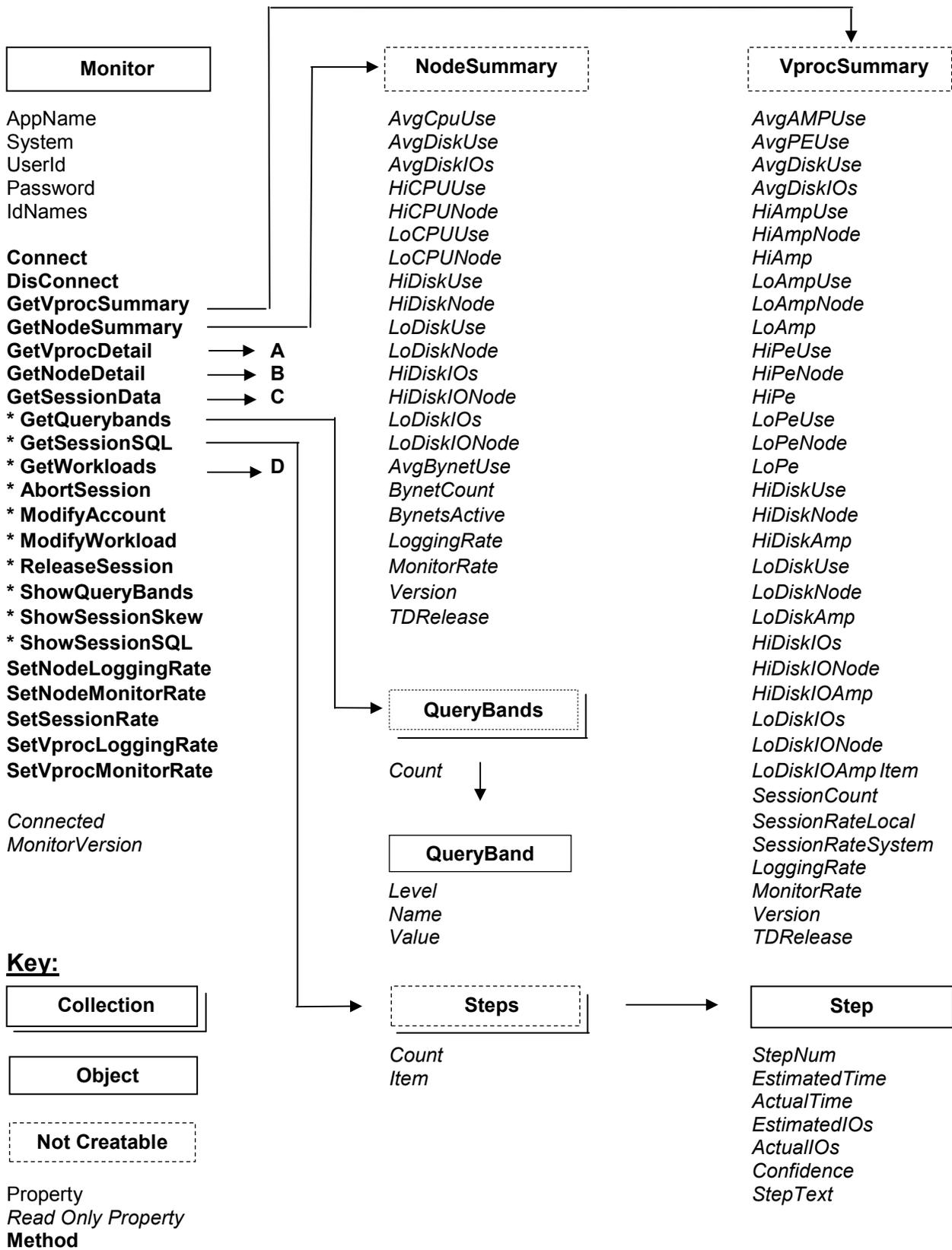
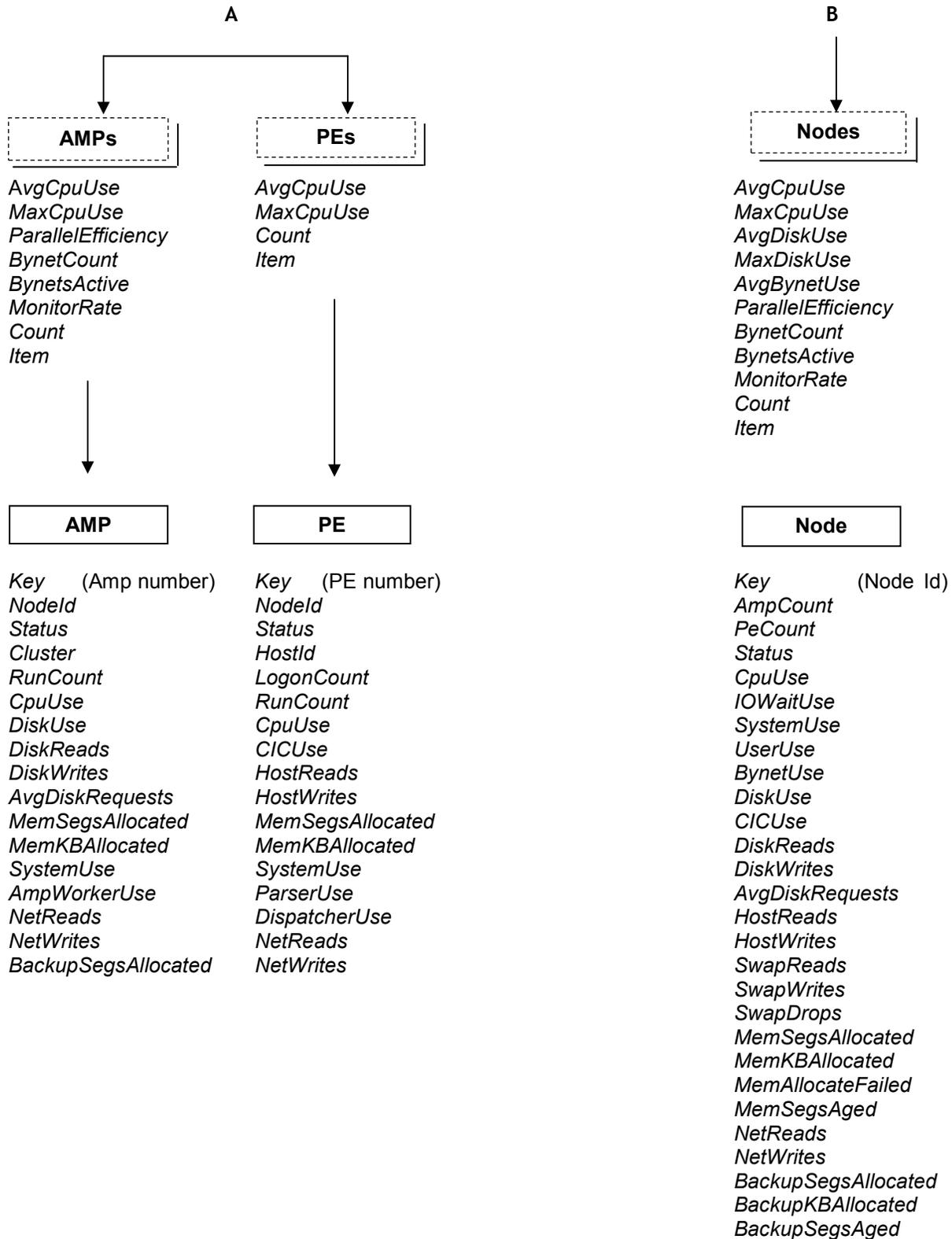


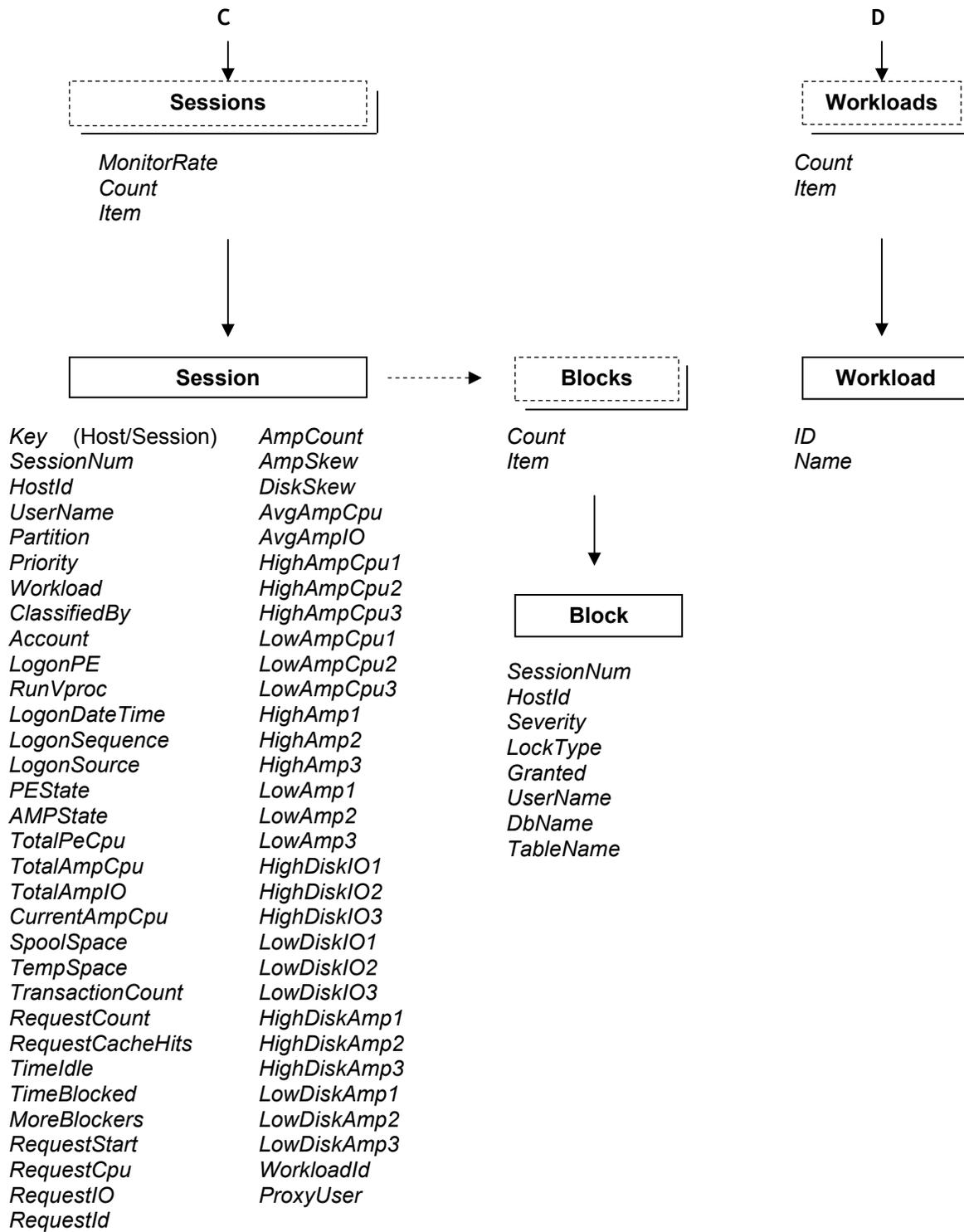
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The Object Model







The Monitor Class

Property or Method	Description
AppName	The name of your application (no blanks).
IdNames	If True, Table and Database names are reported for blocked sessions. If False, Table and Database Ids may be displayed.
Password	The password used to establish the connection.
Server	The Teradata Manager server to fetch the monitor data from.
System	The system to connect to or are connected to.
UserID	The User ID used to establish the connection.
UseClient	Fetch the data from a Teradata Manager server when True.
<i>Connected</i>	Indicates if this monitor object is currently connected to a Teradata system.
<i>MonitorVersion</i>	Highest Teradata PM/API version available on the connected system.
<i>Connect (System, UserName, Password, Account, AuthenticationMechanism, AuthenticationData)</i>	This method connects to a Teradata Database with optional parameters for System, User Name, Password, Account, Authentication Mechanism, and Authentication Data.
<i>Disconnect ()</i>	This method disconnects from a Teradata Database.
<i>GetQueryBands (Host, Session, PE)</i>	This method returns a QueryBands collection for the specified session. The collection will be empty if no Query Bands are set.
<i>GetVprocSummary ()</i>	This method returns a VprocSummary object.
<i>GetNodeSummary ()</i>	This method returns a NodeSummary object.
<i>GetVprocDetail (PEs, VSSs)</i>	This method returns an AMPs collection. You must pass references to a PEs collection and a VSSs collection. The method populates these collections.
<i>GetNodeDetail ()</i>	This method returns a Nodes collection.
<i>GetSessionData (Host)</i>	This method returns a Sessions collection. The Host parameter is optional. If specified, it returns only those sessions connected from that Host Id. Specify -1 to return all sessions.
<i>GetSessionSQL (Host, Session, RunVproc, CurStep1 CurStep2, Steps)</i>	This method returns the SQL for a specific session. It also returns the Explain Step information and shows which step(s) are currently executing. To improve performance, specify the RunVproc as the third parameter. That is the ID of the PE that is controlling the session. If this information is unavailable, specify zero.

The Monitor Class (continued)

GetWorkloads ()	This method returns a Workloads collection that contains all the currently-enabled workloads. Note: The collection may be empty.
AbortSession (Host, SessionOrUserName)	This method aborts and logs off a session. The second parameter may be either the session number or the user name.
ModifyAccount (Host, Session, NewAccount, CurrentRequestOnly)	This method modifies an account. This can be used to change the priority of a session.
ModifyWorkload (Host, Session, RunVproc, NewID, CurrentRequestOnly)	This method moves a session into a different workload if the database is classifying sessions by workload.
ReleaseSession (Host, Session, RequestID, WorkloadID, CurrentRequestOnly)	This method releases a session from the delay queue.
SetMonitorRate (Rate)	This method sets the resource data collection rates.
SetLoggingRate (Rate)	This method sets the resource data logging rate.
SetSessionRate (Rate, SetLocalRate)	This method sets the session data collection rate. The optional parameter will set the local session rate only. [if True]

The VprocSummary Class

Properties	Description
AvgAMPUse	The average CPU usage across all AMPs (%).
AvgPEUse	The average CPU usage across all PEs (%).
AvgDiskUse	The average Disk usage across all AMPs (%).
AvgDiskIOs	The average number of disk I/Os on each AMP.
HiAmpUse	The highest CPU usage on any AMP (%).
HiAmpNode	The node running the AMP with the highest CPU usage.
HiAmp	The AMP with the highest CPU usage.
LoAmpUse	The lowest CPU usage on any AMP (%).
LoAmpNode	The node running the AMP with the lowest CPU usage.
LoAmp	The AMP with the lowest CPU usage.
HiPeUse	The highest CPU usage on any PE (%).

The VprocSummary Class (continued)

HiPeNode	The node running the PE with the highest CPU usage.
HiPe	The PE with the highest CPU usage.
LoPeUse	The lowest CPU usage on any PE (%).
LoPeNode	The node running the PE with the lowest CPU usage.
LoPe	The PE with the lowest CPU usage.
HiDiskUse	The highest disk usage on any AMP (%).
HiDiskNode	The node running the AMP with the highest disk usage.
HiDiskAmp	The AMP with the highest disk usage.
LoDiskUse	The lowest disk usage on any AMP (%).
LoDiskNode	The node running the AMP with the lowest disk usage.
LoDiskAmp	The AMP with the lowest disk usage.
HiDiskIOs	The highest number of disk IOs on any AMP.
HiDiskIONode	The node running the AMP with the highest number of disk IOs.
HiDiskIOAmp	The AMP with the highest number of disk IOs.
LoDiskIOs	The lowest number of disk IOs on any AMP.
LoDiskIONode	The node running the AMP with the lowest number of disk IOs.
LoDiskIOAmp	The AMP with the lowest number of disk IOs.
SessionCount	The number of sessions currently logged onto the system.
SessionRateLocal	The frequency (in seconds) at which session data is collected (by this monitor session only).
SessionRateSystem	The frequency (in seconds) at which session data is collected (system wide).
LoggingRate	The frequency (in seconds) at which AMP and PE data is written to the ResUsage tables.
MonitorRate	The frequency (in seconds) at which AMP and PE data is collected.
Version	The Teradata PDE software version.
TDRRelease	The Teradata Database software release number.

The NodeSummary Class

Property	Description
AvgCpuUse	The average CPU usage across all nodes (%).
AvgDiskUse	The average disk usage across all nodes (%).
AvgDiskIOs	The average number of disk I/Os on each node.
HiCPUUse	The highest CPU usage on any node (%).
HiCPUNode	The node with the highest CPU usage.
LoCPUUse	The lowest CPU usage on any node (%).
LoCPUNode	The node with the lowest CPU usage.
HiDiskUse	The highest disk usage on any node (%).
HiDiskNode	The node with the highest disk usage.
LoDiskUse	The lowest disk usage on any node (%).
LoDiskNode	The node with the lowest disk usage.
HiDiskIOs	The highest number of disk IOs on any node.
HiDiskIONode	The node with the highest number of disk IOs.
LoDiskIOs	The lowest number of disk IOs on any node.
LoDiskIONode	The node with the lowest number of disk IOs.
AvgBynetUse	The average Bynet usage across the nodes (%).
BynetCount	The total number of Bynets defined in the system.
BynetsActive	The number of Bynets that are active.
LoggingRate	The frequency (in seconds) at which resource data is written to the ResUsage tables.
MonitorRate	The frequency (in seconds) at which resource data is collected.
Version	The Teradata PDE software version.
TDRelease	The Teradata Database software release number.

The Nodes Collection

Property	Description
AvgCpuUse	The average CPU use across all nodes in the system.
MaxCpuUse	The highest CPU use on any node in the system.
AvgDisk Use	The average disk use across all nodes in the system.
MaxDiskUse	The highest disk use on any node in the system.
AvgBynetUse	The average Bynet use across all nodes in the system.
ParallelEfficiency	The parallel efficiency across all nodes in the system. 100 implies perfect parallelism.
BynetCount	The total number of Bynets defined in the system.
BynetsActive	The number of Bynets that are active.
MonitorRate	The interval (in seconds) over which this data was collected.
Count	The number of items in the collection.
Item	The item in the collection. (a Node) Note: This property is not directly used.

The Node Class

Property	Description
Key	The Node Id of this node. Format <i>ccc-mn</i> where <i>ccc</i> is the cabinet number.
AmpCount	The number of AMPs executing on this node.
PeCount	The number of PEs executing on this node.
Status	The status of this node: U means the node is up. D means the node is down.
CpuUse	The percentage of CPU used on this node.
IOWaitUse	The percentage of CPU time spent waiting for IO to complete while the CPU is idle.
SystemUse	The percentage of CPU time used in performing system tasks.
UserUse	The percentage of CPU time in executing user code.
BynetUse	The percentage of time the Bynets are busy.

The Node Class (continued)

DiskUse	The percentage of time this node had outstanding disk requests.
CICUse	The percentage of the Channel Interface Controller used by this node.
DiskReads	The number of disk reads the AMPs issue on this node during the sample period.
DiskWrites	The number of disk writes the AMPs issue on this node during the sample period.
AvgDiskRequests	The average number of outstanding disk requests for the AMPs on this node.
HostReads	The number of Host Message Blocks the PEs read during the sample period.
HostWrites	The number of Host Message Blocks the PEs write during the sample period.
SwapReads	The number of pages read from the swap area during the sample period.
SwapWrites	The number of pages written to the swap area during the sample period.
SwapDrops	The number of swap pages dropped from memory during the sample period.
MemSegsAllocated	The number of memory segments allocated on this node during the sample period.
MemKBAllocated	The number of kilobytes of memory allocated on this node.
MemAllocateFailed	The number of memory allocation attempts that failed during the sample interval. These are temporary failures.
MemSegsAged	The number of memory segments that were flushed from memory during the sample period.
NetReads	The number of messages read from the Bynet during the sample period.
NetWrites	The number of messages written to the Bynet during the sample period.
BackupSegs Allocated	The number of disk segments read for backup storage during the sample period.
BackupKBAllocated	The number of kilobytes read for backup storage during the sample period.
BackupSegsAged	The number of backup disk segments flushed from memory during the sample period.

The AMPs Collection

Property	Description
AvgCpuUse	The average CPU use across all AMPs in the system.
MaxCpuUse	The highest CPU use on any AMP in the system.
ParallelEfficiency	The parallel efficiency across all AMPs in the system. 100 implies perfect parallelism.
BynetCount	The total number of Bynets defined in the system.
BynetsActive	The number of Bynets that are active.
MonitorRate	The interval (in seconds) over which this data was collected.
Count	The number of items in the collection.
Item	The item in the collection. (an AMP) Note: This property is not directly used.

The AMP Class

Property	Description
Key	The vproc ID of this AMP.
Nodeld	The ID of the node this AMP is running on.
Status	The status of this AMP: U means the AMP is up. D means the AMP is down.
CpuUse	The percentage of CPU used by this AMP.
AmpWorkerUse	The percentage of CPU time the AMP worker tasks use.
SystemUse	The percentage of CPU time used performing system tasks.
DiskUse	The percentage of time this AMP had outstanding disk requests.
DiskReads	The number of disk reads the AMP issues during the sample period.
DiskWrites	The number of disk writes the AMP issues during the sample period.
AvgDiskRequests	The average number of outstanding disks requests for this AMP.
MemSegsAllocated	The number of memory segments allocated for this AMP during the sample period.
MemKBAAllocated	The number of kilobytes of memory allocated for this AMP.
NetReads	The number of messages read from the Bynet during the sample period.
NetWrites	The number of messages written to the Bynet during the sample period.
Cluster	The cluster this AMP's disks have been assigned to.
RunCount	The number of sessions initiating requests to this AMP.
BackupSegsAllocated	The number of disk segments written to backup storage.

The PEs Collection

Property	Description
AvgCpuUse	The average CPU use across all PEs in the system.
MaxCpuUse	The highest CPU use across all PEs in the system.
Count	The number of items in the collection.
Item	The item in the collection. (a PE) Note: This property is not directly used.

The PE Class

Property	Description
Key	The vproc ID of this PE.
NodeId	The ID of the node that this PE is running on.
Status	The status of this PE: U means the PE is up. D means the PE is down.
HostId	The logical Host Id associated with this PE.
LogonCount	The number of sessions logged on to this PE.
RunCount	The number of sessions initiating requests to this PE.
CpuUse	The percentage of CPU used by this PE.
SystemUse	The percentage of CPU time used performing system tasks.
ParserUse	The percentage of CPU time the parser uses.
DispatcherUse	The percentage of CPU time the dispatcher uses.
CICUse	The percentage of the Channel Interface Controller used by this PE.
HostReads	The number of Host Message Blocks the PE reads during the sample period.
HostWrites	The number of Host Message Blocks the PE writes during the sample period.
MemSegsAllocated	The number of memory segments allocated for this PE.
MemKBAAllocated	The number of kilobytes of memory allocated for this PE.
NetReads	The number of messages read from the Bynet during the sample period.
NetWrites	The number of messages written to the Bynet during the sample period.

The Sessions Collection

Property	Description
MonitorRate	The interval (in seconds) over which this data was collected.
Count	The number of items in the collection.
Item	The item in the collection. (a Session) Note: This property is not directly used.

The Session Object

Property or Method	Description
Key	The host and session number that uniquely identifies this session.
SessionNum	The Teradata session number for this session.
HostId	The Host Id from which this session was initiated.
UserName	The name of the Teradata user who initiated this session.
Partition	The partition in which this session is executing (DBC/SQL, Monitor, FastLoad, and so forth).
Priority	The priority at which this session is currently executing.
Account	The account under which this session is executing.
LogonPE	The ID of the PE that this session logged on to.
RunVproc	The ID of the PE or AMP to which this session is sending requests.
LogonDateTime	The date and time at which this session logged on.
LogonSequence	The logon sequence number of this session. This value is used to relate a set of sessions that were logged on for a single job. It is zero if only one session was logged on.
LogonSource	This string identifies the origin of the session. The available data varies by host and connection interface.
PEState	The current state of the session from the PE.
AMPState	The current state of the session from the AMP.
TotalPeCpu	The total CPU time used on the PE by this session.
TotalAmpCpu	The total CPU time used on the AMPs by this session.
TotalAmpIO	The total number of disk IOs the AMPs perform for this session.

The Session Object (continued)

CurrentAmpCpu	The CPU time used on the AMPs during the current collection interval.
SpoolSpace	The spool space allocated for this session.
TempSpace	The total temporary space allocated for this session.
TransactionCount	The total number of transactions processed by this session.
RequestCacheHits	The number of times a request was found already in the parser cache.
RequestCount	The total number of requests processed by this session.
RequestCpu	The CPU time used on the AMPs during processing of current request.
RequestID	The ID of the request that is currently executing in this session.
RequestIO	The number of disk IOs the AMPs perform for the current request.
RequestStart	The date and time at which the current request started processing.
TimeIdle	The length of time that this session has remained in an idle state (sec).
TimeBlocked	The length of time that this session has been blocked (in seconds).
Blocks	A collection containing zero to three Block objects. Each Block contains information about a session that is blocking this session.
MoreBlockers	If True, more than three sessions are blocking this session. (The Teradata Database only reports the first three.)
AmpCount	The number of AMPs involved in processing requests from this session during the current collection interval.
AmpSkew	The CPU skew factor (non-parallelism) across the AMPs during the current collection interval. The range is from 0 to 100. Calculated as $100 * (1 - (\text{AvgAMPCpu} / \text{HighAMPCpu}))$.
DiskSkew	The disk skew factor (non-parallelism) across the disks during the current collection interval. The range is from 0 to 100. Calculated as $100 * (1 - (\text{AvgAMPIO} / \text{HighDiskIO}))$.
AvgAmpCpu	The average CPU usage across all participating AMPs for this session during the current collection interval.
AvgAmpIO	The average number of diskIOs across all participating AMPs for this session during the current collection interval.
HighAmpCpu1	The CPU usage of the AMP that performed the most work for this session during the current collection interval.
HighAmpCpu2	The CPU usage of the AMP that performed the second most work for this session during the current collection interval.

The Session Object (continued)

HighAmpCpu3	The CPU usage of the AMP that performed the third most work for this session during the current collection interval.
LowAmpCpu1	The CPU usage of the AMP that performed the least work for this session during the current collection interval.
LowAmpCpu2	The CPU usage of the AMP that performed the second least work for this session during the current collection interval
LowAmpCpu3	The CPU usage of the AMP that performed the third least work for this session during the current collection interval
HighAmp1	The AMP that performed the most work for this session during the current collection interval.
HighAmp2	The AMP that performed the second most work for this session during the current collection interval.
HighAmp3	The AMP that performed the third most work for this session during the current collection interval.
LowAmp1	The AMP that performed the least work for this session during the current collection interval.
LowAmp2	The AMP that performed the second least work for this session during the current collection interval.
LowAmp3	The AMP that performed the third least work for this session during the current collection interval.
HighDiskIO1	The number of IOs the AMP issues that perform the most disk access for this session during the current collection interval.
HighDiskIO2	The number of IOs the AMP issues that perform the second most disk access for this session during the current collection interval.
HighDiskIO3	The number of IOs the AMP issues that perform the third most disk access for this session during the current collection interval.
LowDiskIO1	The number of IOs the AMP issues that perform the least disk access for this session during the current collection interval.
LowDiskIO2	The number of IOs the AMP issues that perform the second least disk access for this session during the current collection interval.
LowDiskIO3	The number of IOs the AMP issues that perform the third least disk access for this session during the current collection interval.
HighDiskAmp1	The AMP that performed the most disk access for this session during the current collection interval.
HighDiskAmp2	The AMP that performed the second most disk access for this session during the current collection interval.

The Session Object (continued)

HighDiskAmp3	The AMP that performed the third most disk access for this session during the current collection interval.
LowDiskAmp1	The AMP that performed the least disk access for this session during the current collection interval.
LowDiskAmp2	The AMP that performed the second least disk access for this session during the current collection interval.
LowDiskAmp3	The AMP that performed the third least disk access for this session during the current collection interval.
Workload	The name of the workload that this session is running under. Null if workload classification is not in effect.
WorkloadID	The ID of the workload that this session is running under.
ClassifiedBy	Who classified the session into this workload. 0 means the system classified the session. 1 means the DBA re-classified this request and all future requests. 2 means the DBA re-classified this request only.
AbortSession (AllUserSessions)	This method aborts and logs off this session. If <i>AllUserSessions</i> is True, it aborts all the sessions owned by the user that this session belongs to.
GetQueryBands ()	This method returns a Querybands collection containing all query band information set for this session or transaction.
GetSQL (CurStep1, CurStep2, PlanSteps)	This method returns the SQL for this session. It also returns the Explain Step information and tells which step(s) are currently executing. Note: This only works for relatively long running queries since the query must still be running when the GetSQL() function is called.
ModifyAccount (NewAccount, CurrentOnly)	This method modifies the account under which the session is executing. This can be used to change the priority of the session. If <i>CurrentOnly</i> is True, it changes the account for the current request only. If it is False or omitted, it changes it for future requests also.
ModifyWorkload (NewWorkId, CurrentOnly)	This method moves the session into a different workload if the database is classifying sessions by workload. If <i>CurrentOnly</i> is True, it changes the workload for the current request only. If it is False or omitted, it changes it for all future requests also.
ReleaseSession ()	This method releases this session from the delay queue.
ShowQueryBands ()	This method displays the query bands currently set for this session or transaction.
ShowSkew ()	This method displays the detail skew information for this session.
ShowSQL ()	This method displays the SQL and Explain text for this session.

The Blocks Collection

Property	Description
Count	The number of items in the collection.
Item	The item in the collection. (a Block)

The Block Object

Property	Description
SessionNum	The session number that is causing this block.
HostId	The Host Id from which the blocking session connected.
Severity	The severity of the lock - Access, Read, Write, Exclusive.
LockType	The scope of the lock - Database, Table, RowHash.
Granted	If True, this session holds the lock. If False, it is waiting for the lock, but is ahead of the parent session in the lock queue.
UserName	The name of the user causing this block.
DbName	The database in which the lock has been requested.
TableName	The table in which the lock has been requested. The value is null if it is a database level lock.

The Querybands Collection

Property	Description
Count	The number of items in the collection.
Item	The item in the collection. (a Queryband)

The Queryband Object

Property	Description
Level	The query band level - S means session. T means transaction..
Name	The query band pair name.
Value	The query band pair value.

The Steps Collection

Property	Description
Count	The number of items in the collection.
Item	The item in the collection. (an Explain Step)

The Step Object

Property	Description
StepNum	The parallel step number.
EstimatedTime	The estimated time (in seconds) that this step will take.
ActualTime	The actual time (in seconds) that this step took. It states -1 if the step has not completed.
EstimatedIOs	The estimated number of IOs that this step will perform.
ActualIOs	The actual number of IOs that this step performed. It states -1 if the step has not completed.
Confidence	0 means no confidence in the estimates. 1 means some confidence. 2 means high confidence.
StepText	A description of the work performed by this step.

The Workloads Collection

Property	Description
Count	The number of items in the collection.
Item	The item in the collection. (a Workload)

The Workload Object

Property	Description
Id	The ID number of the workload.
Name	The workload name.

Appendix B – Required Support Files

If you wish to use the monitor object on a system that does not have Teradata Manager installed you will need to install the following files on that system. These files can be found in the *Teradata Manager\Bin* or *Windows\System32* directory.

TDMON6.DLL	STDOLE2.TLB	MSVBVM60.DLL
MONPM.DLL	COMCAT.DLL	MFC71U.DLL
MGRCLI.DLL	MSVCRT.DLL	MFC42U.DLL
NCRTMGR.DLL	MSVCR71.DLL	OLEAUT32.DLL
TDIS.DLL	ASYCFILT.DLL	OLEPRO32.DLL
TDMFCIS.DLL	GSPROP32.DLL	COMCTL32.OCX
TDAPP.DLL	GSWAG32.DLL	COMDLG32.OCX
TDWMUTIL.DLL	GSWDLL32.DLL	FPSPRU70.OCX
		RICHTX32.OCX

The first column contains files created by Teradata. The other columns contain Microsoft and Third Party runtime files that may already be present on the target system.

When distributing your application you must also register the files shown in bold if you install them on a users system. Use the Microsoft supplied application **RegSvr32.exe** for this purpose.

In addition to installing the Teradata Performance Monitor Object files you will also need to ensure that the following Teradata Client packages have been installed:

- Shared ICU Libraries for Teradata 13.0
- Teradata GSS Client nt-i386 13.0
- Teradata CLIV2 13.0