# CWE Detail – CWE-1294

## Description

The System-on-Chip (SoC) implements a Security Identifier mechanism to differentiate what actions are allowed or disallowed when a transaction originates from an entity. However, the Security Identifiers are not correctly implemented.

## Extended Description

Systems-On-Chip (Integrated circuits and hardware  
 engines) implement Security Identifiers to  
 differentiate/identify actions originated from various  
 agents. These actions could be 'read', 'write', 'program',  
 'reset', 'fetch', 'compute', etc. Security identifiers are  
 generated and assigned to every agent in the System (SoC)  
 that is either capable of generating an action or receiving  
 an action from another agent. Every agent could be assigned  
 a unique, Security Identifier based on its trust level or  
 privileges. A broad class of flaws can exist in the Security  
 Identifier process, including but not limited to missing  
 security identifiers, improper conversion of security  
 identifiers, incorrect generation of security identifiers,  
 etc.

## Threat-Mapped Scoring

Score: 0.0

Priority: Unclassified

## Related Attack Patterns (CAPEC)

* CAPEC-121
* CAPEC-681

## Modes of Introduction

**•** Architecture and Design: Such issues could be introduced during hardware architecture and design, then identified later during Testing or System Configuration phases.

**•** Implementation: Such issues could be introduced during hardware implementation, then identified later during Testing or System Configuration phases.

## Common Consequences

**•** Impact: Modify Memory, Read Memory, DoS: Resource Consumption (Other), Execute Unauthorized Code or Commands, Gain Privileges or Assume Identity, Quality Degradation — Notes:

## Potential Mitigations

**•** Architecture and Design: Security Identifier Decoders must be reviewed for design inconsistency and common weaknesses. (Effectiveness: N/A)

**•** Implementation: Access and programming flows must be tested in pre-silicon and post-silicon testing. (Effectiveness: N/A)

## Applicable Platforms

**•** None (Class: Not Language-Specific, Prevalence: Undetermined)

## Notes

**•** Maintenance: This entry is still under development and will continue to see updates and content improvements.