Oracle R Enterprise 1.4

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Oracle R Enterprise release 1.4 has been released, which is a Big Data Analytics platform powered by R, the emerging gold standard for analytics. Oracle R Enterprise is part of the Oracle Advanced Analytics option for Oracle Database 12c.

Oracle R Enterprise 1.4 simplifies and accelerates the development of data science applications on Oracle Database without demanding new skills and additional compute resources. R-powered analytics can now be executed in a massively parallel and distributed manner inside Oracle Database. Through a library of easy-to-use R functions, the database is transformed into a high performance, scalable data science platform. Performing analytic operations in the database allows the entire data set to be included in analysis, reducing time to insight, cost, and risks while readily expanding an organization's analytic capabilities.

Oracle R Enterprise 1.4 delivers a suite of highly scalable analytic techniques providing data analysts with powerful and modern tools to address diverse enterprise analytic needs.

- Linear Regression, Logistic Regression and Generalized Linear Models
- Multi-layered, Feed-forward Neural Networks
- Time series analysis and forecasting using Exponential Smoothing methods
- Principal Component Analysis

These techniques add to the portfolio of in-database parallel distributed predictive analytics techniques already available in Oracle R Enterprise: Association, Non-negative Matrix Factorization (NMF), Orthogonal Partitioning Clustering (OCluster), Support Vector Machines, K-Means clustering, Decision Trees and Naive Bayes.

New Cutting-edge features: powerful, yet simple

Deep Learning is the latest trend in machine learning for very complex problem solving. It has its roots in the way human brains work, involving several layers of neurons connecting to allow complex ideas to be represented from a combination of simpler concepts. With Oracle R Enterprise 1.4, parallel distributed Deep Neural Networks (or multi-layered Neural Networks, one of the main principles behind Deep Learning) is available to the Enterprise.

The enhanced Neural Networks algorithm is capable of learning on an arbitrary number of hidden layers, each with an arbitrary number of neurons, for delivering the highest precision possible to complex problem solving.

The Oracle R Enterprise 1.4 brings Deep Learning power to the Enterprise by using the existing computational power of the Oracle Database and taking advantage of an innovative proprietary
parallel solver that can solve very large problems with extreme compute efficiency while still using the data science language of choice – R.

Other Oracle R Enterprise algorithms have similar performance benefits. For example, Logistic Regression can be performed on a billion rows using similar infrastructure and solved in 1 minute.

Additionally, Oracle is a commercial provider of open source R software with optimized Linear Algebra libraries on most enterprise platforms including Linux, Solaris, Windows and IBM-AIX RISC platforms. With commercial support on R covered, Enterprises can minimize risk in standardizing on the use of R for data science.

What are customers saying about the new release?

“We at Slacker Radio are excited about the new release of Oracle R Enterprise 1.4. The enhanced control over embedded R execution will enable us to optimize our predictive modeling workflows with greater precision. As our data sets contain thousands of variables, the enhanced ORE algorithms to address high cardinality categoricals offer us new possibilities for scalable in-database advanced analytics” said Jordan Meyer, Data Scientist at Slacker Radio.

“We have chosen Oracle Advanced Analytics to successfully implement and replace a full Statistical workflow. With the new Oracle R Enterprise 1.4, we were able to execute computations on thousands of attributes in parallel that was impossible or very slow with open-source R, and we completed our workflow with the Oracle Data Mining easy-to-use GUI for in-Database modeling” said Karlo Kovacic, BI Director, Zagrebacka Banka (ZABA).

"Oracle Advanced Analytics will enable Financiera Uno to stop having to extract the data from the DWH for Analysis, and to be able to develop Risk models for our commercial and collections divisions that can be rapidly deployed, taking advantage of the powerful in-Database features of the Oracle Solution” said Estanislao Chipana, Risk Deputy Manager, Financiera Uno.