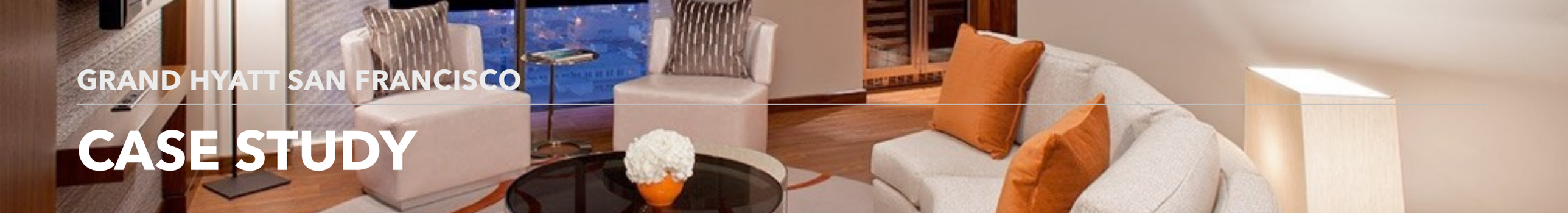
Verdigris Case Study, Grand Hyatt San Francisco

Maximizing Demand Management for an SF Hospitality Leader

Verdigris is the comprehensive electricity monitoring and notification system for commercial facilities. By delivering deep building intelligence, Verdigris enables greater operational efficiency throughout the built environment.



GRAND HYATT SAN FRANCISCO

CASE STUDY

“I’M LOOKING FORWARD TO SEEING OUR PEAK DEMAND DROP YEAR OVER YEAR.”

MICHAEL BOYER, ASSISTANT CHIEF ENGINEER

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In 2015, Verdigris teamed up with a leading player in the hospitality industry, Grand Hyatt San Francisco (GHSF), to test the potential for more nuanced demand management capabilities.

GHSF installed four systems in a beta trial and worked with Verdigris to iterate on the product, leading to personalized recommendations and specific opportunities to save on labor costs and demand charges. With strong demonstrated ROI, GHSF doubled their installation to eight units and will continue working with Verdigris to enhance Grand Hyatt’s leading sustainability efforts, focused on:

- Opportunities to streamline demand management and incorporate behind-the-meter automation
- Continuous, real-time data and alerts to identify equipment inefficiency and malfunctions
- Robust assessment and analysis of sub-tenant demand contribution to support cost-sharing

Our Customer

The Grand Hyatt San Francisco is a AAA Four Diamond hotel in the heart of the city, Union Square, with 660 guest rooms and 30,000 square feet of event space. Working with Director of Engineering Ed Brandes, Assistant Chief Engineer Michael Boyer, and their consultant from ACCO Engineered Systems, Senior Project Manager Ben Sun, Verdigris focused on the following projects to manage high electricity demands:

- Enabling high definition demand response strategies
- Identifying inefficiencies in back-of-house lighting
- M&V for Variable Frequency Drive installations
- Capital equipment replacement identification
- Retail tenant submetering
- Real-time notifications for demand spikes and equipment health issues like unbalanced loads

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Customer Challenges

"We've talked about DM [demand management] with PG&E... about how we could do it, when we would cut and where... but we could never set a plan about how we would actually do it. Verdigris is going to help us do that."

- MICHAEL BOYER, ASSISTANT CHIEF ENGINEER

GHSF partnered with Verdigris to gain better intelligence into their electricity usage in order to decrease peak demand charges, which can account 30-50% of their monthly utility bill. Without a system to track energy usage at the device level, GHSF spent costly man-hours trying to troubleshoot issues and identify problems "in the dark".

Additionally, with a large consumer electronics company about to open a flagship retail store in their ground floor space, GHSF wanted a way to create a detailed baseline for future tenant energy use, in order to track demand contribution to the whole system and ultimately share costs in a transparent way. Verdigris' enhanced analytics and easy access to data, via API or web app, makes it simple to attribute energy consumption to a specific use—whether a large device, building zone, or set of plugs—and to track that use over time.

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Verdigris Solutions

Verdigris has helped GHSF launch its first demand management (DM) system, consisting of a portfolio of demand response resources that will be monitored by the Verdigris system. Paired with an automation system, appliances can be switched off on peak event days or during other times that GHSF is forecasted to exceed peak demand.

Verdigris forecasting software will alert GHSF staff that morning before such an event is expected to occur and tell them the amount of kW usage and time duration to decrease.

Compared with other DM methods, Verdigris offers superior advantages: proprietary, high-frequency sensors can identify exactly which pieces of equipment are driving peak usage and whether or not usage has been reduced enough to maintain a lower monthly demand charge. This level of insight enables high definition demand response, optimizing building operations beyond the all-on/all-off approach of most demand response technologies.

Moving forward, Verdigris will be able to interface with GHSF's Building Automation System to be able to remove the manual component of demand response.

"What excited me was the fact that you could lessen our peak demand or keep our peak demand under control, so that we don't spend so much on electricity."

- MICHAEL BOYER, ASSISTANT CHIEF ENGINEER

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Key Results

With the notifications Verdigris provides regarding energy usage, equipment malfunction and inefficiency, GHSF identified savings opportunities of $2,100 per month in demand charges and avoided maintenance.

The building intelligence provided by Verdigris can provide value beyond just demand management – at GHSF, it was by identifying inefficiencies totaling more than $12,000 in annual recurring savings. For example:

- **Kitchen exhaust fans used off-hours were costing >$250 a month**; the 24/7 monitoring of Verdigris allowed building staff to catch this spending while they were home sleeping.
- In an audit of 32nd floor guest room energy use, well beyond the reach of the building automation system, Verdigris showed that **one room was regularly consuming 2.3x more energy than any other.**
- Domestic water pumps with a hard start/stop cycle rang up $1,500/month in summer demand charges. **Verdigris analysis validated that installing a VFD could reduce energy spending by 30 – 50%**, while improving overall system performance.

With the new expanded installation and the future incorporation of limited automation, GHSF and Verdigris estimate that savings can be even greater in the future.

GHSF praised Verdigris for understanding the expectations and limitations of operating a hotel, where occupant comfort means revenue and blind automation strategies just aren't compatible. GHSF was very pleased with the user-friendly process of installation, the powerful data analytics, as well as the opportunity to reduce human error when controlling for peak demand with real-time notifications. Instead of relying on staff engineers to find inefficiencies by chance, the Verdigris system can identify these issues and notify them.

By using Verdigris, GHSF is able to improve energy efficiency, reduce demand charges, and save large amounts of time to reduce the hotel's largest single operating cost– labor–while freeing up its valuable staff to focus on proactive operations, rather than reactive interventions.

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