

Business Intelligence IBM Cognos on z/Linux

Timothy R. Ondrey
Marist College

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#9480

Agenda

- A History of z @ Marist
- Academic Initiative
- Business Intelligence
- Cognos on System z
- Virtual Computing Lab (VCL)
- What's next...



A History of z @ Marist

Marist first installed an IBM System/370™ mainframe with virtualization in 1978.

The first System z mainframe, a z900 was installed over 6 years ago and upgraded to a z9 more recently.

January 2011, Marist installs a z10 mainframe

In addition Marist hosts a z990 for use by the IBM/Marist Joint-Study program.

The Academic Initiative

What is the IBM Academic Initiative?

IBM Academic Initiative is a global program that facilitates the collaboration between IBM and educators to teach students the information technology skills they need to be competitive and keep pace with changes in the workplace.

Why should you join?

Become a member of the Academic Initiative to get no-charge access to hardware, full-version software, professionally developed courseware, tools, training, books, and discounts. Let us help you keep up with the latest technologies and reap the benefits of open source.

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The Academic Initiative

z-Based Cloud Environment

Build Rational Cloud on z to:

- Determine feasibility of use by internal IBM dev labs

- Support AI use

- Provide POC for Cloud Computing Enablement Team

Once successful with Rational, use for other products:

- Cognos, SPSS, Data Warehousing

Continued AI Support

- Course module development via faculty grants, zPDT Evaluation

- Continued support of overall AI program and Marist Enterprise Computing Community

Sakai

- Support of State Bank of India Project – Large scale rollout of Sakai on z10 in 4Q/2010 and 1Q2011.

- Integration with Lotus Connections, SPSS, Cognos. Open Social.



Learning Management Software

- Management
- Collaboration
- Content




Linux Images
Virtual servers for:

- Research
- Students
- Linux Foundation




z/OS Environment

- DB2
- WAS
- CICS
- IMS
- ISPF
- z/OS Test Drive Images
- RDZ



Virtual Desktops

- Cognos Framework Mgr.
- TM1
- SQL Server
- More..



Collaborative Development Software

- Rational Quality Mgr.
- ClearCase
- ClearQuest



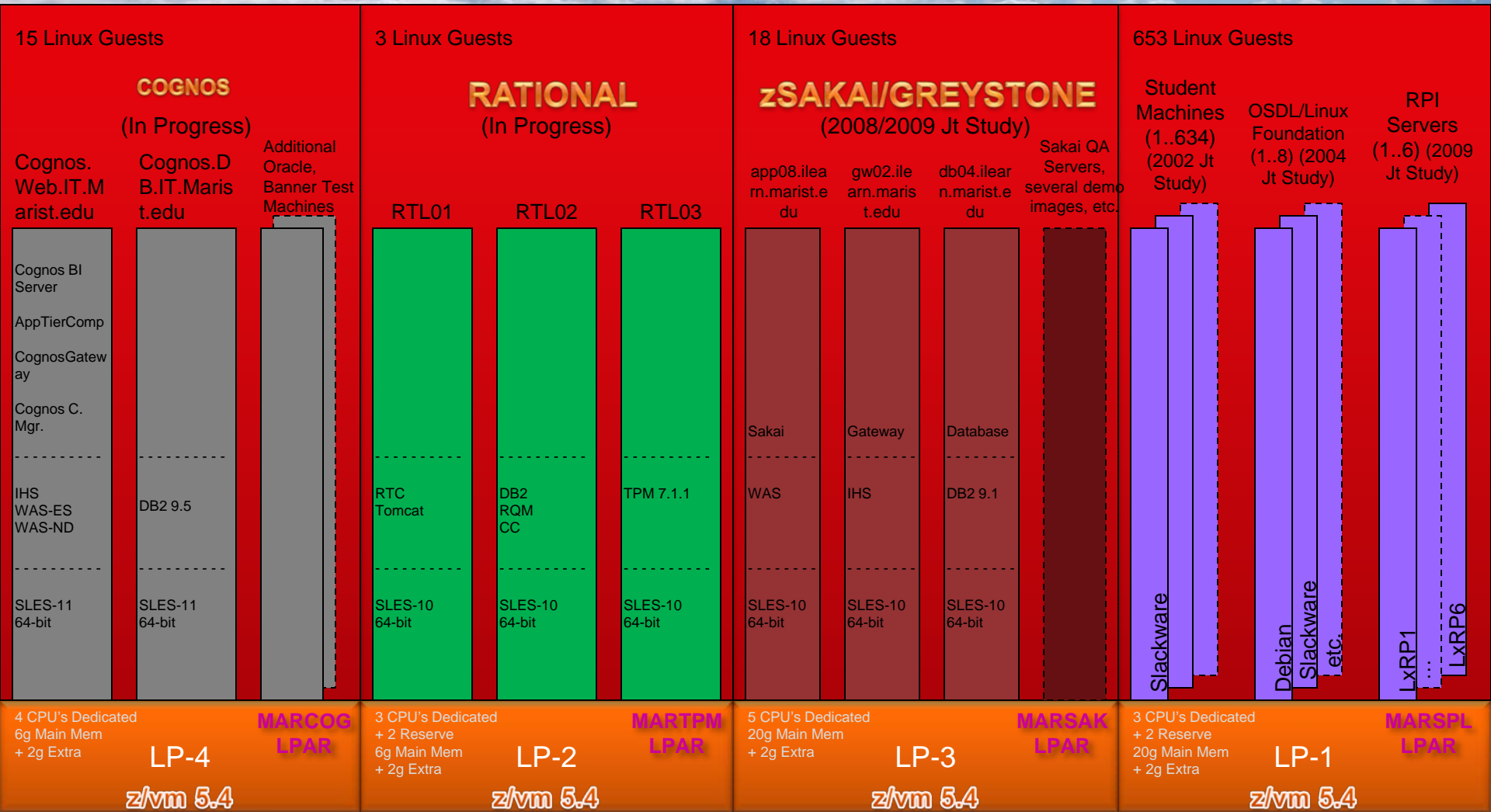
Business Intelligence Business Analytics Software

- Cognos
- SPSS

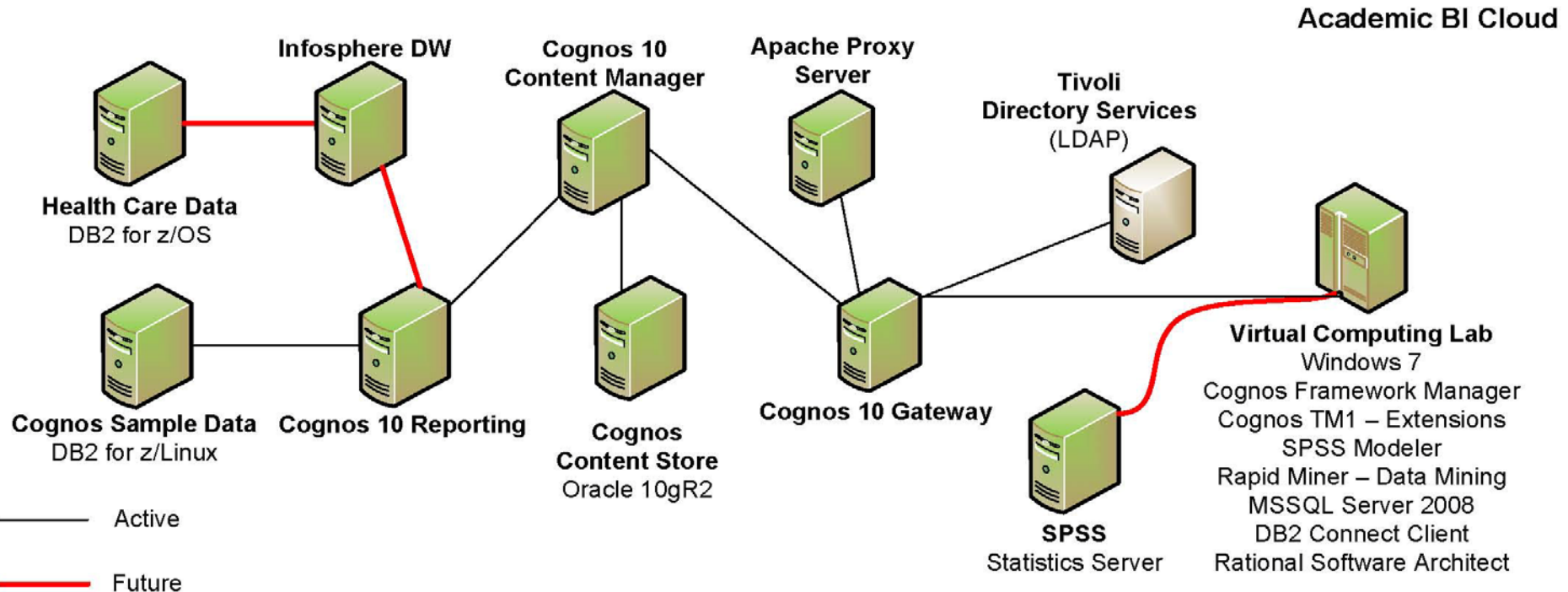
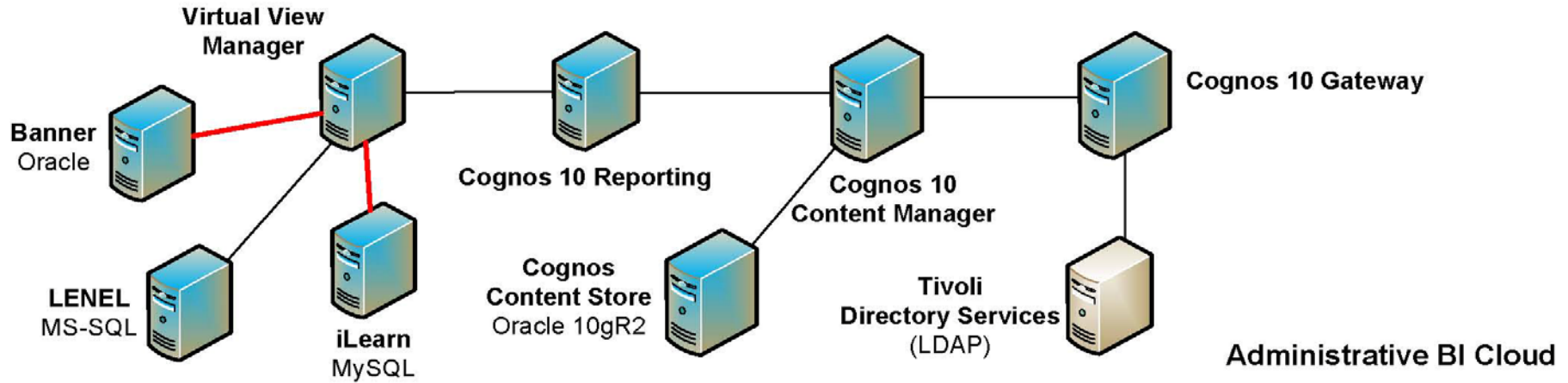


MARIST/IBM JOINT STUDY

ACADEMIC zCLOUD ENVIRONMENT



Marist College Business Intelligence Cloud



— Active
— Future

Cognos

Issue:

Using Apache module, mod2_2_cognos.so on the Cognos Gateway web server on a SLES11 64-bit system.

Error:

Framework Manager unable to connect
Apache Error -> Wrong ELF class: ELFCLASS32

Solution:

Copy the /webcontent directory to the Reporting Server

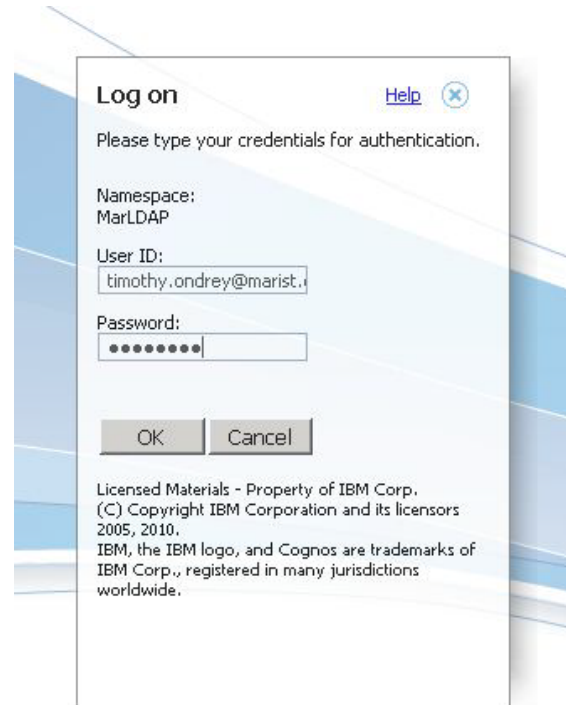
Cognos Security

Authentication via Tivoli Directory Services (LDAP)

Running on AIX on System p

Allows us to reach the entire Marist Community
and provide access to external users
via Marist Friend Accounts

User ID – Email Account



The screenshot shows a 'Log on' dialog box with the following fields and text:

- Title: Log on (with a Help link and a close button)
- Instruction: Please type your credentials for authentication.
- Namespace: MarLDAP
- User ID:
- Password:
- Buttons: OK, Cancel
- Footer text: Licensed Materials - Property of IBM Corp. (C) Copyright IBM Corporation and its licensors 2005, 2010. IBM, the IBM logo, and Cognos are trademarks of IBM Corp., registered in many jurisdictions worldwide.

Cognos Security

Separated Academic users into groups by course or school

Business Intelligence – Fall 2010 (Marist)
Decision Support Systems – Fall 2010 (Marist)

Universidad de Belgrano
Universidad de Buenos Aires
Universidad del Salvador

Administrative group / role examples

Information Technology
Registrar
Admissions

External Access

Proxy Server

MARCOG LPAR is located on the Internal Marist Network

Created Apache Proxy Server on z990 DMZ network to pass requests to the Cognos Gateway Server

```
/etc/apache2/conf.d/cogproxy.conf
```

```
ProxyPass / http://CognosGateway/  
ProxyPassReverse / http://CognosGateway/  
CustomLog /var/log/apache2/access_log combined  
ErrorLog /var/log/apache2/error_log
```

Oracle as a Data Source

Issue:

Connecting Cognos to an Oracle data source

Error:

Failed to connect to data source

Solution:

Unknown?

Cognos Data Sources

Connected Data Sources:

- Oracle 10gR2 - Cognos Content Store
- Oracle 10gR2 - Cognos Sample Data
- DB2 v9.5 - Cognos Sample Data
- MS-SQL 2005 – LENEL, Marist Card Swipe
- MySQL 5.1 – iLearn, Sakai

DB2 for z/Linux as a Data Source

Cognos Sample Data for Business Intelligence Course

Data Source – DB2 v9.5

Access – Modified:
gs_db_modify.sql

```
connect to cogsam10 user db2inst2 using allyourpswdsarebelongtous
@
--GRANT AUTHORITIES TO USER cogclass
GRANT BINDADD,CONNECT,LOAD ON DATABASE TO USER cogclass
@
--GRANT PRIVILEGES TO USER cogclass
GRANT SELECT ON TABLE GOSALES.BRANCH TO USER cogclass
@
GRANT SELECT ON TABLE GOSALES.CONVERSION_RATE TO USER cogclass
@
GRANT SELECT ON TABLE GOSALES.COUNTRY TO USER cogclass
@
GRANT SELECT ON TABLE GOSALES.CURRENCY_LOOKUP TO USER cogclass
@
GRANT SELECT ON TABLE GOSALES.EURO_CONVERSION TO USER cogclass
@
GRANT SELECT ON TABLE GOSALES.INVENTORY_LEVELS TO USER cogclass
@
GRANT SELECT ON TABLE GOSALES.ORDER_DETAILS TO USER cogclass
@
GRANT SELECT ON TABLE GOSALES.ORDER_HEADER TO USER cogclass
@
GRANT SELECT ON TABLE GOSALES.ORDER_METHOD TO USER cogclass
@
```

Adding New Data Sources

MS SQL – Issues connecting Cognos z/Linux to MS SQL on x86

- Card Swipe
- Marist Money

MySQL – Untested, VVM solution for MS SQL

- iLearn – Sakai
- Admissions

DB2 on z/OS – via Infosphere DW

- Supplemental data sources for the Academic Community

MS SQL as a Data Source

Microsoft SQL Server 2005 on x86

- Cognos on z/Linux cannot directly talk to an MS SQL Server on x86
- Two solutions attempted
 - unixODBC Drivers
 - Cognos Virtual View Manager

Cognos 10.1

IBM Launches Cognos 10 on Oct. 25th, 2010



Cognos 10.1 Upgrade

At the conclusion of the Fall 2010 Semester both Production & Development environments were upgraded to Cognos 10.

The Development Server was upgraded from SLES10 to SLES11 to match production and conform with the supported operating systems for Cognos 10.

Infosphere Data Warehousing

Infosphere DW – DB2 for z/OS

Marist Faculty requested new data sources through different connectors like Infosphere.

Faculty will obtain and/or create data suited for their courses, exposing students to a wide range of information: Sales, Healthcare

Currently researching environment requirements for connecting Cognos to Infosphere on z/Linux using DB2 for z/OS back-end

Virtual Computing Lab

Developed at NC State University beginning in 2004 as a joint project with the College of Engineering & Office of Information Technology

Provides remote access to a multiple computing environments

- Windows
- Linux

Viable replacement for most traditional computing labs

The VCL Source Code was donated in November 2008 to the Apache Software Foundation

Virtual Computing Lab

Fall 2010 – Business Intelligence & Data Warehousing

VCL Blades (13)

- 1 Control Blade
- 12 Blades available to students and professor

Windows 7 Images

- MS SQL Server 2008
- Cognos 8 Framework Manager
- DB2 Connect v9.1.3
- RapidMiner – Open Source Data Mining
- Cognos TM1 v9.4.1

Next steps...

Research and implement a solution to connect to and report off of Marist's SunGard Banner environment

Continue to investigate reporting from multiple new Marist data sources:

- Help Desk Reports
- Admissions

Next steps...

Fall 2011 at Marist

Continued support of Professor Eitel Lauria's Business Intelligence & Data Warehousing courses through Cognos and the Virtual Computing Lab

BI Course: 12('10) to 30 students for 2011
DSS: 25+ students

Classes from Argentina: Approx 25 per class

Questions

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