## THE RAPID GROWTH OF GLOBAL DATA



The production of data is expanding at an astonishing pace. Experts now point to a 4300% increase in annual data generation by 2020. Drivers include the switch from analog to digital technologies and the rapid increase in data generation by individuals and corporations alike.

Size of Total Data

**Enterprise Managed Data** 

**Enterprise Created Data** 

2012: CUSTOMERS WILL START STORING 1 EB OF INFORMATION. **1.2**ZB .96ZB .79**Z**B

2020: MORE THAN OF THE DATA PRODUCED WILL LIVE IN OR PASS THROUGH THE

# DATA PRODUCTION **WILL BE 44 TIMES GREATER**

IN 2020 THAN IT WAS IN 2009

More than 70% of the digital universe is generated by individuals. But enterprises have responsibility for the storage, protection and management of 80% of it.\*

## WHAT IS A ZETTABYTE?

1,000,000,000,000 gigabytes 1,000,000,000,000 terabytes 1,000,000,000,000 petabytes 1,000,000,000,000 exabytes

zettabyte

1,000,000,000,000



1 petabyte of local storage to render the 3D CGI effects in Avatar.

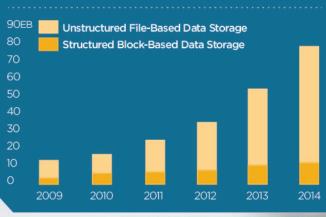
It took roughly





# TAKING ON THE EXPLOSION WITH RADICAL NEW DATABASES

The dramatic rise of unstructured data like photos, videos and social media has ushered in a new breed of non-relational databases that allow data to reveal its own structure and patterns. This shift is a revolutionary change after 40 years of dominance by relational databases - an eternity in the world of IT.



Source: IDC, Worldwide File-Based Storage 2010-2014 Forecast Consolidation, Efficiency, and Objects Shape Market, #223558

**NEWLY EXPANDED DATABASE STACK** 

**DIRECT RECORD ACCESS OR QUERIES** 

**PROGRAMS** 

**TRADITIONAL** RELATIONAL DATABASE

TRADITIONAL STACK

**NoSQL** DATABASE

**PARALLEL** RELATIONAL **DATABASE** 

**HADOOP** (MapReduce engines)

**UNSTRUCTURED DATA IS LESS** 

RIGID, LESS ORDERED AND MORE

**ELATED THAN TRADITIONAL DATA.** 

MapReduce

MONOLITHIC HARDWARE

# **CONNECTING THE DATA DOTS TO MAKE NEW DISCOVERIES**

As we make the important shift from collecting to connecting data, businesses are searching for relationships between data sets to reveal valuable new insights.

THIS NEW WORLD OF DATA ANALYTICS IS

IN LITERALLY EVERY FIELD IMAGINABLE





### FINDING GENOMES

Using the leading open-source predictive analytics language to sort through 10 GB of data, a biotech company recently isolated 23 optimal genes, thereby creating the first gender-specific diagnostic tests for heart disease.



42,000 blood samples 50,000 genes per sample 1-2 million pieces of genetic information per sample

23 KEY GENES ISOLATED

**TODAY, STRUCTURED AND UNSTRUCTURED DATA** CAN BE VIEWED FROM MULTIPLE PERSPECTIVES.

These new, unexpected patterns are helping businesses find new solutions to complex problems.

The evolution of the way we produce, process and analyze data is changing the world around us in fundamental ways. To learn more about how to prepare for what's ahead, download our DATA rEVOLUTION white paper at CSC.com.