



SILVACO

Jivaro Pro

Accelerate SPICE simulations by up to 15X

Jivaro Pro Parasitic Netlist Reducer

Are your SPICE simulations slow???

!!! You need Jivaro Pro !!!



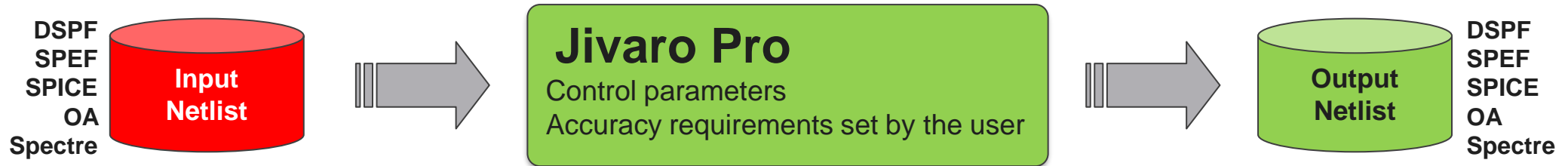
Original simulation runtime



Jivaro Pro simulation runtime

Netlist-in → Netlist-out stand-alone solution

Process and Technology Node Independent (including FinFET)



- Drastically reduces extracted parasitic netlists (90% +)
 - Reduces R, C, CC, L, K and active devices
- Maintains accuracy to < 1% of original netlist
- User can configure accuracy on all NETs, subcircuits and paths independently
- Include power nets/metal fills in simulations for more accuracy
- SPICE simulator independent
- Supports all major input formats

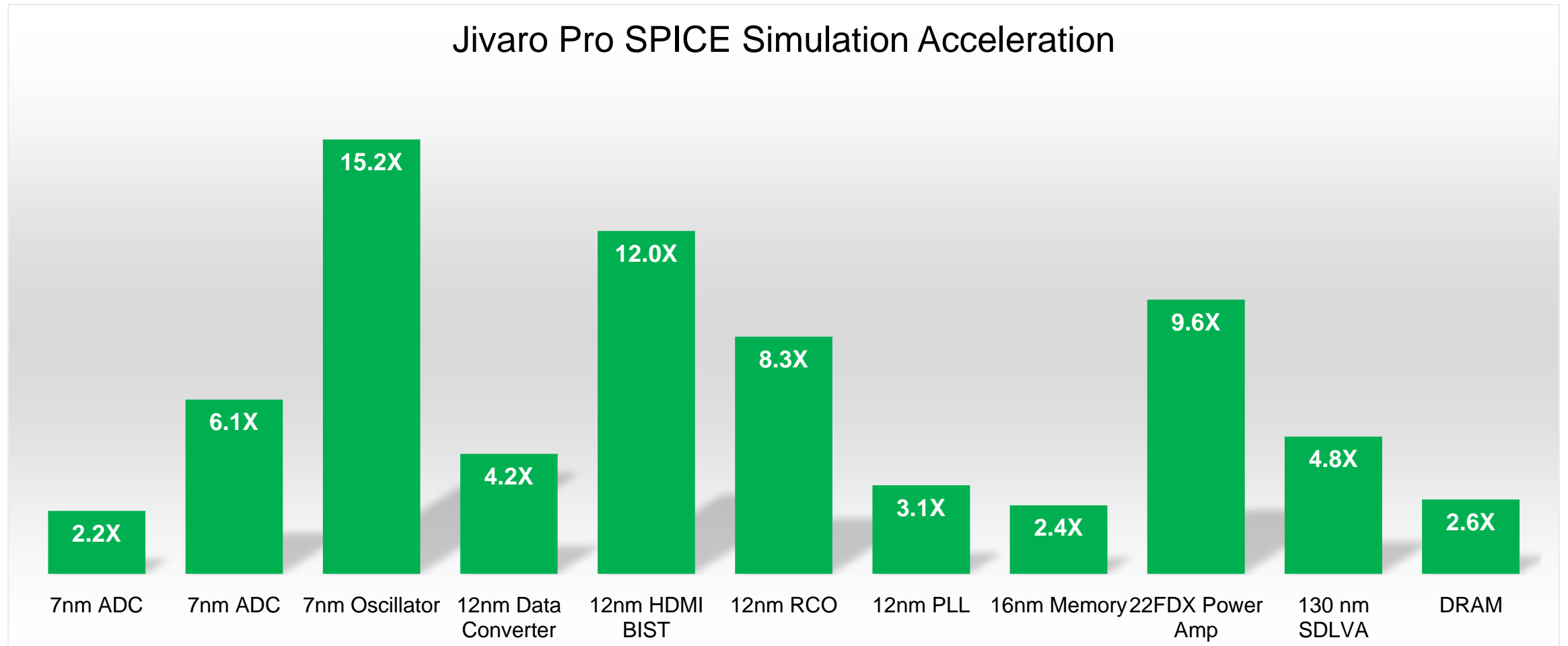
65nm	40nm	28nm	20nm	14nm	10nm	7nm	5nm
✓	✓	✓	✓	✓	✓	✓	✓

Jivaro Pro Works for All Design Types

Design flexibility

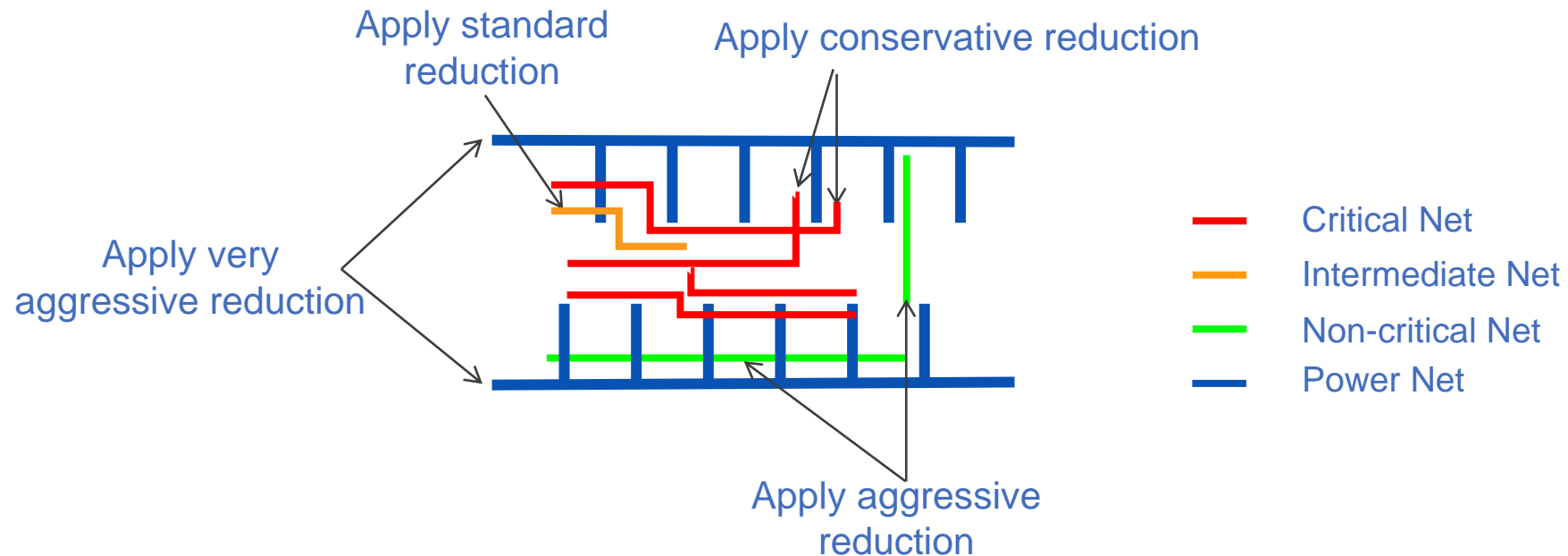
- Ideal for post-layout designs with long SPICE simulation times
 - Any Analog / Mixed-signal / RF block
- Examples:
 - ADC (Analog to Digital Converter)
 - AFE (Analog Front End)
 - DAC (Digital to Analog Converter)
 - PLL (Phase Locked Loop)
 - DLL (Delay Locked Loop)
 - VCO (Voltage-Controlled Oscillator)
 - CTLE (Continuous Time Linear Equalizer)
 - LDO (Low Dropout)

Jivaro Pro Delivers Superior SPICE Acceleration



User Configurable or Auto Mode Reduction

- User customizable selective reduction
 - Apply different settings to different parts of the design. (Nets, paths or subckt's)
 - Accuracy parameters are customizable.
- Automatic selection with new Auto Mode

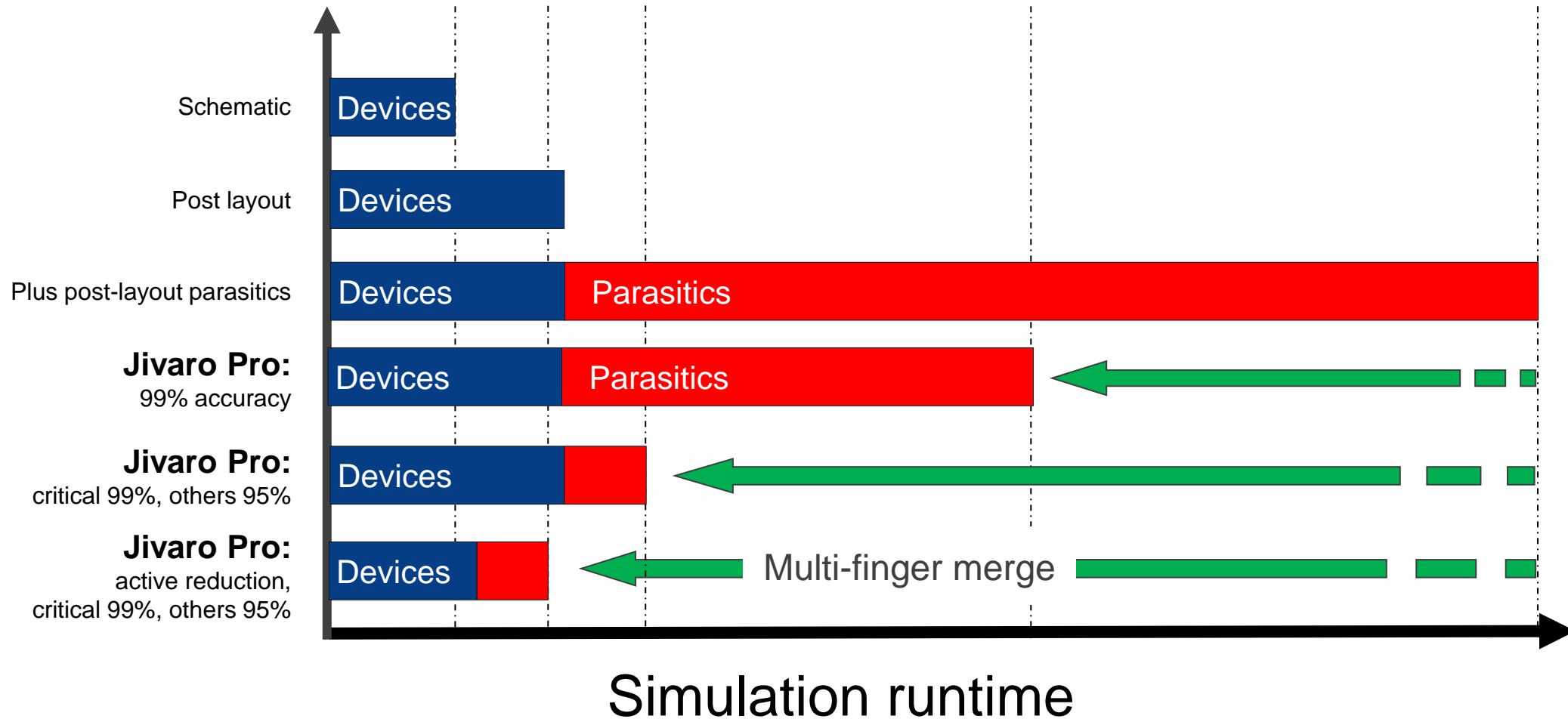


Jivaro Pro Advanced Features

Multi-finger Merge

- Merging multi-finger devices speeds up simulation time while maintaining equivalent electrical behavior
- Possibility to detect and manage specific topologies
 - Semi dummy devices: three first pins connected to the same NET
 - Dummy devices: all pins connected to the same NET
 - Bypass devices: 1st and 3rd pins connected to the same NET
- Different methods of multi-fingers merge are available
 - Pins: merge of the pins only
 - Multiplier: merge of the devices without any update of the geometry parameters
 - Merge: merge of the devices with an update of the geometry parameters
 - Remove: device is deleted, and its pins are turned into internal nodes

Jivaro Pro Reduction Example



Jivaro Pro Automatic Reduction Mode

- Automatic Mode triggers advanced features to enable simplified usage
- Floating nets
 - Reduction of floating nets
- Devices
 - Merge of multi-finger devices
- Coupling caps
 - Decoupling of the coupling capacitances
- Power nets
 - Detection and selective reduction of power nets

Summary

- Jivaro Pro enables 2X - 15X post-layout SPICE simulations speedup
- Maintain accuracy to <1%
- Enables running largest or impossible simulations
- Include power nets and metal fills in simulations for more accuracy
- Easy plug-n-play into existing flow using Auto Mode
- Customize the reduction to your objectives



Reliable



Powerful



Innovative



Flexible



Thank you

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