Diagnosing and Resolving Problems Oracle Database includes an advanced fault diagnosability infrastructure for collecting and managing diagnostic data, so as to diagnose and resolve database problems.You can use a "roadmap" that summarizes the typical set of tasks that you must perform. Diagnosing Problems This section describes various methods to diagnose problems in an Oracle database. Reporting Problems Using the Enterprise Manager Support Workbench (Support Workbench), you can create, edit, and upload custom incident packages. With custom incident packages, you have fine control over the diagnostic data that you send to Oracle Support. Resolving Problems This section describes how to resolve database problems using advisor tools, such as SQL Repair Advisor and Data Recovery Advisor, and the resource management tools, such as the Resource Manager and related APIs. 7.1 About the Oracle Database Fault Diagnosability Infrastructure Oracle Database includes a fault diagnosability infrastructure for preventing, detecting, diagnosing, and resolving database problems. Fault Diagnosability Infrastructure Overview The fault diagnosability infrastructure aids in preventing, detecting, diagnosing, and resolving problems. The problems that are targeted in particular are critical errors such as those caused by code bugs, metadata corruption, and customer data corruption. Incidents and Problems A problem is a critical error in a database instance, Oracle Automatic Storage Management (Oracle ASM) instance, or other Oracle product or component. An incident is a single occurrence of a problem. Fault Diagnosability Infrastructure Components The fault diagnosability infrastructure consists of several components, including the Automatic Diagnostic Repository (ADR), various logs, trace files, the Enterprise Manager Support Workbench, and the ADRCI Command-Line Utility. [??:?? ?, ???/???/???? ??] ..: About the Oracle Database Fault Diagnosability Infrastructure Structure, Contents, and Location of the Automatic Diagnostic Repository The Automatic Diagnostic Repository (ADR) is a directory structure that is stored outside of the database. It is therefore available for problem diagnosis when the database is down. 7.1.1 Fault Diagnosability Infrastructure Overview The fault diagnosability infrastructure aids in preventing, detecting, diagnosing, and resolving problems. The problems that are targeted in particular are critical errors such as those caused by code bugs, metadata corruption, and customer data corruption. When a critical error occurs, it is assigned an incident number, and diagnostic data for the error (such as trace files) are immediately captured and tagged with this number. The data is then stored in the Automatic Diagnostic Repository (ADR)–a file-based repository outside the database–where it can later be retrieved by incident number and analyzed. The goals of the fault diagnosability infrastructure are the following: First-failure diagnosis Problem prevention Limiting damage and interruptions after a problem is detected Reducing problem diagnostic time Reducing problem resolution time Simplifying customer interaction with Oracle Support The keys to achieving these goals are the following technologies: Automatic capture of diagnostic data upon first failure–For critical errors, the ability to capture error information at first-failure greatly increases the chance of a quick problem resolution and reduced downtime. An always-on memory-based tracing system proactively collects diagnostic data from many database components, and can help isolate root causes of problems. Such proactive diagnostic data is similar to the data collected by airplane "black box" flight recorders.Data Recovery Advisor–The Data Recovery Advisor integrates with database health checks and RMAN to display data corruption problems, assess the extent of each problem (critical, high priority,

low priority), describe the impact of a problem, recommend repair options, conduct a feasibility check of the customer-chosen option, and automate the repair process.About Incidents and Problems To facilitate diagnosis and resolution of critical errors, the fault diagnosability infrastructure introduces two concepts for Oracle Database: problems and incidents.7.1.2.1 About Incidents and Problems To facilitate diagnosis and resolution of critical errors, the fault diagnosability infrastructure introduces two concepts for Oracle Database: problems and incidents.See Also: "Viewing Problems with the Support Workbench" "About Investigating, Reporting, and Resolving a Problem" "ADRCI Command-Line Utility" 7.1.2.2 Incident Flood Control It is conceivable that a problem could generate dozens or perhaps hundreds of incidents in a short period of time.Diagnostic data includes the trace files, dumps, and core files that are also present in previous releases, plus new types of diagnostic data that enable customers and Oracle Support to identify, investigate, track, and resolve problems quickly and effectively.Because all diagnostic data relating to a critical error are tagged with that error's incident number, you do not have to search through trace files and other files to determine the files that are required for analysis; the incident packaging service identifies the required files automatically and adds them to the zip file.Standardized trace formats-Standardizing trace formats across all database components enables DBAs and Oracle Support personnel to use a single set of tools for problem analysis.Incident packaging service (IPS) and incident packages-The IPS enables you to automatically and easily gather the diagnostic data-traces, dumps, health check reports, and more-pertaining to a critical error and package the data into a [??:??When a problem is detected, alerts are generated and the fault diagnosability infrastructure is activated to capture and store diagnostic data.A flood-controlled incident is an incident that generates an alert log entry, is recorded in the ADR, but does not generate incident dumps.About the Oracle Database Fault Diagnosability Infrastructure Oracle Database includes a fault diagnosability infrastructure for preventing, detecting.?, ???/???/????[??:???, ???/???/????ORACLE

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