

Performance Toolbox for AIX Version 3.1

Release Notes



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Note

Before using this information and the product it supports, read the information in "Notices" on page 15.

Sixth Edition (October 2012)

This edition applies to Performance Toolbox for AIX Version 3.1 and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this document

The Release Notes topics include late technical information that is not included in other topics, and they highlight new functions for the Performance Toolbox for AIX® Version 3.1 licensed program.

Highlighting

The following highlighting conventions are used in this document:

Bold	Identifies commands, subroutines, keywords, files, structures, directories, and other items whose names are predefined by the system. Also identifies graphical objects such as buttons, labels, and icons that the user selects.
<i>Italics</i>	Identifies parameters whose actual names or values are to be supplied by the user.
Monospace	Identifies examples of specific data values, examples of text similar to what you might see displayed, examples of portions of program code similar to what you might write as a programmer, messages from the system, or information you should actually type.

Case-sensitivity in AIX

Everything in the AIX operating system is case-sensitive, which means that it distinguishes between uppercase and lowercase letters. For example, you can use the **ls** command to list files. If you type **LS**, the system responds that the command is not found. Likewise, **FILEA**, **FiLea**, and **filea** are three distinct file names, even if they reside in the same directory. To avoid causing undesirable actions to be performed, always ensure that you use the correct case.

ISO 9000

ISO 9000 registered quality systems were used in the development and manufacturing of this product.

Performance Toolbox for AIX Version 3.1

The following information applies to Performance Aide and Performance Toolbox for AIX Version 3.1, or later.

Note: This software might contain errors that could result in critical business impact. It is highly recommended that you install the latest available fixes prior to using this software. Fixes can be obtained from the Fix Central website (<http://www.ibm.com/support/fixcentral>).

Performance Aide agent version compatibility

The following table describes the version of Performance Aide agents `perfagent` and `perfmgr` that you need to use if you are running the following versions of AIX:

AIX Version	Performance Aide agents <code>perfagent</code> and <code>perfmgr</code>
AIX 5L™ Version 5.3	<ul style="list-style-type: none"> • <code>perfagent.tools</code> 5.3.0.10 (base media) • <code>bos.perf.tools</code> 5.3.0.10 (base media) • <code>bos.perf.perfstat</code> 5.3.0.10 (base media) • <code>perfagent.server</code> 3.1.0.0 + <code>perfagent.server</code> 3.1.0.17
AIX Version 6.1	<ul style="list-style-type: none"> • <code>perfagent.tools</code> 6.1.0.0 (base media) • <code>bos.perf.tools</code> 6.1.0.0 (base media) • <code>bos.perf.perfstat</code> 6.1.0.0 (base media) • <code>perfagent.server</code> 3.1.0.10 + <code>perfagent.server</code> 3.1.0.17 (COMMITTED) <p>or</p> <ul style="list-style-type: none"> • <code>perfagent.server</code> 3.1.0.0 + <code>perfagent.server</code> 3.1.0.17 (COMMITTED)
AIX Version 7.1	<ul style="list-style-type: none"> • <code>perfagent.tools</code> 7.1.0.0 (base media) • <code>bos.perf.tools</code> 7.1.0.0 (base media) • <code>bos.perf.perfstat</code> 7.1.0.0 (base media) • <code>perfagent.server</code> 7.1.0.0 (base media)

Note:

1. Starting with the AIX 5.3 TL11, AIX 6.1 TL4, and AIX 7.1 operating systems, Performance Aide is included with the AIX Base Operating System and versions 5.3.11.0, 6.1.4.0, and 7.1.0.0, respectively.
2. The Performance Aide agent, `xmservd` agent, is replaced by the `xmtopas` agent. The `xmtopas` agent provides all of the functions of the `xmservd` agent; however, the azizo recording capability is isolated and merged into the AIX `topas` recording utility `topasrec`. The `xmtopas` agent calls the `topasrec` utility to start the azizo recording if the `xmtopas.cf` file exists in `/etc/perf`.
3. The `xmservd.res`, `xmservd.cf`, and `xmservd.log*` files are renamed to `xmtopas.res`, `xmtopas.cf`, and `xmtopas.log*`, respectively.
4. Version 3.1 of the Performance Aide agent supports the AIX 5.1, AIX 5.2, AIX 5.3 until TL10, and AIX 6.1 until TL3 operating systems. The Performance Aide that is included with the Base Operating System from AIX 5.3 TL11, AIX 6.1 TL4, and AIX 7.1 supersedes Version 3.1.
5. The Performance Toolbox clients (`xmperf` and `3dmon`) can work with existing legacy Performance Aide agents that are installed at the Version 3.0 level.
6. Performance Toolbox and Performance Aide are not supported inside a workload partition (WPAR). To have Performance Toolbox and Performance Aide running in the AIX 6.1 operating system, the minimum level of `perfagent.server` to be committed is 3.1.0.17. If there are any WPARs created before committing `perfagent.server` 3.1.0.17, run the `syncwpar` command to synchronize the global system and the WPARs. For more information about the `syncwpar` command, see the `syncwpar` command topic in the AIX Information Center.
7. Version 3.1 of Performance Aide supports the AIX 6.1 operating system only after installing the `perfagent.server` 3.1.0.17 update.

The `perfmgr.*` levels that are specified in the preceding compatibility chart are currently included with the latest versions of the Performance Manager media.

8. The AIX 6.1 perfmgr.* is supported only with the following fileset levels:
- perfmgr.common 3.1.0.0 + perfmgr.common 3.1.0.5
 - perfmgr.network 3.1.0.0 + perfmgr.network 3.1.0.3
 - perfmgr.analysis 3.1.0.0 + perfmgr.analysis 3.1.0.5

AIX release-specific metric information

Performance metrics are available for Performance Toolbox Version 3.1. These metrics are designed to correspond closely to new information reported by the **iostat** and **lparstat** commands. For more information about the **iostat** and **lparstat** commands, see the **lparstat** command and **iostat** command topics in the AIX Information Center.

The metric set listing for any AIX release can be retrieved by the PTX **xmpeek** command:

```
xmpeek -l [hostname]
```

Sample additional disk service time metrics

Disk/hdisk*/	Statistics for disk hdisk
Disk/hdisk*/rserv	Average read service time in milliseconds per read block
Disk/hdisk*/wserv	Average write service time in milliseconds per write block
Disk/hdisk*/avgserv	Average service time per transfer
Disk/hdisk*/avgque	Average queue depth
Disk/hdisk*/avgwait	Average wait queue time for read/write transfers
Disk/hdisk*/qfull	Queue full count

Note: Some service time values might be converted from values by block to values by read and write transfers.

Sample virtualization LPAR context and associated metrics

LPAR/	Logical Partition statistics
LPAR/user	Systemwide time executing in user mode (percent)
LPAR/kern	Systemwide time executing in kernel mode (percent)
LPAR/wait	Systemwide time waiting for I/O (percent)
LPAR/idle	Systemwide idle time (percent)
LPAR/lbusy	Logical busy time (percent)
LPAR/pbusy	Physical busy time (percent)
LPAR/physc	Physical processor consumed
LPAR/entc	Entitlement consumed (percent)
LPAR/ent	Entitlement
LPAR/app	Available pool processor
LPAR/vcsw	Virtual CPU context switches
LPAR/maxmem	Megabytes of maximum memory that LPAR can support
LPAR/minmem	Megabytes of minimum memory that LPAR can support
LPAR/memreg	Size in megabytes of one LMB
LPAR/lparnum	Assigned LPAR number
LPAR/shared	SPLPAR flag (0 = dedicated, 1 = shared)

LPAR/	Logical Partition statistics
LPAR/capped	Capped partition (0 = uncapped, 1 = capped)
LPAR/smt	SMT flag (0 = off, 1 = on)
LPAR/maxpcpu	Maximum number of physical CPUs in system
LPAR/minvcpu	Minimum number of virtual CPUs in this LPAR
LPAR/maxvcpu	Maximum number of virtual CPUs in this LPAR
LPAR/mincap	Minimum processor capacity
LPAR/maxcap	Maximum processor capacity
LPAR/capinc	Processor capacity change granule
LPAR/onlinemem	Number of megabytes of current online memory
LPAR/mdisl	Maximum latency between dispatches (nanoseconds)
LPAR/pcpu	Number of active licensed physical CPUs
LPAR/vcpu	Number of current online virtual CPUs
LPAR/lcpu	Number of current online logical CPUs
LPAR/pcpuinpool	Number physical CPUs in shared pool
LPAR/unalloccap	Unallocated capacity available in pool
LPAR/entitledcap	Entitled processor capacity for partition
LPAR/varwght	Variable processor capacity weight
LPAR/unallocwght	Unallocated variable weight in LPAR group
LPAR/minvcpuicap	Minimum required virtual processor capacity
LPAR/phint	Phantom interrupts
LPAR/entpct	Entitlement as a percentage
LPAR/hcalls	Number of hypervisor calls
LPAR/hyppct	Percent time spent in hypervisor

Installing Performance Toolbox for AIX filesets

Performance Toolbox for AIX contains two components:

- Manager (client)
- Aide (agent). This function must be installed on every system to be monitored, including the managing client.

The following components are shipped as separate filesets. For AIX 5.1 and later, the filesets must be installed in the following sequence:

1. **perfagent.tools**, **bos.perf.tools**, **bos.perf.perfstat** (from the AIX base installation media)
2. **Java14.sdk** (available on the AIX 5.2 and AIX 5.3 media and the Bonus Pack or download for AIX 5.1)
3. **perfagent.server** (from the Performance Aide Version 3.1 media)
4. **perfmgr.*** filesets (from the Performance Toolbox Version 3.1 media)

Performance Toolbox and Performance Aide use Java™ 1.4. This might require an additional 30 MB of disk space for installation.

Configuration instructions for customers

The **jtopas** client service is turned off by default. This function imposes some overhead on the system that customers do not need if the **jtopas** client is not being used. If you need this full-time Performance Toolbox **jtopas** monitoring and recording function, you can turn it on by performing the following steps:

1. Make a backup copy of the `/usr/lpp/perfagent/jtopas.cf` file before it is modified, and copy the `/usr/samples/perfagent/server/jtopas.cf` file to the `/usr/lpp/perfagent/jtopas.cf` file. This manual copy is needed because the `/usr/lpp/perfagent/jtopas.cf` file does not contain the necessary metrics for the **jtopas** client.
2. Enter the `/usr/samples/perfagent/server/cfg_jtopas` add command to add the following inittab entries in the `/etc/inittab` file:

```
ptxnameserv:2:respawn:/usr/java14/jre/bin/tnameserv -ORBInitialPort 2279 2>&1 >/dev/null
# Start jtopasServer
ptxfeed:2:respawn:/usr/perfagent/codebase/jtopasServer/feed 2>&1 >/dev/null # Start jtopasServer
ptxtrend:2:once:/usr/bin/xmtrend -f /usr/lpp/perfagent/jtopas.cf -d /etc/perf/Top -n jtopas
2>&1 >/dev/null # Start trend
```
3. Run the `/usr/bin/xmtrend -f /usr/lpp/perfagent/jtopas.cf -d /etc/perf/Top -n jtopas 2>&1 >/dev/null` command to start the **xmtrend** daemon if it is not already running.
4. Start the **jtopas** client by typing `jtopas` and pressing Enter.

Migrating from Performance Toolbox Version 3.0 for AIX to Version 3.1 by using SMIT

Migrating from Performance Toolbox and Performance Aide Version 3.0 to Version 3.1 is not supported in AIX 6.1.

If you choose to migrate your Performance Toolbox and Performance Aide for AIX from Version 3.0 to Version 3.1 by using SMIT, you must use the **smit install_latest** fastpath instead of the **smit update_all** fastpath. If the **smit update_all** fastpath is used, errors will occur because of product name changes for Performance Toolbox for AIX.

Electronic fix distribution instructions

You can order and download available fixes. For more information, see the Fix Central website (<http://www.ibm.com/support/fixcentral>).

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