

SimPlus  *Verification*



Intelligent Test Bench Automation

May 2006



SimPlus Verification

- Based in Israel
- Established 2002
- 2005-6 marks move to worldwide distribution

**Our Goal: To become a Major Player in
EDA Verification Market**



Major Customers

- ✓ **Ceragon**
 - ✓ **CopperGate**
 - ✓ **Dblur Technologies**
 - ✓ **Go Networks**
 - ✓ **Elbit Systems**
 - ✓ **Ethernity Networks**
 - ✓ **InfraCom**
 - ✓ **Israeli Military Units**
 - ✓ **Resolute Networks**
 - ✓ **TranSwitch**
 - ✓ **Wavion**
 - ✓ **Wipro**
- Communication (FPGA)
 - Communication (ASIC)
 - Video (ASIC)
 - Communication, DSP (FPGA->ASIC)
 - Video , Audio (FPGA)
 - Communication (ASIC)
 - Audio, Communication (ASIC)
 - Communication (FPGA).
 - Communication (ASIC)
 - Communication (ASIC)
 - Communication , DSP (ASIC)
 - Communication, DSP (ASIC)

Marketing in the world



Sales manager - Europe - [Ben Franklin](#)

Sales manager - USA & Canada - [Bary Lazow](#)

Region / Country / State:

- Israel

Distributors:

AST

uri@ast.co.il

- USA

California, Oregon,
Washington, British
Columbia, Nevada,
Arizona.

EDA Sales, Inc.

barry@edasales.com

- Canada

- Italy

Edaway

antonio.marino@edaway.com

- France

JS Consultant EDA

jseigne@wanadoo.fr

Marketing in the world (cont)



- Austria
- Benelux
- Germany
- Poland
- Romania
- Switzerland

Trias Mikroelektronik
GmbH eda@trias-mikro.de

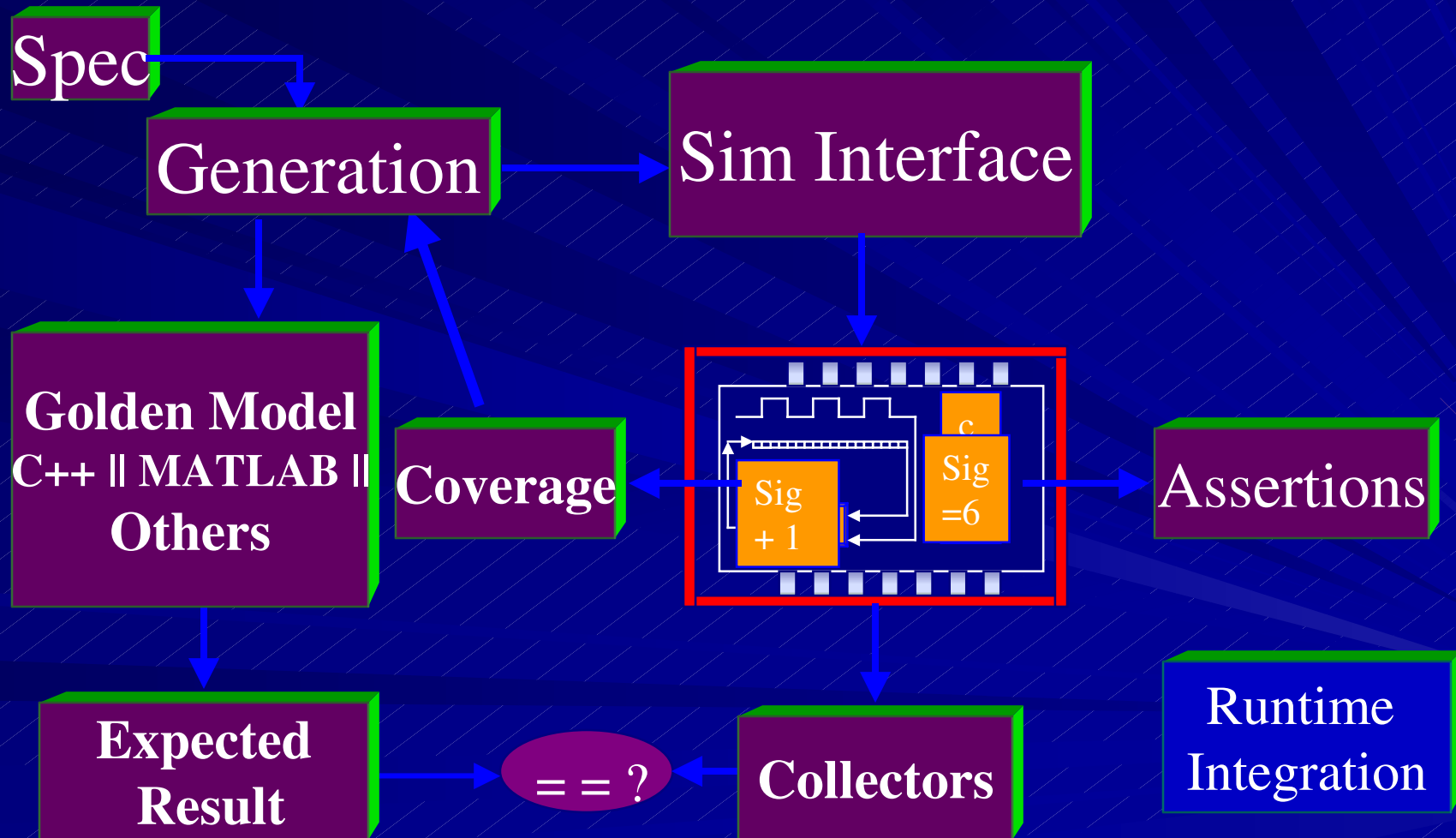
- Albania
- Bulgaria
- Macedonia
- Romania
- Serbia

VEDA Consulting
office@veda.ro

Testbench



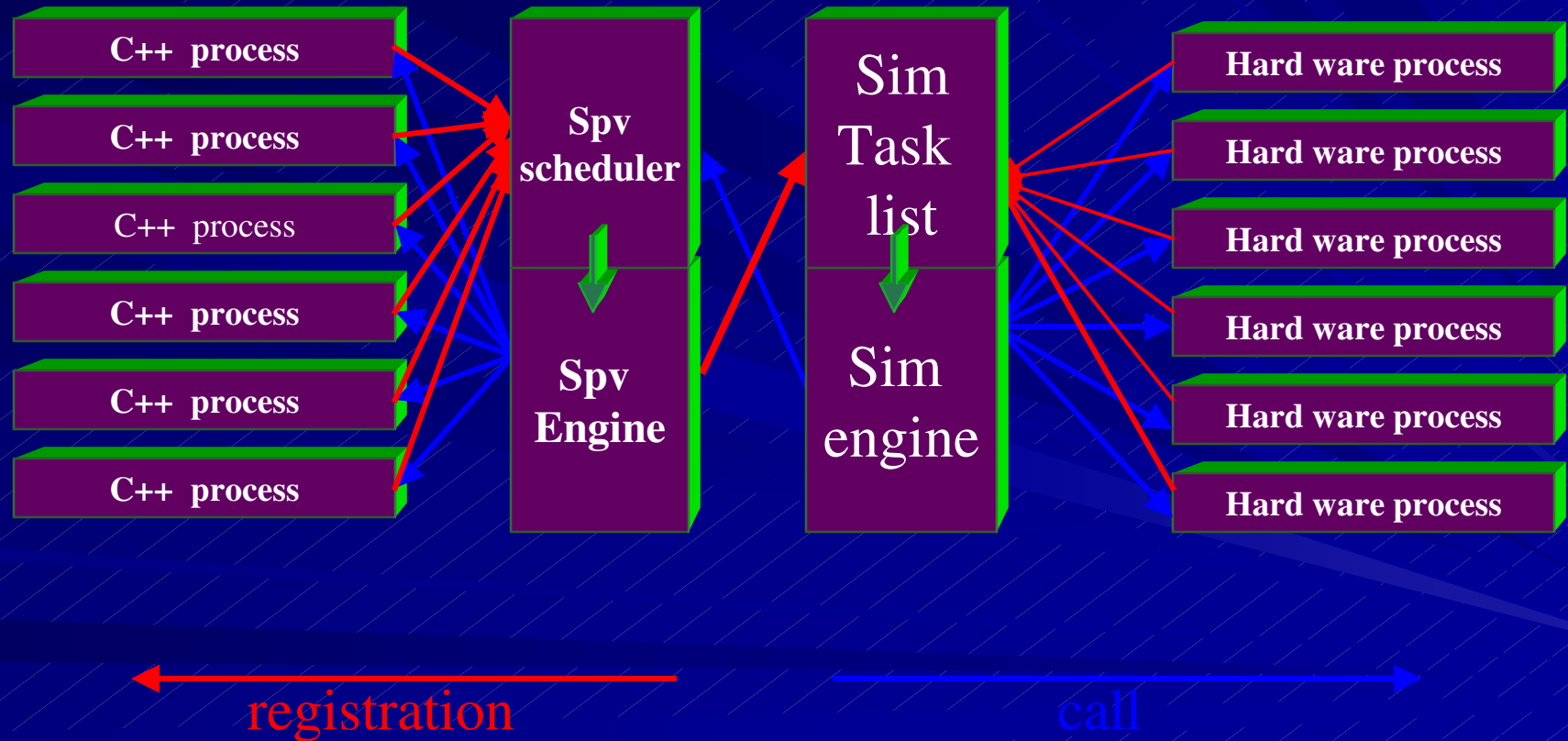
Unify {soft,hard}ware with SPV



SPV



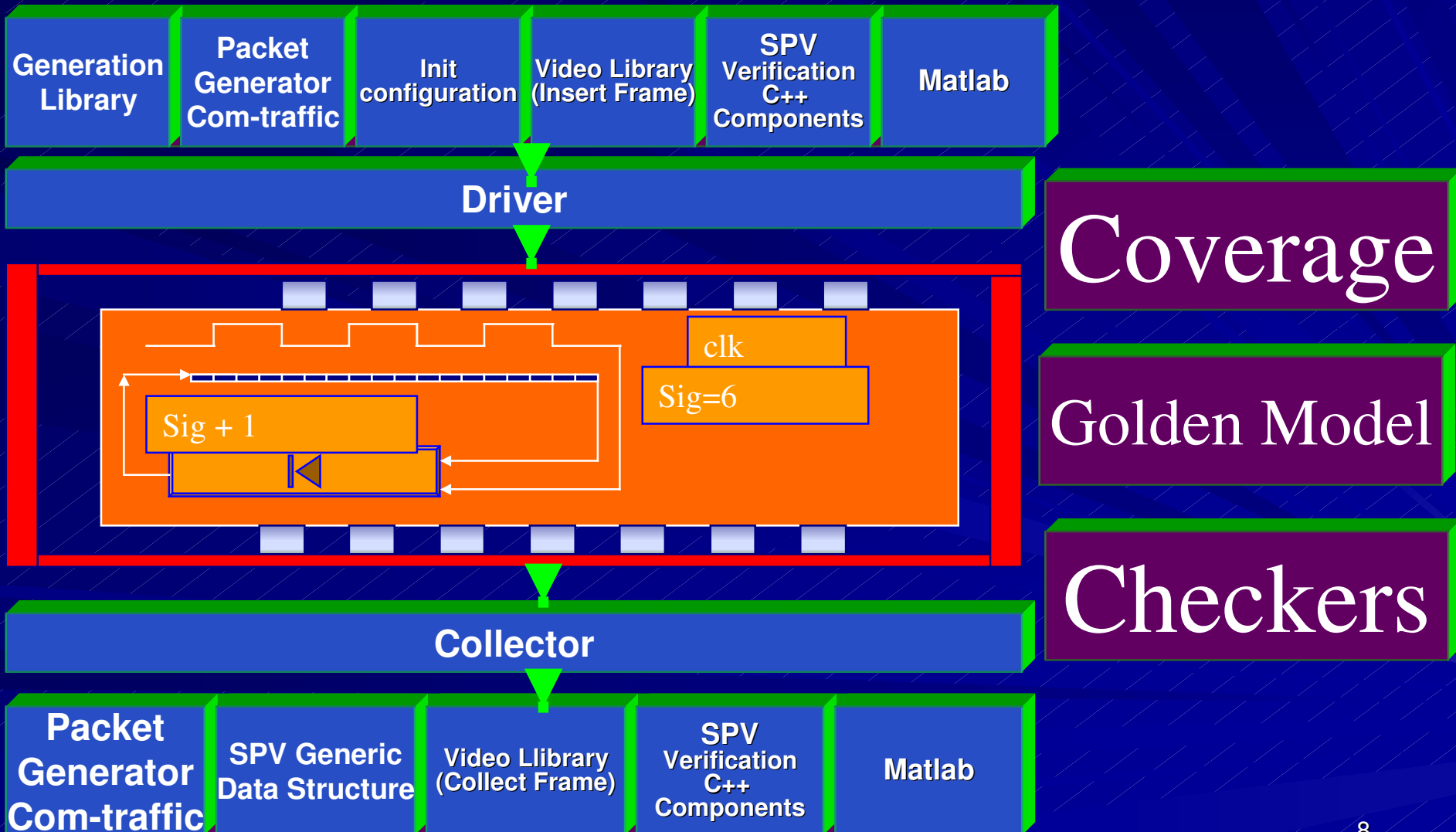
Connectivity



SPV



Generation, Drive, and Collection





SPV Checkers

- ✓ Packet Comparator (Automated)
- ✓ Video Library (various formats):
 - ✓ Draw frame
 - ✓ Make diff
- ✓ Mathematical Library
- ✓ MATLAB:
 - ✓ Reference (“Golden”) Model
 - ✓ Signal Generation
 - ✓ Others
- ✓ Dynamic Assertions
- ✓ Verification components

SPV



Functional Coverage

- ✓ **Statistical results – Confirm implementation of the test plan**
- ✓ **Graphical interface**
- ✓ **Increase the quality of verification process**
- ✓ **Reduce the time of testing**
- ✓ **Generation with Coverage Feedback provides efficient testing**



Coverage Viewer

spv_Coverage Analysis

File

Name

port_Class0

port_Class1

Info of field

	Coverage%	Efficiency%	Seed	Total Combinations
	71.875	46.0	1	32
	0,0,0			
2 Fields				
0,0	0	2	2	
0,3	3	2	1	
1,2	1	3	0	
2,1	1	5	2	
3,0	4	1	1	
3,3	1	0	0	
4,2	4	0	1	
5,1	0	2	2	
6,0	0	0	2	
6,3	2	1	2	
7,2	0	5		

Test No. 8



Coverage with Feedback

spv_Coverage Analysis

File

Name

port_Class0

port_Class1

Info of field

Coverage%	Efficiency%	Seed	Total Combinations
100.0	100.0	1130762724	32
0,0,0			
2 Fields			
0,0	1	1	1
0,3	1	1	1
1,2	1	1	1
2,1	1	1	1
3,0	1	1	1
3,3	1	1	1
4,2	1	1	1
5,1	1	1	1
6,0	1	1	1
6,3	1	1	1
7,2	1	1	1

Test No.

1

SPV



Verification Components*

- ✓ **DPF – Digital Processing Framework**
- ✓ **Video Library**
- ✓ **Audio Library**
- ✓ **MAC**
- ✓ **USB**
- ✓ **PCI-X**
- ✓ **MP3**
- ✓ **Ethernet MAC-PHY IF - MII, RMI, SSMII, GMII**
- ✓ **SDH/Sonnet packetization**
- ✓ **E1/T1 IF**
- ✓ **I2C and I2S**
- ✓ **FCAV**

*Check for availability

SPV



Standard C++

- ✓ **Much Faster than HDL for complex logic**
- ✓ **The best developer environments (e.g. Visual C++)**
- ✓ **Huge number of public domain libraries**
- ✓ **Books**
- ✓ **Training**
- ✓ **Engineers**
- ✓ **Redesign language**
- ✓ **Reuse language**
- ✓ **Cross platform**
- ✓ **Low-cost solution**

SPV



SPV vs. Others

- ✓ **The only solution available on Windows**
- ✓ **The only solution that supplies Video/Audio libraries**
- ✓ **Fastest solution compared to other HVL's**
- ✓ **Other HVL's are "special purpose" without a huge community of users contributing to the progress of the language**
- ✓ **C++ based simulator**
- ✓ **Low-cost solution**
- ✓ **Excellent support**