

SIGA's installation at a prominent data center

April 2020



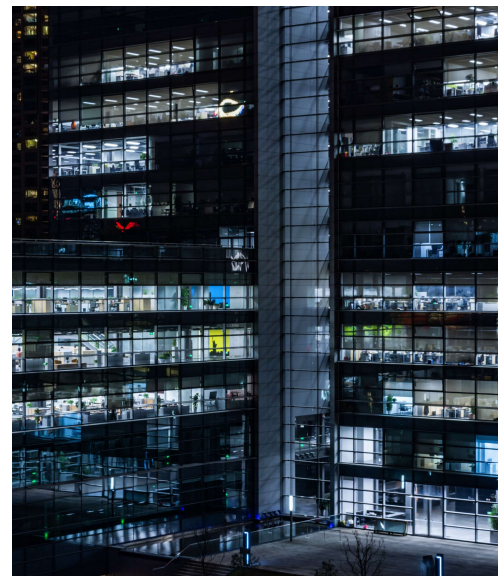


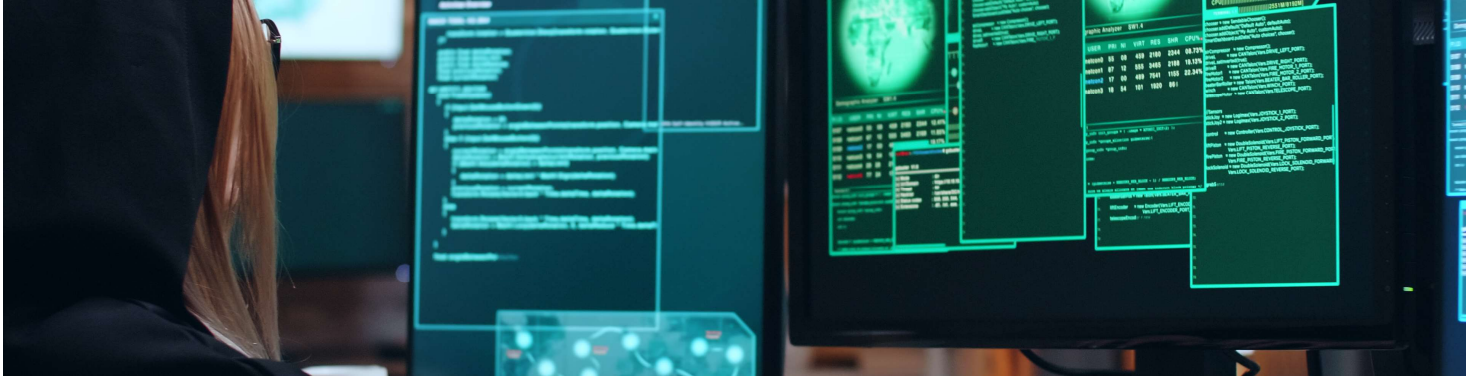
The client

MedOne provides a wide array of solutions to data center services at three subterranean installation in Israel. The data center facilities serve the most important institutions in the region and comply with Tier 4 TIA/EIA international standards for both power supply and air conditioning systems.

The challenge

The data center's main function is to provide continuous uptime for the mission-critical applications it houses. Any downtime in a data center can impact business continuity. The top causes of unplanned downtime in data centers include UPS failure, cyber attacks, human error, electrical deficiencies, and HVAC malfunctions. This data center requested a resilience solution for cybersecurity and operations to protect and ensure reliable performance.





The solution

SigaGuard was connected to a variety of electrical devices and equipment—all of which are integral to maximizing data center uptime and performance. SIGA provided direct monitoring of raw electrical signals (Level 0), coupled with unique machine learning algorithms that analyze and provide real time, reliable status of critical end-devices with remote monitoring.

Customized anomaly alerts were also delivered as required.

Failure detection

In April 2020, an unusual anomaly—the miscorrelation of on-site chiller temperatures—was detected and alerted by the SIGA ML algorithms. The alert was sent to operators for investigation.

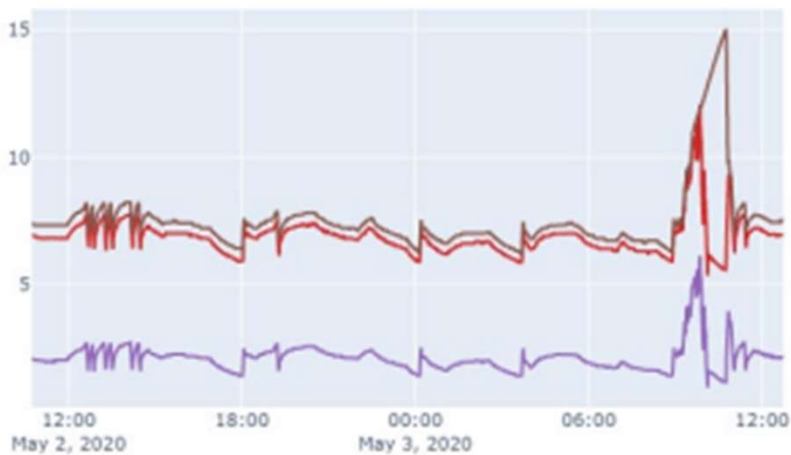
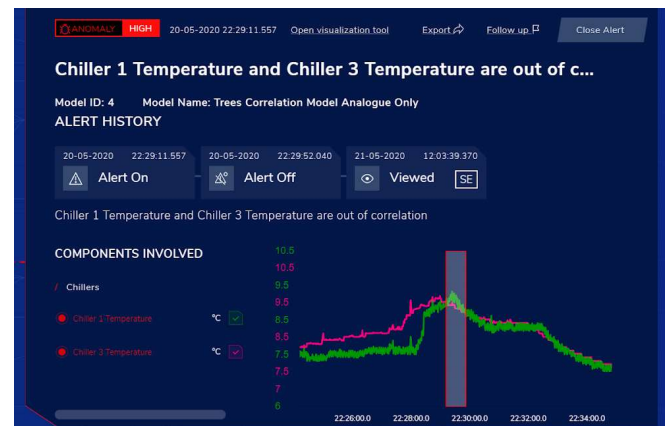
Further investigation showed that due to a power outage, the chillers came in and out of operation uncontrollably without raising any SCADA alarms (because the temperatures did not cross any thresholds). This type of chiller behavior can ultimately lead to complete failure of the coolant supply to the servers and the crashing of the entire site.

Thanks to SIGA's predictive failure alerts, operators were able to take control measures to fix the failure—averting costly downtime—without any damage to the system.



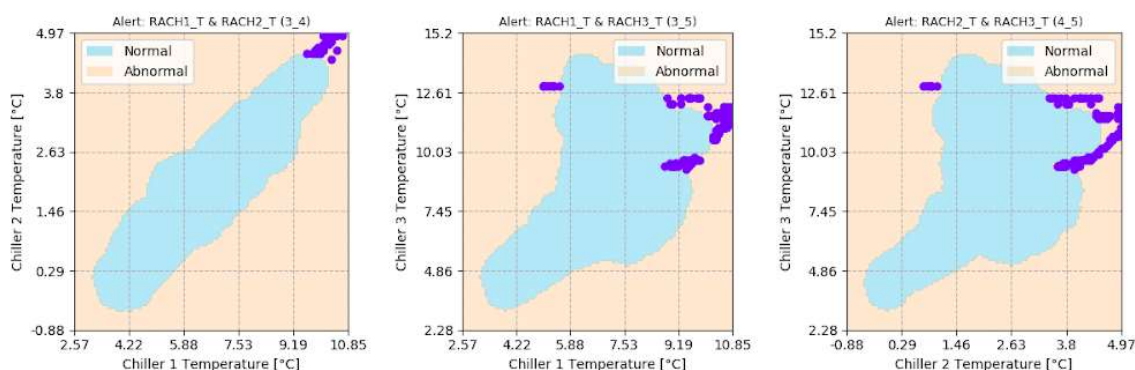
Diagrams

SigaGuard alerts to operators on the SIGA dashboard



Normal chiller temperature as compared to the anomaly that was detected. The anomaly was caused by a power outage which raised the temperatures of the chilled water.

Temperature correlation map: purple dots illustrate miscorrelation points





Conclusion

Resilience and redundancy are critical to any data center. The potential costs of downtime and the benefits of uninterrupted uptime are too important to ignore. SigaGuard safeguards data center assets by using an out-of-band network to monitor raw, untampered electrical signals. These signals are analyzed by SIGA's unsupervised machine learning software to provide operators with real-time alerts on anomalies or operational failure indicators to maximize uptime.

About us

Founded in 2014, SIGA OT Solutions is an innovative cybersecurity company driving a paradigm shift within the world of OT cybersecurity. The company strives to expand the boundaries of OT operations with deepened security and elevated process integrity, by delivering AI enhanced monitoring and deeper operational perception to operators of critical assets.