

# Intelligent Transportation Systems

## Industry Solutions for Seaports

Sub-topic – Cyber Security

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# Safe Harbor Statement

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

# Program Agenda

- Oracle Overview
  - Oracle in Public Sector, Transportation, & Seaport Industries
- Business Intelligence – in general
- What Solutions Oracle Offers in the area of cyber security
  - Why Social Relationship Management (SRM) Matters
  - Apply Open Source Media to Cyber Intelligence

# Oracle Corporation

## Scale

- \$38.8B in revenue on a trailing twelve-month basis \*
- 400,000 customers in 145 countries
- **\$34B in R&D since 2004**
- \$60B on more than 100 acquisitions
- More than 25,000 partners
- More than 120,000 employees
- 18,000 customer support specialists, speaking 29 languages
- 17,000 implementation consultants
- 2.2 million students supported annually

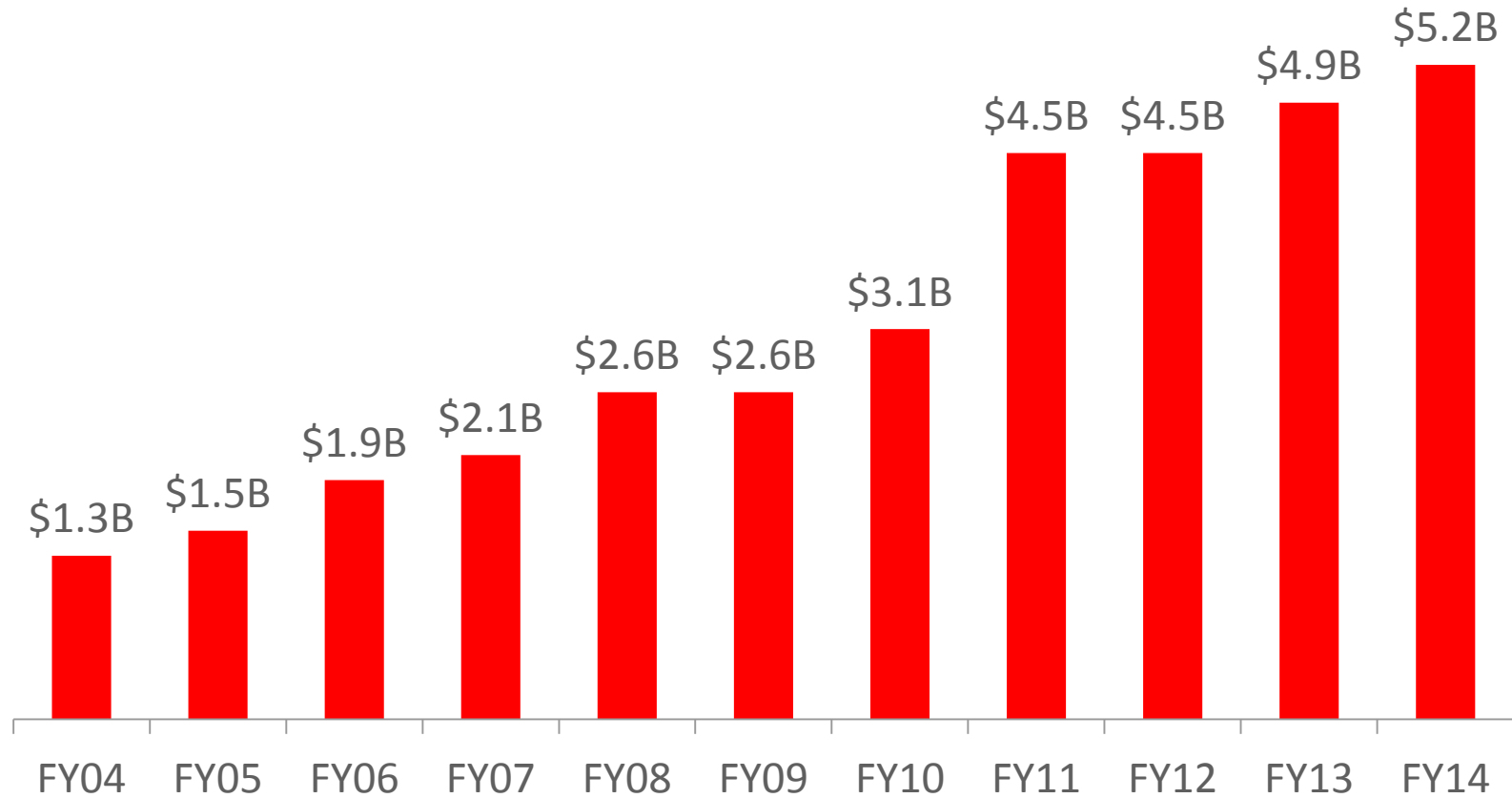
## Innovation

- #1 in 50 product/industry categories
- #2 software company in the world
- **#2 cloud company in the world**
- More than 17,000 patents worldwide
- 36,000 developers and engineers
- 15 million developers in Oracle online communities
- **900 independent Oracle user groups with 500,000 members**



\* GAAP revenue reported in USD as of November 30, 2014

# Investment in Innovation and Integration



Figures in GAAP

**MORE THAN  
\$34B IN R&D  
SINCE 2004**

# Oracle Acquisitions

## APPLICATIONS

|   |   |   |  |   |  |
|---|---|---|--|---|--|
| <b>ORACLE COMMUNICATIONS</b><br> | <b>ORACLE FINANCIAL SERVICES</b><br> | <b>ORACLE HEALTH SCIENCES</b><br> | <b>ORACLE INSURANCE</b><br> | <b>ORACLE RETAIL</b><br> | <b>ORACLE UTILITIES</b><br> |
|                                 |   |   |  |   |  |

## MIDDLEWARE

|  |   |   |  |   |
|--|---|---|--|---|
| <b>Middleware Platform and Management</b><br> | <b>Business Intelligence</b><br> | <b>Identity and Access Management</b><br> | <b>Performance Management</b><br> | <b>Enterprise Content Management</b><br> |
|--|---|---|--|---|

## DATABASE



## OPERATING SYSTEM AND VIRTUAL MACHINE

|  |  |   |
|--|--|---|
| <b>Operating System</b><br> | <b>Systems Management</b><br> | <b>Virtual Machine</b><br> |
|--|--|---|

## SERVERS AND STORAGE






Hardware **Together** Software

ORACLE®



**ENGINEERED  
TO WORK TOGETHER**





# Oracle Corporation Today



## TECHNOLOGY

- Application Server
- Application Services Governance
- Business Process Management
- Database
- Database on Linux
- Database on Unix
- Database Management Tools
- Data Warehouse
- Embedded Database
- Identity and Access Management
- Middleware
- Service-Oriented Architecture

## APPLICATIONS

- Business Analytics
- Enterprise Performance Management
- Human Capital Management
- Marketing Automation
- Project Portfolio Management
- Supply Chain Execution
- Supply Chain Planning
- Talent Management
- Talent Recruiting
- Transportation Management

## INDUSTRIES

- Banking
- Communications
- Construction
- Education
- Financial Services
- Healthcare
- Insurance
- Life Sciences
- Manufacturing
- Professional Services
- Public Sector**
- Retail
- Transportation**
- Wholesale

# Oracle Travel and Transportation Industry Commercial & Public Sector **Definitions**

## Aviation



- Airlines
- **Airports**
- Air Cargo

## Ports & Shipping



- Ocean Carriers
- **Seaports**
- Shipyards

## Roadways



- **Buses**
- Logistics
- **Postal**
- Trucking/Distribution
- **DOTs/DMVs**
- **Tolls, Parking & Photo Enforcem't**

## Rail



- Freight
- Railroads
- **Inter-City Passenger**
- Railways
- **Mass Transit**
- **Light Rail**

## Hospitality



- Travel Agencies
- **Tourism**
- Hotels/Casinos
- **Econ. Dev.**
- **Metro Planning**
- Car Rentals
- Cruise Lines

➤ = Public Sector

**Oracle is the leading provider of the enterprise business software and infrastructure technologies that power the Travel and Transportation Industry.**

# Sample Seaports Clients from hundreds world wide



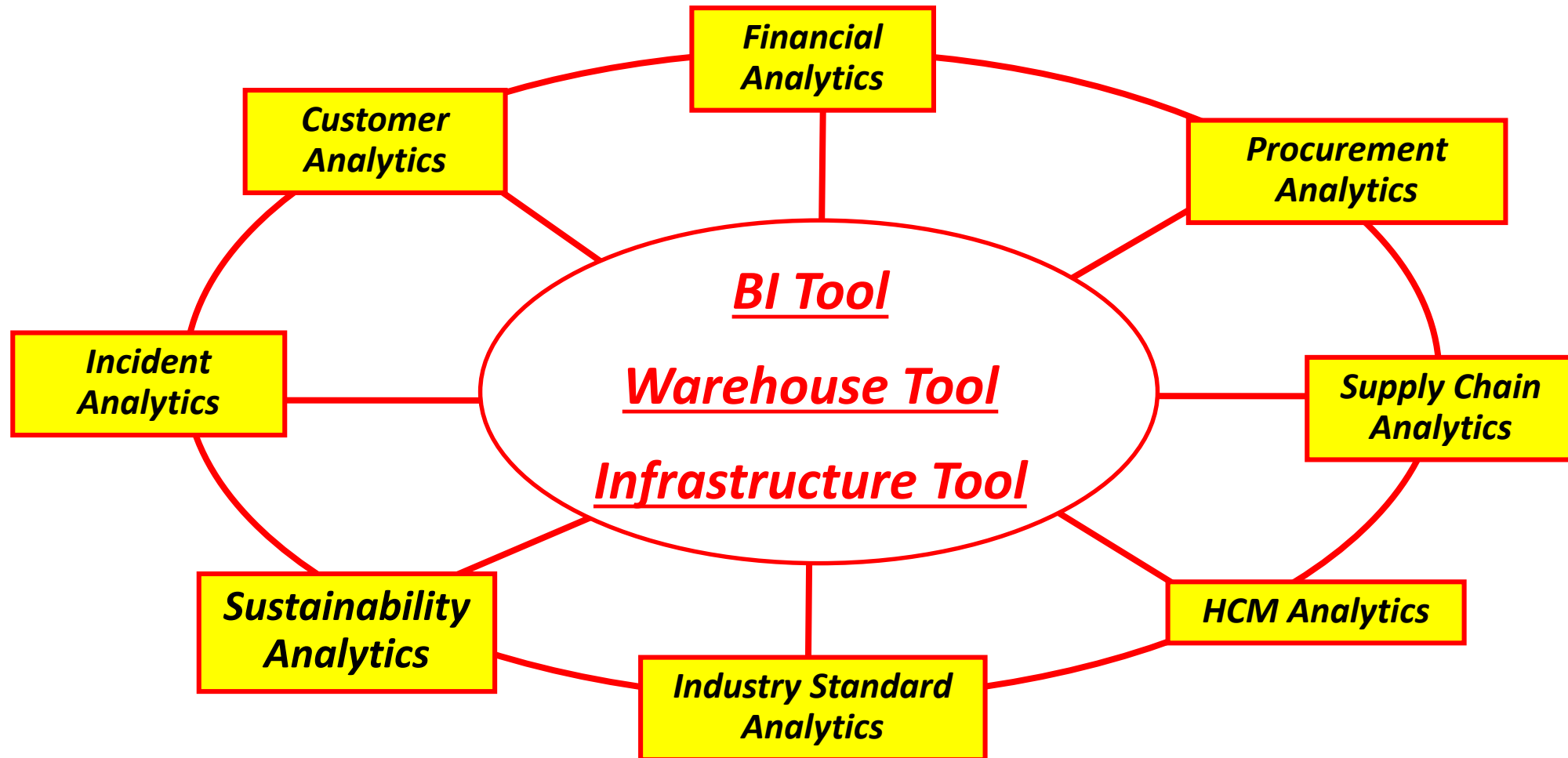
# Oracle's ITS Footprint -- Functional View with Analytics

*The **LEADING INTEGRATED SOLUTION** in the Industry*

|                                     |   |                              |   |  |   |                              |
|-------------------------------------|---|------------------------------|---|--|---|------------------------------|
| <b>Financial Management</b>         |    | <i>Financials</i>            | <i>Cash &amp; Treasury</i>                    | <i>Project Costing &amp; Grants</i>                          | <i>Compliance, Reporting, &amp; Analytics</i> | <i>Business Intelligence</i> |
| <b>Work / Asset Management</b>      |    | <i>Work Order Processing</i> | <i>Preventive Maintenance</i>                 | <i>Assets – Linear, Fleet, Facilities &amp; Leased Prop.</i> | <i>Forecast</i>                               | <i>Business Intelligence</i> |
| <b>Supply Chain Management</b>      |    | <i>Forecast</i>              | <i>Procurement</i>                            | <i>Inventory / Warehouse Mgmt</i>                            | <i>Accounts Payable</i>                       | <i>Business Intelligence</i> |
| <b>Customer Management</b>          |    | <i>Customer Master File</i>  | <i>Multi-Channel Customer Interactions</i>    | <i>Marketing</i>   | <i>Case and Service Management</i>            | <i>Business Intelligence</i> |
| <b>Human Capital Management</b>     |   | <i>Self Service</i>          | <i>Candidate &amp; Certification Tracking</i> | <i>Manage Payroll and Benefits</i>                           | <i>Timekeeping</i>                            | <i>Business Intelligence</i> |
| <b>Engineering &amp; Operations</b> |  | <i>Plan / Forecast</i>       | <i>Project Management</i>                     | <i>Operate / Monitor / Control</i>                           | <i>Integration with Core Financials</i>       | <i>Business Intelligence</i> |

# Business INTELLIGENCE

Starts with data collection, enterprise data architecture





# Business Intelligence can be applied to Social Media

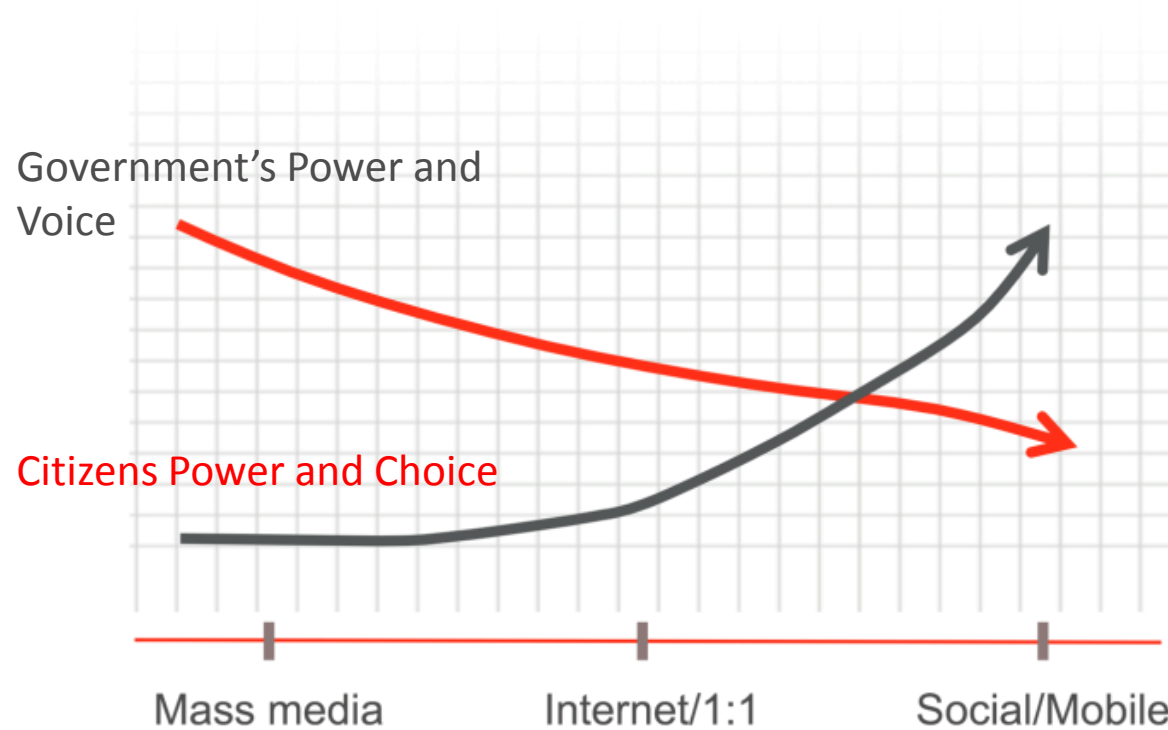
Oracle Can Help unravel the unstructured data

#1 online activity is Social



# Your agency is the middle of the conversations ...

In Open Source Media (e.g. Facebook, Twitter, Blogs, etc.)



**#1**

online activity is social \*

**42%**

of Facebook users have mentioned an organization in a status update \*\*

**65%**

of organizations say that social media is a critical risk to their reputation \*\*\*



# What is Social Relationship Management

- **Social Relationship Management (SRM)** - the processes an organization & Institution uses to **monitor**, engage with, and activate the often large number of loose ties it maintains across open social networks.
- SRM goals for Government include:
  - **Gain proactive intelligence of potential threats**
  - Build Mindshare, Visibility, Transparency and Trust = Brand Equity for Government entities,
  - Increase Reach and Reduce time of Communication,
  - Improve services to citizens,
  - Communicate & Engage effectively with Youth



# Cyber Intelligence

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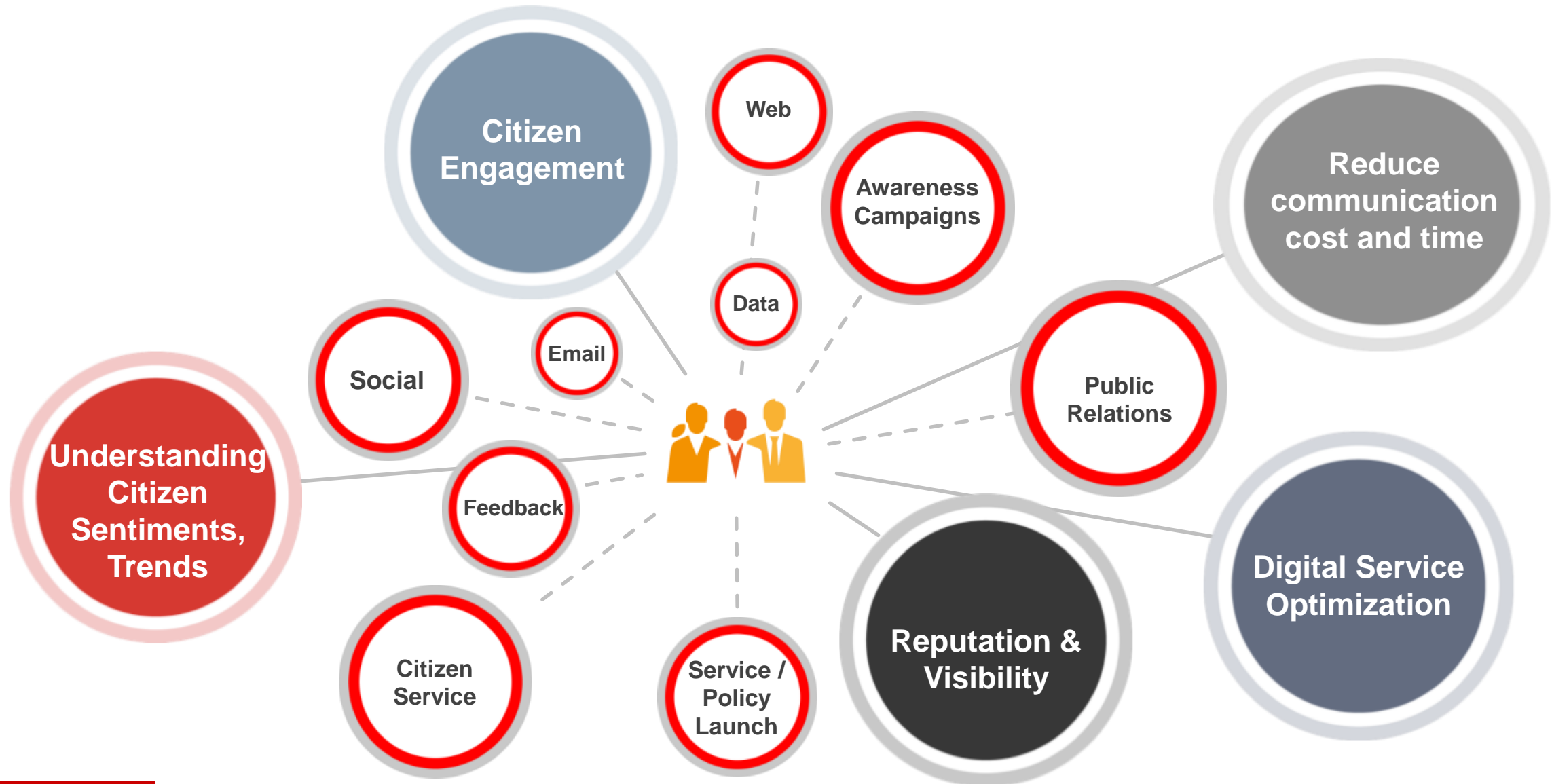
## Information Security Is Becoming a Big Data Analytics Problem

“One of the primary drivers of security analytics will be the need to identify when an advanced targeted attack has bypassed traditional preventative security controls and has penetrated the organization.”

“Markets for **security analytics platforms** and for **security patterns/algorithms providers** will emerge”

“Enabling organizations to uncover previously unseen patterns and to develop sharper insights about their businesses and environments, including information security.”

# Government as a Brand and Brand Management



# Social Media Is A Low Cost Channel To Hear/Reach Citizens And Potential Criminals

## Examples of different program areas

### CONSTITUENT SENTIMENT

Detect trends through social media activities



### KNOWLEDGE SHARING

Increase transparency to citizens



### EMERGENCY RESPONSE

Respond to emergency situations



### SERVICE DELIVERY

Improve service and lower costs



### REVENUE GENERATION

Increase revenue through tourism/ economic development



### JUSTICE & PUBLIC SAFETY

Enhance intelligence & Policing platforms

# Apply Open Source Media to Cyber Intelligence

Open Source Information

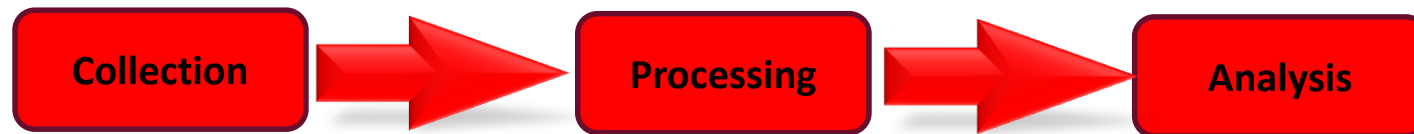


# Global Cyber investment and expenditure

- **7% of every IT Budget across all Industries** - Worldwide spending on security infrastructure, including software, services and network security appliances used to secure enterprise and consumer IT equipment.
- 2011 – **55 Billion**
- 2012 – **60 Billion**
- and to grow 10% per year that will reach **\$86 billion in 2016**, according to new research from Gartner.

# Cyber Intelligence

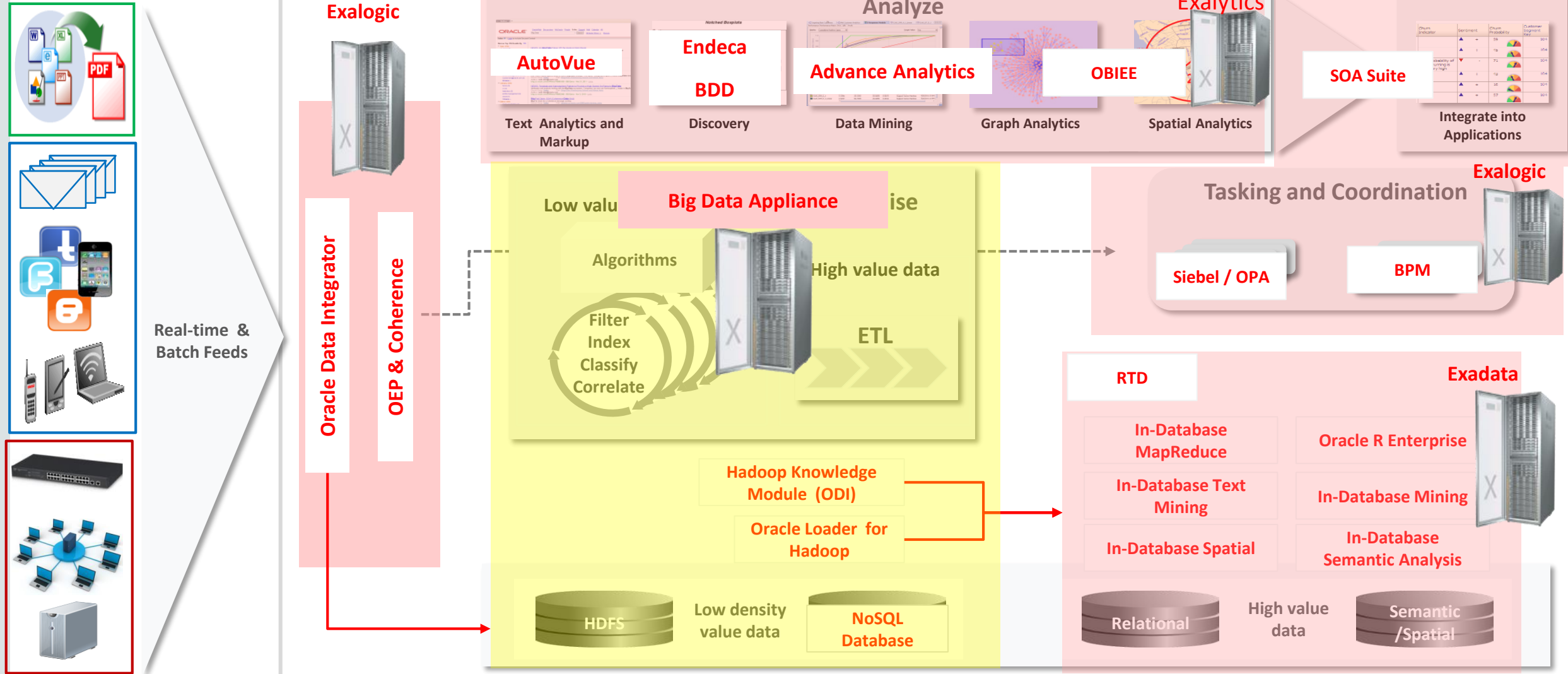
- Cyber **Defense** technologies protect specific threats, at a boundary to the organization
- Cyber **Intelligence** helps identify and defend against immediate attacks and prepare for future threats
  - Collect Information from across the organization
    - Security Logs, Access Logs, Network Information (DPI)
    - Analyze Patterns and Trends to Identify Current and Future Threats
  - Collection of External Sources of Information -- including info found in Open Source Media matched with “watch lists” or completely unstructured
  - International Collaboration and Disclosure





# Cyber Intelligence Components

## Oracle has tools to find information within the big data of social open source media



# Oracle Solution overview

## — Collection:

- Metadata and content extraction

## — Aggregation:

- Big Data Appliance – distributed file system
- Recording & indexing
- Real-time and batch analytics – **filtering**, aggregation & correlation
- Situational Awareness
- Investigation, Information discovery & analytics

## — Set-up/Detection:

- Customer algorithms & Definitions (e.g. Seaport call letters)

# Intelligent Real Time Systems

## Solutions

- **Monitors Social Media to identify hot-spots**
  - Uses Oracle Information Discovery
- **Crime Prevention & Information Center (CPIC)**
  - Correlate with police deployment
  - Initiate operational orders
  - Retrospectively identify potential witnesses

## Chicago, USA



# Filtering Words – used to yield info from social media raw data

Can you guess what these words mean in the criminal world?

- GAT
- Deuce Deuce
- S.O.S. (which most often is used as a distress signal)
- T.O.S. (which sometimes stands for seaport Terminal Operations Systems)
- B.O.S.
- Cheddar/Snaps
- 187

# Filtering Words – used to yield info from social media raw data

- GAT = Gun
  - Deuce Deuce = 22 caliber pistol
  - S.O.S. = Shoot on sight
  - T.O.S. = Terminate on sight
  - B.O.S. = Beat on sight
  - Cheddar/Snaps = Money
  - 187 = California penal code for murder
- ➔ There must be many other words for illegal shipments

# Oracle Cyber Intelligence Solution Benefits

- Next generation of intelligence solutions built on technology available today
- Open, flexible, extensible solution based on intelligence cycle
- Processing of semi-structured & unstructured data
- Big data analysis & information discovery
- Ability to use information for multiple purposes
  - i.e. security AND citizen sentiment

# Oracle Public Sector Cyber Intelligence

**More Information ?**





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