



Network Options

Use the following **onstat** options to monitor shared memory and network connection services.

- onstat -g imc** • Prints information about Informix MaxConnect instances that are connected to the database server. If Informix MaxConnect is not connected to the database server, this command displays *No MaxConnect servers are connected.*
- onstat -g nsc** • Prints shared-memory status by client ID. If client ID is omitted, all client status areas are displayed. This command prints the same status data as the **nss** command.
- onstat -g nsd** • Prints network shared-memory data for poll threads.
- onstat -g nss** • Prints network shared-memory status by session ID. If session ID is omitted, all session status areas are displayed. This command prints the same status data as the **onstat -g nsc** command.
- onstat -g nta** • Prints combined network statistics from **onstat -g ntd**, **onstat -g ntm**, **onstat -g ntt**, and **onstat -g ntu**. If Informix MaxConnect is installed, this command prints statistics that you can use to tune Informix MaxConnect performance.
- onstat -g ntd** • Prints network statistics by service.
- onstat -g ntm** • Prints network mail statistics.
- onstat -g ntt** • Prints network user times.
- onstat -g ntu** • Prints network user statistics.

Performance Checks (First Tier)

Use the following **onstat** options to monitor performance and to check for performance impediments. Use the second-tier **onstat** options (and other **onstat** commands) to further narrow the problem.

- onstat -c** • Prints server configuration.
- onstat -D** • Prints chunk I/O.
- onstat -g ath** • Prints status and statistics for all threads. The **sqlxec** thread is a client session thread. The **rstcb** value corresponds to the user field of the **onstat -u** command.
- onstat -g ckp** • Prints checkpoint history and display configuration recommendations.
- onstat -g cpu** • Prints runtime statistics for each thread.
- onstat -g ioq** • Prints pending I/O operations for the *queue name*.
- onstat -p** • Prints global server performance profile.
- onstat -u** • Prints status and statistics for user threads. If a thread is waiting for a resource, this command identifies the type (flags field) and address (wait field) of the resource.

Performance Checks (Second Tier)

Use the following **onstat** options to identify performance impediments.

- onstat -b** • Prints active buffers.
- onstat -g act** • Prints active threads.
- onstat -g glo** • Prints virtual processors and their operating system processes (**oninit** processes). Prints virtual processor CPU use. On Windows, the virtual processors are operating system threads, and the values in the **pid** field are thread IDs.
- onstat -g mgm** • Prints Memory Grant Manager resource information.
- onstat -g rea** • Prints threads in the ready queue waiting for CPU resources.
- onstat -g seg** • Prints shared-memory-segment statistics. This option shows the number and size of shared-memory segments allocated to the database server.
- onstat -g wai** • Prints waiting threads; all threads waiting on mutex, condition, or yielding.
- onstat -k** • Prints active locks.

Table Options

Use the following **onstat** options to display information about table status and table statistics.

- onstat -g buf** • Prints buffer pool profile information.
- onstat -g lap** • Prints information on the status of currently active light appends (writes bypassing the buffer pool).
- onstat -g lsc** • Prints information about currently active light scans (sequential scans bypassing the buffer pool).
- onstat -g opn** • Prints open partitions (tables).
- onstat -g ppf** • Prints partition profile (activity data) for the specified partition number or prints profiles for all partitions.
- onstat -g scn** • Prints scan progress.
- onstat -P** • Prints table and B-tree pages in the buffer pool, listed by partition (table).
- onstat -t** • Prints basic tblspace (partition) information for active (t) or all (T) tablespaces.
- onstat -T** • Prints basic tblspace (partition) information for active (t) or all (T) tablespaces.

Thread Options

Use the following **onstat** options to display the status and activity of threads.

- onstat -g act** • Prints active threads. This output is included in **onstat -g ath** output.
- onstat -g ath** • Prints all threads.
- osnat -g cpu** • Prints runtime statistics for each thread.
- onstat -g rea** • Prints ready threads (threads waiting for CPU resource). This output is included in the **onstat -g ath** output.
- onstat -g sle** • Prints information about threads sleeping for a specified time. Does not include threads that are sleeping forever.
- onstat -g stk** • Prints the stack of a specified thread or prints stacks for all threads.
- onstat -g sts** • Prints maximum and current stack use per thread.
- onstat -g tpf** • Prints thread activity statistics.
- onstat -g wai** • Prints waiting (idle, sleeping, and waiting) threads. Included in **onstat -g ath** output.
- onstat -g wst** • Prints wait statistics for threads.

User/Session Options

Use the following **onstat** options to display information about the user environment and active sessions.

- onstat -g** • Prints SQL tracing information.
- onstat -g env** • Prints the values of environment variables the database server is currently using.
- onstat -g his** • Prints SQL tracing information.
- onstat -g pqqs** • Prints operators used in currently running SQL queries.
- onstat -g ses** • Prints summary information for all active sessions or detailed information for individual sessions.
- onstat -g sql** • Prints SQL information for all active sessions or detailed SQL information for individual sessions.
- onstat -G** • Prints global transactions.
- onstat -u** • Prints status of user threads and their global read/write statistics.
- onstat -x** • Prints information about transactions.

Virtual Processor Options

Use the following **onstat** options to display information and statistics for virtual processors.

- onstat -g glo** • Prints global multithreading information and global statistics for virtual processor classes and individual virtual processors. On Windows, the virtual processors are operating system threads, and the values in the **pid** field are thread IDs.
- onstat -g sch** • Prints the number of semaphore operations, spins, and busy waits for each virtual processor. On Windows, the virtual processors are operating system threads, and the values in the **pid** field are thread IDs.

Waiting Options

Use the following **onstat** options to display information about wait conditions for threads.

- onstat -g con** • Prints IDs of threads waiting for conditions.
- onstat -g lmx** • Prints all locked mutexes.
- onstat -g qst** • Prints queue wait statistics for mutex and condition queues.
- onstat -g rwm** • Prints read/write mutexes.
- onstat -g spi** • Prints spin locks with long spins and spin locks statistics.
- onstat -g wai** • Prints waiting threads; all threads waiting on mutex, condition, or yielding.
- onstat -g wmx** • Prints all mutexes with waiters.

Compression Options

- onstat -g dsk** • Prints progress of currently running compression operations.
- onstat -g ppd** • Prints partition compression dictionary information.

Quick Reference: onstat Utility Commands Sorted by Functional Category

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Assess the usability and consumability of IBM® Informix® database servers by taking this survey: www.ibm.com/software/data/info/consumability-survey/

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onstat Utility Commands by Category

The information in this quick reference lists **onstat** commands sorted by functional category.

Each category represents a different IBM Informix feature for which **onstat** commands provide troubleshooting and performance information. Commands that appear in bold typeface are especially useful for providing troubleshooting information. Certain **onstat** commands are specific to one category, while others provide more general information and are listed in more than one category.

Archive Information Options

Use the onstat options in this table to determine information about archives and restores.

onstat -D	• Print chunk I/O activity. Prints read/write activity for monitoring restore progress.
onstat -g arc	• Prints the last committed and any ongoing backups for each dbspace.

Cache Information Options

Use the following **onstat** options to display information about caches and cached data, including buffer pools.

onstat -b	• Prints buffer pages in use.
onstat -B	• Prints buffer pages that have been touched.
onstat -F	• Prints state of buffer queue cleaners and I/O.
onstat -g dic	• Prints data dictionary cache, containing system catalog data for tables. Prints one line of information for each table cached in the shared-memory dictionary.
onstat -g dsc	• Prints table distribution statistics for the optimizer.
onstat -g prc	• Prints the stored procedure (SPL) routine cache. Prints information about SPL routine cache.
onstat -g ssc	• Prints the number of times that the database server reads the SQL statement in the cache. Displays the same output as onstat -g cac .
onstat -g vpcache	• Prints CPU virtual processor memory cache.
onstat -h	• Prints buffer hash chain information.
onstat -O	• Prints optical subsystem memory cache and staging-area (disk cache) blobspace for TEXT or BYTE data.
onstat -p	• Prints global (server) information regarding the effectiveness of buffer pool caching.
onstat -X	• Prints threads waiting on buffers.

Debugging Options

Use the following **onstat** options to display information that is useful for debugging problems with the server.

onstat -g dmp	• Prints raw memory at a given address for a number of given bytes.
onstat -g src	• Searches for patterns in shared memory. Note that memory is byte-swapped on Intel platforms.
onstat -o	• Prints shared memory contents to a file.

Enterprise Replication Options

Use the following **onstat** options to track Enterprise Replication statistics and to provide troubleshooting information.

onstat -g cat	• Prints information from the Enterprise Replication global catalog. The global catalog contains a summary of information about the defined servers, replicates, and replicate sets on each of the servers within the enterprise.
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onstat -g cdr	• Prints the settings of Enterprise Replication configuration parameters and environment variables.
onstat -g cdr config	• Prints Enterprise Replication configuration parameters and environment variables.
onstat -g ddr	• Prints status of Enterprise Replication components that read and process log records.
onstat -g dss	• Prints activity of individual data sync (transaction processing) threads.
onstat -g dtc	• Prints delete table cleaner activity. Deleted or updated rows placed in the delete table are purged at intervals.
onstat -g grp	• Prints Enterprise Replication grouper statistics. The grouper evaluates the log records, rebuilds the individual log records into the original transaction, packages the transaction, and queues the transaction for transmission.
onstat -g nif	• Prints network interface statistics. Shows the state of the network interface, servers, and data transfer among servers.
onstat -g que	• Prints statistics for the high-level queue interface (which is common to all of the queues of the Enterprise Replication Queue Manager).
onstat -g rcv	• Prints receive manager statistics.
onstat -g rep	• Prints events that are in the queue for the schedule manager.
onstat -g rqm	• Prints statistics and contents of the low-level queues (send queue, receive queue, ack send queue, sync send queue, and control send queue) managed by the Reliable Queue Manager (RQM).
onstat -g sync	• Prints synchronization status.

High-Availability Replication Options

Use the following **onstat** options to monitor high-availability cluster (HDR, RSS, and SDS) environments and the Connection Manager.

onstat -g cluster	• Prints high-availability clusters information.
onstat -g cmsm	• Prints Connection Manager information for high-availability clusters (HDR, RSS, and SDS).
onstat -g dri	• Prints data-replication information.
onstat -g ipl	• Prints index page logging information in high-availability environments.
onstat -g proxy	• Prints proxy distributors for high-availability.
onstat -g rss	• Prints remote standalone server (RSS) information.
onstat -g sds	• Prints shared disk secondary (SDS) server information.
onstat -g smx	• Prints Server Multiplexer Group (SMX) connections in high-availability environments. Prints data transfer statistics and encryption status.

I/O Options

Use the following **onstat** options to track input and output (read and write) activity.

onstat -D	• Prints chunk I/O activity.
osnat -g cpu	• Prints runtime statistics for each thread.
onstat -g ioa	• Prints combined information from onstat -g ioq (queues), onstat -g iov (virtual processors), and onstat -g iob (big buffer).
onstat -g iob	• Prints the big buffer usage summary.
onstat -g iof	• Prints I/O statistics by file or chunk. This option is similar to the onstat -D option, but also displays information on non-chunk, temporary, and sort-work files.
onstat -g ioq	• Prints AIO global information.
onstat -g ioq	• Prints queue read/write statistics and queue length.
onstat -g iov	• Prints asynchronous I/O statistics by virtual processor.
onstat -p	• Prints global disk activity including sequential scans.

Locks and Latches Options

Use the following **onstat** options to display information about locks.

onstat -k	• Prints information about active locks.
onstat -p	• Prints global statistics on lock requests, lock waits, and latch waits.
onstat -s	• Prints latch (mutex) information.

Logs Options

Use the following **onstat** options to monitor logical and physical logs.

onstat -g ipl	• Prints index page logging information in high-availability environments.
onstat -l	• Prints status of physical and logical logs, and log buffering.

Memory Options

Use the following **onstat** options to monitor the various aspects of server memory allocation and use.

onstat -g afr	• Prints allocated memory fragments for a specified session or shared-memory pool. To obtain the pool name, see the onstat -g mem option.
onstat -g ffr (pool name session ID)	• Prints free fragments for a session or shared memory pool.
onstat -g mem	• Prints session or pool virtual shared memory statistics.
onstat -g mgm	• Prints Memory Grant Manager (parallel and sort operations) resource information.
onstat -g nbm	• Prints block map for non-resident segments.
onstat -g rbm	• Prints block map for resident segment.
onstat -g seg	• Prints memory segment statistics.
onstat -g ses	• Prints session information, including memory breakdown.
onstat -g stm	• Prints SQL statement memory use.
onstat -g stq	• Prints stream queue buffers.
onstat -g ufr	• Prints memory pool fragments for a session or shared memory pool in use.
onstat -R	• Prints buffer pool queues and their status.

Other Useful Options

onstat -	• Prints onstat header; includes engine version, status (On-Line, Quiescent, and so on), elapsed time since initialization, and memory footprint.
onstat -	• Prints onstat usage options.
onstat options infile	• Print onstat output using a shared memory dump file (infile) as input.
onstat -a	• Prints collective onstat outputs.
onstat -c	• Prints the server configuration file.
onstat -C	• Prints B-tree index scanner information (shows statistics about index cleaning).
onstat -d	• Prints chunk information.
onstat -f	• Prints dbspaces configured for dataskip.
onstat -g all	• Prints diagnostic information.
onstat -g dbc	• Prints statistics about dbScheduler and dbWorker threads.
onstat -g dis	• Prints a list of database servers, their status, directory location, configuration information, and host name.
onstat -g dll	• Prints a list of dynamic libraries that have been loaded.
onstat -g osi	• Prints information on operating system resources and parameters.
onstat -g pos	• Prints values from \$INFORMIXDIR/etc/infos.servernum file, which are used by clients such as onmode for shared memory connections to the server. onmode -R rebuilds the \$INFORMIXDIR/etc/infos.servernum file.
onstat -g smb	• Prints detailed information about sbspaces.
osnat -g sym	• Prints symbol table information for the oninit utility.
onstat -i	• Changes onstat mode to interactive.
onstat -j	• Prints information about the status of an onpload job.
onstat -m	• Prints message log contents.

onstat -O
onstat -r
onstat -z

- Prints Optical subsystem cache information.
- Prints repetitive **onstat** execution.
- Resets the accumulated statistics to zero.