MicroStraegy 10.5 Server Deployment

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Version Control

Version		Date	Author	Comments
Product	Document			
MicroStrategy 10.5 Server Deployment	v1.00	12/02/2016	Pranav Rathore	Base Version

Applicability

Business/ Region affected	ALL
Platform(s)	RedHat Enterprise Linux
Operating System version	RHEL6.x, 7.x
Security Model Tier	ALL
CAP	N/A
VTM ID	N/A
VTM TAPL	N/A
CATE Collaboration URL	MicroStrategy Engineering SharePoint Portal
ERBI in Citi Collaborate	https://collaborate.citi.net/groups/erbi

Certification Matrix
Technology Environment Certification Matrix

RDBMS	ALL Citi certified RDBMS
Version Control Tools	SVN
Java Version	Java 7
.NET Frame work	N/A

Introduction

Citi Data Global ERBI Platform Engineering – MicroStrategy is publishing Release Notes for MicroStrategy Server 10.5 install upgrade.

Intended Audience

This document is intended for the vendor software support, MicroStrategy Business Intelligence application implementation communities and anyone with a vested interest in this solution. Please email comments/questions to *CitiData Global ERBI Platform Engineering – MicroStrategy

Overview

MicroStrategy Secure Enterprise v10.5 toolset is the latest release by MicroStrategy and introduces various attractive features:

Server

- Supportability for more data sources
    a. MongoDB 3.x as Data warehouse platform for analysis(supports SSL)
    b. Cloudera CDH5.7.1 latest release – EAP compliant

Web

- Data Wrangling
- Project Switching
- VI Dashboard – supports multiple open sourced Visualizations on same panel

Desktop

- Reduce memory footprint

Tools and Usage –

- Enterprise Manager – includes System Administration Overview dashboard
- 3 New Visualizations introduced
- Web Usability enhancements – consistency between all navigation bars ,improved notifications ,easy access to recent/current folders

To learn more about the new features in 10.5, please click on the link below –
https://catecollaboration.citigroup.net/domains/deveng/debi/ERBI/Microstrategy/Shared%20Documents/Support%20Documentation/10.x/What's%20New%20in%20MicroStrategy10.5.pdf

Architecture Diagram
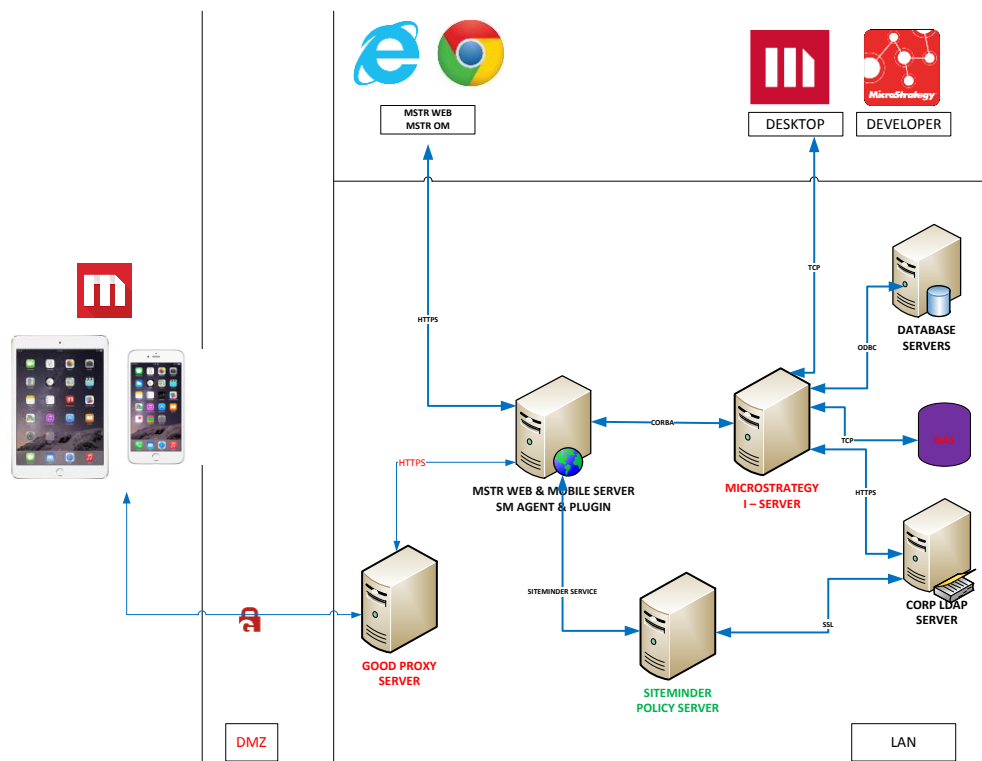
MicroStrategy 10.5 Server Prerequisites

- ✓ Redhat Enterprise Operating System 6.x on 64-bit or above
- ✓ Valid license key
- ✓ Functional ID created on RHEL server
- ✓ Minimum 20 GB disk space at local file system , 16 GB or more memory
  - Make sure /tmp also should have enough free space
- ✓ Minimum 30 GB or more shared disk space (VERITAS Cluster File System over SAN/NAS storage)
- ✓ Three Database schemas with 5GB size with full permissions
  - Metadata
  - History List
  - Statistics/Enterprise Manager Warehouse

- ✓ Update Linux kernel parameter for shared memory and Semaphores settings to support Intelligence Server execution as per the below table –

Setting Name	Description	Recommended Value
Shmmni	Maximum number of shared memory identifiers at any given time.	4096
Shmseg	Maximum number of segments per process.	2048
Semmni	Maximum number of system wide semaphore sets.	4096
Semmns	Maximum number of semaphores in the ystem	4096
Semmsl	Maximum number of semaphores in a semaphore set.	250
Semmns	Maximum number of semaphores in the system.	32000
Semopm	Maximum number of operations in a simple semaphore calls.	32
Semmni	Maximum number of semaphore sets.	4096
vm.max_map_count	Allow I-server Universal to utilized system memory resources	5,242,880 bytes

How to do: Add below parameter at /etc/sysctl.conf file and reboot system

    kernel.sem = 250 32000 32 4096
    vm.max_map_count=5242880

How to Check: login as root and run command ipcs –l

- ✓ Ensure dependent packages are installed on RHEL system as per below table list.

Operating System	Dependent Packages
RHEL 6.2.x, 6.3.x, 6.4.x	compat-libstdc++-33.i686.rpm: The compact C++ library libXp.x86_64.rpm: The Xp to allow client applications elfutils-devel.x86_64.rpm: The development libraries to handle compiled objects elfutils-libelf-devel.x86_64.rpm: Development support for libelf libstdc++-4.4.5-6.el6.i686.rpm: The GNU standard C++ library krb5-libs.i686.rpm: The shared libraries used by Kerberos5 nss-pam-ldapd.i686.rpm: The nsswitch module which uses directory servers

	ksh-20100621-12.el6.x86_64.rpm: The ATT Korn Shell
RHEL 6.5.x , 6.6.x , 6.7.x	No packages required
RHEL 7.x	compat-libstdc++-33.x86_64.rpm: The compact C++ library libX11-common-1.6.0-2.1.el7.x86_64.rpm: X.Org runtime library libXau-1.0.0-2.1.el7.x86_64.rpm: Sample Authorization Protocol for X libxcb-1.11-4.el7.src.rpm: The X protocol C-language binding libXext-1.3.2-2.1.el7.x86_64.rpm: The X.Org X11 libXext runtime library libICE-1.0.8-7.el7.x86_64.rpm: The X.Org X11 libICE runtime library libSM-1.2.1-7.el7.x86_64.rpm: The X.Org X11 libSM runtime library libXt-1.1.4-6.1.el7.x86_64.rpm: The X.Org X11 libXt runtime library motif-2.3.4-7.el7.x86 64.rpm: The Motif 2.3.4 run-time environment ksh-20120801-19.el7.x86_64.rpm: The ATT Korn Shell cups-libs-1.6.3-14.el7.i686.rpm: The common Unix printing system libraries dbus-libs-1.6.12-13.el7.i686.rpm: The low-level libraries for accessing D-BUS glibc-2.17-78.el7.i686.rpm: The GNU libc libraries keyutils-libs-1.11.3-49.el7.i686.rpm: The shared key libraries used by Kerberos 5 krb5-libs-1.11.3-49.el7.i686.rpm: The shared libraries used by Kerberos5 libgcc-4.8.5-4.el7.i686.rpm: GCC version 4.8 shared support library libstdc++-4.8.2-16.el7.i686.rpm: The GNU standard C++ library libcom_err-1.42.9-4.el7.i686.rpm: Common error description library libselinux-2.2.2-6.el7.i686.rpm: SELinux library and simple utilities openssl098e-0.9.8e-29.el7.i686.rpm: The OpenSSL toolkit for general cryptography and TLS library openssl-libs-1.0.1e-51.el7.i686.rpm: The general purpose cryptography library with TLS implementation pcre-8.32-12.el7.i686.rpm: The Perl-Compatible

	Regular Expression library
	xz-libs-5.1.2-8alpha.el7.i686.rpm: The libraries for decoding LZMA compression
	zlib-1.2.7-15.el7.i686.rpm: The compression and decompression library

- ✓ For Memory and CPU, the application must go under sizing review.
- ✓ If you are upgrading the existing instance to MicroStrategy Secure enterprise 10.5, please make sure that you backup all the customize files (web files, images, odbc.ini etc) and Metadata before starting with installation.

NOTE: For UAT and Production system resource must compliant with the license that the app entitled to use otherwise it will be a violation.

MicroStrategy 10.5 Server Package and Installation

Package Type	Package Name
RPM	MicroStrategy-10.5-93438.x86_64.rpm

- ✓ Download package from GDS Linux repository
- ✓ Request System Administrator to deploy RPM Packages on one or more RHEL server as shown below – NOTE: This is locatable package, please do not deploy on Unix system folder.

 # rpm -ivh --prefix=/optware/software/ MicroStrategy-10.5-93438.x86_64.rpm
Preparing...   ### [100%]
MicroStrategy   ### [100%]
....installables can be found under: /optware/software/MicroStrategy/

- ✓ Once MicroStrategy 10.5 RPM package is deployed on the system, change the working directory to /optware/software/ and change the ownership to MSTR functional id as -

#chmod -R +x MicroStrategy/

MicroStrategy 10.5 Server Package Deployment

- ✓ After RPM deployment and giving required access at the binary location (as above), application /development support team execute the script "MSTR_10.5_Install.sh" on the server.
- ✓ This will prompt for some inputs and it is mandatory to provide the details. Once done installation will begin.
- ✓ If the installation finds existing MicroStrategy older version at the location mentioned (will be prompted as shown below) it will upgrade the current installation to MicroStrategy Secure Enterprise 10.5 otherwise it will install a new instance of MicroStrategy 10.5 on the server.

 # ./MSTR_10.5_Install.sh
Welcome to MicroStrategy Business Intelligence 10.5 Installation
==
Enter MicroStrategy Business Intelligence Project Short Name:ERBI
Enter MicroStrategy Business Intelligence Project Business Sector Short Name:CTO
Enter MicroStrategy Business Intelligence Project APP ID/CSI ID:17025
Enter MicroStrategy Business Intelligence Environment (DEV/SIT/UAT/STG/PROD/COB):LAB
Enter MicroStrategy Business Intelligence support team E-Mail Alias in small
case:dl.citidata.global.erbi.platform.engineering.microstrategy@imcnam.ssmb.com
Enter MicroStrategy Business Intelligence Installation folder path :/opt/MicroStrategy
Folder /opt/mstr10 exist on the system
Enter MicroStrategy Business Intelligence 10.5 license key : xxxxxxxxxxxxxx
Is MicroStrategy license is CPU based (y/n) :y
How many CPU you want to allocate on this MicroStrategy I-Server :2
Enter MicroStrategy Business Intelligence 1042 Health Center Port :44444

Continue with MicroStrategy Business Intelligence 10.5 Installation (y/n):y
Extracting file, please wait………
MicroStrategy Business Intelligence 10.5 Installation in progress, please Wait
Checking for running instances…….done.
Checking file integrity……done.
MicroStrategy Business Intelligence 10.5 Installation completed successfully
Cleanup started, please Wait…..

- ✓ To verify the installation, check the mstrinstall.xml file and check the 10.5 version of the server. If required, one can look into the MSTRInstaller.log file as well for installer details.

MicroStrategy 10.5 Server configuration

- ✓ Post MSTR install, it will install MicroStrategy Secure Enterprise *10.5 binaries.*

If you have upgraded your existing environment to MSTR 10.5

- ✓ run ./mstrcfgwiz to update your current metadata and projects to MSTR10.5.
  Details can be found in the document for "**MicroStrategy 10.4 Upgrade**" it is same for 10.4 and 10.5
  https://catecollaboration.citigroup.net/domains/deveng/debi/ERBI/Microstrategy/Shared%20Documents/Forms/AllIte ms.aspx?RootFolder=%2Fdomains%2Fdeveng%2Fdebi%2FERBI%2FMicrostrategy%2FShared%20Documents%2FSup port%20Documentation%2F10%2Ex&FolderCTID=0x012000E8E59C1EEFC4444B8C57FDC8C21C6A81&View={C9A42 334-5276-4ABC-9E76-9D5BE38781A0}

If it is a new install
- ✓ Run <install_dir>/bin/mstrconnectwiz and create the ODBC entries for Metadata, Stats and History list
- ✓ Run <installdir>/bin/mstrcfgwiz-editor or mstrcfgwiz to create the server metadata, history list and stats. Also to create server definition.
- ✓ Run <installdir>/bin/./mstrctl –s IntelligenceServer start to start the server.

RHEL7 Specific :
While testing in LAB environment we have noticed below error messages while trying to configure I-server

```
/sbin/sysctl: /opt/mstrcloud/install/lib/libz.so.1: no version information available (required by /lib64/libdw.so.1)
/sbin/sysctl: /opt/mstrcloud/install/lib/libz.so.1: no version information available (required by /lib64/libdw.so.1)
Fontconfig error: "/etc/fonts/conf.d/10-scale-bitmap-fonts.conf", line 70: non-double matrix element
Fontconfig error: "/etc/fonts/conf.d/10-scale-bitmap-fonts.conf", line 70: non-double matrix element
Fontconfig warning: "/etc/fonts/conf.d/10-scale-bitmap-fonts.conf", line 78: saw unknown, expected number
```

To avoid the above message please follow the steps below :-
1. Remove the <mstr_install_dir>/lib/libz.so.1
2. Edit /etc/fonts/conf.d/10-scale-bitmap-fonts.conf and comment lines 64 -80(shown in the error above)

NOTE: if above steps not taken, you may get the similar messages while trying to start the I-server as well.

MicroStrategy 10.5 Package Verification

✓ Login to RHEL server and Check I-server process

#ps -ef | grep IntelligenceServer
root   3428   1 0 Aug23 ?   00:00:27 /opt/MicroStrategy/install/IntelligenceServer/bin/MSTRSvr -s -w
/opt/MicroStrategy/IntelligenceServer -t status-iserver.xml /opt/mMicroStrategy/install/lib/libMSTRSvr2.so -n CastorServer

#./mstrctl -s IntelligenceServer gs

```
<status>
    <computer_name>vm-4dcc-e3be</computer_name>
    <login>root</login>
    <process_id>3428</process_id>
    <process_creation_time>2016-08-24 03:10:46.630Z</process_creation_time>
    <boot_time>2016-05-23 22:16:17.000Z</boot_time>
    <state can_be_paused="0">running</state>
    <execution_mode>service</execution_mode>
    <version_info>
        <file_version>10.5.0024.0041</file_version>
        <file_description>10.5.0024.0041</file_description>
        <company_name>MicroStrategy Incorporated</company_name>
        <original_filename>libMSTRSvr2.so~</original_filename>
        <product_name>MicroStrategy Intelligence Server</product_name>
        <product_version>10.5.0024.0041</product_version>
        <legal_copyright>Copyright (c) 2000-2016 MicroStrategy Incorporated. All rights reserved.</legal_copyright>
        <legal_trademarks>MicroStrategy (r) is a registered trademark of MicroStrategy Incorporated</legal_trademarks>
        <build_machine_name>GIT-Migration-lnx</build_machine_name>
    </version_info>
    <application>
        <version>10.5.0024.0041</version>
        <tcp_port_number>34952</tcp_port_number>
    </application>
</status>
```

MicroStrategy WAR file deployment

✓ Download WAR/EAR files from cross environment (/xenv/MicroStrategy/X/10.5) and deploy MicroStrategy.war, MicroStrategyWS.war, MicroStrategyOM.war, MicroStrategyMobile.war and CertificateServer.war on WebSphere application server launch MSTR Web or MSTR Web Server Admin url at browser and login.

http://<WebServerName>:<port>/MicroStrategy/servlet/mstrServerAdmin
http://<WebServerName>:<port>/MicroStrategy/servlet/mstrWeb

NOTE: MicroStrategy war file deployment on WAS ND use the same procedure as 9.4.1

https://catecollaboration.citigroup.net/domains/deveng/debi/ERBI/Microstrategy/Shared%20Documents/Support%20Documentation/9.x/MicroStrategy%20web%20applications%20Deployment%20at%20WebSphere.pdf

MicroStrategy License Activation

- ✓ Go to $INSTALLDIR/bin run ./mstrlicmgr and follow the instruction to activate the license.
- ✓ It will ask to generate a file "Activation.xml" which can be used to generate an activation code from MicroStrategy website
- ✓ If you want to use command line run the following command ./mstrlicmgr –console

Contacts

MicroStrategy Engineering - *CitiData ERBI Global Platform Engineering – MicroStrategy

References

https://catecollaboration.citigroup.net/domains/deveng/debi/ERBI/Microstrategy/default.aspx