

# RSA

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- ▶ For an attacker to crack the message, he needs to find the values of  $P$  and  $Q$  using  $N$ . This is extremely difficult for large primes.
- ▶ Takes more than 70 years if  $N$  is 100 digit
- ▶ If Alice and Bob use RSA, it'll be difficult to crack their communication

“Factoring as a Service” (<https://eprint.iacr.org/2015/1000.pdf>), published in 2015, used Amazon EC2 cloud resources to factorize a 512-bit RSA modulus in just four hours for \$75. What are the implications for network security?