Oracle Critical Patch Updates: Insight and Understanding

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Introduction

- **Stephen Kost**
  - Chief Technology Officer of Integrigy Corporation
  - 11 years experience with Oracle Applications as Applications DBA, architect, and application administrator
  - Found more than 50 security bugs fixed in CPUs
- **Integrigy Corporation**
  - Only firm that is dedicated to Oracle E-Business Suite Security
  - Services – Oracle Applications Security Assessments
  - Products – AppSentry and AppDefend

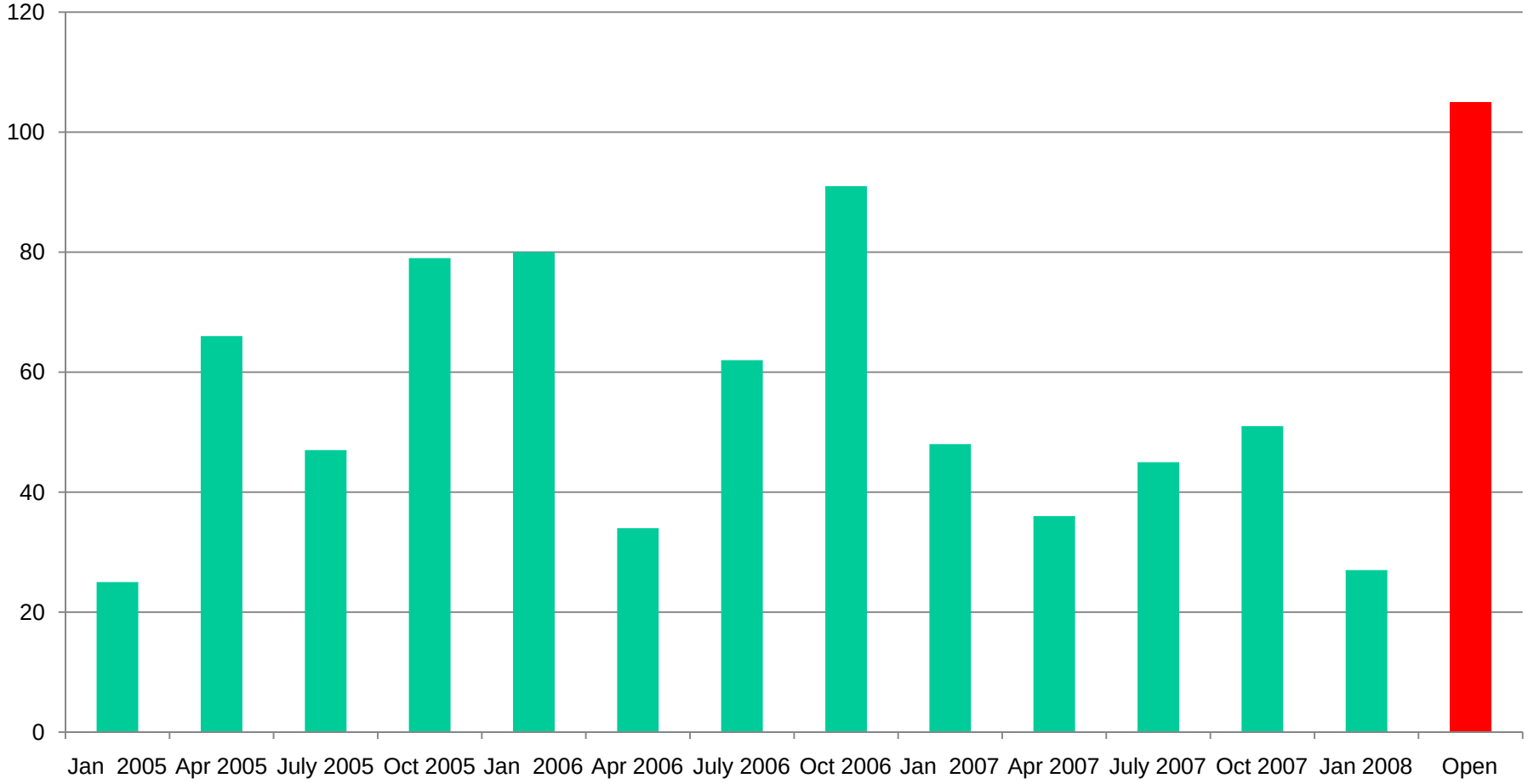
Agenda

- Background of Critical Patch Updates
- Vulnerabilities
- Certification vs. Certification
- Patches
- Patching Strategy
- Questions

Oracle Critical Patch Updates

- Fixes for security bugs in all Oracle products
  - Released quarterly on a fixed schedule
  - Tuesday closest to the 15th day of January, April, July and October
  - Next CPUs = April 15, 2008 and July 15, 2008
- Thirteen CPUs released to date starting with Jan 2005
  - 691 security bugs fixed (average is 53 bugs per CPU)
  - 306 bugs in the Oracle Database
  - 153 bugs in the Oracle E-Business Suite 11i

Security Bugs per CPU (all products)



Security Bug Process

- Customer or security researcher reports security bug to Oracle
  - Currently, 100-200 open bugs reported by a number of independent security researchers
- Oracle researches bug and develops bug fix
  - Finder not allowed to test fix or even notified about fix
- Oracle may include fix in new releases
  - No notification of security fixes to customers
- Oracle includes fix in quarterly CPU
  - From initial report to security patch release is 3 months to 3 years

Types of Oracle Security Bugs

- Buffer Overflow
- SQL Injection
- Cross-site Scripting (XSS)
- Parameter Tampering
- Permission Issues
- Information Disclosure

% of Bugs Exploitable with No Auth

4%

% of Bugs PUBLIC Exploitable

44%

% of Published Exploits PUBLIC Exploitable

89%

Who can exploit a PUBLIC bug?

APPLSYSPUB/PUB

and anyone else with a database account

Database Vulnerabilities (Jan08/11i)

Supported Database Version[1]	**PUBLIC (i.e., APPLSYSPUB)**	**Other Privileges** (CREATE VIEW)	**No Default Privileges**[2]
9.2.0.8	DB04 – SDO_CATALOG DB06 – Oracle Spatial	DB01 – XML DB	DB02 - DBMS_PRVTAQIM DB03 - DBMS_PRVTAQIP
10.1.0.5	DB04 – SDO_CATALOG DB06 – Oracle Spatial DB07 – Oracle Spatial	DB01 – XML DB	DB02 - DBMS_PRVTAQIM DB03 - DBMS_PRVTAQIP
10.2.0.2/ 10.2.0.3	DB04 – SDO_CATALOG DB07 – Oracle Spatial	DB01 – XML DB	DB02 - DBMS_PRVTAQIM

Oracle Applications 11i Baseline

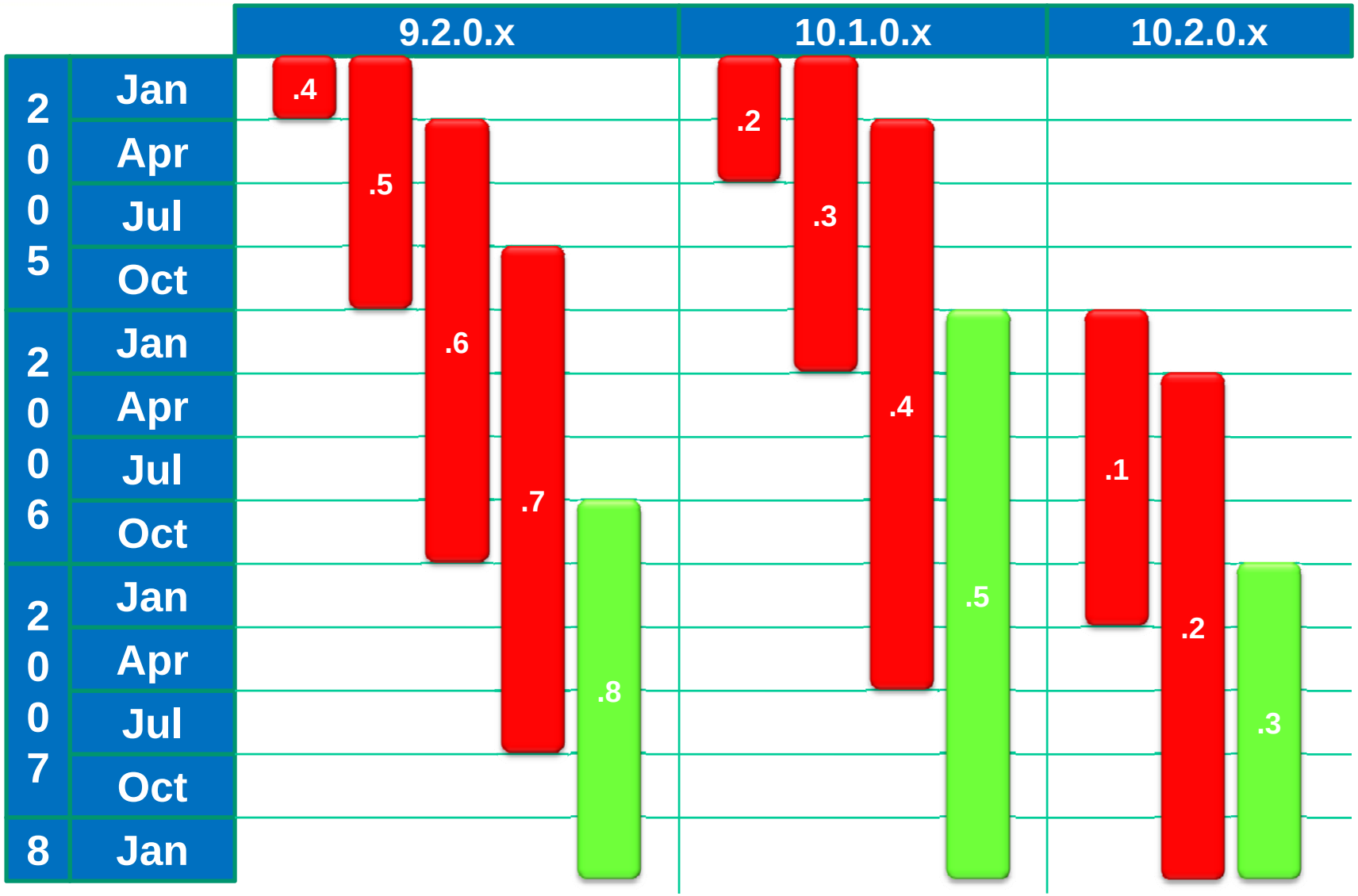
- Critical Patch Updates require an Oracle Applications 11i minimum RUP level
  - Starting in July 2007, must be RUP(n) or RUP(n-1)
  - **ATG_PF.H and RUP4, RUP5, RUP6 for all versions 11.5.9 through 11.5.10.2**
  - April 2008 most likely will be RUP5 and RUP6 only

Certification and Certification

- **Applications Certification != CPU Certification**
- CPUs only certified with latest two patch sets released in the past 12 months

Apps Version	Database	App Server (Apache)	Developer	JInitiator (WinXP)	ATG_PF
11.5.10.2	**9.2.0.4** **9.2.0.5*** **9.2.0.6 – 7** 9.2.0.8 **10.1.0.4** 10.1.0.5 10.2.0.2 – 3	**1.0.2.1.x*** **(1.3.12)** 1.0.2.2.2 (1.3.19)	**6.0.8.24 (P15)*** **6.0.8.x** **(P16-P17)** 6.0.8.27 (P18)	**1.1.8.19–25** 1.1.8.27 **1.3.1.18*** **1.3.1.21 - 25** 1.3.1.26 – 29	**ATG_PF.H*** ATG_PF.H RUP4 or ATG_PF.H RUP5 or ATG_PF.H RUP6

Desupported
Certified, No CPU Support
Certified for CPU
* Fresh Install Version


9.2.0.x
10.1.0.x
10.2.0.x
2005
Jan
Apr
Jul
Oct
2006
Jan
Apr
Jul
Oct
2007
Jan
Apr
Jul
Oct
8
Jan
.4
.5
.6
.7
.8
.2
.3
.4
.5
.1
.2
.3

CPU Certification Changes for Jan 2008

- Oracle Applications 11i
  - No support for 11.5.8
  - Jinitiator 1.1.8.x must be upgraded to 1.1.8.27
- Oracle Database
  - 10.2.0.2 = Limited operating system support
- Oracle Application Server
  - No changes

CPU Certification Changes - Future

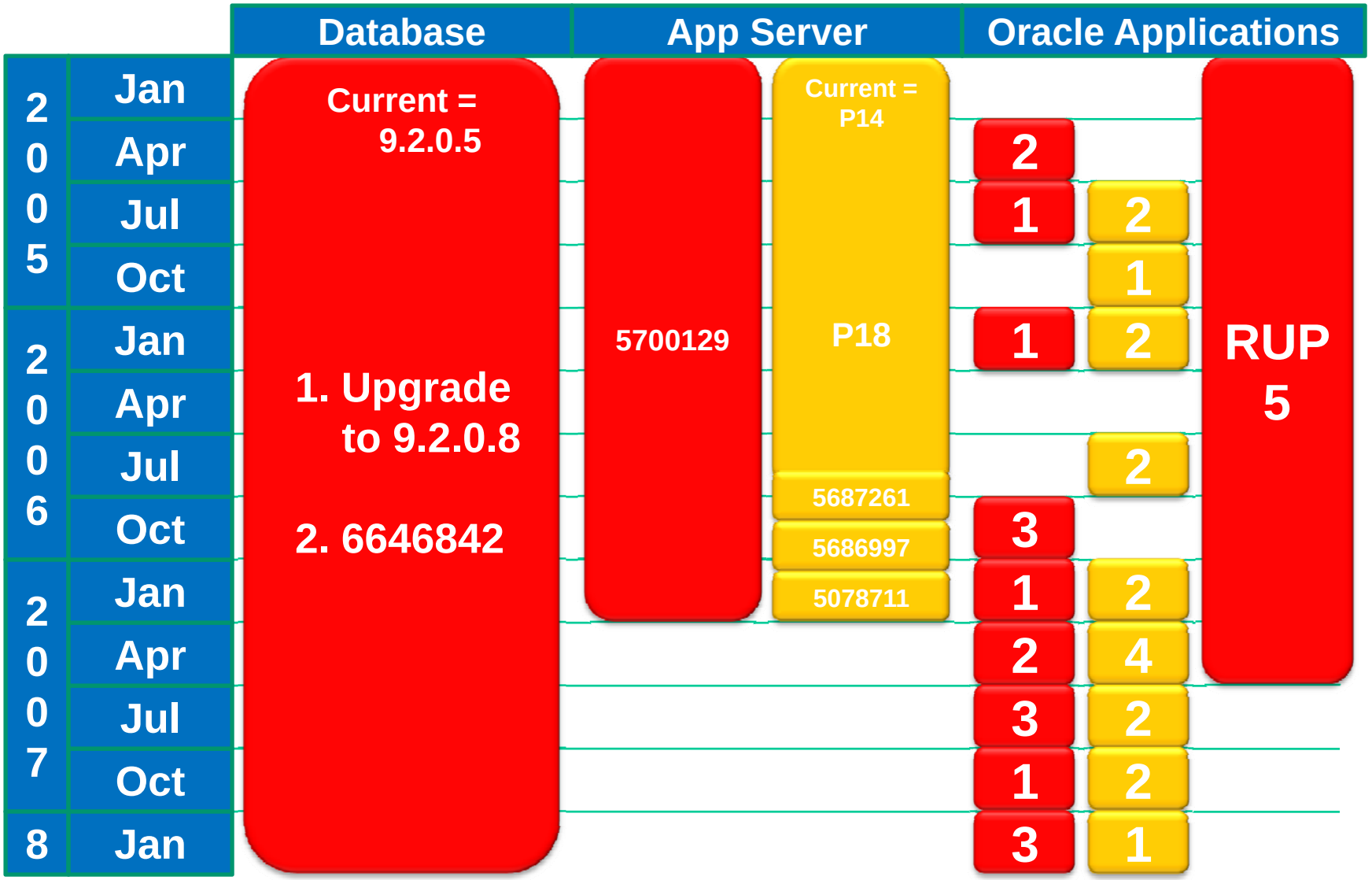
- Oracle Applications 11i
  - April 2008 = probably RUP5 and RUP6 only
  - July 2008 = no 11.5.9 as Premier Support ends June 2008
- Oracle Database
  - April 2008 = 10.2.0.2 no support
- Oracle Application Server
  - No changes anticipated

Database Patches

- Database patches are cumulative for all previous Critical Patch Updates
  - Database patches include non-security fixes
  - Windows patches are really version upgrades
  - Testing should be similar to a version upgrade (i.e., 9.2.0.7 to 9.2.0.8)
  - Some Integrigy clients now only do minimal testing
- Database patches provide the greatest security benefit – Apply them ASAP
  - Apply database patches now, other patches later
  - Otherwise, enable “Managed SQL*Net Access” feature

Oracle Applications Patches (Jan08)

Patches	Scope/ Risk	Patch Complexity	Vulnerability Description and Testing
6640163	Medium	Low	▪ CRM Technology Foundation (JTF) ▪ Cross Site Scripting (XSS) in the jtflogin.jsp page ▪ No testing required ▪ Mandatory for all implementations ▪ External access blocked by URL Firewall
RUP5/6 6530949 RUP4 6701339	High	Low	▪ Oracle Application Library (AOL/FND) ▪ Cross Site Scripting (XSS) in the AppsChangePassword.jsp page ▪ Test basic functionality of the reset password page ▪ Mandatory for all implementations ▪ Not blocked by the URL Firewall and is required


Database
App Server
Oracle Applications
2005
Jan
Apr
Jul
Oct
2006
Jan
Apr
Jul
Oct
2007
Jan
Apr
Jul
Oct
2008
Jan
Current = 9.2.0.5
1. Upgrade to 9.2.0.8
2. 6646842
5700129
Current = P14
P18
5687261
5686997
5078711
2
1
2
1
1
2
2
3
1
2
2
4
3
2
1
2
3
1
RUP 5

Oracle Applications R12 (Jan08/Unix)

- Oracle Database
  - 10.2.0.2 = ETA 1-31-08 (Cumulative)
  - 10.2.0.3 = 6646853, 6692464, and 6692494 (Cumulative)
- Oracle Application Server
  - 10.1.2.0.2 (Forms) = 6639296 (Cumulative)
  - 10.1.2.2 (Forms) = 6639297 (Cumulative)
  - 10.1.3 (OCJ4) = 6639298 (Cumulative)
- Oracle Applications R12
  - Cumulative CPU Patch = 6358500 (5.7 MB)
  - 12.0.4 Release Update Pack (RUP) = 6435000 (1.8 GB)
    - 12.0.2 was only 765 MB, 12.0.3 was 1.5 GB

Patching Strategy

- General advice –
  - Apply the Database patch – cumulative for all CPUs and previous security alerts
  - Apply Oracle Applications patches – not cumulative, must apply all patches from all previous CPUs
  - Evaluate the effort to apply Developer 6i, Application Server, and JInitiator patches – depending on risk and effort, delaying these patches may be warranted
- Specific advice –
  - Integrigy releases guidance for each CPU on our website
  - Each CPU has unique issues and requirements, thus need to be evaluated independently

References

- Integrigy, “Oracle Critical Patch Update October 2007 E-Business Suite Impact”, www.integrigy.com
- Integrigy, “Oracle Jinitiator 1.1.8 Buffer Overflow Vulnerability Analysis”, www.integrigy.com
- Oracle, “Oracle Critical Patch Update January 2008 Advisory”, http://www.oracle.com/technology/deploy/security/alerts.htm
- Oracle Corporation, “Oracle E-Business Suite Critical Patch Update Note January 2008”, Metalink Note ID 467742.1
- Oracle Corporation, “Rebaselined Oracle Applications Technology Components for Releases 11.5.7, 11.5.8, 11.5.9, and 11.5.10”, Metalink Note ID 363827.1

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Questions?