Role of Application Object Manager (AOM) in Siebel CRM Performance

Rupesh Garg
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- Introduction to AOM
- Functioning of AOM
- AOM crash in a case study perspective
- Performance impact of AOM crash
- Handling the issue - steps followed/recommendations
Introduction to AOM
Introduction

The PPT tries to explain the importance of Application Objet Manager (AOM) in a Siebel CRM framework in a performance point of view and about a critical issue of AOM crash with the help of a case study and possible mitigation derived after discussions with support teams while performance testing a Siebel CRM application.
Functioning of AOM
One of the most important types of server components is the Application Object Manager (AOM). These server components always run in interactive mode. They process user requests and are application- or service-specific. For example, the Siebel Call Center component group contains the Call Center Object Manager, one for each language deployed on the Siebel Server. This AOM provides the session environment in which this application runs.

Internally, each AOM also contains a data manager and the Siebel Web Engine. When an AOM receives a user request to start an application, the AOM follows this procedure:

- The business object layer starts an application user session, processes any required business logic, and sends a data request to the data manager.
- The data manager creates an SQL query and forwards it the Siebel Database.
- The data manager receives the data from the database and forwards it to the business object layer for additional processing.
- The business object layer forwards the result to the Siebel Web Engine, which helps create the UI for the data. The Siebel Web Engine then forwards the Web pages to the Siebel Web Server Extension on the Web server.
AOM in Siebel Architecture
AOM crash in a case study perspective
Load Test 1-Diagramatic Representation

Note:
- Pink diamond = AOM component failure
- Green diamond = AOM component working
Load Test 2-Diagramatic Representation

- Web client
- Remote client
- Web client
- Web Server
- APP1
- APP2
- DB
- Minor AOM crash (an expected behaviour)
- Less User load on "Customize transaction"
- Other users

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Performance impact of AOM crash
Memory Leakage

- The AOM manages the memory allocation of the business objects and hence when specific business objects holds the memory and the load goes on implicating then it will result in memory leakage.

- As per the case study One of the App servers had reached to a memory of greater than 90% which is not recommended, when a business flow script which had an issue with a business component (like click of a particular button which takes more response time) was included during peak load.
Load balancing affected

- As per the case study once the AOM crash starts cascading then the application server cannot process the other business objects due to resource saturation and there is a great risk of failure of the APP server itself.

- Proper distribution of environment resources is disturbed and hence a proper real time results out of the load test is not expected.
Handling the AOM issue
Steps followed/recommendations

• Identify the problematic Business transaction flow during a dry run and narrowing down on it with constant feedback from the configuration management team.

• Building the full functionality of AOM by doing a warm up test which creates some cache and improves the AOM performance.

• Applying any Oracle recommended QF patches on the APP servers.

• Going for a full SRF compilation and complete bounce of servers before any major benchmarking is recommended.