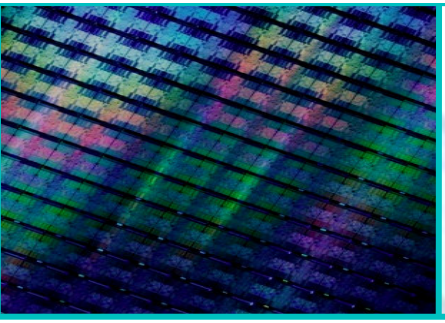
SynTest Technologies, Inc.

SYNTEST

The Testability Company

"Design Confidence Through Innovation"

MultiCoreScan™ Overview

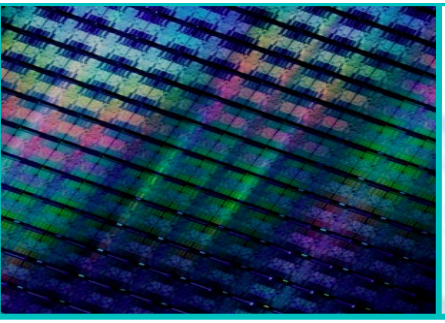


Overview of Multicore Scan ATPG

- Current Complex Designs need very high # of patterns
  - Testing for new causes of failures
    - Small delay defects
    - Crosstalk
  - Improving quality of first-silicon validation
  - improving yield by carrying out volume diagnosis
- ATPG has extremely high storage and run-time complexities.
- Need to minimize time taken for pattern generation

➢ Need to Employ Commercially available “multicore processor architecture”

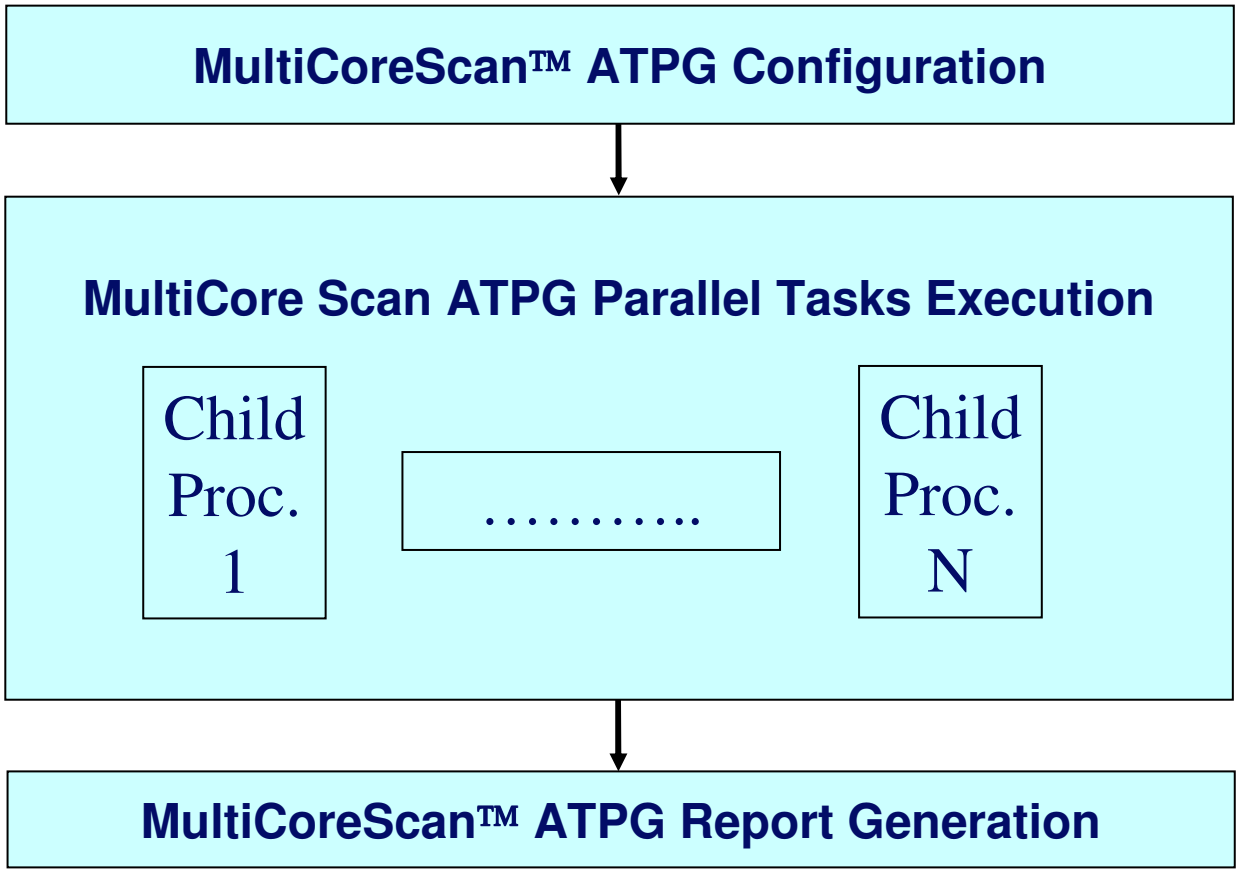
  - accelerates performance by running modules on each processor core
  - effectively utilizes all available cores, without sacrificing the acceleration achieved on each individual processor

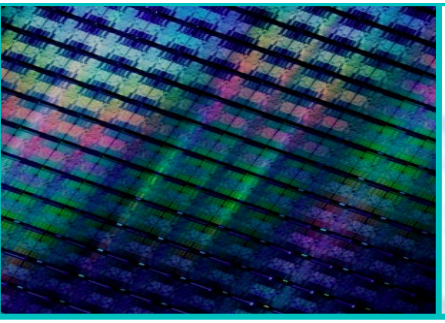


Benefits of MultiCoreScan™

- Exploits Computing Power of All Cores in a Platform
- Improves ATPG performance Dramatically
- ATPG Speed and Capacity Improvement Almost Linearly Proportional to # of Cores/Memory-channels
- Automatic Generation & Management of ATPG Tasks
- Automatic Identification, Configuration and Creation of Parallel ATPG Tasks Assigned to Multiple Cores

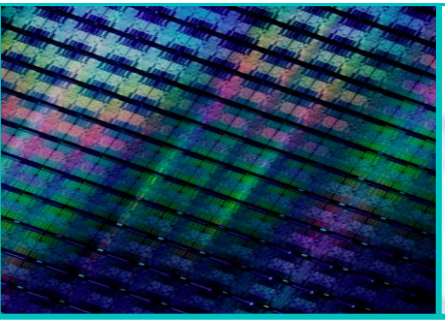
MultiCoreScan™ Platform Architecture





Features of MultiCoreScan™

- Supports Hybrid (Staggered + One-hot) ATPG
- Supports Dynamic Clock Reordering Algorithm
- Automatic results Correlation and Final Report Generation
- Based on SynTest Patented ATPG Capture Algorithms



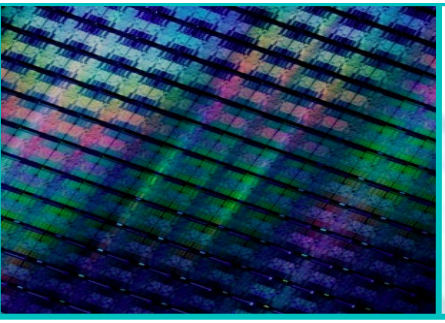
Typical Performance Enhancement

1M Gates 8 Clocks 33 Domains		Run Time	# Patterns	Hard-detected	Coverage
	Single-core	1X	5,348	2,559K	94.33%
	2-core	0.6X	5,371	2,559K	94.33%

5.5M Gates 6 Clocks 9 Domains		Run Time	# Patterns	Hard-detected	Coverage
	Single-core	1X	3,171	10,189K	98.01%
	2-core	0.71X	3,195	10,189K	98.01%
	4-core	0.65X	3,160	10,189K	98.01%

10.6M Gates 14 Clocks 38 Domains		Run Time	# Patterns	Hard-detected	Coverage
	Single-core	1X	16,115	14,663K	97.16%
	2-core	0.57X	16,294	14,663K	97.16%
	3-core	0.45X	16,367	14,663K	97.16%
	4-core	0.42X	16,544	14,663K	97.16%

Intel® Xeon® CPU
X5460 @ 3.16GHz
Quad-core
Cache size : 6144 KB



Thank you for your Attention