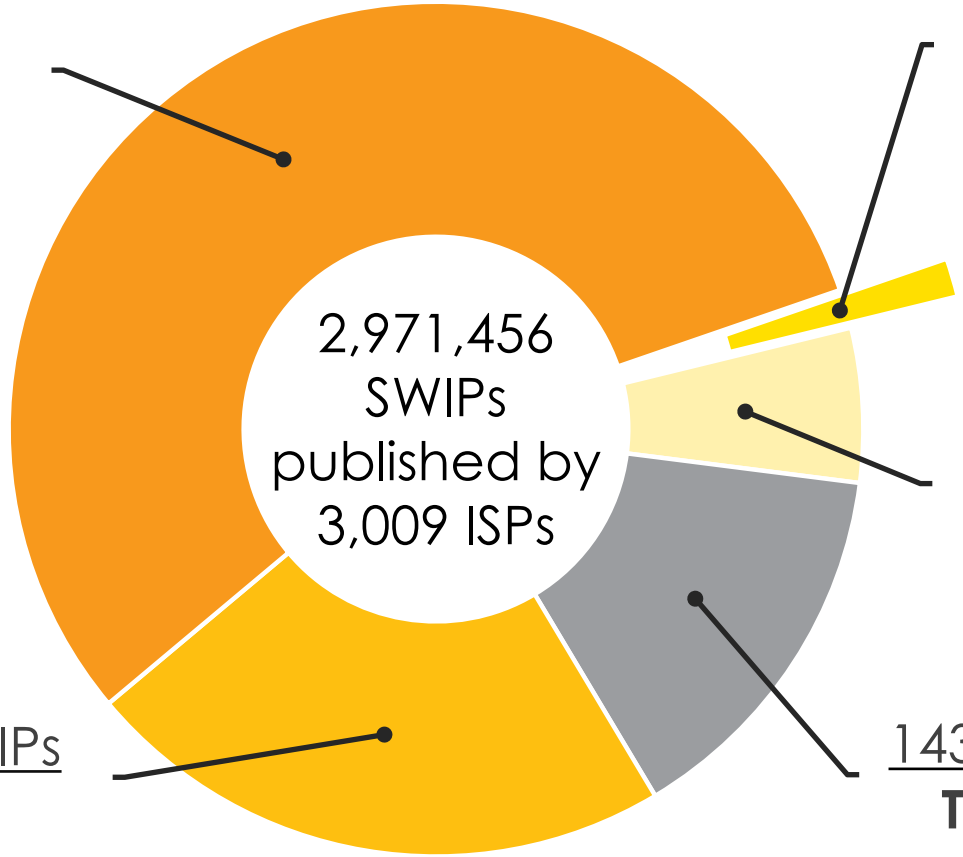
Have not published any SWIPs
2,837 (49%)



Have published SWIPs
3,009 (51%)

How many SWIP records has each ISP published?

4 ISPs with 100,000+ SWIPs
Total: 1,658,769 SWIPs (56%)



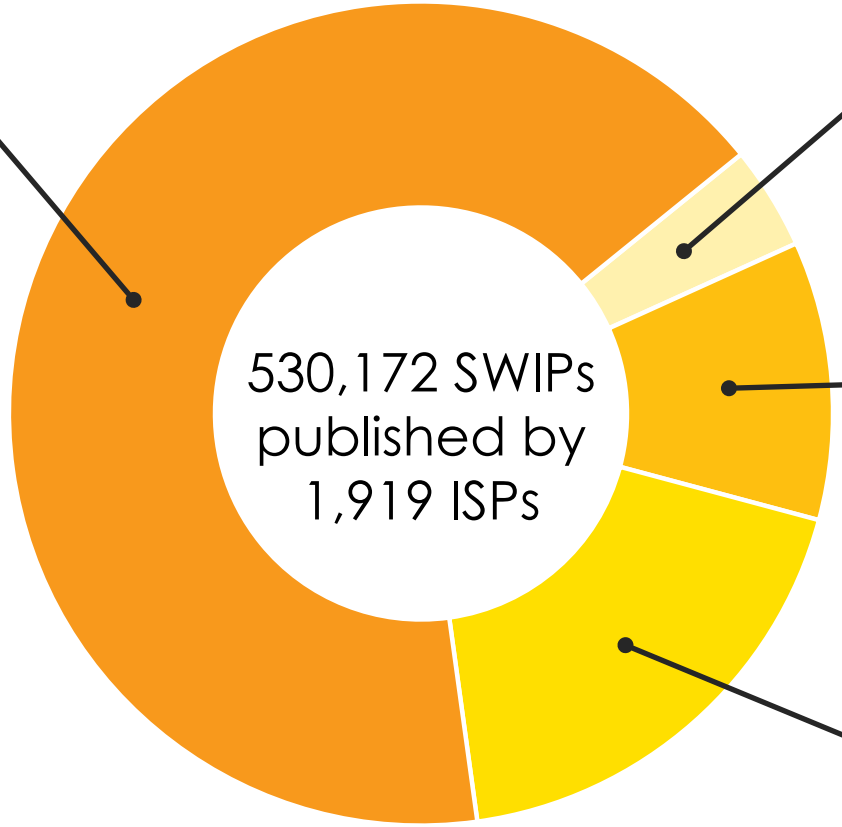
2,270 ISPs with 1-99 SWIPs
Total: 43,441 SWIPs (1%)

570 ISPs with 100-999 SWIPs
Total: 173,240 SWIPs (6%)

143 ISPs with 1,000-9,999 SWIPs
Total: 428,196 SWIPs (14%)

22 ISPs with 10,000-99,999 SWIPs
Total: 667,810 SWIPs (23%)

How many SWIPs requiring annual POC validation* has each ISP published?



6 ISPs with 10,000+ SWIPs
Total: 351,780 SWIPs (66%)

1,705 ISPs with 1-99 SWIPs
Total: 21,532 SWIPs (4%)

178 ISPs with 100-999 SWIPs
Total: 57,995 SWIPs (11%)

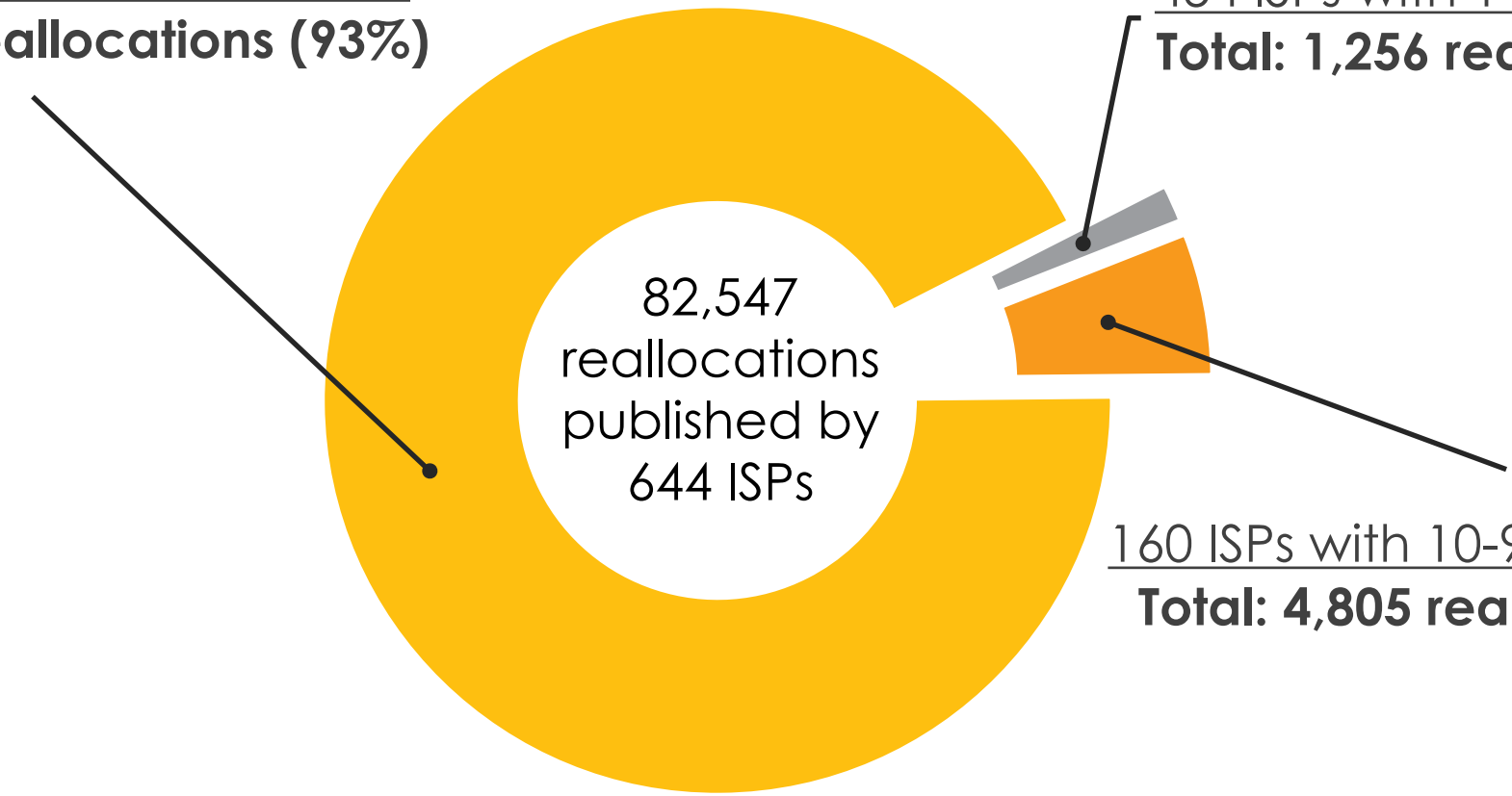
30 ISPs with 1,000-9,999 SWIPs
Total: 98,865 SWIPs (19%)

* Reallocations and detailed reassignments

How many reallocations has each ISP published?

30 ISPs with 100+ Reallocations
Total: 76,486 reallocations (93%)

454 ISPs with 1-9 Reallocations
Total: 1,256 reallocations (1%)



160 ISPs with 10-99 Reallocations
Total: 4,805 reallocations (6%)

What does this tell us?

- 79% of SWIPs are not required to be validated
- Only 51% of ISPs publish SWIP records
- 6 ISPs are responsible for maintaining 66% of SWIPs requiring annual validation

Questions?