![Vcinity logo — ULTIMATE ACCESS]

Advancing AI/ML/DL Applications
With improved decision-making accuracy and timeliness

BENEFITS

- Real-time access to fresher datasets

- Improved data fusion and more accurate model learning/ training

- Enhanced accuracy and relevance with complete, fresher and larger datasets

- Complete flexibility for hybrid (on-prem, cloud, multi-cloud) environments

- Full control of data assets

- Seamless integration into existing environment

Challenges

Today's Artificial Intelligence (AI), Machine Learning (ML) and Deep Learning (DL) applications face significant barriers to timely, actionable business insights. There is a growing challenge of waiting for data to be available to the computational resources in a time-synchronized manner. The delay in the arrival of data is hampering the accuracy and success of AI/ML/DL strategies.

These challenges exist primarily due to the following reasons:

- The applications/compute and data must be collocated, whether on-premise or in the cloud.
- New ML/DL models use vastly disaggregated datasets collected from disparate edge locations across the globe.
- Adding bandwidth doesn't change goodput.

As shown in Figure 1, the only alternative is to prioritize and filter pre-processed data from edge nodes into information subsets deemed relevant at the time. This leads to erroneous results as well as time-wasting iterations, in some cases to the point where the data is no longer needed or valid.
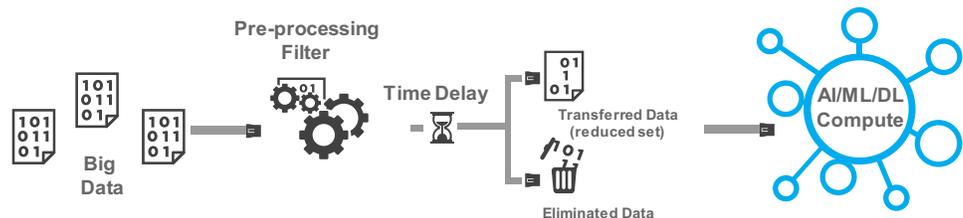

Figure 1. Status quo—Stale, invalid datasets leading to reduced value

A New Paradigm for AI/ML/DL Success

With Vcinity's ReachIn™ technology, AI/ML/DL applications no longer have to be collocated with their data. This removes the penalty of time in moving data to the compute resulting in timely insights and more accurate decision making to realize the true value of data.

Figure 2. Vcinity's ReachIn to data anywhere

As shown in Figure 2, AI/ML/DL applications can now access complete, fresh datasets anywhere across the globe without making copies, resulting in the benefits described below.

Improved Accuracy

Vcinity dramatically improves accuracy and relevance of AI/ML/DL models due to the following differentiating features:

- **Real-time data access:** AI/ML/DL applications have real-time access to fresher datasets in-place regardless of where they are collected and when they are created, resulting in more relevant, time-normalized decisions.
- **Complete datasets:** Vcinity's ReachIn technology removes the need to reduce datasets. Information can be derived from complete datasets and the risk of having an isolated data set at a remote edge location is eliminated.
- **Core-to-edge/edge-to-edge data fusion:** Whether the compute is at a larger centralized location or at the edge, curated edge data (created by pre-processing disparate data types) can be fused with other data sets for advanced AI/ML/DL models.

Flexible, Hybrid IT Environment

With Vcinity, scalable cloud-based compute instances can be run against data housed on-premise or the reverse model, where compute on-premise can be run against data stored in the cloud, or any mix. This allows for a larger set of options when planning for IT resources and deployment in flexible on-premise, multi-cloud or truly hybrid environments.

Full Control of Data Assets

Vcinity's ReachIn enables businesses to avoid creating data copies or surrender sensitive information to compute/cloud providers outside of their organization. In addition, Secure DataPrizm™ technology obfuscates data in-flight across multiple paths and dual encryption secures it, reducing the ever-growing risk of compromised or lost information.

Seamless Integration

Vcinity does not put any requirements on applications or AI/ML/DL models. It integrates and presents as standard storage types, without any changes to the software and models.