Strategist Introduction

Strategist, a computer software system developed by Ventyx, supports electric, gas and water utility decision analysis and corporate strategic planning. The system combines quality planning software, a proven track record, Ventyx's commitment to ongoing maintenance and support, comprehensive user documentation (online help), and fast response to client needs. Strategist is available as a strategic marketing analysis system, as a least cost resource optimization system, as a comprehensive planning tool for quick evaluation of hundreds of alternatives, as a finance and rates planning system and as selected application modules that complement planning capabilities already in place. Strategist consists of the following application modules:

- Load Forecast Adjustment (LFA)
- Differential Cost Effectiveness COST (DCE)
- Dynamic Marketing Program Design (DPD)
- Generation and Fuel (GAF)
  Available with "Multi Company" and Network Economy Interchange (NEI)
- Capital Expenditure and Recovery (CER)
- Class Revenue (CRM)
- Holding Company (HCM)
- Financial Reporting and Analysis (FIR)
- PROVIEW (PRV)

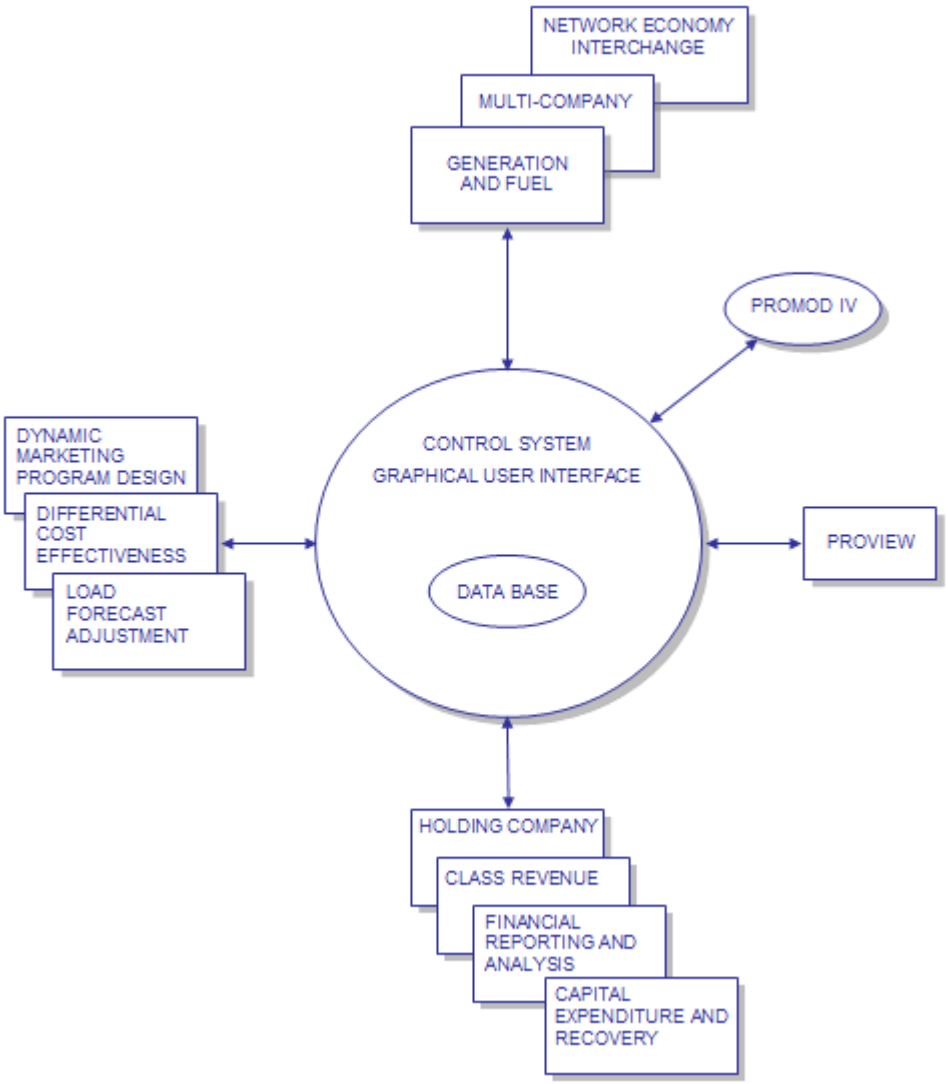
A flexible control system ties the application modules together and automates data transfer from one module to another. To interface with the Strategist database containing all inputs and outputs, a user may rely completely on the User Interface (UI) or utilize the control system batch command language. Strategist's UI adds full-screen spreadsheet data entry/edit capability, on-line documentation, graphic display of data, program execution, and reporting. With either the UI or the batch command language, it is easy to change selected inputs, run the application modules, and display results.

"Figure OV-1" outlines the structure of Strategist.

Related Topics:

Figure OV-1. Strategist Integrated Planning System
Strategist: Evolution of the Industry Leader
General Description
Diversity of Client Base and of Applications
Full Range of Evaluation Criteria
Modular Structure

Figure OV-1. Strategist Integrated Planning System



General Description

Strategist's advantage as an integrated planning system is its strength in all functional areas of utility planning. Strategist allows analysts to address all aspects of an integrated planning study at the depth and accuracy level required for informed decisions. Hourly chronological load patterns are recognized. Production cost simulations are comprehensive, yet fast. Financial analyses are accurate and thorough. Rate-level determinations reflect each utility's customer class definition and cost-of-service allocation factors. The system employs dynamic programming to develop optimal portfolios of resources. Sophisticated screening methodologies are available to develop and refine strategic marketing initiatives, identify market potential, and build portfolios of initiatives.

In Strategist, integrated resource screening and optimization is accomplished within a single system that handles strategic marketing programs, production costing, environmental reporting, capital budgeting, and financial, tax, and revenue forecasts on a rate class basis. Using a single, integrated software system for demand- and supply-side analysis of all resource types makes these studies much more manageable, ensures consistency in data assumptions, and provides credible, auditable results.

With Strategist, utility management can examine many more options in a shorter period of time. The system has been designed to streamline the many steps in a comprehensive integrated planning effort and to handle the mechanics. This minimizes human error, inconsistencies, and repetitive data entry. For instance, if a combustion turbine's in-service date is delayed in the optimization program, the new in-service date is automatically specified to the production costing module as well as the capital budgeting and financial modules. The module also performs year-by-year "round robin" processing in order to appropriately address price elasticity.

Strategist provides a wide variety of standard reports ranging from unit by unit generating statistics to construction project accounting reports to comprehensive pro forma financial results. The system includes full input summaries and detailed diagnostics.

Load Forecast Adjustment Module (LFA) Overview

The Load Forecast Adjustment (LFA) Module is a multi-purpose tool for creating and modifying load forecasts and evaluating marketing and conservation programs. Using the LFA, a strategic planner may address key issues related to future electricity or gas demand and impacts attributed to each customer group. Results from this analysis can be automatically transferred to other Strategist modules to determine production costs, system reliability, cost-effectiveness of marketing initiatives, financing and revenue requirements, and a variety of other indicators affected by loads.

Because availability of load data is often limited, the LFA is designed to process data at the level of detail readily available. Load data is processed in the LFA by user-defined load groups. It is possible to define these load groups as very detailed or very summary in scope. The LFA categorizes group data based on availability of hourly load shapes. Customer groups for which shapes are not available are processed differently than those with shapes.

A key feature of the LFA is its ability to accommodate different levels of detail for different categories of load. If load shapes are unavailable or not needed for some customer groups, the user can easily organize the data to allow the LFA to approximate the missing information. For example, a study which analyzes the loss of a large industrial customer may need detailed modeling of only those rate classes affected by the reallocation of costs. Hourly load shapes could be entered for these classes, and the user need only enter peak, energy, and coincidence factors for any remaining classes.

The analysis of programs which lack historic data, such as new demand-side technologies, will also benefit from the LFA's unique features. For example, a relamping program may be quickly modeled with estimates of energy savings per customer and reductions in peak demand. The model then schedules the hourly impact of these programs based upon optional rules specified by the user. Conversely, the evaluation of programs such as direct control of end-use loads (DLC hardware) can be based on more detailed data such as estimated net changes in seasonal demand, energy, and hourly customer shapes.

The LFA Module calculates the impact of changing prices on the initial forecast. When processing in round robin mode, the modified load forecast is passed to the Generation and Fuel (GAF) Module for production costing and to the Financial Reporting and Analysis (FIR) Module for financial analysis. The new electric prices developed in the FIR are then used for further price impacts in subsequent years of the Strategist simulation.

The LFA Module may be used in conjunction with the Differential Cost Effectiveness (DCE) Module, PROVIEW and other Strategist modules to evaluate marketing and conservation programs. The recommended process for evaluating these programs includes three separate stages: screening, integrated demand/supply optimization, and detailed analysis. The process can be likened to a funnel, as depicted in "Figure OV-2". The LFA Module plays an important role in each of these stages.

Screening of marketing initiatives is accomplished through use of the LFA Module in conjunction with the DCE and GAF Modules. Programs in the LFA Module database are evaluated one at a time and are ranked based on cost effectiveness measures from the following perspectives: utility, participant, community (total resource), society, typical consumer (RIM), and any user-defined benefit/cost measures. Capacity deferral costs or benefits are calculated using the capacity credit logic in the LFA and/or the reliability/reserve margin equalization logic in the GAF. Energy benefits or costs are calculated with a separate GAF production cost run for each program.

The cost effectiveness measures calculated in the initial screening of marketing alternatives will result in a multi-objective decision space. DCE pivots off this accumulated information and develops packages of alternatives which may be used as discrete levels of investment, energy, or peak demand impact that may compete against supply-side options in a fully integrated resource optimization.

Integrated *optimization* of marketing programs may be accomplished by the LFA Module in conjunction with the GAF Module and PROVIEW. LFA load groups representing marketing initiatives are identified as explicit options in PROVIEW along with supply options. The optimal mix of demand and supply options is developed using PROVIEW's dynamic programming capability. Several load groups may be easily combined into a single PROVIEW alternative if desired. In addition to the optimal plan, PROVIEW develops multiple suboptimal portfolios for further analysis.

The user also has available the same inputs to examine alternate marketing program penetrations. These "penetration factor " inputs make it easy to examine in detail the production, financial, and rate impacts of specific programs.

Related Topics:

Figure OV-2. Recommended Marketing Initiative Evaluation Methodology
General Capabilities
Figure OV-3. Sample Load Forecast Adjustment Module Database
Module Methodology
Module Results
The EEI Processor

Overview Load Forecast Adjustment (LFA)

The Load Forecast Adjustment (LFA) Module is a multi-purpose tool for creating and modifying load forecasts and for evaluating marketing programs. Using the LFA, a strategic planner may address key issues related to future electricity or gas demand and evaluate the impacts attributed to each customer group. Results from this analysis can be automatically transferred to other Strategist modules to determine production costs, system reliability, financing and revenue requirements, and a variety of other indicators affected by loads. In conjunction with the Differential Cost Effectiveness (DCE) Module and the Generation and Fuel (GAF) Module, the LFA is used to screen marketing programs based on cost effectiveness tests and develop portfolios of programs. The LFA may be used in conjunction with PROVIEW to perform integrated demand/supply optimization. LFA load groups representing marketing programs are identified as PROVIEW alternatives and PROVIEW's dynamic programming capability is then used to determine the best mix of demand and supply side resources.

Since the availability of load data is often limited, the LFA is designed to process data at the level of detail which is readily available. Load data is processed in the LFA by user-defined load groups which can be defined to be very detailed or very summary in scope. Group data is categorized based on the availability of hourly load shapes. Customer groups for which shapes are not available are processed differently than those with shapes. The specific load shape of marketing programs may be input, or the shape impact may be calculated based on predefined rules.

A key feature of the LFA is its ability to accommodate different levels of detail for different categories of load. If load shapes are unavailable or not needed for some customer groups, the user can easily organize the load data to allow the LFA to approximate the missing information. For example, a study which analyzes the loss of a large industrial customer may need detailed modeling of only those rate classes affected by the reallocation of costs. Hourly load shapes could be entered for these classes, and the user need only enter peak, energy, and coincidence factors for any remaining load classes.

The analysis of programs which lack historic data, such as new energy efficient technologies, will also benefit from the LFA's unique features. For example, a relamping program may be quickly modeled with estimates of energy savings per customer and reductions in peak demand. Conversely, the evaluation of programs such as direct control of end-use loads (DLC hardware) can be based on more detailed data such as estimated net changes in seasonal demand, energy, and hourly customer shapes.

The LFA Module facilitates the analysis of marketing programs with a flexible and comprehensive program penetration and expense capability. One load group can be expanded into multiple marketing program inputs by specifying one or more "program starts" in each year. All cost and penetration data are replicated for each program start. Cost inputs may vary with program penetration (i.e., total customers), change in program penetration (i.e., number of new customers), and the number of program starts (i.e., fixed costs such as advertising expense). These same input categories are also available for customer costs allowing the user to assess cost to participants and impact of marketing programs on total societal cost.

In addition to inputting the impacts of a marketing program, Strategist provides an alternative method by using the Dynamic Marketing Program Design (DPD) Module. DPD is a market penetration analysis tool that lets the user design a program and study its acceptance in the market place. With DPD sophisticated analysis involving time of use rates, loan and rate incentives, and alternate fuels is rapidly and easily performed. DPD automatically transfers all data required for LFA load groups representing individual programs.

Detailed modeling of direct load control (DLC) programs is available in the LFA module. DLC is a form of marketing for which portions of the system load are under the direct control of the utility. Although the characteristics of DLC programs are specified in the LFA, Strategist's DLC algorithm links the GAF module to the LFA, allowing dispatch decisions for DLC to benefit from the commitment, outage, and cost information available in the generating unit logic while retaining the chronology of load information.

The LFA Module calculates the impact of changing prices on the initial forecast using input price elasticity factors. When processing in round robin mode, the modified load forecast is passed to the Generation and Fuel (GAF) Module for production costing and to the Financial Reporting and Analysis (FIR) Module for financial analysis. The new electric prices resulting from the FIR are then used for further price impacts in subsequent years of the Strategist simulation.

Generation and Fuel Module (GAF) Overview

The Generation and Fuel (GAF) Module simulates power system operation using proven probabilistic methods. It provides production costs and generation reliability measures that are essential to supply and demand planning. The GAF Module fulfills a strategic planning role in that it requires less computer resources than more detailed production costing modules, without sacrificing overall accuracy.

Related Topics:

General Capabilities
Production Costing Methodology
Figure OV-4. Overview of Generation and Fuel Module
Dispatch of Non-Thermal Resources
Dispatch of Thermal Resources
Network Economy Interchange (NEI) Modeling
Figure OV-5. Schematic Diagram of the Network Economy Interchange
Module Results

General Capabilities

Overview–Generation and Fuel Module

- The GAF Module uses probabilistic production costing techniques to simulate the effects of forced outages.
- Most module calculations are performed seasonally, where seasons are defined by number of seasons and by number of days per season.
- Sales, purchases, and hydro generation are accounted for on a seasonal basis.
- The user can explicitly define an hour-by-hour schedule for a transaction or simply specify when the transaction tends to occur (during peak load hours, low load hours, or randomly) and the GAF will schedule the transaction appropriately.
- Thermal generating units are represented by capacity segments; each segment may have a distinct heat rate, which may be input as average, incremental, or coefficients of a quadratic input/output equation. Availability is defined for the entire unit; a partial availability may also be input to represent times when a unit may only operate at minimum capacity. The units which are classified as must-run are committed first, followed by enough other units to satisfy a user-input commitment criterion. The remaining units are committed on an economic start-up and dispatch basis, subject to fuel limits and spinning reserve requirements.
- The dispatch of thermal units and economy energy may be performed on a seasonal or annual basis.
- Pumped hydro projects and direct load control programs are economically dispatched on a seasonal basis, based on marginal cost. (Direct load control programs may be modeled only if the LFA Module is licensed.)
- Units are dispatched to conform to upper and lower limitations on fuel usage.
- Unit dispatch is performed on an "as burned" or replacement cost of fuel basis.
- Unit, company and system emissions are calculated based on actual runtimes and fuel usage. Emissions allowances are purchased or sold on the basis of system performance and the inputs for allowance cost and allowance base for each effluent. The cost of allowances is reflected in the dispatch lambda used in dispatch order decisions.
- Environmental externalities are calculated for emissions, emergency energy, and direct load control.
- Multi-company dispatch with interchange accounting for holding companies or power pool simulation is provided.
- Numerous diagnostic reports which document detailed calculations are provided.

Overview Capital Expenditure and Recovery (CER)

The Capital Expenditure and Recovery Module (CER Module) enables the strategic planner to readily compare and evaluate electric and gas utility planning alternatives. The CER Module examines both the relevant capital costs and the estimated production costs of a given planning alternative. Through its interaction with the Financial Reporting and Analysis Module (FIR Module), the CER Module enables the strategic planner to examine and analyze the financial implications of an individual construction project or an entire planning program.

General Capabilities

Overview–Capital Expenditure and Recovery Module

- The CER Module allows the strategic planner to examine the financial effects on the company's consolidated operations of construction alternatives intended to meet the forecasted system demand. Complete economic evaluation reports using both minimum revenue requirements (MRR) and discounted cash flow techniques are available.

- The CER Module simulates the financial effects resulting from changes in the treatment of the tax effects of depreciation allowances for funds used during construction (AFUDC), and investment tax credits (ITC). The depreciation tables of the 1981 and 1982 Tax Act are handled automatically. All provisions of the 1986 Tax Act are incorporated, including the tax depreciation methods and the Average Rate Assumption Method for handling "excess" deferred taxes.

- Any number of major projects (those which close to plant at the end of the expenditure stream) and blanket projects (those which close to plant as expenditures are made) can be evaluated. Highly flexible logic allows users to specify close to plant amounts for book and tax purposes on a project-by-project basis. DSM projects can be modeled to capitalize expenses associated with conservation programs.

- The CER provides for a convenient method of examining alternate plans. A project's in-service date may be changed with a single command. All annual expenditures for that project are automatically shifted, taking inflation and escalation rates into account.

- A variety of reports display results for individual projects, for user-defined aggregations of projects, and for the entire system.

- Project phase-ins and disallowances are easily analyzed. Through interaction with the FIR Module, the user may examine the rate and financial impacts of alternative regulatory treatment of canceled or partially canceled projects.

- The CER Module allows for a project-to-GAF-unit tie. Fuel cost and O&M expense can then be passed to the CER by project for use in its revenue requirements calculations. The CER, if desired, will also use the GAF unit's commission date as the project in-service date. Thus, unit slippage can be assessed in both the GAF and CER with only one data change.

- Using the project-to-GAF-unit tie, the PROVIEW Module will output a CER database for the selected plan containing the appropriate in-service dates for expansion units.

"Figure OV-11" provides a general overview of the CER Module.

Related Topics:

Figure OV-11. Overview of Capital Expenditure and Recovery Module

Overview PROVIEW (PRV)

The PROVIEW Module is an automatic expansion planning module which can determine the optimal balanced marketing and supply plan for a utility system under a prescribed set of constraints and assumptions. PROVIEW enables planners to study a wide variety of long range expansion planning options including alternative technologies, unit conversions, unit capacity sizes, load management, marketing and conservation programs, fuel costs, reliability limits, and financial constraints in order to develop a coordinated integrated plan which would be best suited for the utility. PROVIEW simulates the operation of a utility system to determine the cost and reliability effects of adding resources to the system or modifying the load through marketing programs, and it examines the impact on the construction budget of building new units.

Accurate results and quick turnaround time allow the strategic planner to evaluate numerous expansion scenarios quickly. The Module achieves its speed of operation by eliminating the detail that is typically not needed for these kinds of "screening" applications. The dispatch of alternatives can be performed on an annual basis or in user&endash;defined dispatch periods (seasons). The probabilistic production cost approach used by PROVIEW is identical to that used in the Strategist Generation and Fuel Module (GAF). In fact, a GAF database containing information pertaining to the utility system can be directly used for a PROVIEW simulation. PROVIEW can also use PROMOD IV data after it is passed through its data translator.

PROVIEW analyzes marketing program options in conjunction with the Load Forecast Adjustment Module. This module allows detailed treatment of system, class, or end use loads. The planner specifies hourly demand side programs. Marketing program alternatives are examined through successive increases in the number of program starts for generic options. The programs in turn modify peak demand, energy sales, and chronological typical week load profiles. Marketing programs in PROVIEW may decrease or increase system sales and requirements.

The PROVIEW module provides the user with two options for expansion planning analysis (the PROVIEW RUN FLAG setting for each is in parentheses): Dynamic Programming ("D"), and Independent Processing ("X").

Dynamic Programming is the acknowledged state&endash;of&endash;the&endash;art in utility expansion planning analysis. The Dynamic Programming Option will select the best expansion plan for the planning period. This option applies a dynamic programming optimization procedure coupled with end effects analysis. In each year, feasible combinations of alternatives are evaluated and saved. At the end of the planning period, each potential expansion plan is subjected to end effects analysis.

The Dynamic Programming option provides the user with options as to which objective function is to be optimized. For typical system expansion planning analysis, the net present worth of utility cost is minimized. For studies in which marketing program alternatives are to be considered, the present worth of the study period average rate, total cost (including customer cost), or societal cost (including externalities) may be employed. For studies in which system profitability is to be analyzed, the net present worth of total unit profitability is maximized. In addition, any analysis may be reranked based on financial objective functions to provide a complete picture as to which plan is truly "optimal."

Outputs produced include the generating capacity additions or load reductions in each year, total present worth of utility cost, present worth of average rates, annual capital requirements, annual operating cost, fuel requirements, reserve margin, and other detailed results that a user may require.

The PROVIEW module includes chapters describing module methodology, operation, input data requirements and output reports. For discussion of simulation of an existing generating system, see the Strategist GAF ("Generation and Fuel") module. For discussion of simulation of existing loads, see Strategist LFA ("Load Forecast Adjustment") module Help.

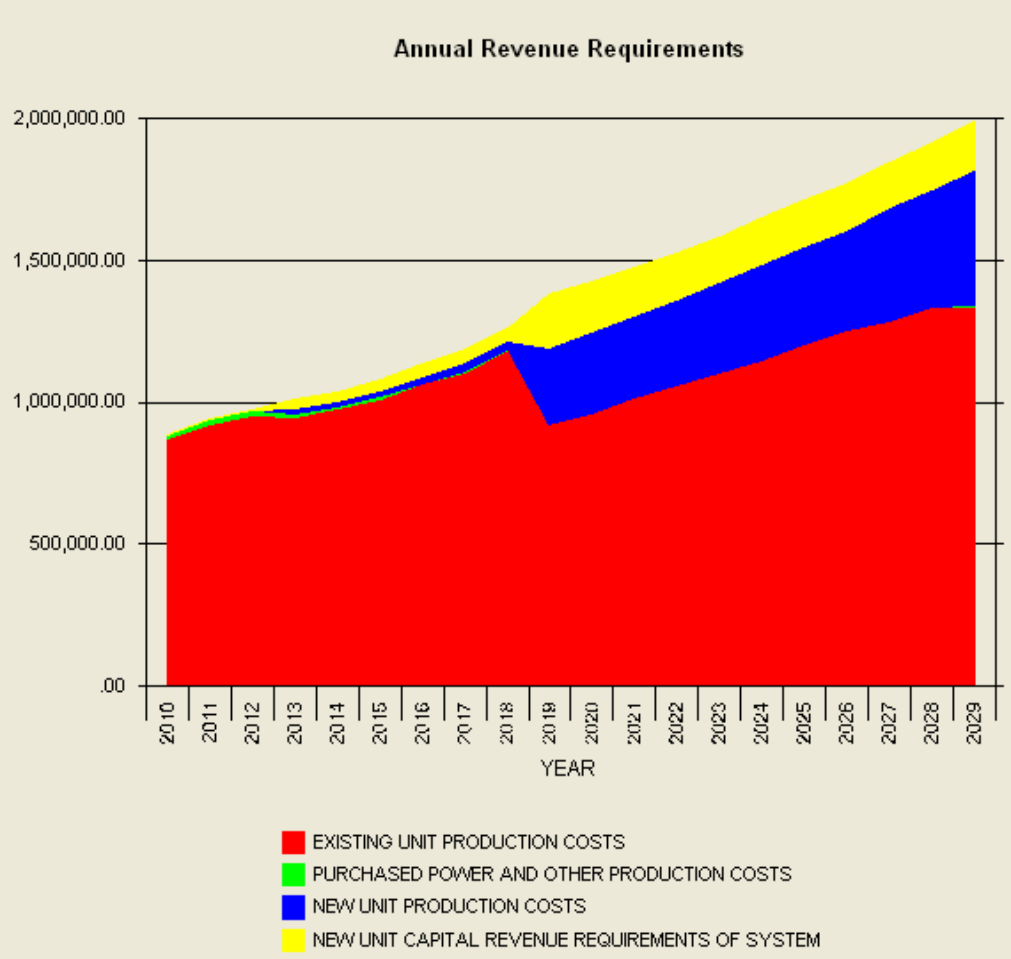
ENERGY PLANNING AND ANALYTICS SOFTWARE

STRATEGIST

Integrated Resource Planning

Strategist **is composed of multiple application modules incorporating all aspects of utility resource planning.**

Strategist has been the industry standard for integrated resource planning for nearly 30 years. Users include municipalities, electric cooperatives, state commissions, consulting firms, and investor-owned utilities. *Strategist's* multiple application modules include forecasted load modeling, energy efficiency programs, production cost calculations including the dispatch of energy resources, optimization of future decisions, and nonproduction-related cost recovery, such as construction expenditures, AFUDC, insurance, and property taxes.



PROVIEW Module

Strategist's PROVIEW Module utilizes a proprietary dynamic programming algorithm to optimally select and rank alternative resource plans based on different objective functions including minimizing utility cost and average rates. Resource alternatives are evaluated while also considering purchases from and sales to a spot energy market.

Ventyx®
An ABB Company

PROVIEW can evaluate all types of supply- and demand-side alternatives:

1. **Supply-side Alternatives** – new hydro, energy storage, fossil, nuclear and renewable resources (wind, solar, biomass, geothermal, etc.); multiple types of power contracts; and transmission interface enhancements. In addition, refurbishment, repowerment, mothballing, and/or retirement of both existing and newly added resources can be modeled.

2. **Demand-side Resources** – energy efficiency, load control, and demand response resources can be represented. Examples include traditional demand-side resources, such as direct load control and efficient appliance rebates, as well as time-of-use rates and real-time pricing programs.

Differential Cost Effectiveness

(DCE) Module

This Module calculates the benefit-cost (B/C) ratios for each supply and demand alternative against a base resource plan. The use of a base resource plan allows the DCE Module to identify the yearly marginal capacity and energy savings for each alternative. PROVIEW and the DCE Module use the same database to define the operational characteristics and costs of supply and demand alternatives, so that cost-effective options can be directly incorporated into a full optimization analysis.

Capital Expenditure and Recovery

(CER) Module

The Strategist CER Module provides detailed capital project modeling that is critical to accurately evaluating the economics of resource alternatives that require capital outlay. The CER can be used to model the entire capital budget of a utility company or just the incremental capital projects associated with resource alternatives under evaluation using PROVIEW. Results from the CER Module are automatically transferred to PROVIEW, which optimizes production costs along with incremental capital investment.

Key Benefits Summary

- Dynamic Programming Algorithm generates and evaluates all appropriate resource plans
- Evaluates the economics of resource alternatives that require capital outlay
- Analyzes long-range rate strategy and its implications
- Provides Multi-area resource optimization
- Minimizes scope by reducing the need for external systems and spreadsheets
- Ensures data integrity through sound data integration
- Assesses effects of market volatility on resource plans using Monte Carlo analysis

STRATEGIST

Integrated Strategist and Optimization

Strategist is composed of multiple application modules incorporating all aspects of utility planning and operations.

Strategist has been the industry standard for integrated resource planning for more than 25 years. Users include municipalities, electric cooperatives, state commissions, consulting firms, and investor-owned utilities. Strategist is composed of multiple application modules incorporating all aspects of utility planning and operations. This includes forecasted load modeling, marketing and conservation programs, production cost calculations including the dispatch of energy resources, optimization of future decisions, non-production-related cost recovery (e.g. construction expenditures, AFUDC, and property taxes), full pro-forma financial statements, and rate design.

PROVIEW Module

Ventyx's PROVIEW Module utilizes a proprietary dynamic programming algorithm to optimally select and rank alternative resource plans based on 10 different objective functions (including minimizing utility cost and maximizing earnings per share). Resource alternatives are evaluated while also considering purchases from and sales to a spot energy market. PROVIEW can evaluate all types of supply and demand-side alternatives:

1. **Supply Side Alternatives** – hydro, storage, and thermal units; multiple types of power purchase and sales contracts; and transmission interface enhancements. In addition, refurbishment, repowerment, mothballing, and/or retirement of both existing and newly added resources can be modeled. Distributed generation and renewal resources (wind, solar, biomass, geothermal, etc.) can also be represented.

2. **Demand-Side Resources** – energy efficiency, load control, and demand-response resources can be represented. Examples include traditional demand-side resources, such as direct load control and efficient appliance rebates, as well as time-of-use rates and real-time pricing programs.

Differential Cost Effectiveness

(DCE) Module

This Module calculates the benefit-cost (B/C) ratios for each supply and demand alternative against a base resource plan. The use of a base resource plan allows the DCE Module to identify the yearly marginal capacity and energy savings for each alternative. PROVIEW and the DCE Module use the same database to define the operational characteristics and costs of supply and demand alternatives, so that cost-effective options can be directly incorporated into a full optimization analysis in

PROVIEW

Load Forecast Adjustment (LFA) Module

Our Load Forecast Adjustment Module is a multi-purpose tool for modeling and modifying load forecasts and modeling Demand Side Management (DSM) programs. The LFA Module is used in conjunction with the Differential Cost Effectiveness (DCE) Module, PROVIEW, and other Strategist modules to evaluate DSM programs. Using the LFA, a strategic planner may address key issues related to future electricity demand and impacts attributed to each customer group. Results from this analysis are automatically transferred to other Strategist modules to determine production costs, system reliability, cost-effectiveness of DSM initiatives, financing, and revenue requirements, and a variety of other indicators affected by loads.

Capital Expenditure and Recovery (CER) Module

The Ventyx CER Module provides detailed capital project modeling that is critical to accurately evaluating the economics of resource alternatives that require capital outlay. The CER can be used to model the entire capital budget of a utility company, or just the incremental capital projects associated with resource alternatives under evaluation using PROVIEW. Results from the CER Module are automatically transferred to PROVIEW, and to the Financial Reporting and Analysis (FIR) Module.

Financial Reporting and Analysis (FIR) Module

The Financial Reporting and Analysis Module provides a method of evaluating financial and rate impacts of alternative construction programs, fuel cost scenarios, regulatory actions, and financial strategies. The FIR Module provides a sound structure for performing extensive analyses of the affects on a utility's financial condition of future inflation rates, interest rates, regulatory policies, and financial market conditions. The Class Revenue Module is a component of the FIR Module and provides for jurisdictional and customer class cost-of-service and rate projections consistent with the financial projection. The FIR Module is capable of efficiently producing planning studies in a short period of time, as well as providing the necessary detail to reflect the long-range financial structure of the company accurately.

Class Revenue Module (CRM)

Our CRM Module provides the capability to analyze long-range rate strategy and the implications of utility plans on customer classes. The CRM picks up where the jurisdictional logic in the FIR ends. All rate base and expense items that have been classified and allocated to the jurisdictions are subsequently allocated to the rate classes. Revenue requirements are then calculated to meet the target return-on-rate base. One or more rate classes may have user-input rates, allowing the rates for other rate classes to "float" in order to achieve a target return at the jurisdictional level. Additionally, the user has extensive flexibility in determining the actual structure of rates for each class, with varying proportions of expenses being recovered through the demand, energy, and customer charge portions of the total rate.

Key Benefits Summary

- Dynamic Programming Algorithm generates and evaluates all appropriate resource plans
- Evaluate the economics of resource alternatives that require capital outlay
- Analyze long-range rate strategy and its implications
- Multi-area resource optimization
- Quickly evaluate financial, rate, and shareholder impacts
- Minimize scope by reducing the need for external systems and spreadsheets
- Ensure data integrity through sound data integration
- Assess affects of market volatility on resource plans using Monte Carlo analysis