SYNOPSYS®

SUCCESS STORY

Iontra Accelerates Development of Next-gen Battery Charging Technology by 2x with full RTL-to-GDSII flow on Synopsys Cloud SaaS

iontra ENERGY UNLEASHED

SYNOPSYS CLOUD

"Iontra's vision is to accelerate the transition to sustainable energy and ease the world's climate crisis. Iontra is on a mission to become the default charging solution for all batteries to realize this vision. To achieve this, Iontra is working on a technology and solution to harness full potential of Lithium-ion batteries and other chemistries with a novel charging technology that simultaneously improves battery performance, cycle life and safety. Iontra's next-gen battery charging controller enables our customers to provide these solutions at a differentiated cost. We are using industry-leading EDA tools and silicon-proven IP from Synopsys to accelerate our development."

~Dr. Manoj Kaul, Chief Technology officer, Iontra Inc.

Business

Iontra has its headquarters in Denver, CO and has established design centers in Dallas, TX and Bengaluru, India. Iontra is building a game-changing battery charging technology that improves battery performance by improving the charging times and cycle life by more than 2X with improved safety. This means that existing batteries can be utilized far more efficiently or charged faster for battery performance and usability of end applications and products. Please learn more about us at www.iontra.com and follow us on LinkedIn.

Challenges

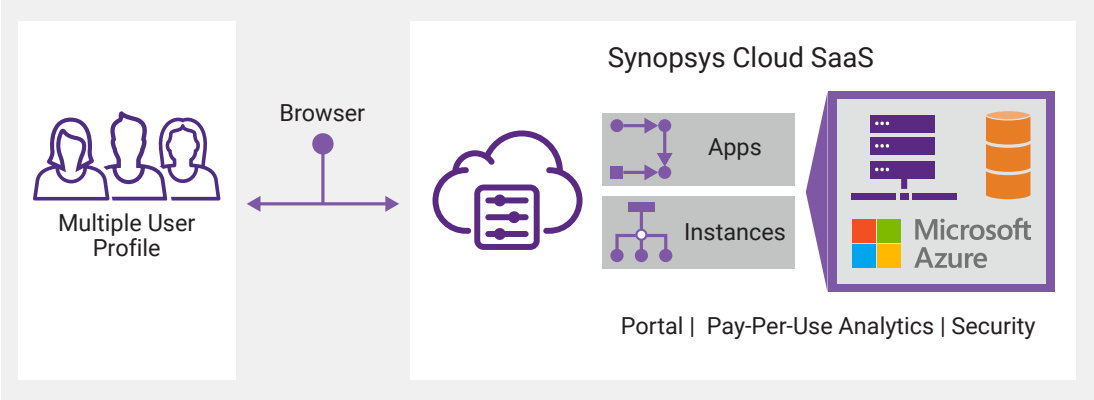
- **Cost, upfront time, and scalability** issues in deploying and managing on-premises compute servers
- **Need for dedicated CAD and IT team** to manage EDA licenses and infrastructure resources
- **Redundancy** for on-premises compute resources requires additional CapEx
- Downtime due to maintenance or failures leading to **engineering productivity loss**
- **Stringent reliability and performance requirements** for next-gen battery charge controller (microcontroller unit)
- **Need for silicon-proven, high-quality IP** to achieve first pass silicon success

Key Takeaways about Synopsys Cloud SaaS

- Transformational platform for complete end-to-end chip design, instantaneous availability of compute and EDA tools, ease of use for CAD management and overall engineering productivity improvement.
- On-demand, pay-per-use access to unlimited EDA resources that remove licensing constraints and enable faster time to run workloads and availability of results.
- Comprehensive silicon-proven IP portfolio and high-quality EDA tool availability
- Fully sustainable ecosystem for silicon development

"Synopsys Cloud is the backbone of our project, providing seamless access to highly secure, on-demand and complete SoC design environment. Using pre-optimized flows on Synopsys Cloud SaaS, the complete design environment was ready for production use within 2 days. Synopsys Cloud also enables our global design teams' access to the same production environment which enables remote co-development and enhances productivity. The Synopsys Cloud FlexEDA model provides access to on-demand, scalable EDA tools and computing resources giving us the confidence to accelerate our time to market and deliver a quality product."

~Dr. Manoj Kaul, Chief Technology officer, Iontra Inc.



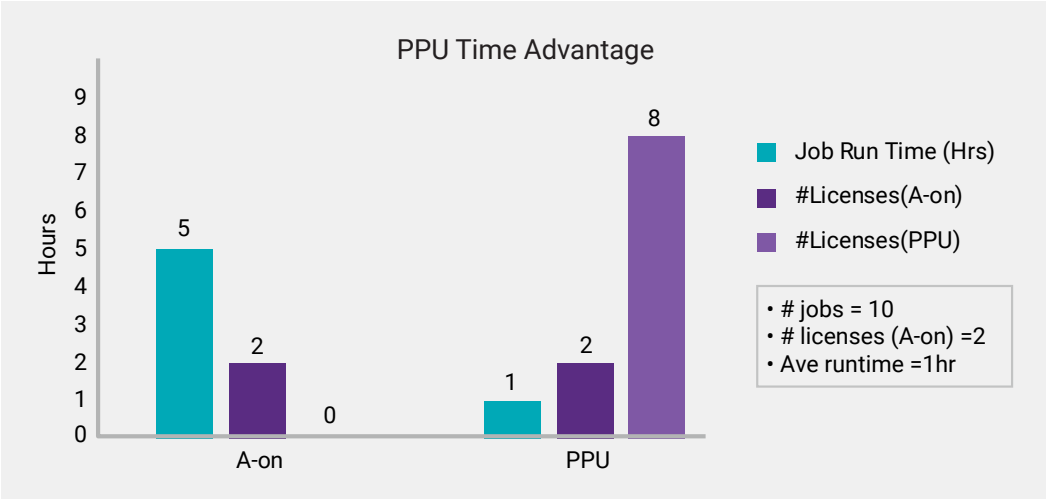
Benefits

- **Production environment:** Up and running in 2 days instead of weeks.
- **Seamless integration of Synopsys IP and EDA tools:** Licenses and software installed within minutes, plus direct download of IP inside SaaS environment.
- **Compute and storage sizing:** Pre-defined compute recommendations included with the chip design flows.
- **Easy upgrades:** New tool versions are installed directly in the SaaS environment within minutes.
- **Security:** Ability to assign user privileges for data movement to and from the cloud within the portal.
- **Scalability, flexibility, and elasticity:** Speed up time to results with on-demand, pay-per-use access. for EDA and compute resources. This provides more time for design iterations to deliver better-quality results, better PPA on-time.
- **License Management Automation:** Automated management of license servers and keys with seamless license server auto-scaling to support unlimited, on-demand licenses for peak bursts without additional CAD resources.
- **Transformational chip design environment:** Seamless browser-based platform offers capabilities for complete CAD/IT and user management, governance, e-commerce, analytics, EDA and infrastructure usage reports.
- **Availability:** Includes the entire portfolio of Synopsys EDA software and high-quality, silicon-proven Synopsys IP, minimizing design risk and accelerating time to market.

The FlexEDA TTM Advantage

"The FlexEDA business model on Synopsys Cloud enabled us to leverage unlimited, on-demand EDA tool license availability. With FlexEDA pay-per-use licensing model, we completed physical verification using Synopsys IC Validator™and extraction using StarRC™ **5X faster**. We were able to focus on quality and time to results without worrying about license count," said Raghav, Iontra Inc.

Synopsys Cloud FlexEDA is the industry's first true pay-per-use EDA licensing model, providing on-demand scaling of EDA tool licenses up or down based on the project needs, with pre-optimized compute for each type of EDA workload. The FlexEDA model allows designers to approach each project with a new paradigm, letting their design and project timeline needs dictate how they'll use chip design and verification tools, rather than the other way around.



"We are creating a novel charge controller IC aimed to revolutionize the performance of Lithium-ion batteries and other chemistries by improving their charge speed and cycle life by more than 2X. To design this charge controller IC platform (MCU) for various applications, we needed a complete and robust chip design platform to support an iterative and flexible design process to meet high performance objectives with stringent quality metrics. With Synopsys Cloud, we are able to access a complete chip design environment offering industry-leading EDA tools and silicon-proven IP. In addition, access to pre-configured and end-to-end design flows improved productivity for our global team and helping us to accelerate our time to market while ensuring performance and reliability requirements were met."

~Raghvendra Santhanagopal (Raghav), Senior Director, Silicon Development, Iontra Inc

About Synopsys Cloud

Synopsys Cloud combines the availability of advanced computing and storage infrastructure with unlimited access to EDA software licenses on demand so you can focus on what you do best—design chips—faster. With cloud-native EDA tools and pre-optimized compute options, an extremely flexible business model, and a modern user experience, Synopsys has reimagined the future of chip design on the cloud that doesn't disrupt proven workflows.

The Synopsys Cloud FlexEDA business model offers two licensing options: pay-per-use (PPU) and cloud subscription license (CSL). PPU is an industry-first, true usage-based licensing approach for EDA tools. Synopsys Cloud FlexEDA provides access to unlimited, on-demand EDA software licenses which is a transformational change compared to traditional EDA software licensing models. With FlexEDA, many Synopsys tools are now available for use by the minute, providing customers with the granularity they need for peak usage bursts in the cloud. This helps reduce time to results significantly and deliver a better-quality design ahead of time. Users can choose from two deployment options: Bring-Your-Own-Cloud (BYOC) and Software-as-a-Service (SaaS). Synopsys Cloud offers the flexibility to use either one or both deployment options, depending on customer requirements.

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