



Dell Technologies Customer Results

2 hours vs. 9 months

to run analysis¹

218% ROI

over 3 years²

20 million

images used to train a
deep neural network³

Reference Architecture for Iguazio

Speed and simplify deployment of machine learning applications

Adoption of artificial intelligence (AI) is rapidly accelerating as companies in nearly every industry recognize the value of advanced computing models to ease the discovery of new insights from ever-increasing amounts of data. And while the promise of machines surpassing human intelligence may not be possible, AI supported by machine learning (ML) applications is already cutting costs and increasing efficiency by significantly reducing the need for human intervention across a wide variety of use cases.

Despite the benefits of AI and ML, many companies struggle with building systems suitable for training models and then smoothly transitioning them into production. Many also struggle with maintaining data security during the research phase, which involves extensive data sharing. These organizations could benefit from an integrated AI/ML solution that enables deployment of apps faster, like the managed and secure Iguazio[®] Data Science Platform.

Iguazio provides a complete toolset for developing and deploying ML models, and allows both training and production models on one platform, closer to the data source. Plus, it delivers fine-grained security using multi-layered network, identity, metadata or content-based policies.

Iguazio speeds and simplifies deployment of AI and ML applications by building in essential frameworks, such as Kubeflow, Apache[®] Spark[®] and TensorFlow[™] along with well-known orchestration tools like Docker[®] and Kubernetes[®]. The Iguazio software platform enables simultaneous access through multiple industry-standard APIs for streams, tables, objects and files that are all stored and normalized once, so you can launch new projects quickly and then consume, share and analyze data faster.

Iguazio enables real-time processing of streaming data for rapid time to insight. By unifying the data pipeline, Iguazio reduces the latency and complexity inherent in many advanced computing workloads, effectively bridging the gap between development and operations. Data scientists can run queries on large data sets and securely share data and algorithmic models with authorized users during the training phase. Once the models are ready for production, containerized ML models are easy to move from development environments to operational environments.

¹ Dell EMC Case Study, Autonomous Mining, August 2017.

² Forrester Study commissioned by Dell EMC, [The Total Economic Impact of Dell EMC Ready Solutions for AI, Machine Learning with Hadoop](#), August 2018.

³ Dell EMC Video Case Study, [AI startup ZIFF.ai revs up its business with Dell EMC](#), June 2018.

Resources

- See the [Reference Architecture](#)
- [PowerEdge Reference Architectures](#)
- Visit a [Customer Solution Center](#)
- Explore the [Dell Technologies HPC & AI Innovation Lab](#).

Learn more

delltechnologies.com/ai
delltechnologies.com/hpc

Dell Technologies partners with Iguazio to create reference architectures for Iguazio software with Dell EMC infrastructure, to enhance performance for AI and ML workloads that are critical for advancing business objectives. For added flexibility, the engineering-validated design for Iguazio uses a flexible building-block approach to system design, where individual building blocks can be combined to build a system that's optimized specifically for your unique workloads and use cases.

Reference Architecture Components

Servers	Networking	Software
<ul style="list-style-type: none">• PowerEdge C6420 application nodes• PowerEdge R740xd data nodes	<ul style="list-style-type: none">• PowerSwitch S3148-ON (1GbE)• Mellanox® SN2700-ON (100GbE)	<ul style="list-style-type: none">• Iguazio Data Science Platform

Iguazio and Dell Technologies

Expert engineers from Dell Technologies and Iguazio work together to test and tune Iguazio Data Science Platform software on Dell EMC infrastructure to optimize system performance.

Iguazio is the data science software platform built for production. With self-service simplicity, performance and scale, Iguazio empowers you to deploy AI apps faster and make an impact.

Dell Technologies enables organizations to modernize, automate and transform their data center using industry-leading converged infrastructure, servers, storage and data protection technologies. Businesses get a trusted foundation to transform their IT and develop new and better ways to work through hybrid cloud, the creation of cloud-native applications and big data solutions.

Intel® Technologies for Analytics and AI

This reference architecture takes advantage of the 2nd Generation Intel® Xeon® Scalable processors with [Intel® Deep Learning Boost](#) (Intel® DL Boost).

Access Intel's optimized software libraries at software.intel.com/ai

