

Asset Arena Performance is a web-based, robust multicurrency performance measurement and attribution system, which provides an integrated suite of performance measurement, attribution and risk tools.

SunGard's web-based Enterprise front-end platform provides clients access to easy-to-navigate screens, customized views, role-based access to data, and flexible reporting. This solution calculates returns on individual accounts, groups of accounts, and user-definable composites. Asset Arena also offers a choice of numerous attribution models for multicurrency equity and fixed-income portfolios.

Flexible Performance Measurement

Asset Arena Performance features a broad range of industry-standard calculations including Modified Dietz and IRR to help you monitor performance and risk. Customized measures can be added upon request. Asset Arena produces absolute and relative rates of return at composite, country, region, and sector levels.

Advanced Analytics and Attribution

Asset Arena's unparalleled selection of standard and proprietary attribution models cover multicurrency equities and fixed-income securities. Attribution calculations apply to manager and client composite returns, and residual smoothing is available.

Custom Benchmarking and Indexing

Users can upload benchmarks, or build customized benchmarks at the security, category, or fund level. Asset Arena Performance also supports unlimited blended index groups, drifting (or floating weight benchmarks and universes.

End-to-End Integration

Asset Arena Performance's open API's ease integration with complementary solutions such as Asset Arena Investment Accounting, the industry's most trusted accounting system; InvesTier™, SunGard's investor accounting and reporting system; Global Plus®, our private banking accounting solution; and Reech, our risk management and valuations solution.

Web-Based Reporting

Asset Arena's intuitive Excel®-like report writing tool allows you to easily add or customize reports beyond those already provided in the system. You can also create performance and attribution report and report packages for rescheduled delivery to clients in remote offices, regardless of the platforms they use.

GIPS® Compliance

Asset Arena's composite capabilities support GIPS® compliance. This ensures that your analysis, valuations, and reporting are based on globally recognized investment performance measurement and presentation standards.

Accurate and Reliable Data

Asset Arena Performance internally crosschecks data from other systems to help streamline processing and proactively identify discrepancies, such as pricing errors or rate of return tolerance outliers. Users can then make any necessary adjustments, automatically reclassify assets, and rebuild portfolios to instantly provide accurate and up-to-date calculations.

Technology You Can Trust

When hosted by SunGard's proven ASP infrastructure, Asset Arena Performance delivers unrivaled scalability and resilience, enabling users to focus on improving performance and minimizing risk on behalf of clients.

Diverse Customers and Users

Performance measurement managers, performance analysts, fund managers, heads of operations, chief technology officers, chief information officers and IT directors.

Availability

Available on an ASP or installed basis.

Solution Benefits

Asset Arena Performance offers comprehensive functionality that can be customized to meet any business requirement:

- Robust multicurrency performance measurement and attribution
- Breadth of asset classes and financial instruments
- Unlimited custom indexing capabilities
- Comprehensive ex-post risk analytics
- Before and after tax performance reporting
- Comprehensive equity and fixed income attribution and analysis, including numerous multi-currency models
- Web-based custom report writing
- Embedded exceptions management
- Full audit trail with annotations

Real Challenges, Real Solutions

Asset Arena Performance is a web-based, robust multi-currency performance and attribution system, which provides an integrated suite of performance measurement, attribution and risk tools. Attribution functionality is built into the application providing seamless integration to portfolio data and benchmarks as well as reducing the implementation footprint.

Key Benefits, Measuring Portfolio vs. Benchmark

- Explaining performance difference between the invested portfolio and its benchmark as well as validating your process to current clients and prospects
- Identifying key sources of return and value-added within the portfolio relative to the benchmark
- Attribution calculations are transaction based providing a more transparent and accurate representation of how a portfolio's return was generated.
- Attribution results can be stored on the system for easy access and reporting purposes.

Asset Arena Performance offers users the flexibility to utilize multiple attribution models and benchmarks, which can be assigned to a single portfolio.

Model (SP500: Equity by Economic Sector)	Category Level Attribution										
	Daily Global Equity 90066 (90066 - DAY)										
	November 30, 2003 To December 31, 2003										
	BEGINNING WEIGHT			ENDING WEIGHT			RETURNS		CONTRIBUTIONS TO RELATIVE RETURN		
	Portfolio	Benchmark	Diff	Portfolio	Benchmark	Diff	Portfolio	Benchmark	Asset Allocation	Stock Selection	Value Added
Total Equity // S & P 500 asset	100.00	100.00	0.00	100.00	100.00	0.00	6.53	3.35	1.75	1.25	3.00
Structured											
Basic Materials	14.35	2.89	11.46	14.83	3.66	11.77	9.98	8.64	0.37	0.33	0.70
Communications	13.91	9.90	4.01	13.48	10.13	3.36	3.96	5.10	0.07	-0.16	-0.69
Consumer, Cyclical	3.15	10.44	-7.29	3.15	9.82	-6.67	3.81	-1.16	0.32	0.15	0.47
Consumer, Non-cyclical	6.64	22.03	-15.39	6.61	21.94	-15.33	8.20	3.33	0.01	0.31	0.32
Diversified	0.74	0.00	0.74	0.68	0.00	0.68	4.37	3.35	0.00	0.01	0.01
Energy	11.86	5.58	6.26	11.66	6.06	5.60	5.74	11.90	0.47	-0.55	-0.19
Financial	24.20	21.38	2.82	24.40	21.28	3.12	6.67	2.54	-0.02	0.96	0.94
Industrial	2.41	10.82	-8.41	2.31	11.09	-8.78	1.71	4.98	-0.13	-0.08	-0.21
Technology	1.26	14.00	-12.74	1.23	13.63	-12.40	4.23	1.21	0.26	0.04	0.30
Unclassified Equity Sectors	19.20	0.27	18.93	19.35	0.29	19.06	7.47	5.62	0.41	0.32	0.73
Utilities	2.30	2.66	-0.36	2.29	2.71	-0.42	7.00	4.11	0.00	0.06	0.06

Standard Attribution Models

- Additive and Multiplicative Methodology
- Sector, Industry and Security Levels
- Characteristic Breakdowns (P/E, Market Cap, EPS)
- Variable Yield Curve Model

Attribution results can be retrieved and viewed directly in the users browser or through the reporting tool with multiple output options including Excel, PDF, and XML file formats.

- Security Level Contribution to Return

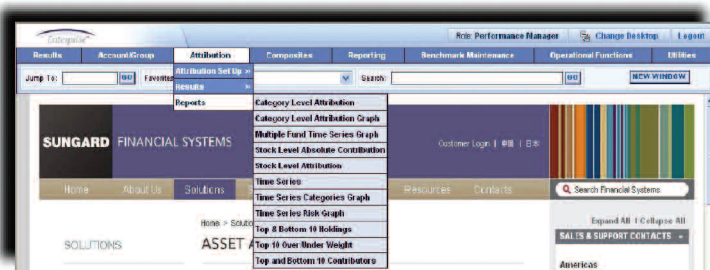
Attribution Effects

- Over/Under Performance Relative to Benchmark
- Selection, Allocation, Interaction, Currency
- Duration, Curve and Credit Allocation
- Income, Interest Rate and Curve Contribution

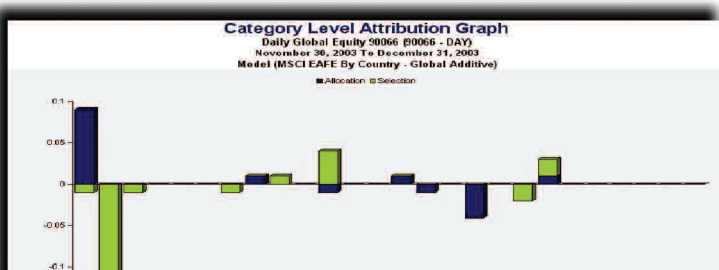
Sample Reporting

There are numerous attribution reports that can be generated within the Asset Arena Performance reporting tool including built in templates and graphics. Users can determine variable such as time period, benchmark and report output type.

Top & Bottom 10 Contributors Report											
Daily Global Equity 90066 (90066 - DAY)											
November 30, 2003 To December 31, 2003											
Top 10 Stocks Held						Bottom 10 Stocks Held					
Asset Name	Cusip	Beginning Relative Weight	Allocation	Market Timing	Value Added	Asset Name	Cusip	Beginning Relative Weight	Allocation	Market Timing	Value Added
NIPPON TEL & TEL CORP	26999101	-0.26	0.02	0.00	0.02	UTC ENHANCED CASH FUND	6222232	0.55	-0.24	0.00	0.00
CARSON INC	25512414	-0.21	0.02	0.00	0.02	GRUPO EMPRESARIAL SA MADE	5587059	0.02	-0.24	0.00	0.00
NISSAN MOTOR CO LTD	6942960	-0.21	0.02	0.00	0.02	NEWS CORP LTD	061027138	-0.18	-0.20	0.00	0.00
SONY CORP	77379106	-0.21	0.02	0.00	0.02	DINENOR ASA	4283394	0.04	0.03	0.00	0.00
CELESTICE BANK AG NAMEN	01119098	0.16	0.02	0.00	0.01	AMCO AMERICAN	0401151	0.45	-0.02	0.00	0.00
WILHELMSEN	4470333	0.05	0.01	0.00	0.01	TOYOTA MOTOR CORP	6900643	-0.50	-0.20	0.00	0.00
FARBEA CHEMICAL INDS	6900445	-0.22	0.01	0.00	0.01	NEC CORP	448119124	-0.08	-0.21	0.00	0.00
MARUTA MANUFACTURING C	6910403	-0.09	0.01	0.00	0.01	FALUC LTD	8399514	-0.08	-0.21	0.00	0.00
ITO YOKADO CO LTD	32209115	-0.09	0.01	0.00	0.01	OLAKOSMITHLINE PLC	0925288	0.13	-0.21	0.00	0.00
BEREOLA SA	4426640	0.17	0.01	0.00	0.01	MELLEA HOLDINGS	6613126	-0.12	-0.20	0.00	0.00
Top 10 Stocks Not Held						Bottom 10 Stocks Not Held					
Asset Name	Cusip	Beginning Relative Weight	Allocation	Market Timing	Value Added	Asset Name	Cusip	Beginning Relative Weight	Allocation	Market Timing	Value Added
PANALIA FINANZIALBA S	7125380	-0.02	0.00	0.00	0.00	ACC ACTIVIDADES EE CON	871134108	-0.02	-0.20	0.00	0.00
INDITEK	7111314	-0.07	0.01	0.00	0.01	AMP LIMITED	001440101	0.00	-0.20	0.00	0.00
FARE PLUS CORP	6900667	-0.05	0.01	0.00	0.01	SUBTOMO CORP	6909946	-0.08	-0.21	0.00	0.00
AGRIORA FINANCIAL GROUP	6900669	-0.01	0.01	0.00	0.01	CSL LTD	6166465	-0.01	-0.21	0.00	0.00
BCA MPS	7129541	-0.05	0.01	0.00	0.01	NIPPON STEEL CORP	6642969	-0.13	-0.21	0.00	0.00
NEEC CORP	6904602	-0.05	0.01	0.00	0.01	JSC CORP	6423488	-0.05	-0.21	0.00	0.00
THANSON SA	5902030	-0.07	0.01	0.00	0.01	APFL CORP	6919419	-0.04	-0.21	0.00	0.00
HAYS PLC	9419102	-0.05	0.00	0.00	0.00	SEIKO EPSON CORP SJMVA	6618508	-0.04	0.00	0.00	0.00
ALSTOM	5424678	-0.01	0.00	0.00	0.00	PORSCHE AD	7101664	-0.06	0.00	0.00	0.00



- Allocation and Selection Effect



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