

Oracle BI Enterprise Edition

OGh DBA dag

14 September 2010

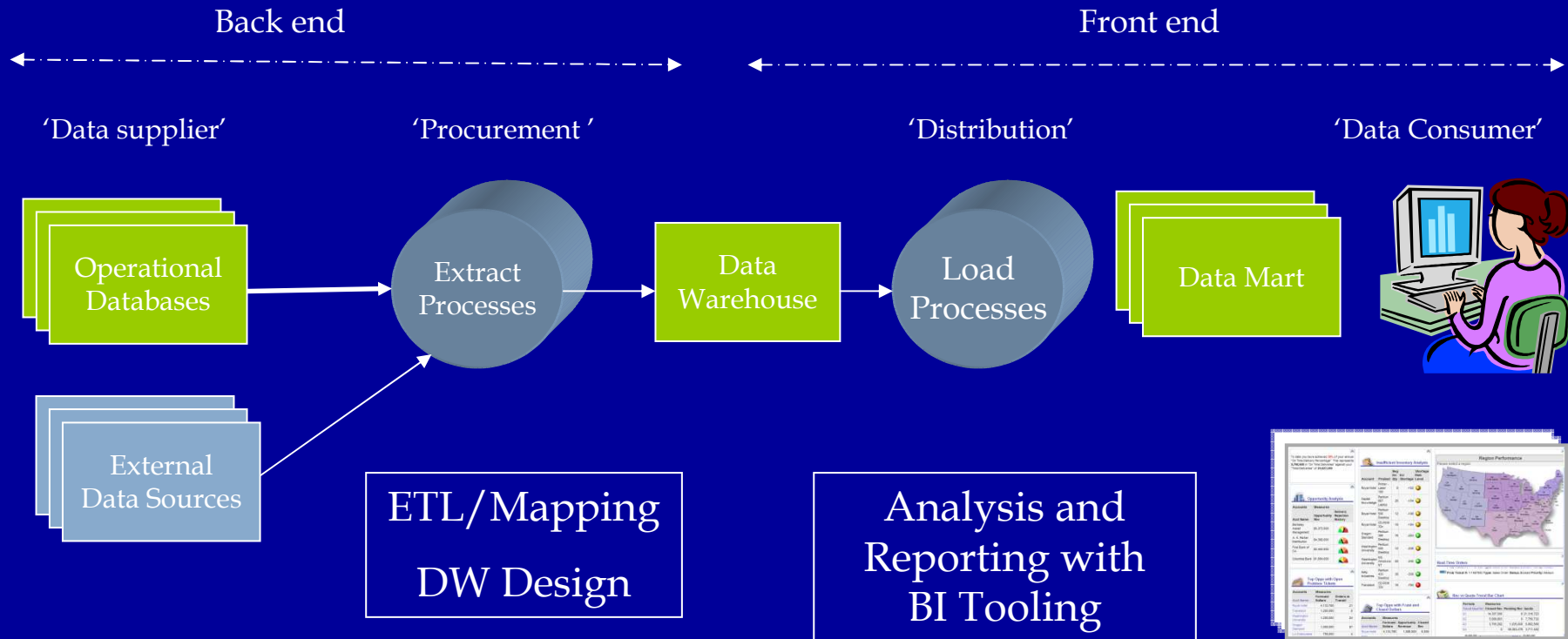
Nasierkhan Jahangier



Agenda

- Raakvlakken tussen Datawarehousing en Business Intelligence
- Oracle Business Intelligence data integration
- Oracle BI cache performance in combinatie met Oracle Database 11g
- OBIEE 11g, *Oracle Fusion Middleware*
- *Vragen?*

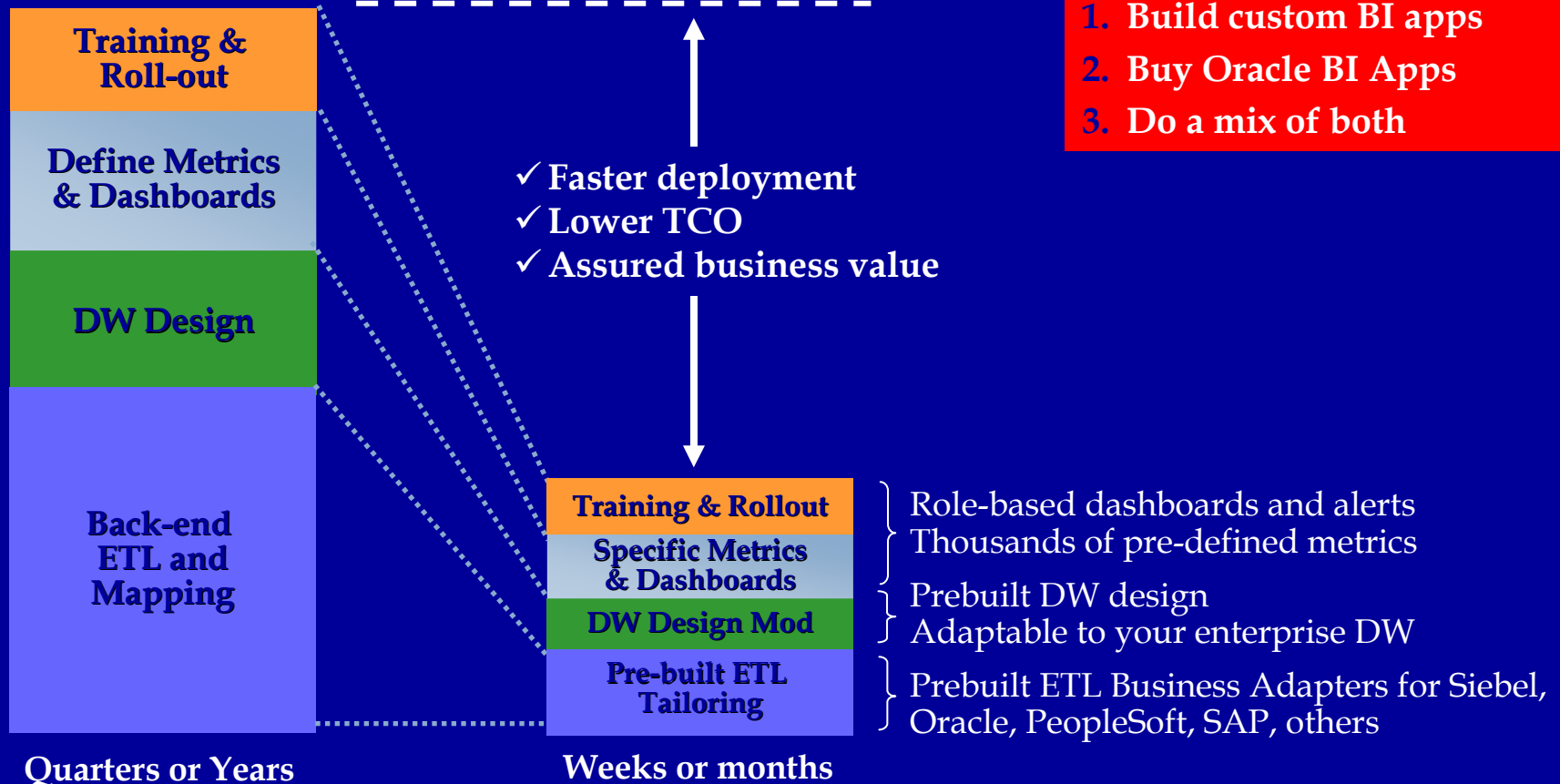
BI en Datawarehouse, raakvlakken



Oracle BI Applications

*Build from Scratch
with Traditional BI Tools*

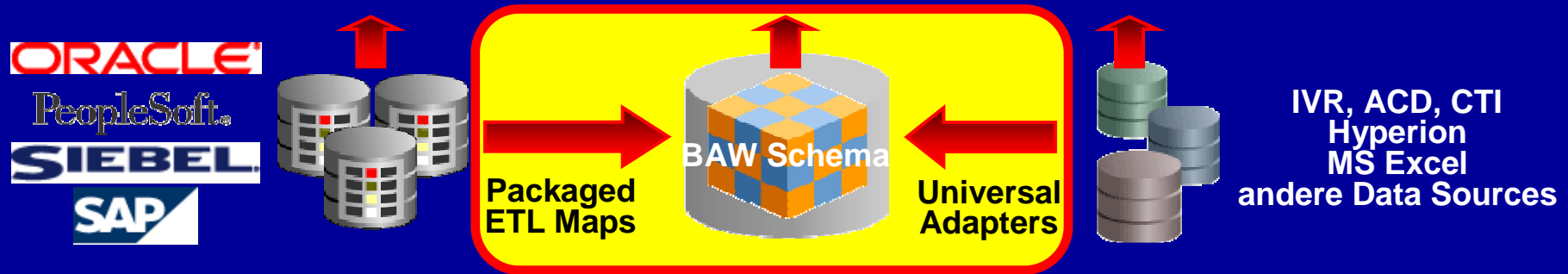
*Oracle
BI Applications*



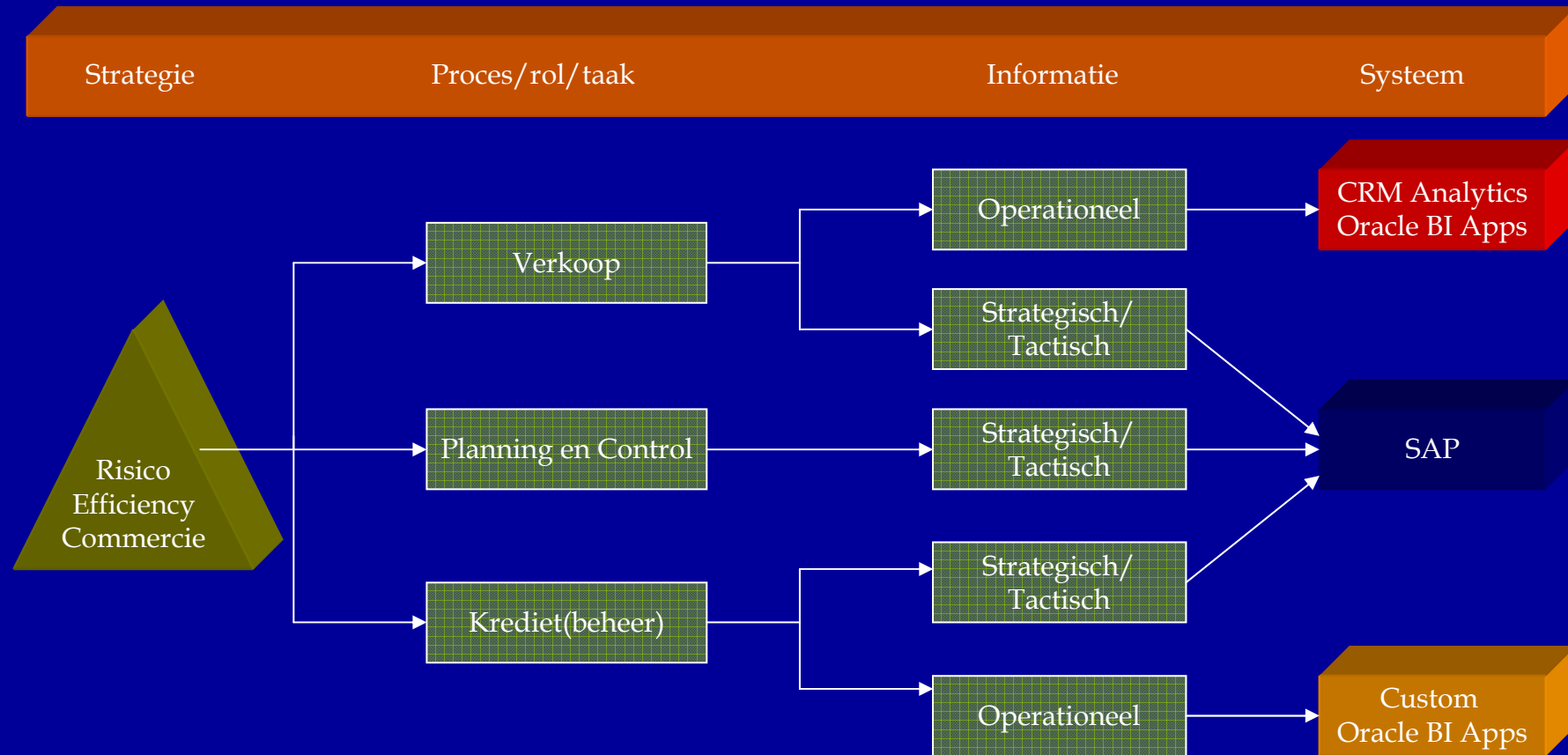
Source: Patricia Seybold Research, Gartner, Merrill Lynch, Oracle Analysis

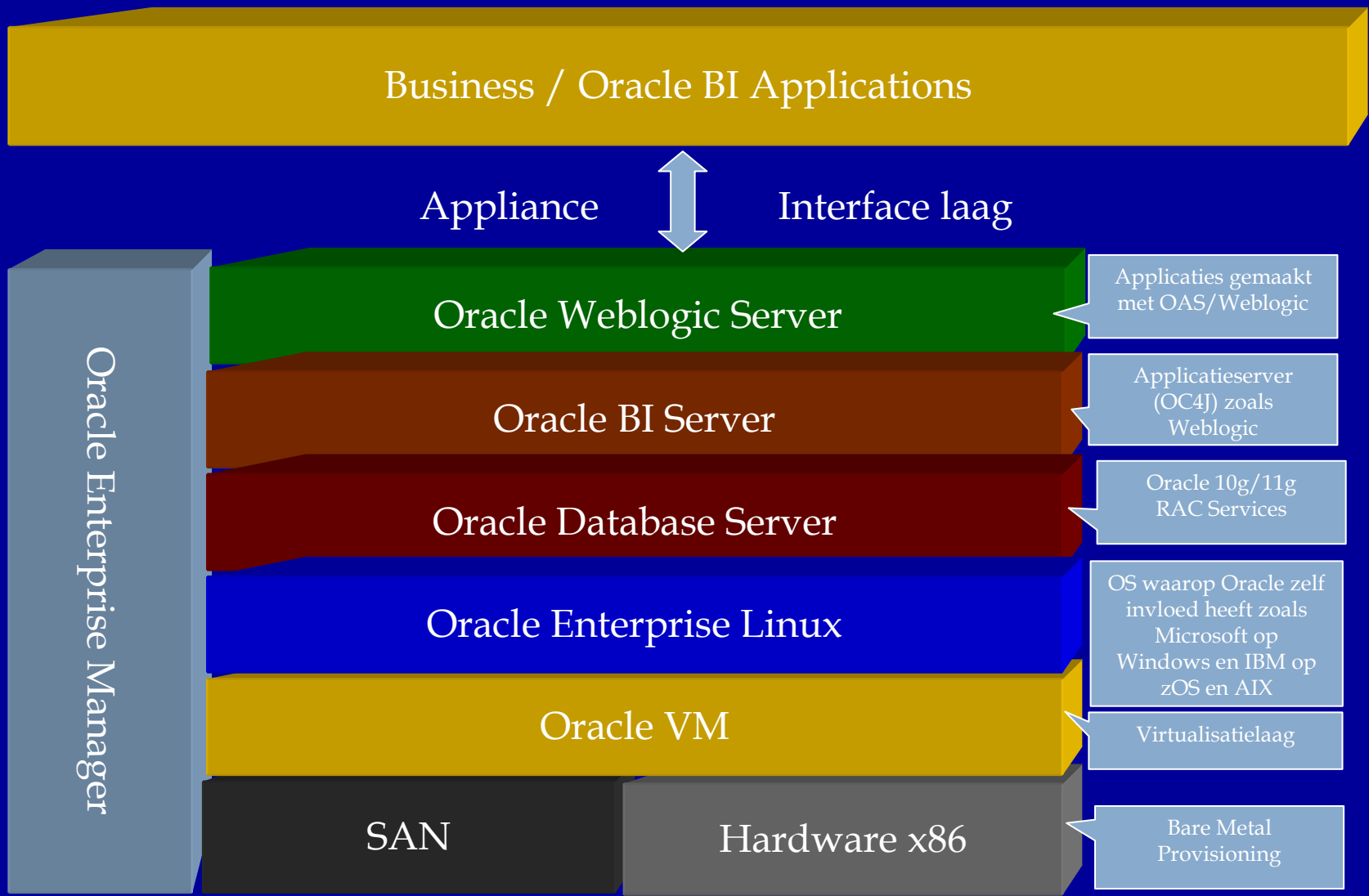
Oracle BI Integration

Oracle BI EE Platform versus Oracle BI Applications



Oracle BI EE, business integration





Business / Oracle BI Applications

Appliance



Interface laag

Oracle Enterprise Manager

Oracle Weblogic Server

Applicaties gemaakt met OAS/Weblogic

Oracle BI Server

Applicatieserver (OC4J) zoals Weblogic

Oracle Database Server

Oracle 10g/11g RAC Services

Oracle Enterprise Linux

OS waarop Oracle zelf invloed heeft zoals Microsoft op Windows en IBM op zOS en AIX

Oracle VM

Virtualisatielaag

SAN

Hardware x86

Bare Metal Provisioning

Oracle BI Suite Enterprise Edition

Unified Business Intelligence Infrastructure

Interactive Dashboards



Reporting & Publishing



Ad-hoc Analysis



Proactive Detection and Alerts



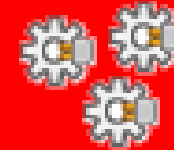
Disconnected Analytics



MS Office Plug-in



Web Services



Common Enterprise Information Model

Oracle BI Server

Intelligent Caching Services

Multidimensional Calculation and Integration Engine

Intelligent Request Generation and Optimized Data Access Services



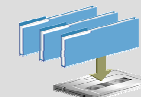
OLTP & ODS Systems



Data Warehouse Data Mart



SAP, Oracle PeopleSoft, Siebel, Custom Apps



Files Excel XML



Business Process



SQL Server



Oracle



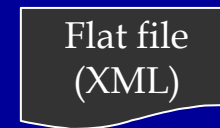
DB2



Terradata



OLAP

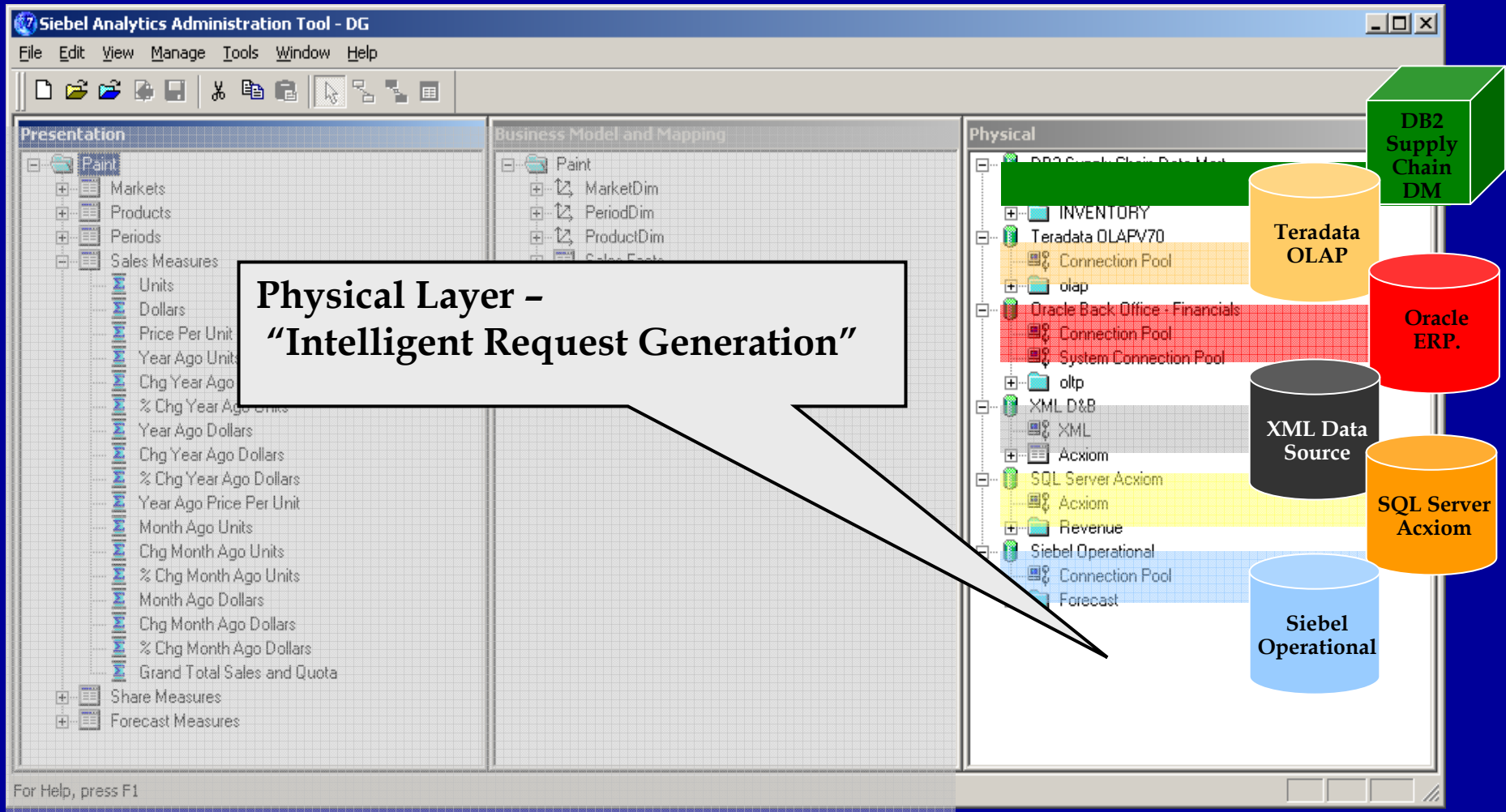


Flat file (XML)



Oracle Exadata

Enterprise Business Model Administration



Enterprise Business Model Administration

The screenshot displays the Siebel Analytics Administration Tool interface, titled "Siebel Analytics Administration Tool - DG". The interface is divided into three main panes: "Presentation", "Business Model and Mapping", and "Physical".

- Presentation:** Shows a tree view under "Paint" with sub-items: Markets, Products, Periods, Sales Measures, Units, Dollars, Price Per Unit, and Year Ago Units.
- Business Model and Mapping:** Shows a tree view under "Paint" with sub-items: MarketDim, PeriodDim, ProductDim, Sales Facts, Markets, Periods, and Products.
- Physical:** Shows a tree view with various data sources and connection pools, including: DB2 Supply Chain Data Mart, Inventory CP, INVENTORY, Teradata OLAPV70, Connection Pool, olap, Oracle Back Office - Financials, Connection Pool, System Connection Pool, oltp, XML D&B, XML, Acxiom, SQL Server Acxiom, Acxiom, Revenue, Siebel Operational, Connection Pool, and Forecast.

At the bottom left of the interface, there is a text prompt: "For Help, press F1".

Business Model Layer - Logical Datamodel "Calculation Engine"

The diagram illustrates the flow of data from source systems (represented by yellow cylinders) through a calculation engine (represented by a yellow network diagram) to produce analytical results. An orange arrow points from the data sources to the calculation engine.

Enterprise Business Model Administration

The image displays a screenshot of the Oracle Business Model Administration interface. On the left, a tree view under the 'Paint' folder lists various measures such as 'Units', 'Dollars', 'Price Per Unit', and 'Year Ago Units'. A red oval highlights this list. On the right, a 'Presentation Layer' dialog box is open, titled 'Answers'. It features tabs for 'Criteria', 'Results', 'Views', and 'Advanced'. The 'Criteria' tab is active, showing an 'Untitled Request' with 'Request Columns' and 'Request Filters' sections. A red oval highlights the 'Subject Area' list in the dialog, which mirrors the tree view on the left. A large white arrow points from the tree view to the dialog box.

Presentation Layer

Role-based, in context, personalized presentation – Oracle Answers

Subject Area

- Paint
 - Markets
 - Products
 - Periods
 - Sales Measures
 - Units
 - Dollars
 - Price Per Unit
 - Year Ago Units
 - Chg Year Ago Units
 - % Chg Year Ago Units
 - Year Ago Dollars
 - Chg Year Ago Dollars
 - % Chg Year Ago Dollars
 - Year Ago Price Per Unit
 - Month Ago Units
 - Chg Month Ago Units
 - % Chg Month Ago Units
 - Month Ago Dollars
 - Chg Month Ago Dollars
 - % Chg Month Ago Dollars
 - Grand Total Sales and Quota
 - Share Measures
 - Forecast Measures

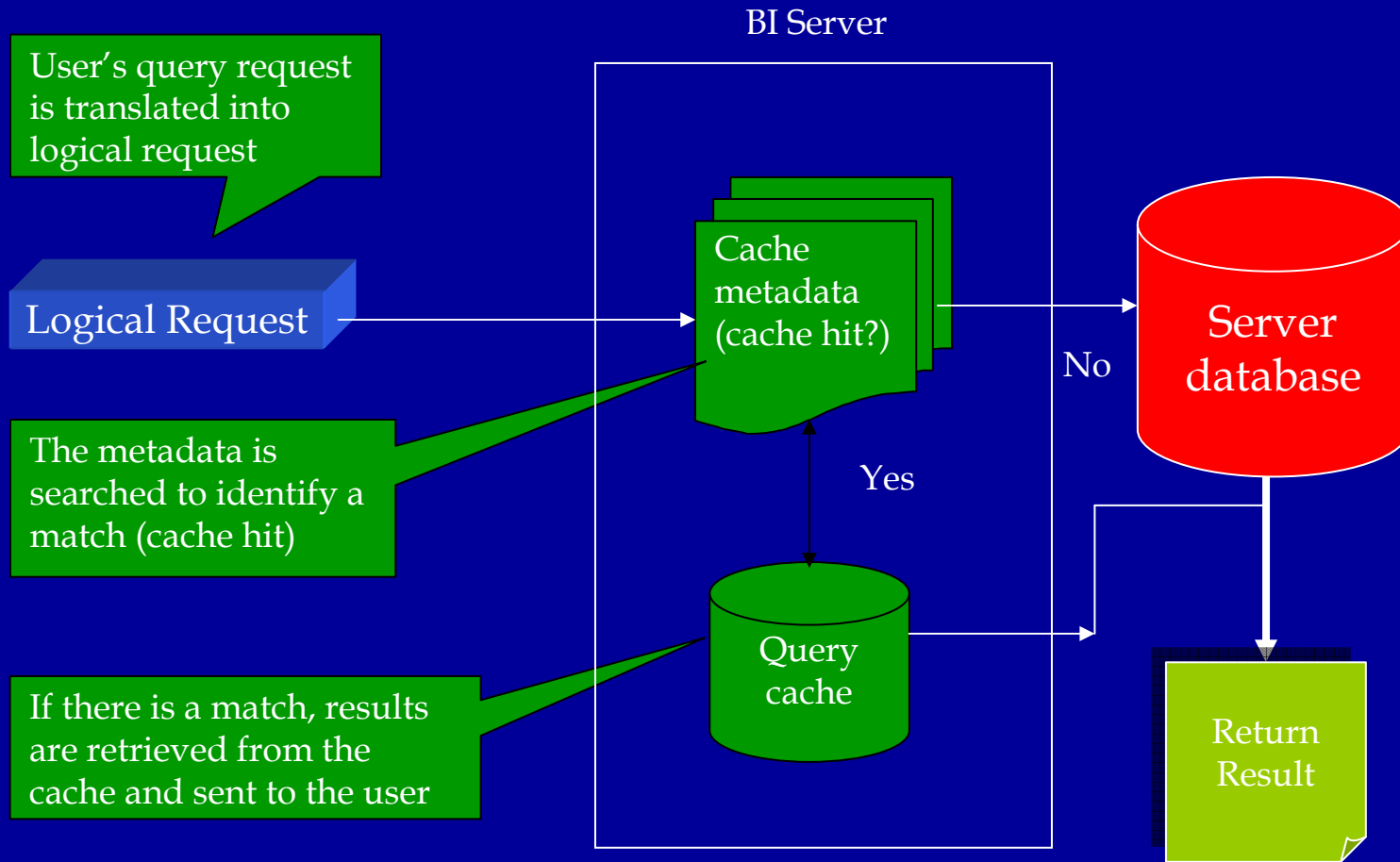
Request Columns

Periods	Markets	Sales Measures
Year	Region	Dollars
% Chg Year Ago		% Chg Year Ago

Request Filters

Year equals **Current Year** [Edit](#) [Remove](#)

Cache Management (1)



Logical Request:

```
SELECT "- Datums (Registratie)".Jaar  
FROM BBI  
Where "- Datums (Registratie)".Jaar is not null  
order by "- Datums (Registratie)".Jaar
```

Physical Request:

```
select distinct T24925.CAL_YEAR asc1  
from  
OWNER_OBD.W_DAY_D T24925 /* Dim Dates (Registration) */  
where ( T24925.CAL_YEAR is not null )  
order by c1
```

Cache configuratie, BI Server

directories voor query cache storage

Maximum capacity per directory path is 4 GB

Bij de Physical table in BI repository aangeven

```
NQSCONFIG.INI - Notepad
File Edit Format View Help

[ CACHE ]
ENABLE = YES;
// A comma separated list of <directory maxSize> pair(s)
// e.g. DATA_STORAGE_PATHS = "d:\OracleBIData\nqscache" 500 MB;
DATA_STORAGE_PATHS = "c:\appl\OracleBIData\cache" 2000 MB;
MAX_ROWS_PER_CACHE_ENTRY = 500000; // 0 is unlimited size
MAX_CACHE_ENTRY_SIZE = 100 MB;
MAX_CACHE_ENTRIES = 1200;
```

Set ENABLE = YES;

Cacheable

Cache never expires

Cache persistence time

Description:

Op high -performance, high-reliability devices dedicated voor cache storage cache files worden naar disk weggeschreven en zijn de *.TBL files te vinden in de query storage cache directory. Maak gebruik van een 'RAM-disk' indien ter beschikking

Cache Seeding

Cache seeding (middels iBots)

Cache seeding wilt zeggen dat de BI Server cache van te voren wordt gevuld met de data welke noodzakelijk is om de dashboards van de eindgebruikers te *populaten* zodat de response tijd wordt teruggebracht naar enkele seconden analoog aan de Oracle 'Materialized views' en de 'Analytics Workspace' oplossingen.

Cache seeding is wat geavanceerder aangezien deze de data voor ons vooraf cached.

Oracle database 11g , performance

- Performance Analyzer (Oracle Enterprise Manager)
tune de SQL in combinatie met *het logische datamodel*
werk samen met de Business Analyst / BI Developer
- Index op alle nieuwe *Primary Keys* en *Foreign keys*
- Materialized views en aggregate tables
- Gebruik bitmap indexen (doe geen updates op deze indexen)
- *Run een explain plan en zoek welke index de primary index (driving index) van de query is*
- *Run de physical query in sqlplus en onderzoek of de query dan ook al lang duurt (physical query => NQQuery.log , trace de user)*
- Statspack top 5 – timed events => is i/o de bottleneck? => I/O Calibration
- DBMS_RESOURCE_MANAGER package => CALIBRATE_IO procedure
- Partition de data
- Gebruik de features van de betreffende RDBMS => DBFeatures.INI
- Database ‘optimizer’ hints
- Where Clause

OBIEE 11g, Oracle Fusion Middleware

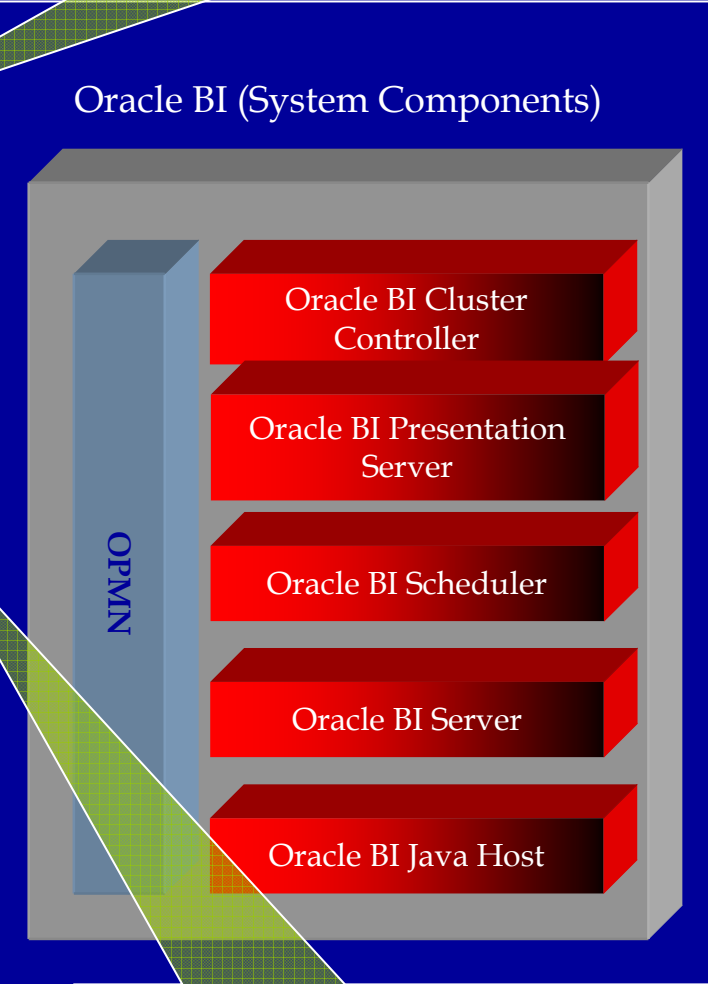
- DBA, krijgt steeds meer te maken met 'Oracle Fusion Apps/Middleware'
- Sommige organisaties zetten momenteel een nieuwe dienst op voor Oracle BI naast de vertrouwde Dienst *Databases*.



Oracle Business Intelligence maakt deel uit van de Fusion Middleware 'family of products'

Oracle BI Domain

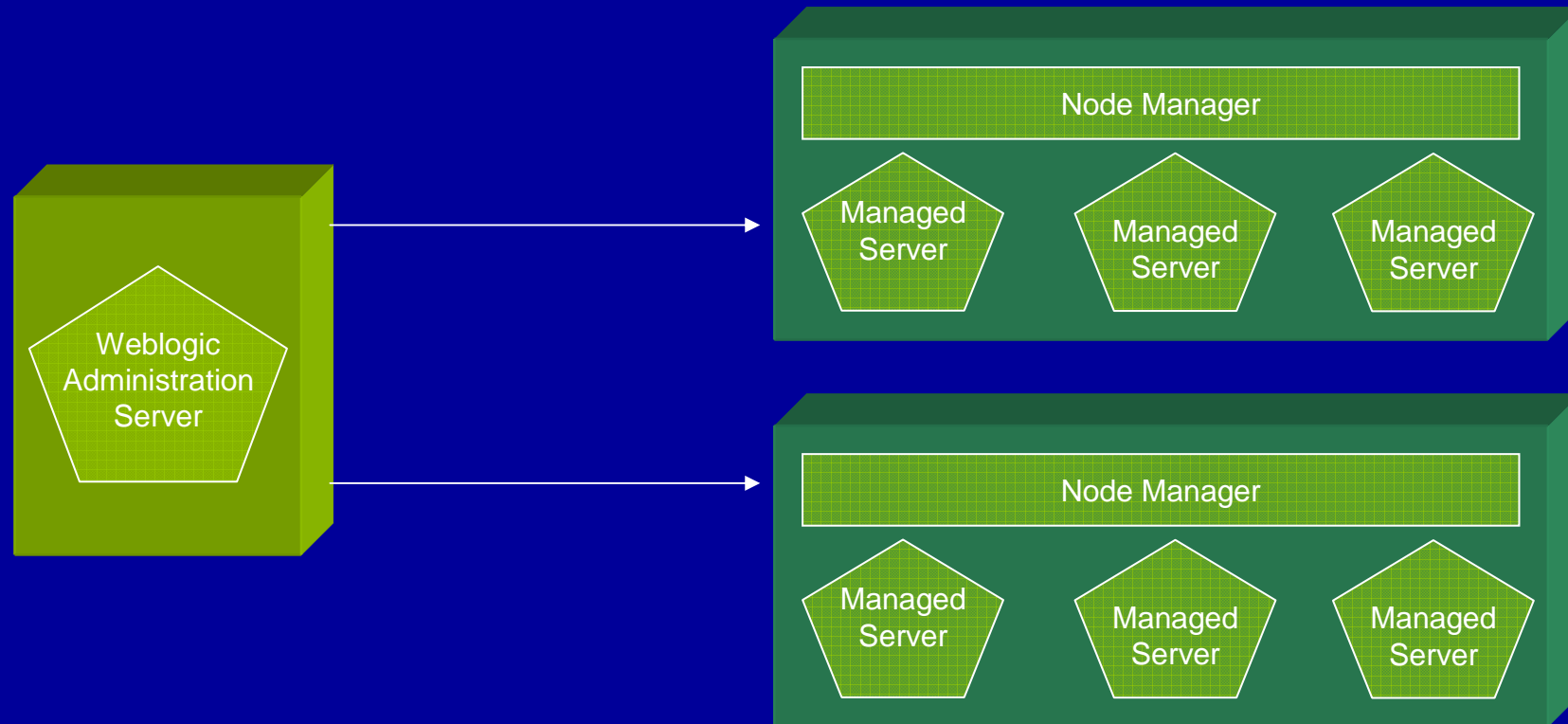
OBIEE 11g runt binnen Oracle WebLogic Server, derhalve moet Oracle WebLogic Server gestart zijn alvorens de Oracle Business Intelligence components gestart en beheerd kunnen worden



om OBIEE 11g te starten, dient men eerst de Administration Server en Managed Servers te starten, en vervolgens start men de system components

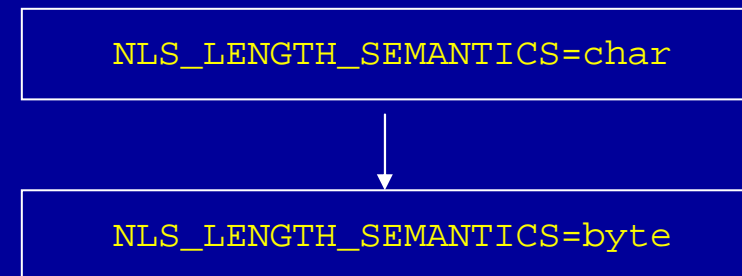
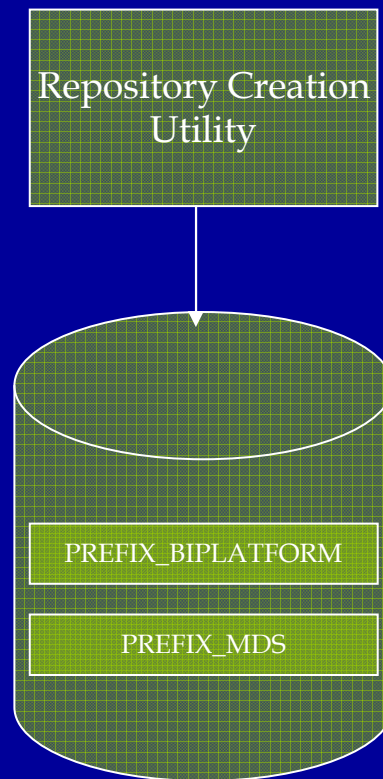
Oracle Fusion Middleware, Management Framework

Elk Weblogic domain heeft tenminste 1 Server instance welke als *Administration Server* dienst doet



De **Administration Server** opereert als de centrale controle entiteit voor de configuratie van de gehele domain. Het beheert de domain's configuration documents en distribueert de wijzigingen in de configuration documents aan de *Managed Servers*. The Administration Server dient als een centrale locatie waarvandaan alle resources in een domain kunnen worden gemonitored.

OBIEE 11g , installation, Repository Creation Utility



ORACLE Database 10.2.0.4
Oracle Database 11g
Required

OBIEE 11g , Installation

- Software => OTN, e-delivery.oracle.com
- RCU Repository Creation Utility, create database schemas, PREFIX_BIPLATFORM and PREFIX_MDS
- Oracle Business Intelligence 11g Installer (Fusion Middleware Installer)

Note: All Oracle Business Intelligence products intended for a WebLogic domain must be installed and configured at the same time

Install Types:

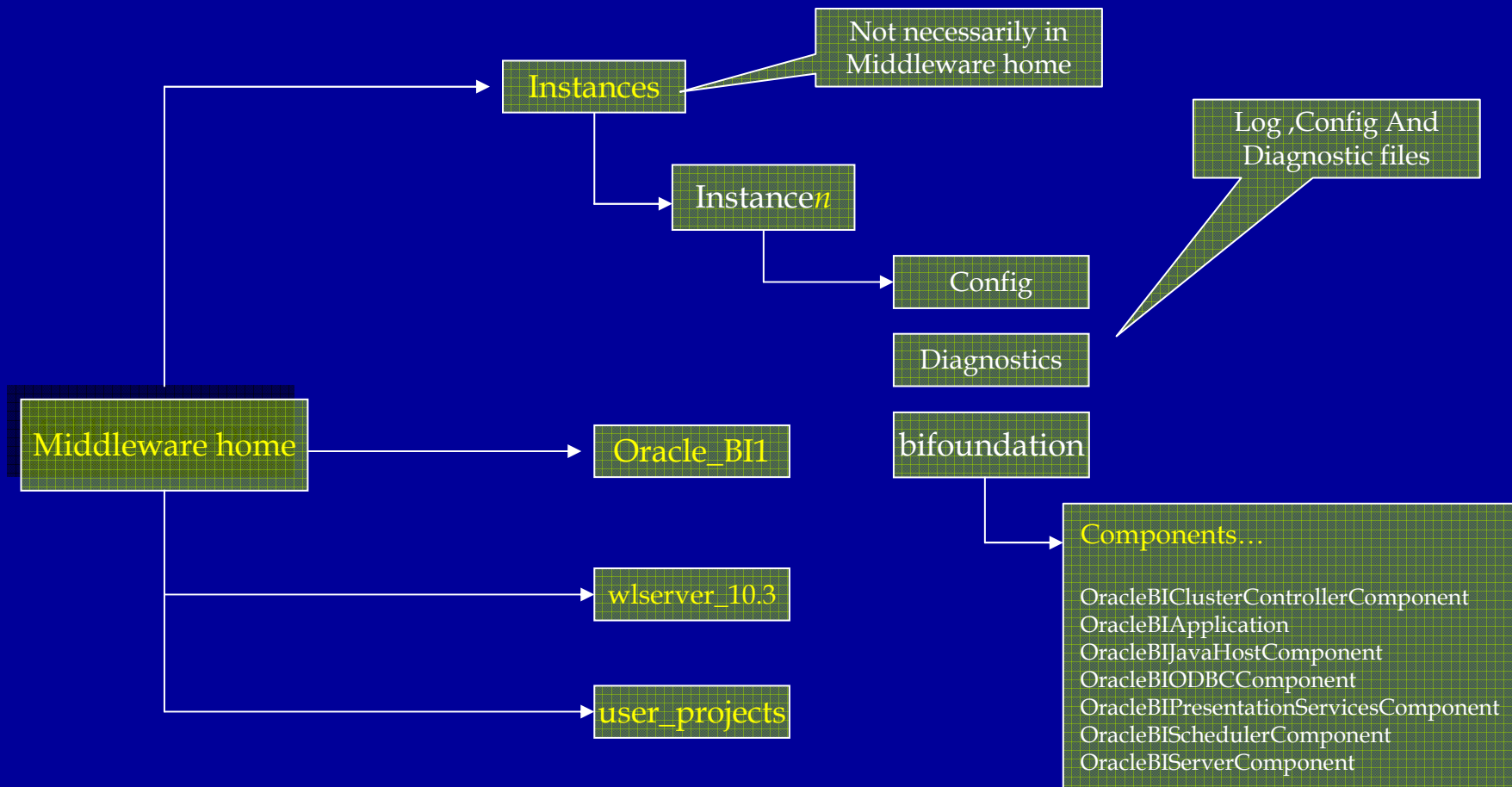
- 1) Simple Install, default settings; single computer
- 2) Enterprise Install, new Enterprise deployment, scale out existing deployment
- 3) Binaries Only => no configuration

OBIEE 11g , Home Directories

Home	Variable	Example
Middleware Home	MW_HOME	MW_HOME
Domain Home	DOMAIN_HOME	MW_HOME/user_projects\domains\bifoundation_domain
Weblogic Server Home	WLS_HOME	MW_HOME/wlserver_10.3
Instance Home	INSTANCE_HOME	MW_HOME/instances/instancen
Oracle BI Home	ORACLE_BI_HOME	MW_HOME/Oracle_BI1
Oracle Common software	ORACLE_COMMON_HOME	MW_HOME/oracle_common
Java Home	JAVA_HOME	MW_HOME/jdkn

In 11g Release 1 (11.1.1), product configuration data has been separated from product binaries. The product binaries reside in the Oracle home, *ORACLE_HOME*, while updatable files reside in an Oracle instance, represented in path names as *ORACLE_INSTANCE*

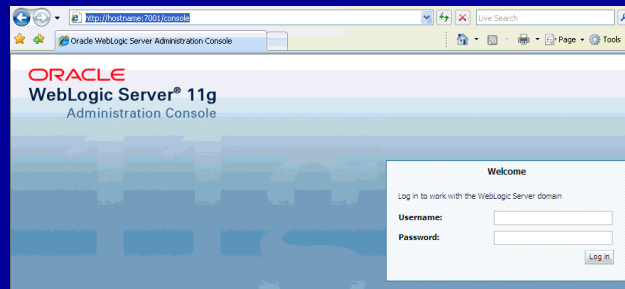
OBIEE 11g , directory structure



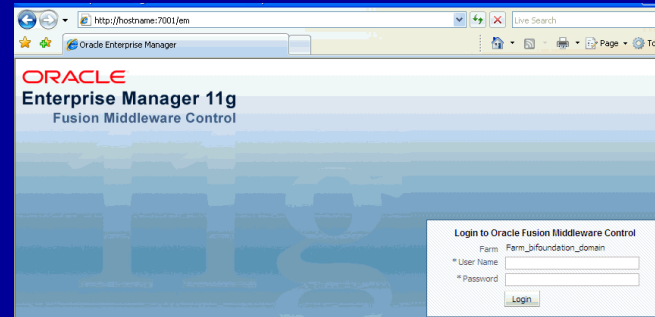
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OBIEE 11g , Administration

Oracle WebLogic Server
<http://hostname:7001/console>



Oracle Fusion Middleware Control:
<http://hostname:7001/em>



Oracle WebLogic Scripting Tool (WLST)

WLST online scripts => bv. voor beheertaken
WLST offline scripts => bv. voor domain creatie

To use these custom commands, you must invoke the WLST script from the Oracle home in which the component has been installed. Do not use the WLST script in the WebLogic Server home.

The script is located at:

(UNIX) `ORACLE_HOME_for_component/common/bin/wlst.sh`

(Windows) `ORACLE_HOME_for_component\common\bin\wlst.cmd`

```
wls:/offline>
```

```
wls:/offline> help()
```

WLST is a command line scripting tool to configure and administer WebLogic Server. Try:

<code>help('all')</code>	List all WLST commands available.
<code>help('control')</code>	List commands for controlling the domain/server.
<code>help('deployment')</code>	List commands for deploying applications.

<code>wls:/offline>exit()</code>	exit command

Voorbeeld:
`wls:/offline>startNodeManager()`

OBIEE 11g , Administration Console

The screenshot displays the Oracle WebLogic Server Administration Console interface. The main content area is titled "Summary of Servers" and includes a "Configuration" tab. Below the tab, there is a descriptive paragraph: "A server is an instance of WebLogic Server that runs in its own Java Virtual Machine (JVM) and has its own configuration. This page summarizes each server that has been configured in the current WebLogic Server domain." Below this text is a table of servers. The table has columns for Name, Cluster, Machine, State, Health, and Listen Port. Two servers are listed: AdminServer(admin) and bi_server1. Both are in a RUNNING state with a Health of OK. The AdminServer(admin) is on port 7001, and bi_server1 is on port 9704. The interface also features a "Change Center" on the left with "Lock & Edit" and "Release Configuration" buttons, a "Domain Structure" tree, and a "System Status" section showing the health of running servers.

ORACLE WebLogic Server® Administration Console

Home > Summary of Environment > Summary of Servers > Summary of Clusters > Summary of Machines > Summary of Work Managers > Summary of Startup and Shutdown Classes > Summary of Deployments > Summary of Environment > Summary of Servers

Summary of Servers

Configuration Control

A server is an instance of WebLogic Server that runs in its own Java Virtual Machine (JVM) and has its own configuration. This page summarizes each server that has been configured in the current WebLogic Server domain.

Servers (Filtered - More Columns Exist)

Click the **Lock & Edit** button in the Change Center to activate all the buttons on this page.

Name	Cluster	Machine	State	Health	Listen Port
AdminServer(admin)		oesv0055.rabobank.nl	RUNNING	OK	7001
bi_server1	bi_cluster	oesv0055.rabobank.nl	RUNNING	OK	9704

WebLogic Server Version: 10.3.3.0
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OBIEE 11g, Start/Stop BI System components

The screenshot displays the Oracle Enterprise Manager Fusion Middleware Control 11g interface. The main content area is titled "coreapplication" and "Business Intelligence Instance". The "Overview" tab is selected, showing a "System Shutdown & Startup" section with a green progress indicator at 100% and a "Up (5)" status. Below this, the "System Status" section indicates "All components are available" and provides "Start", "Stop", and "Restart" buttons. The "Diagnostics" section is expanded to show "Most Recent Errors" and "Most Recent Warnings".

System Shutdown & Startup

System Components: 100% Up (5)

System Status

All components are available

Manage System

Start Stop Restart

Most Recent Errors

Severity	Message
✖	Failed to restore ctx from reference
✖	Assertion failure: false at line 458 of /net/stansx05/farm_ports/linux/views/aim_bifndn_751222/bifndn/anal...
✖	Access denied. Check "Access SOAP" privilege.
✖	Invalid Handle Of 'PN3saw13security_impl7AccountE' Exception
✖	Authentication error. Details:

Most Recent Warnings

Severity	Message
⚠	No User-Agent string header provided. Defaulting to: Mozilla/5.0 (compatible; MSIE 7.0;)
⚠	No User-Agent string header provided. Defaulting to: Mozilla/5.0 (compatible; MSIE 7.0;)
⚠	No User-Agent string header provided. Defaulting to: Mozilla/5.0 (compatible; MSIE 7.0;)
⚠	No User-Agent string header provided. Defaulting to: Mozilla/5.0 (compatible; MSIE 7.0;)
⚠	No User-Agent string header provided. Defaulting to: Mozilla/5.0 (compatible; MSIE 7.0;)

[View / Search Log Files](#)

Capacity Management

Responsiveness		Load	
Request Processing Time (ms)	6.399	Active Sessions	0
Average Query Time (seconds)	0	Requests (per minute)	1.062
		Server Queries (per second)	281

BI Instance Resource Center

Before You Begin

- Introduction to Oracle Business Intelligence
- Getting Started with Managing Oracle Business Intelligence

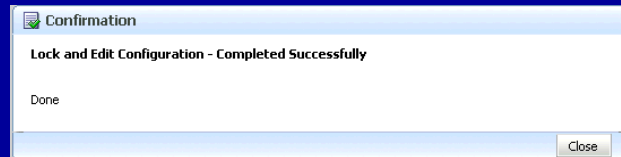
Typical Administration Tasks

- Perform General Management and Configuration Tasks
- Manage the Capacity of Oracle Business Intelligence
- Diagnose and Resolve Issues with Oracle Business Intelligence
- Manage Single Sign-On Authentication for Oracle Business Intelligence
- Manage the Deployment of Oracle Business Intelligence

Other Resources

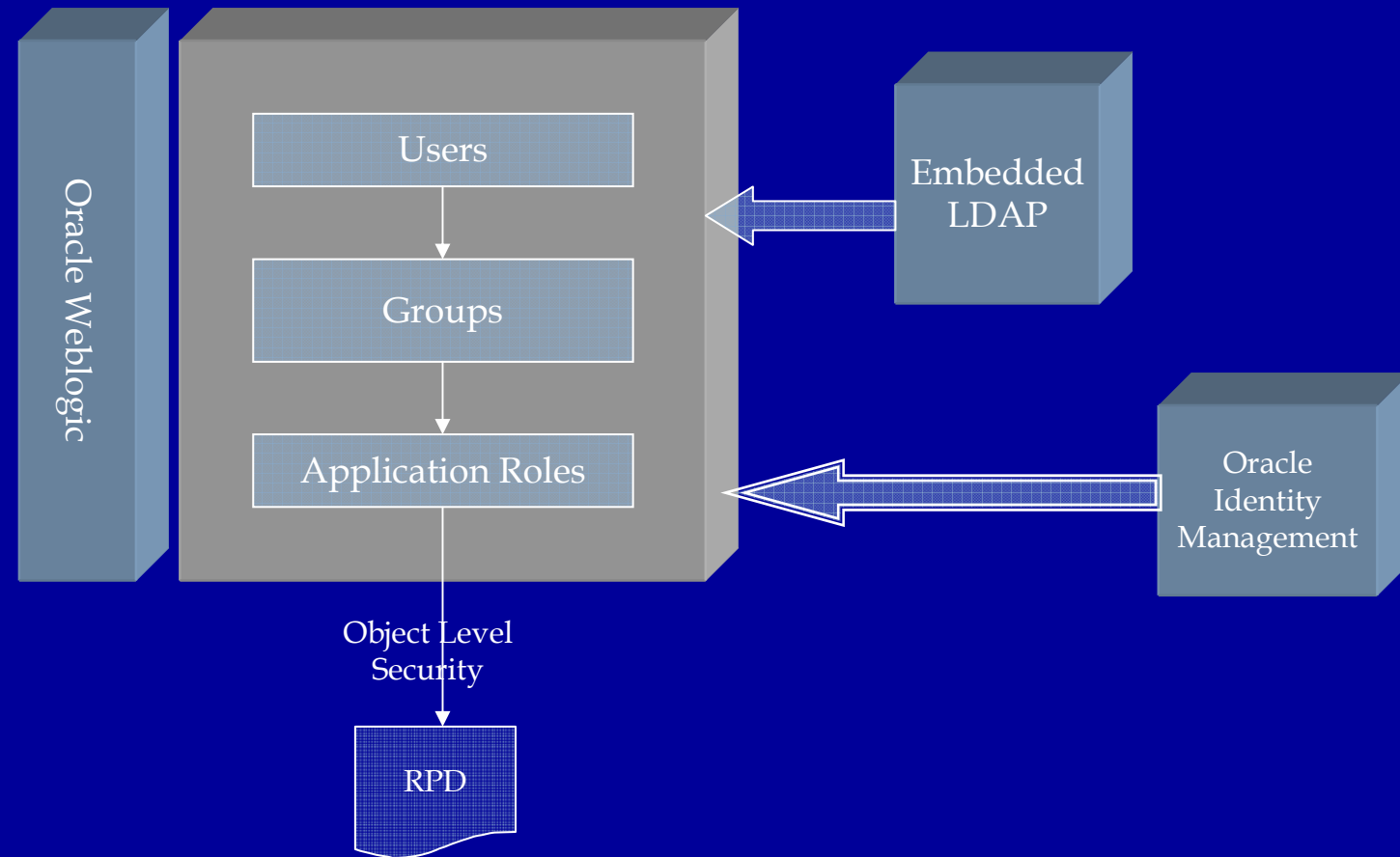
- Oracle Business Intelligence on the Web
- Oracle Business Intelligence Forums

OBIEE 11g, deployment



The screenshot shows the Oracle Enterprise Manager Fusion Middleware Control 11g interface. The top navigation bar includes "ORACLE Enterprise Manager Fusion Middleware Control 11g" and "Setup Help Log Out". The left sidebar shows a tree view with "Farm_bifoundation_domain" expanded, containing "Application Deployments", "WebLogic Domain", "bifoundation_domain", "AdminServer", "bi_cluster", and "bi_server 1". Under "Business Intelligence", "coreapplication" is selected. The main content area is titled "coreapplication" and "Business Intelligence Instance". It features a "Change Center" with "Activate Changes" and "Release Configuration" buttons. Below this are tabs for "Overview", "Capacity Management", "Diagnostics", "Security", and "Deployment". Under "Deployment", there are sub-tabs for "Presentation", "Repository", "Scheduler", "Marketing", and "Mail". The "Repository" sub-tab is active, showing the "BI Server Repository" configuration page. This page includes an "Apply" button, a description of the current installed RPD, and options to "Share Repository" with a "Shared Location" field. Below this is the "Upload BI Server Repository" section, which includes a "Repository File" field with a "Browse..." button, and "Repository Password" and "Confirm Password" fields. At the bottom is the "Presentation Service Repository" section, which includes a "Catalog Location" field with the value "\$ORACLE_INSTANCE/bifoundation/OracleBIPresentationServicesComponent/\$COMPONENT_NAME/catalog/".

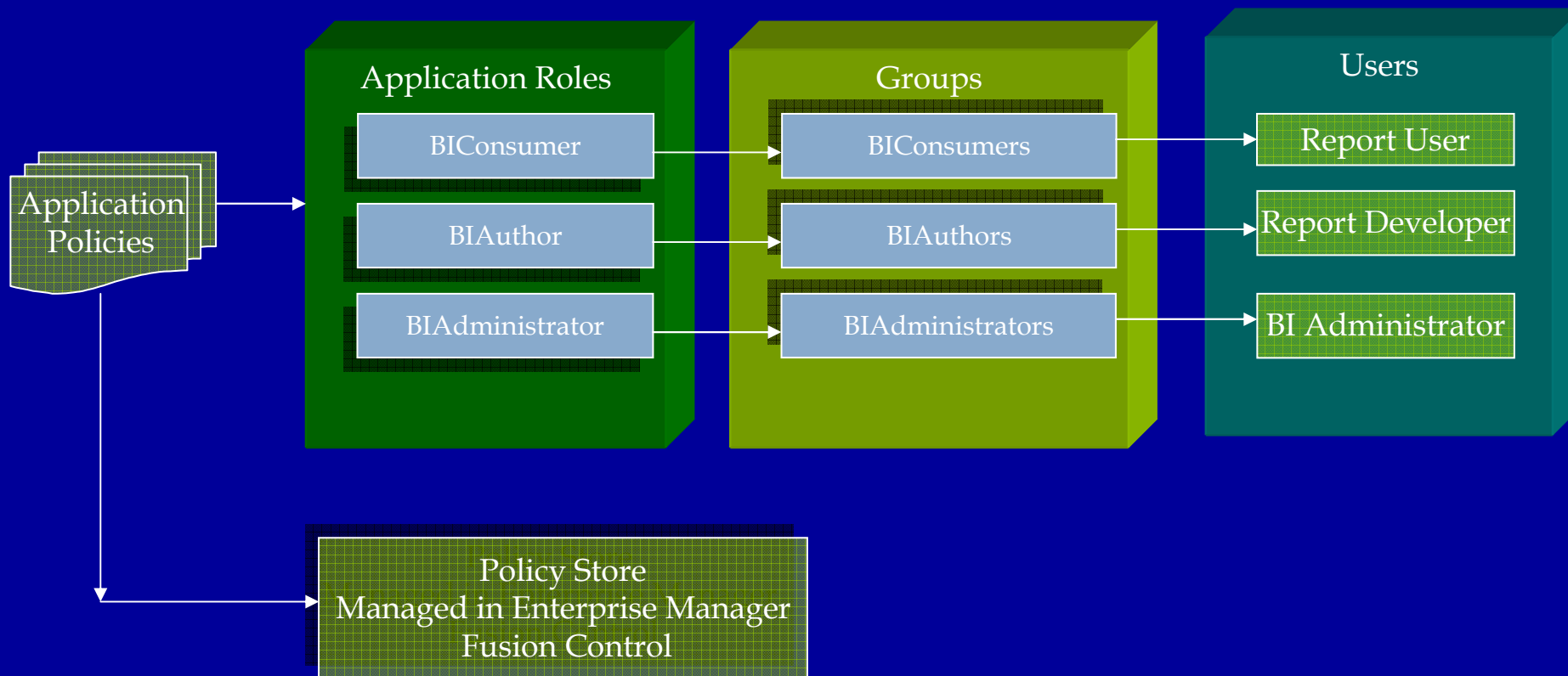
OBIEE 11g, Authentication en Authorization



Note:

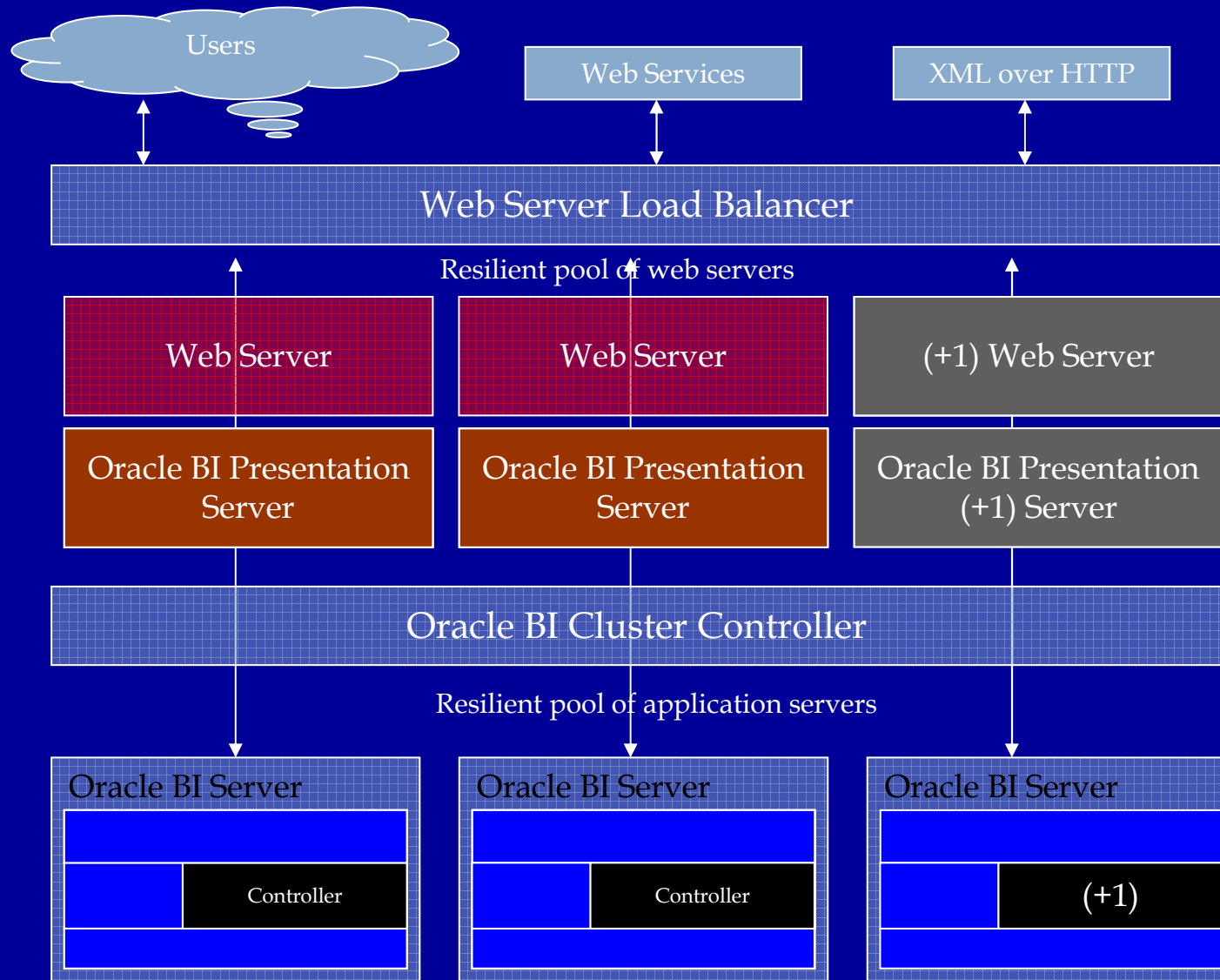
By themselves, groups and group hierarchies do not provide access rights to application resources. Privileges are conveyed by the permission grants defined in an Application Policy. A user, group, or Application Role becomes a Grantee of the Application Policy. The Application Policy grantee conveys the permissions and this is done by direct association (such as a user) or by becoming a member of the Grantee (such as a group or Application Role).

Default Application Roles, Groups and Users



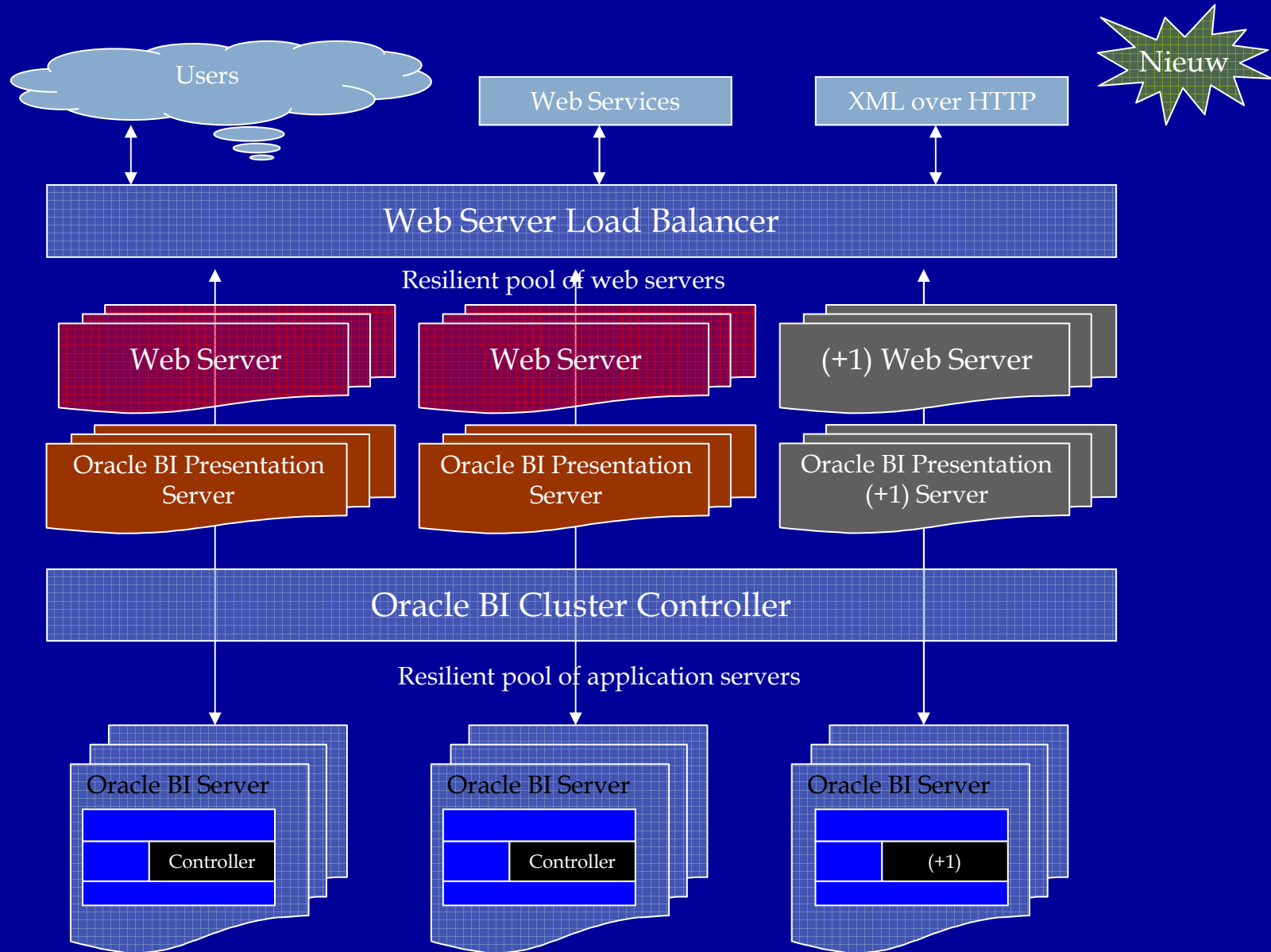
Oracle BI 10g , horizontal clustering

Near Linear Scalability



Oracle BI 11g , horizontal clustering

Near Linear Scalability



OBIEE 11g, homepage

ORACLE Business Intelligence Search [Advanced](#) [Administration](#) [Help](#) [Sign Out](#)

Home [Home](#) [Catalog](#) [Dashboards](#) [New](#) [Open](#) [Signed In As: weblogic](#)

Create...

- Analysis and Interactive Reporting**
[Analysis](#) | [Dashboard](#) | [More](#)
- Published Reporting**
[Report](#) | [Report Job](#) | [More](#)
- Actionable Intelligence**
[Agent](#) | [Action](#)
- Performance Management**
[Scorecard](#) | [KPI](#) | [KPI Watchlist](#)
- Marketing**
[Segment](#) | [Segment Tree](#) | [List Format](#)

Browse/Manage...

- All Content
- My Analyses
- My Reports
- My Scorecards
- My Agent Subscriptions
- My Agents
- Marketing Jobs
- Report Jobs
- Report Job History

Get Started...

- Introduction to Oracle BI
- Oracle BI EE Documentation
- Download BI Desktop Tools
- Help Contents
- Oracle Technology Network

Recent

Dashboards

QuickStart - Readme Open Edit More	QuickStart - Overview Open Edit More	QuickStart - Published Reporting Open Edit More
QuickStart - Details Open Edit More	QuickStart - Scorecard Open Edit More	My Dashboard - page 1 Open Edit More

Others

- Sample Scorecard (Lite)
[Open](#) | [Edit](#) | [More](#)

Most Popular

QuickStart - Overview Open Edit More	QuickStart - Readme Open Edit More	QuickStart - Details Open Edit More
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OBIEE 11g, SampleAPP *Light* Dashboard

ORACLE Business Intelligence Zoeken Alles Uitgebreid Beheer Help v Afmelden

QuickStart Beginpagina Catalogus Dashboards v Nieuw v Openen v Aangemeld als weblogic v

Readme **Overview** Details Published Reporting Scorecard

Year

2008
 2009
 2010
 2011

Company

Products Hier.

Toepassen
Opnieuw instellen

Filters currently applied :
Per Name Year is gelijk aan **2008; 2009; 2010**

[Help on this Page](#)
[Custom Actionable Menu](#)

History Overview
Tijdstip uitgevoerd: 13-9-2010 20:35:53

	2008	2009	2010	Eindtotaal
All Products	1.500.000	1.700.000	1.800.000	5.000.000
BizTech	658.692	821.826	1.019.482	2.500.000
FunPod	542.613	556.666	400.721	1.500.000
HomeView	298.695	321.508	379.797	1.000.000

Revenue

Year	BizTech	FunPod	HomeView
2008	658.692	542.613	298.695
2009	821.826	556.666	321.508
2010	1.019.482	400.721	379.797

Top Offices
Tijdstip uitgevoerd: 13-9-2010 20:35:53

- Spring Office** ranks #1 with **369,52 k** bookings value over 149 orders
- Eiffel Office** ranks #2 with **353,70 k** bookings value over 148 orders
- Sherman Office** ranks #3 with **343,86 k** bookings value over 132 orders

Target Completion Ratio

BizTech FunPod HomeView

Monthly Trending
Tijdstip uitgevoerd: 13-9-2010 20:35:53

Revenue

At least
Internet Explorer
7
Flash player 10.1
Required!

Vragen?