



# Protect Your Business with Robocall Prevention

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# Today's Presenters:



Jim Dalton  
CEO TransNexus  
[jim.dalton@transnexus.com](mailto:jim.dalton@transnexus.com)



Alan D Percy  
CMO TelcoBridges  
[alan.percy@telcobridges.com](mailto:alan.percy@telcobridges.com)

# Agenda



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- Introduction
- Why Stop Robocalls?
- Tools to stop Robocalls and Telephony Denial of Service Attacks
- SHAKEN
- Integration Options
- Next Steps

# Introduction



## TransNexus – Telecom Solutions since 1997

- Routing and Analytics
  - Least cost routing
  - Toll fraud prevention
  - CDR analysis, rating and reporting
- New Tools for Today's Challenges
  - Robocall prevention
  - Telephony Denial of Service (TDoS) protection
  - STIR/SHAKEN solutions and SHAKEN certificates
- Cloud based or on-premises software

## Signaling and Media Gateways

TMG800



TMG3200



TMG7800



## Virtualized Session Border Controller Software



## Support and Professional Services



Why Stop  
Robocalls?





# Why Stop Robocalls?

- Regulatory Initiatives
  - 2017 Block calls from invalid, unassigned or unused numbers
  - 2019 Block calls based on reasonable analytics
- Match your competition and Reduce churn
  - Subscribers hate robocalls
  - Protect enterprises from Telephony Denial of Service attacks
- New Opportunities with SHAKEN
  - SHAKEN mandated for deployment by June 2021
  - Better call completion rates for enterprises
  - New revenue from Rich Call Data

# Tools for stopping robocalls



# Blacklisting

- Easy to use web interface
- Shield database managed by TransNexus
  - Invalid calling numbers
  - Do not originate numbers
  - High risk calling numbers
- Block Neighbor Spoofing calls
- Multi-tenant API can give subscribers control of their individual blacklist or whitelist



# Call Analytics

- Dynamic traffic analysis
  - Detects robocalls based on call rate
  - Learns normal call patterns
- Dynamic Calling Number Reputation
  - 500,000+ honey pots
  - Live traffic analysis
  - End user feedback



# Response options

- Report only
- Block
- Send to voicemail
- Send to CAPTCHA
- Modify caller display name (CNAM)

# TDoS—a serious threat

- Types of **Telephony Denial of Service** (TDoS):
  - Robocalls—meant to be answered, but they can overwhelm service and staff
  - Deliberate attack intended to shut down the telephone service
    - Competitors
    - Pranks by hackers
      - In 2017, an 18-year-old in Arizona took down 911 emergency response service
    - Divert attention while hacking another system
    - Prevent calls to financial institutions while making fraudulent charges
- All can **cripple the delivery** of critical services

# TDoS Success Stories

- “The customer noticed an immediate change. As soon as ClearIP services started, robocalls disappeared from their call log.”

Telware – Managed Voice Service

- “We’ve been using ClearIP TDoS prevention for over a year now. It’s been quite effective in identifying and blocking these attacks.”

Discount Travel Agency – Cleveland, OH

- “The combination of ProSBC and TransNexus’ ClearIP has blocked more than 95-percent of the would-be robo calls.”

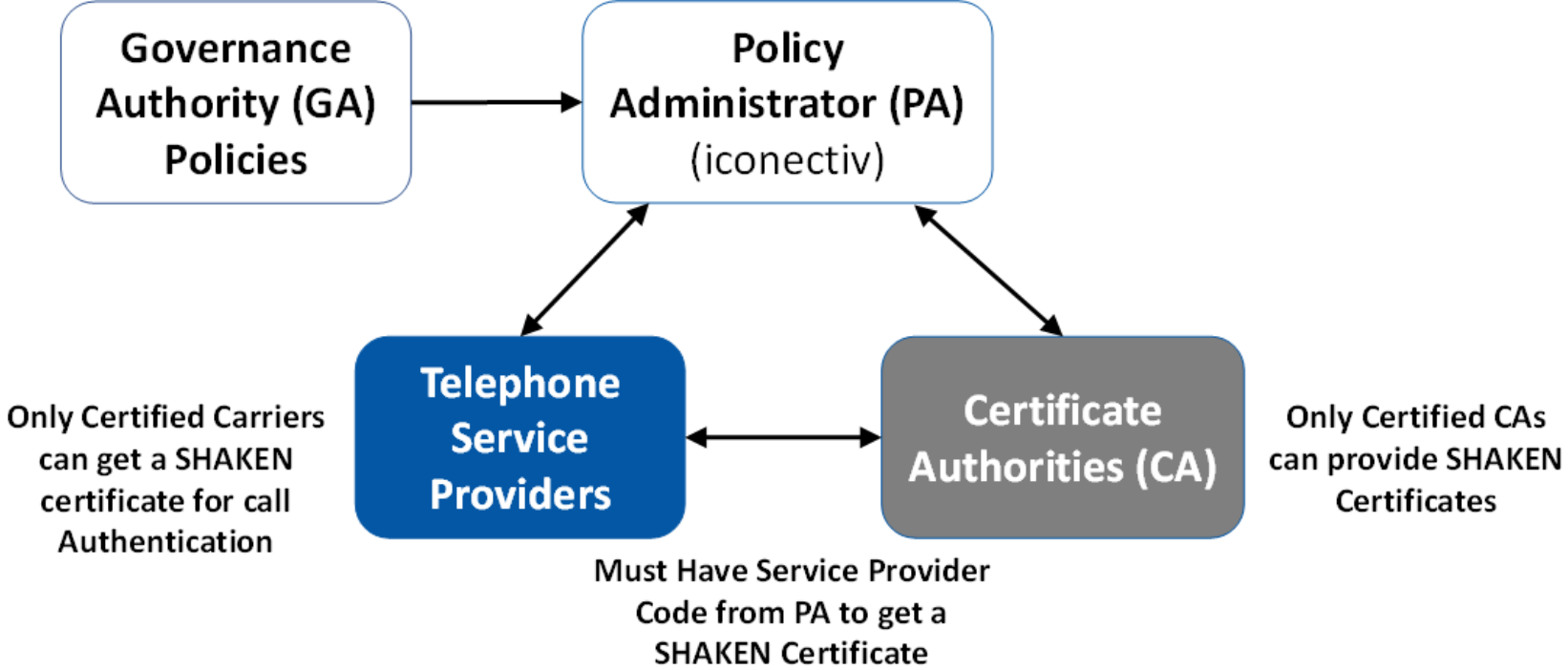
Matt Ussery, CEO Austen Consultants

# SHAKEN - Trusted Telephone Calls





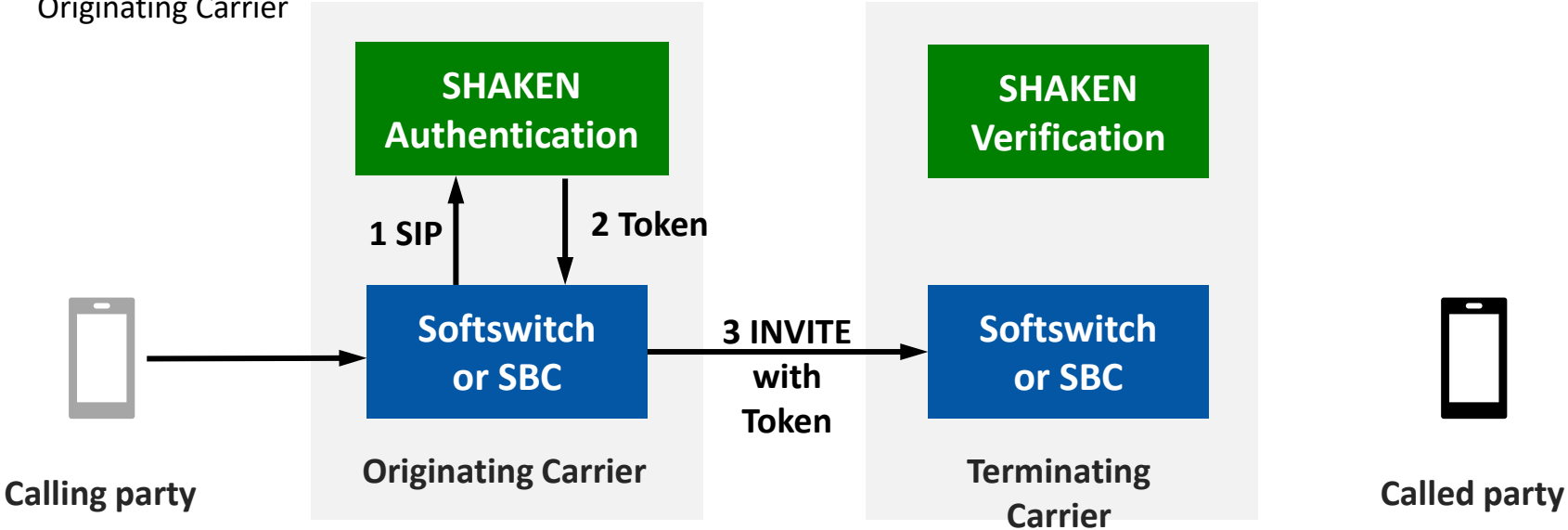
# SHAKEN Trust Anchor



# SHAKEN Authentication

Certificate Repository

Token is signed with the **Private Key** of the Originating Carrier



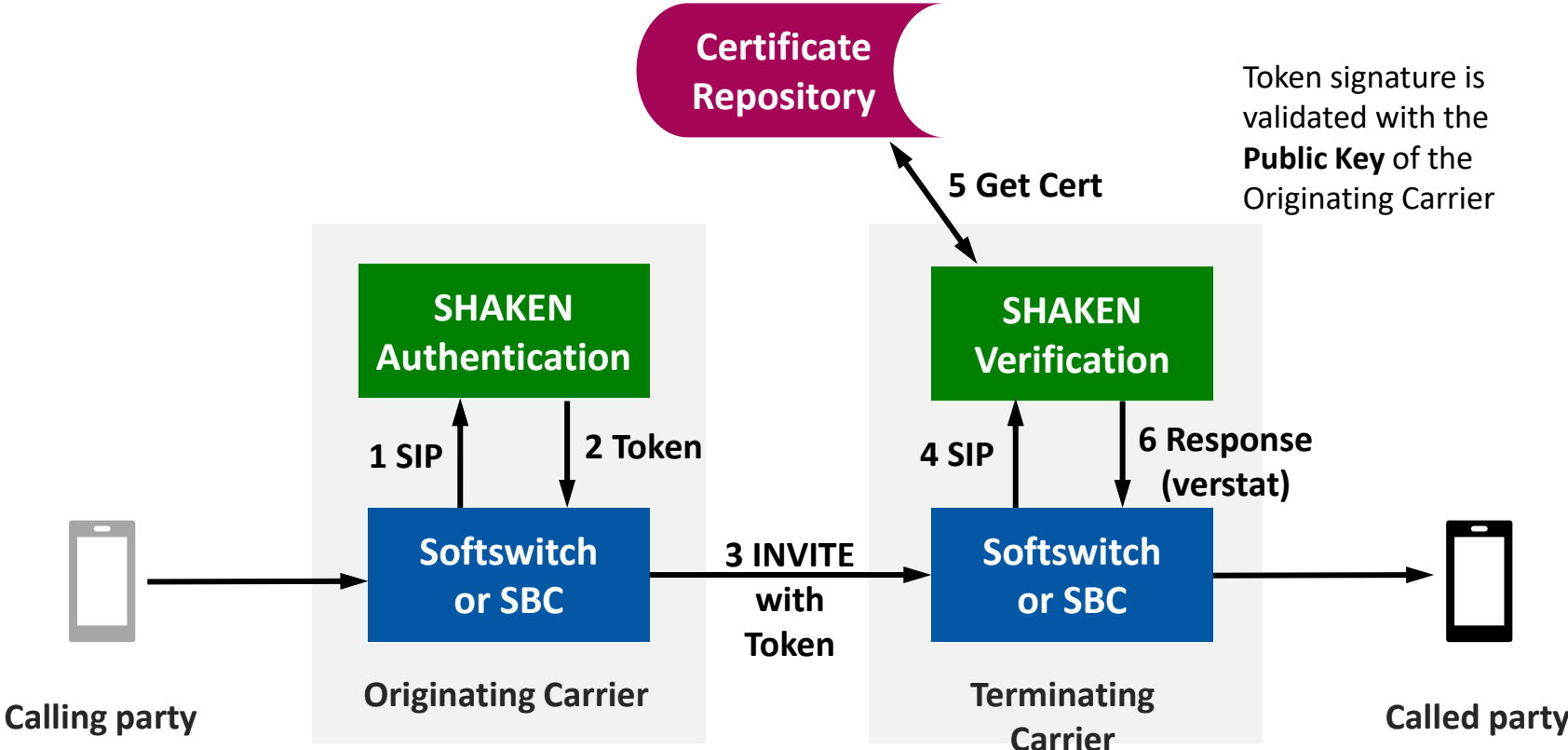
# Authentication identity token

```
"header":  
  "alg": "ES256"  
  "typ": "passport"  
  "ppt": "shaken"  
  "x5u": https://certificates.clearip.com/4a8eb5-461b.crt  
"payload":  
  "attest": "A"  
  "dest": { "tn": [ "14695858065" ] }   Called Number  
  "iat": 1529071382                     Time Stamp  
  "orig": { "tn": "12013776051" }       Calling Number  
  "origid": "4aec94e2-508c-4c1c-907b-3737bac0a80e" }
```

**Attestation Values:**  
A = Trusted Number  
B = Trusted Trunk  
C = No Trust

**origid used  
for trace back**

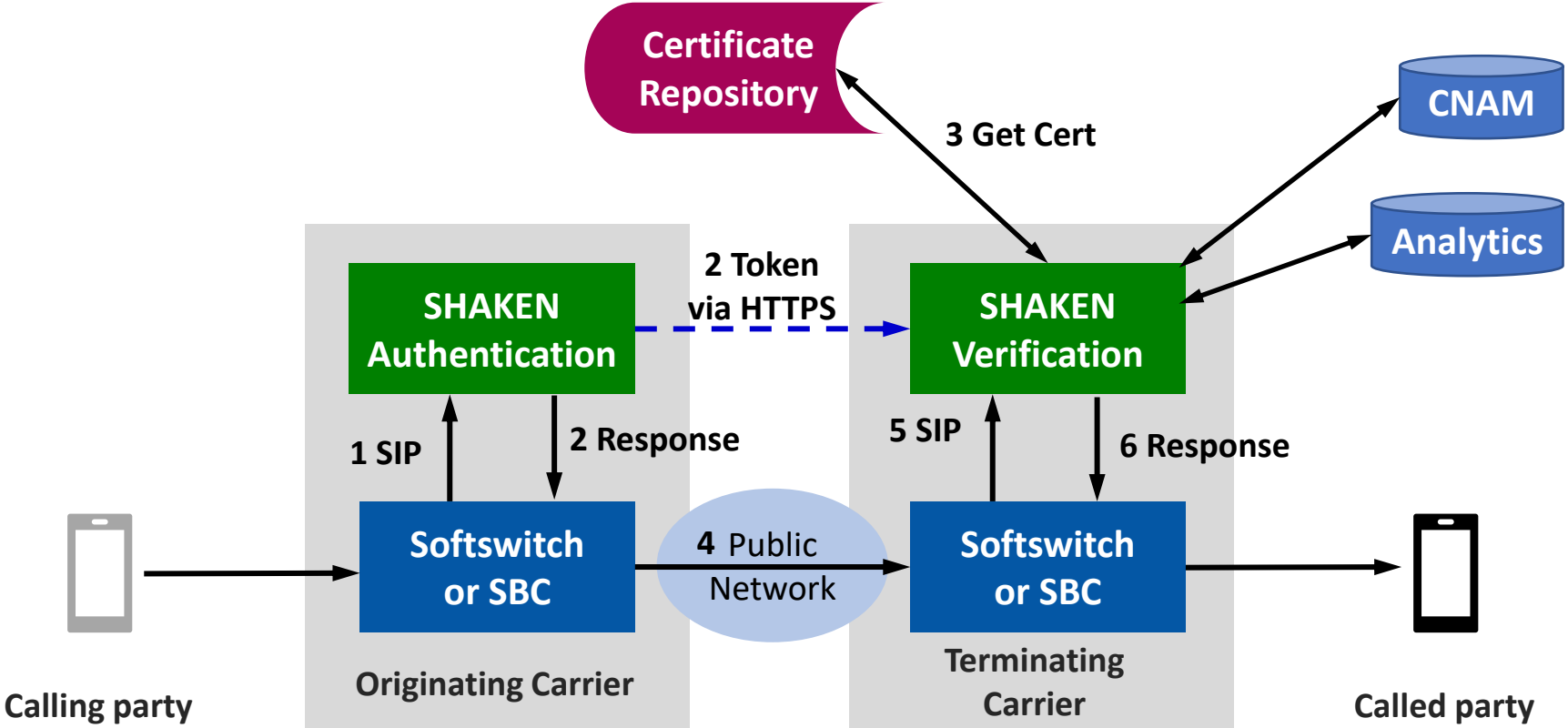
# SHAKEN Verification



# Concerns for Small Carriers

- Cannot obtain SIP Interconnects
- Being shut-out from the SHAKEN trust network
- Reverse Rural Call Completion
- Out-of-Band SHAKEN offers a solution
  - First developed in the IETF since 2013
  - Being defined as a technical specification for SHAKEN
  - Work is being lead by NetNumber, NeuStar and TransNexus
  - In production with TransNexus customers since May 2019

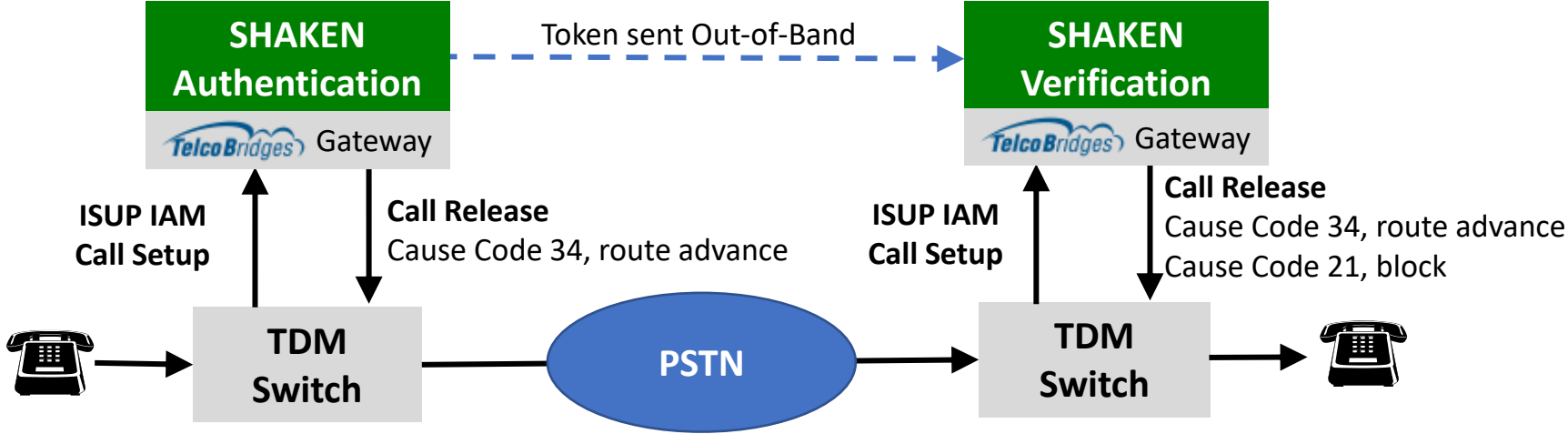
# Out-of-Band SHAKEN



SHAKEN for TDM



# SHAKEN for TDM Call Flow





# Carriers Fighting Robocalls



Integrating SHAKEN into our network was not difficult. It took five days.  
Lee Chambers, General Manager



SHAKEN works - more companies need to implement.  
Chris McNamara, Network Operations Manager



# Next Steps

- Request a Consultation
  - Guide you through PA registration
  - Review/Assist network configurations
  - FREE Trial with 1 Million calls
  - FREE 90-Day ProSBC subscription

<https://transnexus.com/contact-us/>



# Solutions for Robocalls and SHAKEN



[www.transnexus.com](http://www.transnexus.com)

<https://transnexus.com/contact-us/>

[Jim.Dalton@transnexus.com](mailto:Jim.Dalton@transnexus.com)

1-404-526-6060



- [www.telcobridges.com](http://www.telcobridges.com)
- [www.prosbc.com](http://www.prosbc.com)
- [sales@telcobridges.com](mailto:sales@telcobridges.com)
- [Youtube.com/telcobridges](https://www.youtube.com/telcobridges)