



Experience the Power of **HYPERSIM**

Innovating Beyond Boundaries for Optimal Performance

OPAL-RT strives to continuously innovate its HYPERSIM power system simulator to provide the fastest and most reliable performance on the market. With the latest developments in hardware and software, such as commercial off-the-shelf chassis that can support up to 96 cores and 1 TB of RAM, more recent processors with a clock up to 4.0 GHz, a new CentOS 64-bit operating system optimized for real-time and the latest Intel compiler, this performance has now reached a whole new level.

Astonishing Power in a Compact System

Because we think you should not be limited by your hardware, **even our most basic system** packs a punch and provides you with the tools you need to:

- Simulate up to 900 nodes on the 3 cores of a 2U chassis
- Achieve time steps as low as 5 μ s on CPU for smaller applications
- Test complex distribution systems and microgrids
- Resolve high frequency converters and MMC terminals below 500 ns
- Exchange hundreds of data points with communication protocols
- Long term maintenance
- With the OP4510, additional features are added without the need for additional hardware.



Go Big with our Scalable Hardware

OPAL-RT delivers commercial-off-the-shelf simulators offering an unmatched combination of performance, openness and affordability:

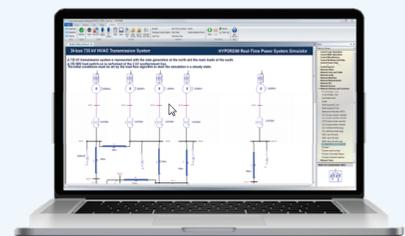
- Several thousands of nodes with up to 96 cores and 256 I/O on a single chassis
- Plug-and-play expansion for more I/O or additional processing power
- Time steps below the μ s for power electronics
- Simulate 50+ kHz converters and large MMC terminals with 6000 cells and time steps below 500 ns
- On-the-fly parameter change
- Easy to upgrade thanks to Intel and Xilinx based architecture
- Perform optimal automatic task mapping



Tired of Waiting Hours for a Few Seconds of Simulation?

HYPERSIM simulation is available on Windows desktop to speed up development cycle and to reduce time required to perform non real-time studies.

- Run Windows-based accelerated parallel non real-time simulation
- Simulate from anywhere, on any engineer's desktop or laptop
- Validate Ethernet-based communication protocols on your own PC
- Multiply the number of tests you can run per day with TestView
- Conduct complex signal analysis quickly thanks to ScopeView



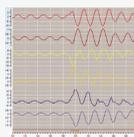
Some HYPERSIM Features



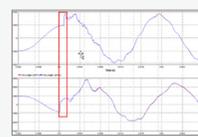
Create dashboards for mobile devices accessible using OPC-UA and WiFi



Perform standardized and automatic IEC 60255-121 distance relay testing



Use data logging to prevent the loss of any points from the start of your simulation



Perform Traveling Wave Relay Testing with time steps below



Interface with MMC test benches specifically designed for Laboratory Research and Development

Latest Brazilian Benchmark with HYPERSIM



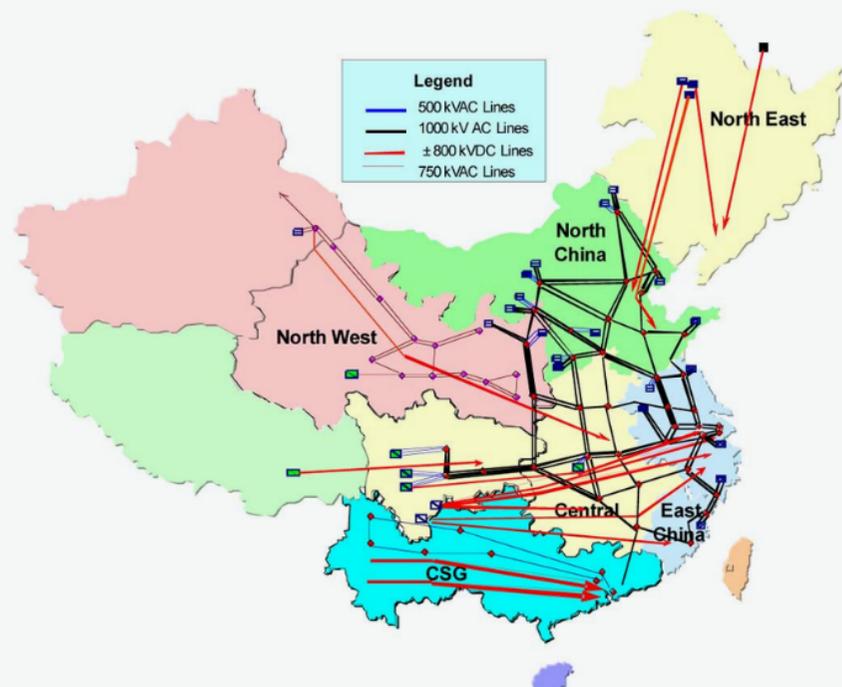
- 950 3-phase buses
- 16 12-pulse converters
- 500 transmission lines

Run on 9 cores @
50 μ s with I/O!

Latest Chinese Benchmark with HYPERSIM

- 9000 3-phase buses
- 400 generators
- 4500 transmission lines
- 10 HVDC links

Run on 270 cores
@ 50 μ s with I/O!



ABOUT OPAL-RT TECHNOLOGIES

OPAL-RT is the world leader in the development of PC/FPGA Based Real-Time Digital Simulator, Hardware-In-the-Loop (HIL) testing equipment and Rapid Control Prototyping (RCP) systems to design, test and optimize control and protection systems. Our solutions are used in power grids, power electronics, motor drives, automotive, trains, aircraft and various industries, as well as R&D centers and universities.



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