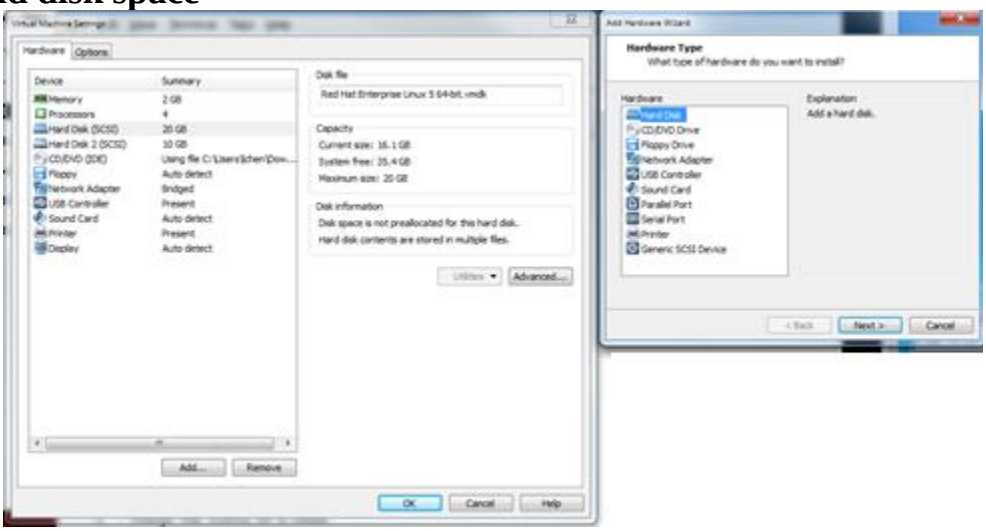
Setup informix database on Redhat Linux 5.8 with VMWARE

Add disk space



Type the following to send a rescan request:

```
# echo "- - -" > /sys/class/scsi_host/host0/scan
# fdisk -l
```

You will find the new added disk.

Partition this new disk

```
#  fdisk /dev/sdb
```

Format new created partition

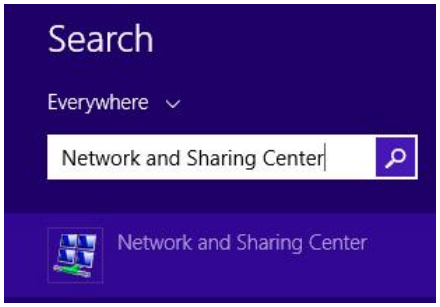
```
# mkfs.ext3  /dev/sdb1
```

on Redhat Linux, Edit /etc/mtab and /etc/fstab to add this new formatted partition to filesystems

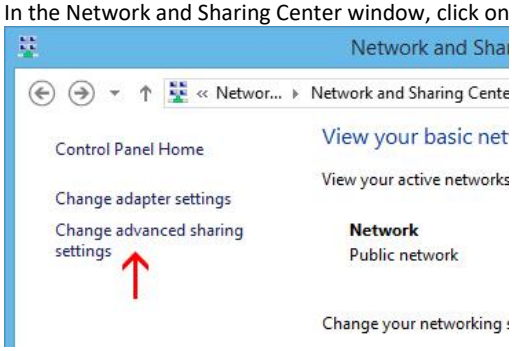
Share directory on Windows

Install Samba Server on Linux system is a best practice to share a directory between Windows & Linux systems, so you can copy the download software packages from Windows to Linux very conveniently.

To set up a shared folder on Windows for Linux to access, start by making sure your network settings are configured to allow the connection from the other computer by opening the Network and Sharing Center.

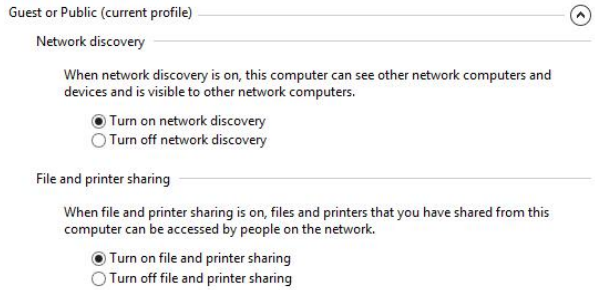


In the Network and Sharing Center window, click on “Change advanced sharing settings.”



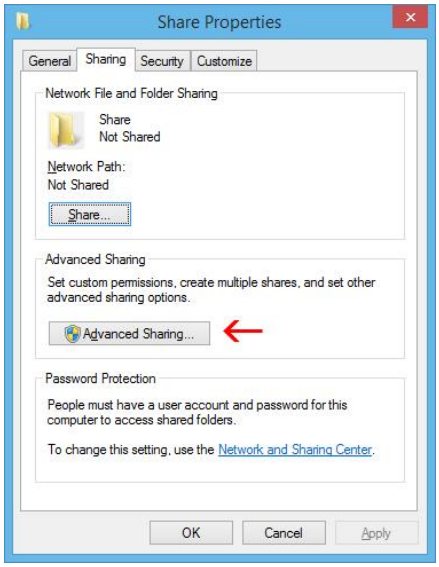
For your current profile, adjust the following two settings:

- Turn on network discovery
- Turn on file and printer sharing

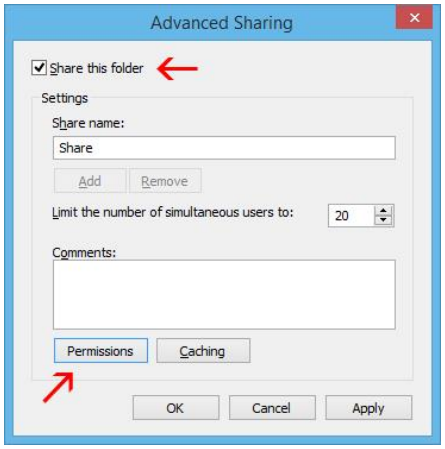


Click on “Save Changes” after those settings are configured. Now we can create a place on the Windows computer for the Linux machine to see files and copy contents to. There are no limitations to what you can share out (you could theoretically share your entire hard drive), but we will just be sharing out a folder called “Share” located on our Desktop.

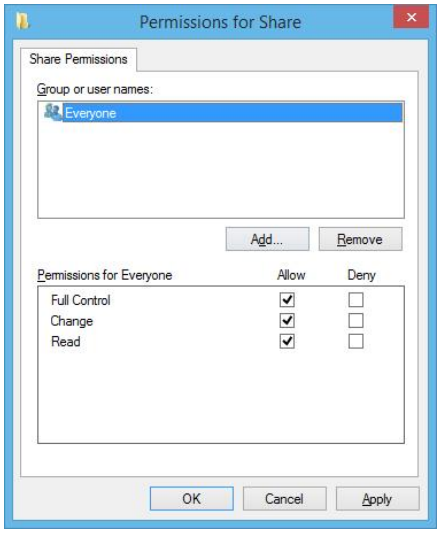
Right click on the folder you’d like to share out over the network, and click Properties. Go to the Sharing tab and click Advanced Sharing.



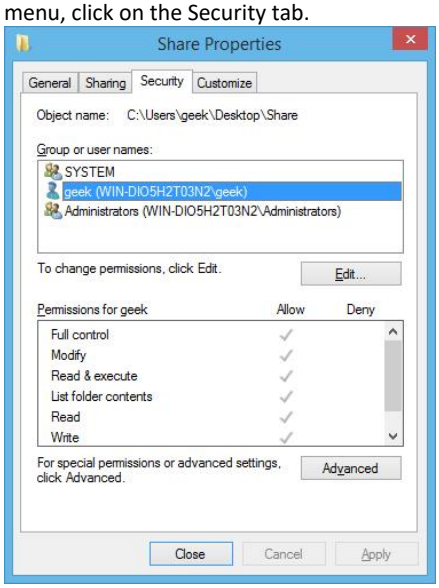
Check the “Share this folder” box and click on “Permissions” toward the bottom.



In the Permissions window, you can restrict access to the folder for certain accounts. To let any user have access to your folder, just give Full Control to the Everyone user. This will allow anyone to read and write changes to the shared folder. If you would rather restrict access to certain accounts, just remove the Everyone user and add the users you’d like to grant access to. Note: These user accounts are on the Windows computer, not Linux.

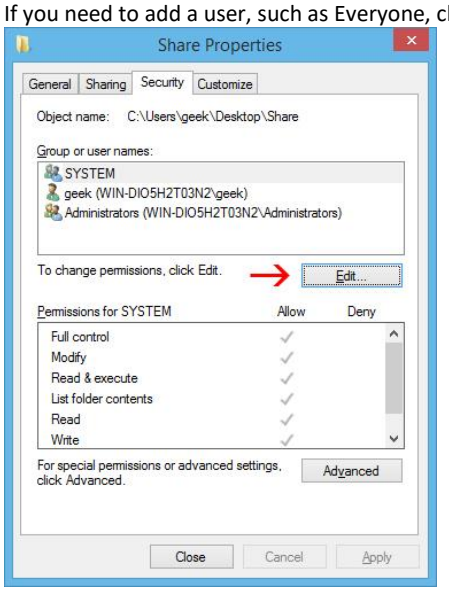


Click OK on the Permissions and Advanced Sharing windows once you've made your changes. While still in the Properties menu, click on the Security tab.

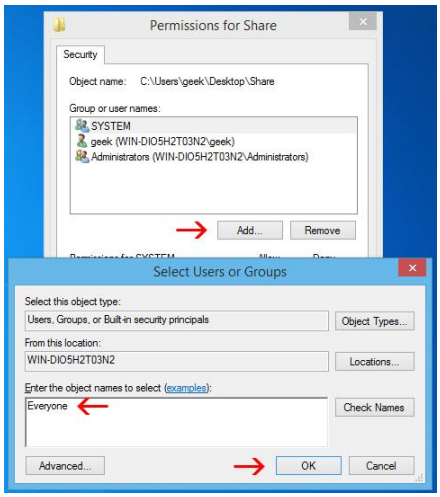


For the Linux user to have access to the shared folder, the same permissions need to be configured in this tab as what we configured in the sharing settings. If the two settings don't match, the most restrictive settings are the ones that will take effect. If your desired user already has their security permissions set up (such as the geek user in our example) then you're good to go and can click Close.

If you need to add a user, such as Everyone, click on Edit.



Click on Add in the next menu, enter the username, and click OK.



Click OK on all the open windows, and your folder should now be shared out and accessible on your Linux computer.

Accessing the Windows Share from Linux

You should be able to mount the shared folder by using the GUI in Linux, but it's also very easy to do with the command line, and it's easier to show a terminal example because it will work across many different distributions.

You'll need the cifs-utils package in order to mount SMB shares:

```
# sudo apt-get install cifs-utils
```

After that, just make a directory and mount the share to it. In this example, we will mount the folder to our Desktop for easy access.
mkdir ~/Desktop/Windows-Share

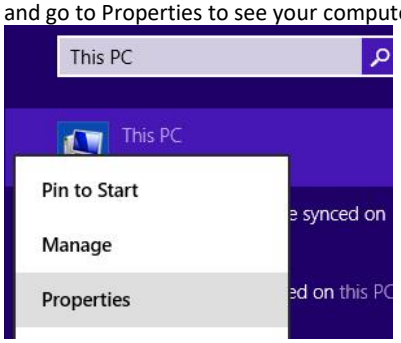
```
# sudo mount.cifs //WindowsPC/Share /home/geek/Desktop/Windows-Share -o user=geek
```

```
geek@ubuntu:~$ mkdir ~/Desktop/Windows-Share
geek@ubuntu:~$ sudo mount.cifs //WindowsPC/Share
/home/geek/Desktop/Windows-Share/ -o user=geek
[sudo] password for geek:
Password:
geek@ubuntu:~$
```

As you can see in the screenshot, we were prompted for the root password of the Linux machine, and then the password for the 'geek' account on Windows. After running that command, we are now able to see the contents of the Windows share and add data to it.
In case you need help understanding the mount command, here's a breakdown:

```
sudo mount.cifs - This is just the mount command, set to mount a CIFS (SMB) share.
```

WindowsPC – This is the name of the Windows computer. Type "This PC" into the Start menu on Windows, right click it, and go to Properties to see your computer name.



- //Windows-PC/Share – This is the full path to the shared folder.

- /home/geek/Desktop/Windows-Share – This is where we'd like the share to be mounted.
- -o user=geek – This is the Windows username that we are using to access the shared folder.

Creating the Share on Linux

To set up a shared folder on Linux for Windows to access, start with installing Samba.

```
# sudo apt-get install samba
```

After Samba installs, configure a username and password that will be used to access the share.

```
# smbpasswd -a geek
```

Note: In this example, we are using 'geek' since we already have a Linux user with that name – but you can choose any name you'd like.

```
geek@ubuntu:~$ sudo smbpasswd -a geek
New SMB password:
Retype new SMB password:
geek@ubuntu:~$
```

Create the directory that you'd like to share out to your Windows computer. We're just going to put a folder on our Desktop.

```
mkdir ~/Desktop/Share
```

Now, use your favorite editor to configure the smb.conf file.

```
# sudo vi /etc/samba/smb.conf
```

Scroll down to the end of the file and add these lines:

[<folder_name>]
path = /home/<user_name>/<folder_name>
available = yes
valid users = <user_name>
read only = no
browsable = yes
public = yes
writable = yes

Obviously, you'll need to replace some of the values with your personal settings. It should look something like this:

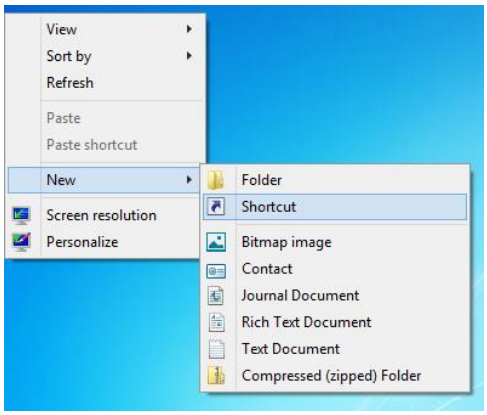
```
[Share]
path = /home/geek/Desktop/Share
available = yes
valid users = geek
read only = no
browsable = yes
public = yes
writable = yes
```

Save the file and close your editor. Now, restart the SMB service for the changes to take effect.
sudo service smbd restart

Your shared folder should now be accessible from a Windows PC.

Accessing the Linux Share from Windows

Now, let's add the Linux share to our Windows Desktop. Right-click somewhere on your Desktop and go to New > Shortcut.

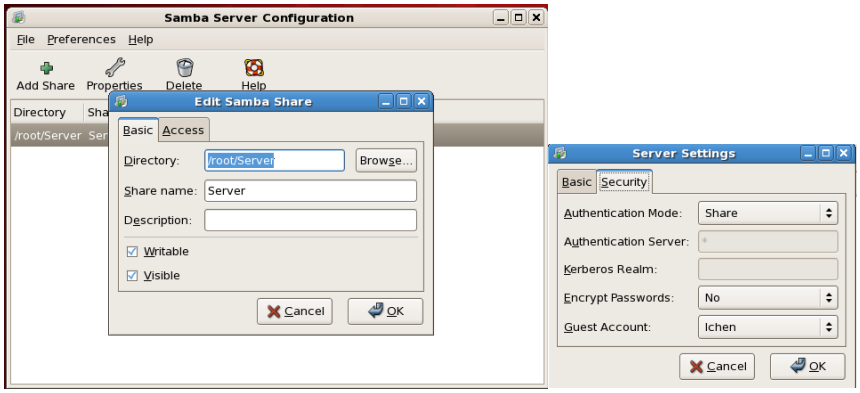


Type in the network location of the shared folder, with this syntax:
\\IP-ADDRESS\SHARE-NAME

If you need the IP of your Linux computer, just issue the following command:

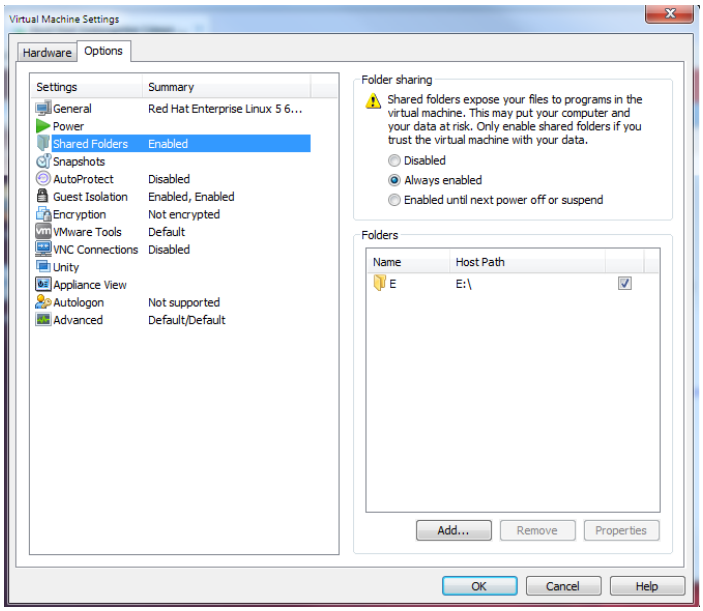
```
# ifconfig
```

Click Next, choose a name for the Shortcut, and click Finish. You should end up with a Shortcut on your Desktop that goes right to the Linux share.



chmod –R lchen:root /Server

Another way to share Windows Drive (directory) with VMWare Linux Server:



Install informix 11.7 on RH Linux5.8 64-bit

Create user/group: informix/informix

[root@db2cm64 home]# mkdir informix

[root@db2cm64 home]# chmod -R 755 informix

[root@db2cm64 home]# chown -R informix:informix informix

[root@db2cm64 informix]# cd /Server/informix; ./ids_install

```
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...

Preparing CONSOLE Mode Installation...

===============================================================================
IBM Informix Software Bundle                          (created with InstallAnywhere)
-------------------------------------------------------------------------------

===============================================================================
Getting started with IBM Informix Software Bundle
-------------------------------------------------

InstallAnywhere will guide you through the installation of IBM Informix
Software Bundle.

Copyright IBM Corporation 1996, 2012. All rights reserved.

1. Release Notes
The Release Notes can be found in
```

```
/Server/informix/SERVER/doc/ids_unix_relnotes_11.70.html

2. Installation Guide
Please view the Installation / Quick Beginnings Guide at
/Server/informix/SERVER/doc/ids_unix_installg_11.70.pdf

3. Launch Information Center
Access the IDS 11.70 Information Center at
http://publib.boulder.ibm.com/infocenter/idshelp/v117/index.jsp

To Begin Installation,
Respond to each prompt to proceed to the next step in the installation.
If you want to change something on a previous step, type 'back'.

You may cancel this installation at any time by typing 'quit'.

PRESS <ENTER> TO CONTINUE:
================================================================================

    International License Agreement for Non-Warranted Programs

    Part 1 - General Terms

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    "ACCEPT" BUTTON, OR OTHERWISE USING THE PROGRAM, LICENSEE AGREES TO
    THE TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON
    BEHALF OF LICENSEE, YOU REPRESENT AND WARRANT THAT YOU HAVE FULL
    AUTHORITY TO BIND LICENSEE TO THESE TERMS. IF YOU DO NOT AGREE TO
    THESE TERMS,

    * DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, CLICK ON AN "ACCEPT" BUTTON,
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    WHOM IT WAS OBTAINED FOR A REFUND OF THE AMOUNT PAID. IF THE PROGRAM
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Press Enter to continue viewing the license agreement, or enter "1" to
   accept the agreement, "2" to decline it, "3" to print it, or "99" to go back
   to the previous screen.:

    "Authorized Use" - the specified level at which Licensee is authorized
    to execute or run the Program. That level may be measured by number of
    users, millions of service units ("MSUs"), Processor Value Units
    ("PVUs"), or other level of use specified by IBM.

    "IBM" - International Business Machines Corporation or one of its
    subsidiaries.

    "License Information" ("LI") - a document that provides information
    and any additional terms specific to a Program. The Program's LI is
    available at www.ibm.com/software/sla. The LI can also be found in the
    Program's directory, by the use of a system command, or as a booklet
    included with the Program.

    "Program" - the following, including the original and all whole or
    partial copies: 1) machine-readable instructions and data, 2)
    components, files, and modules, 3) audio-visual content (such as
    images, text, recordings, or pictures), and 4) related licensed
```

```
Press Enter to continue viewing the license agreement, or enter "1" to
   accept the agreement, "2" to decline it, "3" to print it, or "99" to go back
   to the previous screen.: 1

===============================================================================
Installation Goals
------------------

What do you want to accomplish?

  ->1- Install products and features
    2- Extract the product files (-DLEGACY option)
    3- Create an RPM image for redistribution

ENTER THE NUMBER FOR YOUR CHOICE, OR PRESS <ENTER> TO ACCEPT THE DEFAULT::

===============================================================================
Installation Location
---------------------

Choose location for software installation

  Default Install Folder: /opt/IBM/informix

ENTER AN ABSOLUTE PATH, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
      :

===============================================================================
Installation Type
-----------------

Select the installation type.

Typical: Install the database server with all features and a database server that
is configured with default values. Includes:
** Client Software Development Kit (CSDK)
** Java Database Connectivity (JDBC)
Minimum disk space required: 700-800MB

Custom: Install the database server with specific features and software that you need.
Optionally install a configured database server instance.
Minimum disk space required: 75 MB (without a server instance)

  ->1- Typical
    2- Custom

ENTER THE NUMBER FOR YOUR CHOICE, OR PRESS <ENTER> TO ACCEPT THE DEFAULT::

===============================================================================
Server Instance Creation
------------------------

Create a server instance?

  ->1- Yes - create an instance
    2- No - do not create an instance

ENTER THE NUMBER FOR YOUR CHOICE, OR PRESS <ENTER> TO ACCEPT THE DEFAULT::
===============================================================================

    International License Agreement for Non-Warranted Programs
```

```
    Part 1 - General Terms

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    "ACCEPT" BUTTON, OR OTHERWISE USING THE PROGRAM, LICENSEE AGREES TO
    THE TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON
    BEHALF OF LICENSEE, YOU REPRESENT AND WARRANT THAT YOU HAVE FULL
    AUTHORITY TO BIND LICENSEE TO THESE TERMS. IF YOU DO NOT AGREE TO
    THESE TERMS,

    * DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, CLICK ON AN "ACCEPT" BUTTON,
    OR USE THE PROGRAM; AND

    * PROMPTLY RETURN THE UNUSED MEDIA AND DOCUMENTATION TO THE PARTY FROM
    WHOM IT WAS OBTAINED FOR A REFUND OF THE AMOUNT PAID. IF THE PROGRAM
    WAS DOWNLOADED, DESTROY ALL COPIES OF THE PROGRAM.

    1. Definitions

Press Enter to continue viewing the license agreement, or enter "1" to
   accept the agreement, "2" to decline it, "3" to print it, or "99" to go back
   to the previous screen.: 1

===============================================================================
Installation Summary
--------------------

Please review the following before continuing:

Product Name:
    IBM Informix Software Bundle

Install Folder:
    /opt/IBM/informix

Product Features:
    IBM Informix database server,
    Base Server,
    Extensions and tools,
    J/Foundation,
    Database extensions,
    Conversion and reversion support,
    XML publishing,
    Demonstration database scripts,
    Enterprise Replication,
    Data loading utilities,
    onunload and onload utilities,
    dbload utility,
    High-Performance Loader,
    Backup and Restore,
    archecker utility,
    ON-Bar utility,
    Informix Storage Manager,
    Informix interface to Tivoli Storage Manager,
    Administrative utilities,
    Performance monitoring utilities,
    Miscellaneous monitoring utilities,
    Auditing utilities,
    Database import and export utilities,
    IBM Informix Client SDK,
    IBM Informix Object Interface for C++,
    IBM Informix Object Interface for C++ demos,
    IBM Informix ESQL/C,
```

```
    7.2 application compatibility module,
    IBM Informix ESQL/C demos,
    IBM Informix LIBDMI for client applications,
    IBM Informix ODBC Driver,
    IBM Informix ODBC Driver demos,
    Global Language Support (GLS),
    West European and Americas,
    East European and Slavic,
    Japanese,
    Korean,
    Chinese,
    Thai,
    IBM Informix JDBC

Server name:
    ol_informix1170

Server DRDA alias:


Server number:
    0

TCP/IP port number:
    16697

Total instance size:
    437 MB

Total memory (bufferpool + user):
    129 MB

Bufferpool allocation:
    97 MB

Number of processors:
    1

Data storage location:
    /opt/IBM/informix/ol_informix1170/dbspaces

Disk Space Information (for Installation Target):
    Required:  1,048,477,120 bytes
    Available: 30,246,674,432 bytes

PRESS <ENTER> TO CONTINUE:

===============================================================================
Ready To Install
----------------

InstallAnywhere is now ready to install IBM Informix Software Bundle onto your
system at the following location:

   /opt/IBM/informix

PRESS <ENTER> TO INSTALL:

===============================================================================
Installing...
-------------
```

```
 [==================|==================|==================|==================]
 [------------------|------------------|------------------|------------------]

================================================================================
Server Initialization
---------------------

The server will now be initialized. Initialization might take quite a while,
depending on the performance of your computer.

PRESS <ENTER> TO CONTINUE:

================================================================================
Using the new instance
----------------------

The IBM Informix Software Bundle created a database server instance. If you
selected to initialize the instance and to display a command prompt, the
instance is ready to use.

If you selected to initialize the instance and chose not to display a command
prompt, you can go to /opt/IBM/informix on a command line and run one of the
following commands, where ol_informix1170 is the name of the path or file where
the instance is installed:

Windows:
ol_informix1170.cmd

UNIX csh:
source ol_informix1170.csh

UNIX ksh or bourne:
./ol_informix1170.ksh

If you selected to initialize the instance and it fails to run, check the
online.log file to verify that initialization was successful.

In addition, if you used an existing configuration file during the
installation, ensure that the root chunk exists, is owned by user and group
informix, and has readable and writable (rw) permission bits set for owner and
group only.

PRESS <ENTER> TO CONTINUE:

================================================================================
Installation Complete
---------------------

Congratulations! IBM Informix Software Bundle installation is complete.

Product install status:
IBM Informix 11.70: Successful
IBM Informix Client-SDK: Successful
IBM Informix JDBC Driver: Successful
IBM OpenAdmin Tool for Informix: Successful

For more information about using Informix products, see the IBM Informix 11.70
Information Center at
http://publib.boulder.ibm.com/infocenter/idshelp/v117/index.jsp.
PRESS <ENTER> TO EXIT THE INSTALLER:
```

Configure Linux System for informix

1. [informix@ibmserver ~]$ cat .bash_profile

```
# .bash_profile

# Get the aliases and functions
if [ -f ~/.bashrc ]; then
        . ~/.bashrc
fi

# User specific environment and startup programs

PATH=$PATH:$HOME/bin

# export PATH

. ~/ol_informix1170.ksh
```

2. [informix@ibmserver ~]$ cat .netrc

```
machine ipdev login lchen password admin12
machine ifx01 login lchen password admin12
```

3. [informix@ibmserver ~]$ tail /etc/services

```
DB2_db2inst1_2          60002/tcp
DB2_db2inst1_END        60003/tcp
db2c_db2inst1           50000/tcp
CMIC                     8084/tcp
ol_informix1170         25337/tcp
dr_informix1170         32300/tcp
ipdbsvc         6800/tcp                        #New ipdb database instance
ardbsvc         6900/tcp                        #New ardb database instance
systestdbsvc    6600/tcp                        # system test database
```

Load Tables between two instance/database using unload/load utility

4. Create chunck file for informix dbspace

```
# mount /ix_dat
# touch /ix_dat/ix_dat.1
# touch /ix_dat/ix_dat.2
# touch /ix_dat/ix_dat.3
# touch /ix_dat/ix_dat.4

# chown –R informix:informix /ix_dat
```

5. Create a 1G dbspace <datadbs1>

```
# su – informix
$ onspaces -c -d datadbs1 -p /ix_dat/ix_dat.1 -o 0 -s 1000000
  Verifying physical disk space, please wait ...
  Space successfully added.
  ** WARNING **  A level 0 archive of Root DBSpace will need to be
  done.
```

6. Add other three 1G chuck file to this datadbs1 dbspace

```
$ onspaces -a datadbs1 -p /ix_dat/ix_dat.2 -o 0 -s 1000000
 Verifying physical disk space, please wait ...
 Chunk successfully added.
$ onspaces -a datadbs1 -p /ix_dat/ix_dat.3 -o 0 -s 1000000
 Verifying physical disk space, please wait ...
 Chunk successfully added.
$ onspaces -a datadbs1 -p /ix_dat/ix_dat.4 -o 0 -s 1000000
 Verifying physical disk space, please wait ...
 Chunk successfully added.
```

7. Drop database <sysclrdb> using dbaccess

```
DROP DATABASE >>
Enter the name of the database you wish to drop.
---------------------- @ol_informix1170 ------- Press CTRL-W for Help
--------
 sysadmin@ol_informix1170
 sysclrdb@ol_informix1170
 sysmaster@ol_informix1170
 sysuser@ol_informix1170
 sysutils@ol_informix1170
```

Tips: Delete this database, because I will setup a new test database exactly same with production system.

8. Create a new database using dbaccess:

database name: ip_0p

Log: No

```
CREATE DATABASE >> ip_0p
Enter the name you want to assign to the new database, then press
Return.
------------------------------------------------ Press CTRL-W for Help
--------
select the dbspace <datadbs1> as this database <ip_0p>'s db2space
```

Tips: chucks(files) make up dbspace, database resident on dbspaces, and tables, as well as index,routine, etc, resident on database.

9. Create schema on the source production informix server ifx01:

```
$ dbschema -d ip_0p ip_0p.sql
```

10. Ftp ip_0p.sql to Linux server db2cm64, and run this sql to setup the database ip_0p for testing

```
$ dbaccess -d ip_0p.sql
```

11. On production server ifx01, use dbaccess, unload Table: lii_client, lii_account and client_invoice to files and ftp these files to Linux server db2cm64

```
ALTER TABLE ip_0p:informix.hs_duty_rate DROP CONSTRAINT u208_791;

UNLOAD TO "/home/lchen/ifx01.lii_client" SELECT * FROM lii_client;
UNLOAD TO "/home/lchen/ifx01.lii_account" SELECT * FROM lii_account;
UNLOAD TO "/home/lchen/ifx01.client_invoice" SELECT * FROM
client_invoice;

ALTER TABLE ip_0p:informix.hs_duty_rate ADD CONSTRAINT hs_duty_rate_PK
PRIMARY KEY (hsno,hstarifftrtmnt,effdate);
```

12. On Linux server db2cm64, use dbaccess. load these files to tables:

```
LOAD FROM "/home/lchen/ifx01.client" INSERT INTO lii_client;
LOAD FROM "/home/lchen/ifx01.account" INSERT INTO lii_account;
LOAD FROM "/home/lchen/ifx01.client_invoice" INSERT INTO
client_invoice;
```

13. Change the database to U log mode(un-buffer), which is the normal database log setting

```
$ ontape -s -U ip_0p
```

Tips: Load large file (Table), It is a good idea to change the database log mode to No Log mode

```
$ ontape -s -N ip_0p
```

14. Alter a table to turn off/on logging mode

```
$ dbaccess
  ALTER TABLE client_invoice TYPE (RAW)
  ALTER TABLE client_invoice TYPE (STANDARD)
```

Adjust the size of log files to prevent long transactions

Use larger log files when many users are writing to the logs at the same time. If you use small logs and long transactions are likely to occur, reduce the high-watermark. Set the LTXHWM value to 50 and the LTXEHWM value to 60.

If the log files are too small, the database server might run out of log space while rolling back a long transaction. In this case, the database server cannot block fast enough to add a new log file before the last one fills. If the last log file fills, the system hangs and displays an error message. To fix the problem, shut down and restart the database server.

Add more tempdbs space to build (set) contrains, indexs for a large table.

```
$ onspaces -a tempdbs -p /ix_dat/ix_temp.1 -o 0 -s 1000000
 Verifying physical disk space, please wait ...
 Chunk successfully added.
```

< Run SQL in $ dbaccess >

```
SET CONSTRAINTS,INDEXES,TRIGGERS FOR client_invoice ENABLED;
```

Load Table between two instance/database using SQL

1. setup the informix environment on Linux Server.
   There 3 files you should modify, so you can connect to and run sql on another instance on different servers without prompting for username and password.

```
# su – informix
$ ls -la
 total 28
 drwxr-xr-x 2 informix informix 4096 Sep 11 17:13 .
 drwxr-xr-x 5 root     root     4096 Sep  8 22:42 ..
 -rw------- 1 informix informix  326 Sep 11 14:24 .bash_history
 -rwxr-xr-x 1 informix informix  259 Sep  8 23:02 .bash_profile
 -rw------- 1 informix informix  137 Sep 11 17:13 .netrc
 -rw------- 1 informix informix  975 Sep 11 17:13 .viminfo
$ chmod 600 .netrc
$ more .netrc
 machine ifx01 login lchen password admini@12
 machine ipdev login lchen password admini@12
 machine db2cm64 login lchen password admini@12

$ more /opt/IBM/informix/etc/sqlhost.ol_informix1170
 ol_informix1170 onsoctcp db2cm64 ol_informix1170
 dr_informix1170 drsoctcp db2cm64 dr_informix1170

 ipdb onsoctcp ifx01 ipdbsvc
 systestdb onsoctcp ipdev systestdbsvc

-bash-3.2$ tail -10 /etc/services
 ol_informix1170        8166/tcp
 dr_informix1170        15103/tcp
 systestdbsvc           6600/tcp
 ipdbsvc                6800/tcp
```

2. Run SQL in $dbaccess

```
SQL:   New  Run  Modify  Use-editor  Output  Choose  Save  Info  Drop
Exit
Run the current SQL statements.

------------ ip_0p@ol_informix1170 ------------ Press CTRL-W for Help ---
-----

INSERT INTO b3
```

```
SELECT * FROM ip_systest@systestdb:informix.b3;
```

$ onstat –

```
IBM Informix Dynamic Server Version 11.70.FC5DE -- On-Line (CKPT REQ) (LONGTX) -- Up 00:45:36 -- 173796 Kbytes
Blocked:CKPT LONGTX
```

$ onstat –m

```
IBM Informix Dynamic Server Version 11.70.FC5DE -- On-Line (CKPT REQ) (LONGTX) -- Up 00:46:23 -- 173796 Kbytes
Blocked:CKPT LONGTX

Message Log File: /opt/IBM/informix/ol_informix1170.log
09:00:33  Performance Advisory: Based on the current workload, the physical log might be too small to
accommodate the time it takes to flush the buffer pool.
09:00:33   Results: The server might block transactions during checkpoints.
09:00:33   Action: If transactions are blocked during the checkpoint, increase the size of the
 physical log to at least 103436 KB.
09:00:33  Performance Advisory: The physical log is too small for automatic checkpoints.
09:00:33   Results: Automatic checkpoints are disabled.
09:00:33   Action: To enable automatic checkpoints, increase the physical log to at least 103436 KB.
09:00:34  Performance Advisory: The physical log is running out of room during checkpoint processing.
09:00:34   Results: Transactions are being blocked until the checkpoint is complete.
09:00:34   Action: Increase the physical log size.
09:00:35  Checkpoint Completed:  duration was 1 seconds.
09:00:35  Tue Aug 21 - loguniq 140, logpos 0xa85174, timestamp: 0xc4f7861 Interval: 1313

09:00:35  Maximum server connections 3
09:00:35  Checkpoint Statistics - Avg. Txn Block Time 0.000, # Txns blocked 1, Plog used 11316, Llog used 8661

09:00:36  Logical Log 140 Complete, timestamp: 0xc5227b0.
09:00:37  Logical Log Files are Full -- Backup is Needed
```

You need to Backup Log Files, change Log Tape device to /dev/null using onmonitor before you do the log backup.

$ export TERM vt200

$ onmonitor

```
INITIALIZATION: Make desired changes and press ESC to record changes.
 Press Interrupt to abort changes.  Press F2 or CTRL-F for field-level help.
                        DISK PARAMETERS
Page Size     [    2] Kbytes                          Mirror [N]

Tape Dev.     [/ix_tmp/tapedev      ] Block Size   [      32] Kbytes    Total Tape Size [       0] Kbytes
Log Tape Dev. [/x_tmp/ltapedev   ] Block Size    [      32] Kbytes   Total Tape Size [       0] Kbytes  Stage Blob    [          ]

Root Name     [rootdbs          ]            Root Size [    200000] Kbytes
Primary Path  [/opt/IBM/informix/ol_informix1170/dbspaces/rootdbs     ]       Root Offset [       0] Kbytes
Mirror Path   [                                        ]          Mirror Offset [       0] Kbytes
Phy. Log Size [     30176] Kbytes          Log. Log Size [     10000] Kbytes      Number of Logical Logs [   14]
```

Enter the log tape device pathname

Tips: You can define Tape Device as above, and then use symbolic link to any device you want to use:
ln –s /dev/null /ix_tmp/tapedev
ln –s /dev/null /ix_tmp/ltapedev

$ ontape -a

Performing automatic backup of logical logs.
Please mount tape 1 on /opt/IBM/informix/ltapedev and press Return to continue ...

Do you want to back up the current logical log? (y/n) y
Read/Write End Of Medium enabled: blocks = 4337
Please label this tape as number 1 in the log tape sequence.

This tape contains the following logical logs:
  128 - 142

Program over.

-bash-3.2$ onstat -l

```
IBM Informix Dynamic Server Version 11.70.FC5DE -- On-Line -- Up 01:07:05 -- 181988
Kbytes

Physical Logging
Buffer bufused  bufsize  numpages   numwrits   pages/io
  P-1  48       64       30627      565        54.21
      phybegin          physize    phypos     phyused    %used
      2:6325            15088      8266       2376       15.75

Logical Logging
Buffer bufused  bufsize  numrecs    numpages   numwrits   recs/pages pages/io
  L-3  10       32       1701136    67273      3868       25.3       17.4
        Subsystem     numrecs    Log Space used
        OLDRSAM       1701128    132793268
        HA            8          352

address          number   flags    uniqid   begin              size     used    %used
4b840c50         7        U-B----  134      3:53               4608     4608   100.00
4b840cb8         8        U-B----  135      3:4661             4608     4608   100.00
4b840d20         3        U-B----  136      2:53               4608     4608   100.00
4b840d88         4        U-B----  137      1:2953             4608     4608   100.00
4b840df0         6        U-B----  138      1:12169            4608     4608   100.00
4b840e58         13       U-B----  139      1:36043            4608     4608   100.00
4b840ec0         14       U-B----  140      1:40651            4608     4608   100.00
4b840f28         5        U-B----  141      1:7561             4608     4608   100.00
4b840f90         9        U-B----  142      3:9269             4608     4608   100.00
4ddddе98         15       U---C-L  143      1:45259            4608     1262    27.39
4dd1ab48         16       A------  0        1:49867            4608        0     0.00
4b6f9ea8         10       U-B----  129      3:13877            4608     4608   100.00
4b6f9f10         11       U-B----  130      3:18485            4608     4608   100.00
4b6f9f78         1        U-B----  131      1:24475            4608     4608   100.00
```

```
4b6fa438         2        U-B----  132      1:29083              4608     4608    100.00
4b826450         12       U-B----  133      3:23093              4608     4608    100.00
 16 active, 16 total
```

-bash-3.2$ onstat -m

```
IBM Informix Dynamic Server Version 11.70.FC5DE -- On-Line -- Up 01:09:43 -- 181988
Kbytes

Message Log File: /opt/IBM/informix/ol_informix1170.log
09:46:41  Logical Log 138 - Backup Started
09:46:41  Logical Log 138 - Backup Completed
09:46:41  Logical Log 139 - Backup Started
09:46:41  Logical Log 139 - Backup Completed
09:46:41  Logical Log 140 - Backup Started
09:46:41  Logical Log 140 - Backup Completed
09:46:41  Logical Log 141 - Backup Started
09:46:41  Logical Log 141 - Backup Completed
09:46:49  Logical Log 142 - Backup Started
09:46:49  Dynamically added log file 16 to DBspace 1
09:46:51  Checkpoint Completed:  duration was 0 seconds.
09:46:51  Tue Aug 21 - loguniq 143, logpos 0x2a4, timestamp: 0xc56eecd Interval: 1316

09:46:51  Maximum server connections 3
09:46:51  Checkpoint Statistics - Avg. Txn Block Time 0.000, # Txns blocked 0, Plog
used 7252, Llog used 4606

09:46:51  Logical Log 142 - Backup Completed
09:46:53  Long Transaction 0x4b829930 Aborted. Rollback Duration: 2784 Seconds
09:46:54  Logical Log 141 Complete, timestamp: 0xc57db60.
09:46:54  Logical Log 142 Complete, timestamp: 0xc57db60.
```

How many locks one user thread may hold, and how many write calls the user thread have executed , if more LOCKS are needed:

$onstat –u

$ onstat -c | grep LOCKS

```
# LOCKS          - The initial number of locks when Informix starts.
LOCKS        3000000
```

Tips: Load large file (Table), It is a good idea to change the database log mode to No Log mode

$ ontape -s -N ip_0p

So I have to do this again, clean the backup device and release disk space first.

$ cat /dev/null > /opt/IBM/informix/tapedev

Disconnect all session from database ip_0p and close this database.

$ ontape –s N ip_0p

```
Please enter the level of archive to be performed (0, 1, or 2)  0
Archive failed - Error changing logging status - 'ip_0p'. iserrno 107.
```

Program over.

-bash-3.2$ ontape -s -N ip_0p

Please enter the level of archive to be performed (0, 1, or 2) 0

Please mount tape 1 on /opt/IBM/informix/tapedev and press Return to continue ...
10 percent done.
20 percent done.
30 percent done.
40 percent done.
50 percent done.
60 percent done.
70 percent done.
80 percent done.
100 percent done.
Read/Write End Of Medium enabled: blocks = 36226

Please label this tape as number 1 in the arc tape sequence.
This tape contains the following logical logs:

 143

Program over.

Add other three 1G chuck file to logdbs

$ onspaces -a logdbs -p /ix_dat/ix_llog.1 -o 0 -s 1000000

Verifying physical disk space, please wait ...
Chunk successfully added.

$ onparams -a -d logdbs -s 900000 -i

Log operation started. To monitor progress, use the onstat -l command.
Logical log successfully added.

$ onstat -l

```
IBM Informix Dynamic Server Version 11.70.FC5DE -- On-Line -- Up 01:39:19 -- 181988
Kbytes

Physical Logging
Buffer bufused  bufsize  numpages   numwrits   pages/io
  P-1  0        64       96094      1687       56.96
      phybegin         physize    phypos     phyused    %used
      2:6325           15088      14363      7          0.05

Logical Logging
Buffer bufused  bufsize  numrecs    numpages   numwrits   recs/pages pages/io
  L-3  0        32       3608414    140850     6284       25.6       22.4
        Subsystem    numrecs    Log Space used
        OLDRSAM      3608393    280934956
        HA           21         924
```

```
address           number    flags     uniqid    begin                 size
used     %used
4b840c50          7         U------   150       3:53                  4608      4608
100.00
4b840cb8          8         U------   151       3:4661                4608      4608
100.00
4b840d20          3         U------   152       2:53                  4608      4608
100.00
4b840d88          4         U------   153       1:2953                4608      4608
100.00
4b840df0          6         U------   154       1:12169               4608      4608
100.00
4b840e58          13        U------   155       1:36043               4608      4608
100.00
4b840ec0          14        U------   156       1:40651               4608      4608
100.00
4b840f28          5         U------   157       1:7561                4608      4608
100.00
4b840f90          9         U------   158       3:9269                4608      4608
100.00
4e59c330          17        U---C-L   159       1:63518               4608       887
19.25
4e59c228          19        A------   0         12:3                450000         0
0.00
4e59c100          18        A------   0         1:68126               4608         0
0.00
4dddde98          15        U------   143       1:45259               4608      4608
100.00
4dd1ab48          16        U------   144       1:49867               4608      4608
100.00
4b6f9ea8          10        U------   145       3:13877               4608      4608
100.00
4b6f9f10          11        U------   146       3:18485               4608      4608
100.00
4b6f9f78          1         U------   147       1:24475               4608      4608
100.00
4b6fa438          2         U------   148       1:29083               4608      4608
100.00
4b826450          12        U------   149       3:23093               4608      4608
100.00
 19 active, 19 total
```

$ onstat -d

```
IBM Informix Dynamic Server Version 11.70.FC5DE -- On-Line -- Up 01:40:13 -- 181988
Kbytes

Dbspaces
address           number    flags       fchunk    nchunks   pgsize    flags     owner     name
4b6fa028          1         0x60001     1         1         2048      N  BA     informix
rootdbs
4b826558          2         0x40001     2         1         2048      N  BA     informix
physdbs
4b826700          3         0x60001     3         2         2048      N  BA     informix
logdbs
```

```
4b8268a8          4         0x40001    4         1         2048      N  BA    informix
datadbs
4b826a50          5         0x48001    5         1         2048      N SBA    informix
sbspace
4b826bf8          6         0x42001    6         2         2048      N TBA    informix
tempdbs
4b826da0          7         0x40001    7         4         2048      N  BA    informix
datadbs1
 7 active, 2047 maximum

Chunks
address           chunk/dbs     offset     size       free       bpages     flags pathname
4b6fa1d0          1      1      0          100000     39805                 PO-B--
/opt/IBM/informix/ol_informix1170/dbspaces/rootdbs
4b6fa4a0          2      2      0          25088      5339                  PO-B--
/opt/IBM/informix/ol_informix1170/dbspaces/plogdbs
4b6fa6a0          3      3      0          30720      3019                  PO-B--
/opt/IBM/informix/ol_informix1170/dbspaces/llogdbs
4b6fa8a0          4      4      0          25600      25547                 PO-B--
/opt/IBM/informix/ol_informix1170/dbspaces/datadbs
4b6faaa0          5      5      0          16384      15205      15205      POSB--
/opt/IBM/informix/ol_informix1170/dbspaces/sbspace
                                  Metadata 1126       837        1126
4b6faca0          6      6      0          25600      25547                 PO-B--
/opt/IBM/informix/ol_informix1170/dbspaces/tempdbs
4d709028          7      7      0          500000     0                     PO-B--
/ix_dat/ix_dat.1
4d709228          8      7      0          500000     405789                PO-B--
/ix_dat/ix_dat.2
4d709428          9      7      0          500000     499997                PO-B--
/ix_dat/ix_dat.3
4d709628          10     7      0          500000     499997                PO-B--
/ix_dat/ix_dat.4
4d709828          11     6      0          500000     499997                PO-B--
/ix_dat/ix_temp.1
4dd1abb0          12     3      0          500000     49997                 PO-B--
/ix_dat/ix_llog.1
 12 active, 32766 maximum

NOTE: The values in the "size" and "free" columns for DBspace chunks are
      displayed in terms of "pgsize" of the DBspace to which they belong.

Expanded chunk capacity mode: always
```

Again!!!

-bash-3.2$ touch ix_llog.2

```
-bash-3.2$ ls -l
total 6005920
-rw-rw---- 1 informix informix 1024000000 Aug 21 10:42 ix_dat.1
-rw-rw---- 1 informix informix 1024000000 Aug 21 10:42 ix_dat.2
-rw-rw---- 1 informix informix 1024000000 Aug 17 10:36 ix_dat.3
-rw-rw---- 1 informix informix 1024000000 Aug 17 10:36 ix_dat.4
-rw-rw---- 1 informix informix 1024000000 Aug 21 10:44 ix_llog.1
-rw-rw-r-- 1 informix informix          0 Aug 21 10:44 ix_llog.2
-rw-rw---- 1 informix informix 1024000000 Aug 21 08:40 ix_temp.1
drw-rw---- 2 informix informix      16384 Aug 17 09:38 lost+found
```

-bash-3.2$ chmod 660 ix_llog.2

```
-bash-3.2$ ls -l
total 6005920
-rw-rw---- 1 informix informix 1024000000 Aug 21 10:44 ix_dat.1
-rw-rw---- 1 informix informix 1024000000 Aug 21 10:44 ix_dat.2
-rw-rw---- 1 informix informix 1024000000 Aug 17 10:36 ix_dat.3
-rw-rw---- 1 informix informix 1024000000 Aug 17 10:36 ix_dat.4
-rw-rw---- 1 informix informix 1024000000 Aug 21 10:44 ix_llog.1
-rw-rw---- 1 informix informix          0 Aug 21 10:44 ix_llog.2
-rw-rw---- 1 informix informix 1024000000 Aug 21 08:40 ix_temp.1
drw-rw---- 2 informix informix      16384 Aug 17 09:38 lost+found
```

-bash-3.2$ onspaces -a logdbs -p /ix_dat/ix_llog.2 -o 0 -s 1000000

```
Verifying physical disk space, please wait ...
Chunk successfully added.
```

-bash-3.2$ onparams -a -d logdbs -s 999900 -i

```
Log operation started. To monitor progress, use the onstat -l command.
Logical log successfully added.
```

$ dbaccess

```
SQL:   New  Run  Modify  Use-editor  Output  Choose  Save  Info  Drop  Exit
Run the current SQL statements.

------------ ip_0p@ol_informix1170 ------------- Press CTRL-W for Help --------

INSERT INTO b3
  SELECT * FROM ip_systest@systestdb:informix.b3
  WHERE EXTEND(TO_DATE(approveddate,"%Y/%m/%d %H:%M:%S"),YEAR TO SECOND) <
        (EXTEND(current, YEAR TO SECOND) - INTERVAL(1) YEAR TO YEAR - INTERVAL(7)
MONTH TO MONTH);
```

Using TEMP table to guarantee the Data insert into archive DB is exactly the same with the data deleted from the original production resource table

To disable logging on temporary tables, set the TEMPTAB_NOLOG configuration parameter to 1.

TEMPTAB_NOLOG - Controls the default logging mode for temporary

TEMPTAB_NOLOG 0

$ onmode -wf TEMPTAB_NOLOG=1

```
17:01:52  Value of TEMPTAB_NOLOG has been changed to 1.
```

$ onmode -wm TEMPTAB_NOLOG=1

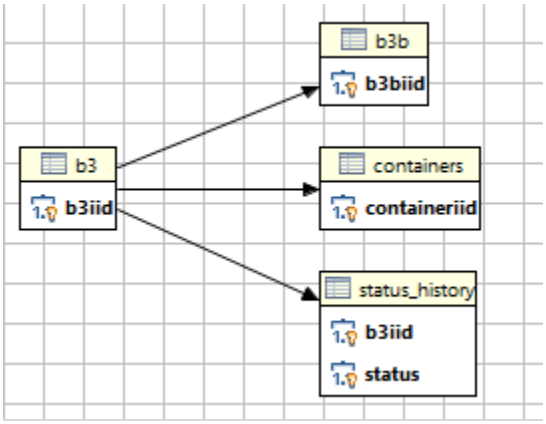
```
17:02:00  Value of TEMPTAB_NOLOG has been changed to 1.
```

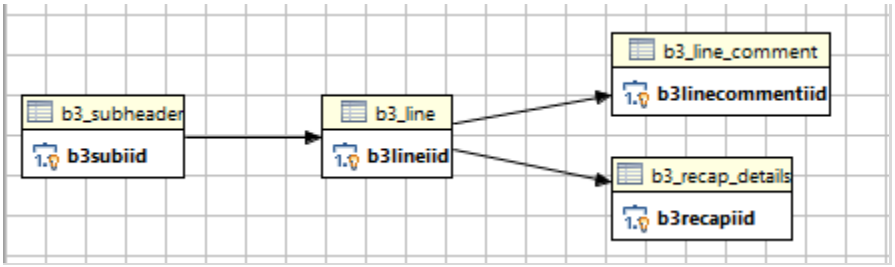
$ dbaccess

```
SQL:   New  Run  Modify  Use-editor  Output  Choose  Save  Info  Drop  Exit
Run the current SQL statements.
------------ ip_0p@ol_informix1170 ------------- Press CTRL-W for Help --------

SELECT * FROM ip_systest@systestdb:informix.b3
      WHERE EXTEND(TO_DATE(approveddate,"%Y/%m/%d %H:%M:%S"),YEAR TO SECOND) >
```

```
      (EXTEND(current, YEAR TO SECOND) - INTERVAL(1) YEAR TO YEAR - INTERVAL(7) MONTH
TO MONTH)
      INTO TEMP tmp_b3;

INSERT INTO b3 SELECT * FROM tmp_b3 t_b3
     WHERE t_b3.b3iid NOT EXSITS (SELECT b3iid FROM b3);
```

```
DELETE FROM ip_systest@systestdb:informix.b3 o_b3
WHERE o_b3.b3iid IN (SELECT b3iid FROM tmp_b3);
```





b3:	3,021,376,578 byte
b3b:	1,070,955 byte
containers:	2,682,988 byte
status_history:	698,664,792 byte
b3_subheader:	715,614,824 byte
b3_line:	14,957,060,547 byte
b3_line_comment:	471,820 byte
b3_recap_details:	6,377,817,173 byte

TIPS: Add more io vp to tuning the IO performance
$ onmode –p +10 io
$ onmode –p +10 cpu

When Using TEMP table, Add more tempdbs space

Firstly, Delete formal chunck, only because demo license version cannot support so many chuncks.

-bash-3.2$ onspaces -d tempdbs -p /ix_tmp/ix_temp.1 -o 0

```
WARNING:  Dropping a chunk.
Do you really want to continue? (y/n)y
Chunk successfully dropped.
** WARNING **  A level 0 archive for DBspace tempdbs will need to be done
before '/ix_dat/ix_temp.1' can be reused (see Dynamic Server Administrator's manual).
```

$ cat /dev/null > /ix_tmp/ix_temp.1

$ onspaces -a tempdbs -p /ix_tmp/ix_temp.1 -o 0 -s 4000000

```
Verifying physical disk space, please wait ...
Chunk successfully added.
```

$dbaccess

```
SET CONSTRAINTS,INDEXES,TRIGGERS FOR b3b DISABLED;
SET CONSTRAINTS,INDEXES,TRIGGERS FOR containers DISABLED;
SET CONSTRAINTS,INDEXES,TRIGGERS FOR status_history DISABLED;
SET CONSTRAINTS,INDEXES,TRIGGERS FOR b3 DISABLED;
```

Then, we drop the primary key definition from b3, and we turn off the table log of b3:

$ dbaccess

```
DROP INDEX <>;
ALTER TABLE b3 DROP CONSTRAINT <>

ALTER TABLE b3 TYPE (RAW)

SELECT * FROM ip_systest@systestdb:informix.b3
    WHERE EXTEND(TO_DATE(approveddate,"%Y/%m/%d %H:%M:%S"),YEAR TO SECOND) >
    (EXTEND(current, YEAR TO SECOND) - INTERVAL(1) YEAR TO YEAR - INTERVAL(7) MONTH TO MONTH)
    INTO TEMP tmp_b3;

INSERT INTO b3 SELECT * FROM tmp_b3

CREATE INDEX <> ON b3 (b3iid);
ALTER TABLE b3 ADD CONSTRAINT primary key (b3iid);


 Table altered.

SET CONSTRAINTS,INDEXES,TRIGGERS FOR b3 ENABLED;
SET CONSTRAINTS,INDEXES,TRIGGERS FOR status_history ENABLED;
SET CONSTRAINTS,INDEXES,TRIGGERS FOR containers ENABLED;
SET CONSTRAINTS,INDEXES,TRIGGERS FOR b3b ENABLED;

ALTER TABLE b3 TYPE (standard)

alter table "informix".containers add constraint (foreign key
```

```
(b3iid) references "informix".b3 );
alter table "informix".containers add b3b (foreign key
   (b3iid) references "informix".b3 );
alter table "informix".containers add status_history (foreign key
   (b3iid) references "informix".b3 );
```

After I load data from Add Primary key CONSTRAINT to TABLE b3 column (b3iid);

$ dbaccess

```
SQL:  New  Run  Modify  Use-editor  Output  Choose  Save  Info  Drop  Exit
Run the current SQL statements.

------------ ip_0p@ol_informix1170 ------------ Press CTRL-W for Help --------


SELECT * FROM ip_systest@systestdb:informix.b3
    WHERE EXTEND(TO_DATE(approveddate,"%Y/%m/%d %H:%M:%S"),YEAR TO SECOND) <
    (EXTEND(current, YEAR TO SECOND) - INTERVAL(1) YEAR TO YEAR - INTERVAL(7) MONTH TO MONTH)
    INTO TEMP tmp_b3;
option
SELECT * FROM ip_systest@systestdb:informix.b3
    WHERE approveddate >= '2011/03/01' and approveddate < '2011/04/01'
    INTO TEMP tmp_b3;
option
DELETE FROM b3 WHERE b3iid IN (SELECT b3iid FROM tmp_b3)
 180162 row(s) deleted.
```

To solve log files space issue:

$ onstat -c | grep LTX

```
# LTXHWM       - The percentage of the logical logs that can be
# LTXEHWM      - The percentage of the logical logs that have been
# LTXHWM and LTXEHWM because the server can add new logical logs
# If dynamic logging is off, set LTXHWM and LTXEHWM to
# When using Enterprise Replication, set LTXEHWM to at least 30%
# higher than LTXHWM to minimize log overruns.
LTXHWM          70
LTXEHWM         80
```

$ onmode -wm LTXEHWM=100

```
09:58:27  Value of LTXEHWM has been changed to 100.
```

$ onmode -wf LTXEHWM=100

```
09:58:37  Value of LTXEHWM has been changed to 100.
```

$ onmode -wm LTXHWM=100

```
09:58:52  Value of LTXHWM has been changed to 100.
```

$ onmode -wf LTXHWM=100

09:58:58 Value of LTXHWM has been changed to 100.

Turn on database ip_0p log mode

$ ontape -s -U ip_0p

Please enter the level of archive to be performed (0, 1, or 2) 0

Please mount tape 1 on /ix_tmp/tapedev and press Return to continue ...
10 percent done.
20 percent done.
30 percent done.
40 percent done.
50 percent done.
60 percent done.
70 percent done.
80 percent done.
90 percent done.
100 percent done.
Read/Write End Of Medium enabled: blocks = 134992

Please label this tape as number 1 in the arc tape sequence.
This tape contains the following logical logs:

 17

Program over.

$dbaccess

SQL: New Run Modify Use-editor Output Choose Save Info Drop Exit
Run the current SQL statements.

------------ ip_0p@ol_informix1170 ------------ Press CTRL-W for Help --------

```
SELECT * FROM ip_systest@systestdb:informix.b3
    WHERE EXTEND(TO_DATE(approveddate,"%Y/%m/%d %H:%M:%S"),YEAR TO SECOND) <
    (EXTEND(current, YEAR TO SECOND) - INTERVAL(1) YEAR TO YEAR - INTERVAL(7) MONTH TO MONTH)
    INTO TEMP tmp_b3;

INSERT INTO b3 SELECT * FROM tmp_b3 WHERE b3iid NOT IN (select b3iid from b3);
 180162 row(s) inserted.

INSERT INTO b3b SELECT * FROM ip_systest@systestdb:informix.b3b
INSERT INTO containers SELECT * FROM ip_systest@systestdb:informix.containers
INSERT INTO status_history SELECT * FROM ip_systest@systestdb:informix.status_history

INSERT INTO containers SELECT * FROM ip_systest@systestdb:informix.containers
     WHERE b3iid NOT IN (SELECT b3iid from containers)
```

Insert large table piece by piece using rowid

$dbaccess

```
SQL:  New  Run  Modify  Use-editor  Output  Choose  Save  Info  Drop  Exit
Run the current SQL statements.

------------ ip_0p@ol_informix1170 ------------ Press CTRL-W for Help --------

insert into b3 select * from ip_systest@systestdb:informix.b3
where rowid >5000000 and rowid < 15000000


create trigger "informix".td_b3 delete on "informix".b3 referencing old as old_del    for each row
      (
      execute procedure "informix".pd_b3(old_del.b3iid ));

create procedure "informix".pd_b3(old_b3iid integer)
  define  errno    integer;
  define  errmsg   char(255);
  define  numrows  integer;

  --  Delete all children in "b3_subheader"
  delete from b3_subheader
  where  b3iid = old_b3iid;

  --  Delete all children in "b3b"
  delete from b3b
  where  b3iid = old_b3iid;

  --  Delete all children in "status_history"
  delete from status_history
  where  b3iid = old_b3iid;

  --  Delete all children in "containers"
  delete from containers
  where  b3iid = old_b3iid;
end procedure;

create procedure "informix".pd_b3_subheader(old_b3subiid integer)
   define  errno    integer;
   define  errmsg   char(255);
   define  numrows  integer;


   --  Delete all children in "b3_line"
   delete from b3_line
   where  b3subiid = old_b3subiid;

end procedure;

create procedure "informix".pd_b3_line(old_b3lineiid integer)
```

```
   define  errno    integer;
   define  errmsg   char(255);
   define  numrows  integer;


   --  Delete all children in "b3_recap_details"
   delete from b3_recap_details
   where  b3lineiid = old_b3lineiid;

   --  Delete all children in "b3_line_comment"
   delete from b3_line_comment
   where  b3lineiid = old_b3lineiid;
end procedure;

create procedure "informix".pd_rpt_b3(old_b3iid integer)
      define  errno   integer;
      define  errmsg  char(255);
      define  numrows integer;

      -- Delete all children in "rpt_b3_subheader"
      delete from rpt_b3_subheader
      where b3iid = old_b3iid;
end procedure;

create procedure "informix".pi_b3(new_liiclientno integer,
                  new_liiaccountno integer)
   define  errno    integer;
   define  errmsg   char(255);
   define  numrows  integer;


   --  Parent "lii_account" must exist when inserting a child in "b3"
   if new_liiclientno is not null and
      new_liiaccountno is not null then
      select count(*)
      into   numrows
      from   lii_account
      where  liiclientno = new_liiclientno
       and   liiaccountno = new_liiaccountno;
      if (numrows = 0) then
         let errno  = -1002;
         let errmsg = "Parent does not exist in ""lii_account"". Cannot create child in ""b3"".";
         raise exception -746, 0, errmsg;
      end if;
   end if;
end procedure;

create procedure "informix".pi_b3b(new_b3iid integer)
   define  errno    integer;
   define  errmsg   char(255);
   define  numrows  integer;
```

```
  --  Parent "b3" must exist when inserting a child in "b3b"
  if new_b3iid is not null then
    select count(*)
    into   numrows
    from   b3
    where  b3iid = new_b3iid;
    if (numrows = 0) then
      let errno  = -1002;
      let errmsg = "Parent does not exist in ""b3"". Cannot create child in ""b3b"".";
      raise exception -746, 0, errmsg;
    end if;
  end if;
end procedure;
```

Synchronize tables between production table with development table, which has a unique constraint with two column

$dbaccess

```
SQL:  New  Run  Modify  Use-editor  Output  Choose  Save  Info  Drop  Exit
Run the current SQL statements.

----------------------- ip_systest@systestdb --- Press CTRL-W for Help --------

insert into lii_client select * from ip_0p@ipdb:informix.lii_client
   where liiclientno NOT IN (select liiclient from lii_client);

insert into lii_account select * from ip_0p@ipdb:informix.lii_account r
 where (select count(*) from lii_account l
      where r.liiclientno=l.liiclientno and r.liiaccountno=l.liiaccountno)
      = 0;
```

Archive and Purge B3 Table

```
$dbaccess
------------ ip_0p@ol_informix1170 ------------- Press CTRL-W for Help --------
drop procedure archiveandpurge()
------------ ip_0p@ol_informix1170 ------------- Press CTRL-W for Help --------
drop PROCEDURE insertarch

-bash-3.2$ dbaccess ip_0p@ol_informix1170 < insertarch.sql
-bash-3.2$ dbaccess ip_0p@ol_informix1170 < archiveandpurge.sql
Database selected.
Routine created.
Database closed.

------------ ip_0p@ol_informix1170 ------------- Press CTRL-W for Help --------
CREATE PROCEDURE "informix".archiveandpurge() RETURNING CHAR(20), CHAR(20), INT;

  --Define Working variables
  DEFINE startdate         CHAR(20);
```

```
  DEFINE enddate           CHAR(20);
  DEFINE archivecount      INT;
  DEFINE archiveDay        DATE;

  LET startdate = EXTEND(current, YEAR TO MONTH) - INTERVAL(1) YEAR TO YEAR - INTERVAL(7) MONTH
TO MONTH;
  LET enddate = EXTEND(current, YEAR TO MONTH) - INTERVAL(1) YEAR TO YEAR - INTERVAL(6) MONTH TO
MONTH;
  LET archiveDay = TODAY;

  EXECUTE PROCEDURE insertArch(startdate, enddate);

  SELECT COUNT(*)
  INTO archivecount
  FROM reporterr
  WHERE currentday = archiveDay;

  IF archivecount = 0 THEN
--     EXECUTE PROCEDURE deleteB3(startdate, enddate);
  END IF

  RETURN startdate, enddate, archivecount;

END PROCEDURE;

CREATE PROCEDURE "informix".insertarch(startdate CHAR(20),enddate CHAR(20))

  -- Declare b3 table columns
  DEFINE s_b3iid              INT;
  DEFINE s_liiclientno        INT;
  DEFINE s_liiaccountno       INT;
  DEFINE s_liibrchno          INT;
  DEFINE s_liirefno           INT;
  DEFINE s_acctsecurno        INT;
  DEFINE s_b3type             CHAR(2);
  DEFINE s_cargcntrlno        CHAR(25);
  DEFINE s_carriercode        CHAR(4);
  DEFINE s_createdate         CHAR(20);
  DEFINE s_custoff            CHAR(4);
  DEFINE s_k84date            CHAR(20);
  DEFINE s_modetransp       CHAR(2);
  DEFINE s_portunlading       CHAR(4);
  DEFINE s_reldate            CHAR(20);
  DEFINE s_status             INT;
  DEFINE s_totb3duty          float;
  DEFINE s_totb3exctax        float;
  DEFINE s_totb3gst           float;
  DEFINE s_totb3sima          float;
  DEFINE s_totb3vfd           float;
  DEFINE s_transno            INT;
  DEFINE s_weight             INT;
  DEFINE s_purchaseorder1     CHAR(15);
  DEFINE s_purchaseorder2     CHAR(15);
  DEFINE s_shipvia            CHAR(18);
  DEFINE s_locationofgoods      CHAR(17);
  DEFINE s_containerno        CHAR(20);
  DEFINE s_vendorname         CHAR(25);
  DEFINE s_vendorstate        CHAR(3);
  DEFINE s_vendorzip          CHAR(10);
  DEFINE s_freight            float;
  DEFINE s_usportexit         CHAR(5);
  DEFINE s_billoflading       CHAR(10);
```

```
  DEFINE s_cargcntrlqty     float;
  DEFINE s_approveddate       CHAR(20);

  --Define Working variables
  DEFINE tableName          CHAR(25);
  DEFINE currentDay         DATE;
  DEFINE mode               CHAR(1);
  DEFINE sqlErr             INT;
  DEFINE isamErr            INT;
  -- Trap Exception
  ON EXCEPTION SET sqlErr, isamErr
      CALL reportErr(currentDay,tableName,mode, s_b3iid, sqlErr,isamErr);
  END EXCEPTION WITH RESUME;

  SET LOCK MODE TO WAIT 60;

  LET currentDay = today;
  LET tableName  = 'B3';
  LET mode = 'I';
  LET s_b3iid = NULL;

  FOREACH WITH HOLD
     SELECT  b3iid, liiclientno, liiaccountno, liibrchno, liirefno, acctsecurno, b3type,
     cargcntrlno, carriercode, createdate, custoff, k84date, modetransp,
     portunlading, reldate, status, totb3duty, totb3exctax, totb3gst,
     totb3sima, totb3vfd, transno, weight, purchaseorder1, purchaseorder2,
     shipvia, locationofgoods, containerno, vendorname, vendorstate, vendorzip,
     freight, usportexit, billoflading, cargcntrlqty, approveddate
     INTO s_b3iid, s_liiclientno, s_liiaccountno, s_liibrchno, s_liirefno, s_acctsecurno
,
     s_b3type, s_cargcntrlno, s_carriercode, s_createdate, s_custoff, s_k84date,
     s_modetransp, s_portunlading, s_reldate, s_status, s_totb3duty,
     s_totb3exctax, s_totb3gst, s_totb3sima, s_totb3vfd, s_transno, s_weight,
     s_purchaseorder1, s_purchaseorder2, s_shipvia, s_locationofgoods, s_containerno,
     s_vendorname, s_vendorstate, s_vendorzip, s_freight, s_usportexit,
     s_billoflading, s_cargcntrlqty, s_approveddate
     FROM ip_0p@ipdb:informix.b3
     -- WHERE approveddate >= '2011/03' and approveddate < '2011/04'
     WHERE approveddate >= startdate and approveddate < enddate



     BEGIN

                -- Trap Exception
                  ON EXCEPTION SET sqlErr, isamErr
                       CALL reportErr(currentDay,tableName,mode, s_b3iid, sqlErr,isamErr);
                  END EXCEPTION WITH RESUME;

          insert into b3
          values(s_b3iid, s_liiclientno, s_liiaccountno, s_liibrchno, s_liirefno, s_acctsecurn
o,
          s_b3type, s_cargcntrlno, s_carriercode, s_createdate, s_custoff, s_k84date,
          s_modetransp, s_portunlading, s_reldate, s_status, s_totb3duty,
          s_totb3exctax, s_totb3gst, s_totb3sima, s_totb3vfd, s_transno, s_weight,
          s_purchaseorder1, s_purchaseorder2, s_shipvia, s_locationofgoods, s_containerno,
          s_vendorname, s_vendorstate, s_vendorzip, s_freight, s_usportexit,
          s_billoflading, s_cargcntrlqty, s_approveddate);

     END

   END FOREACH;
```

```
END PROCEDURE;

------------ ip_0p@ol_informix1170 ------------- Press CTRL-W for Help --------
select count(*) from ip_0p@ipdb:informix.b3
   where approveddate like "2011/04/%"

      (count(*))
          275047
------------ ip_0p@ol_informix1170 ------------- Press CTRL-W for Help --------
execute procedure insertarch('2011/03','2011/04')
```

-bash-3.2$ cd /home/informix/scripts/local/b3_arch

-bash-3.2$ . ./autoArchive.ksh

```
Database selected.

(expression)       (expression)       (expression)

2011/02/01 00:00:00  2011/03/01 00:00:00          1
1 row(s) retrieved.
Database closed.

You have mail in /var/spool/mail/root
```

[lchen@ifx01 /home/lchen] $ lspv

```
hdisk2          00ca32fde4198d51                    livedbvg        active
hdisk3          00ca32fde4198fc0                    archdbvg        active
hdisk4          00ca32fde41a128f                    appsvg          active
hdisk0          00ca32fd35a97b39                    rootvg          active
hdisk1          00ca32fd35a97d46                    rootvg          active
```

[lchen@ifx01 /home/lchen] $ lsvg archdbvg

```
VOLUME GROUP:   archdbvg                VG IDENTIFIER:  00ca32fd00004c00000001101750a843
VG STATE:       active                  PP SIZE:        256 megabyte(s)
VG PERMISSION:  read/write              TOTAL PPs:      399 (102144 megabytes)
MAX LVs:        256                     FREE PPs:       4 (1024 megabytes)
LVs:            9                       USED PPs:       395 (101120 megabytes)
OPEN LVs:       9                       QUORUM:         2 (Enabled)
TOTAL PVs:      1                       VG DESCRIPTORS: 2
STALE PVs:      0                       STALE PPs:      0
ACTIVE PVs:     1                       AUTO ON:        yes
MAX PPs per VG: 32512
MAX PPs per PV: 1016                    MAX PVs:        32
LTG size (Dynamic): 256 kilobyte(s)     AUTO SYNC:      no
HOT SPARE:      no                      BB POLICY:      relocatable
PV RESTRICTION: none
```

[lchen@ifx01 /home/lchen] $ lsvg -l archdbvg

```
archdbvg:
LV NAME         TYPE      LPs   PPs   PVs  LV STATE      MOUNT POINT
achrootlv       jfs2      1     1     1    open/syncd    /ach_root
achploglv       jfs2      1     1     1    open/syncd    /ach_plog
achlloglv       jfs2      4     4     1    open/syncd    /ach_llog
```

```
achdat1lv      jfs2     172 172   1  open/syncd   /ach_dat1
achdat2lv      jfs2     184 184   1  open/syncd   /ach_dat2
achidx1lv      jfs2     12  12    1  open/syncd   /ach_idx1
achidx2lv      jfs2     12  12    1  open/syncd   /ach_idx2
achtemplv      jfs2     8   8     1  open/syncd   /ach_temp
loglv01        jfs2log  1   1     1  open/syncd   N/A
```

[lchen@ifx01 /home/lchen] $ df -k

```
Filesystem    1024-blocks      Free   %Used    Iused %Iused Mounted on
/dev/hd4          2883584   2641184    9%    11947     2% /
/dev/hd2          8126464   5121204   37%    71000     6% /usr
/dev/hd9var       3145728    566632   82%    10547     8% /var
/dev/hd3          5242880   4290560   19%      203     1% /tmp
/dev/hd1          2621440   2140584   19%     2275     1% /home
/proc                   -         -    -        -     -  /proc
/dev/hd10opt      7864320   7178244    9%    11894     1% /opt
/dev/ibmlv       10485760  10187912    3%     3564     1% /ibm
/dev/achrootlv     262144     11776   96%        5     1% /ach_root
/dev/netinslv     2621440   2620700    1%        4     1% /netins
/dev/dmqjtmplv   13107200   3334044   75%     1735     1% /dmqjtmp
/dev/recyclelv   15728640   6690080   58%     6064     1% /recyclebox
/dev/achlloglv    1048576     48088   96%        5     1% /ach_llog
/dev/achdat1lv   45088768   1081536   98%       48     1% /ach_dat1
/dev/achdat2lv   48234496    226784  100%       52     1% /ach_dat2
/dev/achidx1lv    3145728    144920   96%        7     1% /ach_idx1
/dev/achidx2lv    3145728    144920   96%        7     1% /ach_idx2
/dev/achtemplv    2097152     72504   97%        6     1% /ach_temp
/dev/appslv      10485760   6351088   40%    20368     2% /usr/apps
/dev/achploglv     262144     11776   96%        5     1% /ach_plog
/dev/ixrootlv      262144     46576   83%        5     1% /ix_root
/dev/ixploglv      262144      5776   98%        5     1% /ix_plog
/dev/ixlloglv     1048576     48280   96%        5     1% /ix_llog
/dev/ixdat1lv    23068672   1064760   96%       26     1% /ix_dat1
/dev/ixdat2lv    26214400   1209968   96%       29     1% /ix_dat2
/dev/ixdat3lv    19922944    919572   96%       23     1% /ix_dat3
/dev/ixidx1lv     7340032    338556   96%       11     1% /ix_idx1
/dev/ixidx2lv     5242880    241732   96%        9     1% /ix_idx2
/dev/ixidx3lv     4194304    193336   96%        8     1% /ix_idx3
/dev/ixtemplv     4194304    193336   96%        8     1% /ix_temp
/dev/insightlv    2097152   1987312    6%     3050     1% /insight
/dev/livedump      262144    261776    1%        4     1% /var/adm/ras/livedump
/dev/hd11admin     524288    523864    1%        5     1% /admin
```

```
Dbspaces
address          number    flags    fchunk    nchunks   pgsize    flags     owner     name
50431810         1         0x1      1         1         4096       N         informix rootdbs
5051dd50         2         0x1      2         1         4096       N         informix llogdbs
5051deb0         3         0x1      3         2         4096       N         informix tempdbs1
5138a018         4         0x1      4         1         4096       N         informix plogdbs
5138a178         5         0x1      5         44        4096       N         informix datadbs1
5138a2d8         6         0x1      27        48        4096       N         informix datadbs2
5138a438         7         0x1      51        3         4096       N         informix indxdbs1
5138a598         8         0x1      54        3         4096       N         informix indxdbs2
```

```
< 51390928      52      7       0          250000      1698      PO--  /ach_idx1/ach_idx1.2
< 51390af8      53      7       0          250000      249997    PO--  /ach_idx1/ach_idx1.3
```

```
< 51390cc8      54      8       0           250000      177497    PO--  /ach_idx2/ach_idx2.1
---
> 51390928       52      7       0           250000      162       PO--  /ach_idx1/ach_idx1.2
> 51390af8      53      7       0           250000      245901    PO--  /ach_idx1/ach_idx1.3
> 51390cc8      54      8       0           250000      176857    PO--  /ach_idx2/ach_idx2.1
117,119c117,119
< 51399928      100     6       0           250000      182409    PO--  /ach_dat2/ach_dat2.47
< 51399af8      101     6       0           250000      249997    PO--  /ach_dat2/ach_dat2.48
< 51399cc8      102     5       0           250000      211597    PO--  /ach_dat1/ach_dat1.43
---
> 51399928      100     6       0           250000      34945     PO--  /ach_dat2/ach_dat2.47
> 51399af8      101     6       0           250000      184461    PO--  /ach_dat2/ach_dat2.48
> 51399cc8      102     5       0           250000      45709     PO--  /ach_dat1/ach_dat1.43
```

INFO - b3: Columns Indexes Privileges References Status cOnstraints triGgers Table Fragments Exit
Display fragment strategy for a table.

---------- ip_arch03@ardb --------- Press CTRL-W for Help --------

Idx/Tbl name	Dbspace	Partition	Type Expression
199_649	datadbs1	datadbs1	I
b3_rk1	indxdbs1	indxdbs1	I
b3_rk10	indxdbs2	indxdbs2	I
b3_rk2	indxdbs2	indxdbs2	I
b3_rk3	indxdbs1	indxdbs1	I
b3_rk5	indxdbs1	indxdbs1	I
b3_rk9	indxdbs1	indxdbs1	I

INFO - b3_subheader: Columns Indexes Privileges References Status cOnstraints triGgers Table Fragments Exit
Display fragment strategy for a table.

---------- ip_arch03@ardb --------- Press CTRL-W for Help --------

Idx/Tbl name	Dbspace	Partition	Type Expression
200_697	datadbs1	datadbs1	I
b3_subheader_rk1	indxdbs1	indxdbs1	I

INFO - b3_line: Columns Indexes Privileges References Status cOnstraints triGgers Table Fragments Exit
Display fragment strategy for a table.

---------- ip_arch03@ardb --------- Press CTRL-W for Help --------

Idx/Tbl name	Dbspace	Partition	Type Expression
201_711	datadbs2	datadbs2	I
201_841	datadbs2	datadbs2	I

INFO - b3_recap_details: Columns Indexes Privileges References Status cOnstraints triGgers Table Fragments Exit
Display fragment strategy for a table.

---------- ip_arch03@ardb --------- Press CTRL-W for Help --------

Idx/Tbl name	Dbspace	Partition	Type Expression
202_753	datadbs1	datadbs1	I
202_842	datadbs1	datadbs1	I

INFO - b3_line_comment: Columns Indexes Privileges References Status cOnstraints triGgers Table Fragments Exit
Display fragment strategy for a table.

---------- ip_arch03@ardb --------- Press CTRL-W for Help --------

Idx/Tbl name	Dbspace	Partition	Type Expression
153_424	datadbs2	datadbs2	I
153_837	datadbs2	datadbs2	I

INFO - b3_line_iid: Columns Indexes Privileges References Status cOnstraints triGgers Table Fragments Exit
Display fragment strategy for a table.

---------- ip_arch03@ardb --------- Press CTRL-W for Help --------

Idx/Tbl name	Dbspace	Partition	Type Expression
118_113	datadbs2	datadbs2	I

$ dbschema -d ip_systest -ss ip_systest.sql

The dbschema -ss option generates server-specific information. In all Informix® database servers except SE, the -ss option always generates the lock mode, extent sizes, and the dbspace name if the dbspace name is different from the database dbspace. In addition, if tables are fragmented, the -ss option displays information about the fragmentation strategy.