CORMANT™
DCIM And Beyond

A Cormant-CS DCIM Case Study

Problem

The United States Senate technology team used a time-consuming combination of spreadsheets, Visio diagrams, home grown databases and physical site visits to manage the equipment and plan change in the Senate data centers.

Solution

After Cormant-CS DCIM deployment the US Senate now has:

- A single process for both data centers.
- A single source of truth for all data center data, replacing multiple systems.
- Higher CRAC/CRAH running temperatures (by 4 degrees).
- Multiple external integrations.
- Lower equipment and power costs.
- Better communication within the Senate team.
- Increased resilience to failure by measuring usage/failover capacity between master and extension PDUs.

"Cormant DCIM has delivered more than we expected and we keep finding new ways to improve the operation of the data centers we run."

Joe LaPalme, Manager, Enterprise IT Operations, U.S. Senate

Unique Cormant Use

Dynamic cooling management.

The Senate has configured Cormant-CS to turn rack fans on or off based on the current rack temperature. The result is a dynamically controlled hot air exhaust system that saves money by turning off fans that are not needed.

About the United States Senate

Established by the Constitution as one chamber of the federal government's legislative branch, the United States Senate is comprised of one hundred members. Senators, along with members of the House of Representatives, propose, author, and vote on federal legislation that touches upon all aspects of U.S. domestic and foreign policy. https://www.senate.gov/

U.S. Senate Data Centers

The Senate technology and data centers falls under the Senate's Sergeant at Arms. The role of Sergeant at Arms goes back to 1789 and today the Sergeant at Arms is the largest in size of staff and budget in the Senate. Senators rely on the sergeant at arms for software, computers, equipment, and repairs. The Senate's Sergeant at Arms operates two data centers, one primary and one secondary site in an active-active configuration on a 24 by 7 schedule.

U.S. Senate DCIM Requirements

The Leadership of the Senate DC team defined the requirements the chosen DCIM solution must include to be successful in their environment.

- **Asset Lifecycle Management – from Order to Decommission**, including creating user defined data points, modelling any hardware, capacity planning and providing view access to system owners.
- **Connectivity management**, all data connections, active and passive, copper and fiber, and all power connections, street to chip.
- **Full Mobility**, including barcode scanning of assets and cables to facilitate initial verification and to streamline ongoing changes.
- **Queries and Interfacing to 3rd party systems**, including SNMP, 3rd Party applications such as Server Technologies SPM and RF Code Asset Manager, VMWare VSX and in-house developed systems.
- **A Single Data Repository**, replacing existing spreadsheets, Visio, and various home-grown applications and to provide a single source of truth for all data currently managed in separate, siloed applications.
- **Monitoring,** including out of the box monitoring, alerting on environmental issues (water, heat, humidity), door security, equipment failures, reporting of environmental sensor data for potential improvements in efficiency and a holistic view of all integrated systems.

U.S. Senate DCIM Evaluation

Data was collected from DCIM vendor's websites, at trade shows and by viewing live demonstrations made by the various DCIM solution providers. The Senate reviewed the offerings of over a dozen vendors before making Cormant-CS the solution of choice.

Cormant-CS the Chosen DCIM Solution

"Cormant's DCIM offering, approach to deployment and overall value proposition allowed the Senate to meet all our requirements"

Dave Alaniz, Data Center Supervisor / Project Manager, U.S. Senate

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Contact Us for more information or a demonstration of Cormant-CS.

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Cormant-CS Deployment and Delivery

Cormant-CS deployment at the Senate began with a two-day implementation workshop where experienced Cormant DCIM consultants worked with the Senate to document all project deliverables and plan the deployment based on the Senate priorities and Cormant recommended best practices. Deployment goals and timelines were agreed and project managers from both the Senate and Cormant began assigning the required tasks to complete the DCIM implementation and process definition. Cormant provided a fixed price guarantee for the entire project, protecting the Senate from possible cost overruns.

The Senate team delivered their asset inventory of all existing equipment in spreadsheet format and the data along with drawings were imported by Cormant. All assets and cables were labelled with a barcode to maximize the use of Cormant's mobile solution. Every asset and connection in both data centers was physically audited by a Cormant lead team to ensure 100% accurate data. The Senate team was trained to the point where they were able to take over the operation of Cormant-CS. The leadership team then began to refine internal processes and identify efficiencies to be gained by integrating the Cormant-CS data with other stakeholder systems.

The holistic Cormant-CS DCIM solution allows the Senate team, for the first time, to fully define their overall management of their data centers and get full visibility into all aspects of their operation for further change.

Cormant-CS and Integrations

The Senate uses Cormant DCIM to collect data dynamically from 3rd party sources. Cormant-CS integrations ensure the Senate team has the most up to date information available, including data from:

- Server Technologies SPM – collects power and environmental data from rack mounted PDUs.
- RF Code Asset Manager – data and security alerts from the wireless sensors deployed across the data centers, including rack doors, wet/dry, and temperature/humidity sensors. Monitoring of the temperatures collected from the sensors throughout the airflow chain (CRAC/CRAH to server, to return), provided the metrics in order to justify facilities improvements for efficiency. Following facilities changes, the result was the increase of CRAC and CRAH temperatures by four degrees, and improved PUE of the data centers.
- VMWare ESX – gathers information related to virtual machine inventory and configurations.
- Cameras – Images can be captured based on an alert from a rack door sensor.

Cormant and the Senate worked together to specify integration required between the Senate Enterprise Change Management (ECM) system and Cormant-CS workflow. The integration delivers automated synchronization of customer requested changes between ECM and Cormant-CS creating DCIM workflow tasks, something that previously required a manual re-key of the order. This integration ensures the Senate data center team can meet their change governance requirements and customer SLAs. The integration was delivered by Cormant in less than two weeks.

Cormant-CS Dynamic Management

Using Cormant-CS scripting, the Senate team is able to dynamically control selected server's hot air exhaust systems and save money by turning off fans that are not needed. Server racks with hot spot/heat issues have rear-mounted fans to exhaust hot air vented from the equipment. With the integration to Server Technologies SPM, Cormant-CS identifies the PDU sockets to which the rack fan is connected, the Senate team then configure Cormant-CS to turn the rack fan on or off based on threshold temperature values. This has reduced cost.

Cormant-CS and Customer Feedback

Cormant continually evolves Cormant-CS to anticipate market requirements and respond to customer feedback. When the Senate team requested additional functionality in the Workflow modules, Cormant performed a detailed review of the Senate requirements and immediately recognized the Senate team's vision and value in the changes that would flow to all Cormant-CS customers. The US Senate requirements features now form part of the standard Cormant-CS offering for all customers. This is very typical of how Cormant will partner with customers for product enhancements.

U.S. Senate Team Future Plans

The Senate team plans to consolidate other in-house systems into Cormant-CS DCIM to reduce the cost and complexity of running the data centers.