

Customer Success Story

Enabling Privacy- Preserving Computing

The Customer Challenge

Niobium Microsystems embarked on developing the industry's first Full-Homomorphic Encryption (FHE) accelerator chip, facing significant technological challenges. The primary task was creating a dedicated FHE System-on-Chip that could process encrypted data while maintaining the highest security standards. This required extensive microarchitecture verification for data generation, storage, and seamless on-chip data movement. The project needed to meet strict technical specifications and timeline requirements while ensuring the technology would be viable for commercial applications across finance, healthcare, and logistics sectors.

The Veriest Solution

Veriest Solutions provided comprehensive verification services to ensure the FHE accelerator's reliability:

- Deployed engineering teams for thorough verification of diverse chip components
- Implemented sophisticated verification methodologies for the microarchitecture
- Verified data generation and storage mechanisms
- Ensured correct on-chip data movement for encrypted data computation
- Maintained continuous collaboration with Niobium's team throughout the development process

Result

The partnership delivered outstanding outcomes:

- Successfully developed the world's first complete FHE accelerator chip
- Achieved all technical specifications while maintaining project timeline and budget
- Enabled secure data processing without compromising privacy
- Created a pathway for commercial FHE applications
- Established foundation for zero-trust computing solutions
- Delivered technology applicable across multiple industries



"The Veriest team proved to be an invaluable partner in our project. Their experts showcased a remarkable level of professionalism and commitment throughout the collaboration, that proved critical for us achieving our technical and business goals."

Kevin Yoder, President & CEO at Niobium