MysteryTwister C3

THE CRYPTO CHALLENGE CONTEST

# RSA Factoring Challenge: RSA-2048

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# Introduction

The RSA crypto system by Rivest, Shamir and Adleman is the most well-known modern crypto system. In 1991 RSA Inc [1] published 54 challenges with various key lengths for the modulus N (100 to 617 decimal digits).

These RSA cipher challenges [2] were the most well-known crypto challenges. RSA Inc initially advertised prize money for the solution of 14 of these challenges [3]. When RSA Inc stopped the contest in 2007, the money for 8 prizes was already payed. By now (status January 2012), 16 of initially 54 challenges have been solved.

RSA Inc permited the MTC3 team to host the remaining 38 challenges and to offer it within the MTC3 contest as challenges. Thanks to Ari Juels.

# RSA-2048

For solving the RSA-2048 challenge it is necessary to factor the following decimal number with 617 decimal digits (2048 bit):

N = 25195908475657893494027183240048398571429282126204032027777137836043662020707595556264018525880784406918290641249515082189298559149176184502808489120072844992687392807287776735971418347270261896375014971824691165077613379859095700097330459748808428401797429100642458691817195118746121515172654632282216869987549182422433637259085141865462043576798423387184774447920739934236584823824281198163815010674810451660377306056201619676256133844143603833904414952634432190114657544454178424020924616515723350778707749817125772467962926386356373289912154831438167899885040445364023527381951378636564391212010397122822120720357

For the solution, please hand in one of the two prime factors as a decimal number.

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# Sources


[1] http://www.rsa.com

[2] http://en.wikipedia.org/wiki/RSA_Factoring_Challenge
http://en.wikipedia.org/wiki/RSA_numbers

[3] http://www.rsa.com/rsalabs/node.asp?id=2093

# Appendix

A "cipher challenge" is a cryptographic problem that has been published, sometimes with a prize offered for cracking it.

When a cipher challenge has not yet been cracked despite many attempts, then confidence in the propagated system rises. If someone succeeds in cracking the problem, then the cryptosystem with the specified parameters is no longer regarded as secure.