Report on the Development of the Advanced Encryption Standard (AES)

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Abstract:
In 1997, the National Institute of Standards and Technology (NIST) initiated a process to select a symmetric-key encryption algorithm to be used to protect sensitive (unclassified) Federal information in furtherance of NIST"s statutory responsibilities. In 1998, NIST announced the acceptance of fifteen candidate algorithms and requested the assistance of the cryptographic research community in analyzing the candidates. This analysis included an initial examination of the security and efficiency characteristics for each algorithm. NIST reviewed the results of this preliminary research and selected MARS, RC6™, Rijndael, Serpent and Twofish as finalists. Having reviewed further public analysis of the finalists, NIST has decided to propose **Rijndael** as the Advanced Encryption Standard (AES). The research results and rationale for this selection are documented in this report.

Key words: Advanced Encryption Standard (AES), cryptography, cryptanalysis, cryptographic algorithms, encryption, Rijndael.

NIST
National Institute of Standards and Technology
Technology Administration, U.S. Department of Commerce

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Report On The Development Of The Advanced Encryption Standard Aes

Randall K. Nichols,Panos C. Lekkas

Report On The Development Of The Advanced Encryption Standard Aes:

Report on the Development of the Advanced Encryption Standard (AES). ,2000 In 1997 the National Institute of Standards and Technology NIST initiated a process to select a symmetric key encryption algorithm to be used to protect sensitive unclassified Federal information in furtherance of NIST s statutory responsibilities In 1998 NIST announced the acceptance of fifteen candidate algorithms and requested the assistance of cryptographic research community in analyzing the candidates This analysis included an initial examination of the security and efficiency characteristics for each algorithm NIST reviewed the results of this preliminary research and selected MARS RC6 TM Rijndael Serpent and Twofish as finalists Having reviewed further public analysis of the finalist NIST has decided to propose Rijndael as the Advance Encryption Standard AES The research results and rationale for this selection are documented in this report **Report on the Development of the Advanced Encryption Standard (AES)** James Nechvatal,2001-12-01 In 1997 NIST initiated a process to select a symmetric key encryption algorithm to be used to protect sensitive unclass Fed info In 1998 NIST announced the acceptance of 15 candidate algorithms and requested the assistance of the cryptographic research community in analyzing the candidates This analysis included an initial exam of the security and efficiency characteristics for each algorithm NIST reviewed the results of this research and selected MARS RC Rijndael Serpent and Twofish as finalists After further public analysis of the finalists NIST has decided to propose Rijndael as the AES The research results and rationale for this selection are documented here Topics in Cryptology - CT-RSA 2001 David Naccache,2003-06-29 You are holding the rst in a hopefully long and successful series of RSA Cr tographers Track proceedings The Cryptographers Track CT RSA is one of the many parallel tracks of the yearly RSA Conference Other sessions deal with government projects law and policy issues freedom and privacy news analysts opinions standards ASPs biotech and healthcare nance telecom and wireless security developers new products implementers threats RSA products VPNs as well as cryp graphy and enterprise tutorials RSA Conference 2001 is expected to continue the tradition and remain the largest computer security event ever staged 250 vendors 10 000 visitors and 3 000 class going attendees are expected in San Francisco next year I am very grateful to the 22 members of the program committee for their hard work The program committee received 65 submissions one of which was later withdrawn for which review was conducted electronically almost all papers had at least two reviews although most had three or more Eventually we accepted the 33 papers that appear in these proceedings Revisions were not checked on their scienti c aspects and some authors will write nal versions of their papers for publication in refereed journals As is usual authors bear full scienti c and paternity responsibilities for the contents of their papers **Journal of Research of the National Institute of Standards and Technology** ,1999 Reports NIST research and development in the physical and engineering sciences in which the Institute is active These include physics chemistry engineering mathematics and computer sciences Emphasis on measurement methodology and the basic technology underlying standardization Topics in

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