

# Applying artificial intelligence to store, process and analyze large amounts of data – giving you the insight you need.



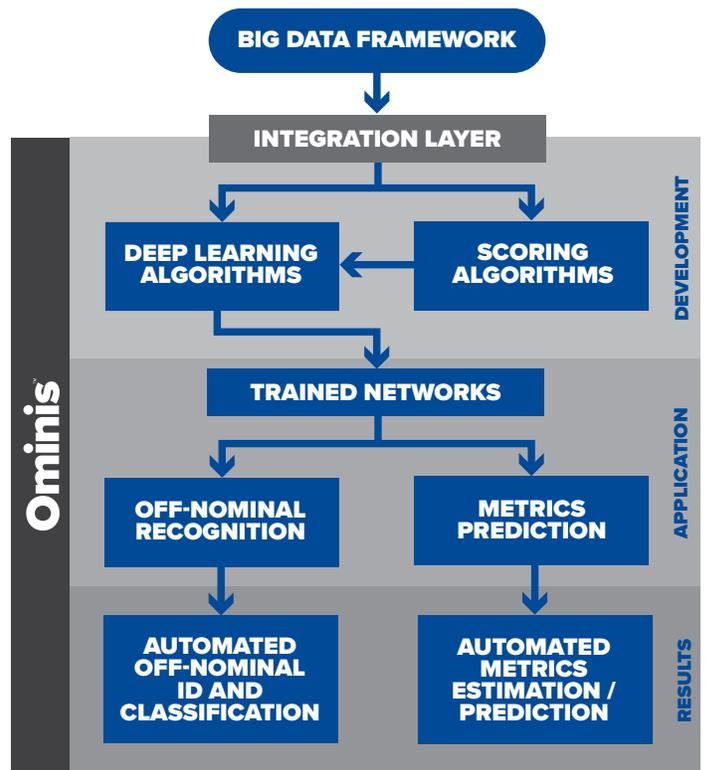
**OVERVIEW**

Big Data is critical in the assessment and planning for numerous fields to include scientific and business markets. While the strategic, operational and tactical knowledge derived from Big Data is quite valuable, the complexity and immense amount of data generated threatens to overwhelm traditional relational database approaches. Ominis® is an Advanced Data Management and Digital Data Mining platform based on sophisticated Artificial Intelligence (AI)/deep learning algorithms in conjunction with Big Data technologies, which can be applied to a wide range of computing platforms including large, small, and cloud-based architectures.

**TECHNICAL**

The Ominis Deep Learning algorithms can automatically estimate metrics, generate quick-look reports and provide predictive metrics from large-scale data. The automated processing of the AI networks also provides insight into the data itself to unlock hidden value. Adept at handling large volumes of data, Ominis can reliably identify and detect subtle features and data trends, and provide a set of tools that allow Subject Matter Experts (SMEs) to understand and evaluate data more effectively.

The Ominis hybrid network architecture combines Recurrent Neural Network (RNN) cells with convolutional layers to mimic the reasoning capacity of SMEs. RNNs allow the network to learn temporal relationships between input states and the classification task goal. The network can integrate easily into a wide array of existing computational platforms, with minimal impact to the operating efficiency. Designed for large-scale computing clusters, Ominis can scale horizontally and vertically to handle terabyte and petabyte sized data. Ominis performs with excellent speed, efficiency and accuracy, with the architecture providing a proven approach to classifying available data for analysis.



**Ominis is a modular, scalable, hardware and simulation agnostic, Big Data driven approach to analyzing and understanding modeling and simulation data.**

- *Modular design allows for seamless integration into a wide array of systems.*
- *Data driven approach adapts to the intended use case by design.*
- *Deep learning backed architecture increases the interpretability of highly complex, multi-modal data.*
- *Scalable architecture adapts to the size and scope of the data environment.*
- *Highly optimized architecture can run on a variety of hardware platforms.*
- *Improved analysis speed and integrated operational memory for improved reliability.*
- *User-friendly analysis and visualization tools drastically improve system transparency.*

**SECURITY / OPERATION**

Ominis security features include role-based login, application authentication and message encryption. Further, the Ominis Application Programmer’s Interface (API) operates inside a docker container isolating the API from the rest of the system as an extra layer of security, while ensuring the software does not conflict with other required system dependencies.

Arcarithm provides required training on how to interface the Ominis network with the database, and how to understand the output, with onsite training available. A training manual is provided with each Ominis license, and Arcarithm provides call center support as well.

**SYSTEM REQUIREMENTS**

CPU	Intel Core i3 or AMD Athlon 6 (or better)
Memory (RAM)	64-bit System: 8GB minimum 32-bit System: 4GB minimum
Operating Systems	Ubuntu 16.04 or higher RedHat 7
Graphics Card	N/A
Minimum Screen Resolution	1280 x 720 pixels
Storage	64GB

*Ominis integrates with existing Big Data infrastructures via an extensible API that includes abstracted interfaces for interaction with any database type. Ominis is delivered via direct digital download or a set of DVDs.*

**PRODUCT DETAILS**

Manufacturer	Arcarithm
Product Name	Ominis®
Version	2019
Manufacturer Part Number	A2019B
Product Type	Single License
Platform	Linux
Shipping Method	Digital delivery (or DVDs)

**ABOUT ARCARITHM**

Deep Learning and Artificial Intelligence (AI) are buzz words commonly used throughout defense and commercial markets, often without true understanding of those terms. At Arcarithm, we are defining those terms and more, with proven solutions on par with multinational tech leaders. From the big picture distinction between strong and weak (or narrow) AI, to the fine-grained focus of deep versus shallow neural networks, Arcarithm delivers a depth of understanding and operational maturity beyond the capability of most companies. Our experience with every aspect of algorithm design, training, deployment and evaluation allows Arcarithm to produce quality products quickly and effectively, with the highest levels of reliability and accessibility.