Niagara Analytics 2.1

New Features

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New Features

Niagara Analytics 2.1 - compatible with Niagara 4.4 and 4.6

- 7 new Energy Reports
  - Configured on ad-hoc basis by end users in Web UI
  - Normalize for Square Footage and Temperature
  - Save reports for future use
  - Export to pdf
- Analytic Web Chart
  - HTML5 chart with analytic bindings
- Analytic Web Table
  - HTML5 table with support for multiple analytic bindings
- Missing Data Handling
  - Interpolate missing data for charting and calculations
- Time filter block enhancement
  - Now supports functionality to exclude up to 2 time periods

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New Energy Reports

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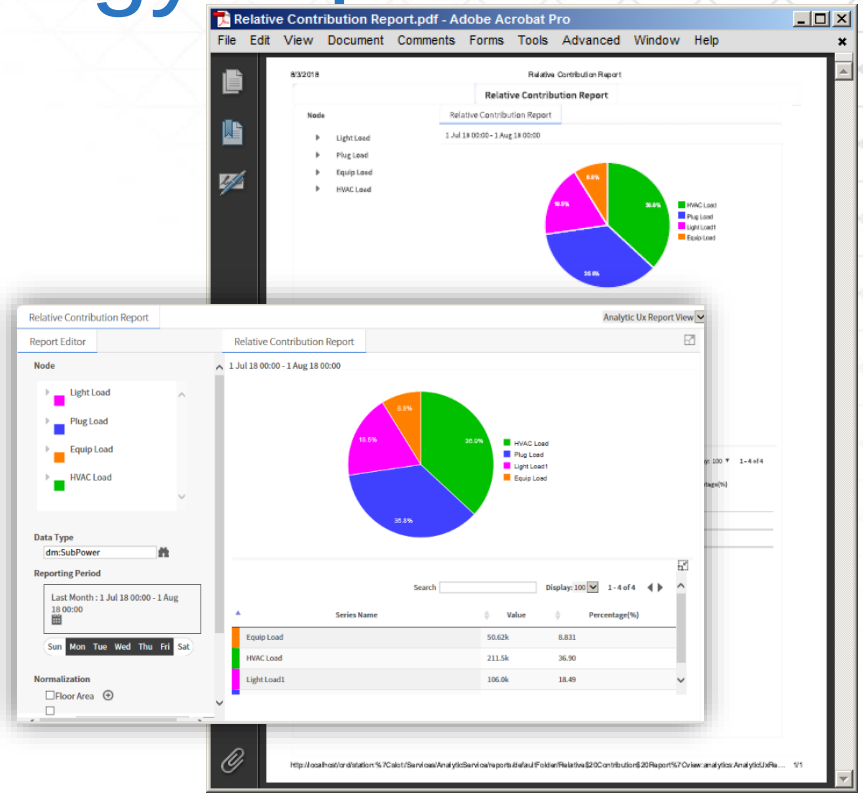
Introducing new energy reports

Chart displays previously available in Niagara Analytics have been extended to reports.

- System users can now configure reports easily by dragging and dropping nodes onto the report editor
- Reports and charts can be stored in folders for future recall
- Report data can be printed and exported to pdf using the Chrome or Firefox browser print function
- Normalization for Area and Temperature
- Compare values with baseline



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Average Profile Report

This report plots average value vs Time of Day.

Here you can see that all the loads increase at roughly the same time.

Could peak demand be reduced by staggering shifts?

Could overall usage be affected by shutting down or setting back HVAC equipment when the facility is unoccupied?

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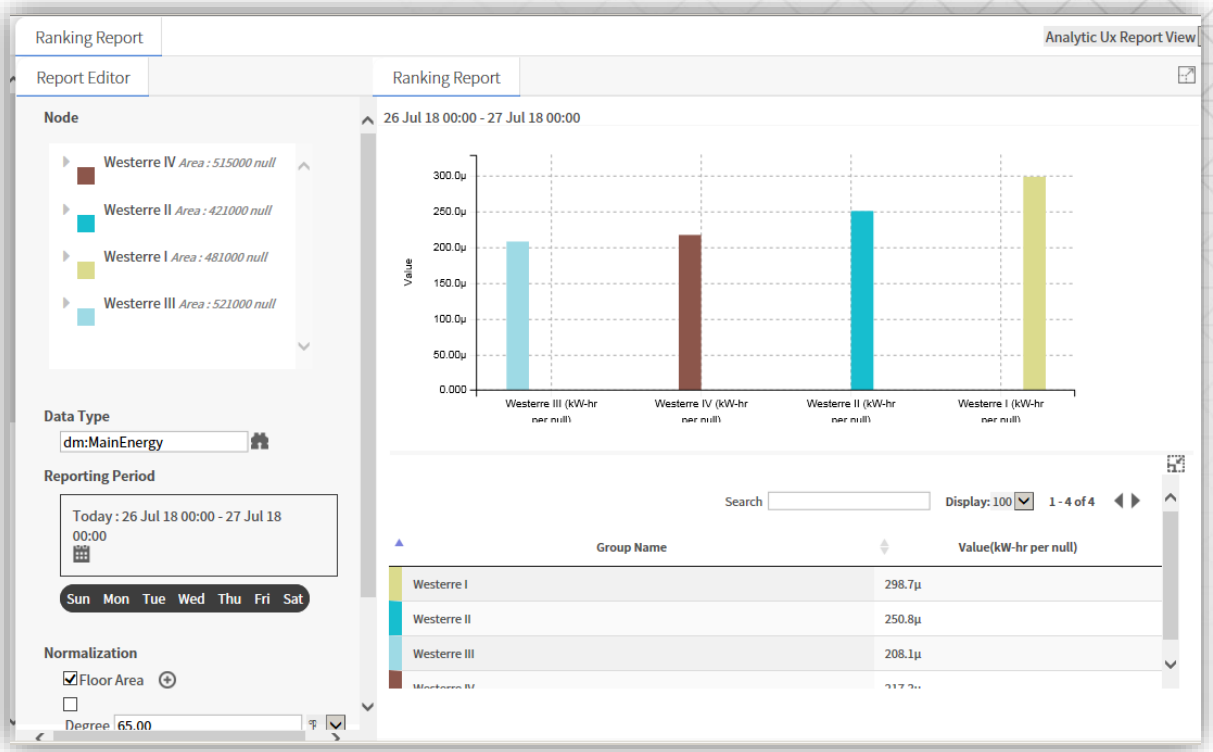
Ranking Report

This report ranks buildings or areas against each other.

In this example, Westerre I is shown to be using the greatest amount of energy per square foot.



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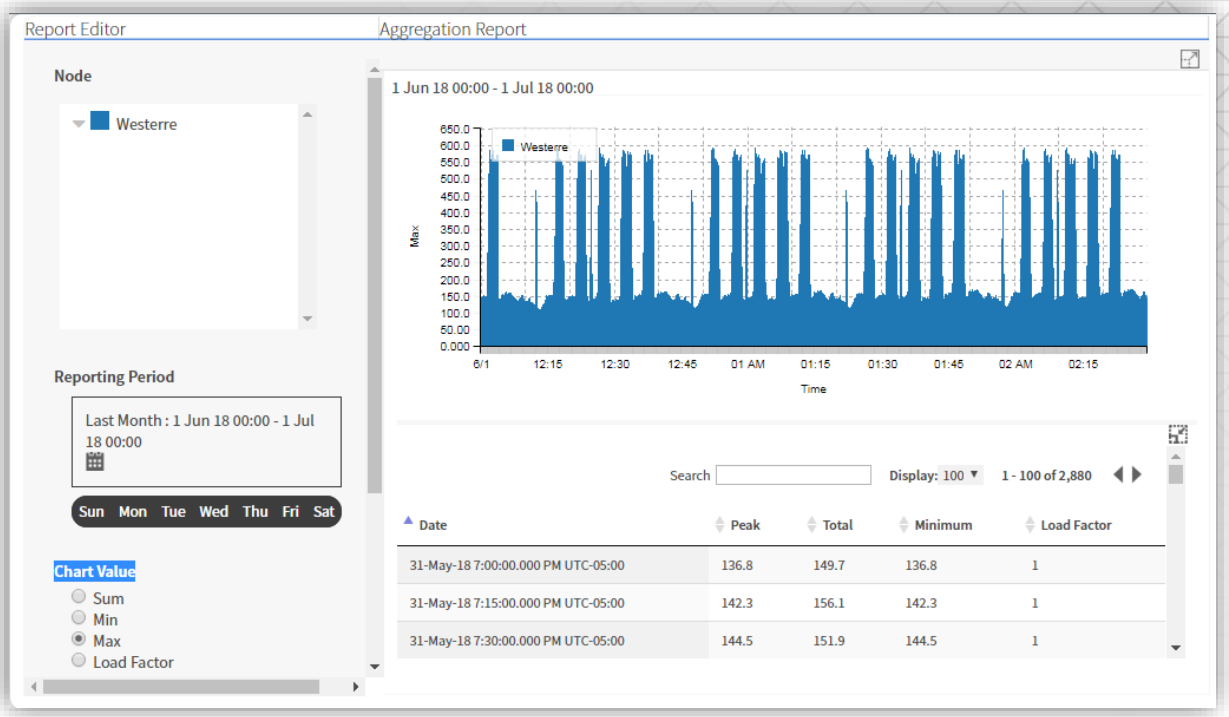
Aggregation Report

This report aggregates data for defined data types under a node.

For example, if you want to run a report for an entire campus, this report can combine all values found under the node with the same tag definition.

This report could also be used to combine submeters for a tenant, building, or area.



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Spectrum Report

This report gives a quick view as to when energy use in a facility is at it's highest. It allows the facility manager to quickly pick up anomalies in usage.

For example, note the red areas on Sunday and Tuesday evening.

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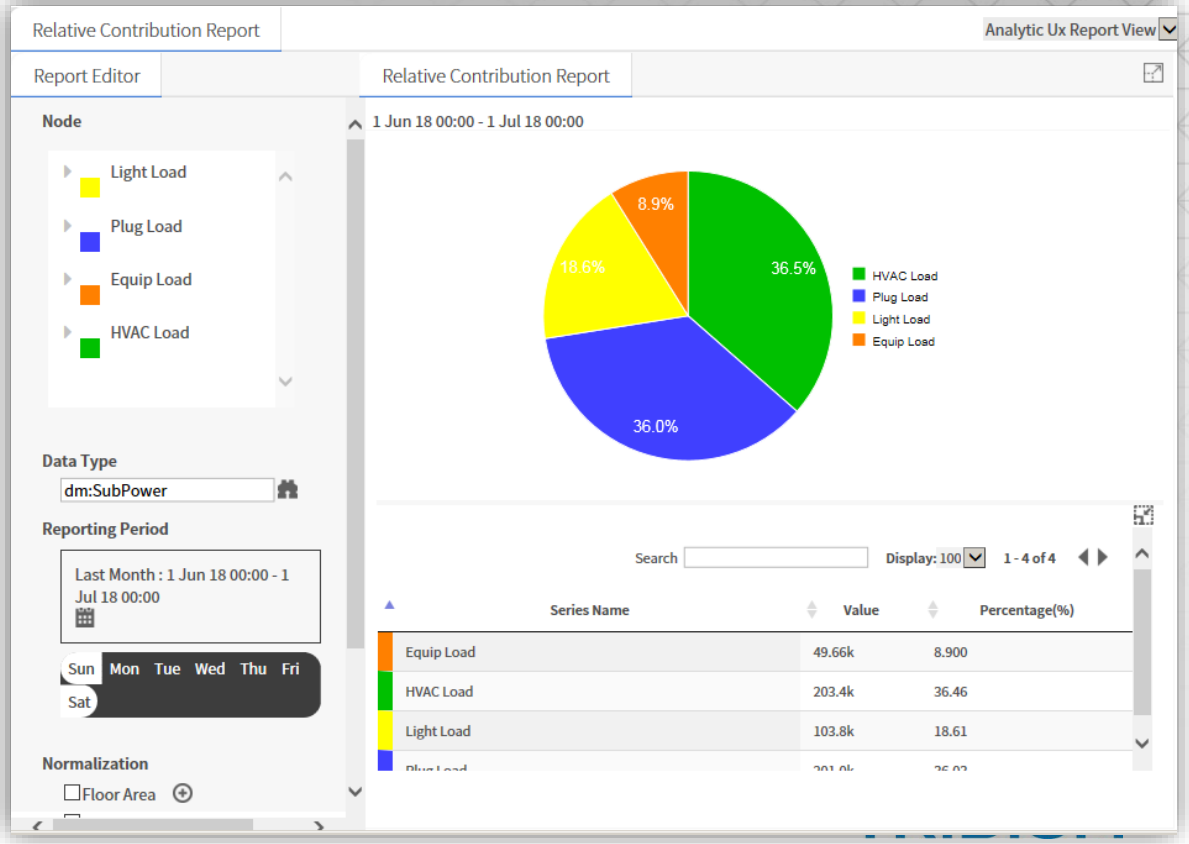
Relative Contribution Report

Shows how various loads contribute to the entire usage.

For energy reduction, one would want to focus on the largest contributors.



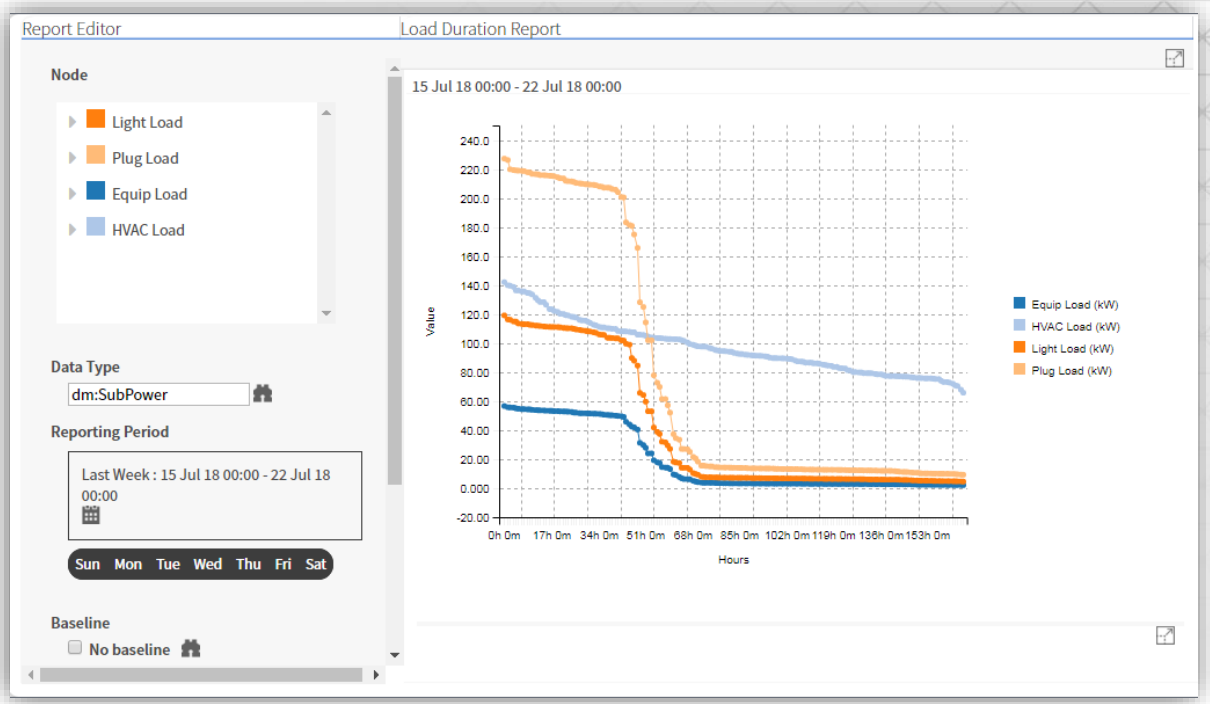
Load Duration Report

This report shows how long a certain amount of energy is used.

This report shows that plug, light, and equipment loads all decrease significantly after about 42 hours of runtime.

Evening out these loads could reduce peak usage.

Perhaps shifts could be staggered to reduce peak usage.



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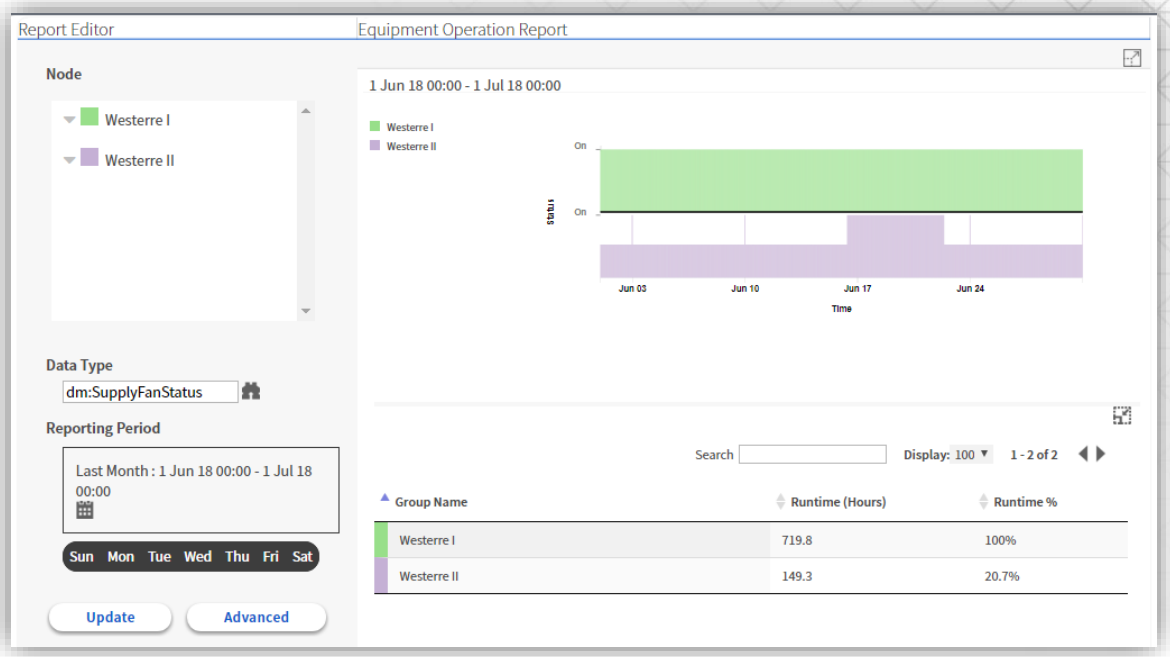
Equipment Operation Report

This report shows the percentage of time equipment is running.

In this report, we can see that Westerre II is running equipment 21% of the time, while Westerre I is running equipment 100% of the time.



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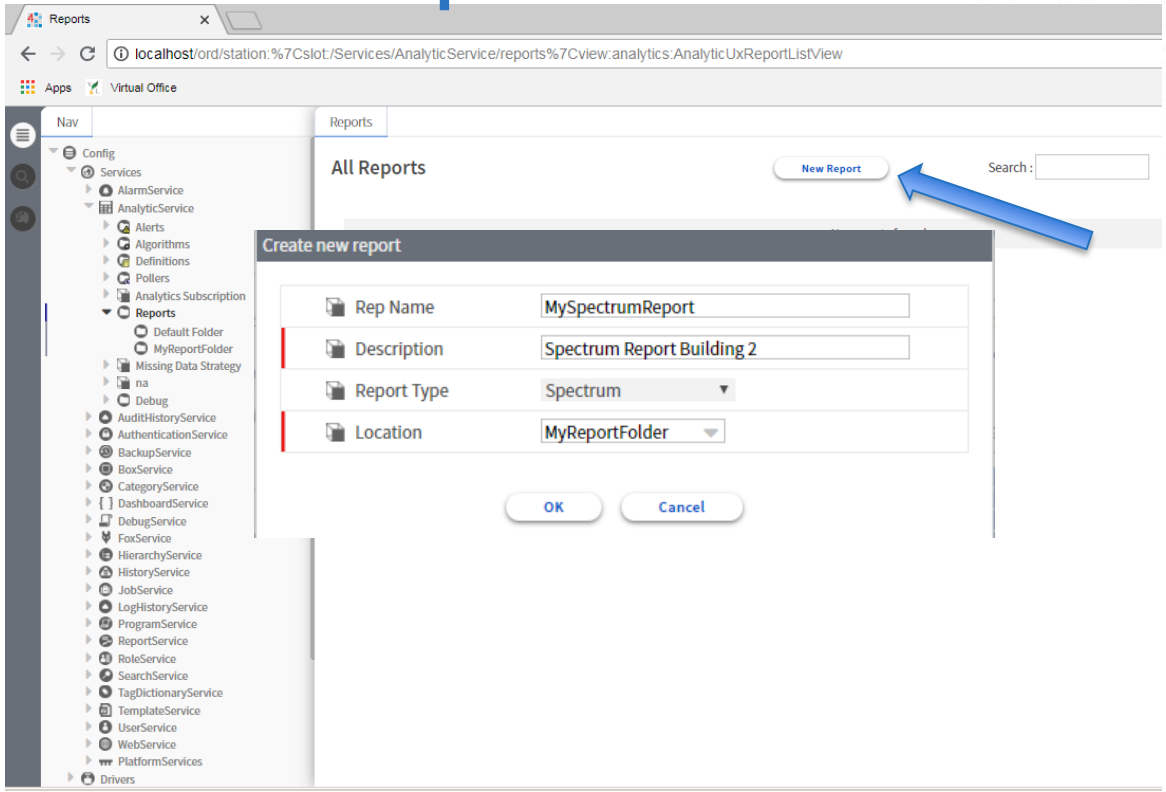
Add Reports from Web UI



From the Analytic Report Service, new reports can be added and saved to a folder for future use from the Web UI – no workbench configuration is required.

The end user can now simply drag and drop nodes onto the pre-configured reports, providing immediate access to requested information.

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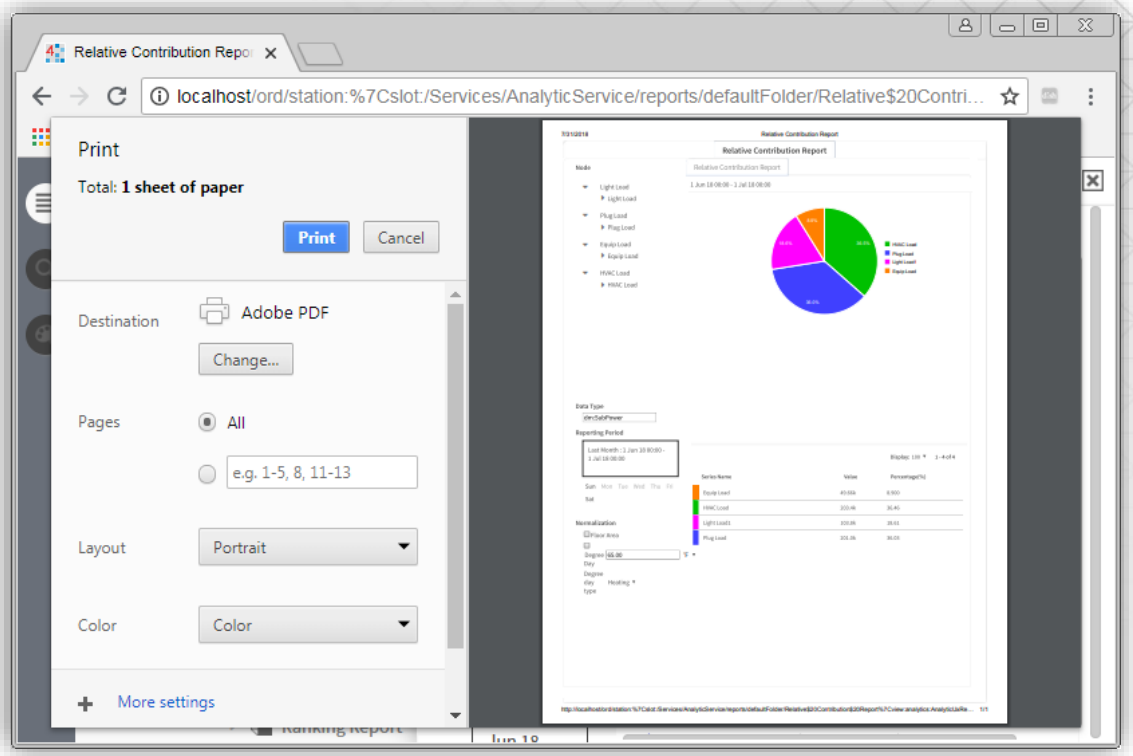
Export report to PDF

Analytic reports can now be exported to a pdf file by using the browser tools.

Just use Mozilla or Chrome browser print tools and select the Adobe pdf printer.



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More New Analytic Features

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Analytic Web Chart

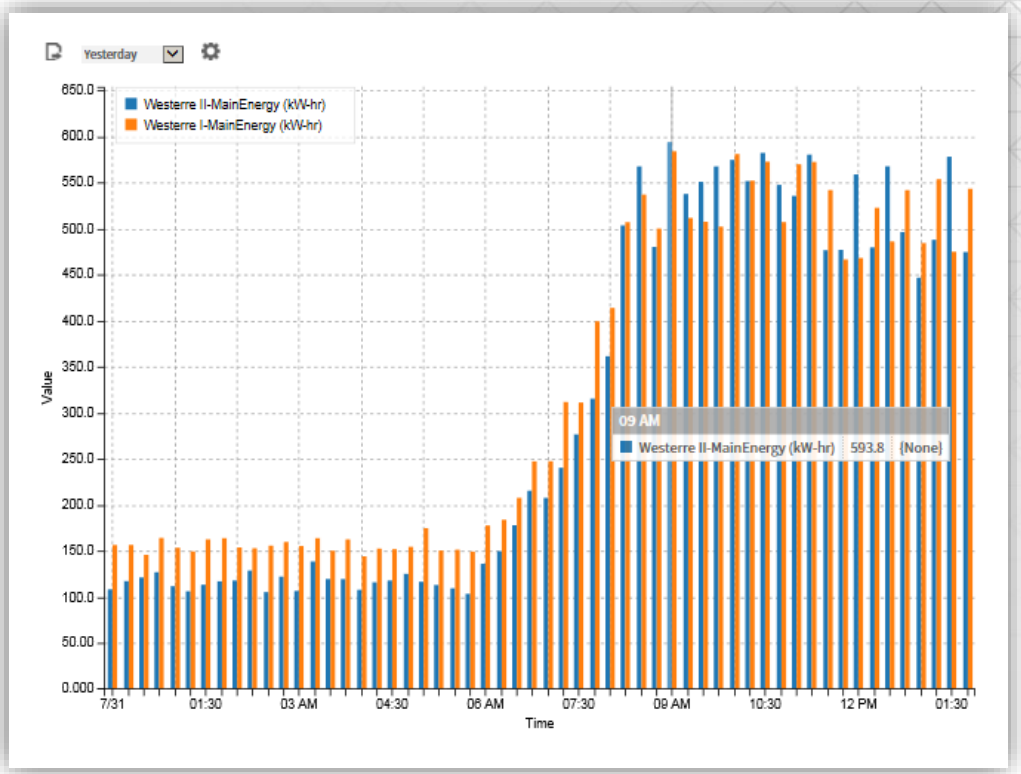
Html5 chart with analytic bindings.

Use this chart on px pages and dashboards.

View from browser or mobile devices.

Chart Type (Bar, line, area, step, area_step, spline, area_spline, scatter) is configurable from the Web UI.

Optionally, bindings can be shown on the Y axis.



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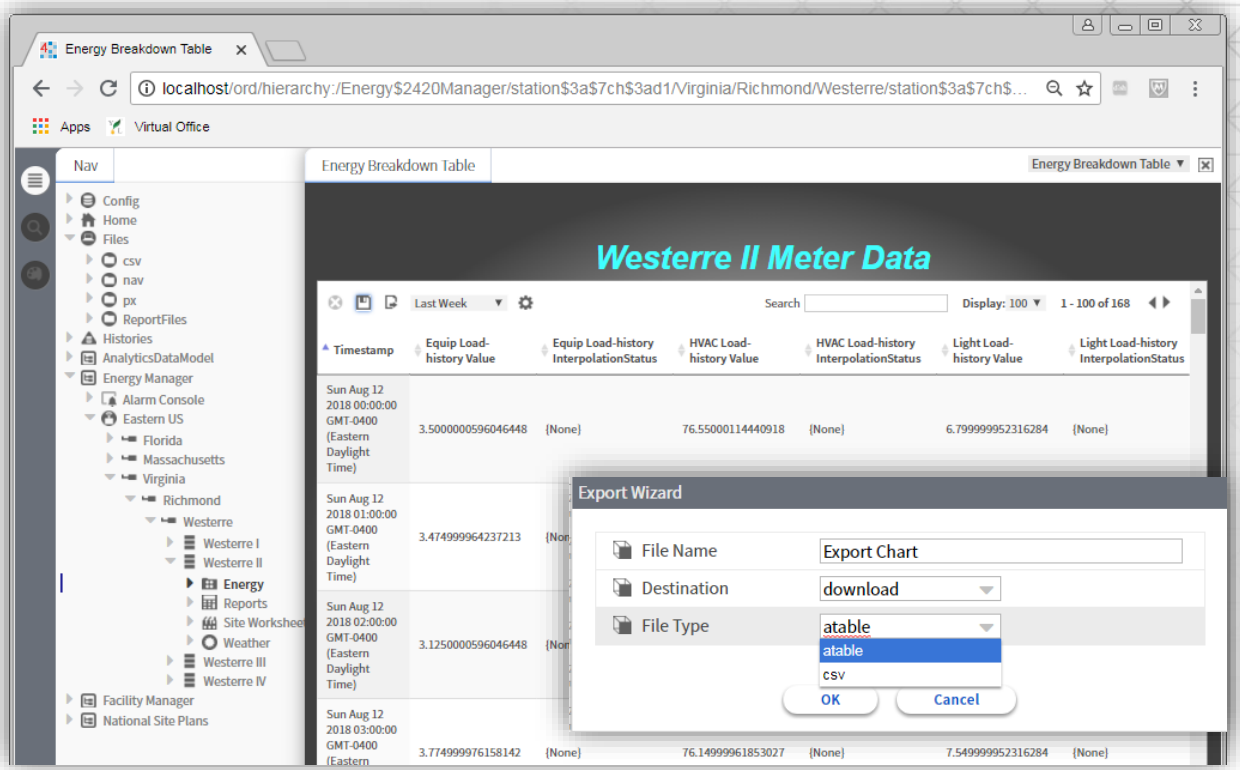
Analytic Web Table

Html 5 table with analytics bindings

Time, rollup, aggregation, series name, data name and data filters configurable in browser.

Multiple data points and nodes can be configured and added as columns in a single table.

Export data to csv or chart files.



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Missing Data handling

Apply to algorithms, charts, proxy points, alerts and reports

Linear Interpolation (analog values)

- Interpolates values for missing data by calculating the slope between first and last known good values adjacent to the missing data and filling in missing data.

k-Nearest Neighbor

- For boolean and enum values, missing data is calculated by filling in the data with a value equal to the majority adjacent data.. “k” specifies the number of fields that are considered in the calculation.

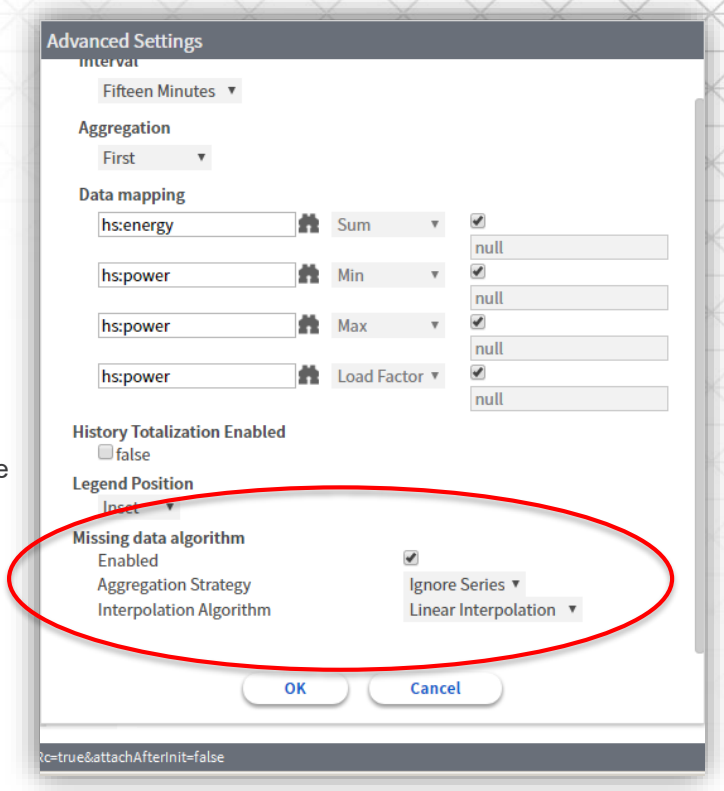
For Aggregation Charts and Reports:

Ignore Series

- If there is missing data in a series, ignore the entire series. This is the method that was implemented in previous versions.

Ignore Points

- Ignore missing data in the series (set to 0)



When meters are down or communications fail, estimate usage and costs based on interpolated values.

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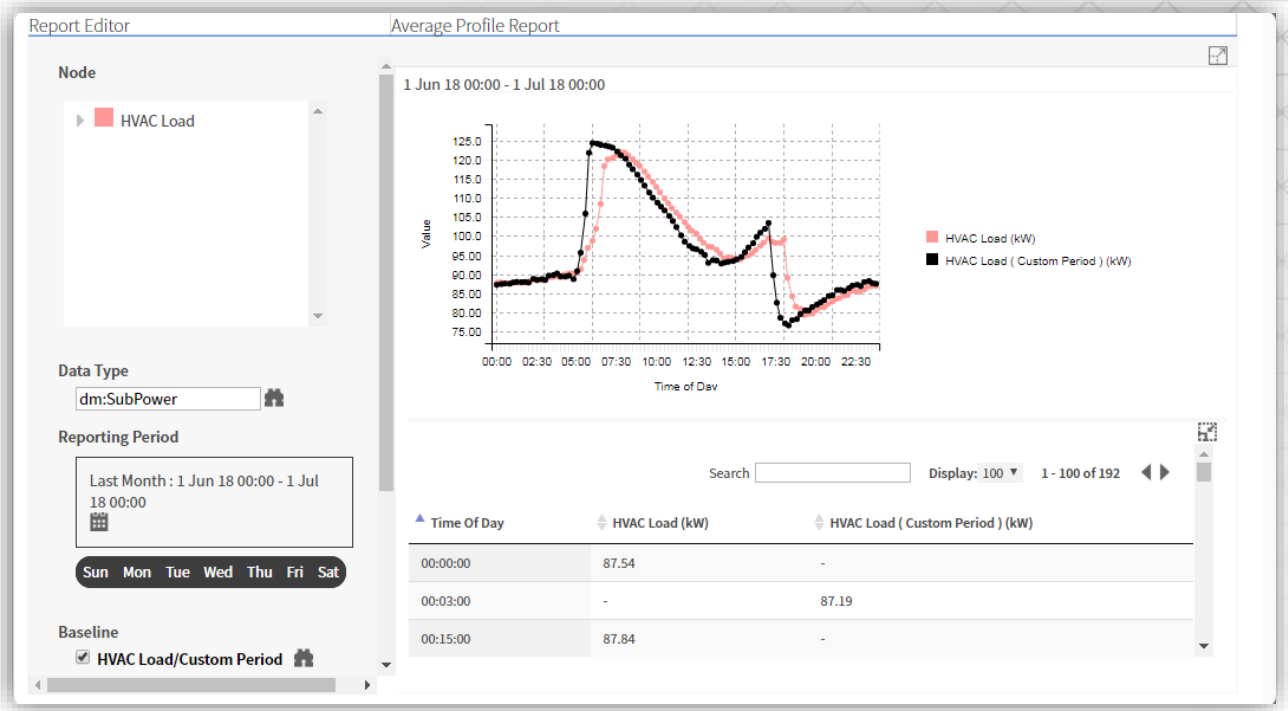
Baseline

Compare current data with data from a previous period.

Determine if performance has improved or deteriorated.



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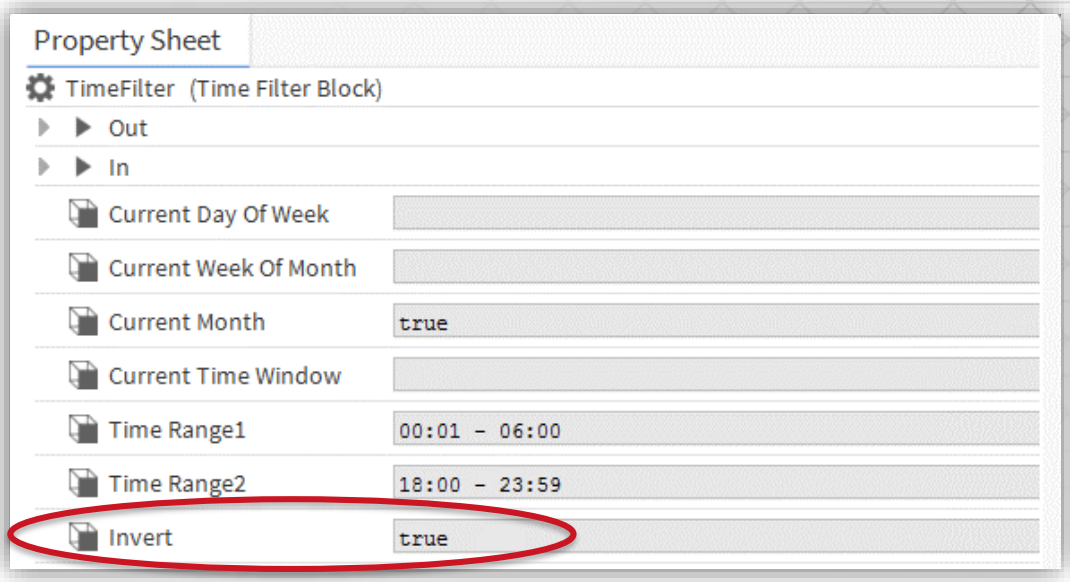
Time Filter Block enhancements

New – Invert Time Ranges.

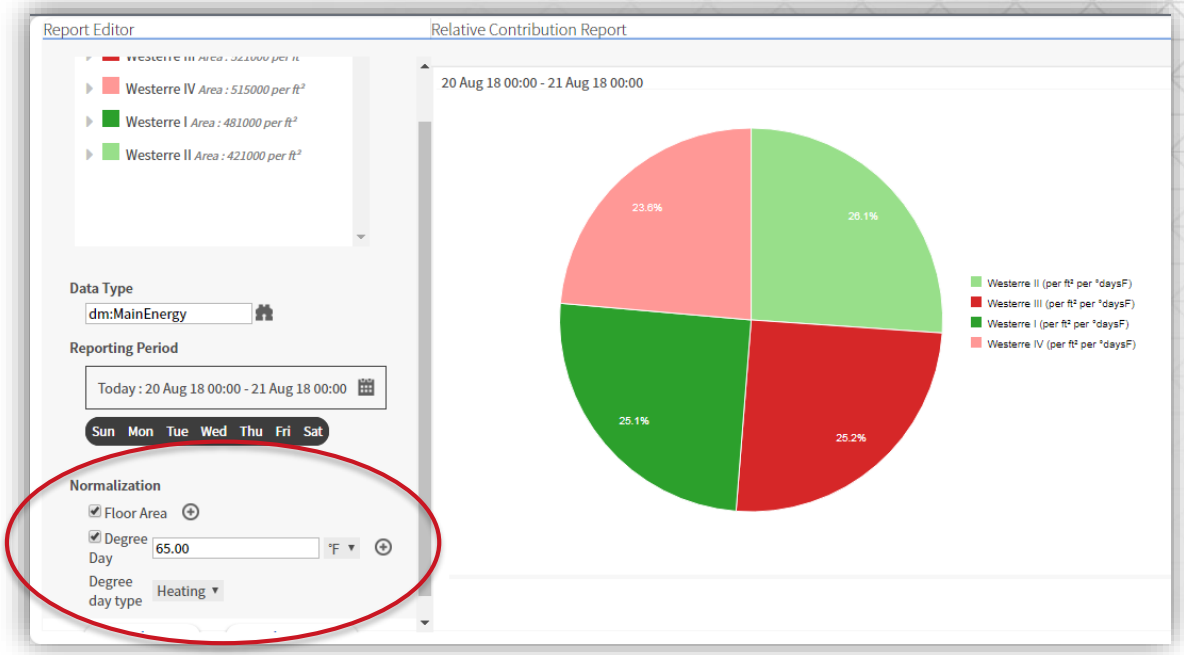
If true, the values defined in Time Range 1 and Time Range 2 are excluded from the output.

Reduces number of blocks needed for algorithms when certain time ranges need to be excluded.



Normalization

When comparing facilities of different size or different geographical regions, normalize the data by area and/or degree-days to get good “apples to apples” comparisons.



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How to Order

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Ordering Niagara Analytics 2.1

Part numbers have not changed from the previous version.

Upgrades from previous versions are included with the platform SMA.

Part Number	Description
NA-EC-N4-100	License for 100 analytic points for an Embedded Controller (JACE 8000).
NA-EC-N4-250	License for 250 analytic points for an Embedded Controller (JACE 8000).
NA-EC-N4-500	License for 500 analytic points for an Embedded Controller (JACE 8000).
NA-EC-N4-1000	License for 1,000 analytic points for an Embedded Controller (JACE 8000).
NA-S-N4-250	License for 250 analytic points for a Supervisor.
NA-S-N4-1000	License for 1,000 analytic points for a Supervisor.
NA-S-N4-2500	License for 2,500 analytic points for a Supervisor.
NA-S-N4-10000	License for 10,000 analytic points for a Supervisor.
NA-S-N4-50000	License for 50,000 analytic points for a Supervisor.
NA-S-N4-100000	License for 100,000 analytic points for a Supervisor.
NA-S-N4-ENT-10	Enterprise option for unlimited analytic points on ten N4 Supervisors.
NA-S-N4-UNL	License for Unlimited analytic points for a Supervisor.

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