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Oracle Enterprise Manager

Cloud Control 13c

The Comprehensive Tool for Enterprise
Monitoring, Management & Maintenance

Kevin M. Moore

How OEM Was Implemented,
And Why........

Oracle Enterprise Manager

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Monitoring, Management & Maintenance

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Warnings & Disclaimer

Oracle Enterprise Manager Cloud Control
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Acknowledgements

This book has been a work in progress ever since I started working with Oracle products. It is a topic that in my humble opinion does not get enough exposure based on the number of businesses I worked with who had never thought about using Oracle Enterprise Manager.

There is no way possible I could write this book without expressing thanks and my gratitude to all the technology professionals I worked with over a 40 year career. It is my sincere hope that they learned as much from me as I learned from them. I would like to send a special THANK YOU to all those who had the conversation or implemented the current Oracle Enterprise Manager version of their time.

This compilation serves (without naming names) as an accurate depiction of our working relationship. The fun we had, the pain we experienced has been covered in this book with the hope that others read our notes and make decisions for implementing such an eloquent solution for enterprise monitoring and maintenance.

Thank you to all who have contributed directly and indirectly to content I'm able to reference. It was not always smooth sailing but in the end, your satisfaction was worth more than all the gold in Ft. Knox !!!!

And a special **THANK YOU** to Oracle Corporation for allowing potential & existing customers to download and test their software in non-production environments. It is my sincere hope that companies being able to spin up your outstanding products and hit the ground running after the proper licensing is a testament to the value these products bring to businesses of all sizes.

Introduction

This book is all about implementing Oracle Enterprise Manager Cloud Control using my notes, decision points, best practices, and lessons learned while assisting businesses implementing this enterprise class monitoring solution. Any business implementing Enterprise Manager should be able to take advantage of what has been presented because these are my actual notes, minus customer names of course, and should be thought provoking.

Many businesses had an idea for what they wanted but what they quickly found out is the scope of what this product could do expanded into business processes and IT areas that were never considered. Essentially after seeing the product after installation, businesses were able to make consolidation and deployment decisions in a forward-thinking manner. One area IT operations saw added value is in the ability to schedule their batch processing and provide reporting on that processing from a centralized location. Auditors were also made happy because what they needed to see can be presented using a "straight from the horse's mouth" approach.

What this book is NOT nor intended to be is a step-by-step guide for implementing a complex product. I have purposefully left in innocent mistakes customers made along with the solutions and is aimed to prevent you from falling into those same holes. The reason these errors were presented is because many times I went onsite to assist with installation failures (mostly) was because of missed or confusing steps in the documentation, or challenges to the Oracle engineering requirements for product installation and operations. The intent is to show how easily implementers have gotten tripped up leading to a painful rollback of sometimes hours of work, and a perception this product is difficult to work with.

This book has been written using the current version of Oracle Enterprise Manager Cloud Control and the actual screenshots (minus my server names in most places) are what you will see when installing and implementing this product. The initial writing and publishing this book were done using an earlier database version (12c) and Oracle Enterprise Manager version 12c. Due to the lifecycle of Oracle products it was decided to upgrade the database to a more recent release (19c) along with OEMCC which is 13.5. Functionally, you would not see or feel differences at the database versions available, but OEMCC is different in its "look and feel" and functionality.

What you will find are screenshots with steps you will follow as you proceed through the implementation. The Enterprise Manager version installed was 13, release 5 so the screenshots should be the same. Other screenshots show SQL and operating system commands that are required to be executed from the command line sometimes as the root user. It is recommended that any command Oracle asks you to run logged in as the root user be executed as the root user as opposed to executing them using sudo.

There are several assumptions expectations and things not covered in this book. The first assumption is the OEMCC installation guide has been read and the repository database has been created using specifications in the guide. Those specifications details if you need a small, medium, or larger installation. Prior to creating the database, pay especially close attention to the databases redo log file size recommendations. As you will see during installation of OEMCC, my redo log file sizes were smaller than recommended by Oracle engineering. Most database file and parameters can be resized on the fly, but the redo log files cannot. This deficiency did not stop the install but was flagged as creating a performance bottleneck during operations. Your Oracle DBA is presented with the options to

continue and fix this later or stopping, recreating, and activating the larger redo log files, and continuing the installation.

Other than the redo log files, you are presented with and will see where I made the recommended changes during the installation, and you will have those same options. My OEMCC for this book took just over two hours from start to finish based on my hardware, so you may think the installation has stalled but do not panic, pull the plug, and start over unless you see failures in the log files or on the screen.

If you see database errors suggesting space and you are presented with the retry button, by all means, correct the problem and continue with the installation.

About the Author

My name is Kevin Moore and consider myself extremely fortunate to have worked in technology since 1981 and witnessed change unfolding at a lightning-fast pace. The evolution of the technology business has been nothing short of educational from so many perspectives to where it is today.

My career started out in Aerospace as a software engineer writing Fortran (Formula Translation) code for multiple projects. Other languages I've used are COBOL, Pascal, PL/1, IBM BAL, Macro-11, VAX Macro, Basic, C, C++, scripting languages, and SQL.

When I started in this business, there were four classes of computing systems. There was the microcomputer (SEL 3274, Intel 8086, 8088, & 8274), minicomputers (Digital Equipment Corporation VAX (Virtual Address Extended) and PDP(Peripheral Data Processor)-7, PDP-8, & PDP-11), the Mainframe class included the IBM 360, and the Supercomputer class like the CDC 6600 (designed by Seymour Cray), the Cray-1, Fujitsu, UNIVAC LARC, and other vendor offerings.

Understandably, each vendor platform had their own operating system written for the hardware of the time used in each respective vendors platform. Each vendor had their own development team for the hardware and operating system and very little if anything (almost nothing) was portable.

There was also the paradigm of self-developed application software specific to each vendors hardware. Essentially everything was custom developed to exploit the chosen hardware and available facilities provided by the operating system. In aerospace, "systems" were developed using specific

programming languages on a "businesses standard" platform and rolled into production.

Fast forward 40 years, when what was the microcomputer has eclipsed minicomputers, RISC (Reduced Instruction Set Computer), and early Mainframes in cost and performance, Linux is now the operating system of choice and is available for any x86_64 platform, and open-source software is considered as opposed to going directly to custom development.

The last twenty-seven years of my professional career has been spent administering Oracle database technology RDBMS and apps primarily, and writing SQL to be run against the Oracle RDBMS, SQL Server, MySQL, PostgreSQL, Db2, and the IdM database machine on "Big Iron" and Linux platforms. While working for Oracle 18 of those years, I've had the opportunity to implement or assist customers in their installations of Enterprise Manager as their management platform of choice.

No two installations were the same, but all resulted in satisfied customers who knew what was expected to "personalize" their installation for meeting the requirements of the business. Most of my largest Silicon Valley customers used open-source software because their commercial off the shelf (COTS) or in-house written software did not scale sufficiently to meet the demands of their internet-based applications. These customers relied on in-house, user written applications for monitoring their environment or open-source monitoring applications. Many of my customers had shied away from open-source RDBMS engines and open-source software overall due to a perceived shortcoming in their support matrix and security for their enterprise applications.

Having had to design, develop, and rollout "outside of the box" monitoring solutions, this writing is intended to assist by providing real world examples and use cases for implementing an enterprise class COTS solution that

delivers monitoring for anything in support of a business application. I can safely say "any" because there are interfaces available, or you can roll your own for non-standard products.

For this writing, Oracle Enterprise Manager Cloud Control will be installed, configured, and deployed and setup to monitor a test environment that's a smaller scale but similarly what you can expect to see in the largest, most complex systems.

Many projects I've worked on were extremely large-scale financial system implementations where companies replaced older, in-house written applications that had reached end of life due to the inability to scale, hardware being discontinued, or in some cases, complete loss of a hardware provider. Whatever the reason, these older systems were ripped out and replaced whole scale and replaced with something with hooks for external applications. A great example of this is when Digital Equipment Corporation (DEC) was bought out by Compaq computer in 1998 and subsequently discontinued due to loss of industry footprint. The DEC Alpha was a stunning example advanced technology that failed because of bad decisions of the business. Even with their own Unix like variant, Ultrix, and relational database Rdb, market share was lost and never recovered.

It is my hope this writing will dispel fear, uncertainty, and doubt (FUD) associated with implementing Enterprise Manager for whatever reason, on commodity hardware or at least convince you to download and spin up these products quickly and inexpensively on lower cost commodity hardware for evaluation or production deployment. Note this product installs the same on proprietary or corporate standard hardware.

Table of Contents