



Wipro Cloud Studio  
helps eSilicon in their  
journey to become a  
cloud-native enterprise

## Client background

**Client:** eSilicon — a leading semiconductor company

**Industry:** Designs market-specific semiconductor IP platforms and provides custom IC manufacturing services

**Area of operations:** USA, Asia, Europe

## Challenge

eSilicon, headquartered in San Jose, California, is an application-specific integrated circuit (ASIC) developer, designing and producing high-end semiconductors. It serves the high-bandwidth networking, high-performance computing, artificial intelligence, and 5G infrastructure markets. Its customers include Fortune 500 OEMs, with global operations and multiple worldwide locations.

The industry experiences large compute /storage variability (2x – 4x increase in compute and storage demand during peak times) and even a hybrid cloud delivery model did not meet eSilicon's elasticity requirements related to its ambition to provide faster time to market. eSilicon wanted its infrastructure to be more agile in order to respond to changing customer demands.

Cloud is the best way to address these elastic/unpredictable requirements. But five years ago, cloud technology was not technically and commercially viable, so eSilicon signed a data-center-as-a-service agreement with Wipro and expanded its compute capability by 20x.

About two years ago, one of the chips required about 2x more compute than what they had with Wipro and that is what triggered eSilicon to seriously look at Google Cloud.

eSilicon wanted to move all of its ASIC and IP design to Google Cloud Platform (GCP) and was looking for a partner who understood their industry and also held a strategic partnership with Google Cloud.

**eSilicon became the first company to design chips using public cloud.**

The scope of the project included the following:

- Discovery and survey of all 400+ nodes across the US and Asia Pacific regions to prepare for the migration
- Pilot assessment and migration of 94 instances
- Assessment and migration of remaining target nodes, post validation of the pilot
- Migration of over 2 Petabytes of NFS Storage
- Exiting Wipro's data centers in Bangalore by August 2019, once GCP was operational for eSilicon





## Solution

Wipro had been managing eSilicon's hybrid cloud services delivery since 2018 and both management teams were aligned on the cloud strategy. Wipro is a certified managed service provider and also a premier partner with Google Cloud, so it was chosen as the preferred partner for this unique transformation journey, which was the first of its kind in the semiconductor industry.

Wipro conducted a comprehensive assessment of the client's infrastructure landscape by leveraging Wipro's Cloud Studio, a unique model to deliver throttled migration for different workloads while reducing risks. They designed a migration run book that detailed out a comprehensive end-to-end migration approach, bringing together the customer's business teams and decision makers for an industrialized transformation journey.

There are things that are critical for any project's success, for example, people, process and technology. Wipro embraces all these aspects via its Cloud Studio. Wipro team, along with eSilicon and Google teams were able to migrate about 2PB of NFS data with 10 billion+ files and several hundred virtual machines (VMs) in three months without any down time to the business.

Wipro's in-depth expertise in tools and technologies also included Cloudbyte (containerized enterprise storage), Elastifile (enterprise-grade distributed file system with intelligent object tiering), Cohesity (enterprise storage), Velostrata (migration and cloud-based software) and Aspera (data transport and streaming technology). This expertise, coupled with Wipro's automated industrialized solution, helped to accelerate this migration.

## Business impact

With a highly agile and scalable cloud environment, eSilicon has achieved the following business benefits:



Compute scalability proportionate to chip design demand.



Cost optimization — significant cost savings in the range of 20 percent lower total cost of ownership (TCO) for IT.



Utilization improved to 100 percent because of the automated orchestration engine.



Competitive edge — became the first company to design chips using the public cloud; this delivery model helps eSilicon respond more quickly to customer design requirements, and to any subsequent design change requests.



Smart, scalable, secure and cost-effective cloud-based offshore execution model. Most of the migration was two weeks ahead of schedule.

"Wipro's in-depth domain knowledge and industrialized approach to leveraging their Cloud Studio helped us to seamlessly move all our semiconductor design workloads that have been running on-premise to Google Cloud Platform two weeks ahead of schedule.

We now have a highly agile and scalable environment that can support multiple parallel designs with a moment's notice as our compute resources can grow exponentially through our completely automated smart orchestration engine using AI/ML."

**Naidu Annamaneni**

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