

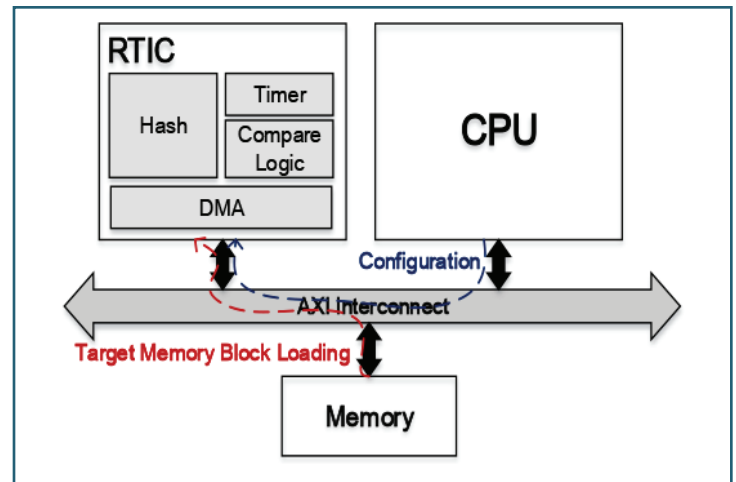
## Run-time Integrity Checker

### Overview

The Run-Time Integrity Checker (RTIC) is an IP designed for periodically checking the integrity of memory regions at runtime, being independent of the CPU. Every time the internal timers generate a trigger, the RTIC performs the integrity check by reading the target memory region, calculating the hash digest. After that, it finally compares the value to the previous one in order to detect any corruption in the region.

### Key Features

- Hardware-based Solution without Software Intervention
- Periodic Memory Integrity Checking based on Hash Comparison
  - o Supported Hash Algorithm : SHA-1/SHA2-256
  - o Two Internal Timers to Configure the Checking Period pattern
  - o Interrupt Generation when Memory Corruption is Detected
- Flexible Target Memory Block Access
  - o Data Gathering of Scattered Memory Region
- Multiple Target Memory Block Management
  - o Unlimited Number of Target Blocks with Descriptor Table in Memory
  - o Up to Five Target Blocks with Special Registers in RTIC
- Special Feature
  - o On-demand Hash Calculation without a Trigger from Timers



### Deliverables

- Encrypted RTL
- Data Sheet Document
- User Guide Document

### Applications

- Integrity Check for Code and Data in Memory

# SAMSUNG Foundry

For more information, please contact us at [IP@silvaco.com](mailto:IP@silvaco.com).

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# SILVACO

**HEADQUARTERS**  
 2811 Mission College Boulevard, 6th Floor  
 Santa Clara, CA 95054  
 Phone: 408-567-1000  
 Fax: 408-496-6080



**CALIFORNIA**

[sales@silvaco.com](mailto:sales@silvaco.com)  
 408-567-1000

**MASSACHUSETTS**

[masales@silvaco.com](mailto:masales@silvaco.com)  
 978-323-7901

**TEXAS**

[txsales@silvaco.com](mailto:txsales@silvaco.com)  
 512-418-2929

**JAPAN**

[jpsales@silvaco.com](mailto:jpsales@silvaco.com)

**EUROPE**

[eusales@silvaco.com](mailto:eusales@silvaco.com)

**FRANCE**

[eusales@silvaco.com](mailto:eusales@silvaco.com)

**KOREA**

[krsales@silvaco.com](mailto:krsales@silvaco.com)

**TAIWAN**

[twsales@silvaco.com](mailto:twsales@silvaco.com)

**SINGAPORE**

[sgsales@silvaco.com](mailto:sgsales@silvaco.com)

**CHINA**

[cnsales@silvaco.com](mailto:cnsales@silvaco.com)

[WWW.SILVACO.COM](http://WWW.SILVACO.COM)