



ASG-TMON® PERFORMANCE ANALYZER

Improve IT Utilization Competency Through Automated Analysis, Reporting, Modeling and Capacity Planning

ABOUT ASG-TMON® PA

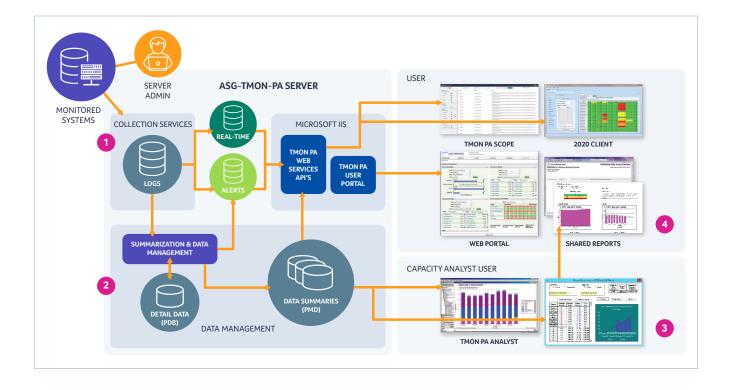
For many years, ASG-TMON[®] PA has provided high-powered performance and capacity management for the most demanding enterprise IT infrastructures.

Our focus on IT infrastructure management and proven cross-platform solutions boosts IT service levels, lowers costs and provides insights that allow data center professionals to make better decisions with clarity and confidence. ASG-TMON® PA takes the guesswork out of planning and decision-making, allowing companies to set realistic expectations, communicate accurate and actionable information and align IT performance with business objectives through end-to-end value stream views of performance and capacity.

ASG-TMON[®] PA allows you to collect and automatically analyze both physical and virtual performance and capacity data across the enterprise—making it easy to identify problems, improve performance and assess and forecast IT capacity utilization needs across mainframe, distributed and cloud systems.

BENEFITS

- Reduce mean time to repair in business value streams
- Improve productivity
- Optimize IT infrastructure for existing applications
- Reduce storage costs
- Avoid over-provisioning for new workloads
- Improve the bottom line of business



ASG-TMON[®] PA SOLUTIONS IMPROVE PERFORMANCE AND CAPACITY

Better Align IT with Business

ASG-TMON® PA makes sophisticated analysis possible by providing an end-to-end value stream views of your entire IT infrastructure, enabling accurate analysis of capacity and performance. This visibility gives you valued insight to minimize risk and maximize planning for future application and business needs. For many years, Global 2000 organizations have realized significant gains in productivity from relatively simple modifications to underlying processes and techniques.

Optimize IT Infrastructure

ASG-TMON® PA solutions provide powerful and comprehensive automated analysis, reporting, modeling and forecasting features you need to effectively plan, manage and optimize your IT infrastructure. ASG-TMON® PA collects crossplatform, enterprise-wide data and stores it centrally. Advanced reporting tools provides insights to ensure your critical physical and virtual business applications, systems and servers will deliver to the business today, tomorrow and into the future.

Improve IT Business Planning

With ASG-TMON® PA's historic data repository, you can see what's happened in the past and where the trouble spots are likely to be, simplifying your efforts to plan for future requirements. Sophisticated, yet easy-to-see modeling, forecasting and reporting capabilities are built right into ASG-TMON® PA. Sharing alerts, problem areas and capacity are just a few clicks away. No more second-guessing when it comes to budgeting or capital requests. Using ASG-TMON® PA to predict future needs and plan spending gives you the confidence to have accurate and insightful business conversations.

Proactive Problem Avoidance and Planning

ASG-TMON® PA collects physical and virtual performance data enterprise-wide and analyzes it automatically – making it easy to see where your problems are, where your opportunities lie and assess what needs to be done to capitalize on both.

ASG-TMON[®] PA is focused on preventing problems tomorrow through proper planning and implementation today.

Embrace Virtualization and Cloud Computing

Virtualization and cloud computing add another dimension of complexity and offer unique challenges not faced in the physical environment. Issues commonly faced include VM sprawl, poor capacity management, performance bottlenecks and difficulty pinpointing and resolving performance issues. ASG-TMON[®] PA's advanced management tools allow you to get control of your entire IT infrastructure resources, in a single view—with confidence and clarity.

Deliver a Greener IT

Adopting Green IT practices helps you reduce power and cooling requirements, as well as the physical space required for the infrastructure, but "it's not easy being green." Using resources more effectively and efficiently to reduce energy consumption and the carbon footprint of the organization is serious business and also happens to be a natural by-product of using ASG-TMON[®] PA.

ASG-TMON[®] PA SCOPE – VALUE STREAM VIEWS OF PERFORMANCE

ASG-TMON® PA Scope is a modern, intuitive cross-platform performance management solution. As a graphical web-based interface for ASG-TMON PA, Scope displays issue alerts and metrics aggregated across technology silos into a single value stream view. This allows your Infrastructure & Operations (I&O) teams to automatically identify and prioritize issues by business view, platform, category and asset as well as time and date and visually analyze the metrics driving alerts. The speed at which you can perform these actions in ASG-TMON® PA Scope accelerates mean time to repair, reducing costs, increasing productivity and accelerating the delivery of business value.

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ASG-TMON[®] PA Scope provides a holistic view from a business value stream perspective of the health of your systems.

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Drill down into alert details and visualize the metrics driving those alerts for a clear understanding of issues and system abnormalities.

- Reduce the time and cost of identifying and resolving issues to deliver business value faster
- Increase productivity of operations engineers by aggregating issues across siloed systems into a single view
- Reduce obstacles to identifying and resolving mainframe and other legacy system bottlenecks for next-gen (millennial, Gen Z) operations engineers

ASG-TMON[®] PA PORTAL – CAPACITY PLANNING AND PERFORMANCE MANAGEMENT

Starting with a dashboard interface, ASG-TMON® PA Portal provides quick access to business capacity planning and performance management information across all platforms. Click-through navigation makes drill downs completely intuitive. ASG-TMON® PA makes it easy to view data linking VMware clusters to hosts, hosts to VMs and VMs to the guest operating system.

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ASG-TMON[®] PA Portal provides a centralized dashboard for business-oriented analysis, reporting and management—regardless of platform or geographic location

- Gain insight into your entire infrastructure via the dashboard
- Improve visibility with out of the box, role-based reports and resource views by service, line of business, location, application and more
- Quickly identify current and future problem areas
- Simplify views of complex environments in a snapshot of hundreds or thousands of multi-platform systems
- Take faster action with comparison and analysis of key indicators across platforms to monitor performance

ASG-TMON[®] PA CLIENT – ANALYSIS AND REPORTING

The ASG-TMON[®] PA product suite includes ASG-TMON[®] PA Client, a powerful, Microsoft Windows-based analysis tool. ASG-TMON[®] PA Client is an easy-touse desktop solution that provides a broad range of analysis and reporting capabilities.

Enjoy the exceptional service, responsiveness, ease of use, and true partnership that our clients have come to enjoy by utilizing ASG-TMON $^{\circ}$ PA products.

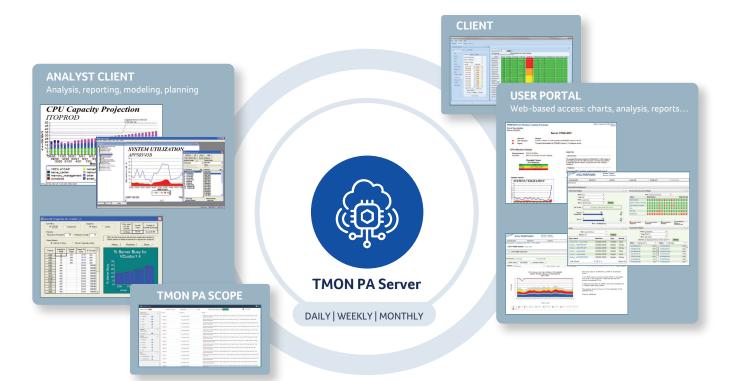


ASG-TMON[®] PA Analyst's user-friendly interface provides a comprehensive view of the systems and resources in your environment

- Gain immediate insight into current activity as well as historical projections through a full range of charts
- Visualize vast amounts of performance information for clear insight through heat maps
- Automatically aggregate information across multiple ASG-TMON[®] PA Servers, providing unlimited scalability
- Keep your data organized by system and period to efficiently handle months, weeks and days
- Manage analysis of all platforms in one tool for simplicity and ease of use
- Keep reports, charts and data organized and easy to distribute with point-and-click ease
- Reduce time and effort with automated analysis, reporting and publishing, freeing IT to focus on more important tasks

ASG-TMON[®] PA PRODUCT CATALOG

Enjoy the exceptional service, responsiveness, ease of use and true partnership that our clients have come to enjoy by utilizing ASG-TMON[®] PA products.



ASG-TMON® PA PRODUCTS

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ASG-TMON[®] PA FOR z/OS

ASG-TMON[®] PA for z/OS provides a complete view into the performance of your mainframes, their peripherals and the level of resources being used.

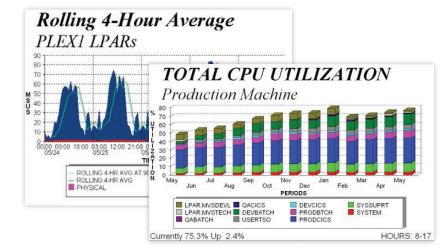
OVERVIEW

ASG-TMON[®] PA for z/OS allows you to understand your mainframe from the inside out. You can discover LPARS, service classes, report classes, I/O subsystems and more; view graphical representations of all discovered metrics; perform simulation modeling of the LPAR environment to determine optimal LPAR configuration; and look back upon historical trend analysis of resource usage over all key resources, including MSU 4-hour rolling average, goal mode workloads and DASD I/O controllers and devices.

With ASG-TMON[®] PA for z/OS, you can monitor workloads and historical trends for z/OS LPARs and CPU output forecasts to effectively manage capacity planning and determine how long you will be able to stay on hardware before thresholds are violated. It will also anticipate business impact to service levels caused by new applications, worst-case spikes and unique IT growth initiatives designed to fuel company success - giving you the ability to manage, control and effectively leverage expensive mainframe MIPS capacity reducing your monthly license charges (MLC).

ASG-TMON[®] PA supports your choice of data sources, whether IBM SMF data and/or ASG-TMON data. ASG-TMON[®] data provides near real time collection versus SMF log batch processing.

Combined with ASG-TMON[®] PA modules for VMware, UNIX, Linux and Windows, ASG-TMON[®] PA for z/OS delivers an end-to-end systems management solution that enables cross-platform analysis, reporting, modeling, management and optimization of physical and virtual environments for total visibility.



- Make better decisions based on in-depth server workload, DASD space, I/O subsystem and goal mode analysis
- Utilize in-depth trending and forecasting for Db2, CICS TS, z/OS modeling and business unit analysis to eliminate risk and plan for future utilization needs
- Quickly measure and assess the impact of capacity-ondemand and its resulting effect on workloads
- Perform enterprisewide management regardless of platform or geographic location
- Realize fast ROI via hardware, software licensing and operational cost savings
- Utilize fully automated analysis, reporting and integrated web publishing for total control and visibility
- Manage multiple systems, comprising thousands of servers and workstations for a single point of control
- Accelerate ROI with the fastest deployment and time-to-value in the industry
- Centralize control of your entire IT infrastructure to dramatically reduce administrative overhead and eliminate human error
- Identify zIIP specialty processor eligible workloads.

ASG-TMON[®] PA FOR CICS TRANSACTION SERVER (TS)

ASG-TMON® PA for CICS TS provides informed analysis and information of z/OS based CICS systems.

OVERVIEW

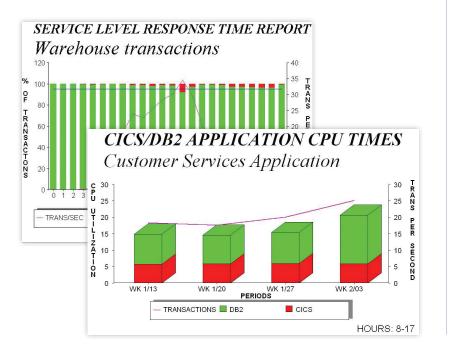
ASG-TMON[®] PA for CICS Transaction Server (TS) gives you the ability to analyze key current and historical metrics of z/OS based CICS systems at the transaction group, workload and region level.

ASG-TMON[®] PA for CICS TS powerfully augments enterprise-wide performance management and capacity planning by consolidating multiple CICS regions and integrating them into overall management plans.

ASG-TMON[®] PA for CICS TS reduces complex data into informed analysis and information, improving your ability to converse about business applications in terms their internal and external customers can understand.

It strengthens organizational communication by providing clear, concise IT management information on-demand anywhere and anytime it's needed and its automation saves time and effort for your IT staff, freeing them to accomplish higher-level planning and management work.

ASG-TMON® PA supports your choice of data sources, whether IBM SMF data and/or ASG-TMON® data. ASG-TMON® data provides near-real-time collection versus SMF log batch processing.



- Analyze CICS resource consumption, services usage, multi-programming levels, internal queuing, response time components and wait times, within a region or across multiple images
- Utilize in-depth trending and evaluates CICS service levels, response time targets, transaction volumes and response time distributions
- Forecast capacity requirements effectively to see what's coming
- See trends in resource usage, transaction volume and growth rates
- Install and arm your team to begin using within hours, versus days or weeks of alternative offerings
- Manage workloads from multiple regions and systems
- Get daily and historical perspectives of CICS performance and service levels
- Improve efficiency and reduce manual effort with interactive and automated analysis capabilities

ASG-TMON® PA FOR DB2

ASG-TMON[®] PA for Db2 provides powerful management and planning functions to achieve effective z/OS-based Db2 systems.

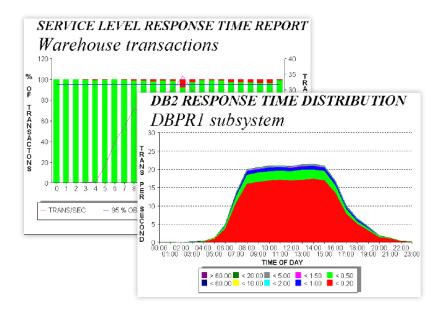
OVERVIEW

ASG-TMON[®] PA for Db2 delivers insight into enterprise z/OS-based Db2 systems, combining robust management reporting, performance analysis and capacity planning capabilities with ease of management and cross-system integration.

Db2 administrators at sites around the world have used ASG-TMON[®] PA for Db2's powerful management and planning functions to achieve highly reliable, effective and efficient Db2 services.

ASG-TMON® PA for Db2 creates a comprehensive view of critical database applications allowing for informed analysis by Db2 IT professionals and superior decisions by IT executives. It strengthens organizational communication by providing automated, clear, concise IT management information on-demand anywhere and anytime it's needed. The data collection, analysis and reporting automation saves time and effort for your IT staff, freeing them to accomplish higher-level planning and management work. The informed, timely analysis and enterprise-wide view enables youto become a contributing partner in seeing, setting and achieving business goals and objectives.

ASG-TMON[®] PA supports your choice of data sources, whether IBM SMF data and/or ASG-TMON[®] data. ASG-TMON[®] data provides near real time collection versus SMF log batch processing.



- Collect data and analyze key DB2 metrics with efficiency
- Analyze resource consumption, buffer pool usage, distributed (DDF) activity, response time and response time components with complete accuracy
- Gain visibility with service level analysis and reporting of response against targets, response distributions, transaction rates and exception conditions
- Interactively or automatically analyze trends to calculate growth rates and identify growth impediments with capacity planning features

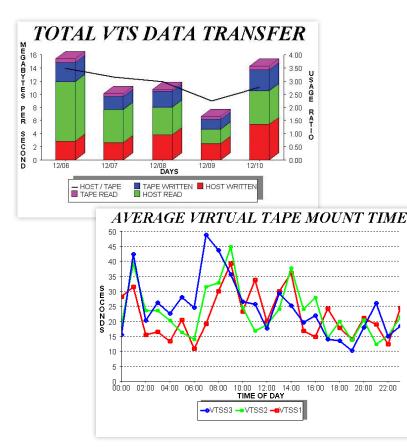
ASG-TMON® PA FOR TAPE LIBRARIES

ASG-TMON® PA for Tape Libraries provides powerful tape library and virtual tape system management for IBM z/Series: Processes Standard SMF 94 records for IBM libraries and VTS; StorageTek HSC user SMF records for VSM and Nearline.

OVERVIEW

ASG-TMON[®] PA for Tape Libraries is a sophisticated, yet easy-to-use tape library and virtual tape system management tool that tracks activity and performance against installation targets, identifies performance problems and solutions and ensures accurate capacity planning.

ASG-TMON® PA for Tape Libraries simplifies complexity through imbedded intelligence, resulting in reduced risk and cost when making IT enterprise decisions. It improves your IT staff's productivity through knowledge-based analysis and automated report generation and publishing. It also strengthens organizational communication with automated, on-demand communication of key IT information. The informed, timely analysis and enterprise-wide view enables you to become a contributing partner in seeing, setting and achieving strategic business goals and objectives.



- Validate service levels with ease
- Utilize in-depth trending to accurately anticipate future capacity needs
- Automatically publish reports to intranet or extranet
- Easily accommodate analysis for future tape library types with the support of a flexible, open-ended architecture
- Use available metrics to gain insight into activities within the library that host-software (e.g. RMF) cannot detect
- Install and arm your team to begin using quickly
- Analyze individual subsystems in detail or multiple subsystems comparatively
- Analyze current and historical periods
- Replace metric silos by tape drive and volume with metrics that are library oriented
- Improve understanding with robust metrics that include mount counts by type, mount times, data transferred, drives allocated, cache allocation, capacity usage and much more
- Analyze multiple time frames, from long trending to daily data for troubleshooting analysis, for a big-picture understanding

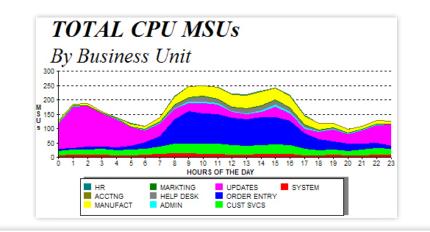
ASG-TMON[®] PA FOR Z/OS BUSINESS UNIT ANALYSIS (BUA)

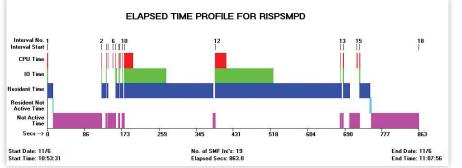
ASG-TMON® PA for z/OS Business Unit Analysis provides powerful businesslevel views of information and data to ensure service level agreements are met.

OVERVIEW

The Business Unit Analysis option of ASG-TMON® PA for z/OS provides the necessary tools for performance management and capacity planning at the business unit and job/step execution level. To meet management and compliance requirements, many IT organizations require multiple views of information beyond those simply obtained from service class or report class data. This is particularly true for IT organizations that support service level agreements for key customers. ASG-TMON® PA for z/OS Business Unit Analysis provides these capabilities.

ASG-TMON[®] PA for z/OS Business Unit Analysis provides accurate and informed views of the enterprise from a business unit view versus a technical perspective, allowing for informed IT decision making. It enables you to converse with internal or external customers concerning their specific activity and issues. The fully automated analysis, reporting and integrated web publishing options are included.





- Improve capacity planning using workloads aligned with your company's business units
- Leverage vital information required for managing service level agreements
- Analyze long-term historical trends to expand understanding of progress and issues
- View MSUs, MIPS and CPU hours by business unit to identify over- or under-utilization
- View detailed I/O subsystem metrics, including I/O rates and response time, at the workload level for detailed understanding of utilization
- Improve batch windows and job throughput by analyzing job and step level performance information

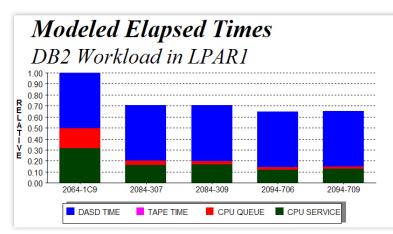
ASG-TMON® PA FOR Z/OS MODELING SUITE

ASG-TMON[®] PA for z/OS Modeling Suite provides powerful analysis and simulation of workload change impacts prior to implementation.

OVERVIEW

The ASG-TMON® PA for z/OS Modeling Suite provides a powerful blend of analytical and simulation modeling capabilities, enabling you to understand the impact of changes at the workload level before implementation and prevent costly outages or acquisition of incorrect resources. This allows you to foresee the impact of changes to the processor(s), workload intensities, I/O response times and activity in other logical partitions.

The Modeling Suite is an ASG-TMON® PA for z/OS option that allows you to understand and address the impact of technology and growth before it happens to reduce risk through informed decision making. Through easy to understand reports and graphical representations, complexity turns into clarity for all levels of IT management, and built-in sophistication enables IT professionals of varied skilled levels to obtain targeted answers.



Modeled CPU Utilizations LPAR1 Workloads 100 90 80 PERCENT 70 60 50 40 30 20 10 2064-1C9 2084-307 2084-309 2094-706 2094-709 SYSTECH PHYSICAL OMVS DB2 TSO SYS2PROD BATCH SYSTEM STC CICS

E KEY CAPABILITIES

- Anticipate business impact to service levels caused by new applications, worstcase spikes and/or unique, company-dependent IT growth characteristics
- Empower anyone on your team to use the suite and focus on results without learning difficult syntax or coding of algorithms
- Discover, quantify and present alternative options for LPARs, processors, workload intensities and I/O response times based on impact analysis and simulation

⁶⁶ It has reduced the mainframe bodies required to collect and report on mainframe statistics, from several people in different departments doing their own estimating, to one person providing consistent metrics to all. Sometimes we turn on MIPS only for a limited time (not permanent upgrade). I guess it saves the company millions. **>>**



System Engineer, Financial Services Company

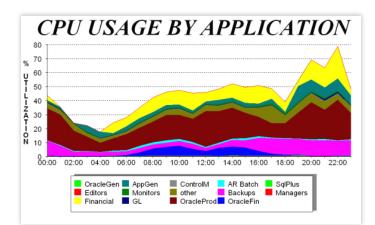
ASG-TMON[®] PA FOR UNIX & LINUX

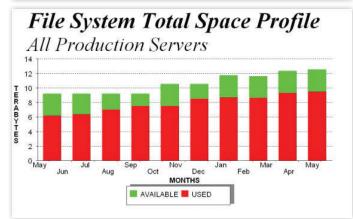
ASG-TMON[®] PA for Unix & Linux provides visibility and insight to avoid problems, reduce costs and do more with less for UNIX and Linux platforms.

OVERVIEW

ASG-TMON® PA for UNIX & Linux is a sophisticated yet easy-to-use solution for enterprises seeking to bring clarity to the management complexity of their UNIX and Linux systems. ASG-TMON® PA for UNIX & Linux provides automated, enterprise-wide collection, analysis and reporting of performance metrics and eliminates guesswork from capacity management and system troubleshooting.

It strengthens organizational communication by providing clear, concise IT information on-demand and without human intervention, anywhere and anytime it's needed. The automation saves time and effort for your IT staff, freeing it to accomplish higher-level planning and management work. The informed, timely analysis and enterprise-wide view enables you to become a contributing partner in seeing, setting and achieving business goals and objectives.





😑 KEY CAPABILITIES

- Increase efficiency at scale with central management of systems regardless of size, even if you're managing multiple systems with thousands of servers and workstations
- Remove the guesswork from IT purchasing decisions using trending capabilities that provide vital data
- Extend your toolchain through easy integrations with existing performance agents
- Implement and leverage with minimal impact on system resources to keep costs down
- Control capital expenditures, streamline server consolidation projects and prevent costly outages or acquisition of incorrect resources through modeling that previews workload change impacts
- Reduce manual efforts with automatic report publishing to intranet or extranet
- Increase agility with the ability to adapt to unique configurations and security issues

COMPATIBLE WITH:

- UNIX: AIX, HP-UX, Solaris
- zLinux (SuSe, Red Hat)
- Linux (SuSe, Red Hat, ManDrake)

ASG-TMON[®] PA FOR UNIX AND LINUX MODELING SUITE

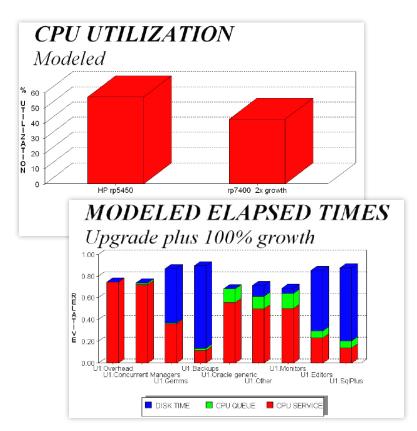
ASG-TMON[®] PA for Unix and Linux Modeling Suite or visibility and insight to avoid problems, reduce costs and do more with less for UNIX and Linux platforms.

OVERVIEW

ASG-TMON[®] PA for UNIX and Linux Modeling Suite enables you to see and understand the impact of change before implementation, helping you plan and execute consolidations and performance tuning while ensuring financial, staff and system resources are used efficiently.

The Modeling Suite is an ASG-TMON[®] PA for UNIX and Linux option that contains two powerful components designed for workload modeling and capacity planning for single systems or enterprise-wide multiple systems.

ASG-TMON® PA for UNIX and Linux Modeling Suite offers reduced risk through informed decision making. Complexity turns into clarity for all levels of IT management through easy to understand reports and graphical representations, Built-in sophistication enables IT professionals of varied skilled levels to obtain targeted answers.



- Reduce the risk of service distruptions, time-waste and increased costs with the ability to plan and execute server consolidations or "what if" forecasting
- Forecast, plan and manage workload growth based on historical trends or anticipated business opportunities
- Discover, quantify and present alternative options to meet goals and objectives with reduced risk
- Model the effects of new hardware, increased workload activity or removing workloads before implementing changes
- Communicate quickly, clearly and effortlessly for increased cross-team collaboration and effectiveness
- Empower anyone on your team to use the suite and focus on results without learning difficult syntax or coding of algorithms
- Anticipate business impact to service levels caused by new applications, worstcase spikes and/or unique, company-dependent IT growth characteristics

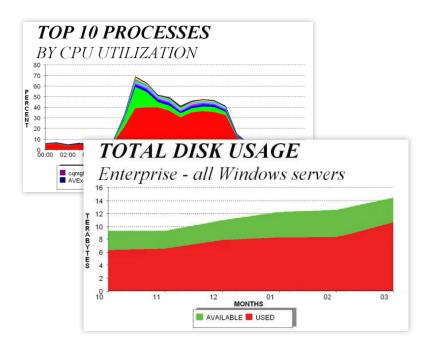
ASG-TMON[®] PA FOR WINDOWS[®]

ASG-TMON[®] PA for Windows provides powerful discovery, analysis, planning, consolidation, implementation, monitoring and management of VMware environments.

OVERVIEW

ASG-TMON® PA for Windows® uses agent-less, non-intrusive, low overhead server analysis technology to provide the sophisticated management needed to ensure peak performance and efficiency and identify critical system resource trends in an enterprise Windows environment. ASG-TMON® PA for Windows provides automated, enterprise-wide collection, analysis and reporting of performance metrics that bring clarity to complexity and eliminate risky and costly guesswork from capacity management and system troubleshooting.

ASG-TMON® PA for Windows creates a common language and easy to understand vision of the enterprise, reducing risk and expense while improving performance through sophisticated, disciplined, enterprisewide management of IT resources, regardless of platform. It strengthens organizational communication by providing clear, concise IT information on-demand and without human intervention, anywhere and anytime it's needed. The automation saves time and effort for your IT staff, freeing them to accomplish higher-level planning and management work. The informed, timely analysis and enterprise-wide view enables you to become a contributing partner in seeing, setting and achieving strategic business goals and objectives.



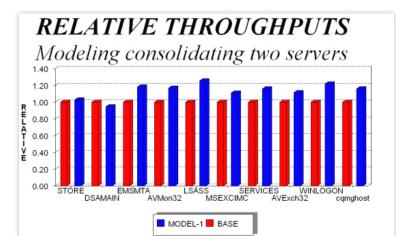
- Non-intrusive, lowoverhead architecture requiring no agents
- High scalability, allows central management of systems regardless of size, even if you're managing multiple systems with thousands of servers and workstations
- Fastest deployment and time-to-value in the industry
- Fully automated data collection, analysis and reporting
- Provides trending and forecasting capabilities
- Ability to securely manage systems through firewalls
- Centralized control drastically reduces administrative overhead and human error
- Unique focus on historical trending takes the guesswork out of IT purchasing decisions
- Real-time access to Windows counters and availability alerting
- Includes browser-based report publishing option
- Exception analysis and alerts
- Built-in analysis and reporting for popular applications such as Exchange, IIS, SQL Server,
- .NET, Active Directory, SNA Server, Terminal Services, Microstrategy and more

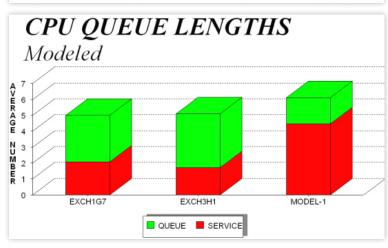
ASG-TMON[®] PA FOR WINDOWS[®] MODELING SUITE

OVERVIEW

The ASG-TMON® PA for Windows® Modeling Suite enables you to see and understand the impact of change before implementation, helping you plan and execute consolidations and performance tuning while ensuring that financial, staff and system resources are used efficiently. The Modeling Suite is an ASG-TMON® PA for Windows option that contains two powerful components designed for workload modeling and capacity planning for single systems or enterprise-wide multiple systems.

The ASG-TMON[®] PA for Windows Modeling Suite offers reduced risk through informed decision making. Complexity is turned into clarity for all levels of IT management through easy to understand reports and graphical representations. And imbedded intelligence enables IT professionals of varied skill levels to obtain targeted answers.





E KEY CAPABILITIES

- Plan and execute server consolidations or 'what if' forecasting and know the result prior to risking service disruptions, wasting time and wasting money
- Forecast, plan and manage workload growth based on historical trends or anticipated business opportunities
- Discover, quantify and present alternative options to meet goals and objectives
- Model the effects of new hardware, increased workload activity or removed workloads
- Communicate quickly, clearly and effortlessly
- Easy to learn and use no difficult syntax, no coding of algorithms; the focus is on results not the path to getting there

⁶⁶ We have five people (service level managers) managing 3000 servers. Without a tool we would need five times as many people to manage this number of servers. And it would not be pretty. **??**



Service Level Manager, Healthcare Information Services Provider

ASG-TMON[®] PA FOR VMWARE

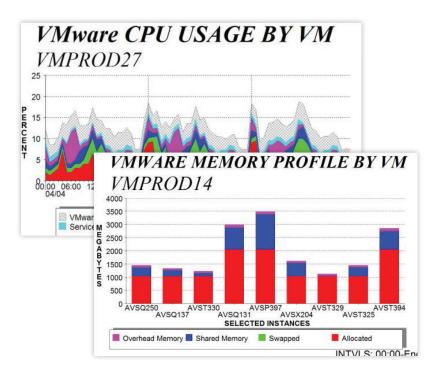
For discovery, analysis, planning, consolidation, implementation, monitoring and management of VMware environments.

OVERVIEW

ASG-TMON[®] PA for VMware combines agentless data collection with powerful modeling capabilities to aid data centers with planning, consolidating, implementing, optimizing and managing VMware ESX environments.

ASG-TMON® PA for VMware, complemented with ASG-TMON® PA for Windows and/or ASG-TMON® PA for Linux, provides a total view of an ESX server, its virtual machines and the details of what is happening within each virtual machine, such as process-level resource consumption and disk space utilization for each logical disk or file system.

ASG-TMON® PA for VMware blends virtual machine performance data with VMware ESX performance data to create a centralized measurement and analysis view of the physical and virtual configurations. It simplifies complexity to further enable true cost savings through virtualization and consolidation. The ability to model "what if" scenarios removes the guesswork from finding good server consolidation candidates and automated reporting aids in effectively communicating throughout the organization, making virtualized server line of business owners comfortable with the new environment.



- Non-intrusive, low-overhead architecture requiring no agents and full cluster support
- Ability to collect data through VirtualCenter, moving the already-low overhead off of the ESX Server
- High scalability, allows central management of thousands of physical and virtual systems
- Fastest deployment and time-to-value in the industry
- Fully automated data collection, analysis and reporting
- Modeling provides

 "what if" capabilities for
 consolidating physical to
 virtual images, moving
 virtual machines between
 hosts and making changes
 to existing configurations
- Provides historical trending and forecasting capabilities
- Ability to securely manage systems through firewalls
- Centralized control drastically reduces administrative overhead and human error
- Unique focus on historical trending takes the guesswork out of tuning and IT purchasing decisions
- Includes browser-based report-publishing option
- Exception analysis
- Built-in analysis and reporting for all VMware ESX metrics

ASG-TMON[®] PA VIRTUALIZATION PLANNING TOOL (VPT)

For Virtualization Lifecycle Management and Cloud Computing Readiness.

OVERVIEW

While the promises of virtualization and cloud computing are great, many organizations are not prepared for the challenges that a virtualized data center present in managing the new cloud environments. A virtualized data center is more complex and offers unique challenges not faced in the physical environment. Issues commonly include VM sprawl, poor capacity management, performance bottlenecks and difficulty pinpointing and resolving performance issues. In fact, virtualization may result in exactly the opposite of what was originally intended—too many relatively lightly-used VMs causing the unnecessary consumption of server resources, resulting in poor service delivery for cloud environments.

ASG-TMON[®] PA virtualization lifecycle management solution eliminates these issues and ensures that both the physical and virtual infrastructures are performing at their optimal levels at all times. Our approach starts before the first application is ever virtualized and continues through the entire life cycle of systems management.

- Discovery: A disciplined approach begins with full understanding of the performance characteristics of physical and virtual environments.
- Analysis: The keystone of proper identification of server virtualization is based on performance characteristics of supported applications.

KEY CAPABILITIES

- Identifies good candidates for virtualization based on data collected
- Selects candidates for virtualization based on user defined criteria
- Analyzes size of servers that will run VMware ESX Server
- Maps virtualization candidates to target ESX Server systems subject to user defined server limitation and classification rules
- Analyzes resource usage on the target ESX Server systems including CPU, Memory, Disk IO/Sec, Disk KB/Sec, Disk Space, Network KB/Sec
- Models the performance of the target ESX Server systems to assess the impact of changes to the ESX Server environment

- Planning: A structured methodology for what-if modeling of planned virtualized environments eliminates risks and guess work.
- Implementation: With confidence, driven by a well informed and thought-out plan.
- Monitoring: Once servers are virtualized, the real capacity planning must take place. A complete view of all available information is vital.
- Management: Virtual environments require a disciplined approach to tracking historical growth trends, planned changes, failover, etc.

Clear Servers Candidates Targets Charts Run Bool Run Model Log Candidate System for Virtualization VMmare ESX Server Modeled System												
	Select	System Name	Server Model Description	ESX Server Guest?								
1	18	CHAACE 01	Dell Precision 390 [Intel X6800, 2.93 GHz]	No		-	2	2	18.31	24.9	-	
2	10	CHAACS 01	Del Precision 390 (Intel %6800, 2.93 GHz)	No		-	2	2	13.67	24.9		
3	10	CHAAD P01	Del Precision 390 (Intel %6800, 2.93 GHz)	No			2	2	14.29	24.9		
4	10	CHAAD PO2	Dell Precision 390 (Intel %6800, 2.93 GHz)	No			2	2	20.66	24.9		
5	10	chavapp01	PowerE dge 860 (Intel Xeon X3220, 2.40 GHz)	Yes	CHAESX01	-	1	4	4.43	32.6		
6	10	CHAAD S02	Del Precision 390 (Intel X6900, 2.93 GHz)	No		-	2	2	22.07	24.9		
7	10	CHA4D SO4	PowerEdge 1950 III (Intel Xeon E5450, 3.00 GHz)	No		-	8	8	1.70	68.1		
8	10	CHABAT 01	Dell Precision 390 (Intel %6800, 2.93 GHz)	No		-	2	2	20.85	24.9		
9	10	CHABTR01	Del Precision 390 (Intel X6800, 2.93 GHz)	No			2	2	23.66	24.9		
10	10	CHABTRO2	PowerE dge 860 (Intel Xean X3220, 2.40 GHz)	No		-	4	4	6.20	32.6		
11	100	CHADAT02	Del Precision 390 (Intel X6800, 2.93 GHz)	No		-	2	2	6.98	24.9		
12	10	CHADAT04	PowerEdge 1950 III (Intel Xean E5450, 3.00 GHz)	No		-	8	8	11.17	68.1		
13	10	CHA3/WAPPD02	PowerEdge 1950 III (Intel Xean E5450, 3.00 GHz)	Yes	CHAESX03	-	1	8	0.28	68.1		
14	100	CHA3/WAPPI01	PowerEdge 1950 III (Intel Xean E5450, 3.00 GHz)	Yes	CHAESX03	*	1	8	1.54	68.1		
15	10	CHAV3ABSD03	PowerEdge 1950 III (Intel Xeon E5450, 3.00 GHz)	Ye:	CHAESX03		1	8	1.74	68.1		
16	10	CHAV5wEBD01	PowerEdge 1950 III (Intel Xean E5450, 3.00 GHz)	Yes	CHAESX03		1	8	2.18	68.1	*	
•						100000000000000000000000000000000000000						

The Candidate Systems for Virtualization component identifies the systems and servers that could be virtualized based on their observed utilization rates and server capacity.

The ASG-TMON® PA Virtualization Planning Tool (VPT) automates many of the tasks associated with the virtualization lifecycle process. VPT estimates the contention for virtual CPUs within each guest operating system running in a virtual machine and the contention for physical CPUs experienced by the virtual CPUs of the virtual machines as they contend for CPU service.

IDENTIFYING VMWARE GROWTH AND SPRAWL

Virtualization has helped the IT industry deploy servers faster than ever before. While a fast turnaround time may be critical to meet short term business needs, how fast is too fast? With ease of deployment comes a new challenge - keeping track of the ever-increasing population of virtual machines and reporting on the growth of your virtualization enterprise and clusters.

ASG-TMON[®] PA's VMware solution provides web-based reports to help pinpoint unwanted server proliferation, while at the same time allowing you to see the growth of your virtualized environment and help plan for the future.

ASG-TMON[®] PA tracks your virtual machine growth over days, weeks or years to help you quickly see how your environment is growing and if it is growing at the rate expected. This analysis helps you identify when virtual machines are being unknowingly allocated and consuming valuable resources.

FROM VIRTUALIZED INFRASTRUCTURES TO CLOUD COMPUTING

Cloud computing involves the delivery of hosted or virtualized services via the Internet, on a flexible, as-needed basis. It offers enterprises a way to cut costs and avoid having to rework or grow internal IT infrastructures to meet increased business demands. It enables your IT organization to increase hardware utilization rates and instantly scale to larger capacities—without having to invest in new infrastructure, train new personnel or license new software. Cloud computing lets organizations take advantage of business applications, without significant upfront costs or the need to own the physical infrastructure to support those applications. It allows businesses to share infrastructure costs and thus reduce overhead for IT, maintenance and support.

With all these advantages, Cloud Computing is something that IT organizations are in the process of grappling with, just like they did with outsourcing and virtualization. The key is to be ready and to understand the right opportunities under which to leverage cloud computing. Just as ASG-TMON® PA provides the right information at the right times to properly exploit outsourcing and virtualization, ASG-TMON® PA offers the necessary methodologies and intelligence to best leverage cloud computing technologies.

⁶⁶ ASG-TMON® PA indicates which servers can be virtualized on which VM clusters and with the right sizing. It saves server costs + maintenance + facility + power cost + reduction of green footprint. It also does conversion from Unix to Linux servers. **33**



Performance and Capacity Engineer, Industrial Manufacturing Company

ASG-TMON[®] PA FOR ORACLE AND SYBASE ASE DATABASES

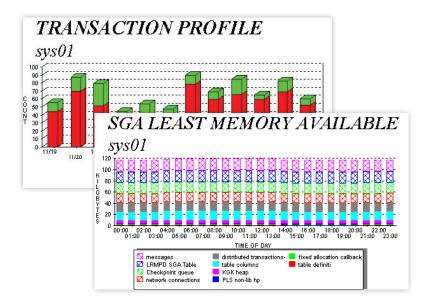
ASG-TMON[®] PA for Oracle and Sybase ASE provides current and historical performance information for accurate tuning, maintenance and capacity analysis of database instances.

OVERVIEW

ASG-TMON[®] PA for Oracle and Sybase ASE provides current and historical performance information for accurate tuning, maintenance and capacity analysis of your database instances. A must for mission-critical operations,

ASG-TMON[®] PA automatically provides comprehensive data collection, analysis and reporting on I/O, memory and resource usage and many other performance and capacity metrics. Combine ASG-TMON[®] PA Oracle and Sybase ASE with the ASG-TMON[®] PA product for your host systems (UNIX, Linux or Windows) and you achieve the clarity, understanding and automation necessary to maximize efficiency and minimize risks.

ASG-TMON® PA for Oracle and Sybase ASE reduces complex data into informed analysis and information, improving your ability to converse about business applications in terms your internal and external customers can understand. It strengthens organizational communication by providing clear, concise application and subsystem information on-demand anywhere and anytime it is needed. The automation saves time and effort for your IT staff, freeing them to accomplish higher-level planning and management work. The informed, timely analysis and enterprise-wide view further enables you to become a contributing partner in seeing, setting and achieving strategic business goals and objectives.



- Increase visibility of performance and use with daily and historical views and agent-less collection of information
- Get up and running quickly with standard counters that provide out-of-box usability, withhundreds of additional counters available for custom tuning and troubleshooting
- Analyze database resource consumption, services usage, transaction profiles, internal queuing, response- time components and wait times
- Evaluate service levels, response-time targets, transaction volumes and response-time distributions
- Extend capabilities through the seamless integration and reports with ASG-TMON® PA products for host systems (UNIX, Linux or Windows)
- Maintain compliance with
 native Oracle security policies

ABOUT ASG-TMON® PA FOR APP SERVERS

ASG-TMON[®] PA for App Servers is a complete J2EE application server performance management solution for any J2EE 1.4+ compliant application servers.

OVERVIEW

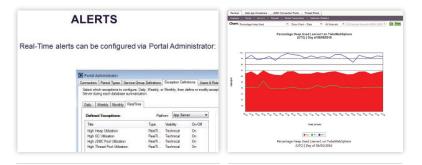
ASG-TMON[®] PA provides a holistic view of performance and capacity planning for your entire enterprise with consistent UI, graphing and reporting. It provides proactive and reactive capabilities for enterprise resource management. Your IT specialists can work together across platforms using the same tool. It encompasses IBM Z and distributed platform operating systems, transaction managers, databases and application servers, providing you with a single point solution to consistently address your performance management and reporting needs.

ASG-TMON® PA for App Servers is an agent-based solution, integrated into the robust ASG-TMON® PA Analyst and Client UI and is also available in the ASG- TMON® PA Portal web browser. This allows you to access the chart and reporting capabilities to view summarized performance data, as well as the real-time data, alerts and high-level system overviews available in Portal. Like all the supported environments, the application server collector is fully compatible with all of the feature-rich capabilities of ASG-TMON® PA.

The App Server charts and tools allow you to interactively view charts of summarized performance metrics for the application server(s) that you are monitoring. They provide an enterprise view and a server instance view for more specific details.

ASG-TMON[®] PA Portal provides a web browser view/list of all the application servers being monitored and allows you to view specific metrics for a single system or for multiple systems.

In addition, it allows you to export the results into PDF, Excel, CSV or Microsoft Word files for externalization and use with other third-party tools.



Real time alerts on critical resources

Analyze critical Heap usage

- Gain insight into critical resources and information/ metrics impacting your J2EE application servers' performance
- Extend capabilities to any J2EE 1.4+ app servers, including IBM WebSphere oracle WebLogic, Apache Tomcat
- Provides Improve your understanding and visibility of trends and issues with real-time and long-term analysis and alerts

KNOW THE ANSWERS, NOW!

With ASG-TMON[®] PA, IT professionals and executives alike get immediate access to crucial information about the organization's IT infrastructure—such as intelligent end-to-end business value stream views of performance and capacity issues, future capacity concerns, service level impacts and drill-downs.

With historic data across platforms and the tools to analyze it at your fingertips, you can experience the ASG-TMON[®] PA *wow.*

FOLLOW US



ASG Technologies is a global software company providing the only integrated platform and flexible end to end solution for the information powered enterprise. ASG is the only solutions provider for both Information Management and IT Systems and has over 3,500 customers worldwide. To learn more visit www.asg.com.

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