

PREDICTIVE SELF HEALING IN ORACLE SOLARIS 10

KEY FEATURES

- Maximized system and service availability through predictive diagnosis and isolation of faulty components
- Automatic diagnosis of failed components and automatic restart of failed services in milliseconds
- Simplified administration model for managing services, reducing cost of ownership
- Fast and easy repair of problems with links to knowledge articles
- Scalable architecture that can be rapidly upgraded and adapted to new problems—no downtime required

Oracle Solaris 10 introduces a new architecture for building and deploying systems and services capable of predictive self healing. The fault manager feature in Oracle Solaris receives data relating to hardware and software errors, automatically diagnoses the underlying problem, and responds by off-lining faulty components. The service manager feature in Oracle Solaris enables services to utilize automatic self healing to ensure system stability. Base Oracle Solaris services include full-dependency information for start, stop, and restart; applications can easily be converted to run under the service manager.

Maximizing Availability

The predictive self healing feature in Oracle Solaris is designed to maximize the availability of the system and application services by automatically diagnosing, isolating, and recovering from faults. This helps to reduce not only hardware failures but also the impact of application failures, leading to increased system and application availability.

- **Reduced hardware failures.** A self healing system automatically diagnoses problems, using the information gleaned from that diagnosis to trigger automated reactions such as dynamically taking a CPU, regions of memory, and I/O devices offline before these components can cause system failures. The fault manager isolates and disables faulty components and helps ensure continuous service—and it does so before administrators even know that a problem exists. In addition, remote service agents can retrieve information that's vital to diagnosing the root cause of the failure.
- **Reduced impact of service failures.** If an application service should fail, the built-in service restart mechanism in Oracle Solaris 10 automatically restarts the application or service. This mechanism also extends into Oracle Solaris Cluster software failover environments for even higher availability.

Automatic Diagnosis and Recovery from Failures

With the fault manager, the system automatically diagnoses faulty components, a function that in some cases can reduce analysis time from days to seconds. Once diagnosed, the system can quickly take corrective action and automatically restore application services. This powerful technology ensures that business-critical applications and essential system services can continue uninterrupted in the event of software failures, major hardware component failures, and even software configuration problems.

Customers can now deliver higher levels of availability and application services while minimizing downtime and associated administrative costs. Reduced downtime can potentially save companies US\$10,000 to US\$6 million per hour for mission-critical environments.

Simplified Administration

The service manager reduces complexity by abstracting problem diagnosis and services in a manner that's transparent to users and applications. It simplifies common administrative tasks, speeds system boot, and significantly reduces human errors associated with system failures that can lead to service downtime and inefficient system management. Administrative tasks such as enabling and disabling services and changing properties are simplified and secure, with an undo capability to reverse changes. In addition, service information is stored in a central repository, making the systems easier to manage and maintain.

Self healing technology can also help make support staff more productive, because they can spend less time investigating and resolving issues. The result is a higher ratio of supported systems per individual. In addition, a self healing system can help reduce administration costs by performing many complex tasks without user intervention.

Fast and Easy Repair

Oracle Solaris fault manager generates easy-to-understand diagnosis messages that link to knowledge articles at oracle.com/goto/msg/. By providing system administrators with unique event IDs, Oracle Solaris fault manager enables them to access detailed information contained in knowledge articles, describing the failure that occurred and what the system did to fix it. These knowledge articles guide system administrators through any tasks that require human intervention—including repairs—explaining predicted or detected problems and providing links to repair procedures and documentation.

Scalable and Flexible Architecture

The scalable architecture of Oracle Solaris' predictive self healing technology can be rapidly evolved to new problems and updated as new diagnosis and availability technologies are added to the system. Most future updates can be dynamically loaded and unloaded from the system while it is running, and they can be upgraded on the fly without requiring downtime or losing previous diagnosis data.

Conclusion

With businesses operating around the clock and demanding uninterrupted service, availability is of paramount importance. Predictive self healing in Oracle Solaris delivers the next generation of availability technology today, including features that keep systems and services running and simple for administrators.

Contact Us

For more information about Oracle Solaris, visit oracle.com/solaris or call +1.800.ORACLE1 to speak to an Oracle representative.



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