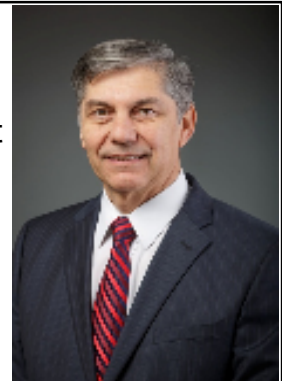




About the Speaker

dan.garlasu@oracle.com

- Graduated Computer Science at Politehnica University Bucharest
- With Oracle Romania since 2005
 - Sales Manager, Technology Romania
 - Bus Ops Director SEE Cluster (2007 – 2009)
 - Core Tech Sales Director (2009 – 2013)
 - Oracle University Sales Director, South Eastern Europe (since 2013)
- Before Oracle:
 - R&D Engineer, Control Data Corp
 - Sales Executive: AT&T, Nortel, Cisco
- PhD in Computer Science (2005)
- Visiting Professor, Politehnica University Bucharest
- VP of the National Software Association (ANIS) – Academic Initiatives



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2

Agenda

- 1 Intro – What market studies show
- 2 How can be quantified the threat and the consequences of a breach
 - 2a Case Study: Sony Media Entertainment
 - 2b Case Study: Target Corporation
 - 2c IT Layers most vulnerable to attacks
 - 2d Phishing Scams Cost
- 3 Use ROI/TCO methodology to justify your investment in security
- 4 Conclusions / Questions

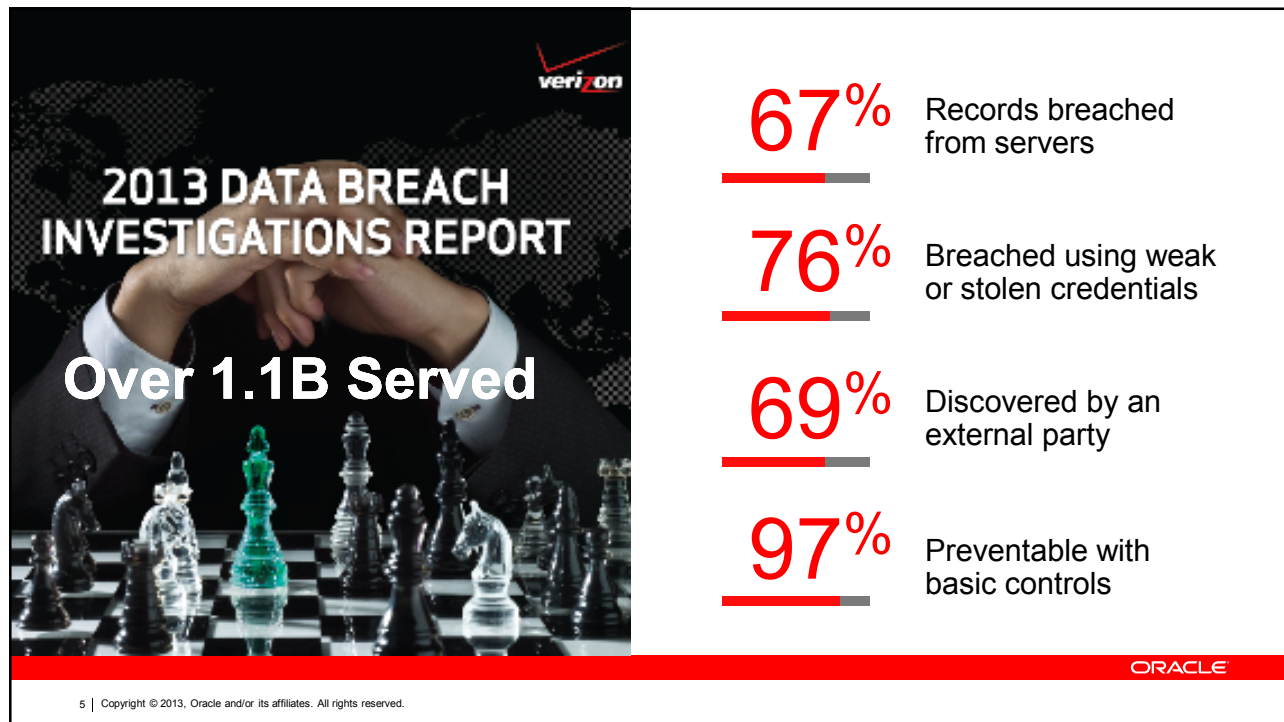
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3



4



Case Study #1: Sony Pictures Entertainment (SPE)

- [Nov 24, 2014](#): *"It was about 8:00 in the morning, and our CFO called to say that we had been breached. By the time I got to the office, the whole studio was off-line".* Employees logging on to their computers saw a skeleton and the words **"Hacked by the #GOP"** (Guardians of Peace). The hackers stole confidential business information, including employee data and private e-mails, and movies, including *Annie* and other unreleased films.
- [DECEMBER 15–16](#): Two separate class action lawsuits are filed on behalf of former and current employees alleging that Sony did not do enough to safeguard their private information.
- [January 2015](#): **Charlize Theron** obtains an additional \$10Million to match the fee of Chris Hemsworth, her male co-star in *The Huntsman* film production.
- [February 4 2015](#): **Sony Pictures Entertainment declares the hack cost \$15 million through the end of 2014.**

Source: July–August 2015 Harvard Business Review

Case Study #2: Target to Pay Visa Issuers Up To \$67M

The biggest data breach in American retail history

- **Target Corp.** has reached an agreement with Visa Inc. to settle claims over the **massive 2013 data breach that exposed 40 million credit and debit cards to fraud.**
- According to a report by the [Wall Street Journal](#), the retail giant will reimburse thousands of financial institutions up to \$67 million for costs associated with the compromise.
- In addition, Target said it is currently working on a similar agreement with MasterCard issuers.
- [In a separate](#) lawsuit against Target, banks seeking class-action for the losses suffered as a result of its data breach.

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Mossack - Fonseca

Panama Papers

A massive data leak

2.6 terabytes of data was leaked - equivalent of 11,5M documents.

That's 10 times more than the offshore leaks of 2013 and 1,500 times more than the famous Wikileaks of 2010. A digital supertanker.

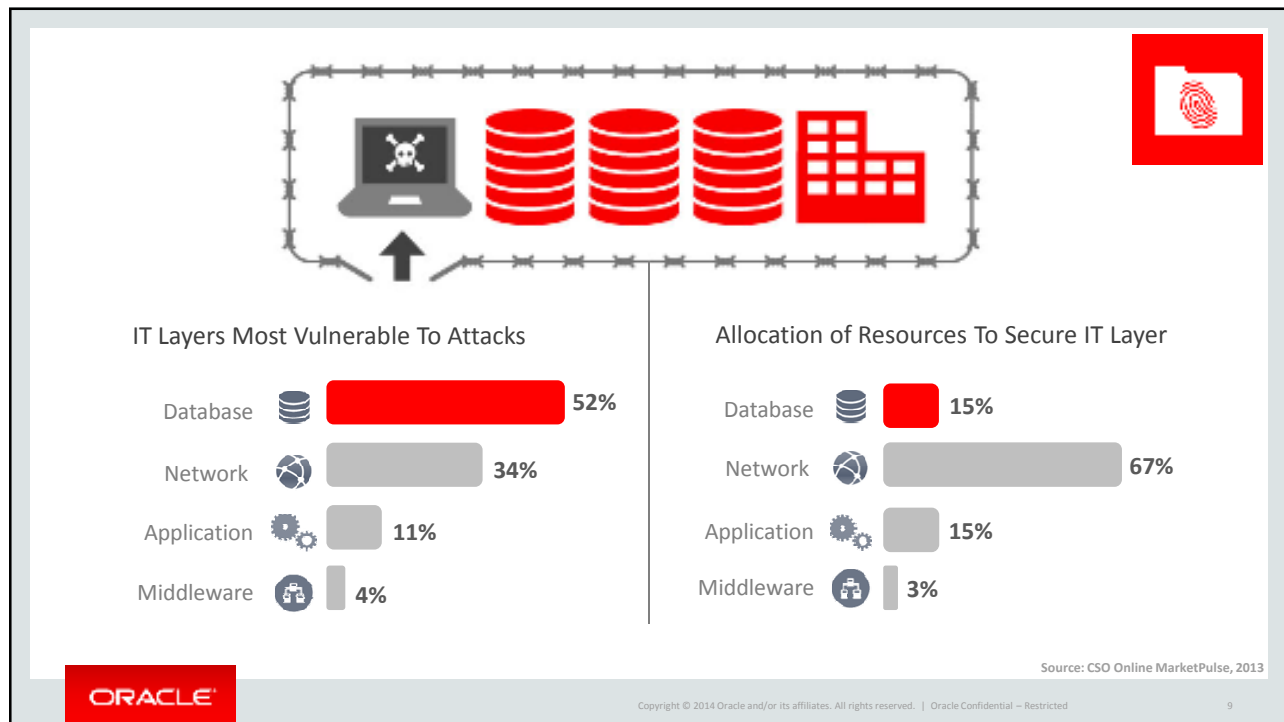
And as if that wasn't enough, there was not the slightest bit of cyphering, not the slightest data encryption, not even a little 1234 password.



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8



Why Are Databases Vulnerable?

80% of IT Security Programs Don't Address Database Security

Forrester Research

“Enterprises are taking on risks that they may not even be aware of.”

“Especially as more and more attacks against databases exploit legitimate access by compromising applications and user credentials.”

The diagram features a central stack of three database icons with a large red question mark overlaid on them. The text 'Database Security' is written below the stack. Surrounding this central element are five red rounded rectangular boxes, each containing a security domain name: 'Network Security' at the top, 'SIEM' on the right, 'Endpoint Security' at the bottom right, 'Email Security' at the bottom left, and 'Authentication & User Security' on the left.

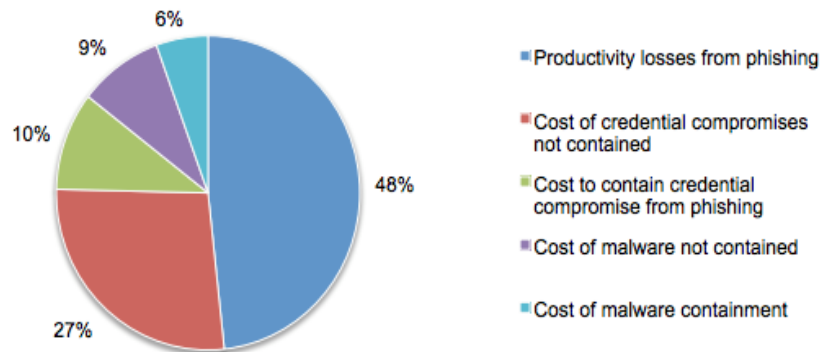
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Phishing Scams Cost Companies Millions Per Year

The average organization could potentially spend up to \$3.7 million per year responding to [phishing attacks](#), says a new [report issued by the Ponemon Institute in August 2015](#)

Pie Chart 1. Percentage distribution of phishing cost categories



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From 2007 to 2013 the increase of hacking was

1600 %

Lost, stolen or weak credentials

50 %

Enables access in the name of a user

Backdoor attacks

19 %

To bypass security and provide access

SQL-Injection attacks

13 %

Which is 42% of all data attacks

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Source: CSO Online MarketPulse, 2013

Two Reasons Organizations Should Invest In Database Security



Mitigate Data Breaches



Address Regulatory Compliance

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13

How to Get the Financing for Securing the IT (1)?

To deploy a Data Masking solution, a Business Case approach has the potential to provide a solid ROI (Return On Investment) through quantifiable benefits from:

- improved DBA productivity,
- internal IT cost reduction, as well as
- cost avoidance of a security breach

resulting in a risk-adjusted ROI of 242%, along with a 5.4 month payback period (break- even point).

Cash flow: Risk-adjusted estimates						
	Initial	Year 1	Year 2	Year 3	Total	PV
Costs	(\$321,616)	(\$60,720)	(\$60,720)	(\$60,720)	(\$503,776)	(\$472,618)
Benefits		\$769,378	\$581,378	\$581,378	\$1,932,133	\$1,616,709
Net benefits	(\$321,616)	\$708,658	\$520,658	\$520,658	\$1,428,356	\$1,144,091
ROI	242%					
Payback period	5.4 months					

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Source: Forrester Research, Inc.

How to Get the Financing for Securing the IT(2)?

To evaluate the value proposition of an Identity Management suite a three-year risk-adjusted ROI of 212% with a payback period of six months case study is available

Table 1: Three-Year ROI, Risk-Adjusted

Summary financial results	Original estimate	Risk-adjusted
ROI	250%	212%
Payback period (months)	5.4	6.1
Total costs (PV)	(\$4,103,186)	(\$4,373,379)
Total benefits (PV)	\$14,346,649	\$13,641,627
Total (NPV)	\$10,243,463	\$9,268,247

Source: Forrester Research, Inc.

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Conclusions (1): Cybersecurity's Human Factor

Lessons from the Pentagon (www.hbr.org)

At the heart of their culture are six interconnected principles

- 1. Integrity** - deeply internalized ideal that leads people, without exception, to eliminate "sins of commission" (deliberate departures from protocol) and own up immediately to mistakes
- 2. Depth of knowledge** - If people thoroughly understand all aspects of a system—including the way it's engineered, its vulnerabilities, and the procedures required to operate it—they'll more readily recognize when something is wrong and handle any anomaly more effectively
- 3. Procedural compliance** - know where to find proper operational procedures and to follow them to the letter
- 4. Forceful backup** - any action that presents a high risk to the system has to be performed by two people
- 5. A questioning attitude** - this is not easy to cultivate in any organization, especially one with a formal rank structure in which immediate compliance with orders is the norm
- 6. Formality in communication** - minimize the possibility that instructions are given or received incorrectly at critical moments



Conclusions (2): train your employees

General and (Cyber-)Security



Database Cloud Learning Subscription Channels

Getting Started

Administration

Migration

Security

Performance Management & Scaling

Identity Management
Learning Path

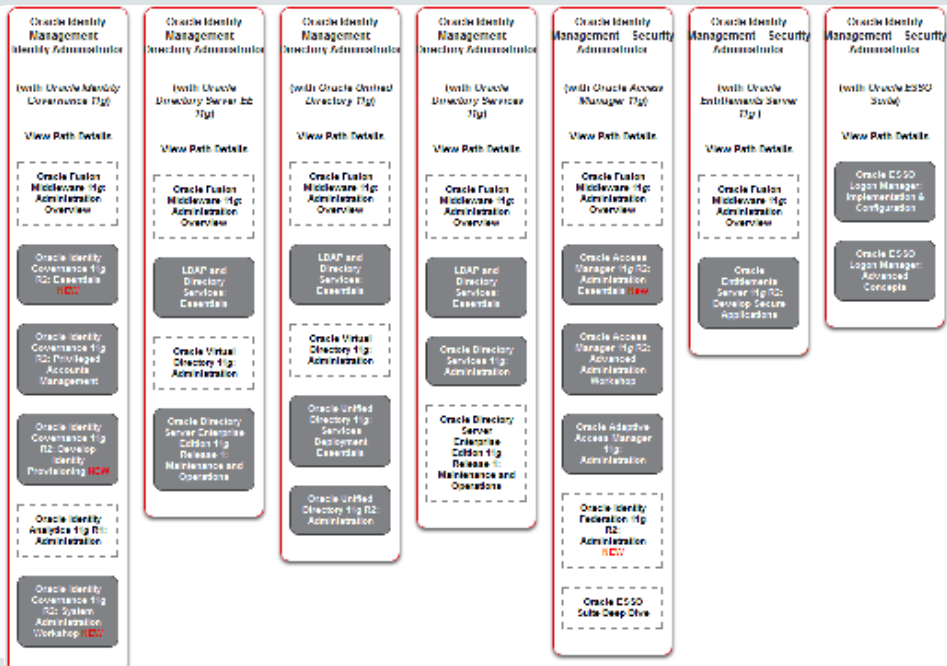
Enterprise Manager
Learning Path

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(Cyber-)Security MiddleWare



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Oracle Database 12c (Cyber-)Security



Oracle Database
12c: Introduction
to SQL Ed 1.1
NEW

Oracle Database
12c:
Administration
Workshop

Oracle Database 12c: Security

Using Oracle Database Vault with Oracle Database 12c

Oracle Audit Vault and Database Firewall: Install & Configure

Oracle Audit Vault and Database Firewall: Policies & Reports

Using Oracle Key Vault

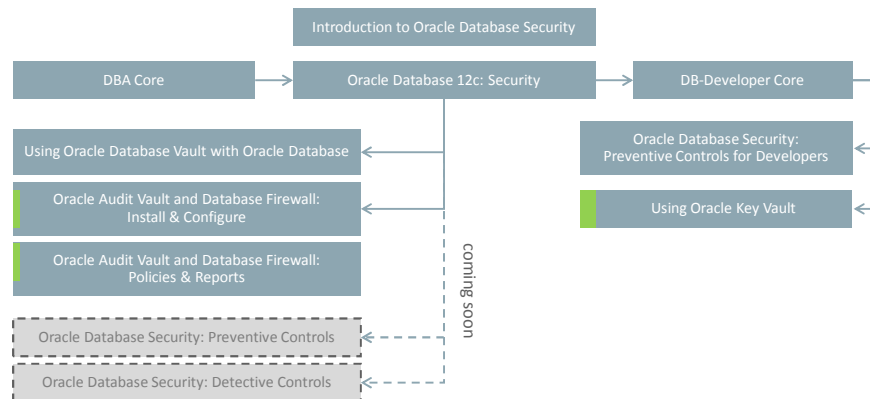


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Oracle Database – Security




Securing Non-Oracle Products as well

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OU Security Certifications



Oracle University's Security Certifications

Earn a well-respected credential and gain a competitive advantage in the IT job market. Oracle University's security certifications will certify that you have the skillset to safeguard data, secure critical applications, monitor and report on data, enable regulatory compliance, and lower operational costs.

Oracle Database 11g Security Certified Implementation Specialist	Oracle Identity Governance Suite 11g Certified Implementation Specialist	Oracle Access Management Suite Plus 11g Certified Implementation Specialist
------------------------------------------------------------------------	--------------------------------------------------------------------------------	-----------------------------------------------------------------------------------

[Oracle Database 11g Security Essentials 1Z0-528](#)

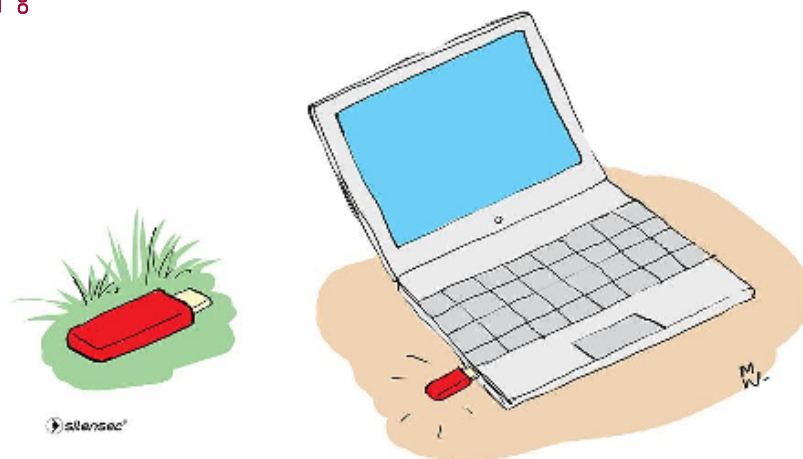
[Oracle Identity Governance Suite 11g Essentials 1Z0-459](#)

[Oracle Access Management Suite Plus 11g Essentials 1Z0-479](#)

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22

Integrated Cloud

Applications & Platform Services

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23