



# Chapter 1

## Secure State Machine Model

### 1.1 State Machines

#### 1.1.1 Configuration

#### 1.1.2 Next-state Function

#### 1.1.3 Next-output Function

#### 1.1.4 Transition Commands

### 1.2 Secure State Machines

#### 1.2.1 State Machine Versus Secure State Machine

#### 1.2.2 Monitors

#### 1.2.3 Configuration

#### 1.2.4 Transition Types

##### 1.2.4.1 *exec*

##### 1.2.4.2 *trap*

##### 1.2.4.3 *discard*

#### 1.2.5 Authentication

#### 1.2.6 Authorization

### 1.3 Secure State Machines<sup>ii</sup> in HOL

#### 1.3.1 Parameterizable Secure State Machine