

# Sun<sup>SM</sup> Preventive Services

Better IT outcomes. Lower cost. Managed risk.



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# Executive Summary

Sun<sup>SM</sup> Preventive Services is one of the fastest, most efficient ways to achieve IT operational excellence. This integrated, holistic, subscription-based service offering for data center customers shifts the focus to *prevention* of unplanned outages, not just recovery from outages that have already occurred. It is dedicated to assessing and measuring risk rather than simply responding to problems; and it changes the game by offering financial incentives for sustained IT health.

Traditional metrics such as system availability provide only lagging indicators of performance. Through the Sun Preventive Services offering, Sun collaborates with each customer to identify and manage risk conditions—across the entire IT environment and including people, process, and product risks. Key performance indicators (KPIs), such as component availability levels, service incidents, IT skill levels, and overall operational risk, are measured and monitored, enabling each customer to target a particular performance at a particular price point consistent with the customer's business requirements.

With Sun Preventive Services, Sun and the customer work together to expose and quantify risks. This makes it possible to determine the appropriate level of risk and cost based on the customer's business objectives. No two customers have the same profile or appetite for risk. Sun clarifies risk/investment trade-offs and provides actionable information and comparisons to Sun's installed base, to similar industry segments, and to best-in-class IT Operational Excellence and risk levels.

Sun Preventive Services includes access to Sun's world-class consulting, education, and support offerings, leveraging a full portfolio of Sun services that are selected, tailored to each environment, and delivered by experts—all under one subscription, with one key point of contact, at one price. In the process, Sun Preventive Services helps enable customers to save money—by reducing total service costs, by taking advantage of financial incentives, and by avoiding the expense and disruption of downtime.

This paper summarizes the key concepts, methodologies, and benefits of the Sun Preventive Services offering. Additional information is available at [www.sun.com/service/preventive](http://www.sun.com/service/preventive).

# The Need for a New Model of Data Center Service

Sun's traditional service programs do what they're intended to do. They help ensure that the infrastructure for business solutions is designed and architected properly, that systems are configured and installed correctly, that the IT staff is competent and confident working with Sun systems, and that customers receive timely reactive support when incidents do occur. But in today's "do more with less" era, many companies are looking for an even higher level of IT operational excellence—at a lower total cost. IT managers have told us they need:

- A holistic, integrated approach to service that enables them to prevent problems, not just respond to problems.
- A better way to articulate the value and impact of their IT investments. Traditional measures such as return on investment (ROI), total cost of ownership (TCO), and system availability are no longer adequate, because they provide only a one-dimensional view of the IT life cycle. By the time you fully assess the situation, your ability to act on the information is long past.
- A way to make IT operation costs and service levels more predictable. Unplanned consulting services, training programs, or system repair bills due to unplanned outages can wreak havoc on the IT budget.
- Simpler administration. Purchasing services on a "per box" basis can lead to confusion about what's covered and what isn't.

## Hidden Costs and Causes of Downtime

The true costs and causes of outages are often non-intuitive. For example, 1 in every 200 routine "touches" of a system results in an outage, implying a baseline risk of 0.5%—a level of risk that may already be unacceptable for critical applications and network services. When you consider the myriad other risks that can lead to unplanned downtime—and when you calculate the actual cost of unplanned downtime—it quickly becomes clear that a holistic approach to preventing downtime has enormous value to any data center customer with mission-critical applications.

The true cost of unplanned downtime is often surprisingly high. Hardware repairs and lost revenue are only the most obvious costs. When the full spectrum of hard-dollar and soft-dollar expenses are factored into the equation, the magnitude of downtime costs can be staggering, particularly for financial services companies, medical service providers, and retailers that are heavily dependent on on-line transactions. For example, according to a recent estimate from an independent research organization, more than half of financial Web applications have an average downtime cost of more than \$100,000 per hour.

Some of the costs that should be included in calculating the cost of downtime for your systems and applications are:

- **Lost employee productivity:** When data center systems or applications are down, many employees cannot do their jobs properly. Lost productivity can result in wasted compensation and overtime costs that can exceed the lost sales revenue.
- **Penalties for missed service level agreements:** When systems are chronically unavailable, guaranteed service levels cannot be met, and in some cases the result is a financial penalty.
- **Loss of goodwill:** Customers, suppliers, or partners who cannot access the company's applications or Web services are likely to do business with another vendor—and remember the incident the next time.
- **Cumulative losses due to a tarnished reputation:** It is easier to measure the cost of a specific outage than to quantify the losses over time caused by a diminishing reputation for service. Each incident creates frustrated end users who can instantly communicate their dissatisfaction not only to the IT department or line of business (LOB) but also to dozens, hundreds, or even thousands of other customers or end users.
- **Poor IT productivity:** System and application downtime also reduces IT productivity. The lack of root-cause diagnostic information leads to an “all hands on deck” approach to problem resolution and long mean time to repair (MTTR).
- **Lawsuits:** It is quite possible for downtime to result in much more than end-user inconvenience. For example, if software-based healthcare or emergency communication systems were to fail, lives could be impacted. In addition to facing responsibility for the human cost of this type of situation, companies would also have to consider the potential costs of legal actions that result.
- **Opportunity cost:** The cost of downtime often depends on when the downtime occurs. An outage during a peak sales period could be devastating, whereas a failure in the middle of the night may have minimal impact. In addition, unplanned downtime during a large transaction can cause severe complications or even corruption of the transaction data.

At the same time, the causes of downtime continue to multiply and diversify. As networks grow and incorporate more and more heterogeneous systems and applications—and as control over key systems moves to departments, lines of business, or outsourced service providers—the task of identifying the root cause of any given incident becomes increasingly complex. Often the result is fingerpointing among vendors or between lines of business (LOBs)—and slower time to resolution.

# Sun's Solution: Sun Preventive Services

Sun recognizes that what IT managers are asking for is a transformation, not another new service. Sun Preventive Services is an entirely new concept in data center service — and a new foundation for operational excellence and cost savings. This section summarizes the core concepts behind Sun Preventive Services.

## Shared Investment, Shared Risk, Shared Reward

Sun Preventive Services employs a teaming approach to minimize downtime and maximize IT operational efficiency. We work closely with each customer's IT staff to promote knowledge transfer and implementation of industry best practices. The program is unique in the industry because it is a truly collaborative effort in which the investments, risks, and rewards are shared between the customer and Sun.

- **Shared investment:** Sun Preventive Services requires incremental investments by both Sun and our customer. Initially, the customer's service costs are likely to increase slightly to cover the Sun Preventive Services subscription. The added value to the customer is that Sun will make additional service resources and system coverage available. Once the program has taken root and sustained operational efficiencies are achieved, Sun will offer risk-based pricing, which may mean a significant discount on the Sun Preventive Services subscription. Simply put, it costs Sun less to service the customer and Sun passes the savings on. This demonstrates Sun's commitment to prevention first, measurable improvement, and demonstrated IT operational excellence.
- **Shared risk:** For customers, there is always some amount of risk inherent in changing the way critical business systems are maintained and supported. Likewise, Sun incurs a business risk in offering a new model of data center service. For customers and for Sun, these risks are more than offset by the high value Sun Preventive Services delivers: increased resource engagement; less downtime through an intense focus on prevention first; more complete coverage of more systems; lower total service costs over time; and for Sun, higher satisfaction among a critical constituency: data center customers.
- **Shared reward:** Both the customer and Sun can benefit financially from successful implementations of Sun Preventive Services. The customer can help reduce the costs of downtime and total service costs simultaneously; Sun can achieve higher total revenue from greater service coverage for more data center customers.

## Holistic, Integrated Service Focused on Prevention First

The causes of unplanned outages are diverse. Hardware component failures. Software defects. Administrative errors. Power outages. Design flaws. Environmental issues such as temperature, humidity, and dust. The first step in preventing outages is understanding the risks in each customer's particular environment. And the first step in understanding the risks is taking an all-encompassing, holistic view of the entire IT life cycle, including all of the people, process, and product issues that create risk.

Sun Preventive Services provides an exhaustive assessment of each customer's IT environment and performs a deep analysis of all three areas—people, processes, and products. Based on our findings, we deliver a complete portfolio of targeted services that work together to help customers achieve improved service levels. Working closely with the IT staff, we help customers take advantage of Sun's Knowledge Assets, expertise, and industry best practices so that companies can achieve sustained operational excellence.

## Expose, Analyze, Mitigate, Measure. And Repeat.

One of the core objectives of Sun Preventive Services is to provide visibility into future outcomes so that it is possible to make informed decisions about which corrective actions to take and when to take them.

Anyone who monitors their own cholesterol level, weight, or exercise regimen can intuitively understand the concept. You know that it's important to identify and measure risk factors to your health in order to maximize your longevity. Knowing that you have a high cholesterol level doesn't necessarily mean you must refrain from eating certain foods, but when you understand the connection between those foods, your cholesterol level, and the risk to your longevity, you can make informed decisions. In much the same way, Sun Preventive Services provides a structured methodology for exposing and measuring risks so that you can mitigate and manage them.

The assessments described in the previous section help enable Sun to expose a wide range of risk factors in your environment and establish baseline measurements of those risks. Those measurements are presented as Key Performance Indicators (KPIs), which can be monitored and managed to improve operational performance.

By measuring and constantly monitoring the KPIs, Sun can target improvements in your IT environment based on your business needs and degree of criticality. The environment is monitored proactively using data. This is a significant departure from traditional service vendors who focus their "break-and-fix" services on responding to incidents that have already occurred.

## Key Performance Indicator (KPI) Dashboard

Sun Preventive Services provides KPIs that are *leading* indicators of people, process, and product risks, as well as lagging indicators such as availability ratios and service incident reporting.

Traditional availability assessments only provide information about incidents that have already occurred. With Sun Preventive Services, you can manage to leading indicators of risk and thereby make more informed decision about risk mitigation—in multiple dimensions. You can choose which indicators are most relevant and impactful to your business and collaborate with Sun to determine target values for those risk indicators. Sun will then help you select the right mix of services to help manage your risk factors.

## Leading Key Performance Indicators (KPIs)

- **Operational Risk Index (ORI):** A weighted average of potential system risks that could impact operational performance. By monitoring ORI, you can compare your operational risk over time against your own past performance, or against similar companies in your industry, or against target levels that you have set—so you can determine and maintain an acceptable level of operational risk.

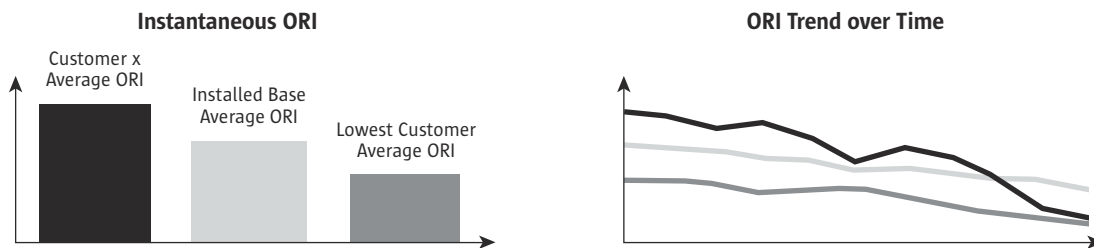


Figure 1. The Operational Risk Index (ORI) measures your overall operational risk so you can monitor it over time and compare it with past performance, with other companies in your industry, or with target levels.

- **Skills Risk Index:** A risk analysis based on the aggregate skill levels of your IT staff. Data center employees take on-line tests associated with their job role, and the results are tabulated and expressed as the Skills Risk Index. Job roles tested include System Administrator, Intermediate System Administrator, Advanced System Administrator, Network Administrator, or Sun Cluster Administrator. Job roles are cumulative, so an Advanced System Administrator would be given the test for System Administrator, Intermediate System Administrator, and Advanced System Administrator, and would have three skill level scores.

Skills level scores are Certified, High, Medium, and Low. The Skills Risk Index is calculated by taking all the test results and using multipliers as follows: 100 x the percentage of employees at Certified + 300 x the percentage of employees at High + 600 x the percentage of employees at Medium + 1000 x the percentage of employees at Low. This will yield a number between 100 and 1000. A Skills Risk Index score of less than 400 is considered low risk; between 400 and 600 medium risk; and greater than 600 high risk.

- **Process Risk Index:** A measure of the operational risks based on the use of industry best practices and procedures in the data center. The Process Risk Index uses the results from an exhaustive availability assessment, which is performed as part of the Sun Preventive Services offering. This assessment measures the following components of the data center operations: Service Management, Account Management, Program Management, Staff Management, Asset Management, Problem Management, Implementation Management, Change Management, Execution Management (Data Center Operations, Resource Management, Security, Network Management, and Business Continuity) and Improvement Management. Each component is weighted separately and scored. The result is a score between 0 and 980 where 0 reflects the lowest risk and 980 represents the highest risk.

## Lagging Key Performance Indicators (KPIs)

- **Availability Ratio:** The availability KPI provides a measurement of the ability of a component or IT service to perform its required function at a stated instant or over a stated period of time. It is expressed as the uptime ratio, or the proportion of time that the service or component is actually available within the agreed time. The metric is reported as a percentage with up to 6 decimal places and is tracked on a monthly basis under Sun Preventive Services.
- **Service Incidents:** The total number of Severity One service incidents reported to Sun per month is compared with the average number of Severity One incidents per month prior to Sun Preventive Services. Sun also collects and analyzes details about all incidents reported.

## Access to Expertise and Best Practices

One of the advantages of Sun Preventive Services is that it gives customers access to the intellectual capital and hands-on experience of Sun professionals as well as industry best practices.

With deep expertise in architecting, implementing, and managing mission-critical infrastructures, Sun professionals understand the root causes of unplanned outages. And with direct connections to Sun's product design teams, they also have the detailed knowledge to help customers expose, measure, mitigate, and manage risks in their Sun environment. This level of experience and access is captured in the Sun Knowledgebase Rules Engine, a comprehensive database of data center best practices and procedures that serves as the foundation for Sun Preventive Services. With the real-world experience of Sun professionals and access to the Knowledgebase Rules Engine, customers can tap into the expertise and best practices that will help them achieve and sustain higher service levels.

In addition, Sun's long history of providing proactive services helps customers get control of the operational, environmental and configuration issues that can affect availability levels.

Sun professionals also work closely with each customer's IT staff to hone their skills and maximize their effectiveness working with Sun systems and technologies, tailoring training and certification programs to the needs of employees.

## Comprehensive Service Under a Single Subscription

Sun Preventive Services brings a new level of simplicity to enterprise-class service. By using a unified customer delivery management and service model, Sun provides a single subscription rate, a single key contact, at a single price. In addition, Sun keeps it simple by automatically renewing subscriptions and by including all Sun products and services at a single site.

## Financial Incentives for Sustained Improvement

With Sun Preventive Services, customers are rewarded for achieving and maintaining lower operational risk in the IT environment. As the risk decreases, Sun provides a price discount for ongoing risk management services. This "good driver discount" is offered to customers who meet target service levels based on the KPI metrics described earlier in this document. Thus, the customer's organization benefits financially from Sun Preventive Services in multiple ways: the company can help reduce total service costs over time by preventing unplanned outages that would otherwise lead to unplanned consulting, training, or support expenses; customers also avoid the cost of unplanned downtime in critical IT services; and they reap the rewards of financial incentives from Sun for sustained data center health.

# Benefits Summary

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<b>Benefit</b>	<b>Delivered By...</b>
<b>Increased Operational Excellence</b>	<ul style="list-style-type: none"><li>• Greater efficiency and productivity</li><li>• Higher utilization of assets</li><li>• Data-driven outcomes from a robust methodology</li></ul>
<b>Reduced Operational Risk</b>	<ul style="list-style-type: none"><li>• Holistic, integrated approach to exposing, measuring, mitigating, and managing risk factors</li><li>• Access to Sun Knowledge Assets and industry best practices for improved processes and higher staff competency</li><li>• Guides your decision-making process with objective KPI information, helping you reduce risk with maximum cost efficiency</li></ul>
<b>Lower Total Service Costs</b>	<ul style="list-style-type: none"><li>• Fewer high-severity service incidents and unplanned outages over time</li><li>• Financial incentives for sustained improvement</li><li>• Ability to avoid unplanned service-level downtime and its related costs</li></ul>
<b>Comprehensive Coverage</b>	<ul style="list-style-type: none"><li>• Coverage for all Sun products on site included</li><li>• Complete, customized portfolio of consulting, training, and support services</li><li>• Delivers both preventive and reactive services</li></ul>
<b>Simplified Service Administration</b>	<ul style="list-style-type: none"><li>• One subscription</li><li>• One key point of contact</li><li>• One price</li><li>• One engagement process</li></ul>

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# Phased Implementation for Maximum Efficiency

Sun Preventive Services provides a customized blend of consulting, training, and support services. Customer organizations and Sun work as a team to set targets and optimize KPIs using a variety of services that are delivered by Sun experts in two phases: “Get It Right,” and “Keep It Right.”

## Phase One: “Get It Right”

This phase starts with a comprehensive assessment of the people, processes, and products that impact IT performance. Sun uses its knowledge, experience, and an always up-to-date database of specific risk factors to expose potential risks in the customer’s environment. We also identify gaps in the operational infrastructure through exhaustive assessments of factors such as IT skills, system availability, security, environmental, and data center processes.

Based on the assessed risk, we establish baseline key performance indicators (KPIs) and work with customers to develop mutually agreed upon target levels for improvements of the KPIs based on the customer’s specific business objectives. We create a mitigation plan covering people, processes, and products; and we work closely with the IT staff to implement the plan. For example, if skill gaps were identified during the assessments, Sun can provide the needed training through hands-on, instructor-led courses or through Web-based, interactive curriculum, depending on specific needs. Or, as another example, if our consultants identified security vulnerabilities in mission-critical systems, corrective measures could be recommended and acted upon. All of the services needed to implement the service plan are included in the subscription.

## Phase Two: “Keep It Right”

Once customers have achieved and sustained the mutually agreed upon KPIs for 90 days, they have the option of moving to the Keep It Right phase. In this phase, customers receive a substantial price discount for ongoing risk management services. Sun helps customers sustain the mutually agreed upon KPIs by continually assessing the environment and providing the appropriate services to measure and mitigate risk, including reactive support. Sun’s objective is to help customers achieve operational excellence.

## Summary

Sun Preventive Services is a transformation, not another new service. It is one of the first service offerings in the industry to shift the focus to prevention, not just repair and restoration. It is also one of the industry's first service packages that provides financial incentives for sustained operational improvement, helping customers reduce total service costs as they reduce unplanned outages. With Sun Preventive Services, data center professionals can expose, mitigate, and manage risk rather than simply react to problems that have already occurred. They can get beyond the frustration of running in a high-risk, unpredictable mode and begin managing based on a preventive methodology. And they can achieve the ultimate objective: operational excellence.

Sun Microsystems, Inc. 4150 Network Circle, Santa Clara, CA 95054 USA Phone 1-650-960-1300 or 1-800-555-9SUN Web sun.com



**Sun Worldwide Sales Offices:** Argentina +5411-4317-5600, Australia +61-2-9844-5000, Austria +43-1-60563-0, Belgium +32-2-704-8000, Brazil +55-11-5187-2100, Canada +905-477-6745, Chile +56-2-3724500, Colombia +571-629-2323, Commonwealth of Independent States +7-502-935-8411, Czech Republic +420-2-3300-9311, Denmark +45 4556 5000, Egypt +202-570-9442, Estonia +372-6-308-900, Finland +358-9-525-561, France +33-134-03-00-00, Germany +49-89-46008-0, Greece +30-1-618-8111, Hungary +36-1-489-8900, Iceland +354-563-3010, India-Bangalore +91-80-2298989/2295454; New Delhi +91-11-6106000; Mumbai +91-22-697-8111, Ireland +353-1-8055-666, Israel +972-9-9710500, Italy +39-02-641511, Japan +81-3-5717-5000, Kazakhstan +7-3272-466774, Korea +822-2193-5114, Latvia +371-750-3700, Lithuania +370-729-8468, Luxembourg +352-49 11 33 1, Malaysia +603-21161888, Mexico +52-5-258-6100, The Netherlands +00-31-33-45-15-000, New Zealand-Auckland +64-9-976-6800; Wellington +64-4-462-0780, Norway +47 23 36 96 00, People's Republic of China-Beijing +86-10-6803-5588; Chengdu +86-28-619-9333, Guangzhou +86-20-8755-5900; Shanghai +86-21-6466-1228; Hong Kong +852-2202-6688, Poland +48-22-8747800, Portugal +351-21-4134000, Russia +7-502-935-8411, Saudi Arabia +9661 273 4567, Singapore +65-6438-1888, Slovak Republic +421-2-4342-94-85, South Africa +27 11 256-6300, Spain +34-91-767-6000, Sweden +46-8-631-10-00, Switzerland-German 41-1-908-90-00; French 41-22-999-0444, Taiwan +886-2-8732-9933, Thailand +662-344-6888, Turkey +90-212-335-22-00, United Arab Emirates +9714-3366333, United Kingdom +44 0 1252 420000, United States +1-800-555-9SUN or +1-650-960-1300, Venezuela +58-2-905-3800, or online at sun.com/store

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