# Nationz Accelerates Design Closure with PrimeRail Signoff Solution

PrimeRail Dynamic Analysis Deployed in Production Design Flow

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**Highlights:**

- Dynamic analysis results correlated to silicon measurements
- Automatic vector generation enabled dynamic voltage drop analysis in the early design phases
- In-Design analysis accelerated creation of robust power network and shortened physical implementation by two weeks

Synopsys, Inc. (Nasdaq:SNPS) today announced that Nationz, a Chinese provider of chips for security processors, smart cards, mobile communications, digital TV, trusted computing and mobile payment solutions, has successfully deployed Synopsys' PrimeRail tool as the standard power and rail analysis solution for implementation and signoff. The adoption of PrimeRail dynamic analysis in Nationz' design and signoff methodology enabled engineers to accurately capture peak power and voltage drop violations accounting for transient circuit behavior.  Utilizing PrimeRail In-Design technology during physical implementation, combined with signoff-level accuracy, was essential to developing a robust power grid and shortened design closure schedules by multiple weeks.

"A streamlined, integrated flow is essential to managing today's IC design complexity," said Jay Liang, CTO and vice president of engineering at Nationz. "The ease of use of PrimeRail within Synopsys' IC Compiler™ place and route system allowed us to rapidly deploy rail analysis for implementation and sign off on multiple production designs. Early analysis during implementation allowed our engineers to identify and fix power grid connectivity weaknesses in our IP-centric designs during floorplanning. This enabled creation of a robust power network early and shortened physical implementation from 12 to 10 weeks."

Traditionally rail analysis has been performed late in the design flow, but fixing voltage drop violations late in the design cycle has a negative impact on timing and routing closure. PrimeRail In-Design seamless integration with Synopsys' IC Compiler allows fast and accurate early rail analysis throughout the implementation flow. Vector Free Rail Analysis technology enables dynamic analysis during implementation, even in the absence of simulation vectors. By exposing average and peak power rail violations early, PrimeRail, built on Synopsys' PrimeTime® timing and power engines, enables users to design an optimal power grid, minimize late stage engineering change orders (ECOs) and complete signoff with confidence.

"Smaller technology nodes and increased design complexity have made power and rail analysis a requirement during design implementation," said Bijan Kiani vice president of product marketing for Synopsys' Design Group. "Nationz's confidence in PrimeRail's In-Design analysis capability during implementation and highly accurate analysis engines enabled them to achieve accelerated design closure for multiple designs."

## About Synopsys

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