SQL Server 2008 includes a comprehensive suite of modern encryption technologies. SQL Server provides access to encryption features, like cell-level encryption, database-level encryption, and built-in encryption key management. In this chapter, I’ll introduce the basics of SQL Server encryption, including the encryption hierarchy and encryption key management.

**SQL Encryption Key Hierarchy**

SQL Server uses a hierarchical model to manage keys and secure data. Figure 2-1 shows the SQL Server 2008 encryption hierarchy.
Figure 2-1. SQL Server 2008 encryption hierarchy

This model is similar to selected options from the ANSI X9.17 standard “Financial Institution Key Management (Wholesale),” which is published by the American National Standards Institute (ANSI). ANSI X9.17 describes a hierarchical structure for encryption key management. Figure 2-2 shows the ANSI X9.17 encryption hierarchy.