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| **What is the Oracle Diagnostic Methodology (ODM)? (Doc ID 312789.1)** | [IMG_256](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=436358797714576%26id=312789.1%26_adf.ctrl-state=11x3i2mt09_72%20/o%20To%20Bottom)  [To Bottom](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=436358797714576&id=312789.1&_adf.ctrl-state=11x3i2mt09_72 \\o To Bottom) | IMG_257 |

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ODM = Oracle Diagnostic Methodology  **GOAL**  What is the Oracle Diagnostic Methodology (ODM)?  **SOLUTION**  **Introduction**  The Oracle Diagnostic Methodology (ODM) introduces a clearly defined, standard approach to problem solving within Oracle Support. The method establishes a predictable approach to deriving solutions for a problem that can prevent it from occurring again in the future. When an SR is passed between engineers or support centers, ODM assists the new engineer to understand the diagnostic approach of the previous engineer.  IMG_261  *Figure 1: ODM Benefits Star. Shows the benefits that come from using ODM.*  Using a generic structured diagnostic methodology to solve problems with a standard set of headings within an SR, you will receive a single consistent approach to solving your reported problems. The added documentation in the service request will be easier for you to understand how support solved the problem, quicker for additional engineers to understand the steps taken so far, and will also help with problem rediscovery -- finding a problem that has already been reported. In the future it will be possible to build dynamic decision trees that can aid you in solving problems before raising a SR with Oracle Support.  ***What is ODM?***  Everybody in this World is individual and unique in many different ways, including the way in which they solve problems. This methodology is designed to provide a uniform problem solving approach that can be applied to the majority of service requests.  The Oracle Diagnostic Methodology is based on Albert Einstein's *Causality Principle*. This principle states (in a round about way):  If an event A ("the cause") somehow influences an event B ("the effect") which occurs later in time, then event B cannot in turn have an influence on event A. That is, event B must occur at a later time than event A. A cause must always precede an effect. An effect will always have at least one cause.  Using this principle as a foundation, ODM solves problems using four phases:  IMG_262  *Figure 2: A view of ODM considering 4 main problem solving phases.*  ***Where do we see ODM?***  While working a Service Request (SR), engineers will employ ODM principles and techniques to request information in Action Plans, document what was received in Data Collected, review the existing notes and bugs in Research. If the SR is about an issue you encountered, you will likely see the issue summarized in the Issue Clarification. When suggesting a solution, the engineer will use a combination of entries to summarize the solution in Proposed Solution, justify the solution in the Proposed Solution Justification, and finally list out the solution steps in the Solution / Action Plan.  From a customer point of view, you really want to focus in on the Question or Issue Clarification to make sure they clearly state your question or issue. During the life of the SR, you will possibly receive many Action Plans asking for information or giving detailed steps to perform. Finally, the specialized action plan outlining the suggested solution is outlined using the Solution / Action Plan.  Here is an example screen shot in MyOracleSupport (version 6.3) where a user chooses the filter to limit the SR text to specific ODM entries. Only available ODM types in the SR are listed as options to filter. In this case, they may choose to filter on action plans by choosing "ODM Action Plan". The option would restrict the SR text to only the action plans.  IMG_263  The order of SR entries are sorted based on the last update date in MyOracleSupport (version 6.3), not the creation date. As a result some entries may appear out of order. For example, an entry created 22 days ago may appear at the top of the SR as the newest entry because the engineer had corrected a type-o in the earlier update or added an additional comment. MyOracleSupport is sorting by last update date order. The order can make reading ODM complicated especially if the engineer had updated entries like the cause out of order. For example, the SR may have the issue statement thru solution but the engineer later went back and updated the cause. The cause would appear at the top as the newest entry making the problem solving method a bit harder to read and understand out of order. A technique that you may find useful is sorting the order of updates from "Newest on Top" or "Oldest on Top". Some find the oldest first to make a clearer flow when reading thru the SR completely while others like "Newest on Top" to quickly see the last update.  IMG_264  ***What do you think?***  Feel free to send comments on this note or input on our ODM problem solving approach.    **What is the ODM Flow?**  The ODM Flow begins when you log a service request. The first step is for Oracle to frame the issue. The steps proceed to identifying the issue or restating the question, thru documenting the solution or answering the question.  IMG_265  *Figure 3: Another view of the ODM Flow showing Framing thru Finalizing.*  ***Frame Issue***  The first step in the process is Framing. Framing is where Oracle Support determine which type of issue you logged. As you may have noticed, there are two distinct paths through the process (outlined in Figure 3). The left side of the flow covers “Consultative Issues”. A consultative issue is one where the customer is looking for basic How To information. How do I find X? How do I perform Y? How do I refill my prescription? Consultative issues typically result in providing a specific answer to a specific question. The other type of issue is a “Problem-Solution Issue”. These issues follow the right side of the flow. A problem-solution issue is one where the customer has a problem and needs help fixing it. I am getting error xyz. The report isn’t returning data. My stomach hurts. All of these issues require some additional work to figure out a solution.  The framing step is where Oracle Support makes sure that they know which type of issue you logged. For example, “How to fill the prescription” (Question-Answer) or “my stomach hurts” (Problem-Solution). To frame the issue, you may see the engineer ask you questions in Action Plans, document details found in uploaded files or text in Data Collection, or perform searches in the existing knowledge base in Research. The framing step could cross over a number of these actions and look like the following:  IMG_266  *Figure 4: Framing the SR with Data Collection, Action Plans, and Research.*  ***Question / Answer***  Consultative Service Requests (SRs) are raised when a question needs answering instead of a problem needing resolution. Consultative SRs include asking where to download a patch from, how to use particular product features, requests for official Oracle answers to one or more questions, and clarification on product functionality. The Question and Answer are documented in the SR via two step to clearly articulate the question being asked then provide a clear answer. Before answering the question, you may be asked points to clarify the question.  Within the SR you will see two headings associated with this phase: Question and Answer.  ***Identify / Verify Issue***  The Identify step focuses on identifying and verifying the correct problem to be solved within the current SR. The issue must be objectively stated using statement of fact, with no bias towards possible causes or solutions. It should have limited scope which is small enough to be addressed, and should not contain sub problems or unrelated problems.  Here is an illustration of identifying and verifying the issue:  IMG_267  *Figure 5: Identifying and Verifying the Issue.*  There are five components to a good issue definition:  **1. What is the issue?** - What problem do we want to prevent?  **2. When did it happen?** - The sequence of events leading up to the problem.  **3. Where did it happen?** - State the relative location of the problem, i.e. which component of the product is the problem seen, what environment, etc.  **4. What is the significance?** - What is the relative value of preventing the problem? The goals and objectives of the problem are stated here, which should include the desired system state when the problem is resolved, time constraints and expectations.  The problem also needs to be verified to make sure it exists as described. This is achieved by gathering information and diagnostic data. When gathering this data, it is sometimes the case that the problem stated is really not the problem the data is showing. If this happens, the problem needs to be re-stated and verified with additional data. Verifying the issue avoids going down the wrong path and wasting time on the trying to resolve the wrong issue. It also serves as a checkpoint to allow confirmation that the support engineer is on the same page and understands the issue.  Within the SR you will see two headings associated with this phase: ISSUE CLARIFICATION and ISSUE VERIFICATION  ***Determine / Justify Cause***  The Cause step determines one or more possible causes to the issue identified. There are three steps to identifying causes:  **1. Ask œwhy?** - Starting with the data gathered to verify the issue, and ask why you see what you see, look for what could have caused it. If the data does not identify a cause, more diagnostic information should be gathered and available tools and resources should be utilized to help with the identification.  **2. Look for causes in terms of** ***conditions*** **and** ***actions*** **-** A condition is a cause that exists over time. An action is a momentary cause that brings conditions together, to cause an effect. By asking if the identified cause is an action or a condition, it often highlights additional causes.  **3. Justify the cause** - For each cause identified, data should be gathered to show that the cause exists in your (the customer) environment. The justification should be based on actual fact and be documented clearly enough for a customer or engineer to understand how it is proving the cause to exist. Often, when gathering evidence a cause can be removed or replaced with different ones, due to the evidence indicating something different. If the data gathered cannot verify a cause, the cause should not be considered going forward.  Here is a simple illustration of the cause noting that the cause and justification could apply in daily life like asking WHY your car will not start. The cause maybe a damaged wire, and the justification is that you examined the engine and saw the damaged wire preventing the spark from reaching the engine.  IMG_268  *Figure 6: Cause and Justification.*  If a cause cannot be determined a new bug may have been found, and will be logged accordingly (depending on the current circumstances, like current product versions). More in-depth data gathering may be required in this case to meet developments requirement for reproducible test cases.  Within the SR you will see two headings associated with this phase: CAUSE DETERMINATION and CAUSE JUSTIFICATION.  ***Identify Effective Solutions***  The aim of the Effective Solutions step is to provide one or more effective solutions that will create a desired state (the problem no longer exists). Solutions should be identified for the cause determined, allowing you, the customer to choose which to implement based on criteria listed below. During phase 3, time is spent on researching, reproducing the problem, and testing possible solutions.  During the identification of potential solutions, further diagnostic data may need to be gathered from the customer to ensure correct solutions are identified.  Each solution should meet some criteria:   * Does it prevent the problem reported? * Is it within your control? * Does it meet your objectives specified in phase 1?      * Will not cause other unacceptable problems * Will prevent occurrences in similar places * Provide reasonable value against cost of fixing it * Consist of specific actions to be taken   It is possible to implement a solution that doesn't meet all of the criteria but may improve the current situation. Solutions should be identified for ALL determined causes, although some solutions may address multiple causes.  If a possible solution cannot be found then a new bug may have been found, and will be logged accordingly (depending on the current circumstances, like current product versions). More in-depth data gathering may be required to meet developments requirement for reproducible test cases.  Once possible solutions have been identified, they need to be verified to address the determined cause. By addressing the cause and not the problem directly, you have broken down the problem into smaller, more addressable steps. Plus, if the solution is verified to fix the cause, yet the problem still persists, a new set of causes needs to be identified.  Verifying the solution is a way of documenting why and how this solution addresses the cause. If the solution cannot be verified, then it should not be provided as a solution. This will reduce the likelihood of implementing solutions that result in the problem not being fixed.  The SR headings associated to this phase are PROPOSED SOLUTION(S) and PROPOSED SOLUTION JUSTIFICATION(S).  ***Implement Best Solutions***  The best solution should be chosen according to the following:   * Is it the most controllable? * Does it have the biggest impact? * Does it have the least amount of risk? * Is it achievable?   An action plan needs to be devised comprising a number of actionable items in a predefined order. For each task in the solution, associated problems and risks should be identified, how they can be prevented, and how they can be dealt with should they arise. Consideration should also be given to creating a new list of tasks to be carried out to further diagnose the problem should the solution not work.  The SR heading associated to this phase is SOLUTION / ACTION PLAN. Though you will often see the three together PROPOSED SOLUTION(S),  PROPOSED SOLUTION JUSTIFICATION(S) and SOLUTION / ACTION PLAN:  IMG_269  *Figure 7: Identifying, Justifying and Detailing Solutions.*  ***Finalize Knowledge***  After a solution has been provided and confirmed to have resolved the Issue, the engineer finalizes the SR. This is an internal step done primarily to assist our Customers in more efficient Self-Servicing abilities through the use of My Oracle Support (MOS). In this last step the engineer may perform actions such as My Oracle Support (MOS) content updates, new note creation, documentation bug creation, or enhancement request creation. Engineers want to help you and future customers avoid the same issue again.  IMG_270  *Figure 8: Finalizing step to avoid future issues.* |