Channeling Oracle OpenWorld 2017

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Unsafe Harbor

- This room is an unsafe harbor
- You can rely on the information in this presentation to help you protect your data, your databases, your organization, and your career
- No one from Oracle has previewed this presentation
- No one from Oracle knows what I'm going to say
- No one from Oracle has supplied any of my materials
- Everything I will present is existing, proven, functionality

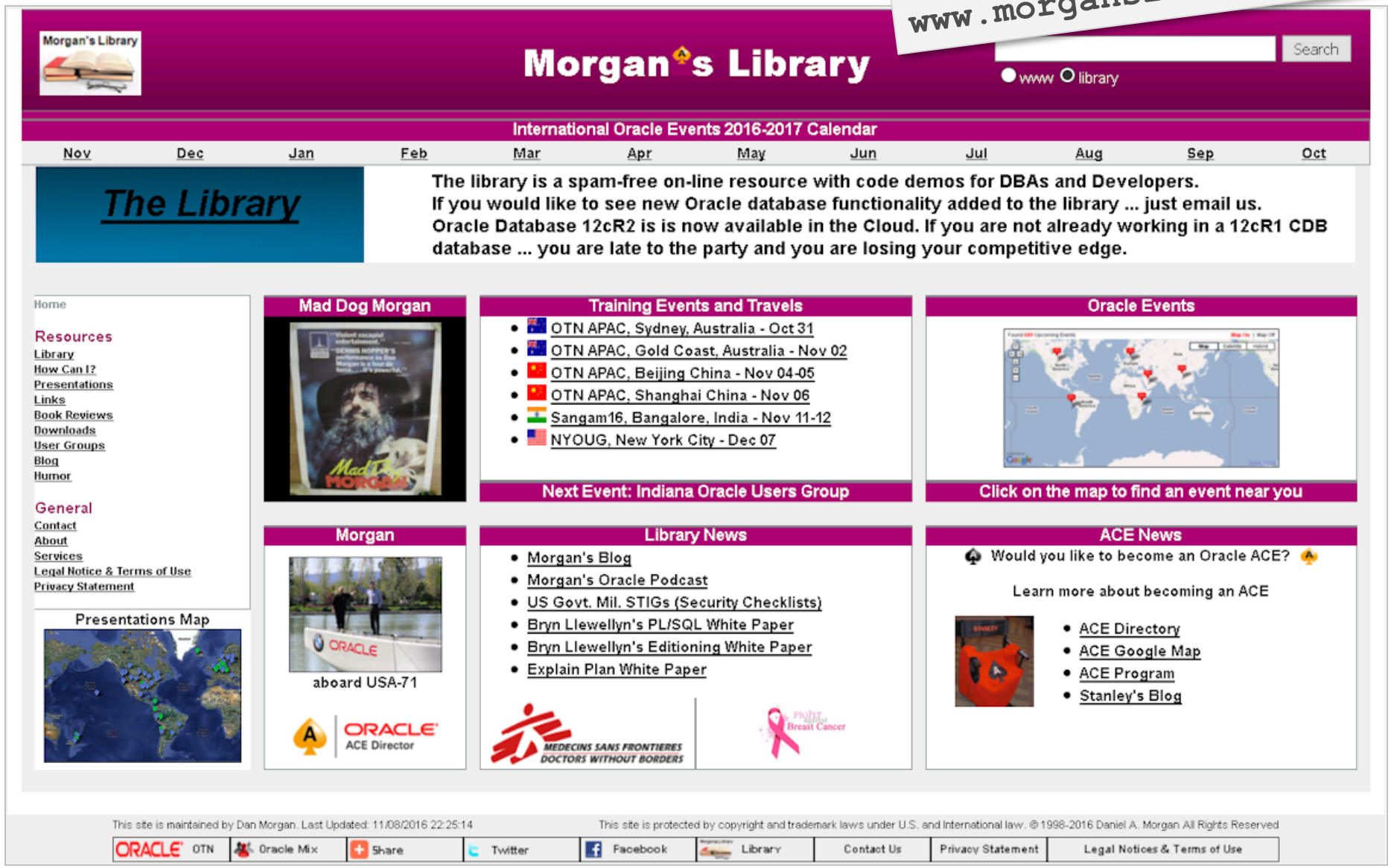
Introduction

Daniel Morgan

- Oracle ACE Director Alumni
- Oracle Educator
  - Curriculum author and primary program instructor at University of Washington
  - Consultant: Harvard University
  - University Guest Lecturers
    - APAC: University of Canterbury (NZ)
    - EMEA: University of Oslo (Norway)
    - Latin America: Universidad Cenfotec, Universidad Latina de Panama, Technologico de Costa Rica
- IT Professional
  - First computer: IBM 360/40 in 1969: Fortran IV
  - Oracle Database since 1988-9 and Oracle Beta tester
  - The Morgan behind www.morganslibrary.org
  - Member Oracle Data Integration Solutions Partner Advisory Council
  - Vice President Twin Cities Oracle Users Group (Minneapolis-St. Paul)
  - Co-Founder International GoldenGate Oracle Users Group
- Principal Adviser: Forsythe **Meta7**

System/370-145 system console

My Websites: Morgan's Library



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Learning Experience Alert

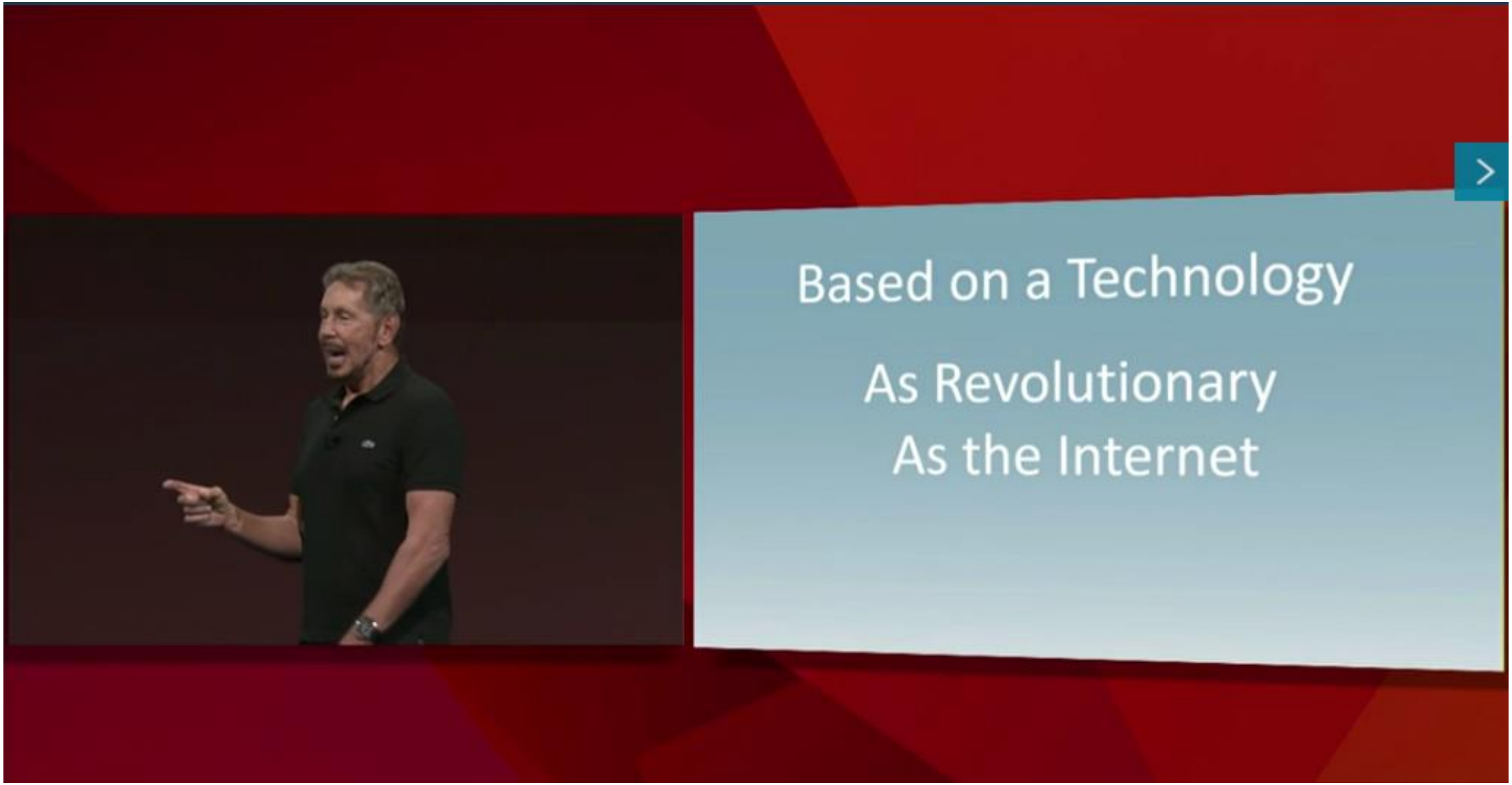
Say Hello To Machine Learning

Welcome To Our Future

- Larry Ellison's keynotes focused on two different new products
- Both based on a single underlying technology that Oracle is working to build into all of the products in its technology stack
- In his first keynote Larry focused on what he called:

"The new, greatest, version of Oracle 18c which is the world's first autonomous database"


Oracle Autonomous Database
and
Highly Automated Cyber Defense
Larry Ellison
Chief Technology Officer
Robots
Prevent Data Theft
ORACLE


Based on a Technology
As Revolutionary
As the Internet

The Premise Is As Ground-Shaking As It Is Obvious (1:2)

- There can be a variety of threats to our data, our databases, and our organizations
- The threats include
  - Stability Issues
  - Security Threats
    - Denial of Service Attacks
    - Data Theft
    - Data Corruption
  - Performance Issues
- The solution Oracle has chosen in Machine Learning
  - Not Artificial Intelligence ... but very specifically "machine learning"
  - The point is that "We do everything we can to avoid human intervention"
- The "cold war" has moved from the military to our computers
- We are the front line ... and while there is no blood or burning buildings ... make no mistake about it ... this is escalating and our ability to pretend that we are not on the front line is evaporating

The Premise Is As Ground-Shaking As It Is Obvious (2:2)

- It is now "Our computers" vs "Their Computers" in cyberwarfare
  - If it is their computers vs us ... we will lose
  - If you don't believe me try to beat Deep Blue at chess or AlphaGo at go
  - If the opposition is an crime family your data will be sold on the dark web
  - If the opposition is a nation-state expect your data to be used to attack your country, your community, your family
  - The worst data thefts have occurred after a patch was available
  - Because we all know we do not patch the instant the patch if available
  - We schedule downtime
  - Patching is never a top priority for our employers
- To win we must
  - Apply patches the instant they are available
  - Act the instant the database detects a threat
- We no longer have the luxury of scheduling patches ... taking an outage ...
- The "old" way is not a tactic or a strategy ... it is a guaranteed failure

Oracle Management & Security Cloud (1:2)

- Log Analytics (Splunk) doesn't fix anything ... it just tells you that you have a problem ... if anyone has time to look
- OMC is a highly automated cyber defense ... not yet 100% autonomous
- Originally designed as a Splunk killer ... but implemented as far more
- With the 18c database ... co-designed to stop data theft
- We need to reprioritize and we need to help our management reprioritize
- We need to completely rethink how we protect systems
- What happened at Equifax?
  - For one thing they couldn't find all of the installed instances of Apache Struts
  - Which prevented them from patching them
  - The attackers, it seems, found them all
  - And they made the mistake of focusing on perimeter defense rather than defense in depth

Oracle Management & Security Cloud (2:2)

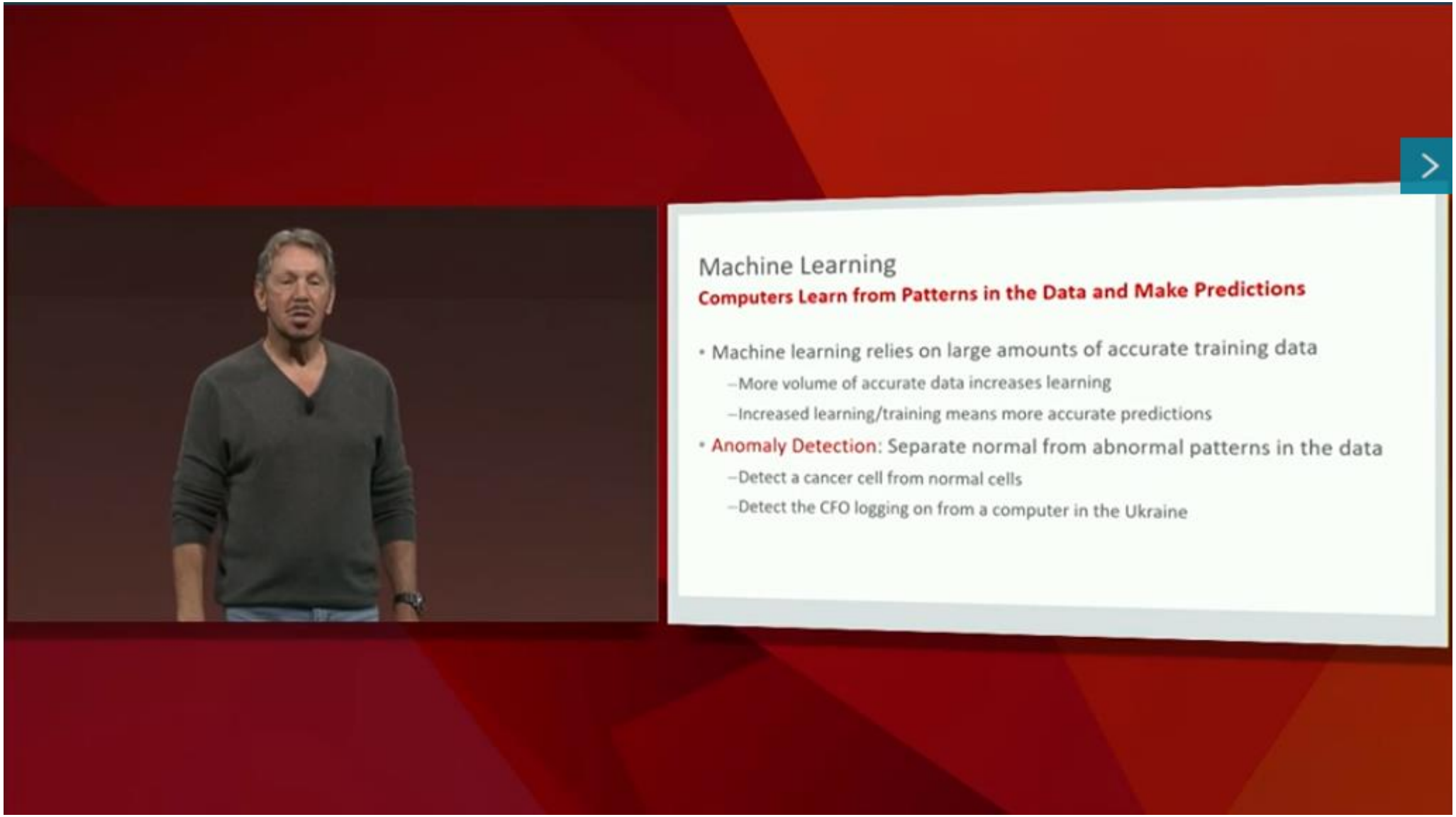
- We don't tolerate airplane crashes ... but we tolerate security failures daily
- We need to elevate the priority of security
- We need to reprioritize ... to do security without it being a speed bump
- Humans can't keep up ... we must have more automation
- We need to automatically fix vulnerabilities and, if there is an attack, detect it and shut it down
- There **must** be no human intervention and no downtime required
- Which means we need to
  - Identify normal events
  - Distinguish normal from abnormal events
  - Act instantly an autonomously to abnormal events

Oracle Management & Security Cloud (4:2)

Oracle Management & Security Cloud (4:2)

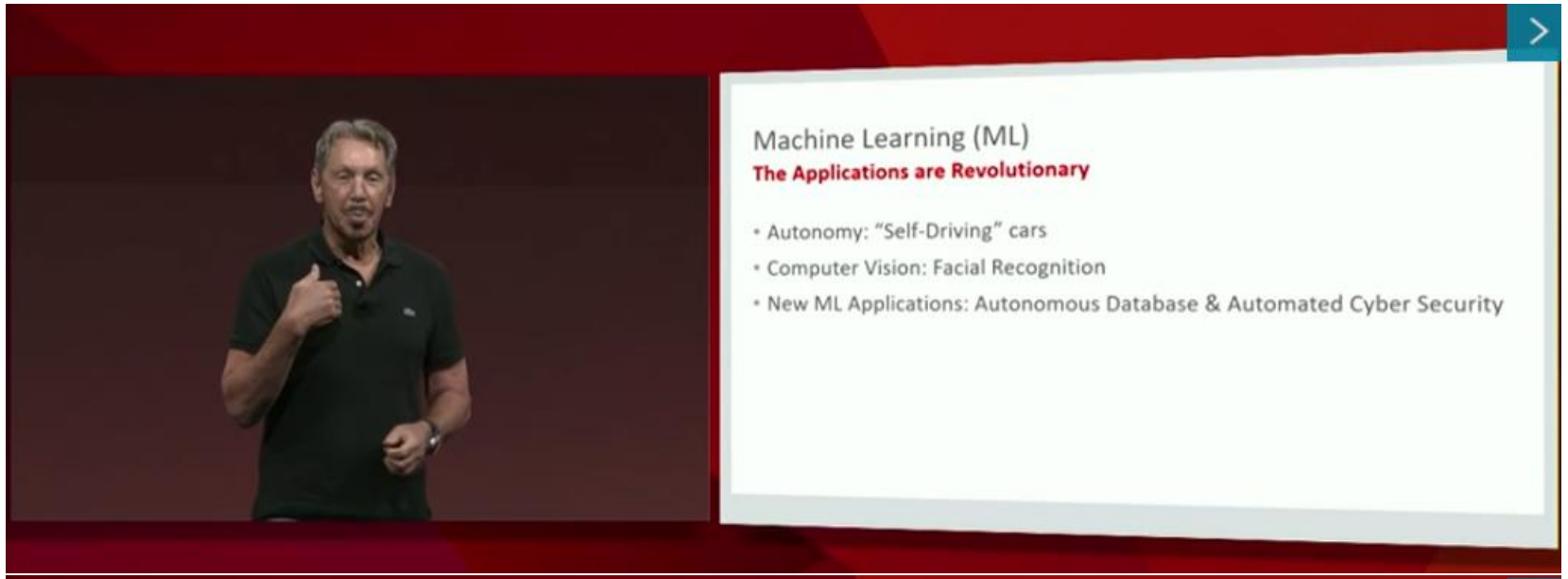
Oracle Management & Security Cloud (5:2)

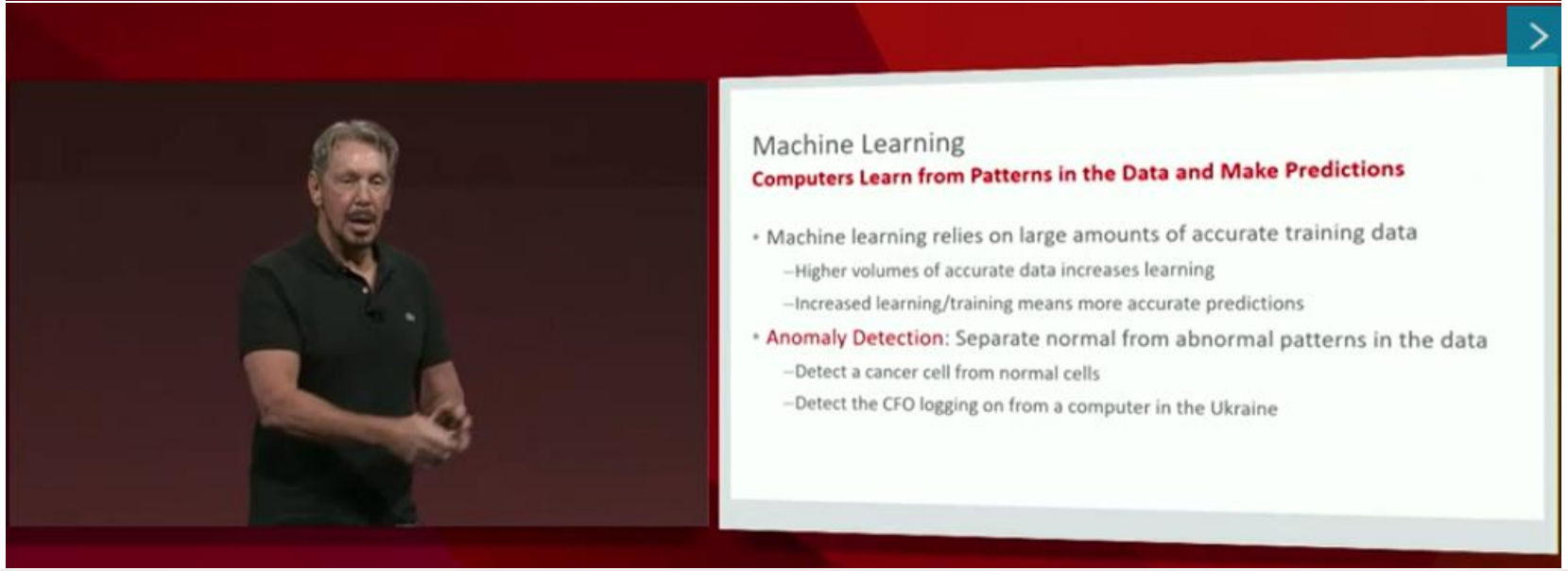
Oracle Management & Security Cloud (6:2)



Oracle Management & Security Cloud (7:2)

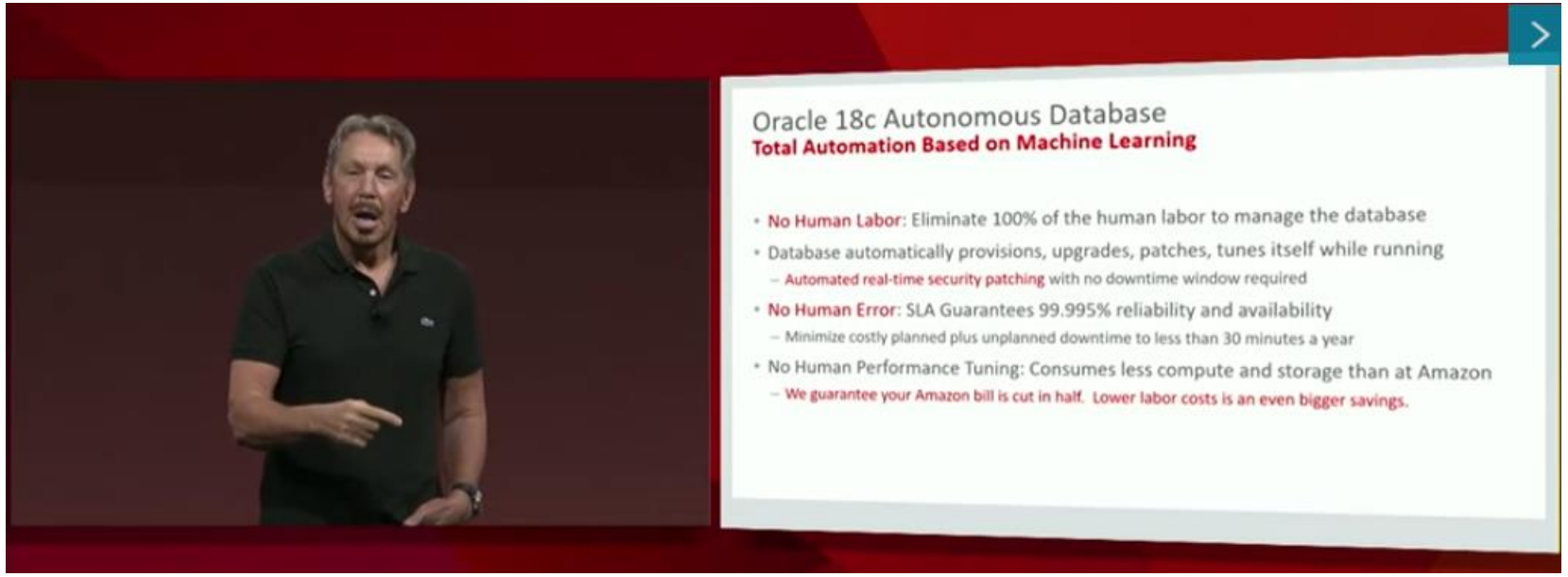
Autonomous Database 18c (1:6)



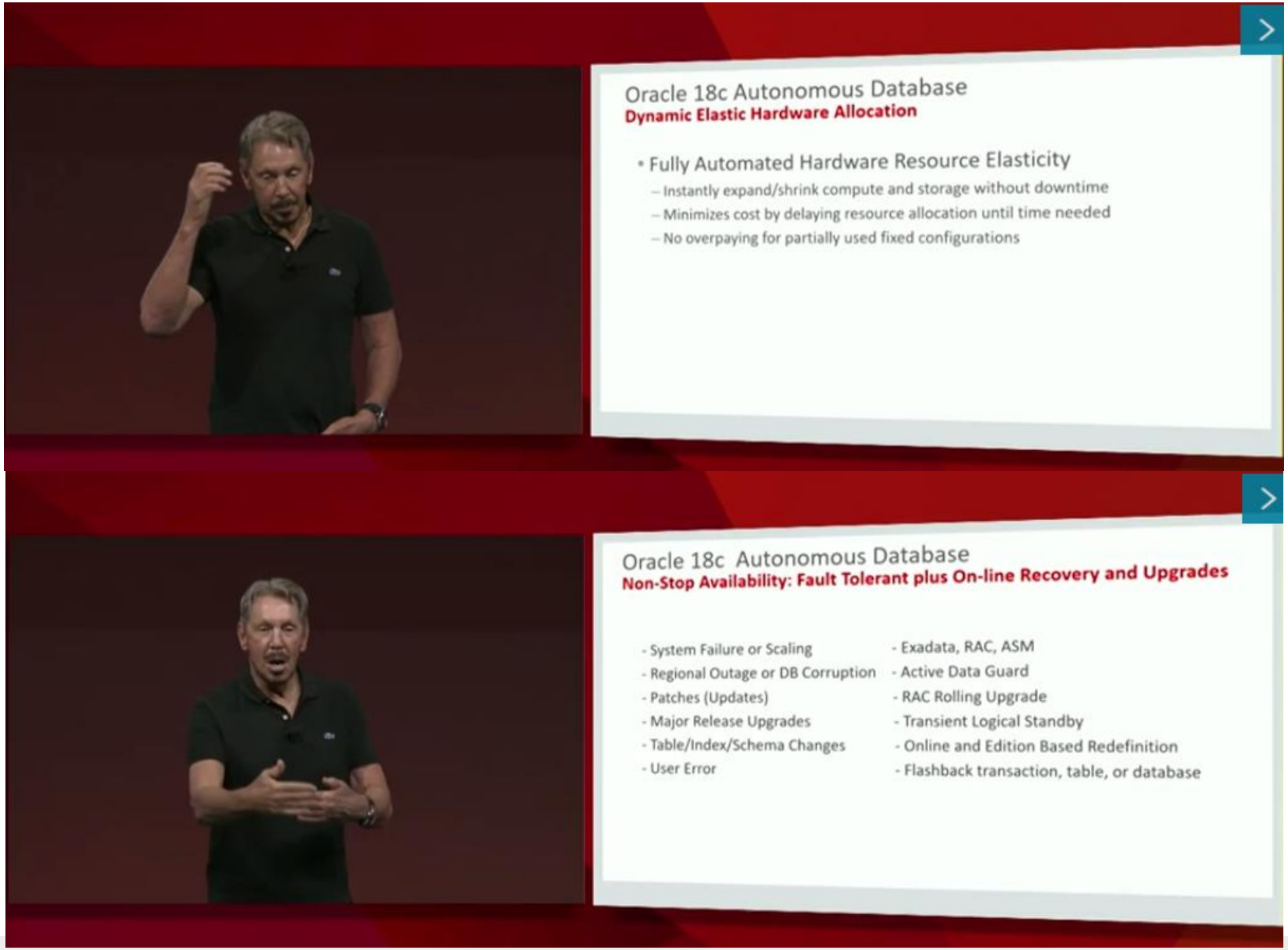


Autonomous Database 18c (2:6)

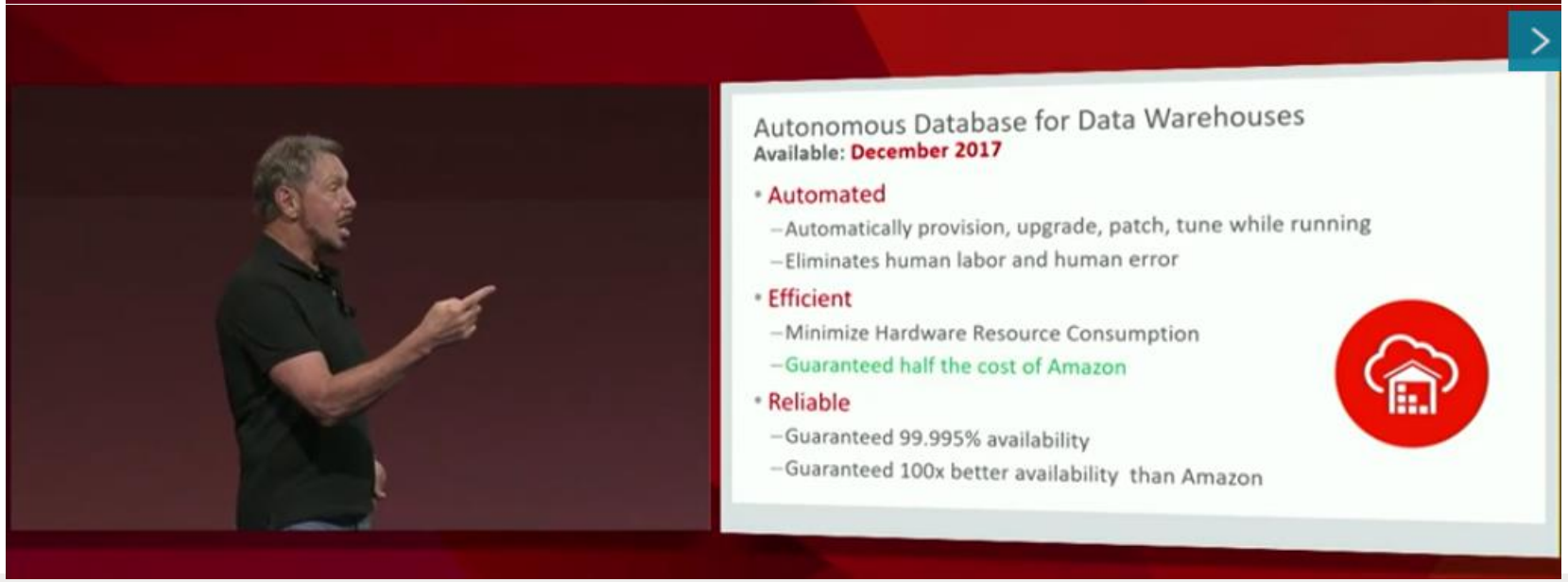
Autonomous Database 18c (3:6)



Autonomous Database 18c (4:6)



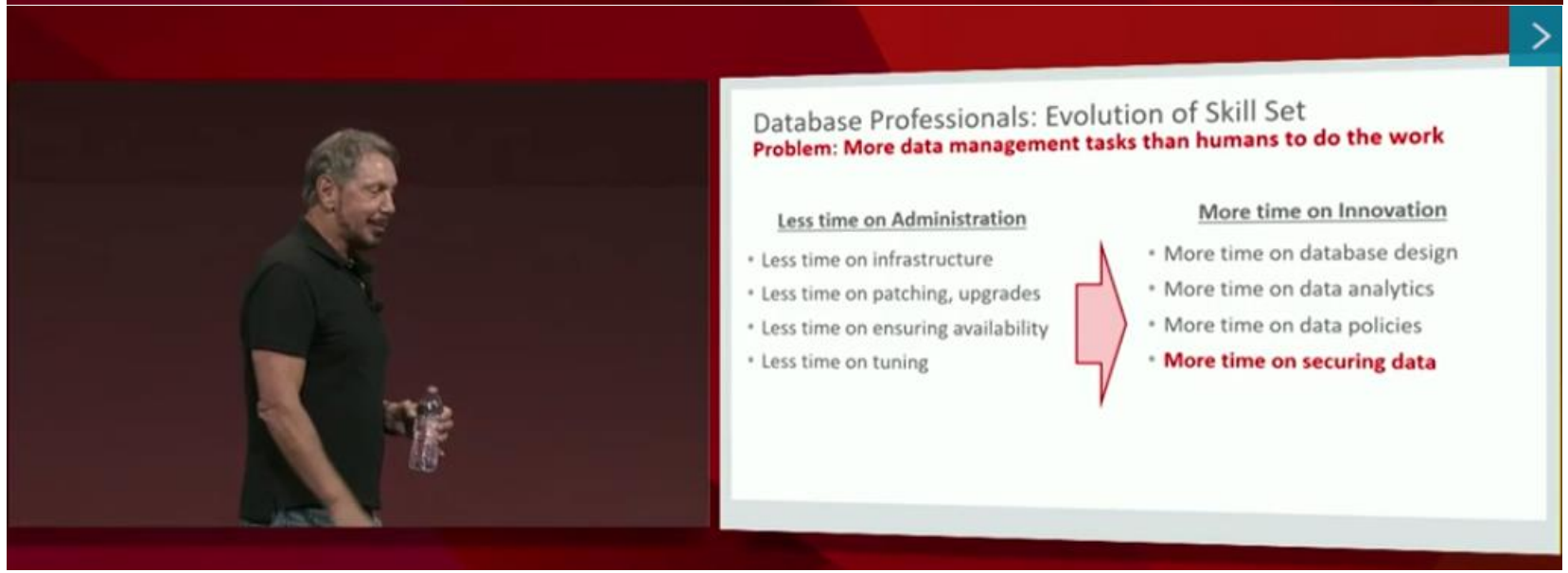
Autonomous Database 18c (5:6)



The Future Is Just 2 Months Away

- Databases that use machine learning to detect attacks and stop
- Databases that patches themselves
- Databases that back themselves up
- A database that guarantees <= 30 minutes of downtime per year

Autonomous Database 18c (6:6)



We've Come A Long Way ... We Have Far Further To Go

Ed Oates Bruce Scott Bob Miner Larry Ellison

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*
ERROR at line 1:
ORA-00028: your session has been killed
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