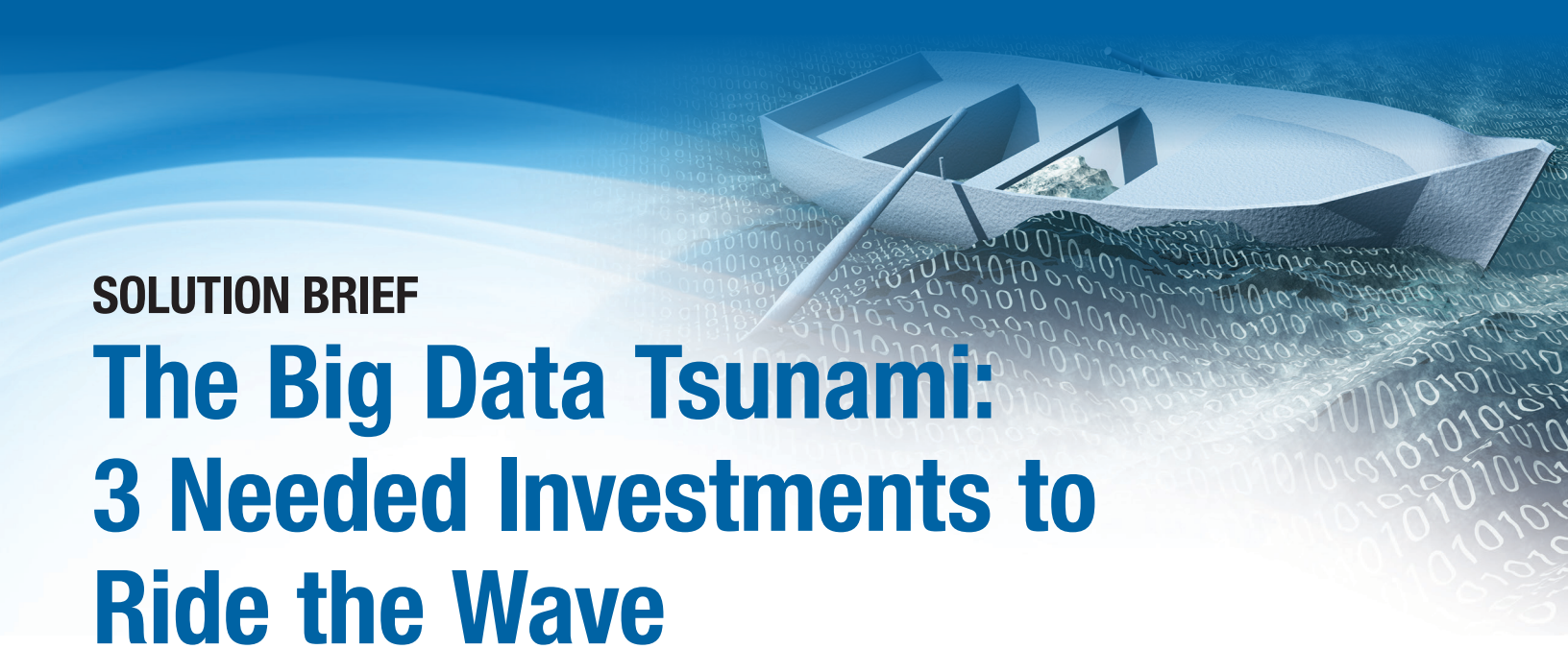

SOLUTION BRIEF

The Big Data Tsunami: 3 Needed Investments to Ride the Wave

THE IoT IN 2016:

5.5 MILLION
New 'things' added each day

6.4 BILLION
Total of connected devices
(30% more than expected for 2016)

It's no secret that there are massive amounts of data being created at any given moment. In fact, according to IBM, we produce **2.5 quintillion bytes of data EVERY DAY. Currently, 90 percent of the data in the world was created exclusively in the last two years.**

This is only going to be compounded by the increasing prevalence of the Internet of Things. With more and more connected devices popping up every day, the influx of data from IoT is fast paced and high in volume. This will result in a considerable data onslaught as IoT will be constantly feeding into Big Data in real-time.

"Once the Internet of Things gets rolling, stand back," warned Forbes contributor Howard Baldwin in an op-ed. "We're going to have data spewing at us from all directions - from appliances, from machinery, from train tracks, from shipping containers, from power stations. If that doesn't get you thinking how to handle real-time data feeds, nothing will."

IoT Streams

IoT's influx of data streams represents a unique challenge in terms of volume compared to previous Big Data sources. Why? Improvements in technology and communication have allowed the IoT to mature at a much more rapid rate. Sensors can connect virtually any device (from clothing to cars) and send/receive data over the network via wireless data connectivity.

Whatever the product, the data from these sensors is flowing in a constant stream from device to network and creating gargantuan amounts of data. How can leaders prepare for the current and continual data onslaught?

Preparing for the Storm

In order for organizations to be adequately prepared for the influx of data that will undoubtedly flood in as IoT spreads its wings, leaders need to have a firm grasp on how to effectively manage Big Data capacity. **So, what are some strategic initiatives for successfully handling high volumes of data worthy of your investment?**

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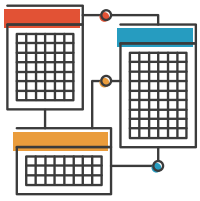
3 Needed Investments to Ride the Wave

1. Fog Computing: When it comes to dealing with large volumes of data, fogging is a prime time solution. Put simply, data processing occurs at the edge of the network, which allows that information to circumvent capacity issues. This eliminates problems historically associated with more centralized approaches to data storage. The high volumes of data being created by IoT make it inefficient to have all information filter through cloud systems for computing and analysis. Fogging allows an organization's data to take a more distributed approach, which frees up more storage space.



2. Infrastructure-as-a-Service: IaaS is a very enticing option for organizations looking to effectively manage the workloads and storage associated with IoT-generated data. The service platform allows for automated and scalable computing resources. This combined with cloud storage and self-provisioned network capabilities lets users outsource and create a virtual data centre in the cloud. This provides access to the same technologies and resource capabilities as a traditional data centre without the monetary investment, capacity planning, or physical maintenance. IaaS is a fitting response to the high volumes of data from IoT, giving organizations scalable, low-cost, and virtually endless resources to deal with the incoming data streams.

3. IPv6: IPv6 functions primarily so that there can be more unique TCP/IP address identifiers created. This is a major reason why IPv6 is so important when it comes to IoT and the influx of connected products. IPv6 gives these devices and their data a platform to operate on for a very long time. With the explosion of IoT and its influx of Big Data, unique IP addresses are becoming an increasingly scarce resource. IPv6 eliminates this problem by allowing for the creation of 18 quintillion blocks of 18 quintillion possible addresses. IPv6 ensures that creators of IoT products or organizations that leverage information from IoT devices will have unique identifiers available to them despite the high volumes of new connected products.

The Takeaway

The streams of data coming from IoT connected devices are making the management of data volumes a pressing concern for organizations across industries. Leaders must implement the proper structures to deal with real-time data feeds to ensure their business can properly leverage important insights extracted from the IoT.

To learn more about the ins and outs of Big Data and IoT and what it means for your business, visit LearningTree.ca

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