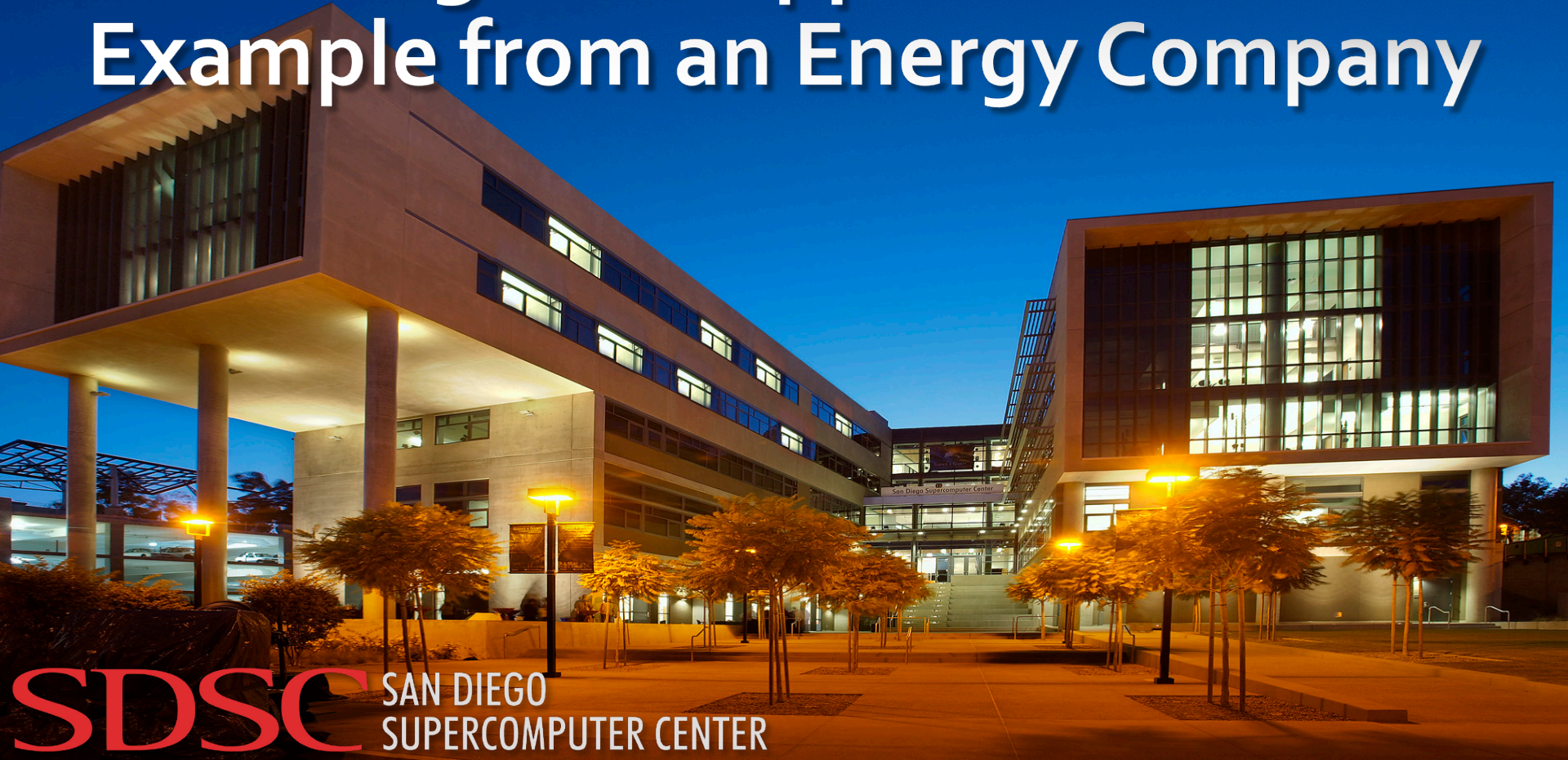


# Big Data Applications

## Example from an Energy Company



**SDSC** SAN DIEGO  
SUPERCOMPUTER CENTER

# Energy Use Monitoring

## **New York Prepares for Millions of Smart Meters Under REV**



Con Edison moves first with a planned \$1.3 billion, 4.7-million-unit smart meter deployment.

by Katherine Tweed

October 29, 2015

## Real-time data, advanced analytics

One reason for the higher-than-average operations costs could be that Con Edison is preparing for vastly improved IT capability to make the most of the system. Con Edison plans to have the most advanced analytics and near-real-time data of any meter deployment on the planet. "We're designing the system with advanced analytics in mind," said James Prettitore, director of technology services at Con Edison.

The system would pull in more than 1.5 billion data points daily. That could signal a change from some earlier smart meter deployments, in which large amounts of data was collected, but utilities were not making use of it across utility operations.

while ensuring customer privacy. Con Edison is confident that offering near-real-time data in 15-minute intervals (5-minute intervals for large C&I customers) will provide the sort of granular information that can create new earning mechanisms for utilities and third parties.

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**10,416,667 data points/15 minutes**

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# Smart Meter Analytics

- **Consumption patterns**
  - Histograms of hourly usage
- **Thermal sensitivity**
  - Effect of outdoor temperature
- **Consumption prediction**
  - Daily, weekly usage profile
  - Economic implications
- **Consumer Grouping**
  - Similarity grouping
  - Energy saving campaign for consumer groups

# The Big Data Issue

- Not only big and fast
- Life-Cycle deadline
- Estimating the need for parallel and distributed computing