

Data Center Management

Server upgrade strategy for a large datacenter in the internet information services industry.

Challenges

- Several months required for internal analysis.
- Critical errors and lack of transparency in analyst's spreadsheet.
- Goal maximized the value for the IT department instead of shareholders.
- Lack of flexibility for choosing server upgrades.
- No accounting of potential lost revenue for suboptimal datacenter performance.
- Unrealistic projections of demand for datacenter services.

Provisdom's Solution

- Required only 3 days for complete analysis.
- Straightforward inclusion of uncertainty for future demand and revenue.
- Flexible strategy based on projected learning about demand.
- The upgrade strategy balances expected future revenue with upgrade costs based on current information about demand.
- Proper inclusion of tax and depreciation effects on risk-adjusted economic value.
- Direct maximization of risk-adjusted economic value instead of departmentally motivated goal.

Results

- Identified spreadsheet errors causing discrepancies of between \$119 million and \$172 million in risk-adjusted economic value.
- Included more information known to be relevant, providing a seven-year strategy increasing risk-adjusted economic value by **\$460 million**.
- The strategy would also prevent an average of 66,000 metric tons of carbon dioxide emissions, while still meeting 100% of the data demand even in extreme cases.
- Time required: **3 days + 3 hours of client time**.

