GAINS
MOVE FORWARD FASTER

Whitepaper

Discover the Power of Constrained Service Level Optimization to Optimize Your Inventory Strategy

Executive Summary

Right-sizing inventory to meet customer commits given a variety of constraints is achievable through Constrained Service Level Optimization (CSLO), a fundamental feature of modern inventory strategies. CSLO empowers companies to be agile in the current volatile and uncertain business landscape. Unlike conventional supply chain solutions, the GAINS CSLO offering assigns inventory levels to each segment, minimizing investment while achieving service level objectives. This approach ultimately leads to reduced costs, lost sales, stockouts, manufacturing downtime, and disservice expenses while improving customer satisfaction and profitability. Companies are constantly faced with ever-changing lead times, costs, forecast variability, customer commitments, budget constraints, and profit, and need better signals to right-size their inventory. The GAINS Decision Engineering and Orchestration Platform enables flexibility, improves decision-making, and offers cost savings to your supply chain.

What is CSLO?

Constrained Service Level Optimization, or CSLO, is a powerful algorithmic process and application within GAINS that allows customers to attain targeted service levels for different inventory segments while considering various constraints. CSLO is indispensable in today's rapidly evolving and disruptive business climate and is an essential feature of modern inventory strategies. Conventional inventory policies are too rigid and cannot dynamically assess the most efficient policy or mix for each inventory segment. On the other hand, GAINS' CSLO optimization is grounded in actual aggregate organizational targets and constraints, enabling companies to adapt quickly and make the best plans in an escalating VUCA (volatility, uncertainty, complexity, and ambiguity) environment.
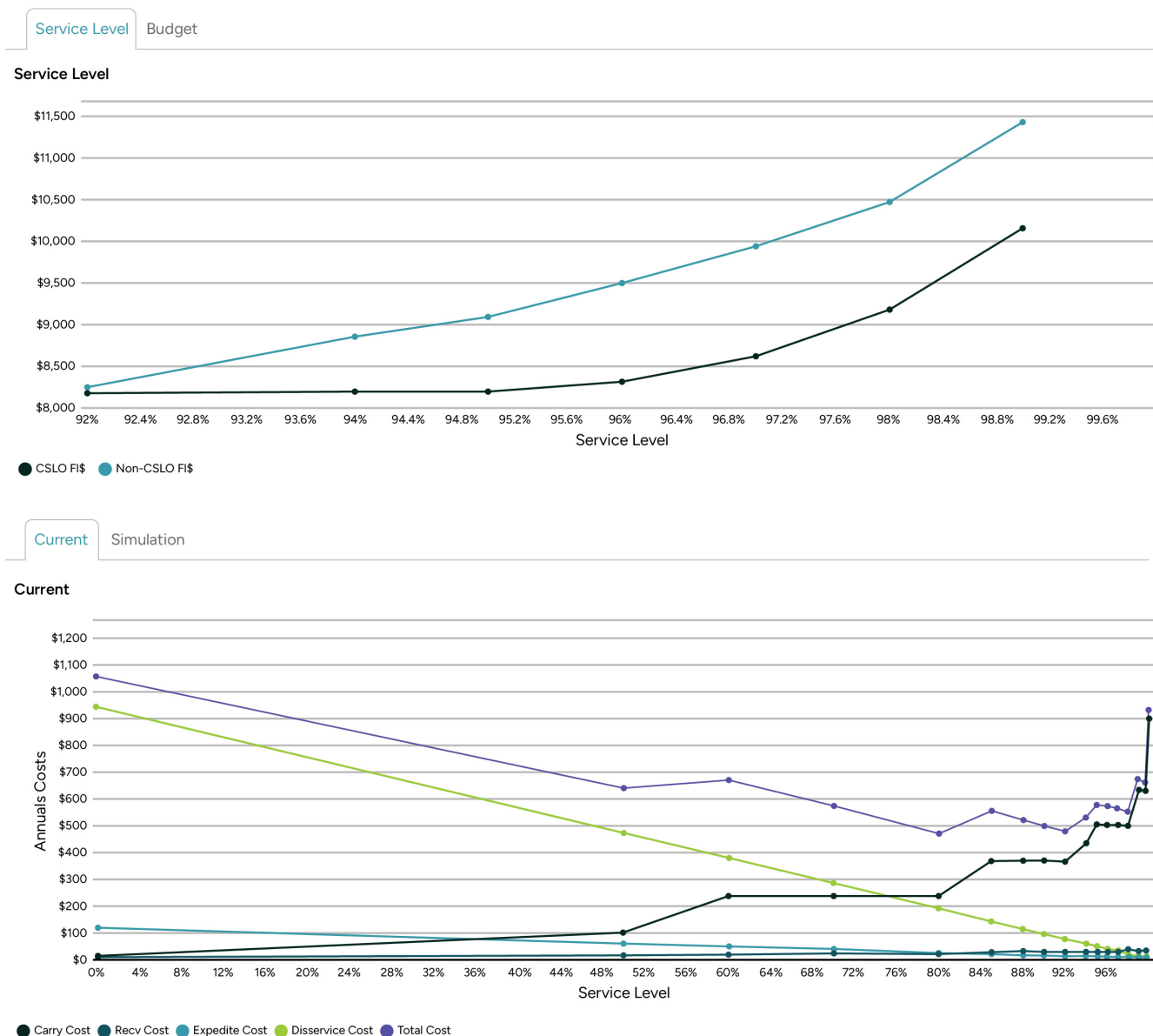
The CSLO Significance in Modern Inventory Strategies

Conventional inventory policies are too static and cannot dynamically assess the most efficient policy or mix for each inventory segment. Conversely, the GAINS CSLO solution is grounded on actual aggregate organizational targets and constraints. CSLO computes the most cost-effective service level for each SKU to meet an aggregate objective. This enables companies to minimize investment, while achieving the service level objective or to maximize service level while adhering to a purchasing spend constraint. GAINS' unique approach to right-sizing inventory for each inventory segment ensures that every supply chain within a company has the appropriate inventory levels to fulfill customer commitments.

Planning Environments that Gain Most from CSLO

GAINS CSLO capability is a great approach for many companies, especially businesses with the following characteristics:

- Significant SKUL-level variation in:
    - Lead time
    - Cost
    - Forecast error

- Contractual service level obligations

- Budget constraints

- Profit goals

- Space constraints

> CSLO is indispensable in today's rapidly evolving and disruptive business climate and is an essential feature of modern inventory strategies.

Benefits of CSLO

The GAINS CSLO offering empowers customers to strike the optimal balance between cost and service levels, resulting in improved customer satisfaction, reduced costs, and increased profits.

GAINS customers that have implemented CSLO have enjoyed the following benefits:

- Reduced operating costs
- Fewer lost sales
- Fewer stockouts
- Reduced downtime costs
- Reduced need to expedite orders

- Prevention of excess/obsolete inventory growth
- Reduced backorders
- Improved profitability
- Greater alignment with corporate budget constraints

GAINS' Approach to Achieve Target Service Levels Using CSLO

To achieve target service levels using CSLO, GAINS has implemented an approach that addresses a variety of different objectives.

These objectives include:

- Minimize inventory carrying and receiving costs

- Minimize inventory carrying, receiving, and expediting costs

- Minimize total annual cost

- Maximize service level for purchasing spend

With the cost optimization provided by CSLO, less expensive items will typically be stocked at higher service levels than more expensive items. In addition, CSLO has the ability to recommend SKULs for de-stocking.

Powerful Inventory Simulations at Your Fingertips

Recently, the GAINS Decision Engineering and Orchestration Platform, delivered new CSLO features to improve flexibility, enhance decision making, and increase cost savings, including:

User Interface

Our latest CSLO release offers an improved user interface to enable customer self-service for CSLO configuration and maintenance. This advancement minimizes or eliminates the need for GAINS services support for CSLO activities.

Service Policy Scenarios

- Users can create multiple Service Policy Scenarios for a SKUL population, apply various service level parameters and constraints and generate/review resulting metrics

- Users can simulate outcomes using various inputs before applying an inventory policy

- Users can view current policy and simulated policy concurrently

- Users can perform ad-hoc sensitivity analysis via Scenarios

Flexible Means of Creating CSLO Segments

- Users can create CSLO segments for differentiated inventory categories

- Users can create CSLO segments and inventory policies that better align with unique business needs for each segment

Flexible Application of Optimization Mode

- Users can select the optimization mode that will be applied to the SKUL population that is contained in a CSLO Service Policy or Scenario
- Users can employ the flexible application of CSLO mode to align with individual business needs of unique SKUL populations

Copying of Service Policy Parameters

- Users can copy existing service policy parameters from:
  - An Active Service Policy to a new Scenario
  - A Scenario to a new Scenario
  - A Scenario to a new Active Service Policy
- Users can access copy features to apply scenario parameters to an active inventory policy or use active policy parameter as a baseline to generate new scenarios

Enhanced Scenario Metrics

- Scenario output has been expanded to provide a comparison of current vs. scenario metrics and detailed costs at the SKUL level
- Enhanced detail to better support inventory policy decision making

The new CSLO enhancements empowers GAINS customers with better self-service options for configuration and maintenance, enabling them to independently conduct simulations and analyze the outcomes using the new CSLO UI, eliminating the need for assistance from GAINS consultants.

Tier	Item	Description	Location	Cost	Total Dmd	Lead Time	Service Level	On Hand	Order Qty (ORQ)	Safety Stock (SS)	Curr FI (%)	FI Delta (%)	Min ORQ	Incremental Order Qty	Min SL	Max SL
1	CRH680	680-2 IN FORM 8 COVER CROUSE	WRKEA	$0.19	17	1.30	80.0%	0	8	2	1%		1	1	50.00%	99.90%
1	HUBRSD115AL	RSD115AL SWITCH DECORATOR SP 15A 120V AL	WRKEA	$1.85	33	1.30	80.0%	0	45	33	$70		1	10	80.00%	99.90%
1	OHYZZXX0308029	0.000767	WRKEA	$1.42	399	1.40	70.0%	4	52	0	$37		52	1	0.00%	99.90%
2	CRH680	680-2 IN FORM 8 COVER CROUSE	WRBEL	$18.07	13	1.40	99.5%	3	4	1	$78		0	1	99.50%	99.90%
2	WIR12/12TECK	$CC-TECK 12-GA 12COP-COND PVC-JKT CABLE	WRKEA	$6.79	0	1.60	70.0%	0	1	0	$0		1	1	0.00%	99.90%
3	WIR12/12TECK	$CC-TECK 12-GA 12COP-COND PVC-JKT CABLE	WRNOR	$6.79	41	1.00	70.0%	0	1	0	$0		0	1	0.00%	99.90%

About GAINS

GAINS is the supply chain performance optimization company helping companies fulfill their customer's promise. Our first-in-class, best-in-breed composable GAINS Decision Engineering and Orchestration Platform transcends traditional silos of ERP, supply chain planning, and network design, enabling integrated, smarter, faster, and composable decisions across the time to plan horizons from strategic design to order execution. Specifically designed to manage volatility, uncertainty, complexity, and ambiguity, GAINS customers are able to focus on prioritizing the right decisions at the right time at the right speed and scale to optimize supply chain performance, improving profitability and customer confidence. For more information, visit www.gainsystems.com.

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