The Hidden Truth about School Devices

Boosting Efficiency and Cutting Costs with Data-Driven Insights

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When Chandler Unified School District (CUSD) faced the daunting task of justifying their recent investment in 3,000 devices with Intel® Core™ i5 processors, the stakes were high. The district needed hard evidence to determine if these devices were up to the task or falling short. The Intel® System Usage Report (SUR) was the answer. Using telemetry data and custom visualizations, CUSD gained valuable insights that not only validated their investment but also led to a decision to increase their implementation by 10,000 devices. This study explains how CUSD and Intel's partnership led to key revelations that could serve as a replicable model for technology investments across educational institutions.

After an investment in Intel® Core™ i5 processor-based devices, Chandler Unified School District (CUSD) faced the pressing question: *Were these PCs delivering the performance that students and staff needed?* With more device refreshes on the horizon, it was important to quickly determine if their existing technology was underperforming and if higher-performing devices were needed to support day-to-day operations all while safeguarding student and district data.

Chandler Unified School District

- Location: Southeastern part of the Phoenix metropolitan area, Arizona, USA
- Students: 43,000
- Employees: 5,000
- Schools: 51

"Besides being able to be proactive in terms of troubleshooting our devices, we really wanted to make sure our devices are in alignment with what we expect for the student and the teacher experience."

—Colleen Flannery, CTO, CUSD

Leveraging Telemetry to Justify Device Purchases

School districts are inundated with data. But understanding if they have the data that is relevant to them, accessing it in a consumable fashion, and using it to inform the decision making process is the challenge.

For CUSD, this became urgent as they faced an impending device refresh. The IT team needed to determine if their current processors were adequate, underperforming, or overperforming to support students and staff effectively. The stakes were high—making the wrong choice could effect educational outcomes and strain budgets.

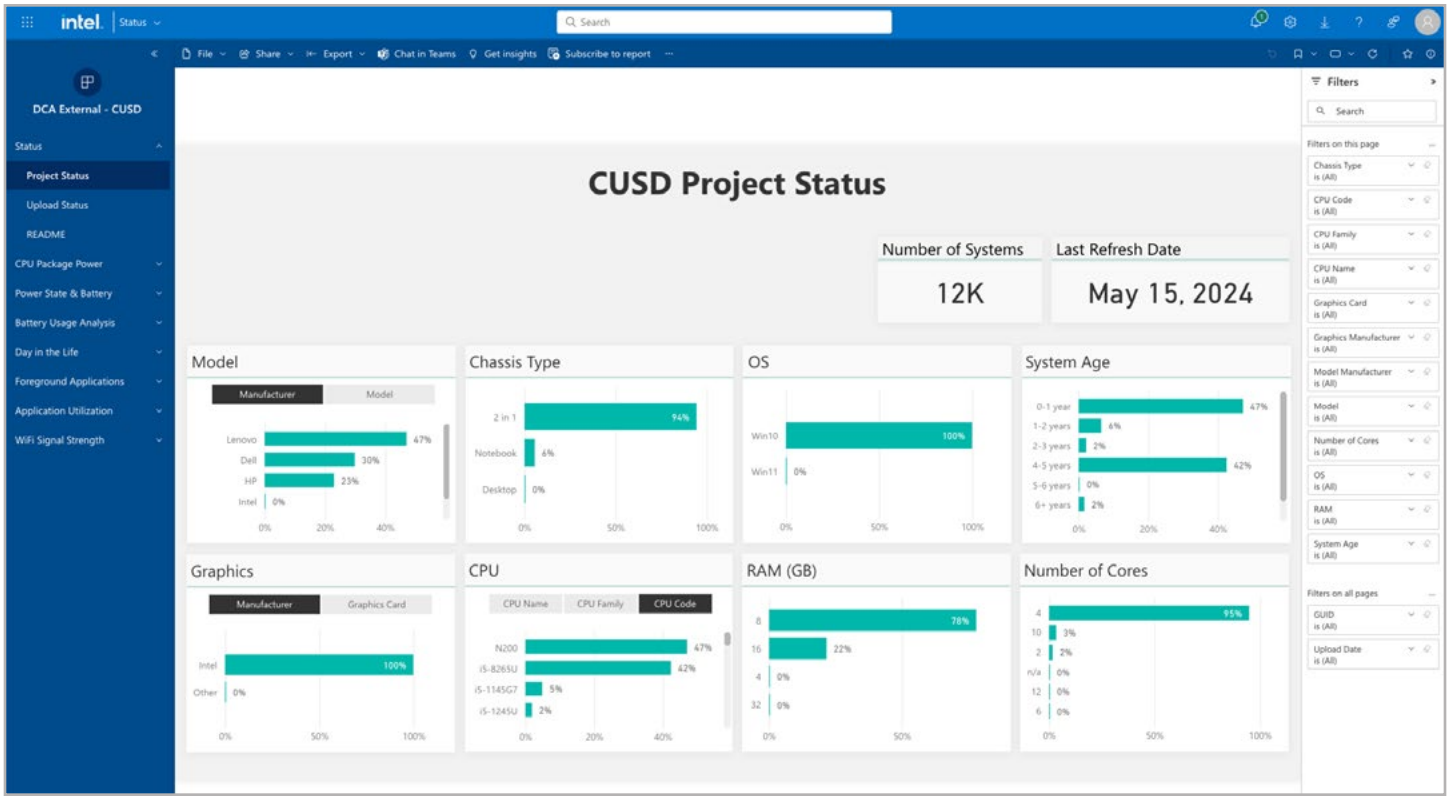
Their journey began by identifying key challenges in their existing system. CUSD identified several key data points necessary to support their evaluations including:

- **Battery Life Cycle**: Duration of charge and capacity reduction to better understand student and staff behavior.
- **Time of Use**: When and for how long devices are being used to look at trends in device usage among students and staff.

What is telemetry data?

Telemetry refers to the automated collection and transmission of data from remote or inaccessible points to an IT system for monitoring and analysis.

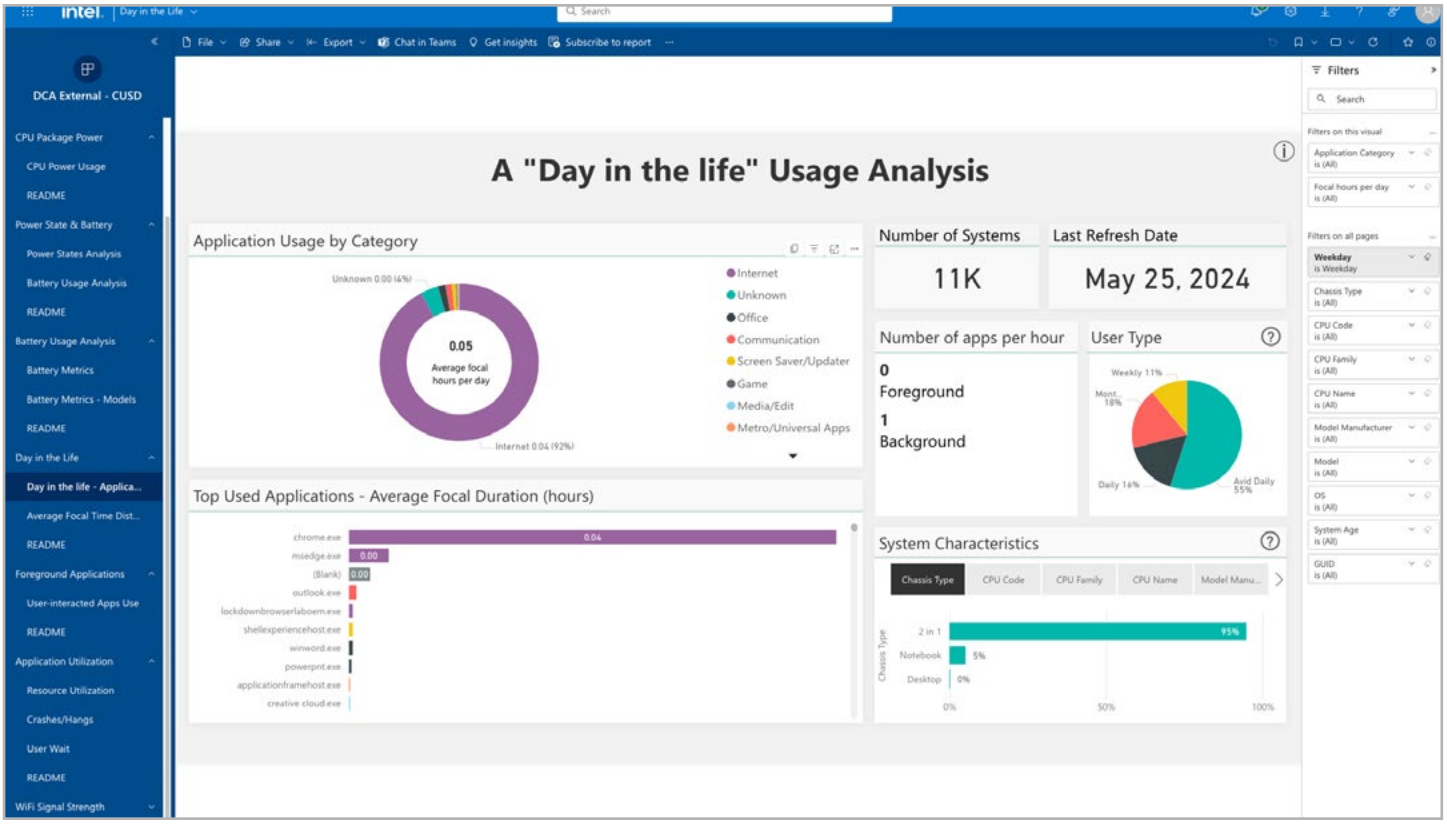
- **Resource-Intensive Apps:** Apps consuming the most CPU, RAM, and HD space to ensure devices are aligned to the needs of students and staff.
- **User Wait Time**: Time taken for the system to go from hibernation to the desktop to determine device efficiency and impact on the experience of students and staff.
- **Application Speed and Lag Issues**: Specific apps on devices facing speed or lag issues to aid in troubleshooting and enhance user experience.



A Collaborative Solution

The Intel® System Usage Report (SUR) provided the answer. By leveraging telemetry data and working closely with the Intel team, CUSD was able to gain an unparalleled, actionable view of device performance, ensuring their technology investments would be data-driven and future-proof.

Intel's SUR solution is compatible with various devices and is capable of monitoring and reporting multiple parameters such as CPU usage, battery life, and application performance while integrating with existing IT infrastructure for real-time data collection and analysis.



Implementation

Collaboration between CUSD and Intel was important in the successful implementation of the SUR solution. During the planning and strategy phase, Intel worked closely with CUSD to understand their reporting needs and provided relevant use case scenarios to consider. The planning phase included stakeholder engagement and setting clear objectives to ensure the solution met all of CUSD's needs.

The initial rollout of the Intel SUR solution began with 3,000 Dell devices. The implementation included installing the software on these devices. "We were able to package the software for a deployment via Microsoft Intune and it was extremely smooth," noted Pete Rodriguez, Senior Network Administrator at CUSD. This setup enabled telemetry data to be uploaded to the cloud every 24 hours, where Intel's systems processed CUSD's data.

Intel then developed custom reports based on CUSD's needs using Microsoft PowerBI, transforming the data into clear, usable visualizations. These reports included support and reference materials to ensure the district could easily access and utilize the data for decision making.

Throughout the rollout, there was an open line of communication. As Chief Technology Officer Colleen Flannery noted, the relationship between Intel and CUSD was very reciprocal. "[The SUR process] is really a model to how we're trying to solve problems in education," Flannery asserts, "as we come together with each other's knowledge to learn and grow from each other."

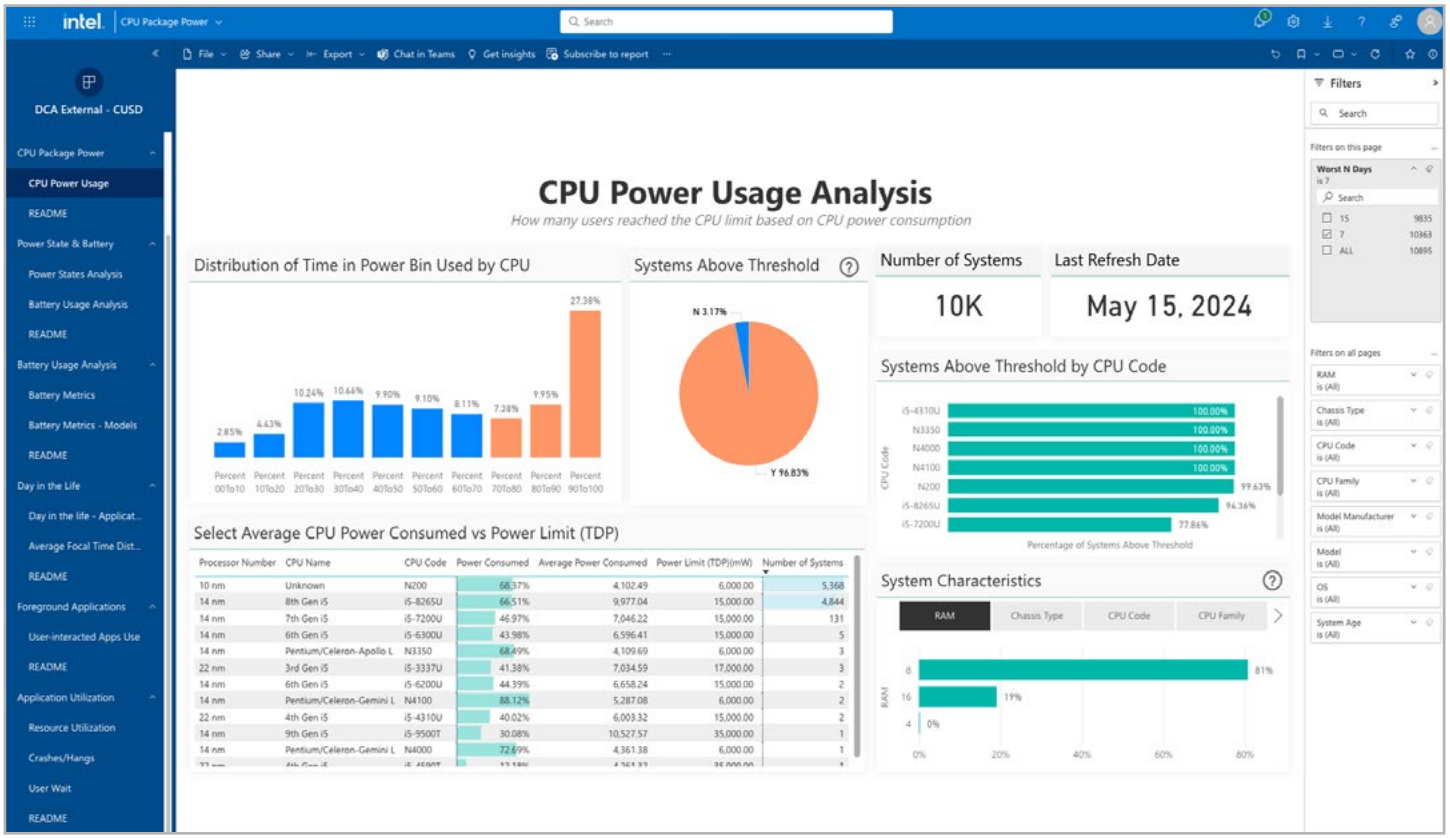
After reviewing the initial reports, CUSD recognized the significant value in the insights provided by the SUR solution, which prompted them to expand their implementation of the solution by 10,000 devices. This allowed them to gather more comprehensive data for current and future technology decisions, ensuring that their next processor investment would be tailored to their needs.

Results

CUSD's decision to add an additional 10,000 devices wasn't made lightly. The telemetry data collected from existing devices revealed a staggering hidden truth—over 97% of their devices were compute-bound during peak usage periods, such as grading and testing times. This realization highlighted an urgent need for high-performance devices to support their users' needs.

CUSD now has improved visibility into device performance, power usage, and other aspects of their technology fleet. The partnership with Intel provided quantifiable evidence about device usage and performance, not only validating past technology investments but also informing future purchasing decisions. Additionally, Intel's SUR solution enabled proactive maintenance and alignment of devices with the expected student and staff experience.

> "We didn't have this visibility before, so it was a little overwhelming at first, but [Intel] presented the data to us in a really consumable fashion."
>
> **—Colleen Flannery, CTO, CUSD**



Next Steps for Chandler Unified School District

Looking ahead, CUSD plans to build on the success of their SUR implementation with several strategic steps. Telemetry data and custom reports from Intel have extracted actionable insights tailored to CUSD's specific needs. Key lessons learned from the project include the importance of identifying data that is meaningful and actionable based on district-specific needs and the value of effective collaboration between Intel and school districts. Insights from telemetry data can help provide a point of validation to school boards and decision makers on future refreshes as well as past technology investments.

In the future, CUSD and Intel may use predictive analytics to target device refreshes based on need rather than age or fleet cohort. Continuous enhancement of data collection methods is planned to further improve device management and decision making processes. For example, Intel assigns each device a randomized GUID (globally unique identifier) to aggregate data for statistical reports, ensuring no personally identifiable information (PII) is collected. With continued collaboration, CUSD could align each GUID with its device ID to detect and mitigate individual device issues and assess user experience and usage by cohorts, such as by classroom, grade level, or school.

The telemetry data, customized reports, and actionable insights that Intel can deliver are better than they've ever been before. Intel makes it easy for school districts to use this data to inform their purchasing decisions, exposing the hidden truths about device performance and utilization and giving them deeper insights into their most significant technology investments.

How can the Intel® System Usage Report (SUR) help?

Intel's SUR provides deep, reliable insights into device performance through telemetry data collected below the operating system level. This data, which includes over 1,000 distinct data points, offers a comprehensive view of hardware utilization that third-party software cannot match.

As the processor manufacturer, Intel can capture and analyze this telemetry data accurately without collecting any personally identifiable information (PII). This helps schools and organizations make informed decisions to optimize device performance and address any technology challenges effectively.

Contact your Intel Account Representative to learn more.