

## Estuate's Big Data Service Offerings

### Definition and Strategy

Big Data is defined as information that is too large and too complex for traditional databases, and that needs to be processed faster than traditional databases allow. Successful initiatives require companies to craft new strategies specifically tailored for the demands - ever-increasing volume, velocity and variety - of Big Data. As a software services and consulting provider, Estuate facilitates planning, deployment and management of our clients' [Big Data solutions](#).

Big Data by definition is complex, and the wide range of available solutions that must connect with existing business technology ecosystems further complicates deployment. It is important to bring together a range of expertise in order to plan effectively and minimize inefficiency that would reduce the impact of new Big Data initiatives.

We work closely with our clients to define their Big Data assets and the business needs they want to fulfill. Based on this early analysis, we create a Big Data roadmap to connect specific technology solutions to the requirements of the company. This enables our clients to achieve the maximum return on investment from their Big Data deployments.

### Proofs of Concept

The planning stage is crucial for Big Data success, and is often an area in which organizations struggle. For example, leveraging Big Data may seem like a largely disruptive process that requires entirely new technology to succeed. However, existing solutions can often be adjusted and integrated with new software to both optimize the technology and reduce the cost of deployment.

We create a proof of concept (POC) that helps determine the feasibility of various options. The POC also examines the potential cost of modifications and new software that our clients need to fully leverage Big Data. We use the POC to prototype alternative solutions so that our clients gain a better understanding of technology requirements and the potential that Big Data will have for their business.

### Big Data Implementation

The implementation phase consists of solution design and software development. Estuate's diverse expertise allows for implementation based on specific client needs. We leverage open source, IBM, Oracle and other leading Big Data technologies depending on the best fit for each client. In addition, we have experience in deployments across multiple platforms, including UNIX, Windows and Linux.

Before a business can make use of its data, it needs to be able to manage its data clusters. Effective clustering makes the analytics process easier and optimizes performance. Estuate sets up Big Data clusters in a fully-distributed mode with many computers and Big Data storage in each machine. We build in redundancy from the beginning with fault tolerance designed to minimize the risk presented by hardware failure.

Most businesses already have a large volume of data they want to work with, which means the new system must be able to gather information from existing databases. We provide the means to connect new Big Data clusters with existing systems via ODB/JDBC, so that customers can efficiently transfer their existing data sets.

After implementing the Big Data architecture, we can design custom software applications to store and analyze information. This enables our clients to benefit from programs that are tailored to their specific needs, rather than having to rely on applications that may not output information in the way that makes the most sense for

their users. We use a computational paradigm called MapReduce, which divides data into smaller units to process it in parallel computers within a cluster. This allows our clients to generate results with optimal system performance.

We use the Hadoop Distributed File System (HDFS) to store the data. HDFS is designed to support large volumes, as the typical file in HDFS exceeds terabytes in size. In addition, HDFS can support millions of these large files within a single instance. HDFS also protects against the risk of hardware failure. For example, each cluster in HDFS has a NameNode, which is the master server for that cluster. Each DataNode periodically sends a Heartbeat message to the NameNode, which allows the system to identify nodes that may have suffered a hardware failure. In addition, HDFS uses built-in replication for fault tolerance.

The final hurdle for leveraging Big Data is extracting the information in a usable format. Estuate can develop software for formatting information from HDFS into structured format, enabling clients to perform SQL-like queries on data stored in a cluster. Custom software development provides the advantage of custom-fit user interfaces for data presentation and cluster management. This allows key users to maximize their productivity and optimizes the software's benefit to the business.

### Knowledge Transfer and Ongoing Solution Support

Estuate builds the internal expertise of our clients so that they can run the technology smoothly once it is implemented. However, clients that prefer to have ongoing support can leverage our software services expertise for their Big Data solutions. Estuate's cost-effective software management service leverages our India-based support organization with staff fully trained in Big Data technologies. This service allows Estuate to fine-tune our clients' Big Data solutions over time, ensuring scalability and optimization. In addition, we can help our clients take advantage of the real power of Big Data: transforming it into intelligent information.

### Why Estuate?

Estuate is a global technology services company, headquartered in Sunnyvale, California, with additional offices in Canada, India and the UK. Estuate's key service offerings include [Oracle Services](#) and [IBM technology implementation, custom application and product engineering](#), as well as [business intelligence, Big Data](#) and [software management](#). Estuate's dedicated teams help clients throughout the technology lifecycle by aiding during the planning phase as well as the post-deployment phase.

Estuate focuses on building deep relationships with enterprise software companies through product engineering, and providing implementation and custom application development services to customers. We help our clients strategize to get the most from their technology reduce total cost of ownership and streamline daily software management tasks so that their internal teams can focus on critical business objectives. This innovative strategy creates win-win relationships with software partners and clients across a wide range of industries.

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