



CASE STUDY

Grid Stability

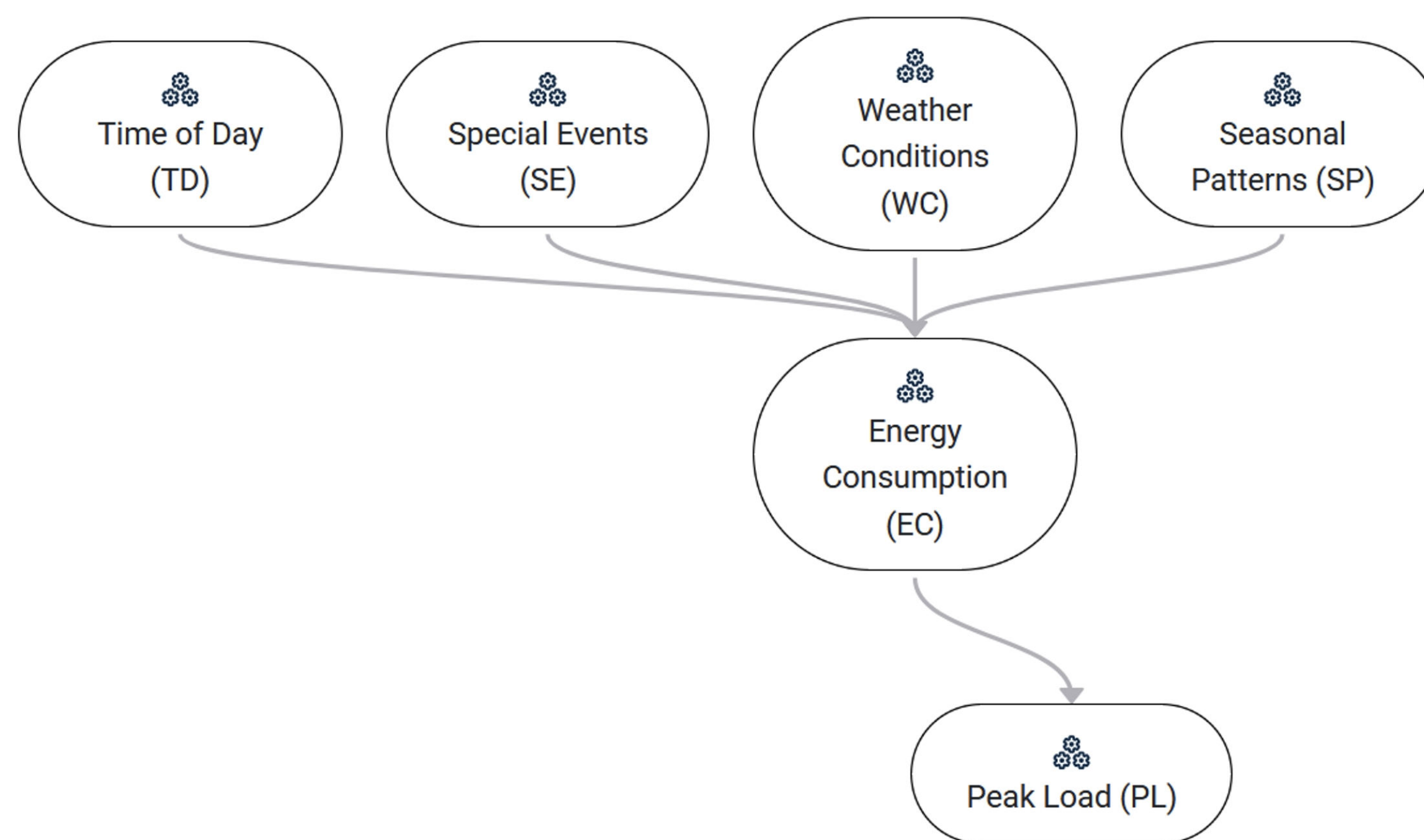
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CHALLENGE

Urban utility companies are constantly battling to efficiently manage peak load demands to prevent power outages and maintain grid stability. Conventional forecasting methods have been insufficient, struggling to predict demand accurately amidst unpredictable weather changes and special events. Furthermore, renewable energy systems which heavily rely on the weather conditions make the system more complex.

APPROACH

Whyond uses a causal AI approach that leverages smart meter data, together with the utility company's experts and was able to forecast peak loads with unprecedented accuracy. By integrating critical variables such as weather conditions, time of day, seasonal variations, and scheduled events, Whyond provides a comprehensive analysis for demand forecasting.



The key of Whyond's method lies in its ability to analyze data and uncover essential causal relationships. This analysis facilitates better demand forecasts, enabling the utility company to make dynamic adjustments to the energy supply, ensuring it meets actual needs efficiently. The following types of questions can be answered with Whyond.

For example:

- How do changes in weather patterns cause fluctuations in peak load demand on the urban utility grid?

- If urban utility companies implement targeted demand response programs in anticipation of specific weather changes, how might these interventions affect grid stability?
- Had the utility company deployed more aggressive demand forecasting models that factor in detailed weather predictions, could past instances of power outages have been prevented?

IMPACT/OUTCOME

The adoption of Whyond has significantly improved the management of peak loads, resulting in a more reliable power supply, fewer outages, and increased operational efficiency. This case study highlights the transformative potential of Whyond in enhancing urban grid stability, showcasing its vital role in modern energy management practices.