



AVISTO
EASTERN EUROPE

CASE STUDY

Semiconductors SoC/ IP Test Data processing platform

One-stop-shop for aggregating and visualizing
test results from multiple test-data sources

Case Study: SoC/ IP Test Data processing platform



Application Software

Complete SW solution development, based on client's functional specification and requirements, in iterative **agile process**, using modern cutting-edge technologies. Decision-making support, based on our technical expertise.

AVISTO Eastern Europe App SW team is experience in delivering complete solution as specified, reaching MVP (Minimum Viable Product) in the most optimal time frame, by choosing the most suitable platform for the product, and developing n-tier SW, starting from engineering data model, back-end and front-end tiers, ending up with UX/UI design.



Comprehend the Client

Profound understanding of client's main pain points, problems and goals.



Goal

Deliver quality product on time according to specific business and user requirements.



Solution

Develop a complete platform for SoC/ IP test data aggregation and statistical metrics calculation, supporting multiple data sources



Results

User-friendly platform, able to aggregate and visualize large amounts of statistical data, collected from different SoC/ IP testing environments

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Comprehend Client

Profound understanding of client's main pain points lead us to long-term collaboration.

Semiconductors

Global semiconductors industry leader

Global leader in semiconductor industry, including, but not limited to automotive, mobile, consumer electrics, smart home, smart city and communication infrastructure.

Producing tens of thousands of **generic, multi-purpose components**, with two-figure multiplier for conducted tests, the client needed **centralized platform** to manage all this data. We were faced with number of emerging problems to be solved:

- Expected search **efficiency** was very **low**,
- How to **visualize** aggregated data in a usable manner,
- How to **compare** multiple test passes efficiently,
- Specification and test limit ranges need to be **customizable** by the user.

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Goal

High efficiency, centralized platform, and easy access.

Kick-off

defining collaboration goals

Kick-off meetings with the client provided us with a solid foundation and valuable insight to establish specific goals to be reached during our collaboration:

- A. **Highly efficient** test results **aggregation system**,
- B. **Centralized platform** for multiple-source data management **with high searchability** of data and lowest possible resources cost,
- C. User-friendly, **easy access** and search of **pre-calculated test results**



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Solution

Highly efficient test results aggregation system

Aggregation

of test results and report

Highly efficient test results aggregation system.

Highly efficient **hardware intensive** aggregation of test results was accomplished by creation of multi process parallel data funnels of large raw data sets. Simultaneously, enabling us to **conduct result recalculation** in a timely manner (500ms - 2000ms) after each **user-initialized** limit or condition (temperature, voltage) modification.



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Solution

Centralized platform for multiple-source data

Centralization

of test results and report

Centralized platform for multiple-source data management with high searchability of data and lowest possible resources cost

Collecting data **from multiple sources** (in-house testing labs, **third-party sources**), with our solution serving as **single access point** for all collected data of interest, by leveraging cutting edge **searching and querying** technologies.



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Solution

Real-time statistical data aggregation

Access

of test results and report

User-friendly, easy access and search of pre-calculated test results

Near **real-time statistical data aggregation** accomplished by selective storing and **write-through caching** solution, implemented to operate on pre-calculated test results and pre-generated test reports. Reactive user interface, providing comfortable **data review** (charts) and control over test limits modification to the user.



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Results

Complete platform developed for SoC / IP Verification and Validation test

SW Platform

time reduction by 87%

A complete platform was developed for SoC/IP verification and validation test data aggregation, statistical metrics calculation by supporting multiple data sources.

- Data aggregation in a **timely manner** is provided, as well as
- **Efficient storage** and retrieval of test results and test reports, for previously conducted laboratory tests.
- Solution **supporting** hundreds of thousands of **different components**, millions of tests, billions of test executions with limits/conditions mutations (**240 bln. records**)
- **Recalculation time**, after limits/conditions change, **reduced by 87%**

LET'S CONNECT!

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*Where passion
leads to excellence*

ABOUT US

AVISTO Eastern Europe

AVISTO Eastern Europe is a service provider that focuses on empowering Industrial automation and Semiconductor projects by offering tailored made solutions in areas of Embedded Systems, Test Automation, Application Software and DevOps.

Established in 2007, AVISTO currently operates three design centers in Serbia and boasts a strong network of experienced engineers empowered by high level of technical adaptability to meet the specific requirements and demands of clients' projects.

As a French company and a member of the Advans Group, which comprises over 1000 engineers, AVISTO can deliver comprehensive product-based development support to clients at the enterprise level.

THANK YOU

