

# DOAG 2015 Systems Maintenance rEvolution – From Solaris to SuperCluster and M7 Part 1

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<https://blogs.oracle.com/Solaris11Life>  
<https://blogs.oracle.com/patch>



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# How would you like...



To reduce the number of issues you encounter with generic systems by over 70% ?

To experience 7x fewer issues with Engineered Systems. At **no** additional cost.

To leverage automatic analysis of your systems to address risk before it turns into issues ? At **no** additional cost.

If Oracle patched your systems, so you don't have to ? At **no** additional cost.

To understand the phenomenal capabilities of the new T7/M7 systems ?

# Program Agenda – Maintenance rEvolution To Platinum Patching and Beyond!

- 1 ➤ In the Beginning...there were Patches, lots of Patches
- 2 ➤ The Discovery of Flint...Recommended Patchsets
- 3 ➤ The Bronze Age...Live Upgrade and feedback loops
- 4 ➤ The Age of Enlightenment...Tools and Knowledge
- 5 ➤ The Renaissance...The Beauty of Oracle Solaris 11
- 6 ➤ The Industrial Revolution...ACS, ASR, PAC
- 7 ➤ The Space Age...Engineered Systems, Platinum Patching, M7/T7
- 8 ➤ Head in the Cloud...On Premise or in Cloud, it's all the same

# In the beginning...

There were patches. Lots of Patches. 4,000+ Oracle Solaris patches per year.

- “Tell me which patches I need for my systems!”
  - Lots of choice. Lot of time spend determining which patches to apply => \$cost
  - Each customer system ended up with unique patch combinations => \$risk (small)
  - Patches were time consuming to apply => \$cost
    - Applying to live boot environment resulted in long maintenance windows => \$cost



# The Discovery of Flint...Recommended Patchsets



Created Recommended Patchsets containing the most critical fixes needed by all customers

Customers still needed to figure out which additional patches they may need for their specific environment  
=> \$cost

Still end up with each customer system having unique patch combinations => \$risk (small)

Still costly to apply => \$cost

# The Bronze Age...

## Feedback to Developers

Feedback loop to developers on issues arising help improve features in subsequent releases

## Live Upgrade

Reduces maintenance windows and risk by modifying an inactive copy of the boot environment => \$cost saving, \$risk saving



# The Age of Enlightenment...Tools and Knowledge



How well a system is initially installed and configured is the key factor determining the quality of the customer's lifecycle experience

Regular patch cadence helps customers plan maintenance windows

Enable customers to be as self sufficient as possible – better tools, more knowledge



# The Renaissance...The Beauty of Oracle Solaris 11

Oracle Solaris 11 IPS simplifies the customer experience => \$cost savings

SRUs applied as a unit. No need to choose patches => \$cost savings

Safety-in-numbers with many customers running same SRU => \$risk savings

Oracle Solaris 11 is feature rich:

- Silicon Secured Memory
- solaris-minimal-install
- Compliance framework
- solaris-11-cpu CVE metadata package
- OSM for Oracle DB

Security IDRs



# Simple Compliance Reporting

## Rule result breakdown



## Failed rules by severity breakdown



## Score

Scoring system	Score	Maximum	%
urn:xccdf:scoring:default	98.429319	100.000000	98.43%

## Rule Overview

☒ pass  
☒ fixed  
☒ informational

☒ fail  
☒ error  
☒ unknown

☒ notchecked  
☐ notselected  
☒ notapplicable

Search through XCCDF rules

Search

Title	Severity	Result
Payment Card Industry Data Security Standard 1x fail 0x error		
Verify the OS configuration 1x fail		
The OS version is current	medium	pass
Package integrity is verified	high	fail
Package signature checking is globally activated	medium	pass
Bootling the system should require a password	medium	pass
Address Space Layout Randomization (ASLR) is enabled	medium	pass
Stacks are non-executable	medium	pass
The umask(1) for SMF services is 022	medium	pass
Service svc:/network/iptables is enabled	medium	pass
The tcp_wrappers feature is enabled	medium	pass

## Package integrity is verified

Rule ID	OSC-54005
Result	fail
Time	2015-03-10T12:05:28
Severity	high
Identifiers and References	

Run 'pkg verify' to check that all installed Oracle Solaris software matches the packaging database and that ownership, permissions and content are correct.

SCE stdout

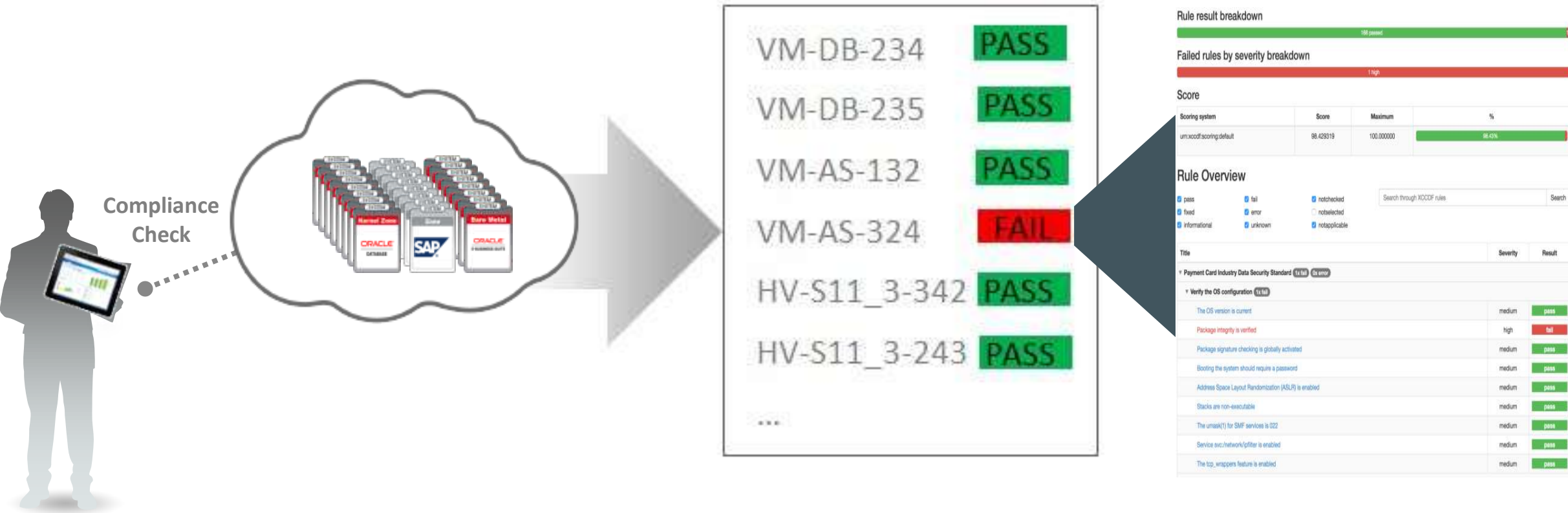
The following packages showed errors  
pkg://solaris/service/network/legacy-remote-utilities ERROR  
pkg://solaris/system/core-os ERROR  
pkg://solaris/system/management/ocm ERROR  
pkg://solaris/system/network/ppp ERROR  
Run 'pkg verify' to determine the nature of the errors.

Remediation script:

# pkg verify  
followed by  
# pkg fix <package-fMRI>



# Next: Cloud-Scale Compliance Reporting



# Next: Minimized Downtime Patching

Significant Reduction in Planned Downtime

*Security  
Fix*



*Security  
Fix*



*Stability  
Fix*



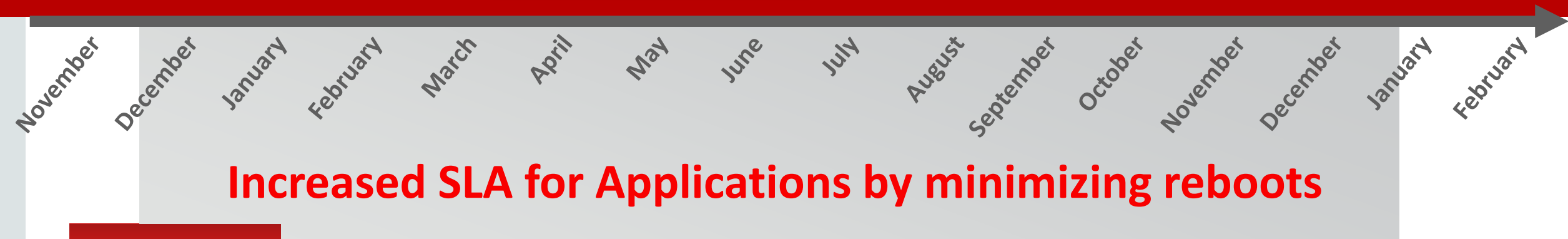
*Security  
Fix*



*Stability  
Fix*

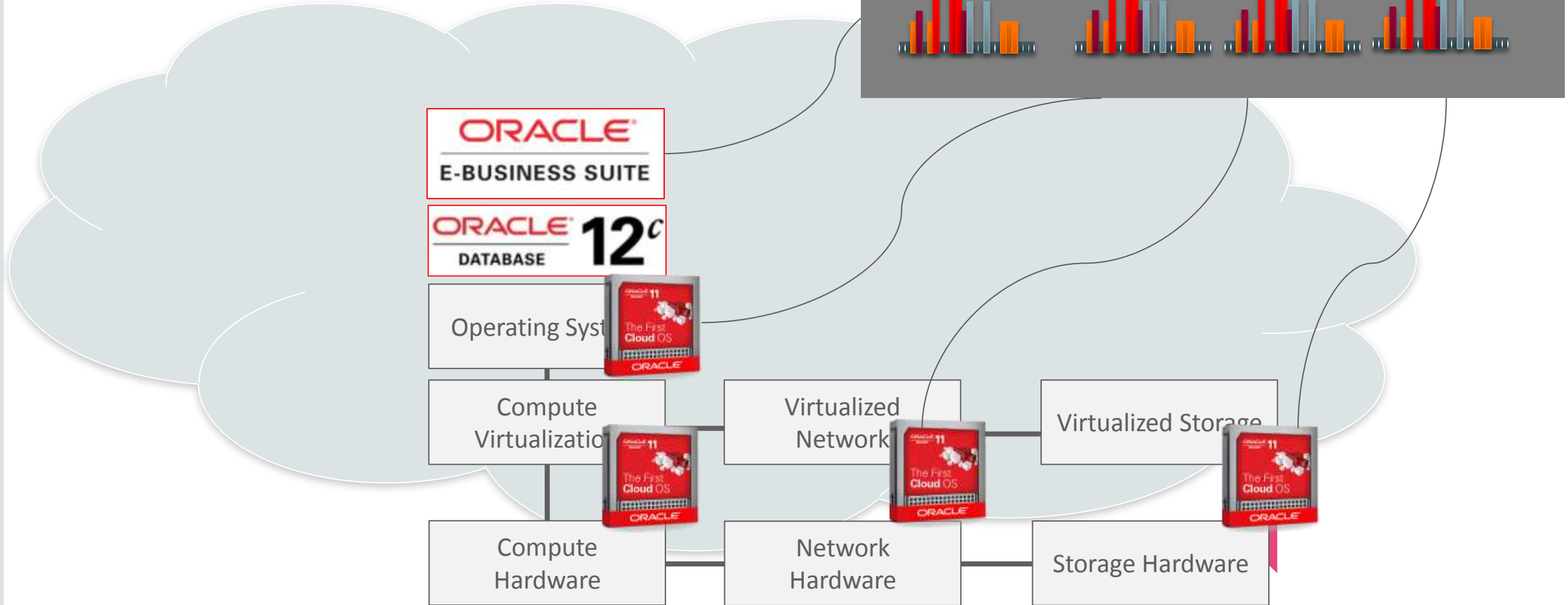


## Minimized Downtime





# Next: End-to-End Analytics



# The Industrial Revolution...ASR, ACS, PAC



ASR can report issues before they've even happened - \$risk savings

ACS Installation Services ensure best practice installation and configuration, reducing subsequent SR rate by over 70%! - \$cost savings

Proactive Analysis Centre enumerates your Operational Risk and guides you proactively to mitigate risks before they become issues - \$risk savings

EM 13c does exactly what it says. Enterprise class Management.

## Why Oracle Premier Support?

When systems are down and customers are angry, getting back online fast supersedes all.

## Premier Support Benefits

Portfolio highlights and business benefits.

## Auto Service Request

How ASR reduces time and effort to get back online fast.

## Device and Data Retention

Keep malfunctioning storage devices replaced under support to comply with data retention legislation.

## Platinum Services

Specialized Support for Engineered Systems at no extra cost.

## Proactive Analysis Centre

Proactively mitigate downtime risks and improve patch management activities.

## Business Critical Services

Oracle's highest service level offering for customers who are willing to pay more for additional risk mitigation assurances.

## My Oracle Support

The world's most advanced support portal keeps customer systems healthy and secure.

## Systems Take Back Program

Get trade in discounts toward new Oracle systems when returning qualified used products.

## Tech Refresh

Oracle's latest technology reduces TCO and simplifies cloud adoption.

**ORACLE®**  
**PREMIER SUPPORT**

# ACS Installation Services

## Reduce Customer Production Issues By Over 70%!

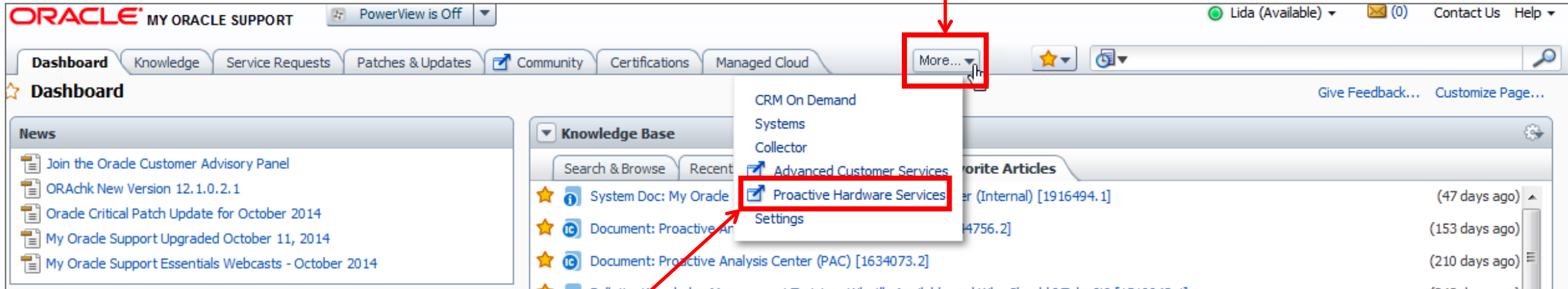
	Percentage of Total	Number of Software SRs per KSSD*	Number of Bugged SRs per KSSD*
No ACS Installation Service	22%	9.9	3.3
ACS Hardware Installation Service	66%	6.5	2.9
ACS Hardware & Software Installation Service	12%	2.6	1.3

\*SRs per KSSD is Service Requests per Kilo System Service Days, that is SRs normalized per 1,000 days of operation. Bugged SRs refers to Service Requests which were associated to a bug. Data refers to all M6 installations worldwide.



# My Oracle Support – Proactive Analysis Center (PAC) Access

1 - Click the “More” tab

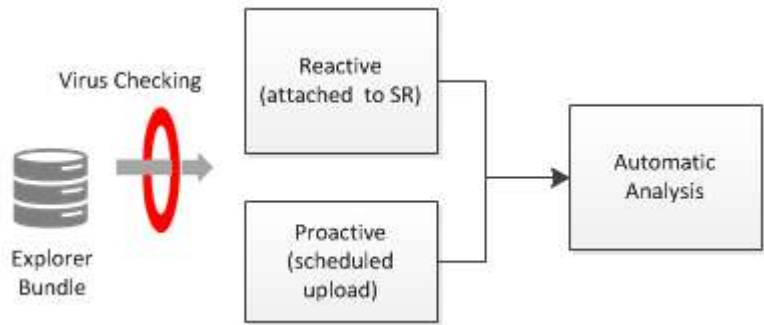


2 - Click Proactive Hardware Services

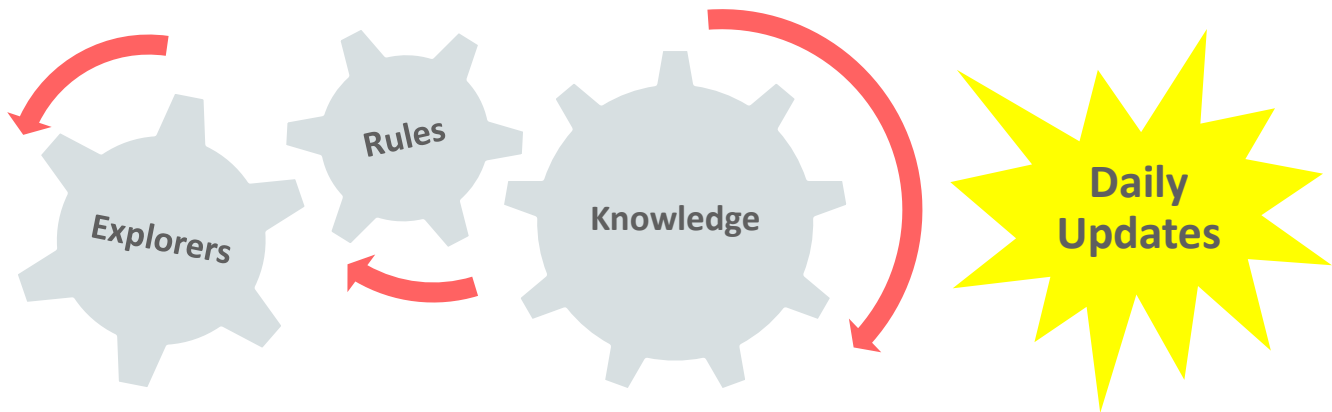
- ✓ User must be associated to an active, hardware SI; otherwise, Proactive Hardware Services option will not be available
- ✓ User will only have access to assets associated with their SI

# Proactive Analysis Center (PAC)

Step 1  
Data submission



Step 2  
PAC Engine



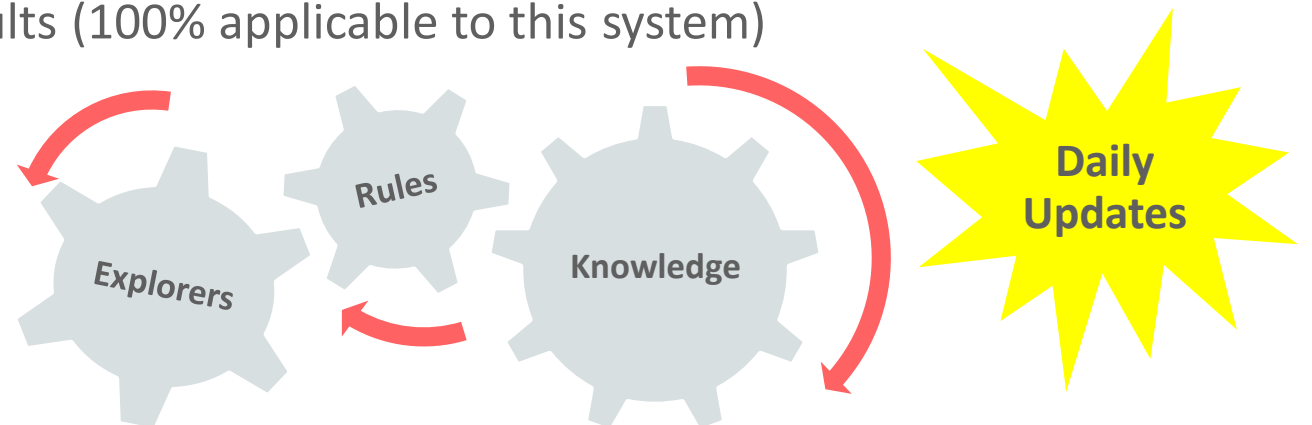
Step 3  
Report Access

ORACLE MY ORACLE SUPPORT



# Proactive Analysis Center - Operational Risk Index (ORI)

- A metric that acts as a leading indicator of IT risk
- The ORI score is based on a measurement of failed rules for a system
- The higher the ORI number the greater the potential for problems, downtimes, or outages
  - ✓ Each issue (rule) is given an ORI Score
  - ✓ The possible severities include: Critical, High, Medium, and Low
  - ✓ ORI is calculated only on conclusive results (100% applicable to this system)
- As failures are remediated
  - ✓ ORI Drops
  - ✓ Customer Satisfaction Increases



# Proactive Analysis Center (PAC) – Lower ORI => Fewer Issues

## Case Study: Large multinational Telco

No of SR's per system against average ORI

803 Calls & 407 Servers

