Why I am here

ICO for my Blockchain startup doing virtual reality quantum computing
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LOL, JK
Layers of Argumentation

• Verified caller ID will help but will not be sufficient
• Economic disincentives are the optimal technique
• There exists a cost target which can disincent attackers while not being overly burdensome for non-attackers
• The cost target can paid via computational work
Layers of Argumentation

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Consistent feedback that people don’t like this part – there are other ways though!
Verified Caller ID will not be Sufficient

- Verified international numbers from countries which offer numbers at low cost
- Domestic numbers allocated from “hungry” CLECs or other providers willing to offer them
- 10B numbers in North American numbering plan – lots of empty space
- Even with reduction of available number pool – temporal and spatial rotation of numbers
Economic Disincentives are the Optimal Technique

• Well established technique for incenting or disincenting behaviors in other industries

• Without economic disincentive there is always incentive to workaround other techniques
Is there a valid cost target?

• How much does a spammer make per call?
  • 2.5B RoboCalls in April 2017
  • $350M cost to Americans between 2011 and 2013 = $350M profit
  • $350M over 36 months = $97.5M profit per month
  • $9.7M using 2.5B calls = .38 cents/call
  • 50% profit erosion = death = .19 cents/call
How much do consumers pay today?

• $100 monthly phone bill
• Maximum of 3% cost increase to prevent robocalls = $3
• Average American makes or receives 6 calls/day. With symmetry, places 3 calls/day = 90 calls/month
• $3 cost per month /90 calls = 3.3 cents/call

BUT – we only need to increase costs for introduction calls – calls to users that have not accepted a call from the caller previously
The Introduction Exception

• No cost for calls to numbers on a user’s contact list
• No cost for calls to numbers, if that user previously accepted a call from that number and remained on the call for – say – 5 minutes
• No cost for calls to numbers, where the callee had previously called the caller

• Let us say that – with these kinds of rules – 1% of calls are subject to cost – the acceptable cost per call to a consumer could be 100x higher – 300.3 cents per call
There is a solution here!

More than a 50% hit to profit margin

Less than 3% cost increase for consumers

Cost per call

Operating Range

.19  .38  3.3  300.3
Ways to create cost

• Proof of work (proposal in draft)
• Proof of stake
• Direct payment to trusted CAs

Lunch Discussion today Hilton Meeting Rooms 1-4