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|  | FS – CIO  RELEASE NOTICE  (6610-7) | |  |
| Month XX, XXXX | **CIO – ISO** | | RN-XXXX-XX |
| **Subject:** | | IBM Tivoli Configuration Manager v4.3.1 Upgrade | |
| **Purpose:** | | Upgrade USDA Forest Service Tivoli Management Region (TMR) servers to IBM Tivoli Configuration Manager v4.3.1. | |
| **Support Contact:** | | Customer Help Desk (1-866-945-1354) | |
| **Application Sponsor:** | |  | |
| **OS Level:** | | AIX v5.3 | |
| **Mandatory:** | | No | |
| **Required System Reboot:** | | No | |
| **Service Interruption:** | | No | |
| **Affected Server Types:** | | Tivoli Management Region servers | |
| **Server Team Implementing Update:** | | ESM | |
| **Expected Completion Date:** | | 2010-12-31 | |
| **Environment:** | | This release will be installed in Prod. | |
| **SR #:** | |  | |
| **CR #:** | |  | |
| **If there are any problems installing this release, please contact the following people:** | | Developer’s name: Ron Compos ([rcompos@us.ibm.com](mailto:rcompos@us.ibm.com)) 303-748-4873  Installation tester’s name: | |
| General Overview | | | |
| **Abstract**  This process, USDA Forest Service CM431 TMR Upgrade, is provided to upgrade existing USDA Forest Service CM423 Tivoli Management Regions (TMRs) to Tivoli Framework v4.3.1 and Configuration Manager v4.3.1 (CM431). Configuration Manager v4.3.1 Fix Pack 1 (CM431 Fix Pack 1) is also included.  This process may be used to upgrade a hub or spoke TMR server, Gateway managed nodes and endpoints. If a hub (Enterprise) TMR is being upgraded and no managed nodes or endpoints are desired, follow instrucions specific to hub servers.  USDA Forest Service CM431 TMR Upgrade requires a TMR server running AIX v5.3 and a collection of Gateway Managed Node servers running AIX v5, Red Hat Enterprise Linux v5 (RHEL5) or SUSE Linux Enterprise Server (SLES 10) operating systems and endpoint clients running Windows, AIX or Linux. root access is required on all servers. The creation of managed nodes now supports SSH and no longer requires the exec service to be enabled on the target server. Endpoints are installed via SSH as well.  The Tivoli Inventory data will be stored on a Oracle database management server. This necessitates an Oracle 10g database client on the TMR server. All Inventory objects will be created on the TMR server. This differs from previous USDA FS installations which used a dedicated Inventory managed node server.  The Tivoli Inventory schema doesn't change from CM423 to CM431. However, CM431 Fix Pack 1 does change inventory database schema.  This release provides a new endpoint version 43102, from the Tivoli Framework Patch 4.3.1-LCF-0002.  Tivoli Desktop for Windows v4.3.1 is provided for installation or upgrade. Earlier versions of Tivoli Desktop for Windows must be upgraded.  **Products/Patches**  The products and patches installed in this upgrade process are listed below. The product and patch configuration files cm431-tmr-upgd.cfg and cm431-gw-updg.cfg are located in /usr/local/Tivoli/etc/inst.  **TMR Patches** (cm431-tmr-upgd.cfg)  Tivoli Management Framework Upgrade to Version 4.3.1 (build 11/19)  Java 1.4.2 for Tivoli JavaHelp 1.0 for Tivoli 4.1 Tivoli Java Client Framework 4.3.1 Tivoli Java RDBMS Interface Module (JRIM) 4.3.1 Tivoli Management Framework SSLA Version 1.3 Distribution Status Console Upgrade to Version 4.3.1  Scalable Collection Service, Version 4.3.1 Inventory Upgrade, Version 4.2.3 to 4.3.1  Inventory Gateway Upgrade, Version 4.2.3 to 4.3.1  Software Distribution Upgrade, Version 4.2.3 to 4.3.1  Software Distribution Gateway Upgrade, Version 4.2.3 to 4.3.1  Software Distribution Software Package Editor Upgrade, Version 4.2.3 to 4.3.1  Activity Planner Upgrade, Version 4.2.3 to 4.3.1  Change Manager Upgrade, Version 4.2.3 to 4.3.1  Web Interface Upgrade, Version 4.2.3 to 4.3.1  Directory Query Upgrade, Version 4.2.3 to 4.3.1  Resource Manager Upgrade, Version 4.2.3 to 4.3.1  Resource Manager Gateway Upgrade, Version 4.2.3 to 4.3.1  Pristine Manager Upgrade, Version 4.2.3 to 4.3.1  Patch Management Upgrade, Version 4.2.3 to 4.3.1  Pristine Manager Gateway Upgrade, Version 4.2.3 to 4.3.1  Scalable Collection Service, Version 4.3.1, Fix Pack 4.3.1-TIV-CLL-FP0001 (U829862 - 2009/10)  Inventory, Version 4.3.1, Fix Pack 4.3.1-TIV-INV-FP0001 (U829862 - 2009/10)  Inventory Gateway, Version 4.3.1, Fix Pack 4.3.1-TIV-INVGW-FP0001 (U829862 - 2009/10)  Activity Planner, Version 4.3.1, Fix Pack 4.3.1-TIV-APM-FP0001 (U829862 - 2009/10)  Software Distribution, Version 4.3.1, Fix Pack 4.3.1-TIV-SWDSRV-FP0001 (U829862 - 2009/10)  Software Distribution Gateway, Version 4.3.1, Fix Pack 4.3.1-TIV-SWDGW-FP0001 (U829862 - 2009/10)  Software Distribution Software Package Editor V. 4.3.1,Fix Pack 4.3.1-TIV-SWDJPS-FP0001(U829862 - 2009/10)  Tivoli Framework Patch 4.3.1-LCF-0002 (build 09/23)  Tivoli Framework Patch 4.3.1-TMF-0005 (build 11/23)  **GW Patches** (cm431-gw-upgd.cfg)  Tivoli Management Framework Upgrade to Version 4.3.1 (build 11/19)  Java 1.4.2 for Tivoli  JavaHelp 1.0 for Tivoli 4.1  Tivoli Java Client Framework 4.3.1  Tivoli Java RDBMS Interface Module (JRIM) 4.3.1  Tivoli Management Framework SSLA Version 1.3  Distribution Status Console Upgrade to Version 4.3.1  Scalable Collection Service, Version 4.3.1  Distribution Status Console Upgrade to Version 4.3.1  Inventory Gateway Upgrade, Version 4.2.3 to 4.3.1  Software Distribution Gateway Upgrade, Version 4.2.3 to 4.3.1  Resource Manager Gateway Upgrade, Version 4.2.3 to 4.3.1  Pristine Manager Gateway Upgrade, Version 4.2.3 to 4.3.1  Scalable Collection Service, Version 4.3.1, Fix Pack 4.3.1-TIV-CLL-FP0001 (U829862 - 2009/10)  Inventory Gateway, Version 4.3.1, Fix Pack 4.3.1-TIV-INVGW-FP0001 (U829862 - 2009/10)  Software Distribution Gateway, Version 4.3.1, Fix Pack 4.3.1-TIV-SWDGW-FP0001 (U829862 - 2009/10)  Tivoli Framework Patch 4.3.1-LCF-0002 (build 09/23)  Tivoli Framework Patch 4.3.1-TMF-0005 (build 11/23)  The comprehensive product and patch configuration files tmr.cfg and gw.cfg are located in /usr/local/Tivoli/etc/inst. These config files define the full product and patch configuration for TMR server or gateway managed node. This includes all products and patches from USDA Forest Service CM423 TMR Install as well as those introduced by this upgrade. The scripts reload-tmr and reload-gw (located under /usr/local/Tivoli/etc/script/) will run through the full configuration files by default with no other options. | | | |
| Prerequisites | | | |
| **Files**  usdafs\_cm431\_1of3.tar (1.6 GB)  usdafs\_cm431\_2of3.tar (1.6 GB)  usdafs\_cm431\_3of3.tar (1.5 GB)  **Environment**  TMR server running AIX v5.3 operating system  TMR server full system backup performed  GW managed node servers running AIX v5, RHEL v5 orSLES10 operating system  Endpoint clients running Windows, AIX v5, RHEL v5 or SLES10 operating systems  **Requirements**  root administrative privileges on all servers  Oracle 10g database client installed on TMR server  TMR server minimum of 1GB disk space available under filesystem /usr/local/Tivoli  TMR server minimum of 6GB disk space available under filesystem /usr/local/Tivoli/src | | | |

SECTION I: Manual Install Instructions  
Command prompt for root is designated by the pound symbol (#).

1. Log on to TMR server
   1. Start terminal session on Tivoli Management Region (TMR) server as root user. Confirm root user logged into TMR server.

**# hostname**

**# whoami**

1. Environment file
   1. The following environmental variables used in this procedure. These variables are se t in the file .tivenv and are included for expediency.  
      ult=/usr/local/Tivoli  
      ultv=/usr/local/Tivoli/var  
      ults=/usr/local/Tivoli/src  
      ulte=/usr/local/Tivoli/etc  
      ultes=/usr/local/Tivoli/etc/script  
      ultec=/usr/local/Tivoli/etc/cfg  
      lcfdir=/usr/local/Tivoli/lcf/dat/1  
      logdir=/usr/local/Tivoli/var/log
   2. Source custom environmental variable file. Verify that variable $ult is set to /usr/local/Tivoli.

**# . /usr/local/Tivoli/etc/cfg/.tivenv**

**# echo $ult**

1. Transfer files
   1. Transfer install files to TMR server.
      1. Copy usdafs\_cm431\_1of3.tar, usdafs\_cm431\_2of3.tar and usdafs\_cm431\_3of3.tar and checksum files to /usr/local/Tivoli/depot. The directory /usr/local/Tivoli/depot or any sufficiently large directory may be used to temporarily store the tar files. After installation the tar files should be removed.
2. Extract files
   1. Extract src
      1. The checksum of the tar files are included. The checksum of the tar file must be identical to the contents of the .cksum file. If not the file may be corrupt.
      2. Change directory to /usr/local/Tivoli/.

**# cd $ult**

* + 1. Run command to untar files under directory /usr/local/Tivoli/. If disk space is scarce, each tar file may be untarred manually, after which the tarfile may be deleted.

**# tar xvpf ./depot/usdafs\_cm431\_1of3.tar**

**# tar xvpf ./depot/usdafs\_cm431\_2of3.tar**

**# tar xvpf ./depot/usdafs\_cm431\_3of3.tar**

* 1. Extract etc
     1. While still in directory /usr/local/Tivoli/. Untar etc directory.

**# tar xvpf ./src/431etc.tar**

1. Enter maintenance mode  
   On TMR server as user root, perform pre-install tasks.
   1. List current products/patches
      1. Change directory to /usr/local/Tivoli/var/log/cm431. Run command to generate list of currently installed TMR products and patches.

**# mkdir -pm 775 $logdir/cm431**

**# cd $logdir/cm431**

**# wlsinst -a | tee wlsinst\_a.pre\_cm431**

* 1. Maintenance mode
     1. Enter maintenance mode. In this state, only maintenance operations can be performed on TMR. Run command in background as shown to enter maintenance mode indefinately. After upgrades are performed, this process will be terminated to exit maintenance mode.

**# wlocktmr -p &**

1. Upgrade Gateway managed nodes  
   Hub TMR (Enterprise TMR): skip this step.
   1. As root user on TMR server, change directory to /usr/local/Tivoli/var/log/cm431.

**# cd $logdir/cm431**

* + 1. Upgrade Tivoli Gateway managed node. Substitute the actual managed node label for <Managed\_Node\_Label> . Managed nodes can be listed by running command 'wlookup -aLr ManagedNode'.  
       \*\*\* Repeat this step for ALL Gateway Managed Node servers \*\*\*

**# $ultes/reload-mn -c $ultec/inst/cm431-gw-upgd.cfg <Managed\_Node\_Label> 2>&1 | tee reload-mn.<Managed\_Node\_Label>**

* + 1. Review log file for errors. Retry managed nodes that experience failures.

1. Upgrade TMR server  
   Upgrade TMR server to CM431.
   1. While still in directory /usr/local/Tivoli/var/log/cm431, run command to upgrade Framework and Configuration Manager to v4.3.1 including CM431 Fix Pack 1.

**# $ultes/reload-tmr -c $ultec/inst/cm431-tmr-upgd.cfg 2>&1 | tee reload-tmr.log**

* 1. Review log file for errors. Re-run script if necessary.

1. Inventory schema  
   Update Inventory schema. Run SQL command from managed node where Inventory RIM objects are located. RIM host may be identified by running 'wgetrim inv\_query|grep Host' on TMR server.  
   Inventory scripts on TMR server are located at /usr/local/Tivoli/etc/script/sql. These scripts may be adjusted by DBA if necessary. Original SQL scripts are located at $BINDIR/../generic/inv/SCRIPTS/RDBMS/.
   1. Change user
      1. As root, change ownership of SQL script directory to ensure access for user oracle. Then, change to user oracle to run SQL scripts.

**# chown -R oracle.dba $ultes/sql**

**# su - oracle**

* 1. Run SQL script  
     As user oracle, run Inventory schema scripts for CM423 Fix Pack 1 through 9 and CM431 Fix Pack 1. Running Inventory schema fix pack scripts more than once is not detrimental, although numerous errors will be thrown.  
     Note that database user passwords are hard-coded in script. The user/password pairs are as follows:  
     Tivoli Oracle Schema Users and Passwords   
     User Password  
     tivoli Tivoli  
     invtiv Tivoli  
     mdstatus mdstatus  
     planner planner  
     pristine pristine  
     If the actual database user passwords are different, edit the script to reflect actual passwords.
     1. As user oracle change to SQL script directory. Run script to run schema updates for CM423 Fix Packs 1-9 and CM431 Fix Pack 1. Database identifier <connect\_identifier> is only necessary for remote databases.

**$ cd /usr/local/Tivoli/etc/script/sql**

**$ ./tiv\_schema\_setup -s3 <connect\_identifier>**

* 1. Review log file for errors. The log will contain many warnings.
  2. Exit oracle terminal session.

**# exit**

* 1. Confirm current user is root

**# whoami**

1. Upgrade Plug-ins
   1. Upgrade APM plug-ins for CM431. Run script to upgrade activity planner plug-ins for CM431.

**# $BINDIR/TME/APM/SCRIPTS/reg\_tl\_plugin.sh -r**

**# $BINDIR/TME/APM/SCRIPTS/reg\_swd\_plugin.sh -r**

**# $BINDIR/TME/APM/SCRIPTS/reg\_inv\_plugin.sh -r**

**# $BINDIR/TME/APM/SCRIPTS/reg\_pristine\_apm\_plugin.sh –r**

* 1. Upgrade CCM plug-ins for CM431. Run script to upgrade change manager plug-ins for CM431.

**# $BINDIR/TME/CCM/SCRIPTS/reg\_swd\_plugin.sh -r**

**# $BINDIR/TME/CCM/SCRIPTS/reg\_invscan\_plugin.sh -r**

**# $BINDIR/TME/CCM/SCRIPTS/reg\_pristine\_ccm\_plugin.sh -r**

1. Upgrade Query Libraries  
   Upgrade query libraries for CM431.
   1. Run script to upgrade resource manager plug-ins for CM431, where <reg> is the region prefix as returned by the command 'wtmrname | cut -d. -f1'.

**# $BINDIR/../generic/inv/SCRIPTS/QUERIES/inventory\_query.sh <reg>.apps.inv.pr**

**# $BINDIR/../generic/inv/SCRIPTS/QUERIES/subscription\_query.sh <reg>.apps.inv.pr**

1. Restart object dispatchers  
   Restart all nodes to enable full functionality.
   1. Shutdown all client managed node object dispatchers. Restart TMR server object dispatcher. Start all client managed node object dispatchers.

**# odadmin shutdown clients**

**# odadmin reexec**

**# odadmin start clients**

1. Check object database
   1. Get TMR product/patch list. Check Tivoli object database and fix errors. Run the wchkdb command two times as indicated. The second run should have a clean result.

**# wlsinst -a | tee /usr/local/Tivoli/var/log/cm431/wlsinst\_a.postcm431**

* 1. Check Tivoli object database and fix errors. Run the wchkdb command two times as indicated. The second run should have a clean result.

**# wchkdb -u**

**# wchkdb -u**

1. Backup object database
   1. Perform Tivoli object database backup. Substitute actual region label for <region>.

**# wbkupdb -sd $ultv/db\_bkup/<region>-db\_bkup-post\_cm431**

1. Tivoli Desktop for Windows  
   A new Tivoli Desktop for Windows client is provided with Tivoli Framework v4.3.1. To install the Tivoli Desktop for Windows GUI on an administrator's Windows workstation, copy /usr/local/Tivoli/src/cm431fp01\_desktop.zip from TMR server to Windows workstation.
   1. Copy file /usr/local/Tivoli/src/cm431fp01\_desktop.zip to Windows client.
   2. Extract zip file on Windows client under any directory, for example c:>\tmp. Change directory to .\cd2\spb\_installer.

**Run Setup.exe to install Tivoli Desktop for Windows v4.3.1 Fix Pack 1**  
Note: If a previous version of Tivoli Desktop for Windows is already installed, it must first be removed by running Setup.exe.

**c:\tmp\cd2\spb\_installer> Setup.exe**

* + 1. When prompted, specify .\cd2\package\CM431\_SPB\_FP01.xml as XML configuration file.

1. Inventory software signatures
   1. Download the latest quarterly IBM software catalog. Navigate to following web site:  
      http://www-306.ibm.com/software/sysmgmt/products/support/IBMTivoliLicenseManager.html
   2. Go to Download link, then obtain latest IBM Software Catalog for ITLCM 2.2/2.3 - All Software file. Copy this file to TMR server.
   3. Run the following command to import software signatures:

**# winvmigrate -c <IBM\_software\_catalog\_file>**

SECTION II: Tivoli Install Instructions

N/A

SECTION III: Validation Steps

1. Validate TMR Framework level is 4.3.1.

**# wlsinst –a |grep Framework**

1. Validate TMR Configuration Manager level is 4.3.1.

**# wlsinst –a | grep Inventory**

1. Validate TMR endpoint level is 43100.

**# wep <TMR\_endpoint\_label> get version**

SECTION IV: Backout Instructions

1. Restore TMR server from backup image.

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