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Proposal Title: Event Based Scheduling Optimization for Building Air Handlers

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Description:

A large portion of the power usage for the buildings on USF campus is consumed by the environmental systems to maintain temperature and humidity. One of the currently used methods to save money in this area is (a) to either allow the temperature to "float," rising above the normal by 5-10 degrees, (b) or to close the fresh air dampers, so that the system is only having to maintain the temperature of the recirculated air. Either of these methods rely on the idea that the system load can be reduced when the spaces are unoccupied. While the campus systems are currently scheduled, where possible, to take advantage of these savings, dynamic reservation schedules make it too costly to manually change the air handler schedules. We propose that a system of interface software be developed to automatically and dynamically set the schedules of air handlers based on the space schedule information available from R25 Database. For this project, three major components need to be designed and implemented. 1. An R25 Interface that can pull relevant data from the Space scheduling database at regular intervals. This software will make use of either the standard web information, or if available a direct interface to the R25 database. 2. A database with stored procedures that will maintain the correctness of the data and pulled from R25, as well as maintaining a history for the spaces managed by the system. 3. An application that will

Metrics:	to write test schedules for air handlers for one month. By comparing these schedules to the ones already in place for the air handler, we can show the effective savings by reducing load on the environmental systems.
Plan for Sustainability:	After completion of the project all software and documentation will be turned over to the Physical Plant for implementation as they see fit. Other than maintaining the air handlers, no other requirements are needed to maintain this system. As other spaces are equipped for this software, they can be added at the Physical Plant's discretion with minimal effort.
Annual Energy Savings:	

	include some capability to track and record both the usage of the rooms as well as the energy use and profile of the controlled HVAC units.

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