

Overview of AES

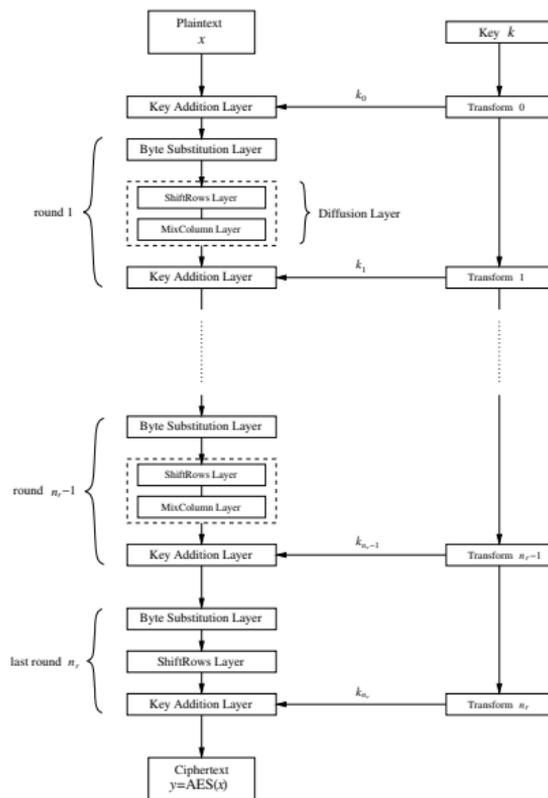


Fig. 4.2 AES encryption block diagram

Let $f(x) = x + 1$ $h(x) = x^2 + x + 1$
 $g(x) = x^2 + x$ $p(x) = x^3 + x + 1$

1. Perform the following calculations in $\mathbb{Z}_2[x]$

(a) $f(x) \cdot g(x)$

(b) $f(x) \cdot h(x)$

(c) $g(x) \cdot h(x)$

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 - (a) $f(x) \cdot g(x)$
 - (b) $f(x) \cdot h(x)$
 - (c) $g(x) \cdot h(x)$

2. Perform the following calculations in $\mathbb{Z}_2[x]/p(x)$
 - (a) $f(x) \cdot g(x)$
 - (b) $f(x) \cdot h(x)$
 - (c) $g(x) \cdot h(x)$