

Advanced DataTools Webcast

from the IBM Informix Champions

Informix Tutorial Getting Started with Informix by Lester Knutsen

***Thursday, January 30, 2020 at
2:00pm EDT***

Advanced DataTools

Lester Knutsen



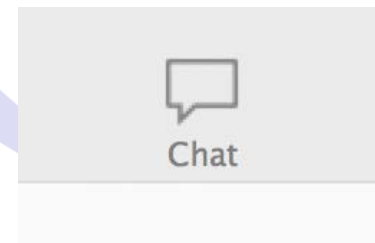
Lester Knutsen is President of Advanced DataTools Corporation, and has been building large data warehouse and business systems using Informix Database software since 1983. Lester focuses on large database performance tuning, training, and consulting. Lester is a member of the IBM Gold Consultant program and was presented with one of the Inaugural IBM **Information** Champion awards by IBM. Lester was one of the founders of the International Informix Users Group and the Washington Area Informix User Group.

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Webcast Guidelines

- The Webcast is being recorded. The Webcast replay and slides will be available in a few days.
- Please Mute your line. Background sounds will distract everyone.
- Use the Chat Button in the upper right to ask questions.



Informix Tutorial - Getting Started with Informix by Lester Knutsen

The Webcast is a step by step guide to installing and getting up and running with a basic Informix Server. We will introduce using InformixHQ, the IBM Informix Knowledge Center, and how to find resources to get started with Informix.

Agenda

Getting Started with Informix

- Informix Products Overview
- Informix Architecture
 - Memory, CPU, Disk Requirements
- Planning an Informix Install
- Demo – Informix Workgroup Install
- Software Directory Structure
- Using Informix SQL
- Informix Documentation
- Informix Resources on the Web



Informix Products Overview

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Informix Servers History

- Informix C-ISAM
- Informix Standard Engine (SE)
- Informix OnLine 4.x and 5.x
- Informix Dynamic Server 7.x
- Informix Extended Parallel Server 8.x
- Informix Dynamic Server 9.x, 10.x, 11.x
- **Current - Informix 12.x and 14.x**

Informix 12.x and 14.X Editions

- No Cost Editions
 - **IBM Informix Developer Edition**
 - IBM Informix Innovator-C Edition
- Purchase Editions
 - IBM Informix Express Edition
 - **IBM Informix Workgroup Edition**
 - IBM Advanced Workgroup Edition – 12.x only
 - IBM Informix Advanced Developer Edition
 - **IBM Informix Enterprise Edition**
 - IBM Informix Advanced Enterprise Edition

Connectivity/Client Products

- Informix Client Software Developer's Kit (SDK) includes
 - Informix ODBC
 - Informix ESQL
- Informix Enterprise Gateway
- Informix JDBC Driver/Embedded SQL
- IBM Data Server Driver (IBM Common Driver)

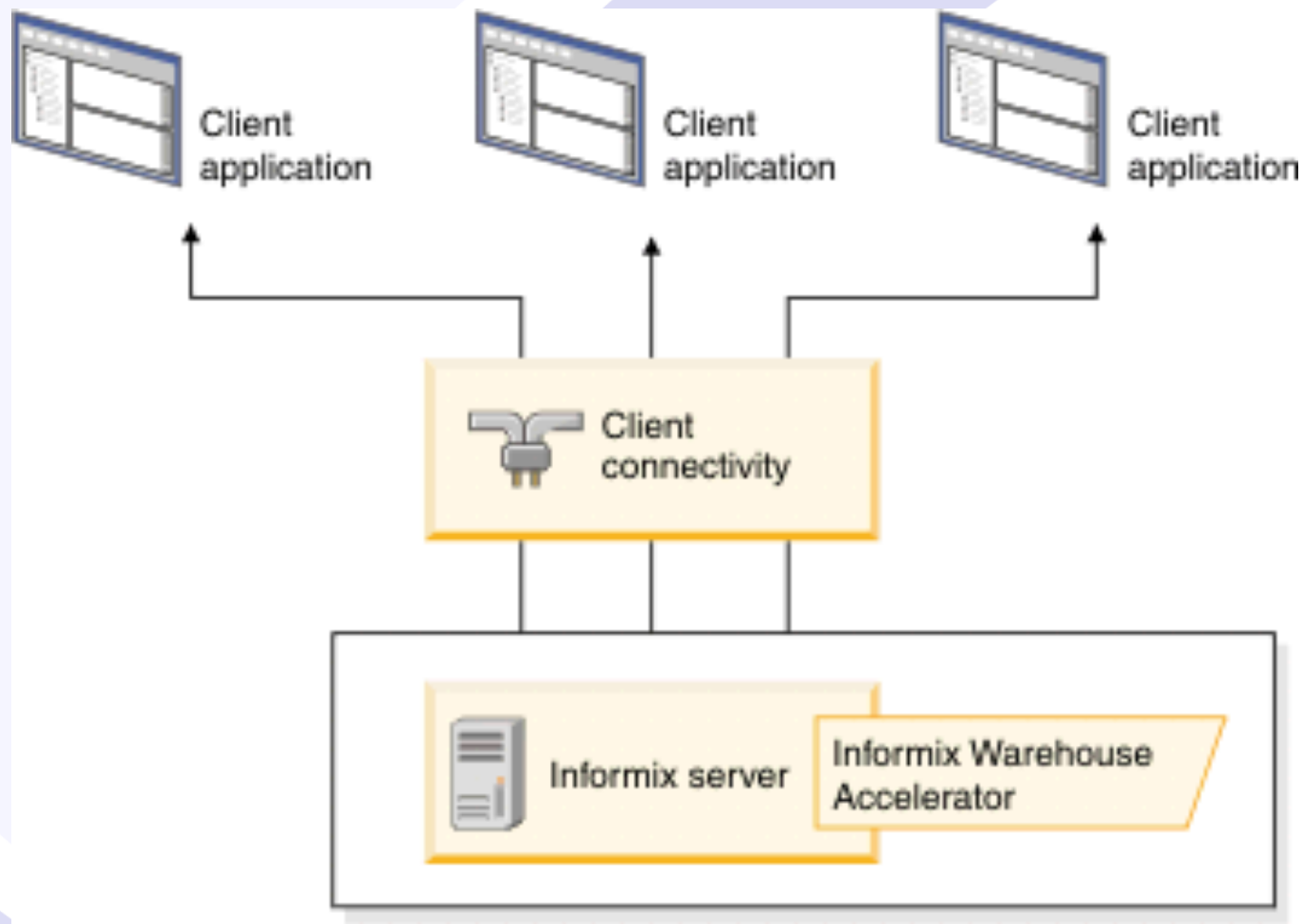
DataBlade Modules and DataBlade Developer's Kit

- Informix NAG DataBlade
- Informix C-ISAM DataBlade
- Informix Data Director for Web
- Informix Geodetic DataBlade
- Informix Image Foundation DataBlade
- Informix Spatial DataBlade
- Informix TimeSeries DataBlade

Development Tools

- Informix ESQL/C
- Informix 4GL
- Informix SQL
- Informix Genero (4J' s)
- Java
- PHP
- Ruby on Rails
- Perl
- Python

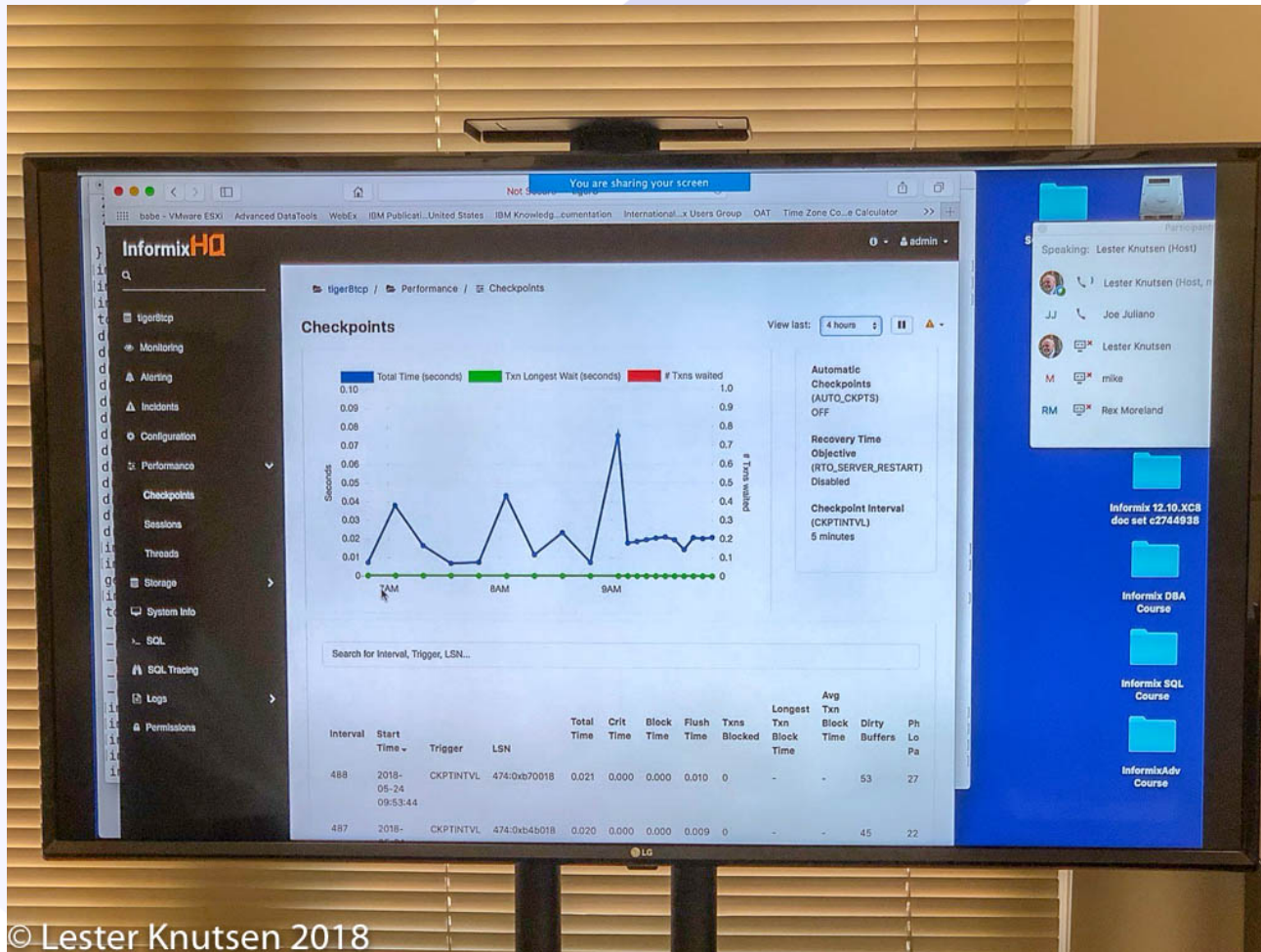
Informix Warehouse Accelerator



Informix Administration Tools

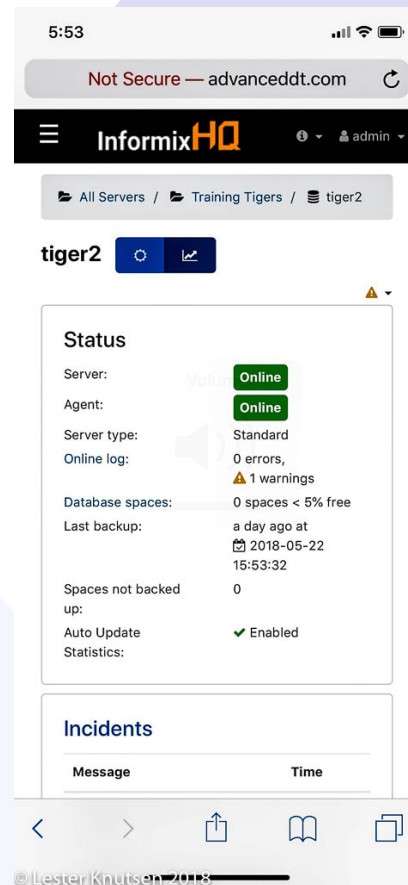
- Command Line Utilities
- InformixHQ – New GUI Admin Tool release with Informix 14
- Server Studio
<http://serverstudio.com/>

InformixHQ



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InformixHQ on an iPhone





Informix Architecture

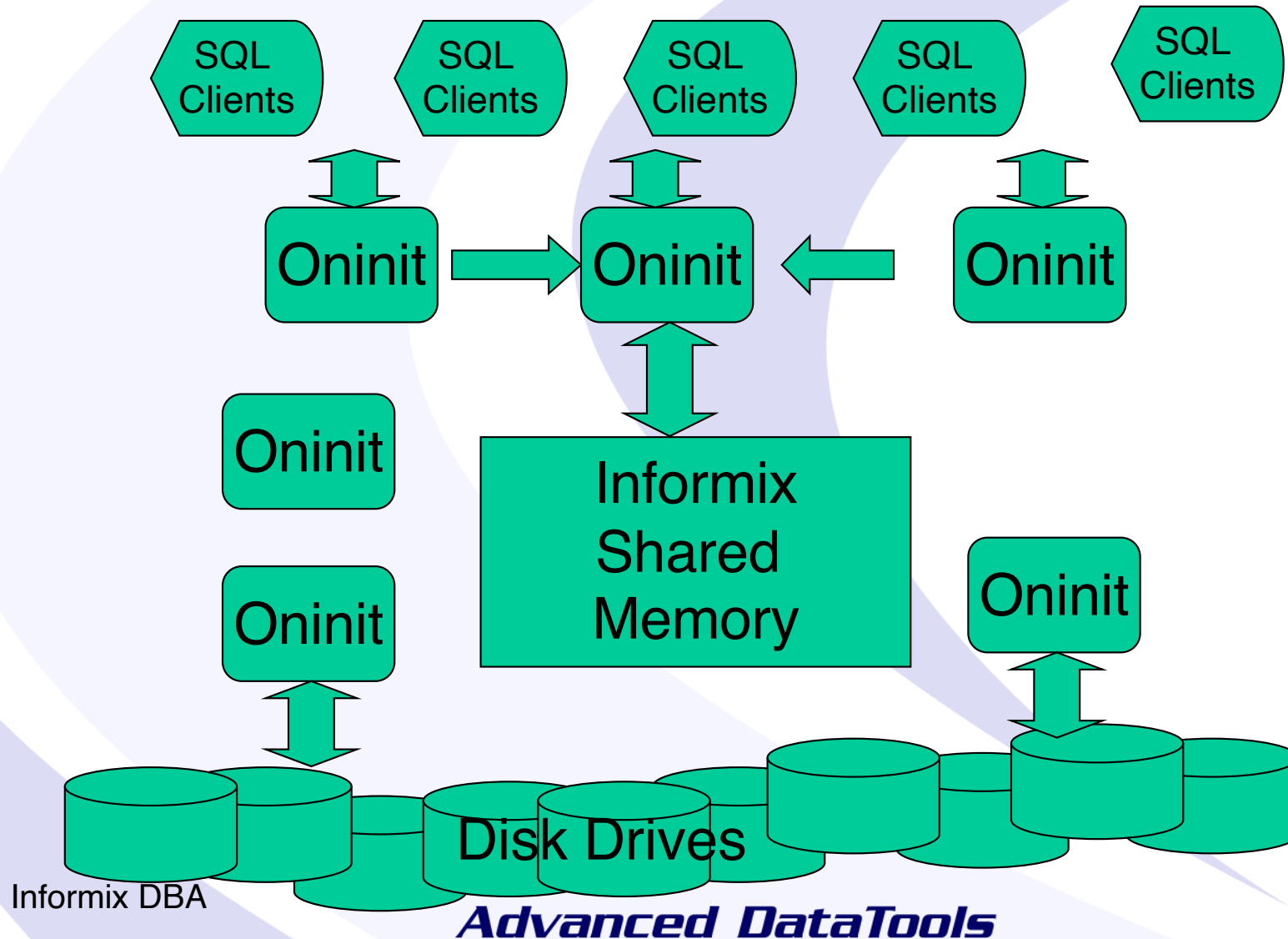
Memory, CPU, Disk Requirements

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Informix Architecture

- SQL Client process
- Server process – (oninit)
- Shared Memory
- Disk space – (dbspace)

Informix Architecture



Oninit Process

```
informix@tiger1:~ train1 > ps -ef | grep oninit
informix 2974      1  7 19:13 ?          00:00:08 oninit -v
root     2977    2974  0 19:13 ?          00:00:00 oninit -v
root     2978    2977  0 19:13 ?          00:00:00 oninit -v
root     2979    2977  0 19:13 ?          00:00:00 oninit -v
root     2981    2977  4 19:13 ?          00:00:04 oninit -v
root     2983    2977  0 19:13 ?          00:00:00 oninit -v
root     2993    2977  0 19:13 ?          00:00:00 oninit -v
informix 2995    2977 19 19:13 ?          00:00:21 oninit -v
informix 2996    2977  9 19:13 ?          00:00:10 oninit -v
informix 2997    2977  4 19:13 ?          00:00:05 oninit -v
root     2998    2977  0 19:13 ?          00:00:00 oninit -v
root     2999    2977  1 19:13 ?          00:00:01 oninit -v
root     3000    2977  0 19:13 ?          00:00:00 oninit -v
root     3001    2977  0 19:13 ?          00:00:00 oninit -v
root     3002    2977  0 19:13 ?          00:00:00 oninit -v
root     3003    2977  0 19:13 ?          00:00:00 oninit -v
informix 3199    2875  0 19:15 pts/0      00:00:00 grep --color=auto oninit
informix@tiger1:~ train1 > 
```

Oninit Process

onstat -g sch

```
informix@tiger1:~ train1 > onstat -g sch

IBM Informix Dynamic Server Version 14.10.FC2 -- On-Line -- Up 00:02:42 -- 511220 Kbytes

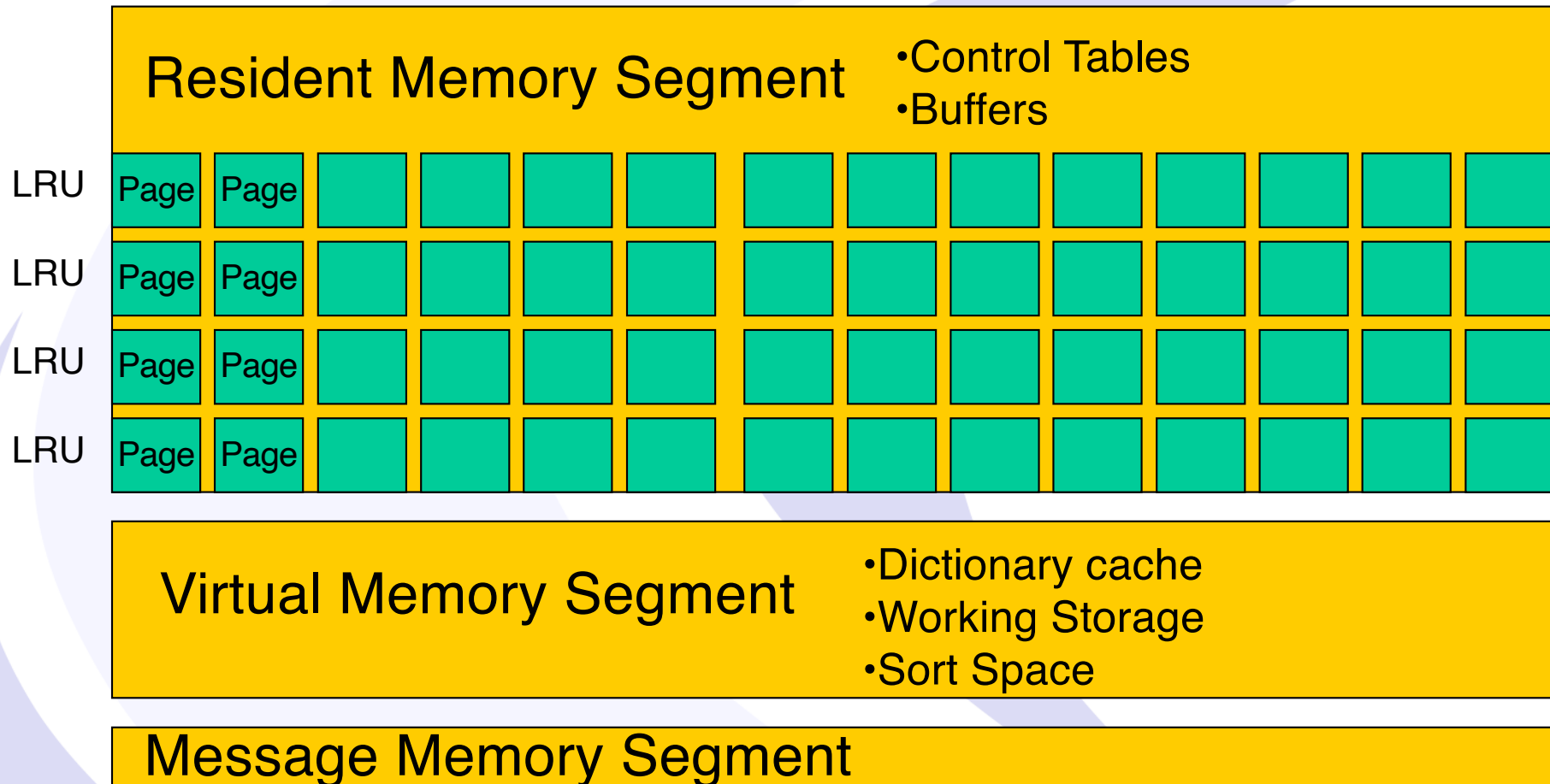
VP Scheduler Statistics:
vp  pid  class  semops  busy waits  spins/wait  bsy lspins
1   2974  cpu    69      72          9971        0
2   2977  adm    0        0           0           0
3   2978  lio    20915   0           0           0
4   2979  pio    132     0           0           0
5   2981  aio    117654  0           0           0
6   2983  msc    4        0           0           0
7   2993  fifo   2        0           0           0
8   2995  cpu    68159   71764       9770        0
9   2996  cpu    43303   46785       9666        0
10  2997  cpu    12399   14564       8759        0
11  2998  soc    2        2          10000       0
12  2999  aio    28801   0            0           0
13  3000  aio    21728   0            0           0
14  3001  aio    15592   0            0           0
15  3002  aio    9009    0            0           0
16  3003  aio    6818    0            0           0

Thread Migration Statistics:
vp  pid  class  steal-at  steal-sc  idlvp-at  idlvp-sc  inl-polls  Q-ln
1   2974  cpu    51998    2810     2426     2357     20098     0
2   2977  adm    0         0      1882      378      0         0
3   2978  lio    0         0       275      249      0         0
4   2979  pio    0         0        1        1        0         0
5   2981  aio    0         0       337     313      0         0
6   2983  msc    0         0        0        0        0         0
```

Oninit Process - Class

- CPU - Executes all user and session threads and some system threads
- PIO - Handles physical log file when cooked disk space is used
- LIO - Handles logical log file when cooked disk space is used
- AIO - Handles disk I/O
- SHM - Performs shared memory communications
- TLI - Performs TLI network communications
- SOC - Performs socket network communications
- FIFO - Performs FIFO operations
- OPT - Handles optical disk I/O
- ADM - Executes administrative threads
- ADT - Executes auditing threads
- MSC - Handles request for system calls

Informix Shared Memory



Informix Shared Memory

onstat -g seg

```
informix@tiger1:~ train1 > onstat -g seg
```

```
IBM Informix Dynamic Server Version 14.10.FC2 -- On-Line -- Up 00:03:44 -- 511220 Kbytes
```

Segment Summary:

id	key	addr	size	ovhd	class	blkused	blkfree
65536	52574801	44000000	91820032	1514440	R*	22417	0
98305	52574802	49791000	204800000	2401656	V	12958	37042
131074	52574803	55ae1000	226308096	1	B*	55251	0
163843	52574804	632b4000	561152	7848	M	136	1
Total:	-	-	523489280	-	-	90762	37043

(* segment locked in memory)

No reserve memory is allocated

```
informix@tiger1:~ train1 > █
```

Memory Classes

- R – Resident Memory Segment
- B – Buffer Pool Segment for data
- V – Virtual Memory Segment for Working Storage
- M – Message Segment for communications between clients

Informix Disk Space

- Dbspace – Logical container of Chunks
- Chunk – Physical container
 - Raw Disk – Informix direct access to disk
 - Cooked Disk – Informix accesses disk through OS filesystem
- Page – I/O Block: 2K, 4K, 8K, 16K
- Tablespace – All pages assigned to a table
- Extent – Set of contiguous pages

Informix Dbspace

onstat -d

```
informix@tiger1:~ train1 > onstat -d
```

```
IBM Informix Dynamic Server Version 14.10.FC2 -- On-Line -- Up 00:04:35 -- 511220 Kbytes
```

Dbspaces

address	number	flags	fchunk	nchunks	pgsize	flags	owner	name
4a64d028	1	0x4020001	1	1	2048	N BA	informix	rootdbs
4b7552d8	2	0x4020001	2	1	2048	N BA	informix	logdbs
4b755518	3	0x4020001	3	1	2048	N BA	informix	datadbs
4b755758	4	0x2001	4	1	2048	N TBA	informix	tmpdbs
4b755998	5	0x4020001	5	1	2048	N BA	informix	datab3dbs
4b755bd8	6	0x28001	6	1	2048	N SBA	informix	sbspace

```
6 active, 2047 maximum
```

Chunks

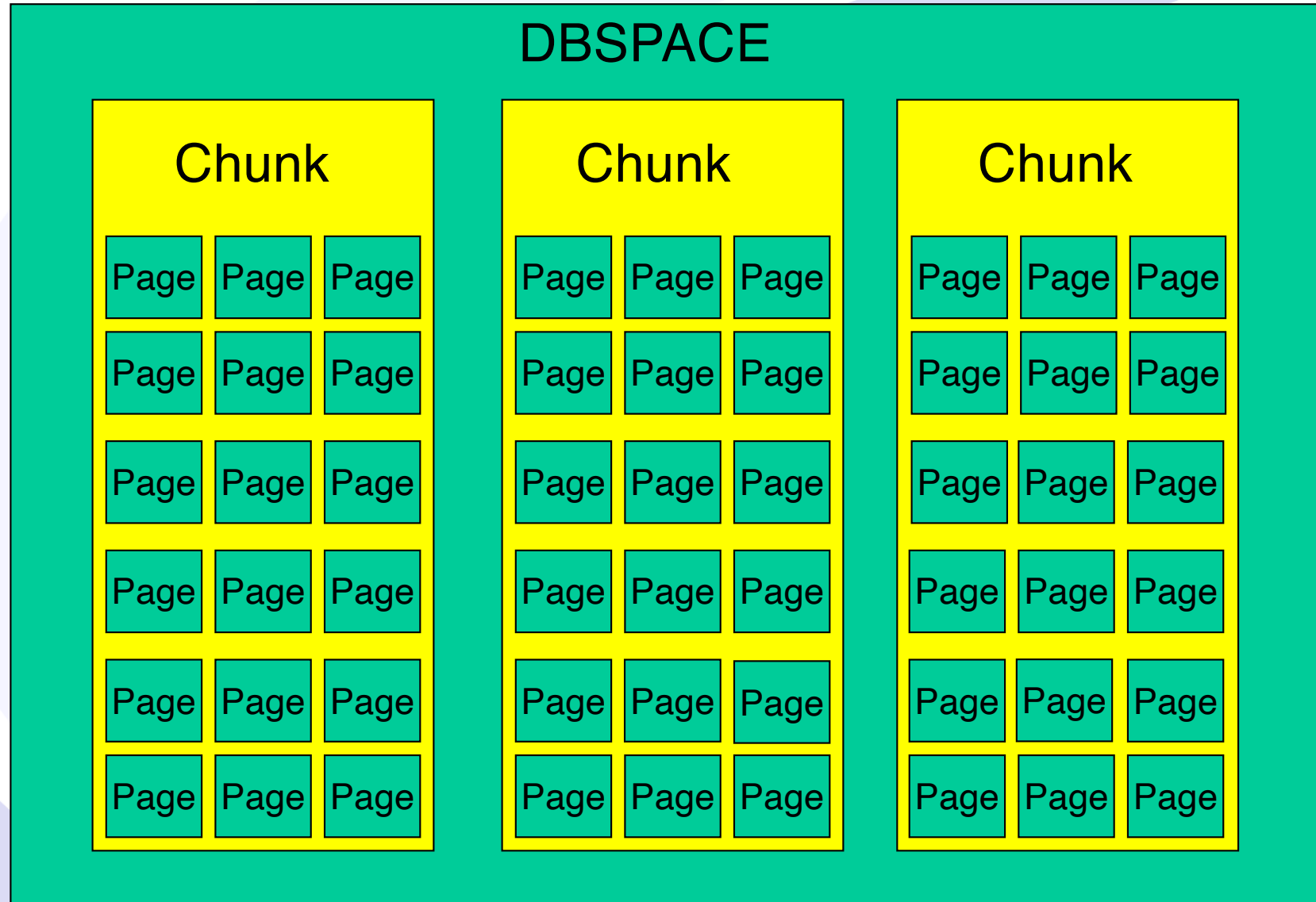
address	chunk/dbs	offset	size	free	bpages	flags	pathname
4a64d268	1 1	0	1000000	732033		PO-B--	/informixchunks/train1/rootdbs
4b757028	2 2	0	1000000	199947		PO-B--	/informixchunks/train1/logdbs
4b758028	3 3	0	2000000	972855		PO-B--	/informixchunks/train1/datadbs
4b759028	4 4	0	1000000	999947		PO-B--	/informixchunks/train1/tmpdbs
4b75a028	5 5	0	5000000	675899		PO-B--	/informixchunks/train1/datab3dbs
4b75b028	6 6	0	5000	4474	4587	POSB--	/informixchunks/train1/sbspace
		Metadata	360	268	360		

```
6 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.

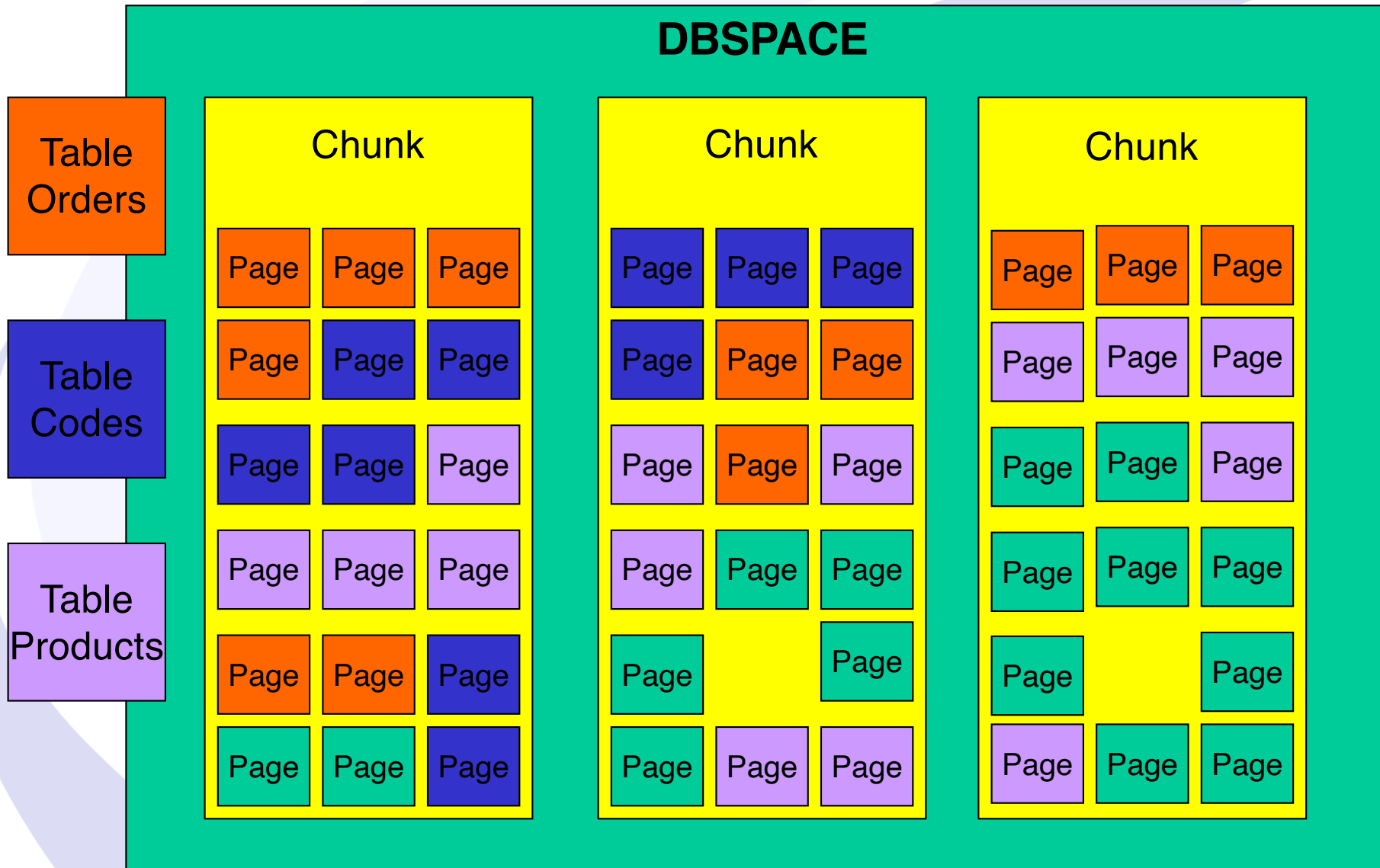
```
Expanded chunk capacity mode: always
```

Disk Layout - Pages, Chunks, and Dbspaces

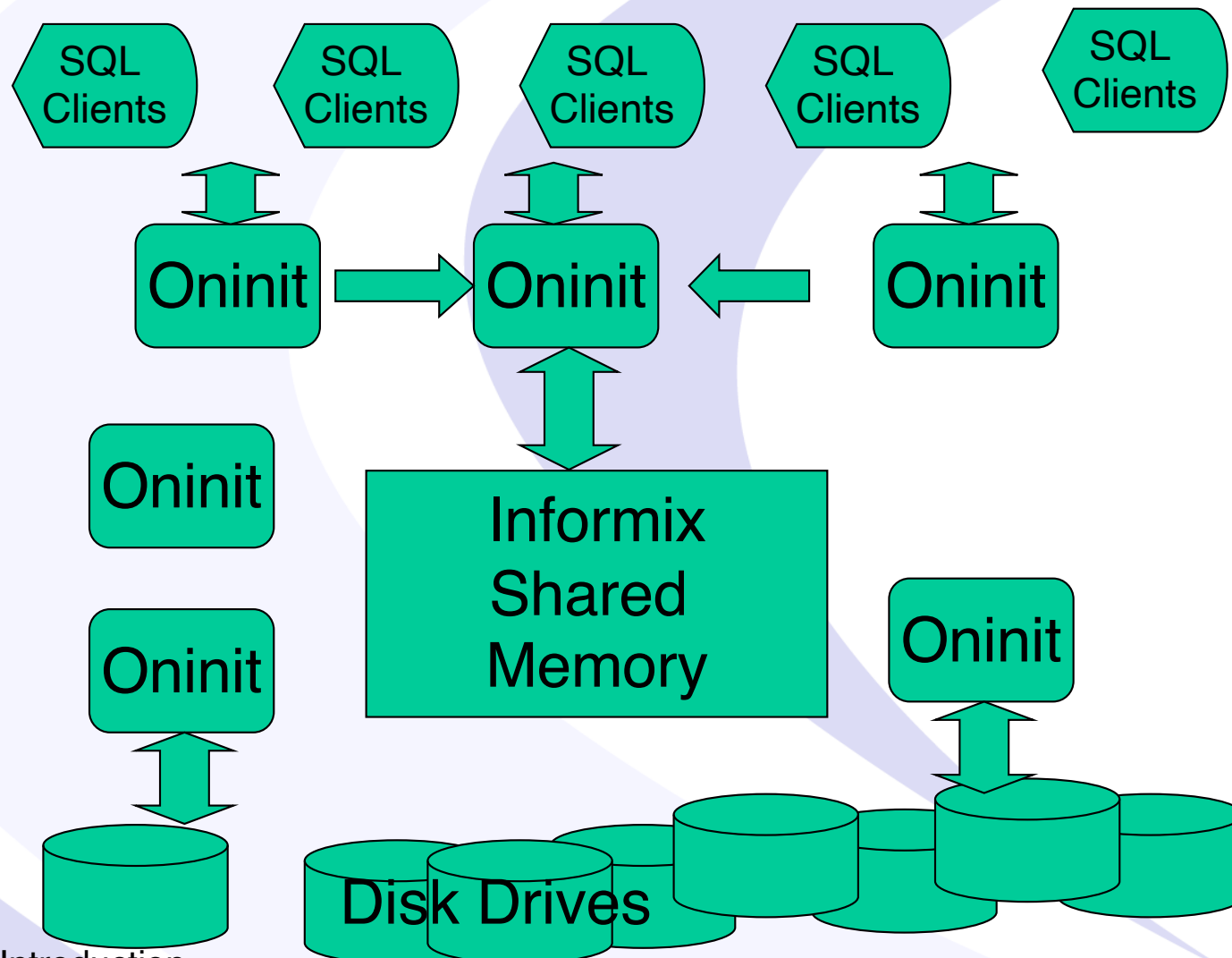


Disk Layout -Tables and Extents

Too many extents will slow disk access



Informix User Sessions



Informix User Sessions

onstat -u

```
informix@tiger1:~ train1 > onstat -u
```

IBM Informix Dynamic Server Version 14.10.FC2 -- On-Line -- Up 00:05:16 -- 511220 Kbytes

Userthreads

address	flags	sessid	user	tty	wait	tout	locks	nreads	nwrites
4a75e028	---P--D	1	informix	-	0	0	0	34	15
4a75e908	---P--F	0	informix	-	0	0	0	0	10
4a75f1e8	---P--F	0	informix	-	0	0	0	0	1
4a75fac8	---P--F	0	informix	-	0	0	0	0	4
4a7603a8	---P--F	0	informix	-	0	0	0	0	1
4a760c88	---P--F	0	informix	-	0	0	0	0	0
4a761568	---P--F	0	informix	-	0	0	0	0	0
4a761e48	---P--F	0	informix	-	0	0	0	0	0
4a762728	---P--F	0	informix	-	0	0	0	0	0
4a763008	---P---	9	informix	-	0	0	0	0	0
4a7638e8	---P--B	10	informix	-	0	0	0	4522	128
4a7641c8	Y--P--D	11	informix	-	4b7c2cf8	0	0	801857	0
4a764aa8	---P--D	12	informix	-	0	0	0	0	0
4a765c68	---P--D	28	informix	-	0	0	0	2	0
4a766548	---P--D	27	informix	-	0	0	0	0	0
4a7691a8	---P---	43	informix	-	0	0	1	748	5867
4a769a88	---P---	41	informix	-	0	0	2	349	402
4a76a368	---P--D	29	informix	-	0	0	0	0	0
4a76ac48	---P---	40	informix	-	0	0	1	19	0
4a76b528	---P---	42	informix	-	0	0	1	3600	7253
4a76be08	---P--D	30	informix	-	0	0	0	0	0
4a76d8a8	Y--P--D	49	informix	-	4b7c2cf8	0	0	678581	0

22 active, 128 total, 34 maximum concurrent



Planning an Informix Install

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Planning an Informix Install

Prep Questions

- What directory will the Informix Software be installed in?
 - /opt/informix14.10.FC3
 - /local_apps/informix14.10.FC2
- Install the software in a directory with the version name and the create a link to /opt/Informix
 - In –s /opt/informix14.10.FC3 /opt/Informix

Planning an Informix Install

Prep Questions

- What are the name(s) of the Informix Servers?
- Recommend different names for the different connection methods
 - train1 - for shared memory connections
 - train1tcp – for network connections

Planning an Informix Install

Prep Questions

- How much memory is required and will be allocated to Informix?
 - BUFFERPOOL
 - SHMVIRTSIZE
 - SHMADD

Planning an Informix Install

Prep Questions

- How much disk space is required and will be allocated for Informix?
 - Rootdbs
 - Logical Logs
 - Physical Logs
 - Temp data space
 - Data space
 - Index space
 - Blob dbspace
 - Smart Blob dbspace

Planning an Informix Install

Prep Questions

- Will you use Raw or Cooked space?
- Where will the space be located?
- Best Practices
 - Use symbolic links
 - /informixchunks/servername/dbchunks
 - Use non journaled filesystems for cooked space
 - Use Ext2 filesystems for Linux

Planning an Informix Install

Prep Questions

- How many CPU's will be allocated for Informix?
 - Traditional Best Practices is number of physical CPU CORE-1
 - Current CPU CORE are fast enough to handle 2-3 oninits per CORE

Planning an Informix Install

Prep Questions

- What are the protocols users will connect to Informix with?
 - Shared Memory
 - TCP Sockets
 - DRDA
 - REST
- What tcp ports will be used for network connections?

Planning an Informix Install

Prep Questions

- Will the InformixHQ be installed?
 - Admin login and password
 - Ports (default is 8080)

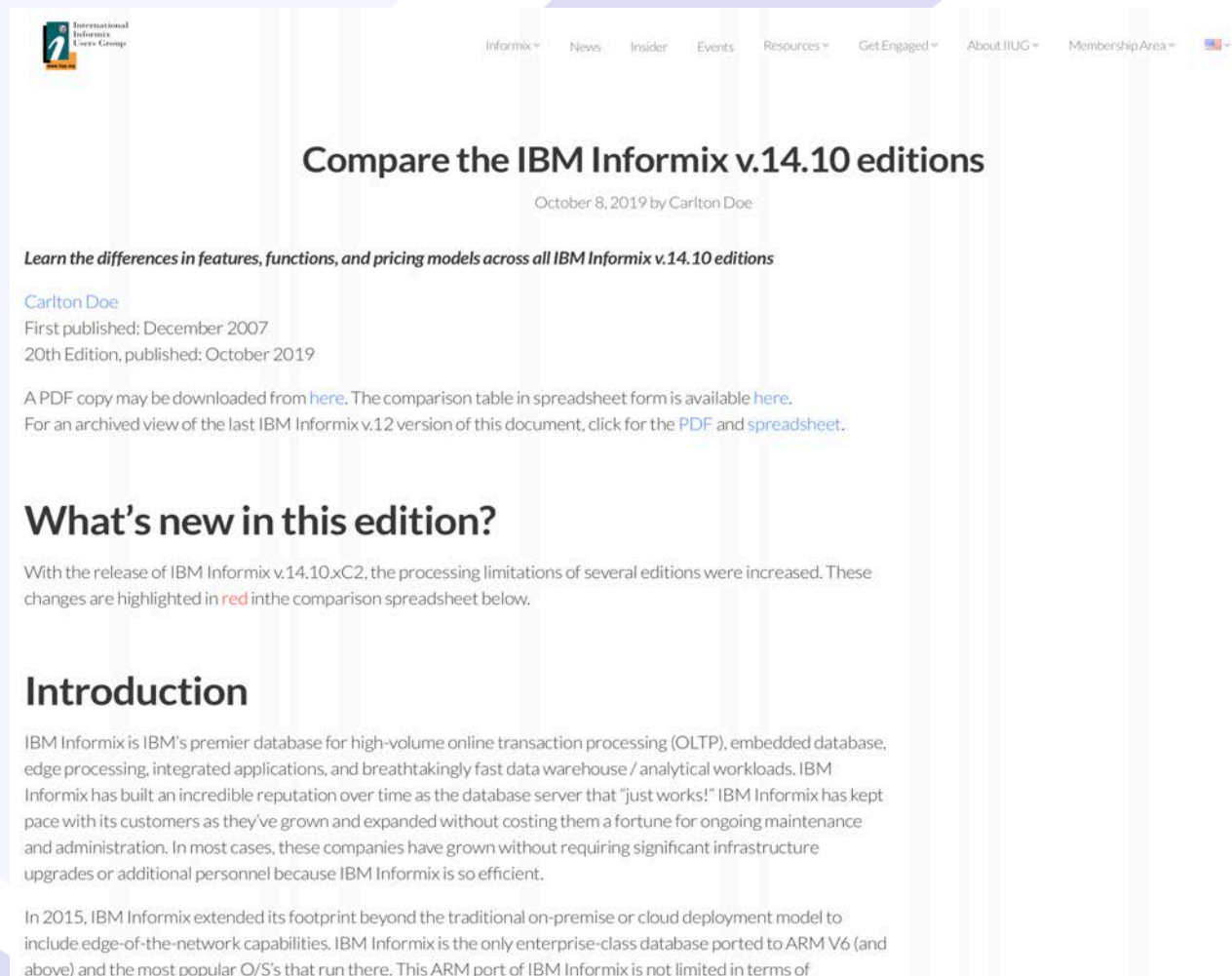


Installing Informix Demo

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Compare the Informix Editions

<https://www.iug.org/en/2019/10/08/compare-informix/>

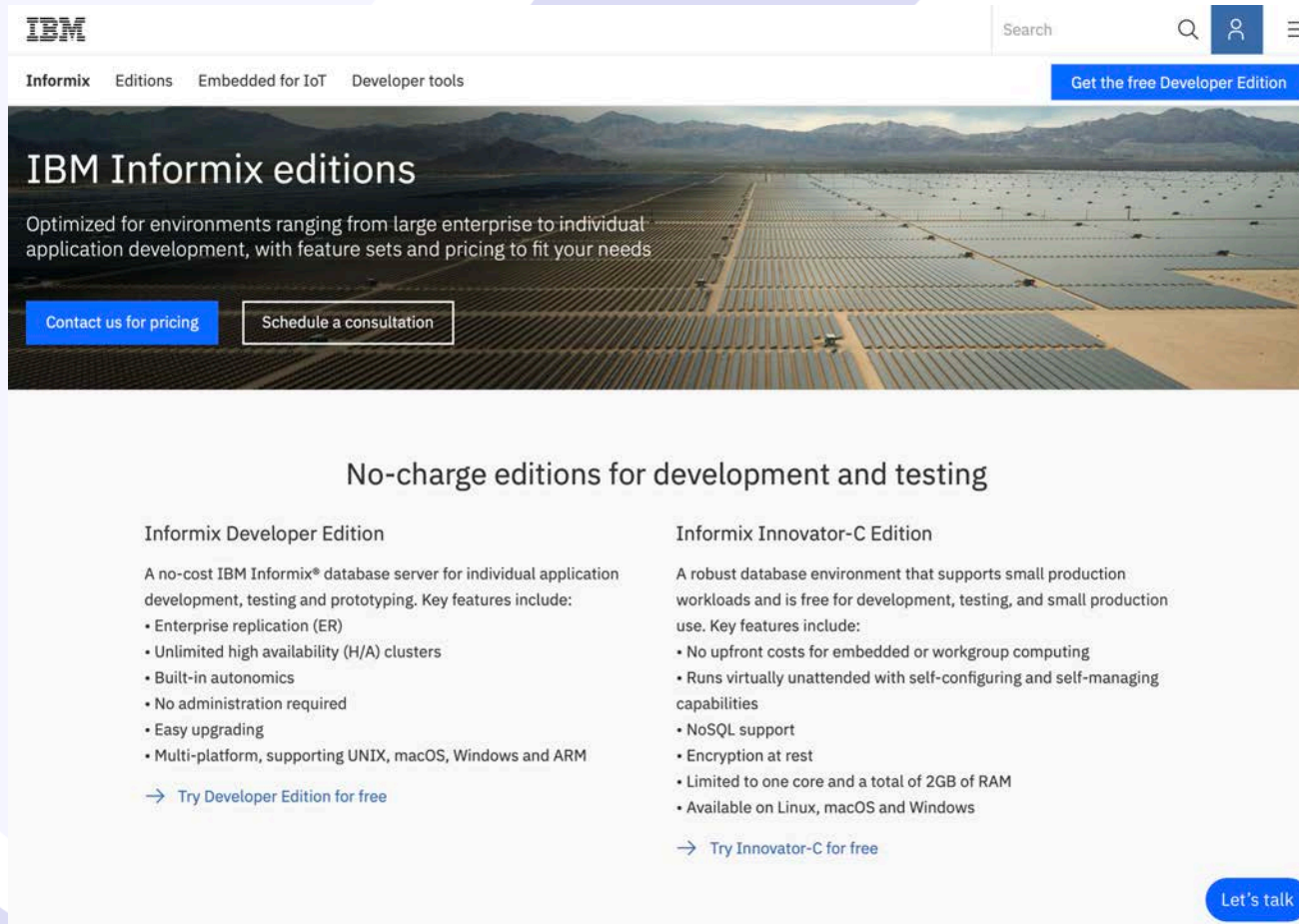


The screenshot shows the IIUG (International Informix Users Group) website. The header includes the IIUG logo and navigation links: Informix, News, Insider, Events, Resources, Get Engaged, About IIUG, and Membership Area. The main content area features the article title 'Compare the IBM Informix v.14.10 editions' by Carlton Doe, dated October 8, 2019. Below the title is a sub-headline: 'Learn the differences in features, functions, and pricing models across all IBM Informix v.14.10 editions'. The author's name 'Carlton Doe' is listed, along with publication dates: 'First published: December 2007' and '20th Edition, published: October 2019'. A paragraph states: 'A PDF copy may be downloaded from [here](#). The comparison table in spreadsheet form is available [here](#). For an archived view of the last IBM Informix v.12 version of this document, click for the [PDF](#) and [spreadsheet](#).' Below this is a section titled 'What's new in this edition?' which mentions that with the release of IBM Informix v.14.10.xC2, processing limitations were increased, and changes are highlighted in red in the comparison spreadsheet. The next section is 'Introduction', which describes IBM Informix as a premier database for OLTP, embedded database, edge processing, and data warehouse workloads. It notes that IBM Informix has kept pace with its customers' growth without significant infrastructure upgrades. The final paragraph mentions that in 2015, IBM Informix extended its footprint to ARM V6 and the most popular O/Ss, and that this ARM port is not limited in terms of

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Download Informix Developer Edition

<https://www.ibm.com/products/informix/editions>



The screenshot shows the IBM Informix editions webpage. At the top, there's a navigation bar with the IBM logo, a search bar, and links for 'Informix', 'Editions', 'Embedded for IoT', and 'Developer tools'. A blue button 'Get the free Developer Edition' is on the right. Below the navigation bar is a large banner image of a solar farm with the text 'IBM Informix editions' and 'Optimized for environments ranging from large enterprise to individual application development, with feature sets and pricing to fit your needs'. Two buttons, 'Contact us for pricing' and 'Schedule a consultation', are on the left. Below the banner, the section 'No-charge editions for development and testing' is displayed. It contains two columns of information about the Informix Developer Edition and Informix Innovator-C Edition, each with a list of features and a 'Try for free' link. A 'Let's talk' button is in the bottom right corner.

IBM Informix editions
Optimized for environments ranging from large enterprise to individual application development, with feature sets and pricing to fit your needs

[Contact us for pricing](#) [Schedule a consultation](#)

No-charge editions for development and testing

<p>Informix Developer Edition</p> <p>A no-cost IBM Informix® database server for individual application development, testing and prototyping. Key features include:</p> <ul style="list-style-type: none">• Enterprise replication (ER)• Unlimited high availability (H/A) clusters• Built-in autonomies• No administration required• Easy upgrading• Multi-platform, supporting UNIX, macOS, Windows and ARM <p>→ Try Developer Edition for free</p>	<p>Informix Innovator-C Edition</p> <p>A robust database environment that supports small production workloads and is free for development, testing, and small production use. Key features include:</p> <ul style="list-style-type: none">• No upfront costs for embedded or workgroup computing• Runs virtually unattended with self-configuring and self-managing capabilities• NoSQL support• Encryption at rest• Limited to one core and a total of 2GB of RAM• Available on Linux, macOS and Windows <p>→ Try Innovator-C for free</p>
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[Let's talk](#)

Installing Informix Developer Edition

```
root@tiger1:/home/informix/informixinstall14.10.FC3DE ol_informix1410_1 > pwd
/home/informix/informixinstall14.10.FC3DE
root@tiger1:/home/informix/informixinstall14.10.FC3DE ol_informix1410_1 > exit
informix@tiger1:~/informixinstall14.10.FC3EE train1 >
informix@tiger1:~/informixinstall14.10.FC3EE train1 > cd
informix@tiger1:~ train1 > pwd
/home/informix
informix@tiger1:~ train1 > ls -l informixinstall14.10.FC3DE/
total 432068
drwxr-xr-x. 2 informix informix      99 Nov 18 19:13 doc
-rwxr-xr-x. 1 informix informix 441439672 Nov 18 19:17 ids_install
-rw-r--r--. 1 informix informix    1952 Nov 18 19:17 ids.properties
-rw-r--r--. 1 informix informix     601 Jan 27 15:56 informixDE.env
-rwxr-xr-x. 1 informix informix   980904 Nov 18 19:17 onsecurity
-rw-r--r--. 1 informix informix    1959 Nov 18 19:13 README_ids.txt
informix@tiger1:~ train1 > cd informixinstall14.10.FC3DE/
informix@tiger1:~/informixinstall14.10.FC3DE train1 > ls -l
total 432068
drwxr-xr-x. 2 informix informix      99 Nov 18 19:13 doc
-rwxr-xr-x. 1 informix informix 441439672 Nov 18 19:17 ids_install
-rw-r--r--. 1 informix informix    1952 Nov 18 19:17 ids.properties
-rw-r--r--. 1 informix informix     601 Jan 27 15:56 informixDE.env
-rwxr-xr-x. 1 informix informix   980904 Nov 18 19:17 onsecurity
-rw-r--r--. 1 informix informix    1959 Nov 18 19:13 README_ids.txt
informix@tiger1:~/informixinstall14.10.FC3DE train1 > su
Password:
su: Authentication failure
informix@tiger1:~/informixinstall14.10.FC3DE train1 > su
Password:
root@tiger1:/home/informix/informixinstall14.10.FC3DE train1 > █
```



Software Directory Structure

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Software Directory Structure

The following are some of the important directories found under \$INFORMIXDIR:

- **bin** - Informix binaries and executable files. This directory must be included in your path.
- **demo** - Demonstration files and source code. Use the demo programs to copy these files to your own directory.
- **etc** - Informix configuration files
- **incl** - Library files used by Informix software and compilers
- **msg** - Error messages and text message files
- **release** - Release notes and documentation. This contains the latest information and updates.



Using Informix SQL

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Connecting to Informix

Informix uses four environment variables:

- **INFORMIXDIR**
 - Points to the directory where Informix products are installed.
- **PATH**
 - \$INFORMIXDIR/bin must be added to the PATH for executables to be found.
- **INFORMIXSERVER**
 - Points to the name of the Informix Database Server the user will access.
- **ONCONFIG**
 - Points to the server configuration file. This is only required when OnLine is started and for DBA functions. This is not used by end users.

Example Environment Variables

```
INFORMIXDIR=/opt/informix  
export INFORMIXDIR  
PATH=$INFORMIXDIR/bin:$PATH  
export PATH  
INFORMIXSERVER=train1  
export INFORMIXSERVER  
ONCONFIG=onconfig.train1  
export ONCONFIG
```


Informix Dbaccess vs ISQL

- Dbaccess (dbaccess)
 - Comes with the database engine
 - **Includes all new features of the engine release**
 - Does NOT include ACE Reports and Perform Forms
- INFORMIX-SQL (isql)
 - Separate stand-alone product
 - Separate purchase
 - Does not include all new features of current engine release
 - Includes ACE Report Writer
 - Includes Perform Form Screens

Dbaccess Main Commands

DBACCESS: Query-language Connection Database Table Session Exit
Use SQL query language.

----- Press CTRL-W for Help -----

- Query-Language - Use SQL query language
- Connection - Connect or disconnect from a database environment
- Database - Select, create, info, drop, or close a database
- Table - Create, alter, or drop a database table
- Session - Retrieve information about the current DB-Access session
- Exit - Exit DBACCESS

Dbaccess SQL

SQL: New Run Modify Use-editor Output Choose Save Info Drop Exit

Enter new SQL statements using SQL editor.

----- stores7@train1 ----- Press CTRL-W for Help -----

- New - Create new SQL statements using the Informix built-in editor
- Run - Execute SQL statement
- Modify - Changes SQL statement using the Informix built-in editor
- User editor - Create or modify SQL statements using selected editor
- Output - Output results of SQL statement to printer, file or pipe
- Choose - Select SQL statements saved in current directory
- Save - Save current SQL statement in a file in the current directory
- Info - Display information about tables in the database
- Drop - Delete SQL files in current directory

Dbaccess SQL Built-in Editor

- ESC - Done editing, return to menu
- CTRL-A - Toggle between Typeover/Insert mode
- CTRL-R - Redraw screen
- CTRL-X - Delete current character
- CTRL-D - Delete rest of current line

Dbaccess Command Line

- **dbaccess <database name>**
 - Starts dbaccess using selected database
 - dbaccess stores7
- **dbaccess -<first letter of menu option>**
 - Starts dbaccess in select menu options.
- **dbaccess <database name> -<first letter of menu>**
 - Starts dbaccess using selected database in the selected menu option
 - dbaccess stores7 -qi
 - This starts dbaccess using the stores7 database and goes into the Query, Info menu option.

Dbaccess Command Line

- **dbaccess <database name> <sql script name>**
 - Executes SQL script using the selected database
- **dbaccess - -**
 - Starts dbaccess, SQL in interactive option with no menus. This is useful for writing shell scripts
- **dbaccess -v**
 - Displays version number and serial number
- **dbaccess -e <database> <script>**
 - Echo sql statements as they are executed
- **dbaccess -ansi**
 - Provides warnings when Informix extensions to ANSI SQL are used

Displaying Error Messages - finderr

Usage: finderr msgnum [msgnum2 ...]

- finderr searches the file of error message explanations distributed with Informix products and copies the text of one or more error messages to the standard output.
- If an unsigned number is given, a negative sign is assumed.
- Examples:
 - finderr 327 (looks for message number -327)
 - finderr -327 (looks for message number -327)
 - finderr +1234 (looks for message number 1234)
 - finderr -233 107 113 134 143 144 +1541 | more

Informix Command Line Utilities

- ONSTAT - shows shared memory and server statistics
- ONCHECK - checks and repairs disk space
- ONMODE - changes Server's operating mode
- ONLOG - logical log debugging tool
- ONINIT - initialize and start up the database server
- ONSPACES - configure dbspaces and chunks
- ONPARAMS - configure logs
- ONTAPE - backup and restore utility
- ONLOAD - loads databases and tables
- ONUNLOAD - unloads databases and tables

More Informix Tools

- Dbschema – Prints Schema
- Dbimport - Imports a database
- Dbexport – Exports a database
- Dbload – Loads data
- Ipload - High Performance Loader



Informix Documentation

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Documentation

- All documentation is available online at:

<http://www.ibm.com/support/knowledgecenter/SSGU8G/welcomelfxServers.html>

- IBM Informix Server v12.10 Information Center

http://www.ibm.com/support/knowledgecenter/SSGU8G_12.1.0/com.ibm.welcome.doc/welcome.htm

- IBM Informix Server v14.10 Information Center

https://www.ibm.com/support/knowledgecenter/SSGU8G_14.1.0/com.ibm.welcome.doc/welcome.htm

Key Administrator Manuals

- **Getting Started with Informix Dynamic Server**
 - This manual provides an overview of the Informix database server and SQL API environment, summarizes important features of Informix Dynamic Server, and provides a road map to help you use the documentation set.
- **Administrator's Guide for Informix Dynamic Server**
 - This manual is both a user guide and a reference manual to the features of Informix Dynamic Server. It is intended to help you understand, configure, and use your database server.
- **Informix Administrator's Reference**
 - This manual provides reference material for Informix Dynamic Server. It provides the syntax of database server utilities such as onmode and onstat, and comprehensive descriptions of configuration parameters, the sysmasters tables, and logical-log records.
- **Informix Backup and Restore Guide**
 - This manual explains the concepts and methods that you need to understand when you use the ON-Bar utility to back up and restore data.
- **Performance Guide for Informix Dynamic Server**
 - This guide provides information on how to configure and operate Dynamic Server to achieve optimum performance.

Key SQL Manuals

- Informix Guide to Database Design and Implementation
 - This manual provides information to help you design, implement, and manage your Informix databases. It includes data models that illustrate different approaches to database design and shows you how to use Structured Query Language (SQL) to implement and manage your databases.
- Informix Guide to SQL: Reference
 - This guide provides information on the following topics: Informix databases, data types, system catalog tables, environment variables, and the stores_demo demonstration database. It also contains a glossary.
- Informix Guide to SQL: Syntax
 - This guide provides detailed descriptions of the syntax for all Informix SQL and SPL statements.
- Informix Guide to SQL: Tutorial
 - This guide provides a tutorial on SQL, as implemented by Informix products. It describes the basic ideas and terms that are used when you work with a relational database.



Informix Resources on the Web

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Informix Resources from IBM

- Informix Documentation

<https://www.ibm.com/support/knowledgecenter/SSGU8G/welcomelfxServers.html>

- Compare the Informix Editions by Carlton Doe, IBM

<http://www.iiug.org/en/2019/10/08/compare-informix/>

- A quick look at the new Informix v.14.10 installation mechanism, Created by Carlton Doe, IBM

http://www.iiug.org/en/ifmx_v1410_edition_install/

Informix Resources - IIUG

- The International Informix User Group
 - <http://www.iiug.org>
- Membership is FREE

Informix Resources

- Advanced DataTools Tech Info
 - <https://advancedatools.com/tech-info/>
- Advanced DataTools Webcast Replays
 - <https://advancedatools.com/tech-info/past-webcasts/>

Questions?



Send follow-up questions to
Lester@advanceddatatools.com

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International Informix User Group:

<http://www.iiug.org>



The screenshot shows the homepage of the International Informix User Group (IIUG). At the top, there is a navigation bar with links: Informix, News, Insider, Events, Resources, Get Engaged, About IIUG, and Membership Area. The IBM logo is in the top right corner. The main heading is "Informix SOFTWARE" with the Informix logo. Below this, there are four columns of content: News, Blog, Insider, and Upcoming Events. The News column lists recent articles about webcasts and website migration. The Blog column lists various technical updates and news. The Insider column lists the latest issues of the IIUG Insider newsletter. The Upcoming Events column lists tech days in Bengaluru, Chennai, and San Francisco.

News

- Coming in 2020 – Free Informix Tutorials Webcast Series!
- Kicking off the 2020 Webcast Series with New Remote Encryption Key Storage in Informix Database Server 14.10
- Don't miss the upcoming webinar on Informix 14.10 Tuning Tips
- 2019-10: Old website migration completed

[→ Read More Posts](#)

Blog

- Compare the IBM Informix v.14.10 editions
- PHP Informix Driver in RHEL 8
- Free Database Download-Informix
- Video on how to use the new 14.10 installer
- Informix 14.1 : License changes
- Santa gift is coming: IBM Informix 12.10.xC8 is almost out!
- Automate Informix Start/Stop with systemd
- It's all About the Latch

Insider

- IIUG Insider (Issue #233) December 2019
- IIUG Insider (Issue #232) November 2019
- IIUG Insider (Issue #231) October 2019

[→ Read More Posts](#)

Upcoming Events

IIUG Informix Tech Day – Bengaluru, India
March 24 @ 8:00 am - 5:00 pm

IIUG Informix Tech Day – Chennai, India
March 26 @ 8:00 am - 5:00 pm

IBM Think 2020 – San Francisco
May 4 - May 7

[View All Events](#)

Recent Posts

Free Informix Tutorials Webcasts

from the IBM Informix Champions

A step by step guide to using Informix Database Servers

- **Getting Started with Informix by Lester Knutsen on January 30th, 2020 at 2:00 pm EST**
This Webcast is a step-by-step guide to installing and getting up and running with a basic Informix Server. We will introduce using InformixHQ, the IBM Informix Knowledge Center, and how to find resources to get started with Informix.
- **Configuring a New Informix Server by Lester Knutsen on February 27th, 2020 at 2:00 pm EST**
This Webcast will be an introduction to the Informix ONCONFIG file and configuring memory, CPUs, network, and disk for a more extensive Informix Server.
- **Managing Informix Disk Space - March 19, 2020 at 2:00 pm EDT**
- **Managing Informix Logs - April 30, 2020 at 2:00 pm EDT**
- **Informix Backup, Recovery, and High Availability - May 28, 2020 at 2:00 pm EDT**
- **Connecting Users to Informix Servers - June 25, 2020 at 2:00 pm EDT**
- **Creating Databases and Tables in Informix - July 23, 2020 at 2:00 pm EDT**
- **Basic Informix Server Monitoring - August 20, 2020 at 2:00 pm EDT**

Registration and more information: <https://advancedatools.com/tech-info/next-webcasts/>

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Informix Training

Updated for Informix 14.10

Attend classes online on the web or in person at our training center in Virginia. All you need is a web browser to connect to our WebEx training system, and an SSH client (like Putty) to connect to our training lab for hands-on exercises. Each student uses an 8-core Linux server, with 16GB RAM, SSD drives with Informix 14, and several large databases for benchmark exercises.

Informix Training in 2020

- **May 18-21, 2020 - Informix for Database Administrators**
- **July 6-9, 2020 - Advanced Informix Performance Tuning**
- **October 5-8, 2020 - Informix for Database Administrators**

More information and registration at:

<https://advanceddatatools.com/training/>

Informix 14 Training



© Lester Knutsen 2018

Each student in class will have a server running Informix 14.10 with:

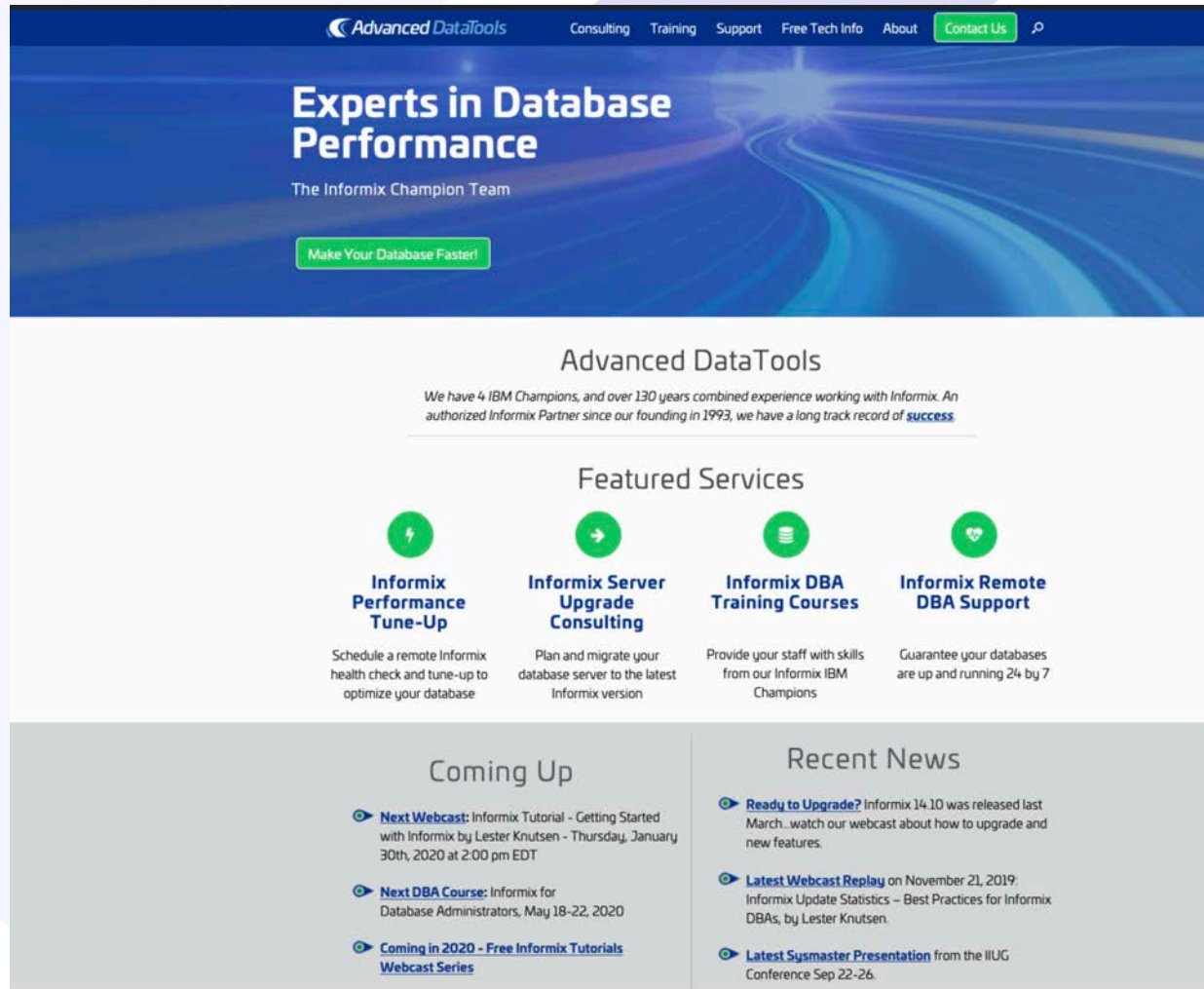
- 8 CPU Cores
- 16 GB RAM
- 1 SSD Disk
- 1-4 Disks

Class size is limited to 8 students.

Attend online or in person!

Visit our New Website

<https://advanceddatatools.com>



The screenshot shows the homepage of the Advanced DataTools website. The header features the company logo and navigation links: Consulting, Training, Support, Free Tech Info, About, and a green 'Contact Us' button. The main banner has a blue background with the text 'Experts in Database Performance' and 'The Informix Champion Team', along with a green button that says 'Make Your Database Faster!'. Below the banner, the company name 'Advanced DataTools' is displayed, followed by a paragraph about their 130+ years of experience. The 'Featured Services' section includes four icons and descriptions: Informix Performance Tune-Up, Informix Server Upgrade Consulting, Informix DBA Training Courses, and Informix Remote DBA Support. The bottom section is divided into 'Coming Up' and 'Recent News', each with a list of upcoming events and news items.

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Experts in Database Performance

The Informix Champion Team

[Make Your Database Faster!](#)

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We have 4 IBM Champions, and over 130 years combined experience working with Informix. An authorized Informix Partner since our founding in 1993, we have a long track record of **success**.

Featured Services

- Informix Performance Tune-Up**
Schedule a remote Informix health check and tune-up to optimize your database
- Informix Server Upgrade Consulting**
Plan and migrate your database server to the latest Informix version
- Informix DBA Training Courses**
Provide your staff with skills from our Informix IBM Champions
- Informix Remote DBA Support**
Guarantee your databases are up and running 24 by 7

Coming Up

- Next Webcast:** Informix Tutorial - Getting Started with Informix by Lester Knutsen - Thursday, January 30th, 2020 at 2:00 pm EDT
- Next DBA Course:** Informix for Database Administrators, May 18-22, 2020
- Coming in 2020 - Free Informix Tutorials Webcast Series**

Recent News

- Ready to Upgrade?** Informix 14.10 was released last March... watch our webcast about how to upgrade and new features.
- Latest Webcast Replay** on November 21, 2019: Informix Update Statistics - Best Practices for Informix DBAs, by Lester Knutsen.
- Latest Sysmaster Presentation** from the IIUG Conference Sep 22-26.

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Visit our New Website

<https://advanceddatatools.com>



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Informix Support and Training from the Informix Champions!

Advanced DataTools is an Advanced Level IBM Informix Data Management Partner, and has been an authorized Informix partner since 1993. We have a long-term relationship with IBM, we have priority access to high-level support staff, technical information, and Beta programs. Our team has been working with Informix since its inception, and includes 8 Senior Informix Database Consultants, 4 IBM Champions, 3 IIUG Director's Award winners, and an IBM Gold Consultant. We have Informix specialists Lester Knutsen and Art Kagel available to support your Informix performance tuning and monitoring requirements!

- ***Informix Remote DBA Support Monitoring***
- ***Informix Performance Tuning***
- ***Informix Training***
- ***Informix Consulting***
- ***Informix Development***

Free Informix Performance Tuning Webcast replays at:

<https://advanceddatatools.com/tech-info/next-webcasts/>

Email: info@advanceddatatools.com

Web: <https://www.advanceddatatools.com>



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Thank You

Advanced DataTools Corporation



For more information:

Lester@advancedatools.com

<https://www.advancedatools.com>

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