Caller Identity Verification:
STIR/SHAKEN as a Model for Protecting the Network, Consumers and Businesses

Chris Drake

CTO

iconectiv®

keeping the world connected

we imagine a world without boundaries, where the ability to access and exchange information is
simple,
seamless
and secure.

active participation
in telecoms industry

5K+
global customer base

including wireline, wireless and VoIP service providers, cable companies, regulators and enterprises

trusted communications leader

our cloud-based Software as a Service (SaaS) solutions span network and operations management, numbering, trusted communications and fraud prevention.

industry programs

Registered
Caller™

short code
registry™

STI Governance Authority

NPAC

FC

2B
connections daily

enabling the simple, seamless and secure interconnection of networks, devices, and applications for more than 2B people every day.

industry forum leadership

active participants in more than ~50 industry working groups, committees and initiatives.
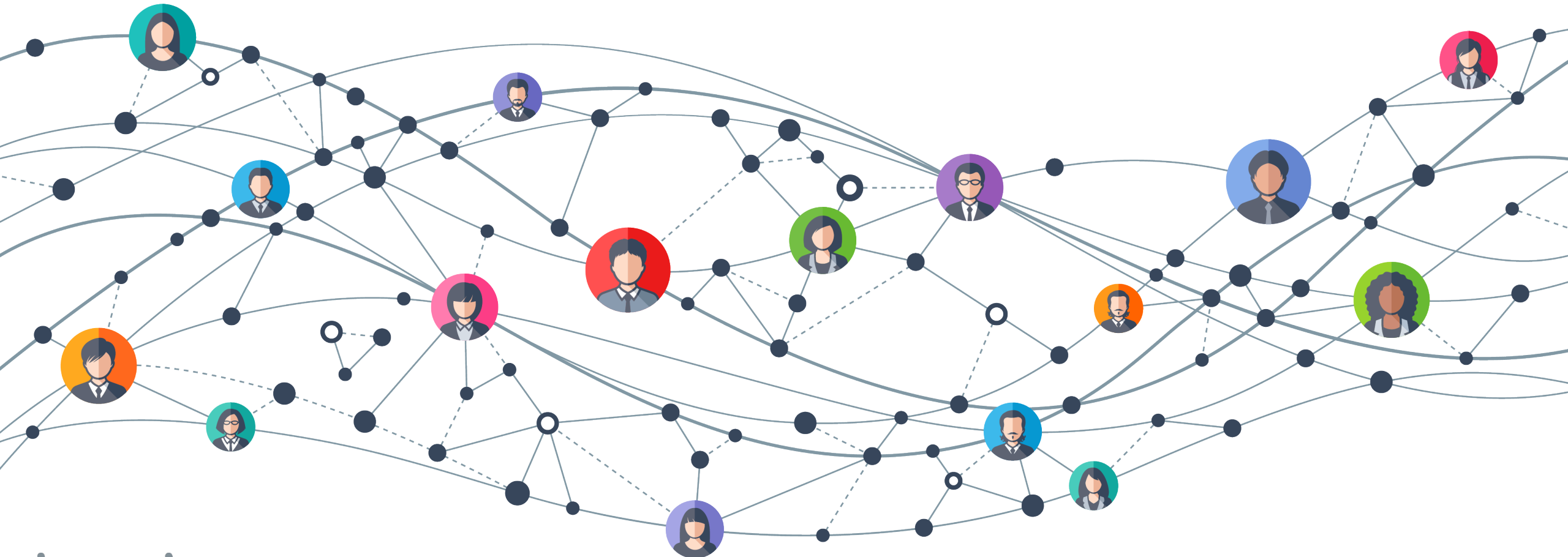
ITU
atis
ctia
FC
CSCC
ETSI
MEF
METRO ETHERNET FORUM
IETF
CCA
SIP FORUM
GSMA
PACE
NENA
THE 9-1-1 ASSOCIATION

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keeping the world connected and protected

Networks　　　　**Consumers**　　　　**Businesses**

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STIR/SHAKEN highlights

STIR/SHAKEN Standards

Certificate Authority

Certificate Repository

Authentication Service

Verification Service

adds new SIP identity header secured with X.509 PKI

SIP Proxy

SIP Proxy

Originating SP (OSP)

Terminating SP (TSP)

Calling party
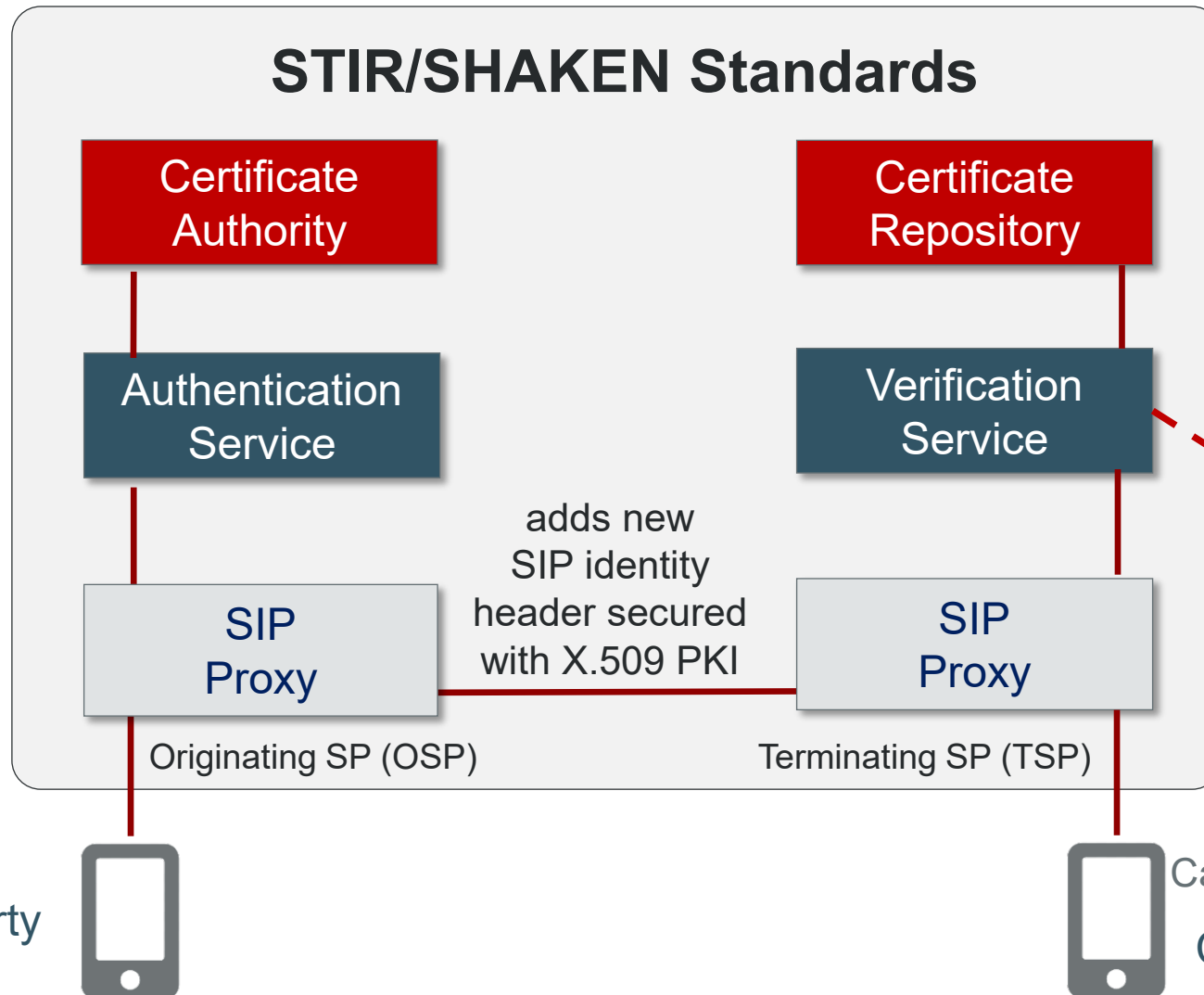
Called party

CallerID Attestations

(A) fully authenticated

(B) partially authenticated

(C) gateway (i.e., unknown)

Origination ID (OrigID)

For rapid traceback

Call Validation Treatment (CVT)

Call blocking & display analytics

CallerID display

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4

protection starts with knowing the caller

caller identity

right to use number

call branding

call reason

Rx ✔

Your Pharmacy
888-888-8888

calling about a prescription question

The Originating Service Provider **knows their customer better than anyone else**.

STIR/SHAKEN lets them **send this caller information** to other networks in a tamper-proof manner and at global scale

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robocalling and STIR/SHAKEN in the U.S

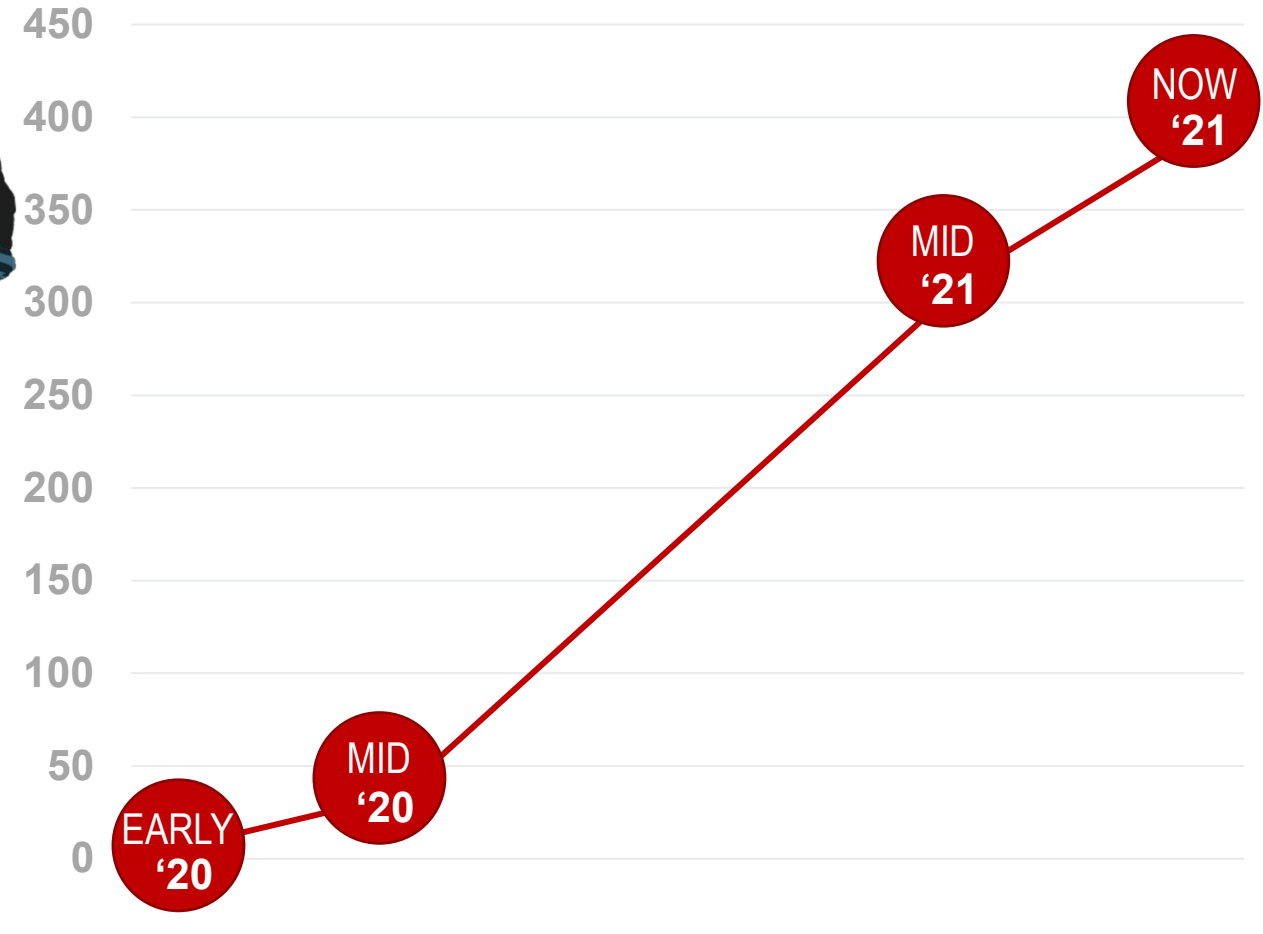**31%** fraud originates from phone calls (robotexts scams rising fast)

80% of consumers do not answer calls from unknown numbers

48ᴮ robocalls Americans received

13.5ᴮ what robocall losses cost consumers

Service Provider Participation

450
400
350
300
250
200
150
100
50
0

EARLY '20
MID '20
MID '21
NOW '21

what is next for STIR/SHAKEN

30%

Decline in robocalls within the first 90 days of deployment
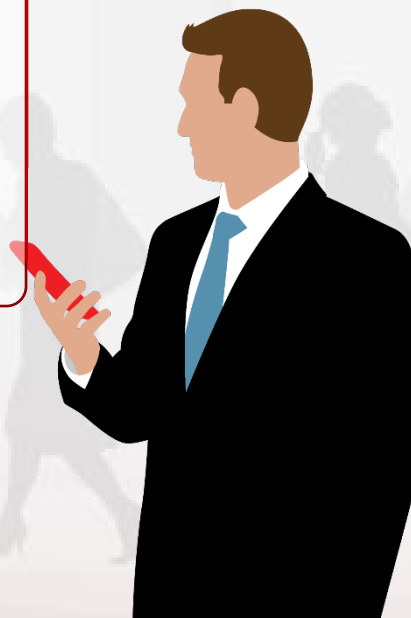
Support from businesses and very high interest in branded calling

Nov. 30, 2021 STIR/SHAKEN in Canada

Regulator and service provider interest globally
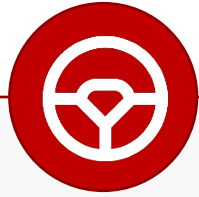
Adaptations are under discussion

Robotexting and SMS spam/scam

All network signalling needs to be secure

United States

Globally

Future

3 key factors for secure, tamper-proof signalling

control

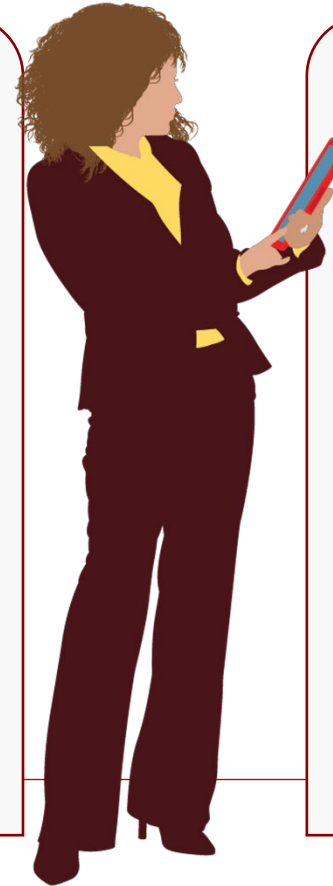Can you control who you let into the ecosystem?

And can you advise legitimate participants how to recognize each other?

certificates

Can you enforce who gives out the certificates that allow participation in the ecosystem?

So impersonators cannot bypass eligibility controls

oversight

Is there ongoing monitoring and a process to revoke certificates in the case of misuse?

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let's connect

Chris Drake

cdrake@iconectiv.com

www.iconectiv.com

@iconectiv

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