

Advanced Metering Workshop

Jim Lewis, Obvius CEO

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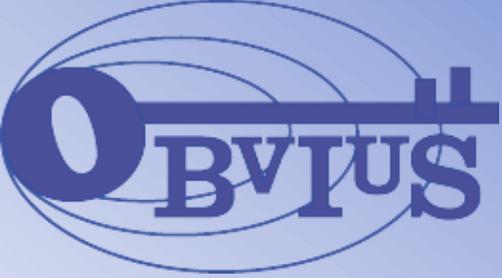


Topics



- About Obvius
- Tips for lowering installation costs
- Metering strategies
- Implementing Building Tune Up
- Case studies
- Questions and answers

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About Obvius



- Founded in 2002, located in Portland Oregon
- Open, plug and play solutions
- Data from virtually any meter
- Connectivity to any software solution
- Focus on energy information as a tool to reduce energy costs

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Some of our federal customers



Coast Guard

Air Force

GSA

VA

Bureau of Prisons

Navy

Architect of the Capitol

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Cost saving tips



- Match meters to application (energy vs power)
- Make sure architecture supports all utilities for future applications
- Use wireless options to reduce installation costs
- Understand how you will use the data

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Budget costs for submetering



<u>Item</u>	<u>Low</u>	<u>High</u>
Electrical submeter	400	1000
Data acquisition and comms	600	1000
Wiring	200	200
Miscellaneous	<u>300</u>	<u>300</u>
Totals	\$1500	\$2500

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Options for other utilities

Data acquisition server can handle pulses or analog outputs for additional utilities including:

- Gas
- Water
- Steam
- Chilled water
- BTU's
- Compressed air

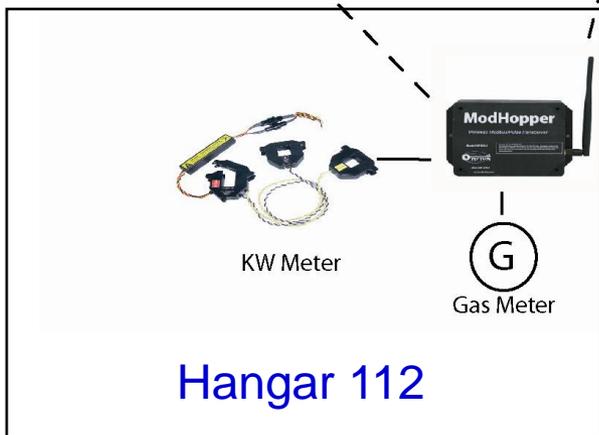
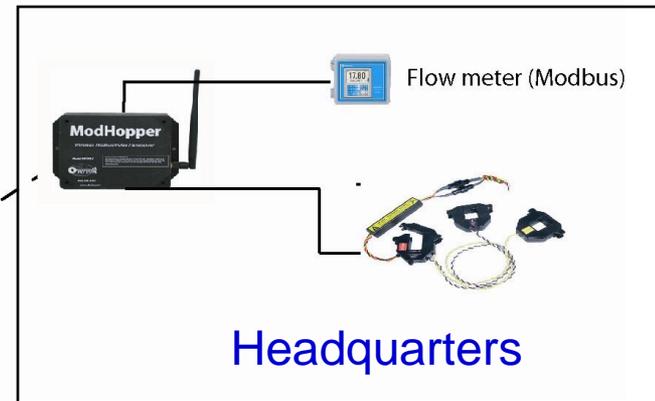
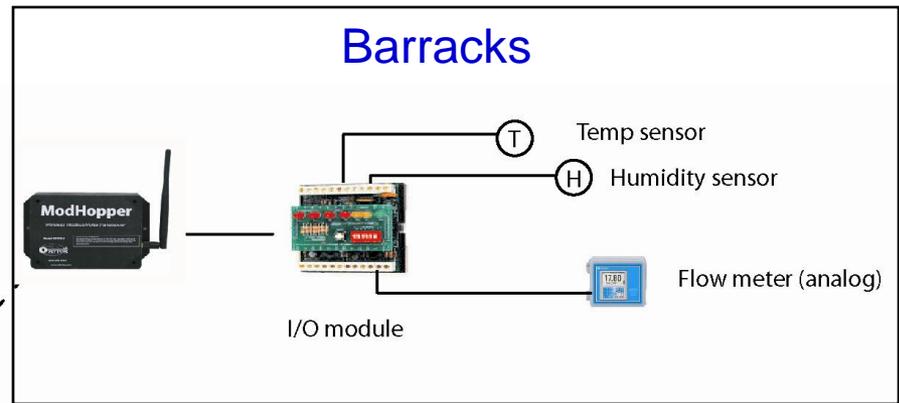
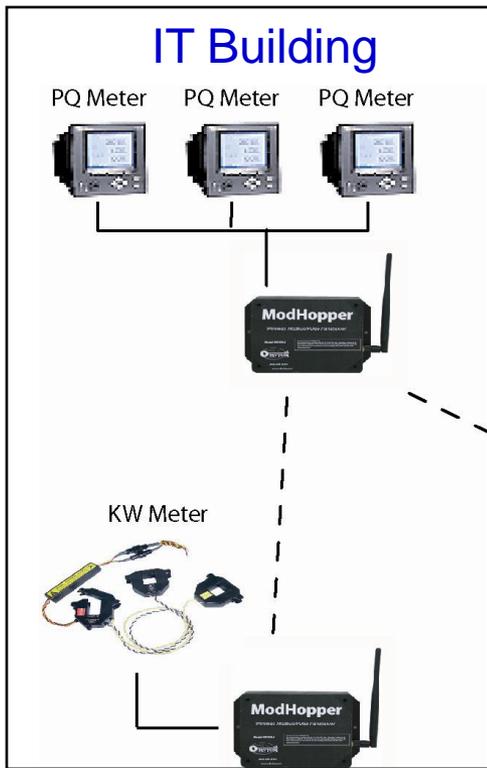


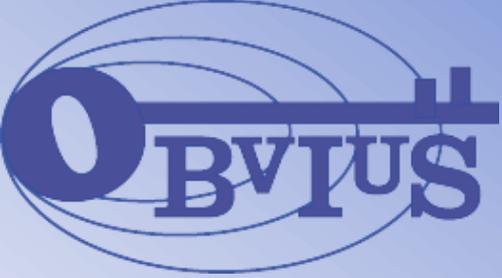
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Communication Options

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Make Your Meters Pay for Themselves

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Submetering: process, not project



“Metering alone produces \$0 savings... it's the appropriate actions that follow when something is discovered that is ‘not optimal’ that result in energy savings.”

*Paul Allen, Energy Manager for
Disney World*

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Sample strategies for submetering



1. Install meters only with software for collecting data
2. Metering with cost allocation software
3. Metering with cost allocation and operational analysis and fine-tuning (Building Tune Up)
4. Metering with cost allocation, intensive monitoring of major energy consuming equipment using specialized software and outside review of operations and verification of savings (Continuous commissioning)

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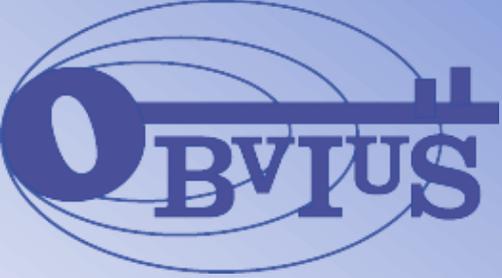


Typical savings from sample strategies



- Installation of meters – 0%
- Bill allocation only – 2 ½ to 5%
- Building tune-up (BTU) process – 5 to 15%
- Continuous Commissioning – 15 to 45%

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Strategy 3 - Building tune-up process



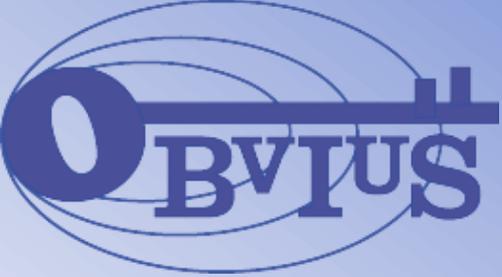
- Install submeters in buildings for:
 - Accountability for meeting conservation goals
 - Cost allocation to departments and outside vendors
 - Identification of inefficient operations
 - Fine-tuning of building controls
- Major actions and outputs:
 - Monthly reports for all departments
 - Monthly bills to outside vendors
 - Internal review and adjustment of building operations (time schedules, etc,)

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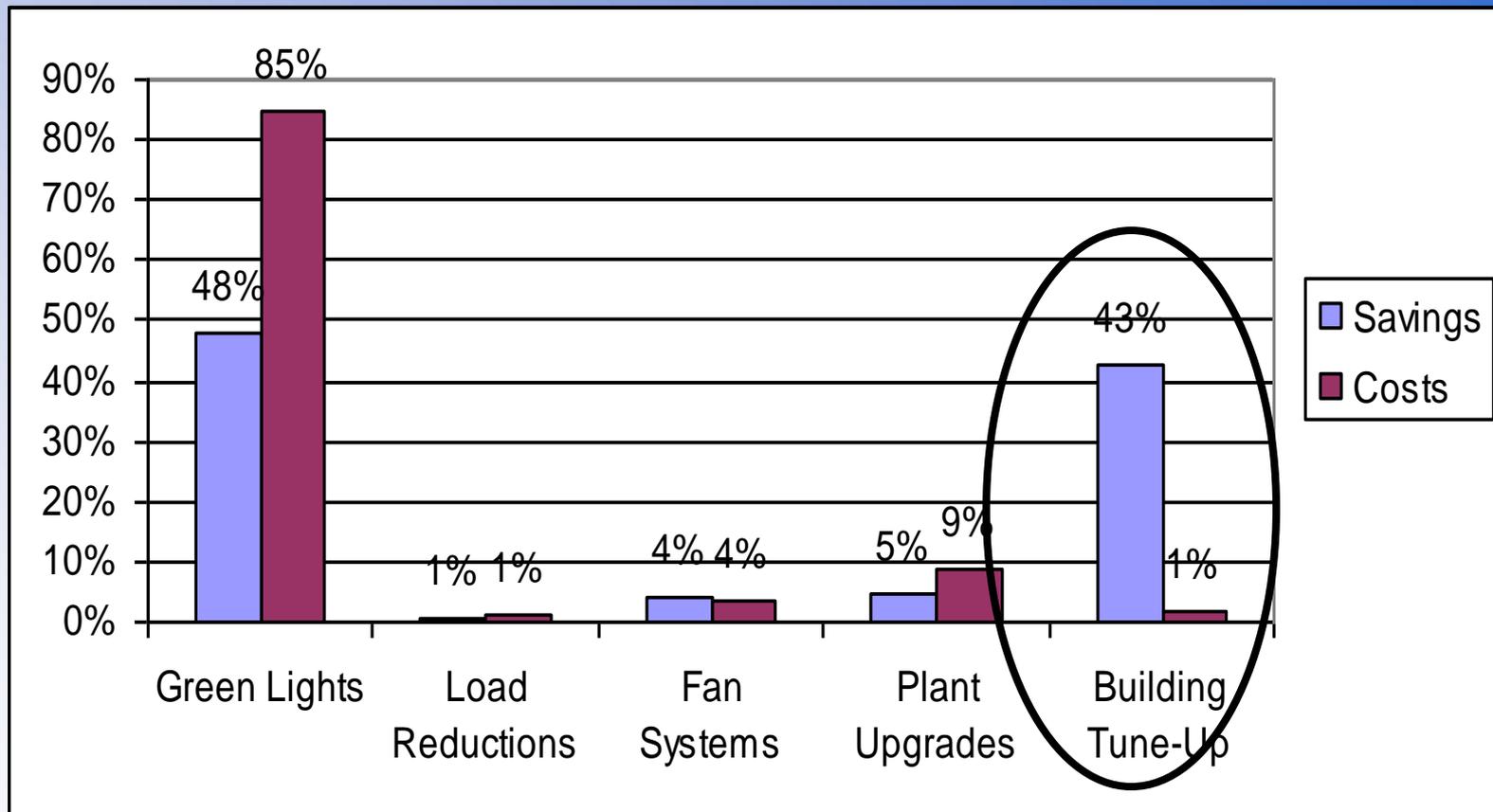


Does it work?

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Energy Star Results – Disney World



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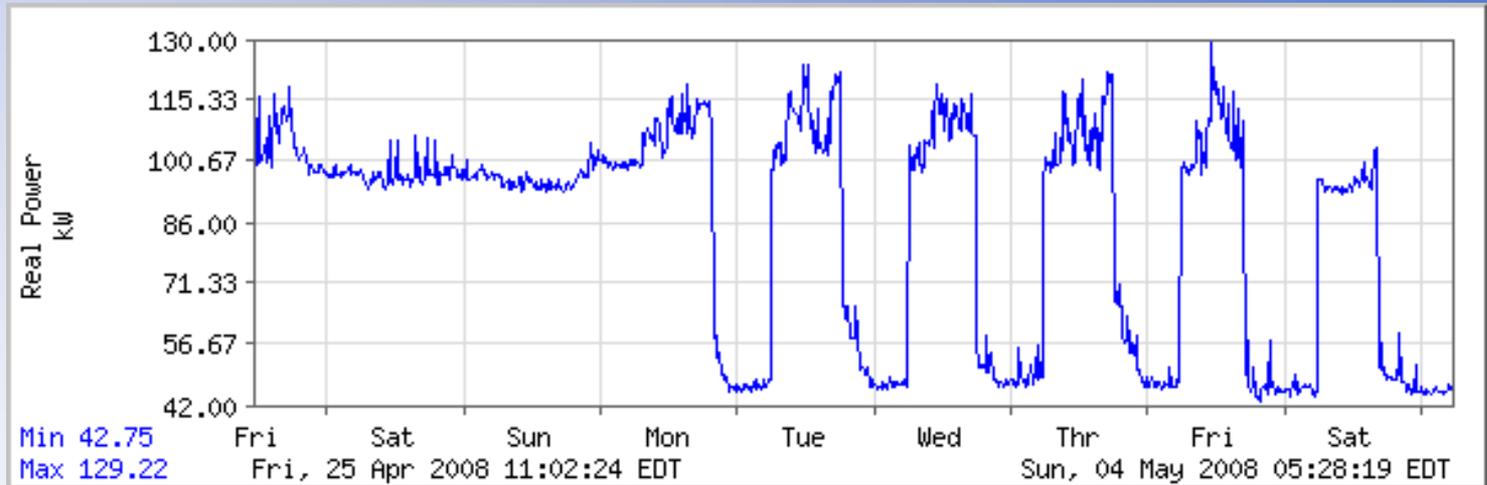


US Coast Guard Examples

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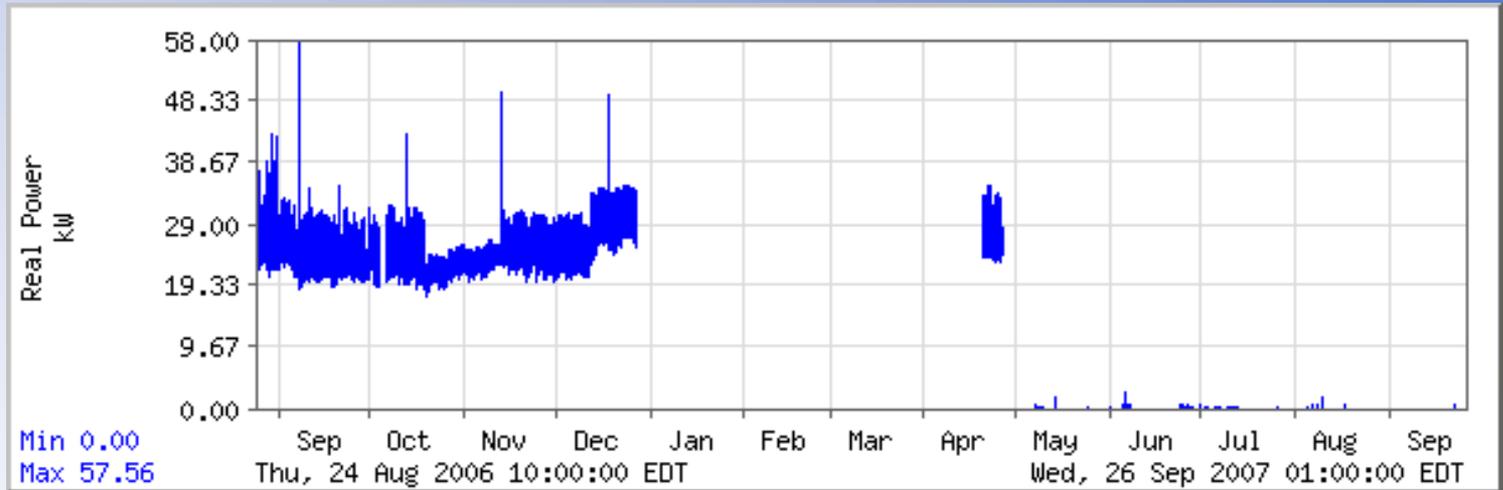
Electric Welders



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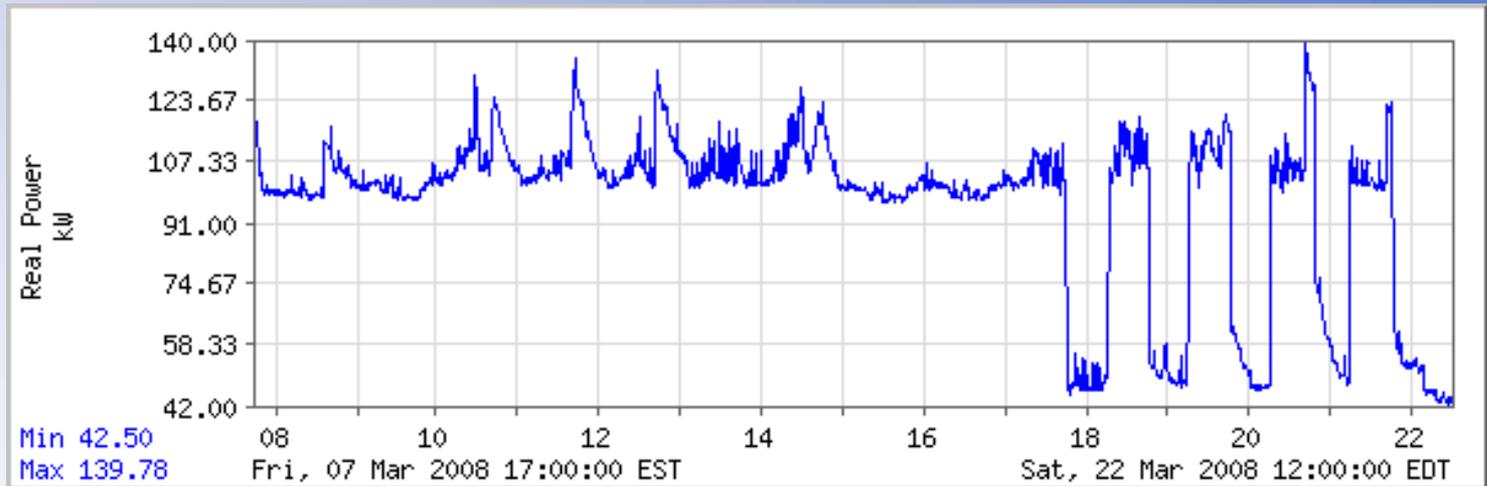
Water heaters



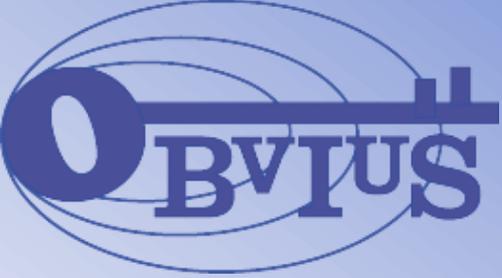
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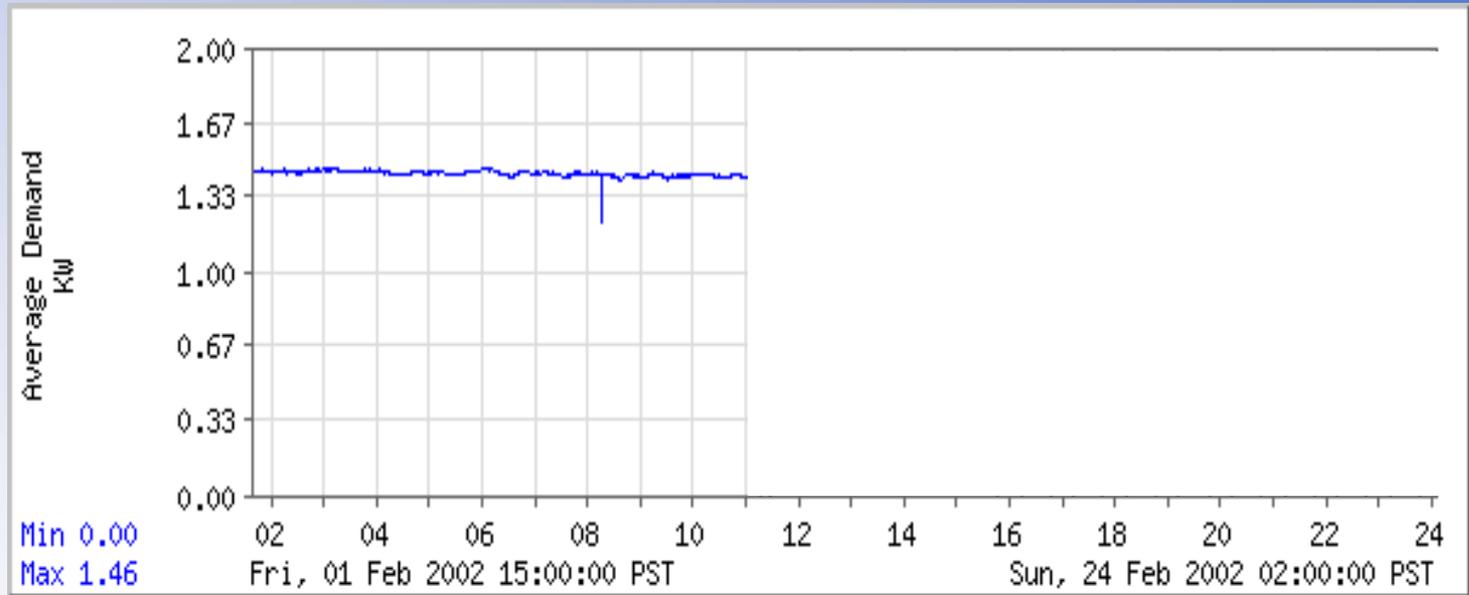
Warehouse lighting



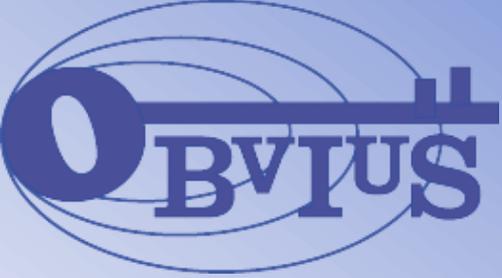
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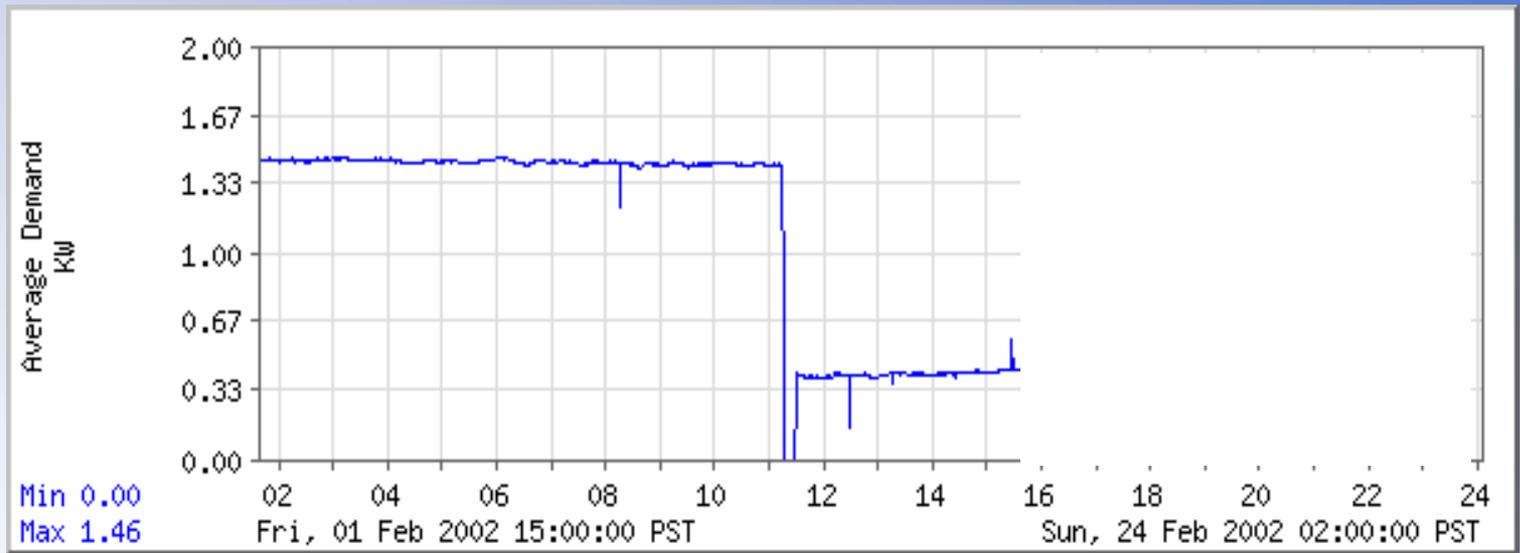
Load profile example



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Load profile example

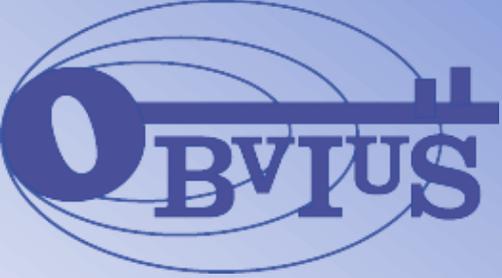


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Questions?

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For a demo : www.obvius.com

Click on the BMO LOGIN button

Type the login guest

Type the password guest

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