

# Securing Big Data Infrastructure: An Evolving Market Ecosystem

https://marketpublishers.com/r/S888AE117C5EN.html

Date: January 2017

Pages: 52

Price: US\$ 995.00 (Single User License)

ID: S888AE117C5EN

# **Abstracts**

The Big Data industry is experiencing profound changes across the entire stack including infrastructure, security, analytics, and application layer. The data management industry is shifting from host based architecture to cloud based data centric architecture and operational model, thereby creating enormous challenges on infrastructure security.

This creates an evolving market ecosystem for Big Data technology and services, infrastructure, and security solutions, software solutions, and support services. Open source solutions such as Hadoop, Cassandra, and MongoDB play a key role in the ecosystem in terms of security features. However, full infrastructure security involves initiatives of many players including general security solution providers.

This research evaluates the components of Big Data infrastructure and security framework along with security challenges related with Hadoop, Cassandra, and MongoDB. This research also analyzes the Big Data infrastructure security market ecosystem, components associated with strategic framework for Big Data protection, and vendor solution landscape.

The report also includes market projections for enterprise spending on Big Data technology and services encompassing three verticals. Forecasting includes market projections by industry verticals and geographic region. All purchases of Mind Commerce reports includes time with an expert analyst who will help you link key findings in the report to the business issues you're addressing. This needs to be used within three months of purchasing the report.

Key Findings:



Certain industries will be drivers of Big Data Security

Big Data infrastructure will require strategic governance and framework for security

Big Data infrastructure and security solution market spending alone will reach \$23.7 billion by 2021

The evolving Big Data Security ecosystem consists of infrastructure, applications, APIs, and data itself

Big Data Security should be a key part of strategy within the Big Data Lifecycle Management (BDLM) model

## **Target Audience:**

Big Data security providers

Telecom equipment providers

Global infrastructure suppliers

Communication service providers

Cloud services and datacenter companies

Big Data consulting, and advisory companies



## **Contents**

#### 1. INTRODUCTION

- 1.1 THE RISE OF BIG DATA
- 1.2 THE BIG DATA STACK
  - 1.2.1 PHYSICAL INFRASTRUCTURE
  - 1.2.2 DATA COLLECTION AND INTEGRATION
  - 1.2.3 DATA SECURITY AND STORAGE
  - 1.2.4 DATA ANALYTICS
  - 1.2.5 DATA CONSUMPTION
- 1.3 HADOOP DISTRIBUTION
- 1.3.1 HADOOP DISTRIBUTED FILE SYSTEM
- 1.4 BIG DATA ECOSYSTEM
  - 1.4.1 INFRASTRUCTURE
  - 1.4.2 ANALYTICS
  - 1.4.3 APPLICATIONS
- 1.5 BIG DATA AND IT ENABLED SERVICES
- 1.6 BIG DATA INFRASTRUCTURE
  - 1.6.1 INFRASTRUCTURE FOR DATA MANAGEMENT
  - 1.6.2 INFRASTRUCTURE FOR ANALYTICS
  - 1.6.3 INFRASTRUCTURE FOR CLOUD BASED SERVICE
- 1.7 SECURITY CHALLENGE AND WEAKNESS
  - 1.7.1 INFRASTRUCTURE SECURITY AND INTEGRITY
  - 1.7.2 DATA SECURITY AND PRIVACY
  - 1.7.3 DATA MANAGEMENT
  - 1.7.4 IDENTITY AND ACCESS MANAGEMENT
  - 1.7.5 NETWORK SECURITY
- 1.8 HADOOP WEAKNESS

### 2. BIG THREE IN BIG DATA SECURITY: HADOOP, CASSANDRA, AND MONGO

- 2.1 HADOOP
  - 2.1.1 AUTHENTICATION
  - 2.1.2 SERVICE LEVEL AUTHORIZATION
  - 2.1.3 AUTHENTICATION FOR HTTP WEB CONSOLES
  - 2.1.4 DATA CONFIDENTIALITY
  - 2.1.5 CONFIGURATION
  - 2.1.6 KERBEROS



- 2.1.7 HORTONWORKS DATA PLATFORM (HDP)
- 2.1.8 CLOUDERA HADOOP DISTRIBUTION (CDH)
- 2.2 CASSANDRA
  - 2.2.1 AUTHENTICATION
  - 2.2.2 ROLE BASED SECURITY
  - 2.2.3 OBJECT PERMISSION MANAGEMENT
  - 2.2.4 DATABASE SECURITY AND LOGGING
- 2.3 MONGODB

#### 3. BIG DATA PROTECTION STRATEGIES

- 3.1 POINTS TO CONSIDER IN DEVELOPING DATA PROTECTION STRATEGY
- 3.2 COMPONENTS TO DEVELOP BIG DATA PROTECTION STRATEGY

#### 4. BIG DATA INFRASTRUCTURE SECURITY MARKET ECOSYSTEM

- 4.1 SECURING DATA AT REST
- 4.2 SECURING APIS
- 4.3 SECURING APPLICATIONS
- 4.4 SECURING DATA FOR ANALYSIS
- 4.5 SECURING USER PRIVILEGES
- 4.6 SECURING ENTERPRISE INFORMATION
- 4.7 SECURING DATA COLLECTION AND INTEGRATION
- 4.8 TOOLS TO EVALUATE BIG DATA INFRASTRUCTURE SECURITY
- 4.9 SECURITY VENDOR LANDSCAPE

#### 5. STRATEGIC FRAMEWORK FOR BIG DATA PROTECTION

- 5.1 COMPONENTS FOR STRATEGIC FRAMEWORK
  - 5.1.1 FEDERATED ACCESS AND DELIVERY INFRASTRUCTURE (FADI)
  - 5.1.2 ACCESS CONTROL
  - 5.1.3 XACML POLICIES
  - 5.1.4 NOSQL DATABASES
  - 5.1.5 ENCRYPTION
  - 5.1.6 BOOTSTRAPPING PROTOCOL
- 5.2 BIG DATA SECURITY FRAMEWORK
  - **5.2.1 DATA MANAGEMENT**
  - 5.2.2 IDENTITY AND ACCESS MANAGEMENT
  - 5.2.3 DATA PROTECTION AND PRIVACY



- 5.2.4 NETWORK SECURITY
- 5.2.5 INFRASTRUCTURE SECURITY AND INTEGRITY
- 5.3 BIG DATA SECURITY FRAMEWORK FOR INFRASTRUCTURE
  - 5.3.1 LOGGING / AUDIT
  - 5.3.2 SECURE LINUX
  - 5.3.3 DATA MONITORING
  - 5.3.4 USER MONITORING

#### 6. BIG DATA TECHNOLOGY AND SERVICE MARKET 2016 - 2021

- 6.1 GLOBAL BIG DATA TECHNOLOGY AND SERVICE MARKET SPENDING
  - 6.1.1 BIG DATA INFRASTRUCTURE AND SECURITY SOLUTION
  - 6.1.2 BIG DATA SOFTWARE SOLUTION
  - 6.1.3 BIG DATA SUPPORT SERVICES
- 6.2 GLOBAL BIG DATA TECHNOLOGY AND SERVICE SPENDING BY INDUSTRY VERTICAL
- 6.3 BIG DATA TECHNOLOGY AND SERVICE SPENDING BY REGION

#### 7. SUMMARY AND RECOMMENDATIONS



# **List Of Figures**

#### LIST OF FIGURES

	Figure 1:	Big Data	across	Industries	and	Use	Cases
--	-----------	----------	--------	------------	-----	-----	-------

- Figure 2: Big Data Stack
- Figure 3: Complete Big Data Ecosystem
- Figure 4: Big Data Infrastructure and Components
- Figure 5: Big Data Lifecycle Management (BDLM)
- Figure 6: Big Data Components for Analytics Infrastructure
- Figure 7: Scientific Workflow into Cloud Based Infrastructure
- Figure 8: Hortonworks Data Platform (HDP) Architecture
- Figure 9: Cloudera Hadoop Distribution (CDH) Architecture
- Figure 10: Federated Access and Delivery Infrastructure (FADI)
- Figure 11: Big Data Security Framework and Components



# **List Of Tables**

## **LIST OF TABLES**

Table 1: Global Big Data Spending on Technology and Services 2016 - 2021

Table 2: Global Big Data Technology and Service by Industry 2016 - 2021

Table 3: Big Data Technology and Service by Region 2016 - 2021



#### I would like to order

Product name: Securing Big Data Infrastructure: An Evolving Market Ecosystem

Product link: https://marketpublishers.com/r/S888AE117C5EN.html

Price: US\$ 995.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer

Service:

info@marketpublishers.com

# **Payment**

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <a href="https://marketpublishers.com/r/S888AE117C5EN.html">https://marketpublishers.com/r/S888AE117C5EN.html</a>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:	
Last name:	
Email:	
Company:	
Address:	
City:	
Zip code:	
Country:	
Tel:	
Fax:	
Your message:	
	**All fields are required
	Custumer signature

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <a href="https://marketpublishers.com/docs/terms.html">https://marketpublishers.com/docs/terms.html</a>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970