Northwestern University
utiliVisor

# Energy Conservation Through Sub-Metering at Northwestern University

June 25, 2018

# Agenda

- Background
- Problem
- Objective
- Hiring a Third Party
- The Path to the Solution
- Energy Stack
- The Results

# Background

## Northwestern's Strategic Sustainability Plan

- Adopted in 2017
- Comprehensive initiatives covering five key program areas
- Reduce energy consumption by 20% by the year 2020 from the 2010 baseline
- Establish baseline usage and conservation goals via a water conservation plan by 2018
- Reduce greenhouse gas emissions 30% by 2030 from the 2012 baseline and net zero emissions by 2050

# Problem

- 1,000 utility meters on campus
- 224 buildings
- Everything was being handled with spreadsheets
- Large portfolio with a number of expense accounts and chart strings
- All manual data entry, and no way to validate processes
- Couldn’t share actual energy usage

# Objectives

- Streamline and standardize the Recharge Process
- Centralize meter collection process
- Provide greater transparency of energy consumption to stakeholders
- Visualization of data
- Auditable method to allocating utility costs

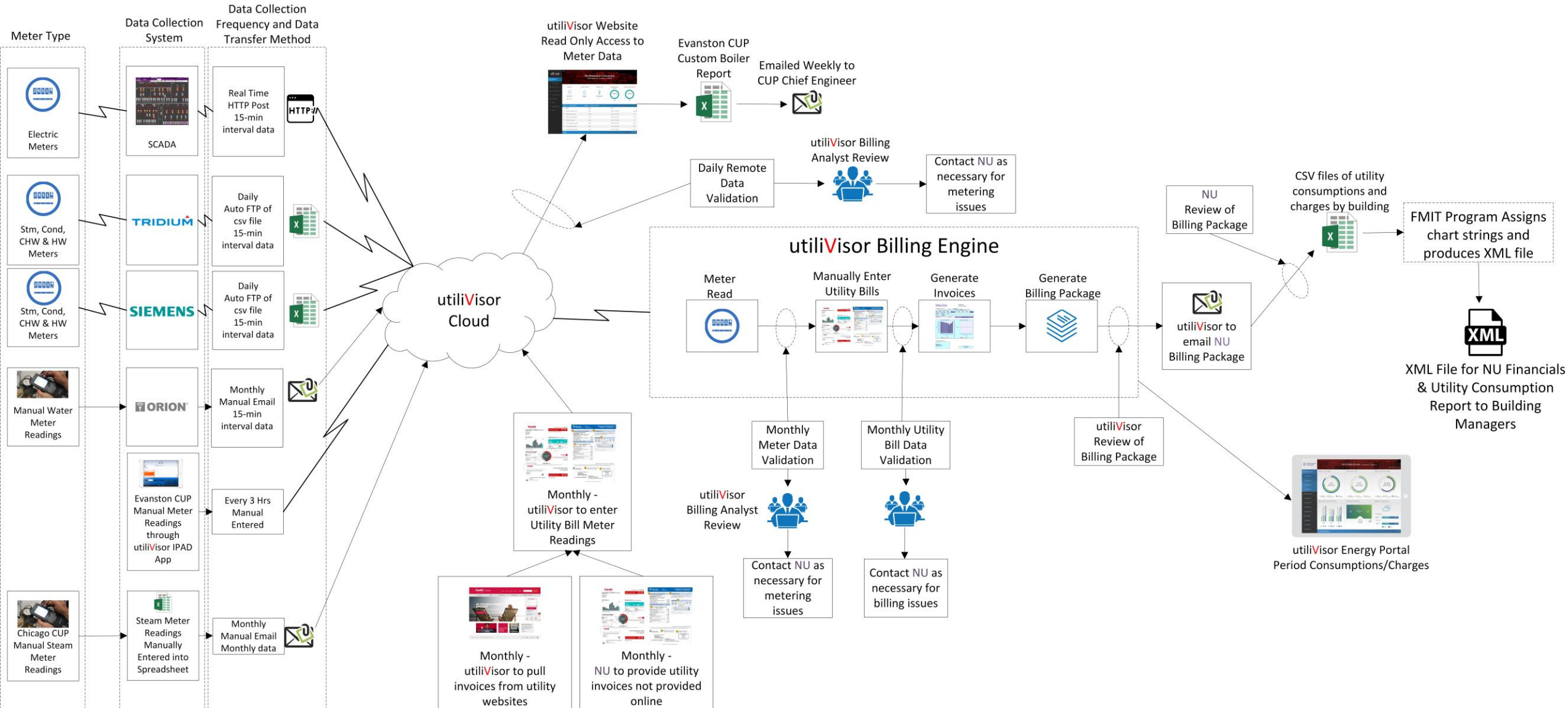
# Hiring a Third Party

Northwestern hires utiliVisor as the third party oversight to:

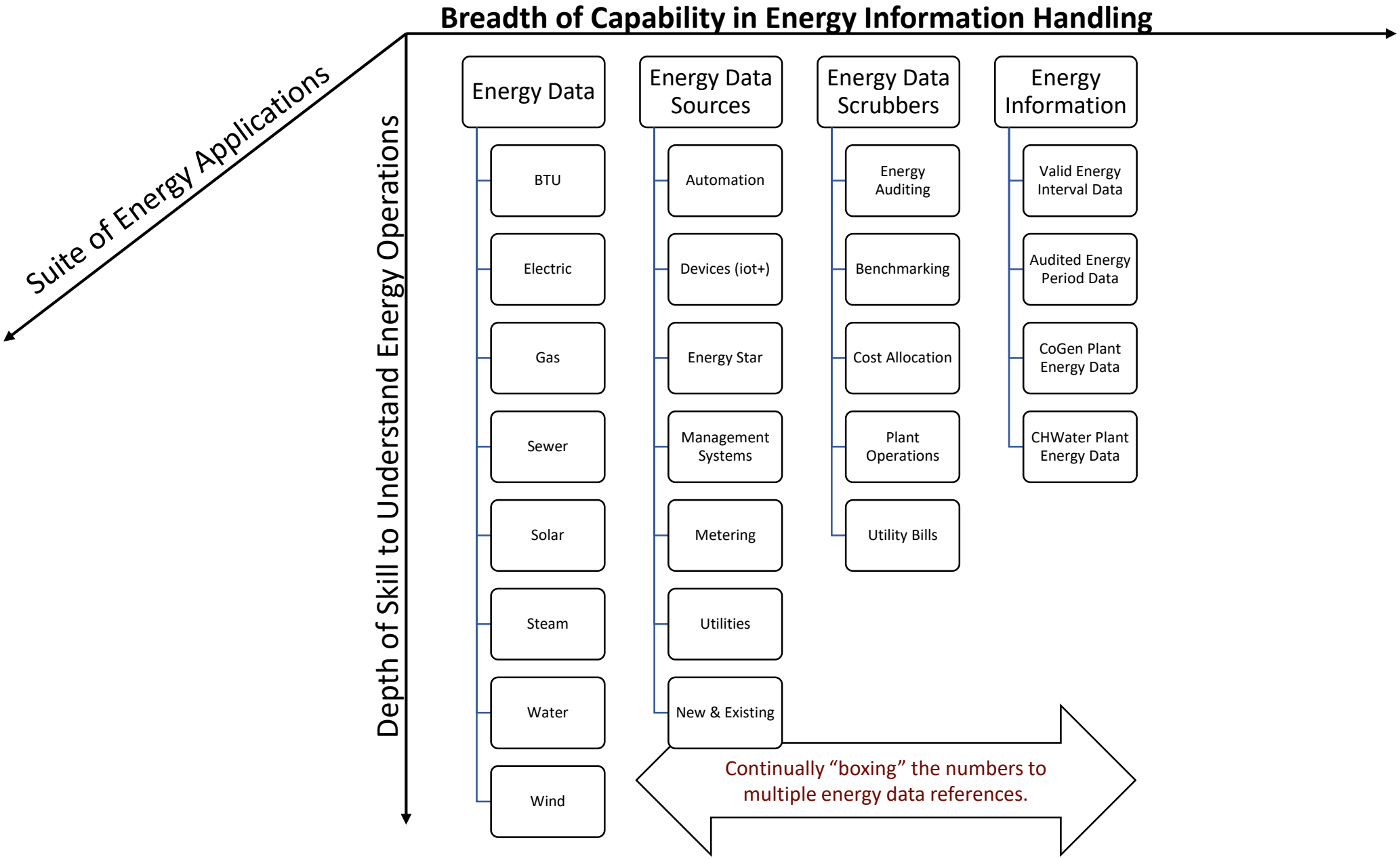
- Help assess energy data collection from internal sub meters and utility meters
- Develop auditable process – for collecting the information and understanding where there were major variances or discrepancies
- Accurately benchmark the university's energy usage
- Recover costs from the schools and colleges that pay for their utilities

# The Path to the Solution

## Northwestern – utiliVisor Recharge Process



# Energy Information Stack



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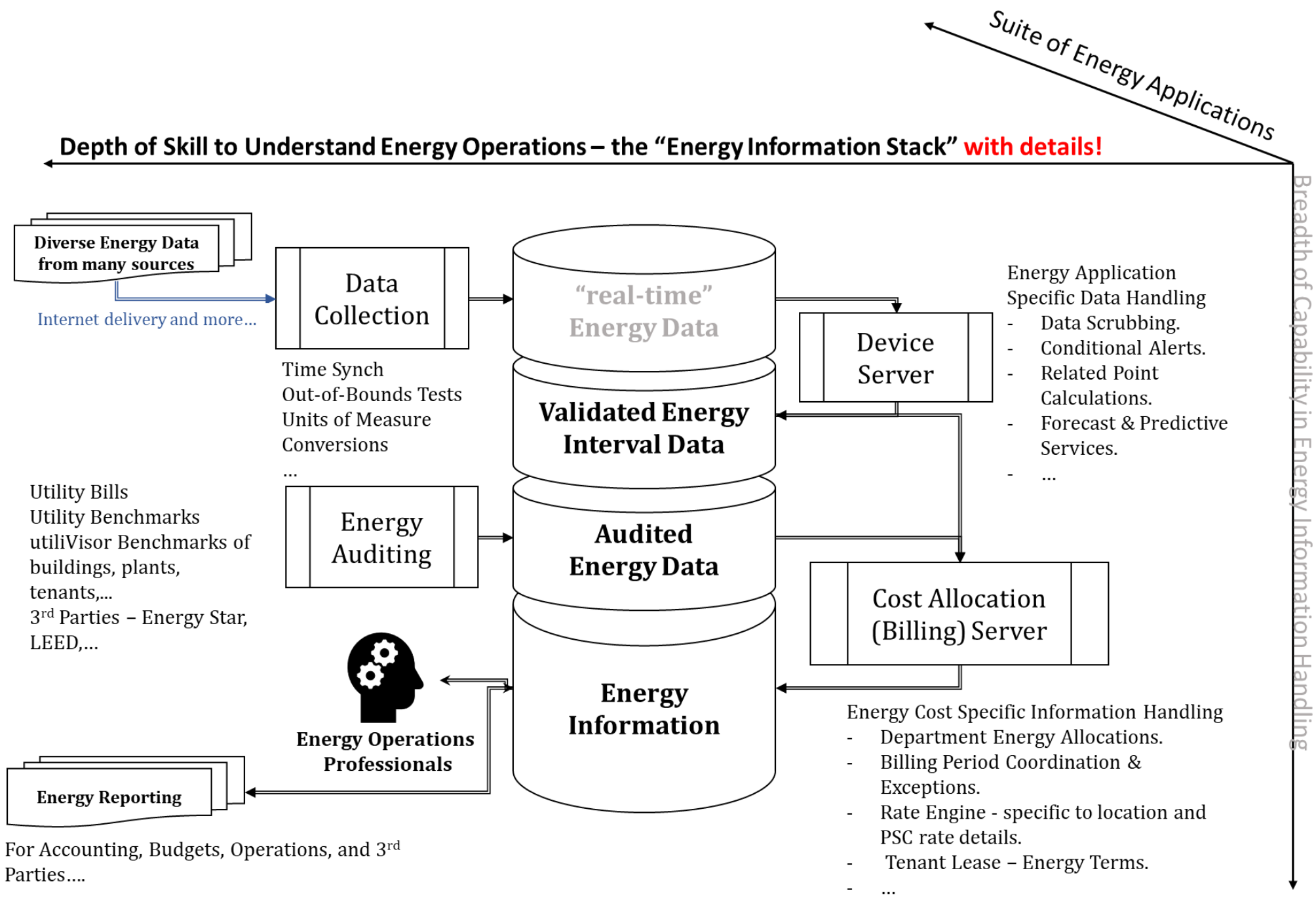


# Energy Information Stack

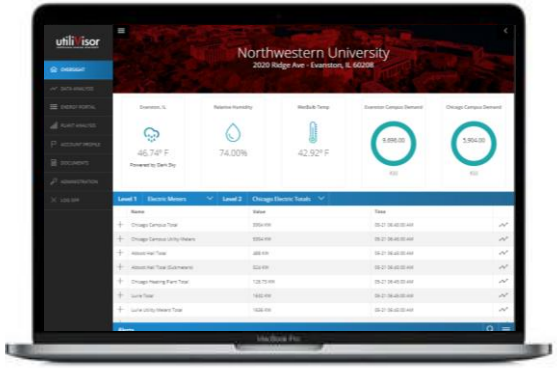
**Suite of Energy Applications**

Breadth of Capability in Energy Information Handling

- Energy Portal
- Billing, Read, Audit, Calc. Invoice
- Oversight
- Alerts
- Predictive
- Plant Analysis

Handheld Unit

Phone & iPad Applications




Browser Access

# Monthly Deliverables

- Visualization of Energy Data through utiliVisor
- Accurate and timely billing
- Billing Package
  - Cover Letter
  - Tenant (Building) Invoices
  - Recap Report
  - Square Foot Analysis
  - Watts per Square Foot
  - Zero Analysis
  - Export to Accounting System
- Energy Platform for Exposure of Buildings from an indexed viewpoint

# Monthly Deliverables

# Examples of utiliVisor's Monthly Deliverables

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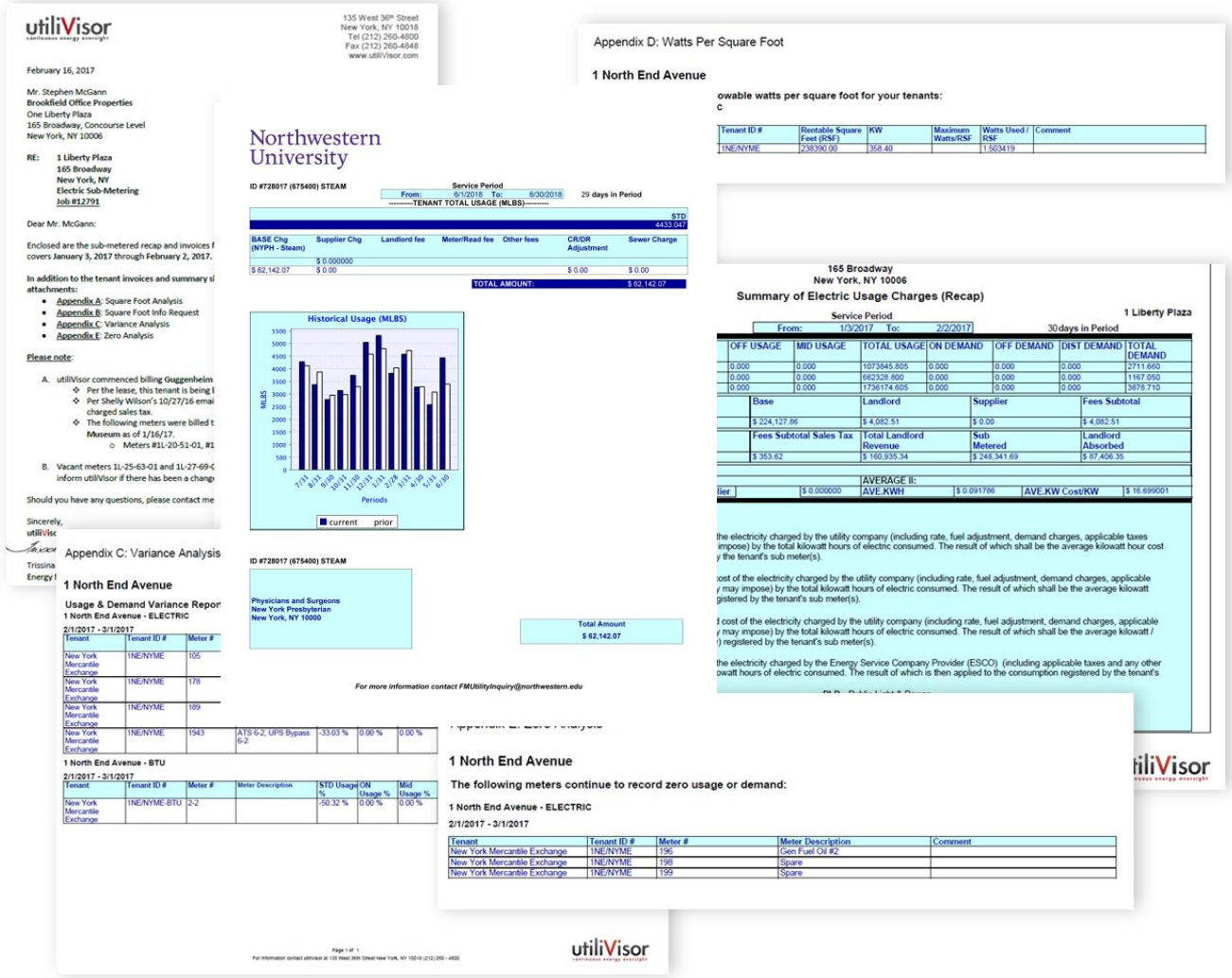
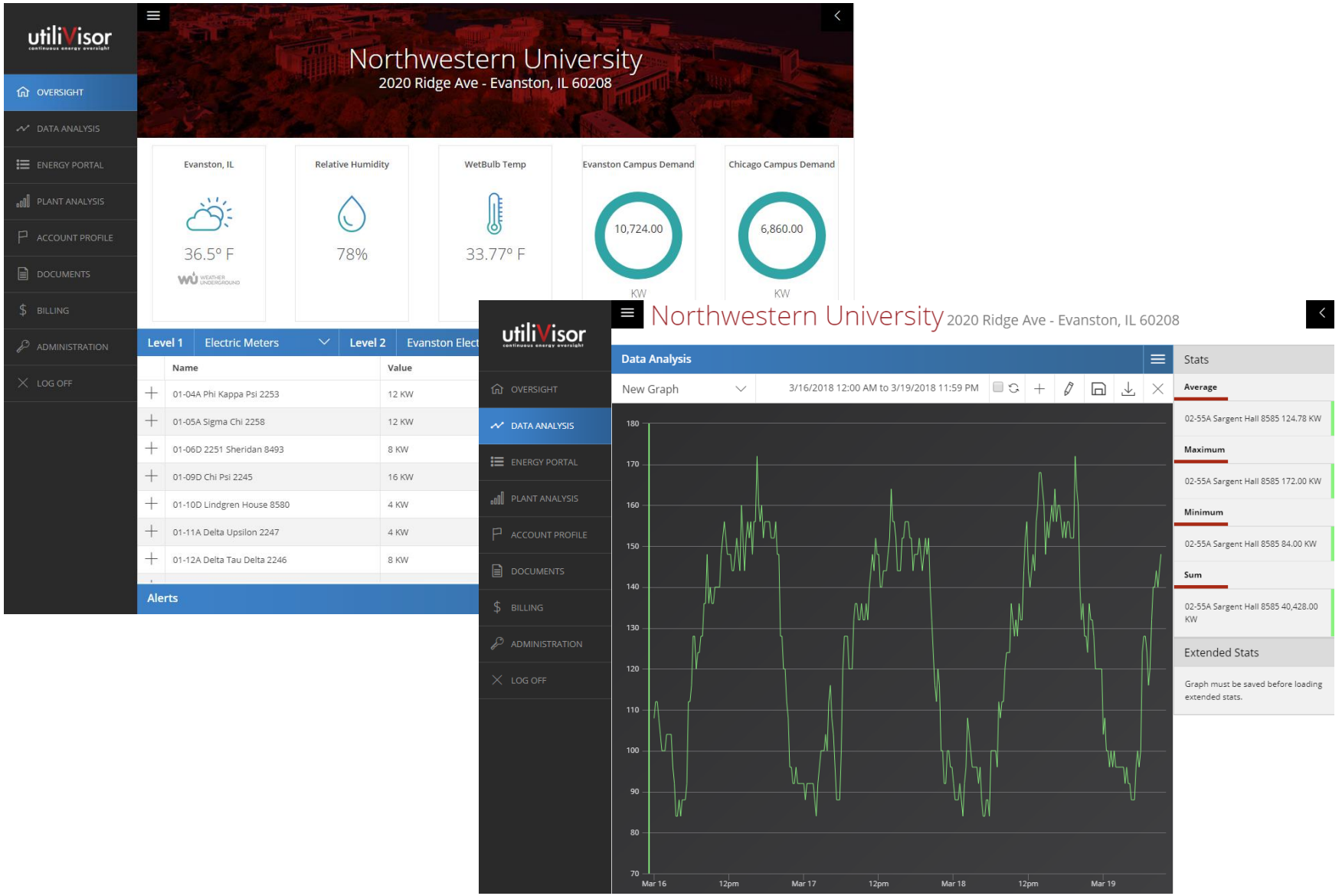
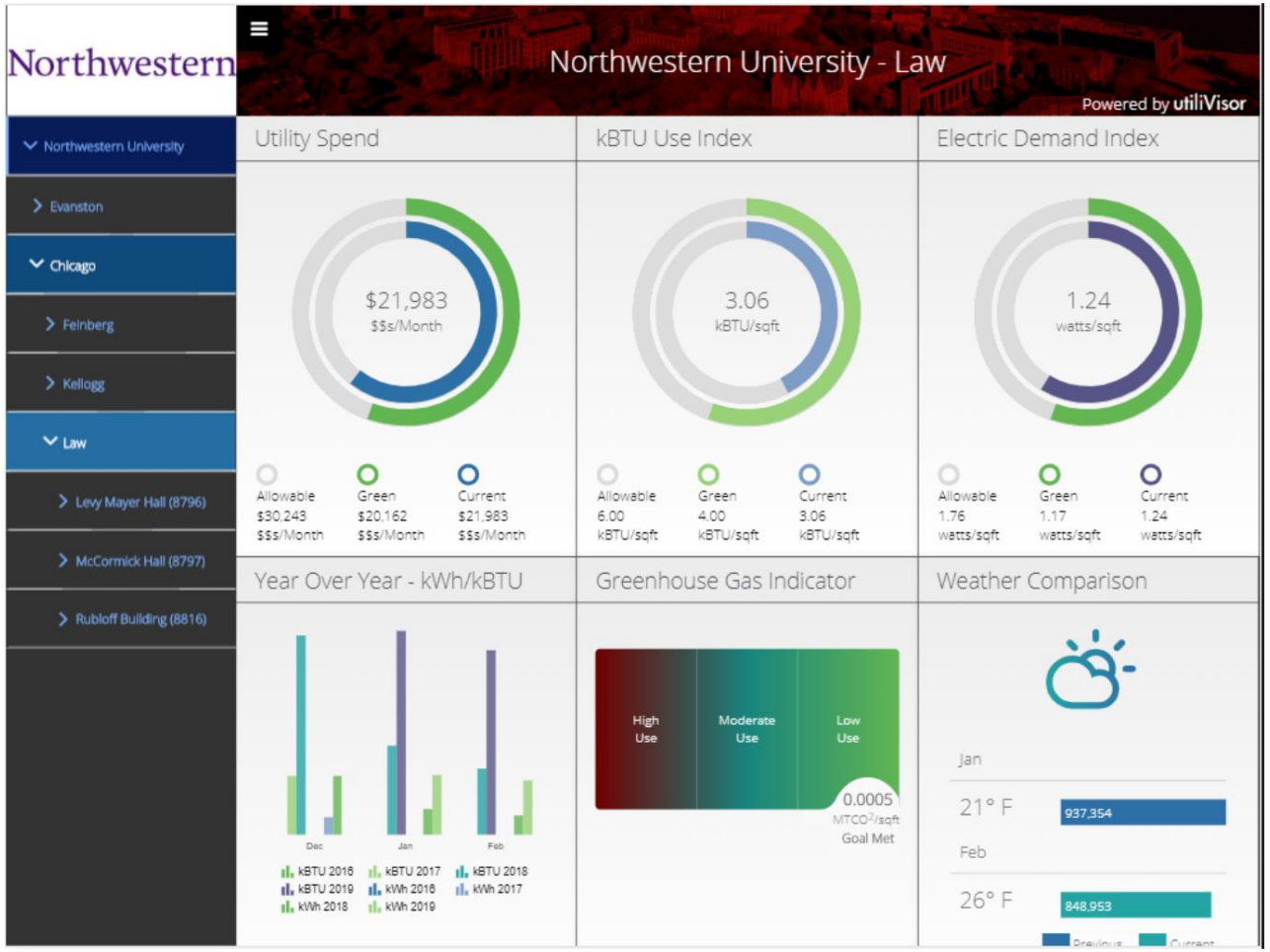


# Live Interface to Data

## Monthly Deliverables



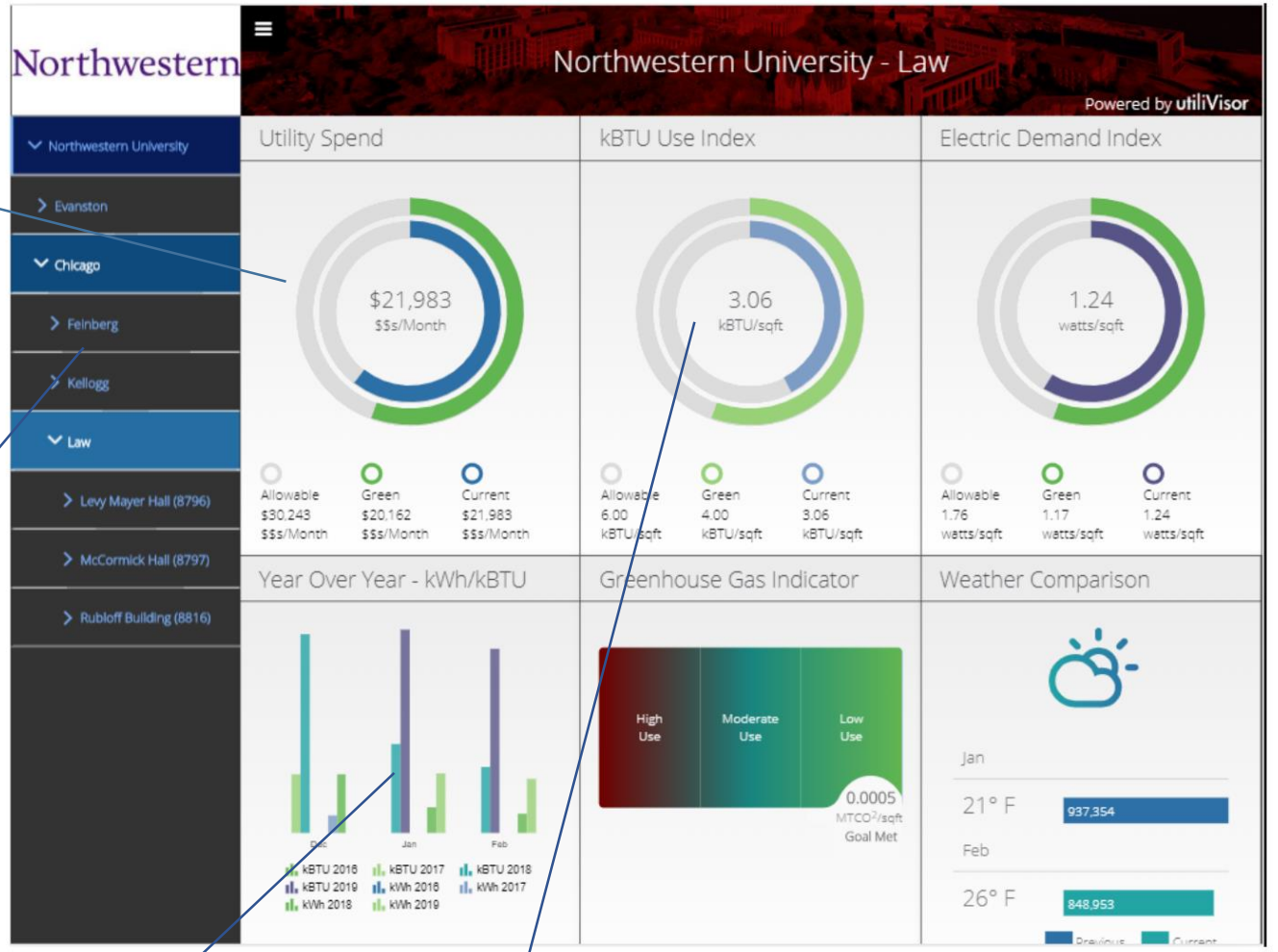
# Energy Insight Platform



# Configurable

Each Icon can be configured to any specific metric we are receiving interval or period data from.

Infographics can be configured for metrics requested by specific sites; such as EUI or any KPI




Buildings can be aggregated and indexed against each other

Year over Year Consumption of utilities

Concentric Circles can be set showing Current/Allowable and The **Goal** of Energy Consumption which is determined by the local operations team

# Results

- Standardized and simplified the recharge process across utilities/campuses
- Streamlined the meter data collection process
- Identified steam/water metering issues
- Savings from:
  - Savings in Northwestern Labor – estimated 200 staff-hours per month
  - Additional Cost Recovery

Northwestern University

# THANK YOU

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