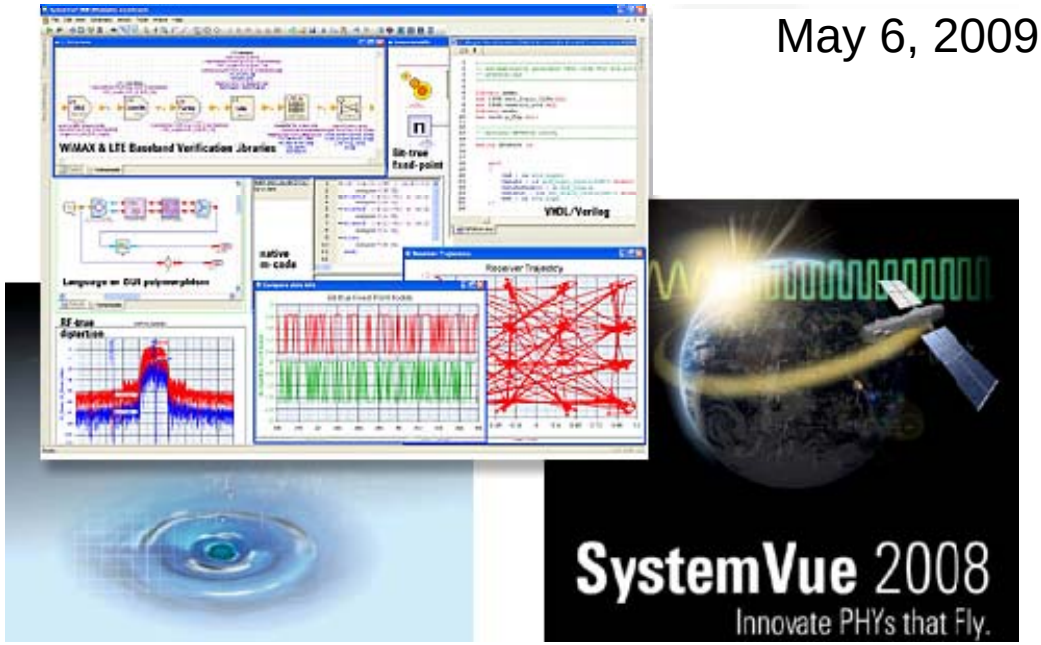
SystemVue 2008

A new generation of communications system-level design software

Agilent EEsof EDA

May 6, 2009



Agilent SystemVue 2008

SystemView from Eagleware/Elanix (SV2007.03) renowned for:

- Simplicity
- Affordability
- Ability to analyze communications system quickly as an offline scratchpad tool

Agilent SystemVue 2008.12 begins a new platform

- Continues the heritage of the SV2007 platform, but expands its reach
- Connects System-Level design to Baseband & RF hardware design flows, as well as Test/Verification
- Adds new technologies and capabilities
- Provides a direct support upgrade path to loyal owners of SV2007

Agilent SystemVue 2008

SystemVue 2008 brings the best features of other platforms together in one place, to unify an innovative system-level PHY design flow

Like Agilent ADS

- Multi-rate, multi-threaded dataflow simulator
- Complex carrier/envelope for huge speed up
- RF modeling & performance
- Wireless IP, targeted to baseband DSP workflow

Like Eagleware Genesys

- Unique RF architecture simulator (Spectrasys)
- Compact, graphical environment

Like Eagleware/Elanix SystemVue

- Natural ease of use
- HDL code generation
- Fixed-point diagnostics
- Digital filter tool

DIRECT UPGRADE PATH TO SV2008

Like Math & Measurement

- Open, text-based math-modeling community
- Integrated debugger
- Open/embedded instrument connectivity

Unlike **Other platforms**

- Model polymorphism follows verification all the way from algorithms to hardware to test integration
- Connect system-level comms to implementation
- Unites BB and RF to solve high-throughput problems

Agilent SystemVue 2008:
The long term evolution for SystemView by Elanix

Who will benefit from SystemVue 2008?

- **Who**: RF & baseband (mixed-signal) algorithm designers, physical layer (PHY) architects, system partitioning
- **Apps**: Signal processing, digital comms, conceptual modeling, radar, comms, SDR, telemetry, and many more
- **Industries**: Military aerospace/defense, wireless, Wireline, SatComm, medical, automotive, and more

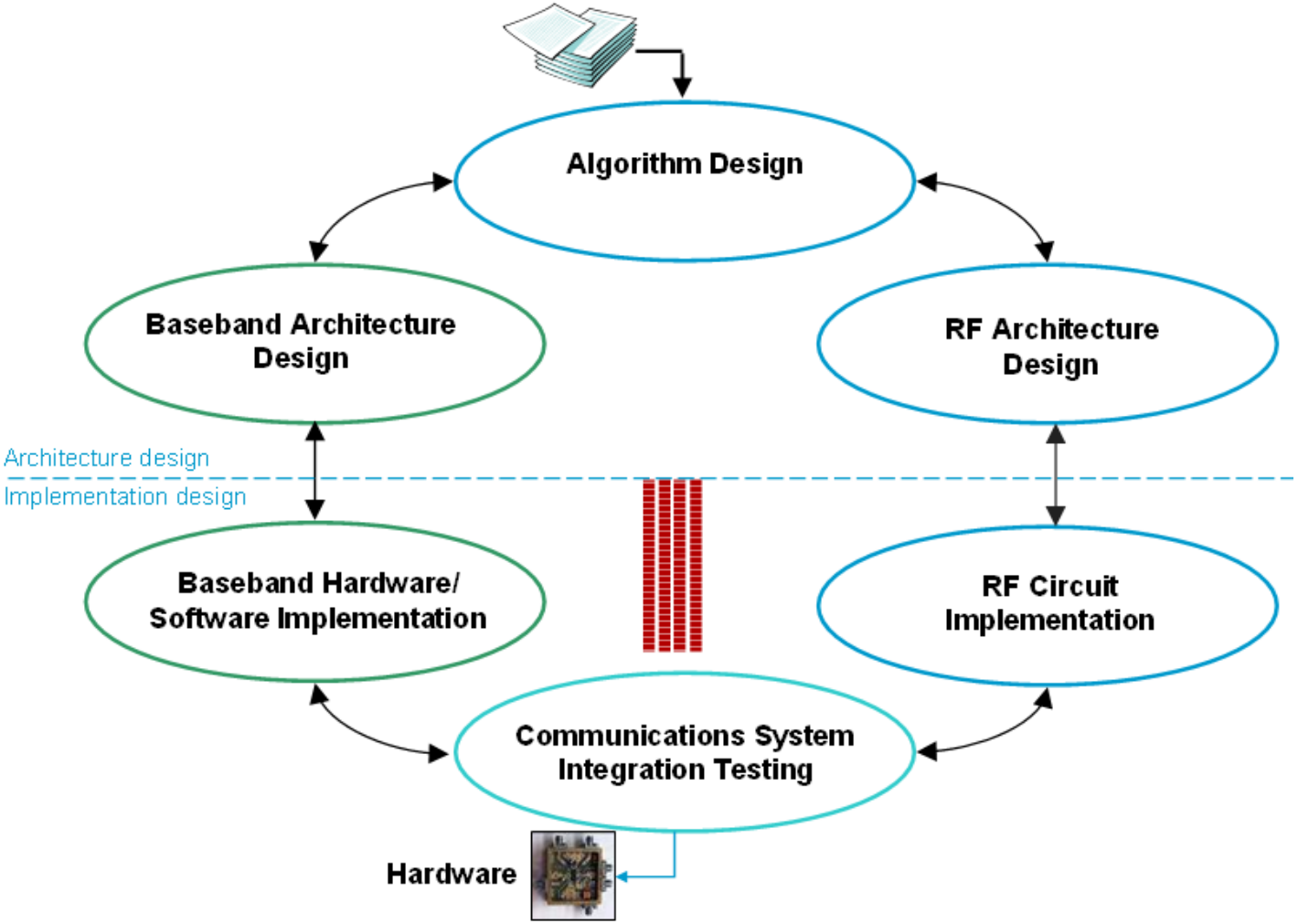
Eagleware/Elanix
SystemVue

Supported SV2007 Users
Receive SUPPORT UPGRADE to the new platform and KEEP their existing 2007 seat

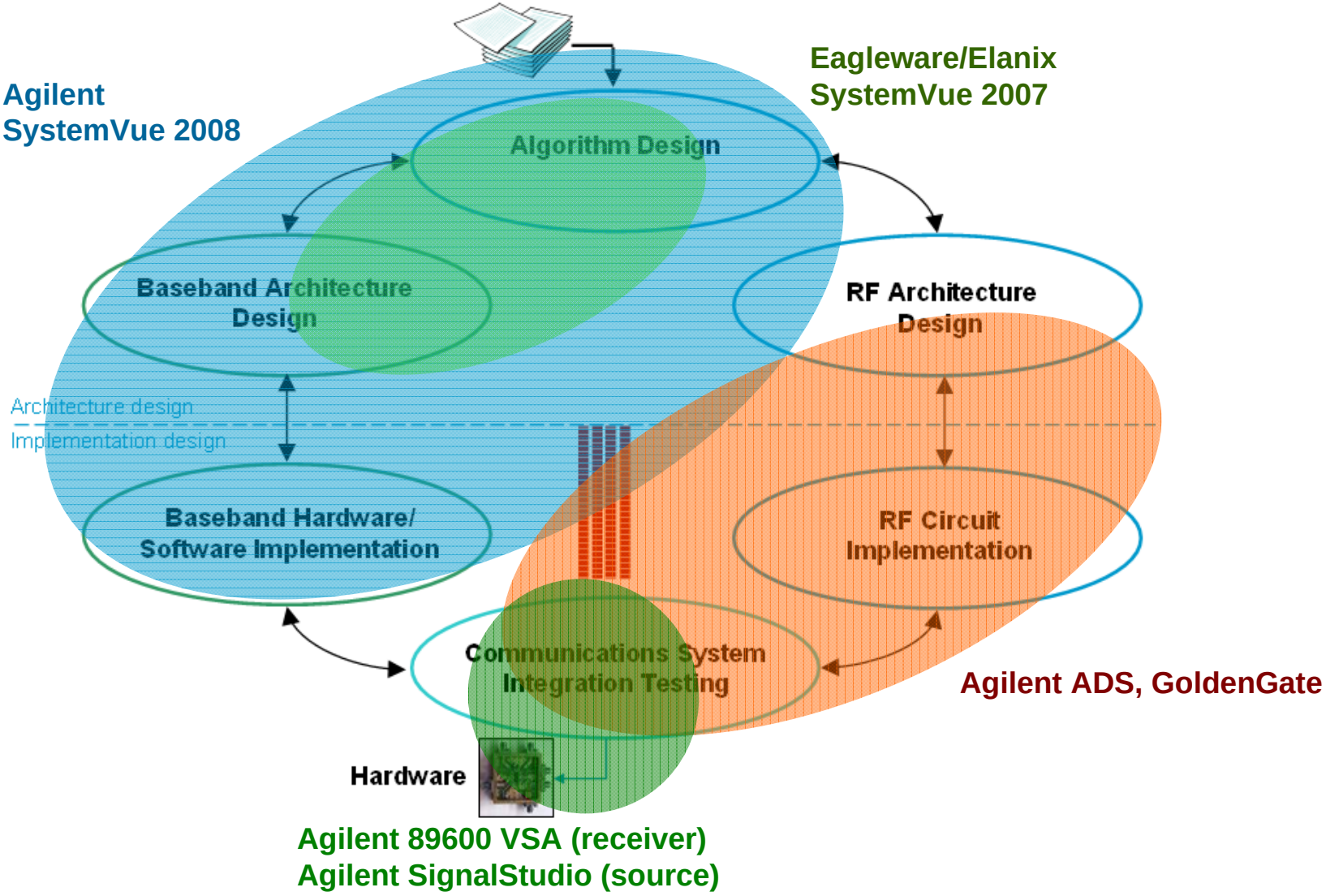
How can I obtain SystemVue 2008?

- Renew your SystemVue 2007 support today
- Receive 1 seat of the new SystemVue 2008 environment for each paid, supported seat of SV2007
- Preserves 100% of your year 2008 investment
- At your next support renewal after June 1, 2009, you can renew directly onto the new model numbers

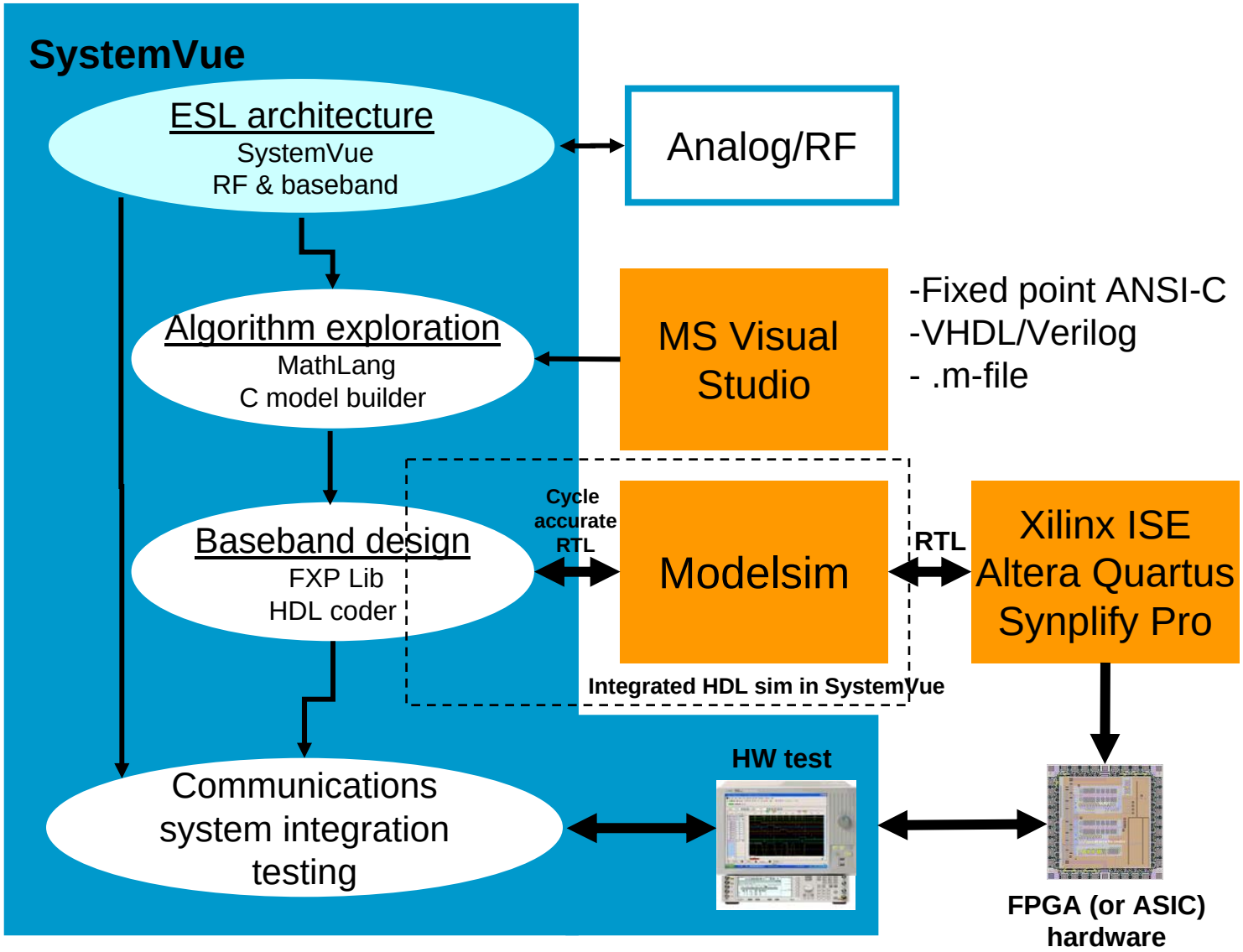
Typical design organization for Comms/Military physical layer



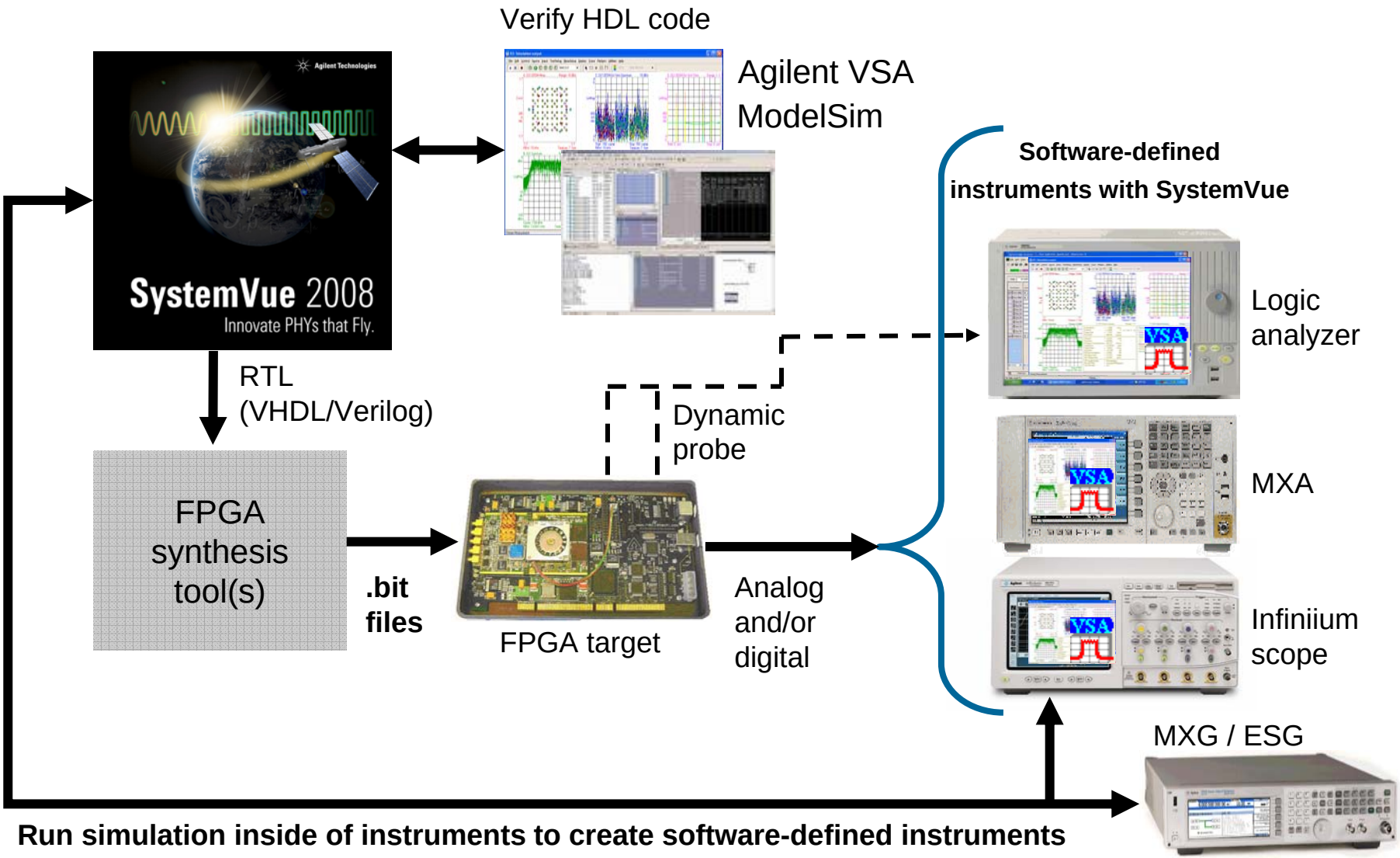
SystemVue in your PHY design flow



Rapid Prototyping Flow – “ESL-to-RTL”



SystemVue FPGA Implementation and Verification Flow

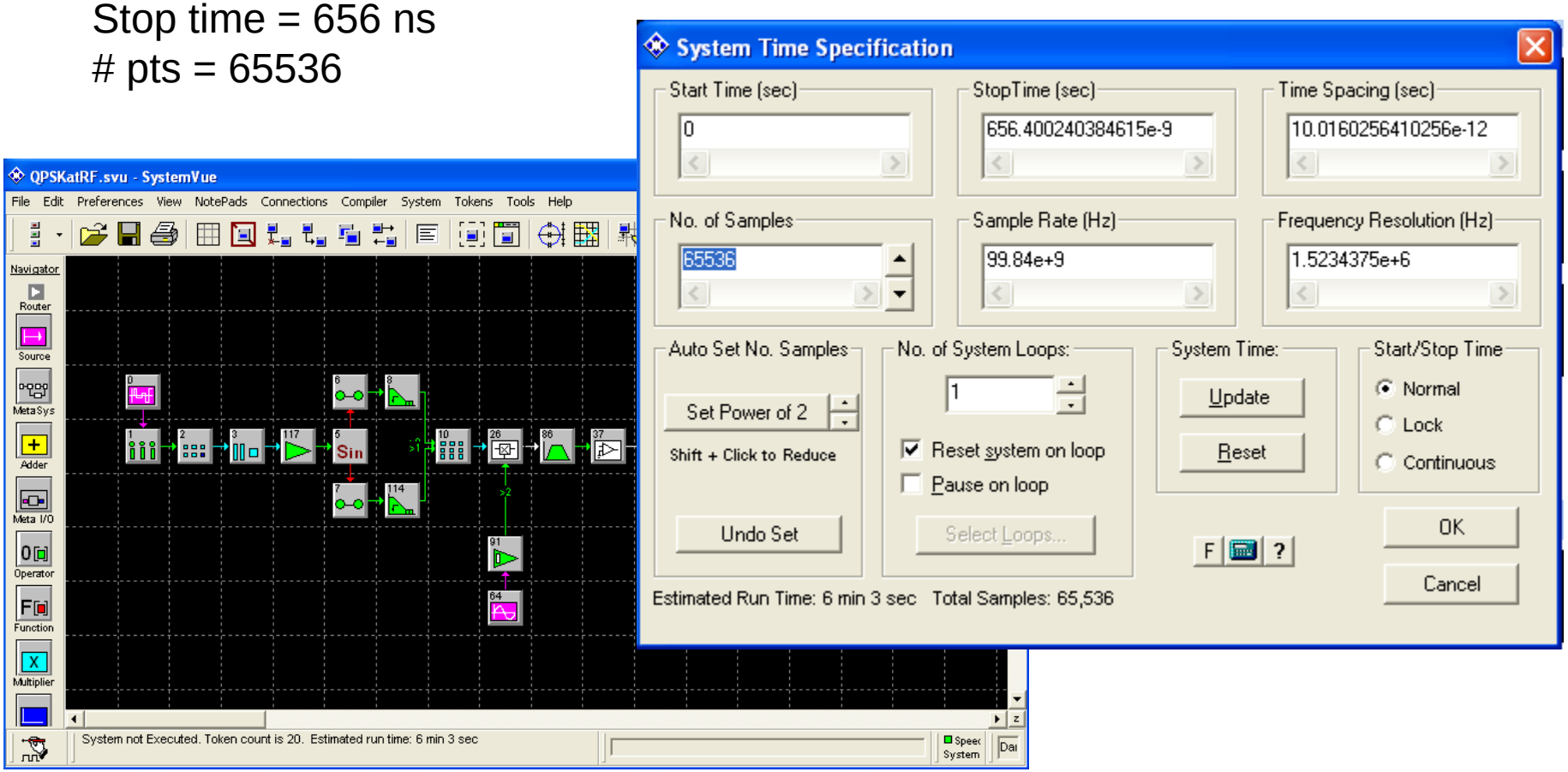


10 Reasons for SystemVue 2007.03 Users to Continue into the New SystemVue 2008.12

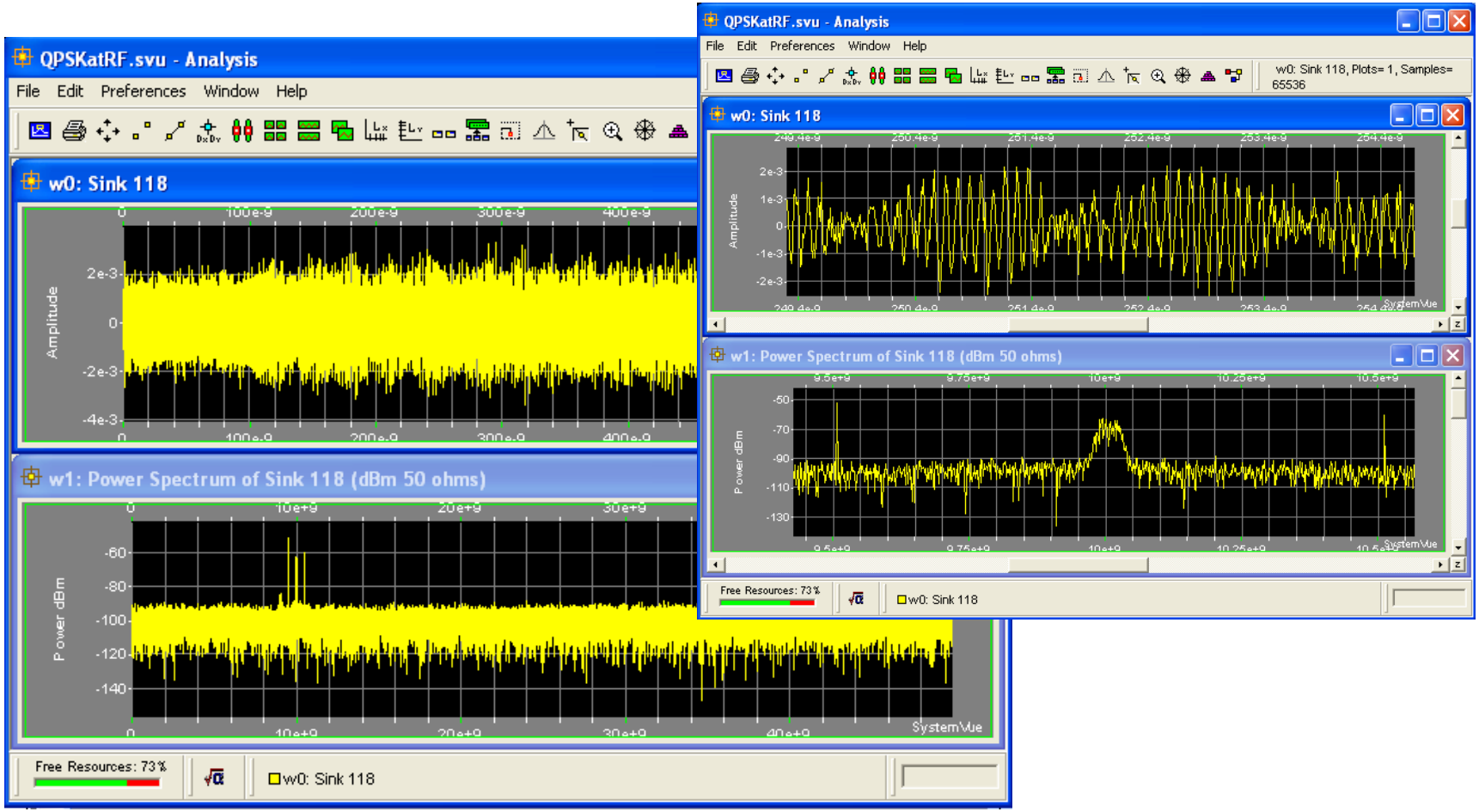
1. Complex envelope dataflow simulator, orders of magnitude faster for modulated carriers with RF effects
2. Better support for multi-rate systems
3. Links to the latest test equipment
4. Native, in-platform math language support and debugger
5. Superior HDL co-simulation
6. Easier licensing, operating system, and enterprise tool support
7. Scriptable and extendable environment
8. LiveReport and real-time tuning
9. Access to optional new capabilities
   - Unique RF system architecture tools
   - For high-performance IP libraries, such as LTE & WiMAX
   - Aggressive technology roadmap
10. You don't have to give up your old software, and most supported users receive more capability than they started with. There is no reason not to upgrade!

SystemVue 2007 ~ 100 MHz BW of QPSK at 10 GHz

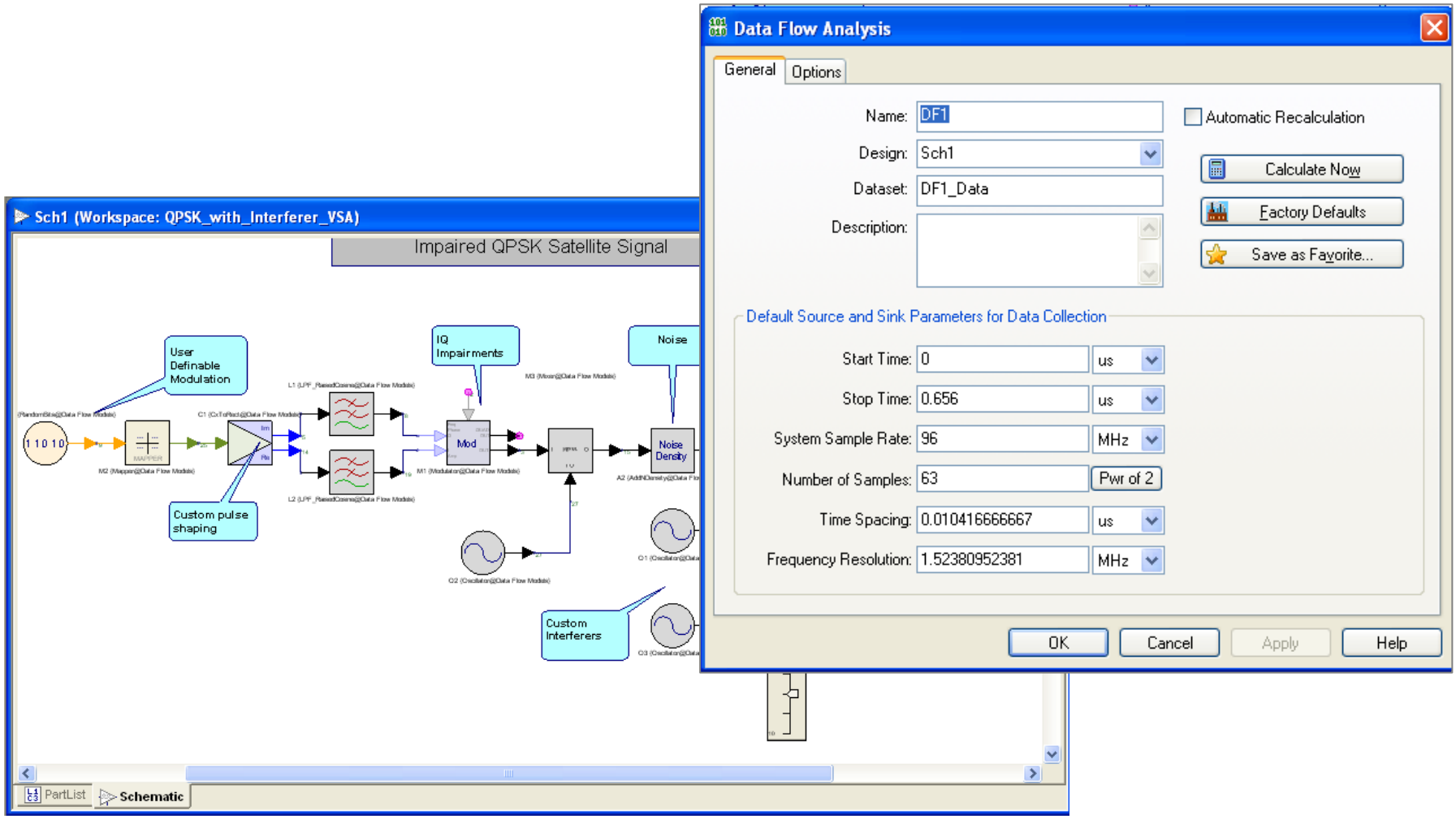
Lowpass sample rate = 100G Hz
Stop time = 656 ns
pts = 65536



SV2007 - 65536 points, ResBW=1.5MHz, 5.3 CPU Seconds

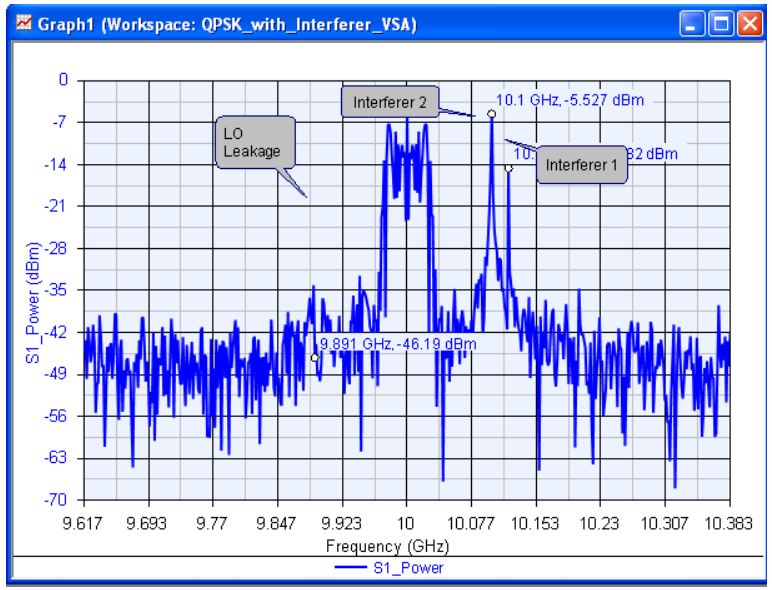


SV2008.12, with Envelope Mode Analysis (With Additional Interferers, RF Nonlinearities, etc)



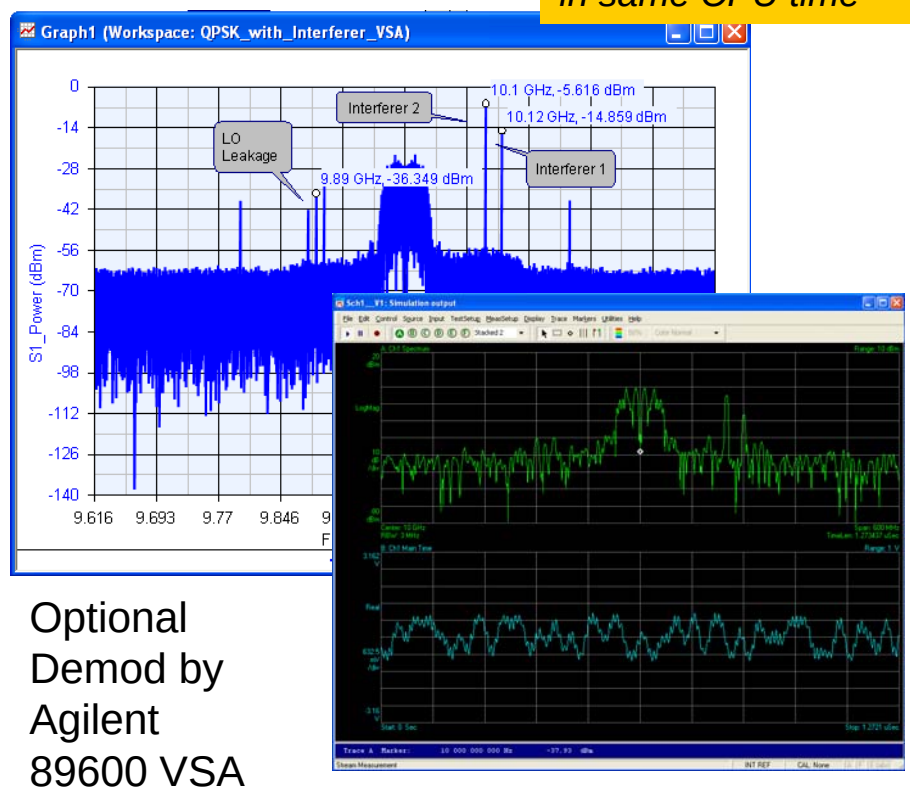
SV2008 Results – 100x to 1000x Faster Because of Complex Envelope Modeling with RF Effects = On

Direct compare: **SYMBOLS**
63 points
Res BW=1.5 MHz
<< 1 CPU sec



Direct compare: **CPU TIME**
16384 points
Res BW = 5.9 kHz
4.5 CPU sec

Almost 1000x more symbols processed in same CPU time



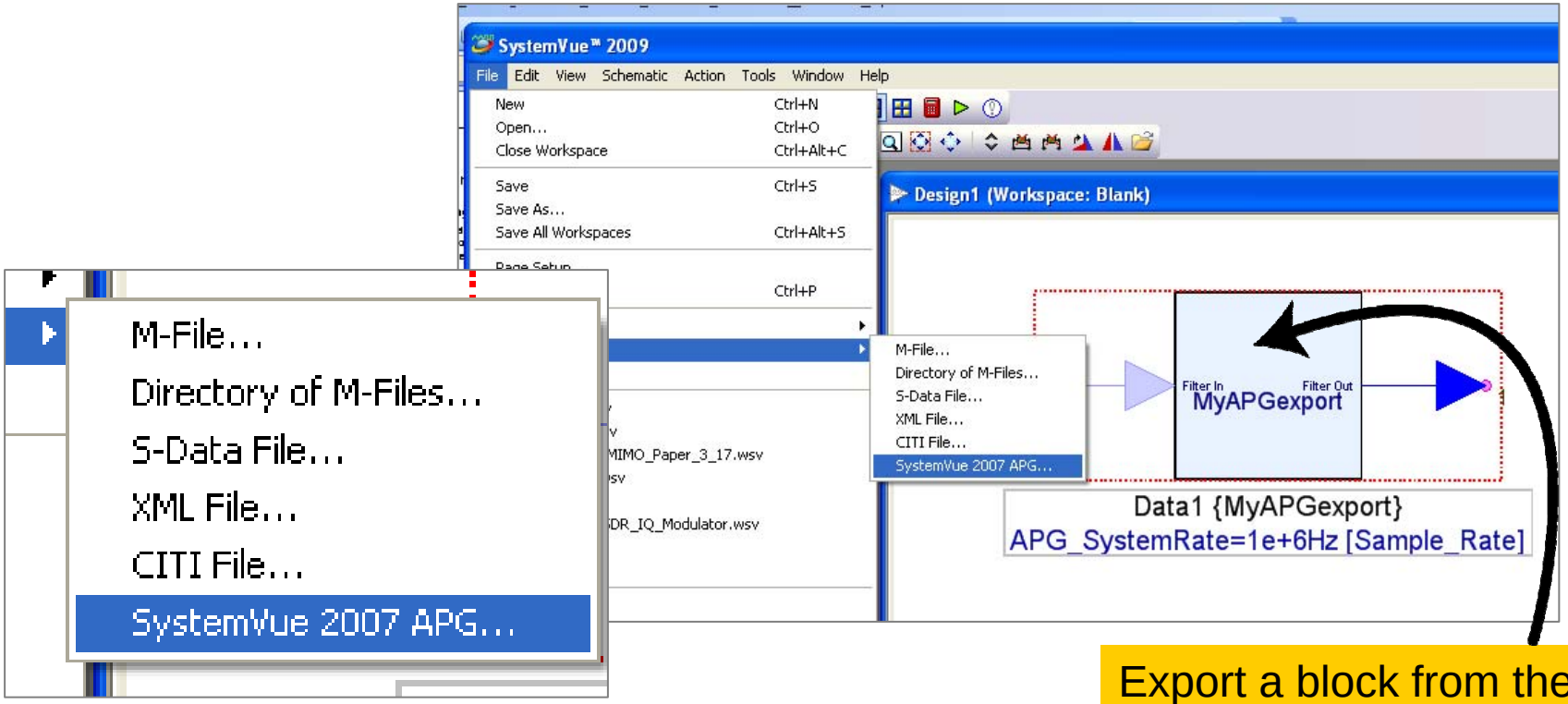
Optional Demod by Agilent 89600 VSA

What's New in SV 2009.05?

- LTE v8.5.0 library with the latest FDD/TDD/MIMO modes
- Increased simulation speed for data flow simulations; especially important for fixed-point and LTE models and simulations
- Lower memory size for data flow simulations
- Dynamic buses
- Support for multi-channel VSA
- Fixed-point model support for C++ with full multi-threading
- C++ Modelbuilder improved
- **SystemVue 2007 APG model import**
- 802.15.4 (Zigbee) source & receiver models
- New and improved file I/O operators, file I/O models
- Random number generator improved
- DSP filter tool improvements
- Improved MathLang Model UI
- 12 new VHDL Hardware Implementation Examples
- More applications, video, documentation, and quality/usability improvements
- New and improved models:
  - Gold code
  - A to D
  - Linear feedback shift register (LFSR)
  - Demodulator
  - Decision feedback equalizer (DFE)

SV2009.05 APG Import Feature

Import it into SV2009.05 as a black box that runs



Export a block from the old product to a DLL…

Feature Available end of May, 2009

Preserve Your Investment in SystemVue 2007.03

Return to *Supported* status on your existing SV 2007.03….

- Keep your old SV2007.03
- Receive direct equivalents in SV2008.12
- Move forward with operating systems, capability, and roadmap

Or take advantage of RapidPHY'er promotion 5.714

- Direct trade-in/upgrade
- Act before Oct 15, 2009
- Receive SV2008.12, seat-for-seat, at 70% purchase discount

Many workgroups have found that SV2008.12 lowers the cost of ownership vs. non-Agilent alternatives

Entitlement mapping - SV2007 → SV2008

Product with "current" support status			You may elect to receive this new SV2008 product at your next support renewal during 2009	
Product number	**Eligible SystemVue "classic" products**	**Replacement product available (note 1)**	**Replacement product model no.**	**Notes on individual replacement products and obsolete products**
Obsolete SystemVue 2007 modules				**Replacement models**
W1450L	SV2007 Professional	Yes	**W1461BP**	**SV 2008 comms architect (signficant upgrade)**
W1702L	M-link	No	--	**Obsolete, but W1461 includes free replacement**
W1703L	C-code gen (obsolete)	No	--	Obsolete, no direct replacement
W1704L	Advanced C-code gen	No	--	Obsolete, no direct replacement. Note that the W145S bundle includes this module. W145S remains active (Note 2)
W1705L	Automatic program generator	No	--	Obsolete, no direct replacement. Note that the W145S bundle IS ADDING this module. W145S remains active (Note 2)
W1706L	TI interface	No	--	Obsolete, no direct replacement. Note that the W145S bundle includes this module. W145S remains active (Note 2)
W1708L	HDS HDL design studio	Yes	**W1903EP** **W1717EP**	**Fixed-point library** **Hardware design kit**
W1801L	Comm library	No	--	**Obsolete, but W1461 includes free replacement**
W1802L	DSP library	No	--	**Obsolete, but W1461 includes free replacement**
W1803L	Logic library	No	--	**Obsolete, but W1461 includes free replacement**
W1804L	RF/analog library	No	--	**Obsolete, but W1461 includes free replacement**
W1805L	CDMA/PCS is95 library	No	--	Obsolete, no direct replacement
W1806L	DVB (digital video broadcast)	No	--	Obsolete, no direct replacement
W1807L	UWB (Ultra wideband library)	No	--	Obsolete, no direct replacement
W1808L	802.11x library	No	--	Obsolete, no direct replacement
W1809L	Wireless network library	No	--	Obsolete, no direct replacement
W1810L	Turbo product code	No	--	Obsolete, no direct replacement

Entitlement mapping - SV2007 → SV2008

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Product number	**Eligible SystemVue "classic" products**	**Replacement product available (note 1)**	**Replacement product model no.**	**Notes on individual replacement products and obsolete products**
Obsolete SystemVue 2007 modules				**Replacement models**
W1810L	Turbo product code	No	--	Obsolete, no direct replacement
W1811L	*Bluetooth*® library	No	--	Obsolete, no direct replacement
W1812L	Adaptive filter library	Yes	**W1904EP**	**Adaptive equalization library**
W1813L	Equalizer library	Yes	**W1904EP**	**Adaptive equalization library**
W1814L	Fixed-point library	Yes	**W1903EP**	**Fixed-point library**
W1815L	3G design studio	No	--	Obsolete, no direct replacement
W1816L	CDMA2000 library	Yes	--	Obsolete, no direct replacement
Obsolete SystemVue 2007 suites				**Replacement models**
W1451L	SV 2007 comms design suite	Yes	**W1461BP**	**SV 2008 comms architect (not exact replacement)**
W1452L	SV 2007 HS comms design suite	Yes	**W1461BP**	**SV 2008 comms architect (not exact replacement)**
W1454L	SV 2007 real time DSP design suite	Yes	**W1461BP**	**SV 2008 comms architect (not exact replacement)**
W1455L	SV 2007 wireless design suite	Yes	**W1461BP**	**SV 2008 comms architect (not exact replacement)**
W1456L	Obsolete university bundle	No		Resubmit donation request for W22S0UT (US) or W1460UN (outside US)
W1457L	SV 2007 FPGA developer's suite	Yes	**W1462BP**	**SV 2008 FPGA architect (not exact replacement)**
W1458L	SV 2007 algorithms developer's suite	Yes	**W1461BP** **W1903EP**	**SV 2008 comms architect (not exact replacement)** **Fixed-point library**
Active SystemVue 2007 suites still available for purchase				**Replacement models**
W1453L	SV 2007 reat time comms design suite	Yes 2010	**TBD**	**See note 2, below**

Note 1:
Note 2:
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