

# Addressing Prefix Reachability Issues

Frank Salanitri  
Project & Systems Services Manager,  
APNIC

# Overview

- Background
- The problem
- APNIC Resource Quality Assurance
  - Scope
  - Strategy
  - Future Projects
- 14/8 testing in Australia

# Why IP addresses are blocked?

- IP address can get filtered for various reasons:
  - Outdated bogon lists
  - Past abusive behaviour
  - Blacklist from spamming and DOS attacks
  - Security/access policies

# IP Filtering methods

- Route filtering
- Application filtering, esp. Mail
- Firewall filtering



# The Problem

- Legitimate internet traffic fails to reach the destination due to outdated filters and black/bogon lists
- RIR seen as responsible for allocating 'unusable' blocks
- Situation worsens as free pool of IPv4 addresses reaches exhaustion
  - New address blocks attract un-wanted levels of traffic from private-use domains, mis-configured equipment, and scanning activity.
  - Prefixes get recycled

# Resource Quality Assurance

APNIC acts to minimize any problems in routability through communication, training, and testing

## Testing for new /8 blocks

- NOC mailing lists notification
- Reachability test conducted in conjunction with RIPE NCC
- APNIC conducts further testing, to quantify the extent to which networks attract “pollution” or “unwanted” traffic

# Resource Quality Assurance

- **Community awareness campaign**
  - Build relationships with reputable organizations that maintain bogon/black list
  - Education through publications and APNIC training materials
  - Keep the Whois Database accurate
    - Actively remind resource holders to update their data

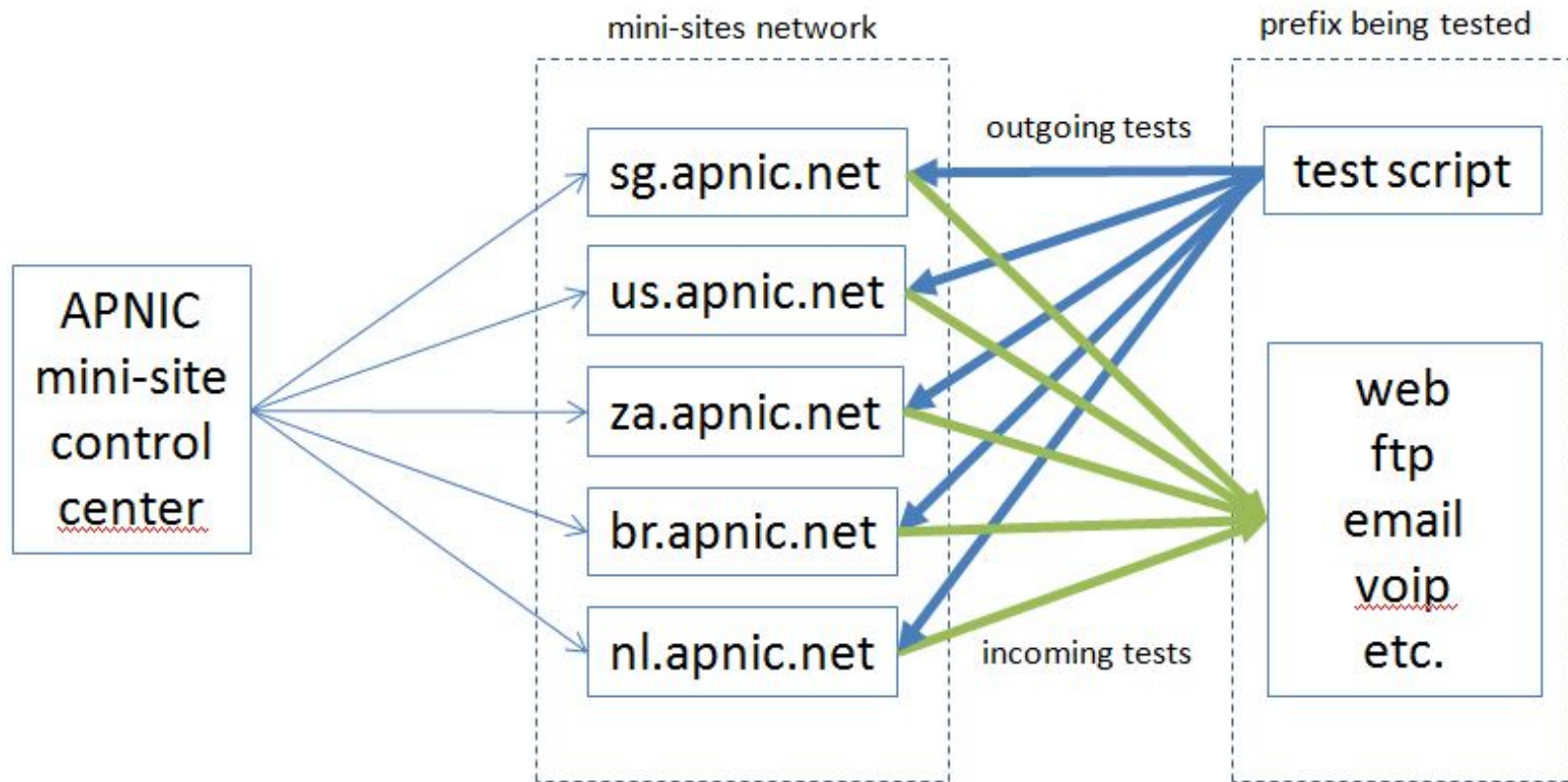


# Future projects

- **APNIC managed mini-sites (bots) at strategic locations**
  - Application level tests (http/https, dns, mail, ftp, ssh/telnet, voip, xmpp, vpn etc.)
  - Tests both outgoing and incoming connections to the prefix being tested
  - Reachable on both IPv4 and IPv6
    - To test IPv4 – IPv6 transition works

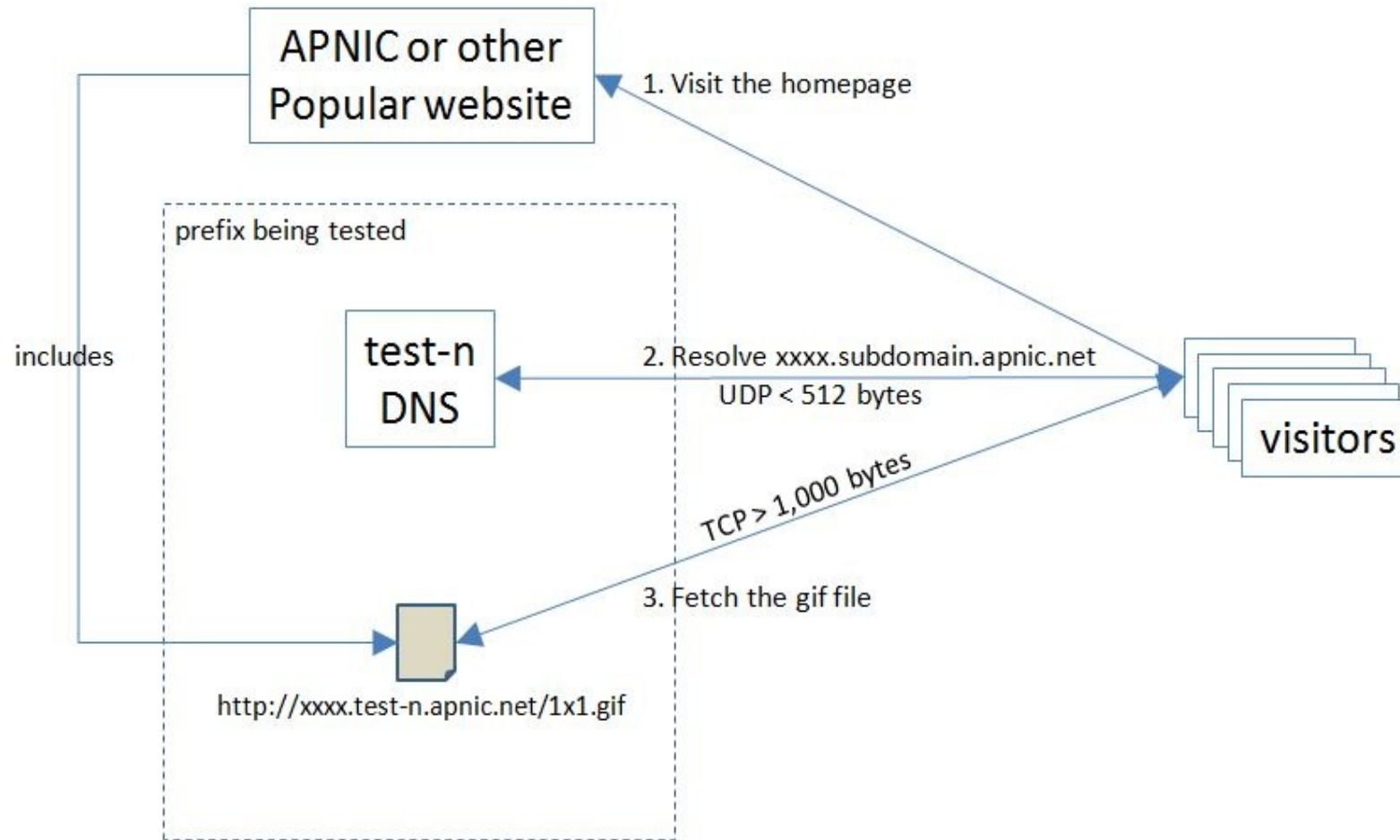


# Under consideration 1





# Under consideration 2





# 14/8 Testing in Australia

- Announced 14.0.5.0/24 with AS1221 via Telstra.
- Testing transmission of TCP SYN packets on port 80 & 443.
- Testing 260 Australian websites.
- 126 unreachable.
  - 42 application filtering (pingable).
  - 84 other problems.

# 14/8 Testing in Australia

- I could...
  - Register for AusNOG-04
  - Book accommodation at the Four Seasons
  - Fly to Sydney with Qantas or JetStar
  - Buy a new iPad
- But not...
  - Apply for a defense job
  - Find local post office in The Rocks area
  - Contact to Customs, AFP or NSW police
  - Pay my taxes or claim centrelink benefits



# What you can do

- **Manage bogon filtering responsibly**
  - To ensure that addresses are not mistakenly filtered through routers, it is important to keep router ACLs updated
  - Talk to your customers, upstreams and peers.
- **Keep informed about bogon filters and IANA allocations.** Visit regularly:
  - [Team Cymru](#)
  - [IANA](#)

**We need your help, so let's  
work together**

Thank you

frank@apnic.net