



# MDMS UPDATE

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## FROM THE PROGRAM MANAGER

By Michael Ott, MDMS Project Manager, USACE—Huntsville Center

Welcome to our October – November 2017 issue of the *MDMS Update*. We are pleased to share meter data success stories, and the one below highlights the retro-commissioning activities taking place at Fort Carson, Colorado. Have a project you'd like to share? We really would like to know your experiences in using meter data to find an energy savings opportunity and/or validate the savings achieved.

In response to recent questions about how MDMS gateway servers are kept secure and compliant, check out the article on page 2, "Continuous Monitoring of the Gateway Servers."

It is good to have the Army sites in Hawaii reporting meter data to MDMS again. Kudos to all involved in that effort as described on page 2.

Your particular attention is requested to

the article on page 3, "Facility Tagging— Game Changer." As we await DISA's stand-up of the supporting hardware for MDMS V2, now is the time to provide your input to the new functionalities being developed for the new MDMS software. The ability for MDMS users to add contextual information about metered facilities and then generate reports using that information as filters will offer myriad of potential new applications for meter data.

On page 4 you'll find the 2017 Rocket City Summit Report and the announcement of new training materials. As always your input is valuable, and we welcome your feedback at:

[usarmy.coehuntsville.cehnc.mbx.army.meterhelp@mail.mil](mailto:usarmy.coehuntsville.cehnc.mbx.army.meterhelp@mail.mil)



Michael Ott, Project Manager, MDMS USACE—Huntsville Center

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## RETRO-COMMISSIONING AT FORT CARSON

Energy Manager Scott Clark, Fort Carson, Colorado, recently shared details about his use of MDMS and meter data in support of their most recent retro-commissioning effort. Clark indicated that the Fort Carson Energy team had already completed much of the baseline energy improvements on buildings, such as lighting and water fixture upgrades. It was time to focus on the building HVAC operations. Clark and his team utilized MDMS to establish a baseline of gas and electric energy usage. They were able to obtain sufficient meter data from nine target buildings and using that data, Clark was able to extrapolate usage for another two buildings.

Fort Carson contracted through the U.S. Army Engineering and Support Center, Huntsville to perform detailed building audits and provide both energy conservation and facility improvement recommendations. Approved energy conservation measures for the execution phase included:

- Optimizing equipment schedules, hot water set points, hot water outside air lockout

- Recalibrating economizer control
- Targeted test and balance
- Chilled water reset
- Troubleshooting non-responsive equipment
- Re-calibrating/replacing sensors
- Replacing valves/actuators

Facility improvements include adding a new computer room air conditioning unit for an uninterrupted power supply room and four new stand-alone split air conditioning systems for the Network Enterprise Center building for their communications rooms.

Clark states that the construction phase of the project, with a combined cost of more than \$500,000, won't be complete until the January/February 2018 time frame, with a calculated payback of just over five years. He will wait six to eight months after construction completion before pulling the meter data again to see what energy savings are realized. (cont. pg. 2)



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# RETRO-COMMISSIONING AT FORT CARSON (CONT. FROM PG. 1)

Resource Efficiency Manager Bradley Grant, Fort Carson, is performing audits on another set of buildings for potential retro-commissioning activities. Grant is using the MDMS not only for baselining the energy usage data, but also to help calculate each building's energy use intensity (EUI) to determine if they are good candidates for retro-commissioning efforts. Clark also indicated that Fort Carson has been selected to receive a data center audit in FY18, and thus they have been utilizing the MDMS meter data to provide to the contractor to which the analysis work was awarded.

## CONTINUOUS MONITORING OF GATEWAY SERVERS

The MDMS Team has received some recent inquiries from MDMS users regarding system and data security. The questions and answers are provided below:

Q: How do I know my network and data are secure from unauthorized access via the MDMS gateway?

A: Under Risk Management Framework (RMF) utilizing the NIST SP800-53aRev4, the MDMS team obtained Authority to Operate (ATO) in June 2016. The ATO was granted after verifying all security requirements were configured and implemented on all gateway servers, and all required documentation of the procedures for maintaining security was approved. A major part of maintaining an ATO is through a process defined by RMF as Continuous Monitoring (CM). CM activities are defined within the 18 Security Control Families within the NIST SP 800-53. Some of the CM activities that are performed on gateways include account and access reviews and audit monitoring for suspicious activities.

Q: How is an unauthorized user prevented from seeing my data?

A: Account and access reviews are performed on the gateways (daily, weekly). Suspicious activity is readily identified and monitored. MDMS utilizes a Single Sign On

(SSO) Authorization. This is why when you request access to MDMS it does not happen right away, so the proper security measures can be put in place.

Q: How do I know that MDMS maintains compliance with the latest guidelines?

A: MDMS System Administrators (SA) perform security compliance and vulnerability testing to verify continued compliance with the latest Security Technical Implementation Guides (STIG). McAfee anti-virus signatures and the latest DISA approved patches are updated and installed on a routine basis.

Conclusion. Cybersecurity personnel review all Gateway information for overall security posture and maintain artifacts within the Enterprise Mission Assurance Support Service (eMASS). The artifacts are then reviewed by the Security Control Assessor (SCA), NETCOM, and the MDMS Authorizing Official (AO) for verification of MDMS CM activities. This is how the MDMS team ensures that MDMS gateways remain secure.

Please forward your questions or concerns to [my.coehuntsville.cehnc.mbx.armymeterhelp@mail.mil](mailto:my.coehuntsville.cehnc.mbx.armymeterhelp@mail.mil) (AMSD Help Desk).

## REMOTE ACCESS TO MDMS GATEWAY SERVER IN HAWAII

The MDMS contractor was notified that Schofield Barracks, Hawaii's Authority to Connect (ATC) to MDMS had expired. The garrison wanted to take the opportunity to upgrade the existing gateway server as part of their ATC renewal. Planning began to replace the gateway server with a new HP ProLiant Gen 9 running Microsoft Server (MS) 2012 R2, even though implementation of MS 2012 R2 on MDMS gateways is not required before June 2019.

During October 2017, an MDMS Gateway Deployment team traveled to Hawaii and successfully installed and configured the new MDMS Gateway server at Schofield Barracks. The Schofield Barracks MDMS Gateway server will now support meter data being collected at Fort Shafter, Wheeler Army Airfield, Helemano Military Reservation and Schofield Barracks. Both the Schofield Barracks and Fort Shafter EEDRS server will report meter data through the

new MDMS server.

The most beneficial outcome of the project is the MDMS team now has remote access to the server to perform maintenance and troubleshooting directly, without having to involve the local Network Enterprise Center (NEC) personnel except when absolutely necessary. Remote access also allows the MDMS team to assist the EEDRS vendors in resolving meter reporting issues.

This project is another example of joint efforts of many to get meter data reporting to the MDMS and improving the meter network reliability.



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# FACILITY TAGGING—GAME CHANGER

Among the new functional capabilities to accompany the spring 2018 launch of MDMS V2 will be the ability to select, enter and save contextual data about metered buildings. Knowing how time-consuming data entry can be, MDMS V2 is designed to make maximum use of pull-down menus for quick selection of standardized descriptions, a.k.a., tags. Not all metered buildings require tagging—only those that the energy manager has investigated, plans to investigate or has dismissed from any further action.

The initial list of standardized tags is shown in the adjacent column. A building can be assigned multiple tags that will be visible to all MDMS users. However, permissions to add tags will be tightly controlled, e.g., limited to installation energy managers for their default site, and MACOM level energy managers having multiple site responsibility for their organization. Requests from these responsible parties to extend tagging permissions to others under their purview, e.g., Resource Efficiency Managers (REM)s will be honored. The tagger's name and date of the tag will be recorded within MDMS along with the tag(s).

Tagging can explain why a building consumes more or less energy than is typical for its facility type/use; record when and why a change in a building's energy performance is expected (or has occurred). Querying or filtering on tags can facilitate before-and-after project comparisons, establish more refined comparable groups for prioritizing action and tracking median usage trending. Tagging can control a building's inclusion/exclusion within aggregated meter data reports, and a myriad of other applications. Moreover, tagging will preserve an installation's and organization's building knowledge acquired by successive energy managers.

All tags have applicable dates, even if the building has always been that way and/or expected to remain as tagged for the foreseeable future. Each tag's start and end date input fields offer "from earliest available meter data" and "non-expiring" respectively for selection. Tags can be deleted, changed or simply allowed to expire for display or filtering purposes based upon its associated end date.

Tagging will not be limited to just the standard tags as shown. An optional text block will be provided for additional input if desired. However only standard tags can be used to query and filter the selection of buildings for inclusion within a user defined report.

Comments on this plan for tagging metered facilities are requested. Please send them to:  
[usarmy.coehuntsville.cehnc.mbx.armymeterhelp@mail.mil](mailto:usarmy.coehuntsville.cehnc.mbx.armymeterhelp@mail.mil)

Category	Standard Description Tag
Business	Reimbursable tenant facility
	Non-reimbursable tenant facility
Master Planning	Planned for demolition/reduction
	Planned for renovation/addition
	Planned for conversion to other use
	Planned for transfer of ownership
Incorrect Facility Data	Incorrect SF amount
	Incorrect CATCODE
	Incorrect building name/description
	Incorrect site location
Facility Condition	Red
	Yellow
	Green
	Recently renovated
Operations/ Occupancy	24/7 Operations
	Extended hours 60 – 80 per week
	Extended hours 80 – 120 hours per week
	Extended hours >120 hours per week
	Limited/occasional occupancy <40 hours per week
	Vacant/mothballed facility
	Industrial/operational energy
	Multiple use with highly varied EUI profiles
	Low occupancy <50% of SF utilized
High occupancy/high density	
Energy Project	ERCIP
	ESPC
	MILCON
	O&M
	PPA
	UESC
Energy Audit	Energy audit scheduled
	Highest energy audit performed – 1
	Highest energy audit performed – 2
	Highest energy audit performed – 3
Faulty Meter Data	Wrong meter multiplier
	Faulty meter data – other or unknown
Energy Sources	Metered electricity and metered natural gas
	Metered electricity and non-metered natural gas
	Metered steam/hot water
	Metered chilled water
	Non-metered steam/hot water
	Non-metered chilled water
	On-site renewable energy source(s)



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# 2017 ROCKET CITY SUMMIT REPORT

The Rocket City Summit, a joint event hosted by the Society of American Military Engineers Huntsville Post and Energy Huntsville, took place in Huntsville, Alabama, Oct. 16-18 at the U.S. Space & Rocket Center. This year's event focused on energy, resiliency and facilities with speakers and attendees from across the country in both government and industry.

The first day's opening panel was focused on third-party financing acquisitions and execution, with panel members from the U.S. Army Corps of Engineers, Huntsville Center's third-party finance team. Speakers included Jason Bray, Energy Savings Performance Contracting program manager; Lisa Harris, Utility Energy Service Contracting program manager; Victor Petty, Power Purchase Agreements project manager; and Matt Urbanic, Energy Division contracting officer. The afternoon panel focused on energy security and resiliency, with panel members Africa Welch-Castle, program manager of Energy Engineering Analysis Program, USACE HNC and Mike Rits, subject matter expert on Air Force Renewable Energy, Air Force Civil Engineer Center. The day wrapped up with Paul Robinson, Energy Division chief, USACE Huntsville Center, providing the closing keynote on energy security and resiliency.

The second day's session, "Energy Investments with an ROI Are Good for Business," focused on energy efficiency and security and brought forth both speakers and a panel sharing stories of their projects where amended energy operations helped them take advantage of opportunities for improved energy security and efficiency, while providing significant return on their investments. Leslie Marshall, energy engineer, General Mills, shared that they had to implement behavioral changes and initiatives to reduce energy across their plants. She said that in the past, plants did not fully appreciate or understand the new technologies that the energy engineers were implementing, thus resulting in the plants reverting to the longstanding ways of doing things. This in turn resulted in losing savings and the plants stopped liking the energy engineers. Since the plants didn't care about energy savings but about

making product, the energy engineers had to figure out how to give in order to receive. She indicated that they figured out that funds could be spent on both growth and essential products, which enabled them to give money back and still meet their goals. The energy team is now appreciated across the plants and are more successful at getting those energy-related favors returned when needed.

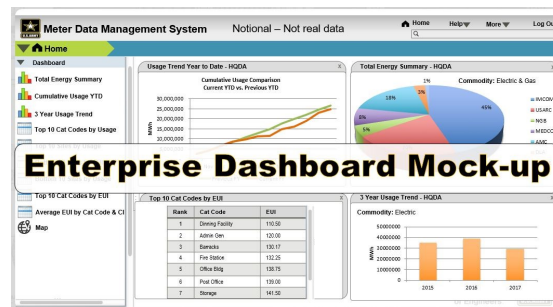
The MDMS contractor, General Dynamics Information Technology, showcased a demonstration on how meter data can be used to prioritize facilities for action, validate energy project effectiveness and motivate others to do

their part to conserve energy. The presentation discussed the benefits of an enterprise system for Army facility meter data. One of the highlights of the presentation was a preview of MDMS version 2 software, especially the role-based dashboards for enterprise (HQDA) level, installation/site level and building level. The dashboards provide continuously updated information deemed important by

users based on their scope of responsibility and interests. Each dashboard offers drill-down capability within the reports presented and access to all other report menus.

Attendees were also provided a demonstration of MDMS using near real time data from various installations. The Energy Use Intensity by Category Code Report was a big hit at this year's show, as it displays the ranking of buildings from least to most energy efficient. At the building drilldown level, attendees could see where the most energy intensive months occurred, as well as any anomalies that could indicate a potential spike in usage or a faulty meter.

The conference wrapped up with SAME's annual post industry day, where commanders of several USACE organizations shared their acquisition forecast overviews. USACE organizations represented were: Huntsville, Alabama; Little Rock, Arkansas; Savannah, Georgia; Mobile, Alabama and Jacksonville, Florida.



## NEW TRAINING MATERIALS AVAILABLE

Both the updated autorunning MDMS overview presentation and the "Rocket City Energy Summit Demonstration -- MDMS" video, which were prepared and shown at the MDMS booth during the 2017 Rocket City Summit, have been uploaded to the AMSD website. For your convenience, the video tutorial has also been uploaded to the milTube web site for viewing. Be sure to choose the DOD email certificate associated with your CAC when accessing the site. Both the milTube and AMSD web sites will continue to be updated as more video training tutorials become available. If you have trouble accessing either of these websites or their associated links, please contact the AMSD help desk directly at [usarmy.coehuntsville.cehnc.mbx.armymeterhelp@mail.mil](mailto:usarmy.coehuntsville.cehnc.mbx.armymeterhelp@mail.mil)