NerveCenter 6.0 Log File Reference Guide

Windows and UNIX

Versions 6.0

April 2012

NC6LTTFR-02

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NerveCenter 6.0 Log File Reference Guide

NerveCenter 6.0 produces three additional forms of output files beyond those long supported by versions 5.1 and earlier. These new output files are a product of the upgrade work done to the NerveCenter Server's polling engine. In NeverCenter 6.0 the polling engine - a component within the NerveCenter Server - is entirely replaced. The replacement polling engine maintains a set of output files which consists of *logs* recording its operational history, *tables* displaying its current loading, and *trace files* which the user can optionally enable for viewing poll operations. Accompanying these new files is a smaller set of similar files, produced by other elements within the NerveCenter Server. Together these file provide insight on the Server's workload, state and health.

I. Overview

Logs produced by the NerveCenter Server are files stored to the Server host's file system wherein updates are appended to the file across time. Such files often have a maximum size and a rotation depth, both of which can be configured. The maximum size limit is the kilobyte measure of how large the file is allowed to grow. Once a log file has reached the maximum size limit it cannot be written to any further. The rotation depth is how many older many versions of the file are to be maintained on the file system. A depth of zero means no prior versions are retained. A depth of one means one prior version can be retained. A depth of two means two prior versions can be retained. Etc. When a log rotation occurs, the present log - which has grown to its maximum size limit - is renamed to logname.*1*. Any existing prior versions are simultaneously moved along in their numbering, such as from logname.*2* to logname.*3*, up the constraint set by the rotation depth. Thus if the limit is 5, then logname.5 is the oldest retained version of the log; at the point of the next rotation it will be deleted from the file system and replaced by the current logname.4 file.

Logs are always text files. They can be viewed and edited by any text editor. When the log file contains data which can be formatted for use in a spreadsheet program, it is given a .csv suffix and its data is internally stored as rows in the common comma-separated-value format. When this is not the case the file is given a .log suffix. All log files, regardless of format, contain a timestamp for each record. Timestamps are always in the format *yyyy-mm-dd hh:mm:ss*.

The logs added for NC6.0 are written to the directory /var/opt/NerveCenter/log/.

Tables produced by NerveCenter Server are files that are rewritten each time they are updated. They contain no history and only show current data. Tables are written to the Server's host file system. They have a size limit of 2gb although most never approach the size of even 1mb.

Tables are always text files and are always spreadsheets. All tables written by NC6.0 use the comma-separated-value format and have a .csv suffix.

The tables added for NC6.0 are written to the directory /var/opt/NerveCenter/tables/.

Trace Files are optional files created upon demand. Through controls added to NerveCenter Administrator and Client, users can request the creation of node, protocol and poll scheduling trace files. Users are also able to view and delete these files through the same two applications.

Trace files can be either tables or logs, as appropriate to their context. Tables are always written below /var/opt/NerveCenter/tables/ and logs are always written below /var/opt/NerveCenter/log/.

Trace files are always text files, can be viewed with any text editor, and are given a .txt, .log, or .csv suffix based on their internal formatting.

II. Analysis

This section presents several directions and aspects of how to use the logs, table and traces produced by NC6.0.

1. Quick Health assessment

The Poll Throughput log contains the data best suited for a single glance evaluation of the NerveCenter Server's polling health. The final records in this log file show the most recent poll execution numbers and Lag reporting.

A rising Running value in the Poll Throughput log indicates an escalating demand being placed on the polling engine. The log's three Lag values provide a second reading; rising values for the report Lag min, average and max values indicates an escalating pressure on the poll system.

2. Lag

Lag represents the separation of the scheduled start time for a poll operation from its actual start time. If a poll is scheduled to start at exactly noon but does not get started until 12:00:03, then its execution incurred a 3 second Lag.

Lag is reported in several of the NC6.0 logs, tables and trace files.

While a Lag of zero at all times might seem optimal it does not always prove such. Incurring a small Lag indicates little other than the overall system is working. A rising Lag or a large Lag value indicates the

polling system is unable to execute polls as scheduled. Either of these situations bears need for further examination.

When is Lag too large? The assessment of whether a reported Lag value is too large is a judgment that needs to be made in context of your NerveCenter usage. If the majority of you polls operate on a 5 minute poll interval, then a 20 second Lag might perfectly fine. This is a judgment call that needs to be addressed per the timeliness required by your NerveCenter polling.

What contributes to Lag? NerveCenter runs on a set of general multitasking operating system (ie: non real-time operating systems) and is thus subject to the scheduling issues, resources issues and jitter common for this type of operating environment. The poll management element of NerveCenter is heavily time dependent and requires consistent CPU allocation across time in order to perform its tasks.

Lag can therefore be a indicator that the host system is in an overloaded state. This could be due to a general resource (CPU, disk, memory) issue and may well be transitory.

Lag might indicator too much polling is being requested at points in time. If the scheduling demand on the poll manager exceeds how well NerveCenter Server can function in a given operating environment (ex: CPUs + swap space + competition from other processes) then the Lag values will start to rise. So too will the Postponed value seen in the Poll Scheduling Log.

3. Throttling

Throttling provides a limit on how many poll operations can be transferred from scheduled to executing at a time. Field and lab experience has shown throttling to be valuable towards ensuring long term stability of a NerveCenter Service, preventing disasters wherein the onset of a large number of poll operations would swamp the Server and/or the host environment. By limiting the number of poll operations that can be moved into execution at once, the poll scheduling environment self-adjusts to compensate for times when too much polling is set to begin at the same time.

The polling throttle is set on command line when the NerveCenter Service is started. The default is 1,000. To set the throttle use, for example, “ncstart -pollthrottle 500”.

The impact of poll throttling can be seen in the Poll Scheduling Log. The Starting column values will be limited to the throttle’s value. Then the Postponed value will rise/fall based on the current scheduling load. Poll operations which are scheduled for execution but are delayed because of the throttle limit are reported by the Postponed value.

4. Running

5. Overrun

III. Reset

The log, table and trace files produced by NerveCenter span successive executions of the NerveCenter Service. Neither 'ncstop' nor 'ncstart' erase, truncate or rotate any of these files.

The script *resetpollinglogs.bash* is provided In order to allow for a reset of this file set. This script should be used before an 'ncstart'. Its usage gives the next start of the NerveCenter Server as "clean slate" with regards to its output file production.

The *resetpollinglogs.bash* script is located in /opt/OSInc/nc/bin/. It can be copied and edited to suit your needs. LogMatrix does not recommend running the script while the NerveCenter Server is running.

IV. Log, Table and Trace File Definitions

1. Logs

1.1. Poll Manager History Logs

The NC6 poll manager maintains three logs, one showing poll execution outcomes and one showing poll initiation and one showing the overall poll throughput. Recording to the Completions and Throughput logs is done at the same moment and reviews the same time period. The Scheduling log is updated for every second where poll operation execution is begun.

The three logs are complimentary, showing their respective aspects of poll operation management: initialization, outcome and throughput.

Location	/var/opt/NerveCenter/log/	
File	PollCompletions.csv PollThroughput.csv	
Production	Appended every 30 seconds. File rotates upon reaching max.	

	allowed size.	
User Controls	Max. Log File Size (kb) Rotation Depth (files)	NerveCenter 6.0 Administrator application: 'Log' property sheet.
Remote Access	PollCompletions.csv	In NerveCenter 6 Administrator, log in to a NerveCenter Server, then on the 'Server' property page, select 'Poll Throughput' .

Location	/var/opt/NerveCenter/log/	
File	PollScheduling.csv	
Production	Appended at the end of any second where at least one poll operation moved from Scheduled to Running. File rotates upon reaching max. allowed size.	
User Controls	Max. Log File Size (kb) Rotation Depth (files)	NerveCenter 6.0 Administrator application: 'Log' property sheet.
User Controls	-pollthrottle nnnnnn	ncstart [-pollthrottle 1500]
Remote Access	None.	

1.1.1. Poll Completions Log

PollCompletions.csv chronicles the summary history of poll operations that have completed during each entry's time period.

The log is appended every 30 seconds with a fresh summary for poll completions that occurred during the current 30 second time period. Each record in the log is independent.

Column	Range	Description	Example
Timestamp	timestamp	Date & Time of this record.	2012-04-17 08:46:58
Total	0... (integer)	The total number of poll operations completed during the prior 30 second time epoch. Total := Completed + Canceled + Suppressed	6613
Completed	0... (integer)	The subset of Total where the completions were not due to a cancellation or a suppression. Completed := Success + TimeOut + ProtocolError + NetworkError	6576
Canceled	0... (integer)	The subset of Total where the poll operations were halted because the system canceled them.	13
Success	0... (integer)	The subset of Completed where the poll operation ran to completion, retrieving in all requested data.	6274
TimeOut	0... (integer)	The subset of Completed where the poll operations were halted because a timeout was reported.	34
ProtocolError	0... (integer)	The subset of Completed where the poll operations were halted because of a protocol error event.	268
NetworkError	0... (integer)	The subset of Completed where the poll operations were halted because of a network error event.	0
Suppressed	0... (integer)	The subset of Total where the poll operation was halted because the node became suppressed.	24

Example:

```
Timestamp,Total,Completed,Canceled,Success,TimeOut,ProtocolError,NetworkError,Suppressed
2012-04-02 19:06:19,6613,6576,13,6274,34,268,0,24
2012-04-02 19:06:50,1402,1402,0,485,108,808,1,0
2012-04-02 19:07:21,3303,3240,47,1872,36,1332,0,16
2012-04-02 19:07:52,1305,1305,0,27,11,1267,0,0
2012-04-02 19:08:23,1312,1299,5,753,1,545,0,8
```

Notes:

Total is the raw number of poll operations completing during the 30 second time epoch.

Completed is the number of poll operations completing without interference. Cancellations and Suppressions, *which are normal occurrence in the operation of the NerveCenter system,* are not included in this tally. The occurrence of a Cancellation or a Suppression is considered an interference since it is an artificial halt of the poll operation's execution.

Canceled is the number of poll operations halted because of an event elsewhere in the NerveCenter system. For example, the deletion of a node or a poll would cause the cancellation of poll operations that pertain to that poll or node. Most commonly polls are cancelled because the overall alarm management recognizes no further need for the poll operation. Cancellations, thus, prevent the poll manager from continuing poll operations where the data being retrieved is of no value to the overall system.

Success is the number of poll operations that completed their work, retrieving the requested data.

TimeOut is the number of poll operations halted because retrieval process (SNMP or ICMP) has field due to a timeout situation. (TimeOuts occur when the targeted host is no longer responding or the network handling of poll request or response traffic is not working.)

ProtocolError is the number of poll operations halted because an event as defined by the protocol in use for the poll indicates that the data retrieval cannot be allowed or continued. SNMP v1, v2 and especially v3 have a defined set of protocol errors.

NetworkError is the number of poll operations halted because a network event notification. Commonly this is a ICMP response to a SNMP operation wherein a gateway router within the network is responding with a Destination Unreachable notification. A bad route, for example, will result in this situation.

Suppressed is the number of poll operations halted because the node became suppressed during the poll operation's execution. The polling for a node can be suppressed if the node becomes marked as *suppressed* and the poll definition is configured as *suppressible*.

1.1.2. Poll Throughput Log

PollThroughput.csv chronicles the summary history of poll operation throughput during each entry's time period.

The log is appended every 30 seconds with a fresh summary for poll operation events that occurred during the current 30 second time period. Each record in the log is independent.

Column	Range	Description	Example
Timestamp	timestamp	Date & Time of this record.	2012-04-17 08:46:58
Starts	0... (integer)	The number of poll operations initiated during the time epoch.	9409
Running	0... (integer)	The number of poll operations that are executing as of the final moment of the reported time epoch.	94482
Completions	0... (integer)	The number of poll operations that completed during the time epoch. Equals 'Completions' + 'Suppressed' as reported in PollCompletions.csv	1402
Cancellations	0... (integer)	The number of poll operations halted due to a cancellation during the time epoch. Equals 'Cancelled' as reported in PollCompletions.csv	0
Responses	0... (integer)	The total number of data retrieval response notifications handled during the time epoch.	47490
Rows	0... (integer)	The subset of Responses where the notification contained data.	46373
Lag Min	0... (integer)	The minimum observed Lag for all poll operations initiated during the time epoch.	0
Lag Avg	0... (integer)	The averaged value of the Lag for all poll operations initiated during the time epoch.	0
Lag Max	0... (integer)	The maximum observed Lag for all poll operations initiated during the time epoch.	3

1.1.3. Poll Scheduling Log

Records appended to PollScheduling.csv represent a second in time wherein at least one poll operation was initiated. Initiation occurs when the scheduling for a poll operation becomes due and the poll manager is able to initiate the poll operation. Thus this is the moment of transfer of a poll operation from state Scheduled to Running. Poll operations move from the table ScheduledPolls.csv to the table RunningPolls.csv upon their initialization.

Each record contains the summary of initializations that occurred during that second.

Polls operations that were cancelled ahead of their initialization are not initialized. Their state moves from Scheduled to Canceled and they are not shown in the table RunningPolls.csv.

The poll manager is limited to a finite number of initializations it can perform in the course of one second. This value is set by the *-pollthrottle* parameter.

Column	Range	Description	Example
Timestamp	timestamp	Date & Time of this record.	2012-04-17 08:46:58
Scheduled	0... (integer)	The number of poll operations scheduled to begin at this time. Scheduled := Prior + Now.	865
Prior	0... (integer)	The number of poll operations overdue for being started.	496
Now	0... (integer)	The number of poll operations due for execution directly at this second in time.	369
Started	0... (integer)	Number of poll operations started during this second. The value cannot exceed the limit set by -pollthrottle	525

Canceled	0... (integer)	The number of poll operations discarded because they were tagged ahead of time as canceled.	340
Suppressed	0... (integer)	The number of poll operations discarded because the node is marked as Suppressed and the poll is set as Suppressible.	0
Redundant	0... (integer)	The number of poll operations discarded because their execution would be redundant of another which is already running.	0
SNMPv3 Issue	0... (integer)	The number of poll operations discarded because the node is set to use SNMPv3 but the SNMPv3 configuration has already flagged as incorrect.	0
Unmanaged Poll	0... (integer)	The number of poll operations discarded because the node is not presently managed.	0
Unmanaged Node	0... (integer)	The number of poll operations discarded because the poll is not presently enabled.	0
Postponed	0... (integer)	The number of polls not started because the -pollthrottle limit was encountered.	0
Lag Min	0... (integer)	The minimum observed Lag for all poll operations initiated during this one second.	0
Lag Avg.	0... (integer)	The averaged value of the Lag for all poll operations initiated during this one second.	1
Lag Max.	0... (integer)	The maximum observed Lag for all poll operations initiated during this one second.	4

2. Tables

2.1. Active Triggers Table

The NerveCenter Service reports on a periodic basis the set of triggers it is actively seeking to match during Poll Function handling. The table displays a snapshot of this trigger set.

Location	/var/opt/NerveCenter/tables/	

File	ActiveTriggers.csv	
Production	Rewritten every 30 seconds	
User Controls	None. Removable.	
Remote Access	None.	

2.1.1. ActiveTriggers.csv

Column	Range	Description	Example
Name	(character string)	Name given to a trigger.	linkUp
ID	1... (integer)	Unique ID associated to the trigger.	33

Example:

Trigger,Id, 2 triggers @ 2012-04-18 15:35:32
ifEntry-Existence,48
ifEntry-Cancel,3

Notes:

Name is the user-defined name for the trigger, as seen in "FireTrigger(*triggername*)" statements within Perl logic or the name given as a Simple Trigger for Trap Mask.
ID is a unique value and is assigned by the NerveCenter Server.

2.2. Logic Engines Tables

NerveCenter 6.0 Server creates and uses, as needed, a set of Perl5.8.3 environments. Each Perl environment is held internal to the NerveCenter Server; each held independently of the others; each created upon need.

There is always one Perl for the "Global" Perl environment. This initial Perl environment is created when the NerveCenter Server starts and it continues to exist across the server's runtime. Most Poll Functions, Trap Masks, Perl Subroutines and Action Router Rules utilize the "Global" Perl environment. However each of these Perl entry points can be setup to run in a private Perl environment; such an action brings about the creation of separate Perl environment.

The listing provided by LogicEngines-Config spreadsheet displays complete set of Perl environments present within the NerveCenter Server.

Note: NC6.0 introduces the generalization of its contained Perl environments as *Logic Engines*. This will be greatly expanded upon for NC6.1. For NC6.0 only one table, a configuration table is produced.

Location	/var/opt/NerveCenter/tables/	
File	LogicEngines-Config.csv	
Production	Rewritten every 60 seconds	
User Controls	None. Removable.	
Remote Access	None.	

2.2.1. LogicEngines-Config.csv

Displays the set of defined Perl environments. There is always a Perl environment named "Global". Each row in the table states the configuration for a single, unique, Perl environment.

Column	Range	Description	Example
ID	1... (integer)	Unique ID associated with the Perl environment.	1
Name	(character string)	Name assigned to the Perl environment.	Global
Type	(character string)	Descriptive name of the environment. Always "Perl5.8.3" in NC6.0.	Perl5.8.3
Owner	System | User	Whether the Perl environment was created by the NerveCenter system or by a user definition.	System
Mode	Internal | External	Whether the Perl environment is internal or external to the NC Server.	Internal
Access	1... (integer)	The number of Poll Functions currently configured to access this Logic Engine.	1
Status	Initialized	Where NerveCenter Server has completed this environment's setup.	Initialized

Example:

Id,Name,Type,Owner,Mode,Access,Status [2012-04-18 15:19:33]
2,Poll:14,Perl5.8.3,User,Internal,1,Initialized.
1,Global,Perl5.8.3,System,Internal,1,Initialized.

Notes:

IDs are generated by the NerveCenter Server with no user controls.

Names are generated by NerveCenter Server. The 'Global' Perl environment is always ID#1. If a Poll Function is configured such that "Execute Perl in Global Space" is not checked, then the Poll Function is allocated a private Perl environment. The Name for the environment is "Poll:" plus the Polls unique ID. Ex: Poll#14's Logic Engine is given the name "Poll:14".

Type, in NC6.0, is always Perl5.8.3.

Owner can be either "System" or "User". Any Logic Engine created as result of the configuration for a Poll Function will be labeled as "User". The "Global" logic engine is labeled as "System"

Mode, in NC6.0, is always Internal. As in, the logic engine exists within the NerveCenter Server.

Access is the tally of how many Poll Functions presently identify this logic engine as the one they will use at run-time.

Status, in NC6.0, is always "Initialized".

2.3. Node List Tables

The NerveCenter Service maintains on the file system a copy of the live Node List. The Node List is broken into four spreadsheet files with the primary listing, NodeList-Definitions.csv, being augmented by the other three.

NerveCenter Server writes these tables as a group once a minute. Production begins after the NerveCenter Server has started and has read in the node list. As edits are made to node definitions through NerveCenter Client or the NerveCenter Command utility (nccmd) or by imports from other NerveCenter Servers or management platforms, the new values will be reported in these files.

Location	*/var/opt/NerveCenter/tables/*	
Files:	NodeList-Addresses.csv NodeList-Definitions.csv NodeList-Parenting.csv NodeList-SNMPv3.csv	
Produced by	NerveCenter Server	
Production	Rewritten every 60 seconds.	

User Controls	None. Removable.	
Remote Access	NodeList-Definitions.csv	In NerveCenter 6 Administrator, log in to a NerveCenter Server, then on the 'Server' property page, select 'Node List' .

2.3.1. NodeList-Definitions.csv

The file contains a table of the current Node List. Each row in the table represents a single node from the Node List. The other three NodeList files refer to entries in this table using the ID column as the index.

Column	Range	Description	Example
ID	1... (integer)	Unique Node ID	3
Name	(character string)	Node Name	gatekepeer
Managed	yes | no (boolean)	Whether NerveCenter is actively managing the node.	yes
Suppressed	yes | no (boolean)	Whether node is currently suppressed.	no
Platform	yes | no (boolean)	Whether the node was imported from a management platform.	no
Auto Delete	yes | no (boolean)	Whether the node can be deleted automatically if it is removed from the management platform's node list.	no
SNMP	v1 | v2 | v3 | Unknown	SNMP version (v1,v2,v3) used for polling. If 'Unknown' then no SNMP polling is being performed..	v1

Property Group	(character string)	The node's Property Group assignment.	NCDefaultGroup
Status	<empty> | V3InitFail | AutoClassifyFail | TestVersionFail	The node's current monitoring health. Field is empty if no issue reported. See below.	V3InitFail
V3 Error	<empty> | ConfigurationError | UnknownUsername | UnknownContext | UnavailableContext | NotInTimeWindow | UnSupportedSecLevel | UnknownEngineID	V3InitFail detail. Field is empty if Status is not V3InitFail.	ConfigurationError

2.3.2. NodeList-Addresses.csv

The table provides a mapping of IP Addresses to members of the Node List. Each row in the table represents one IP or IPv6 Address and names a node from the Node List. If a node has more than one IP or IPv6 Address then the node will be referenced by as many rows as it has IP Addresses.

Column	Range	Description	Example
IP Address	One IPv4 or IPv6 Address	The IP Address of a node in the Node List	192.168.1.2
Node ID	1.. (integer)	Node ID, as found in ID column of Node-Definitions.csv	3
Node Name	(character string)	Copy of the Node Name column from Node-Definitions.csv	gatekeeper

2.3.3. NodeList-Parenting.csv

The parenting table reports the current per-node parenting information.

Column	Range	Description	Example
ID	1... (integer)	Node ID, as found in ID column of Node-Definitions.csv	4
NodeName	(character string)	Copy of the Node Name column from Node-	nms

		Definitions.csv	
Last Update	timestamp yyyy-mm-dd hh:mm:ss	Timestamp of when parenting for this node was last updated.	2012-04-17 12:04:33
Parents	(character string)	Listing of node's parents	gatekeeper

2.3.4. NodeList-SNMPv3.csv

The SNMPv3 table contains the SNMPv3 settings for nodes configured to be accessed with SNMPv3. Nodes are included in this table if their SNMP value in Node-Definitions.csv is set to 'v3'. Each row in the table represents one node in the Node List. The ID column is used to associate records in this table with rows in NodeList-Definitions.csv.

Two rows, one for each of the shared "User 1" and "User 2", as defined in the NerveCenter Administrator application, are always reported in this table. Both rows are listed using 0 (zero) as their value in the table's ID column.

Column	Range	Description	Example
ID	1... (integer)	The ID for the node, used to match this row to a row in Node-Definitions.csv	3
Name	(character string)	Copy of the Node Name column from Node-Definitions.csv	gatekeeper
SNMP	v3	Copy of the SNMP column from Node-Definitions.csv	v3
V3Mode	User #1 | User #2 | Local User	Whether the node reuses the values from "User #1", "User #2" or defines its own SNMPv3 configuration.	Local User
User Name	(character string)	The identifying username used within SNMPv3 communication with the node during polling.	nelson
Context	(character string)	The Context value used when communicating with the node using SNMPv3. Usually empty.	
Security Level	NoAuthNoPriv | AuthNoPriv | AuthPriv	Whether Authentication and Privacy as enabled during SNMPv3 communication.	AuthPriv
Authentication	MD5 | SHA-1	Choice of Authentication protocol.	MD5

Privacy	DES | 3DES | AES-128 | AES-192 | AES-256	Choice of Privacy protocol.	DES

2.4. Poll List Tables

Location	/var/opt/NerveCenter/tables/	
File	PollList-Definitions.csv	
Production	Rewritten every 60 seconds	
User Controls	None. Removable.	
Remote Access	PollList-Definitions.csv	In NerveCenter 6 Administrator, log in to a NerveCenter Server, then on the 'Server' property page, select 'Poll List' .

2.4.1. PollList-Definitions.csv

The poll list definitions table contains the configuration data for Polls which have been passed to Poll Manager within the NerveCenter. Polls are unknown to the Poll Manager until they have been enabled at least once. If a poll was marked as enabled when the NerveCenter Server started and read in the database then the poll is immediately known to the Poll Manager.

Column	Range	Description	Example
ID	1.. (integer)	Poll ID	1
Name	(character string)	The Poll's name	SnmpFastPoll
Enabled	on | off	Whether the poll is configured as Enabled.	on

Suppressible	yes | no	Whether the poll can be suppressed.	yes
Rate	1... (integer) mins | hours | days	The poll rate.	5 mins
BaseObject	(character string)	The poll's configured Base Object	system
LogicEngine	(character string)	The logic engine to be used by the Poll Function at runtime.	Global

Example:

Id,Name,Enabled,Suppressible,Rate,BaseObject,LogicEngine, 5 polls @ 2012-04-18 15:39:02
8,SS_IcmpFastPoll,on,no,1 mins,nl-ping,Global
13,SS_IcmpPoll,on,no,10 mins,nl-ping,Global
14,SnmpPoll,off,no,10 mins,system,<none>
15,SnmpFastPoll,on,no,1 mins,system,Poll:15
16,ifEntry-Row,on,yes,1 mins,ifEntry,Global

Notes:

ID is the Poll ID, as seen as a component of the $PollKey during poll function's execution.
Name is the username given to a Poll.
LogicEngine names a logic engine from the Logic Engine table. If the poll is not enabled, then the value is "<none>".

2.5. Poll Manager Tables

The Poll Manager within NerveCenter 6.0 is a replacement of the one found in NC5.1 and prior. The new Poll Manager updates a set of four metrics tables throughout its run-time.

Location	/var/opt/NerveCenter/tables/	
Files:	PollMgr-Messages.csv PollMgr-Operations.csv PollMgr-Timers.csv PollMgr-Nodes.csv	
Produced by	NerveCenter Server	
Production	Rewritten every 30 seconds.	
User Controls	None. Removable.	

Remote Access	None.	

2.5.1. PollMgr-Messages.csv

The poll manager messages table contains performance metrics for intra-process messages handled by Poll Manager.

Column	Range	Description	Example
ID	1.. (integer)	Poll ID	1
Name	(character string)	The message handler's name.	-
Traced	yes | no	Whether debug tracing is enabled for this message's handling.	no
Executions	0... (integer)	The number of times Poll Manager has handled this message type.	5
Last	Timestamp	Most recent occurrence of this handler's execution.	2012-04-18 17:18:03
Timings	0... (integer)	The number of execution handlings reported in the following four columns	252300
Sum	0... (integer)	The total number of milliseconds consumed handling handle this type of message.	44021
Min	0... (integer)	The minimum observed number of milliseconds consumed handling this type of messages.	1
Avg	0... (integer)	The averaged observed number of milliseconds consumed handling this type of messages.	2
Max	0... (integer)	The maximum observed number of milliseconds consumed handling this type of messages.	28

2.5.2. PollMgr-Operations.csv

The poll manager operations table contains performance metrics for operations performed by Poll Manager.

Uses the same table format as PollMgr-Messages.csv

2.5.3. PollMgr-Times.csv

The poll manager timers table contains performance metrics for alarm timers set and handled by Poll Manager.

Uses the same table format as PollMgr-Messagse.csv

2.5.4. PollMgr-Nodes.csv

The poll manager node list table displays the Poll Manager's view of the Node List.

Column	Range	Description	Example
ID	1... (integer)	Node ID, as found in ID column of Node-Definitions.csv	4
NodeName	(character string)	Copy of the Node Name column from Node-Definitions.csv	nms
PropGrp	(character string)	Assigned Property Group	Mib-II
Enabled	yes | no	Whether the node is enabled for polling.	yes
Suppressed	yes | no	Whether the node is presently suppressed.	no
SNMP	v1 | v2 | v3	Version of SNMP used for polling.	v1

2.6. Protocol Manager Tables

The Protocol Manager, another component of the NerveCenter Server, produces to tables at run-time. These tables show the contents of the current on-the-wire SNMP and ICMP operations. These tables allow a view of the workload Protocol Manager is handling a the the point when the file was created. A third file, ProtocolMgr-Polls.csv display the Protocol Manger's view of the poll list.

Location	/var/opt/NerveCenter/tables/	

File	ProtocolLayer-ICMP-Pending.csv ProtocolLayer-SNMP-Pending.csv	
Production	Rewritten every 30 seconds	
User Controls	None. Removable.	

2.6.1. ProtcolLayer-ICMP-Pending.csv

The protocol manager pending ICMP operations table displays the set of ICMP (ping) operations currently being handled by the Protocol Manager. Each table row represents a single ICMP Echo request message that has been issued onto the network and is awaiting a response.

Column	Range	Description	Example
Poll	1... (integer)	Poll ID	4
Node	1... (integer)	Node ID	54
Range	<empty> | 1... (integer)		134
Proto:Poll	1... (integer)	Protocol Manager's unique ID for this operation	194110
Poll:ReqID	1... (integer)	Poll Manager's unique ID for this operation	6371
Table	Table | Scalar	Whether this operation is to read a scalar group or traverse a table.	Scalar
Destination	IP Address	IPv4 or IPv6 Address of the operation	192.168.1.4
Timeout	1... (integer)	Timeout allowance for each attempt, in seconds.	3
MaxRetries	0... (integer)	The number of retries that may be attempted before declaring a timeout for the operation.	4
Retried	0... (integer)	The number of retries undertaken for this operation.	1

NextRetry	0... (integer)	The internal time offset used for tracking when to treat the current operation attempt as timed out.	95485359

Example:

Poll,Node,Range,Proto:ReqId,Poll:ReqId,Table,Destination,Timeout,MaxRetries,Retried,NextRetry
1,12,,0,1,Scalar,192.168.1.4:0,200,1,2,95485563

2.6.2. ProtocolLayer-SNMP-Pending.csv

The protocol manager pending SNMP operations table displays the set of SNMP operations currently being handled by the Protocol Manager. Each table row represents a single SNMP Get, GetNext, GetBulk or Set request message that has been issued onto the network and is awaiting a response.

Uses the same table format as ProtocolLayer-ICMP-Pending.csv

Example:

Poll,Node,Range,Proto:ReqId,Poll:ReqId,Table,Destination,Timeout,MaxRetries,Retried,NextRetry

15,12,0,194110,6371,Scalar,192.168.1.4:0,1000,3,1,95485359,VB#1: "1.3.6.1.2.1.1.2"

2.7. Poll Manager Status Tables

The poll manager in NC6.0 updates two tables every xx seconds. These tables show its current operation load and future scheduling.

Location	/var/opt/NerveCenter/tables/	
File	RunningPolls.csv ScheduledPolls.csv	
Production	Rewritten every 30 seconds	
User Controls	None. Removable.	
Remote Access	RunningPolls.csv	In NerveCenter 6 Administrator, log in to a NerveCenter Server, then on

		the ‘Server’ property page, select ‘Running Polls’ .
Remote Access	ScheduledPoll.csv	In NerveCenter 6 Administrator, log in to a NerveCenter Server, then on the ‘Server’ property page, select ‘Poll Schedule’ .

2.7.1. RunningPolls.csv

The poll manager running poll operations table displays the current set of live poll operations being executed by the poll manager. Each row in the table presents one logic poll operation. Polls, as handled by the poll manager, are reported at a logical layer; they are executed without regard to their protocol selection (ICMP or SNMP) or the implementation at the protocol layer (SNMP Get vs GetNext vs GetBulk).

When polls operations are scheduled, they are placed into a scheduling table. This table is displayed in the table ScheduledPolls.csv . When poll operations in the scheduling table become due for execution, they are removed from the scheduling table, initiated and placed into a running table. The delay, if any, between a poll operation’s scheduled start time and its actual start time is called its *Lag*. The Lag is a measurement, in seconds, of how late the poll execution was, relative to the intended start time. The current runtime of a poll operation is reported as its *Duration*. The Duration is a measurement, in seconds, of how long the poll operation has been running since its execution began. The value of Lag is not repeated in Duration, meaning the two measures are independent.

RunningPolls.csv displays the contents of the poll engine’s running table. When poll operations complete their execution or are canceled, they are removed from the running table and thus will no longer appear in RunningPolls.csv.

The first four columns of RunningPolls.csv provide the table’s index. The fifth column is a secondary index.

<> The first columns, Poll ID and Node ID, identify which poll is being run against which node. The Poll ID matches the poll definition found in PollList-Definitions.csv ; the Node ID matches the node definition found in NodeList-Definitions.csv .
<> The third column, Range, indicates the range of data to be retrieved during the poll operation. An unstated range, referred to here as <empty>, implies that all data is to be retrieved. For example, if the poll is to read table called ifXTable and the range is not indicated, then the entire table is to be

retrieved. If a value is named for the Range column, then only that row from the table is to be retrieved. The value given in the Range column is an partial OID value, matching the indexing used by the targeted table. For ifXTable, for example, the index is based on the possible values of ifIndex, which is defined INTEGER; thus the Range for appearing for this column would be a single digit OID such as 134.
<> The fourth column, Execution, reports that this is the n-th execution of this combination of Poll ID + Node ID + Range. Every scheduling of the operation requested by Poll ID + Node ID + Range will advance this value by one up until the operation is descheduled.
<> ID is a unique 64-bit integer value assigned by poll manager for every poll operation it has scheduled during its runtime. This value never decreases and values are never reused.

Column	Range	Description	Example
Poll	1... (integer)	Poll ID	4
Node	1... (integer)	Node ID	54
Range	<empty> | 1... (octet string)	The range of data to be retrieved by the poll. <empty> indicates all relevant data. A value, such as 150, indicates a specific row within a table.	134
Execution	1... (integer)	A counter, indicating the number of times this Poll:Node:Range operation has been executed.	2
ID	1... (integer)	Poll Manager's unique ID for this poll	198151
State	Running	Polls can be either Scheduled, Running, Canceled or Completed. By definition, all polls in RunningPolls.csv must be Running.	Running
Start Time	Timestamp	The timestamp of when this poll was to have begun execution.	2012-04-18 15:04:33
Lag	0... (integer)	The time span, in seconds, between Start Time and actual start of execution.	4
Duration	0... (integer)	The time measurement, in seconds, of how long this poll has been executing.	2

Completed	Timestamp	The timestamp of when poll completed its execution. Since polls in RunningPolls.csv are running and therefore have not completed, this column displays the timestamp for the most recent response. A blank value indicates no response has been received.	
Responses	0... (integer)	The number of responses handled during this poll's execution	2
Rows	0... (integer)	The subset of Responses, wherein the response(s) contained retrieved data rows.	1
Outcome	Pending | Canceled	The status of the poll execution.	Pending
Detail		Further information about a poll operation's status. Often blank. If the poll operation has been canceled, a reason might be provided here.	

Example1: Poll #122 is running against three nodes, pulling in large tables from each.

Poll,Node,Range,Execution,ID,State,Start Time,Lag,Duration,Completed,Responses,Rows,Outcome,Detail @ 2012-04-02 19:08:54
122,530,,2,24932,Running,2012-04-02 18:59:32,1,561,2012-04-02 19:08:53,315,315,Pending,
122,808,,2,24942,Running,2012-04-02 18:59:32,1,561,2012-04-02 19:08:53,310,310,Pending,
122,811,,2,24943,Running,2012-04-02 18:59:32,1,561,2012-04-02 19:08:53,310,310,Pending,

Note that in each row, the number of Responses equals the number of Rows, meaning data is being pulled in and that Completed is showing a timestamp almost equal to the table's timestamp (which is appended to the end of the first row). This means data is being successfully retrieved from the node.

Example2: Poll #11 is heading towards a TimeOut, awaiting a response from a set to nodes.

Poll,Node,Range,Execution,ID,State,Start Time,Lag,Duration,Completed,Responses,Rows,Outcome,Detail @ 2012-04-15 17:37:29
11,45,,9,215141,Running,2012-04-15 17:36:49,0,40,,0,0,Pending,
11,30,,9,215205,Running,2012-04-15 17:36:53,0,36,,0,0,Pending,
11,81,,9,215207,Running,2012-04-15 17:36:53,0,36,,0,0,Pending,
11,63,,9,215208,Running,2012-04-15 17:36:55,0,34,,0,0,Pending,

Note that in each row the number of Responses is zero and the Completed value is blank. No data is being retrieved. The Duration value is likely approaching the limit set for declaring a timeout.

2.7.2. ScheduledPolls.csv

The poll manager scheduled poll operations table displays the future scheduling load of the NerveCenter poll engine. Each entry in the table represents a single upcoming poll operation.

Entries are created when a poll is scheduled for execution on a specified node for a specified range. Entries are removed when they become due for execution.

The table shares many of the same columns reported in RunningPolls.csv .

The primary index is the first column, Seconds. The columns Poll + Node + Range + Execution are an alternate index; these become the primary index for the poll operation once it moves from this table to RuninngPolls.csv. The ID column is an alternate index, as it is in RuninngPolls.csv.

Column	Range	Description	Example
Seconds	(integer)	The number of seconds into the future when this poll is to begin its execution. A negative number indicates the poll operation's start of execution is overdue by that amount, in seconds.	+1
Poll	1... (integer)	Poll ID	4
Node	1... (integer)	Node ID	54
Range	<empty> | 1... (octet string)	The range of data to be retrieved by the poll. <empty> indicates all relevent data. A value, such as 150, indicates a specific row within a table.	134
Execution	1... (integer)	A counter, indicating the number of times this Poll:Node:Range operation has been executed.	2
ID	1... (integer)	Poll Manager's unique ID for this poll	198151
State	Scheduled	Polls can be either Scheduled, Running, Canceled or Completed. By definition, all polls in RunningPolls.csv must be Scheduled.	Scheduled.
Start Time	Timestamp	The timestamp of when this poll operation is to begin execution.	2012-04-18 15:04:33

Lag	0... (integer)	The time span, in seconds, between Start Time and actual start of execution. By definition being in this table, the Lag is always zero.	0
Duration	0... (integer)	The time measurement, in seconds, of how long this poll has been executing. By definition being in this table, the Lag is always zero.	2
Completed	Timestamp	The timestamp of when poll completed its execution. Since polls in ScheduledPolls.csv are running and therefore have not completed, this column is always empty.	
Responses	0... (integer)	The number of responses handled during this poll's execution	0
Rows	0... (integer)	The subset of Responses, wherein the response(s) contained retrieved data rows.	0
Outcome	Pending | Canceled	The status of the poll execution.	Pending
Detail	(character string)	Further information about a poll operation's status. Often blank. If the poll operation has been canceled, a reason might be provided here.	

3. Trace Files

Trace Files are logs and tables useful for quick monitoring of a node or a poll. Trace Files can be used in either production or development environments but are most often used during development of Poll Functions on development systems.

Trace Files are enabled and disabled through the NerveCenter 'Client' application. The files are created and stored on the Server's host file system however they can be remotely viewed using the Client

application. A user who is accessing a Server through the Client application can enable/disable, upload and remove trace files.

Trace files are always text files and can edited with any text editor.

Trace files can only grow to the size allowed by the log file limit set in NerveCenter Administrator. Trace files do not rotate, meaning there is no rollover of a trace file to a .1 or .2 version once the trace file reaches the maximum size limit. Once a trace file reaches its maximum allowed size, writing to the trace files stops. All polling and other actions, though, continue per normal.

3.1. Node Trace Files

NerveCenter 6 can produce four node oriented trace files. These logs are created by request of the user either through the NerveCenter Client application or Command (nccmd) utility.

3.1.1. Node Poll Trace Log: Node_*nodename*_log.csv

The Node_nodename_log.csv records the poll manager processing for all polls occurring for that node.

To enable or disable this trace log via 'Client':

1. Select the node from the Node List and open it.
2. On the 'Trace' property sheet, check or uncheck the box for "Poll Layer Tracing"
3. Select 'Save'.

To view this trace file via 'Client':

1. Select the node from the Node List and open it.
2. On the 'Trace' property sheet, within the "Poll Layer Tracing" area, select "View Log"

To enable or disable this trace log via 'nccmd':

1. Find the node using "list node -n * -x trace"
2. Enable poll tracing with "set node -q poll -w -n *nodename*", or
   (ex: set node -q poll -w -n gateway)
   Disable poll tracing with "set node -q off -w -n *nodename*"
   (ex: set node -q off -w -n printer)
3. Verify new poll tracing with "list node -n *nodename* -x trace"

The trace log cannot be viewed using 'nccmd'.

Location	/var/opt/NerveCenter/log/polling/	
File	Node_*nodename*_log.csv	
Production	Created and updated by NerveCenter	

	Server as configured per-node.	
User Controls	Enable/disable, viewing, deletion.	
Remote Access	Node_*nodename*_log.csv uploads to %HOMEPATH%\AppData\Local\Temp\ as *servername*_Node_*nodename*_Log.csv	In NerveCenter 6 Client, log in to a NerveCenter Server, then on the node dialog window, select checkbox for 'Poll Layer Tracing'.

The table contains many of the columns from RunningPolls.csv.

Column	Range	Description	Example
Timestamp	Timestamp	Date and Time stamp	2012-04-20 14:30:03
Action	Outcome	Action being logged	Outcome
Poll	1... (integer)	Poll ID	16
Node	1... (integer)	Node ID	3
Range	<empty> | OID	Range	
Execution	1... (integer)	Poll Manager's unique ID for this poll	4240
ID	1... (integer)	Poll Manager's unique ID for this poll.	19941
Lag	0... (integer)	The time span, in seconds, between Start Time and actual start of execution.	0
Duration	0... (integer)	The time measurement, in seconds, of how long this poll executed.	2

Responses	0... (integer)	The number of responses handled during this poll's execution	29
Rows	0... (integer)	The subset of Responses, wherein the response(s) contained retrieved data rows.	28
Outcome	Pending | Canceled | ProtocolError | TimeOut | NetworkError	The status of the poll execution.	ProtocolError
Detail	(character string)	Further information about a poll operation's status. Often blank. If the poll operation has been canceled, a reason might be provided here.	Success. End of Table.

Example:

```
Timestamp,Action,Poll,Node,Range,Execution,ID,Lag,Duration,Responses,Rows,Outcome,Detail
2012-04-20 14:30:03,Outcome,16,3,,4240,19941,0,2,29,28,ProtocolError,Success. End of Table.
2012-04-20 14:31:02,Outcome,16,3,,4241,19946,0,1,29,28,ProtocolError,Success. End of Table.
2012-04-20 14:32:02,Outcome,16,3,,4242,19951,0,1,29,28,ProtocolError,Success. End of Table.
...
2012-04-20 17:33:03,Outcome,16,3,,4423,20874,0,2,29,28,ProtocolError,Success. End of Table.
2012-04-20 17:33:07,Outcome,16,3,,4424,20879,0,0,0,0,Canceled,Canceled. Poll unmanaged at 2012-04-20 17:33:07
```

3.1.2. Node Schedule Table: Node_*nodename*_Schedule.csv

The node schedule trace file shows the upcoming poll schedule table for the selected node. This table is a subset of the ScheduledPolls.csv table, limiting the report to only polls scheduled for the selected node.

Instructions for enable/disable and viewing this table is identical as for Node Poll Trace Log above.

Location	/var/opt/NerveCenter/tables/nodes/	
File	Node_*nodename*_Schedule.csv	
Production	Created and updated by NerveCenter	

	Server as configured per-node.	
User Controls	Enable/disable, viewing, deletion.	
Remote Access	Node_*nodename*_Schedule.csv uploads to %HOMEPATH%\AppData\Local\Temp\ as *servername*_Node_*nodename*_Schedule.csv	In NerveCenter 6 Client, log in to a NerveCenter Server, then on the node dialog window, select checkbox for 'Poll Layer Tracing'.

The table contains the same columns as ScheduledPolls.csv table.

3.1.3. Node ICMP Trace Log

The Node_*nodename*_icmp_log.csv records the protocol layer processing for all ICMP poll traffic occurring for that node.

To enable or disable this trace log via 'Client':

1. Select the node from the Node List and open it.
2. On the 'Trace' property sheet, check or uncheck the "ICMP" box for "Protocol Layer Tracing"
3. Select 'Save'.

To view this trace file via 'Client':

1. Select the node from the Node List and open it.
2. On the 'Trace' property sheet, within the "ICMP" area under "Protocol Layer Tracing" area, select "View Log"

To enable or disable this trace log via 'nccmd':

1. Find the node using "list node -n * -x trace"
2. Enable poll tracing with "set node -q icmp -w -n *nodename*", or
   (ex: set node -q poll -w -n gateway)
   Disable poll tracing with "set node -q off -w -n *nodename*"
   (ex: set node -q off -w -n printer)
3. Verify new poll tracing with "list node -n *nodename* -x trace"

The trace log cannot be viewed using 'nccmd'.

Location	/var/opt/NerveCenter/log/polling/	

File	Node_*nodename*_icmp_log.csv	
Production	Created and updated by NerveCenter Server as configured per-node.	
User Controls	Enable/disable, viewing, deletion.	
Remote Access	Node_*nodename*_icmp_log.csv uploads to %HOMEPATH%\AppData\Local\Temp\ as *servername*_Node_*nodename*_icmp_log.csv	In NerveCenter 6 Client, log in to a NerveCenter Server, then on the node dialog window, select checkbox for "ICMP" under "Protocol Layer Tracing".

The table contents:

Column	Range	Description	Example
Timestamp	Timestamp	Date and Time stamp	2012-04-20 14:30:03
Type	request | response	Whether the protocol was an outgoing request message (ICMP Echo) or incoming response message (ICMP Echo Reply)	request
ID	1... (integer)	Protocol Layer unique id for this request	10781
IP Address	ipaddress	The IPv4 or IPv6	192.168.1.50
Timeout	1… (integer)	The timeout value for this operation	200
Hops	0… (integer)	The TTL value used in the request's IP Header	128
Retries	0… (integer)	The retries value for this operation.	0

Size	0… (integer)	The payload size of the request messages	56

3.1.4. Node SNMP Trace Log: Node_*nodename*_snmp_log.csv

The Node_*nodename*_snmp_log.csv records the protocol layer processing for all SNMP poll traffic occurring for that node.

To enable or disable this trace log via 'Client':

1. Select the node from the Node List and open it.
2. On the 'Trace' property sheet, check or uncheck the "SNMP" box for "Protocol Layer Tracing"
3. Select 'Save'.

To view this trace file via 'Client':

1. Select the node from the Node List and open it.
2. On the 'Trace' property sheet, within the "SNMP" area under "Protocol Layer Tracing" area, select "View Log"

To enable or disable this trace log via 'nccmd':

1. Find the node using "list node -n * -x trace"
2. Enable poll tracing with "set node -q snmp -w -n *nodename*", or
   (ex: set node -q poll -w -n gateway)
   Disable poll tracing with "set node -q off -w -n *nodename*"
   (ex: set node -q off -w -n printer)
3. Verify new poll tracing with "list node -n *nodename* -x trace"

The trace log cannot be viewed using 'nccmd'.

Location	/var/opt/NerveCenter/log/polling/	
File	Node_*nodename*_snmp_log.csv	
Production	Created and updated by NerveCenter Server as configured per-node.	
User Controls	Enable/disable, viewing, deletion.	

Remote Access	Node_*nodename*_snmp_log.csv uploads to %HOMEPATH%\AppData\Local\Temp\ as *servername*_Node_*nodename*_snmp_log.csv	In NerveCenter 6 Client, log in to a NerveCenter Server, then on the node dialog window, select checkbox for "SNMP" under "Protocol Layer Tracing".

The table contents:

Column	Range	Description	Example
Timestamp	Timestamp	Date and Time stamp	2012-04-20 14:30:03
Type	request | response	Whether the protocol was an outgoing request message (SNMP Get, GetNext, GetBulk or Set) or incoming response message (SNMP Response)	request
ID	1... (integer)	Protocol Layer unique id for this request	517477
IP Address	ipaddress	The IPv4 or IPv6	192.168.1.44
Port	1… (integer)	The destination UDP port.	161
Operatoin	Get | GetNext | GetBulk | Set	The SNMP operation	GetNext
Version	v1 | v2 | v3	The version of SNMP used.	V1
Community	(character string)	The Community tag used for the operatoni	Public
ErrorStatus	0... (integer)	The message's ErrorStatus field	NoError(0)

ErrorIndex	0... (integer)	The message's ErrorIndex field	0
#Varbinds	0... (integer)	The number of varbinds sent/received	3
Varbinds…	Varbind(s)	For request messages: A sequence for each varbind of *datatype*,*oid*, For response messages: A sequence for each varbind of *datatype,oid,,value*	null,1.3.6.1.2.1.2.2.1.1.14 integer,1.3.6.1.2.1.2.2.1.1.15,,15

3.2. Poll Trace Files

NerveCenter 6 can produce two poll oriented trace files. These logs are created by request of the user either through the NerveCenter Client application or Command (nccmd) utility

3.2.1. Poll Schedule Table: Poll_*pollname*_Schedule.csv

The poll schedule trace file shows the upcoming poll schedule table for the selected poll. This table is a subset of the ScheduledPolls.csv table, limiting the report to only polls scheduled for the selected poll.

To enable or disable this trace log via 'Client':

1. Select the poll from the Poll List and open it.
2. On the 'Trace' property sheet, check or uncheck the box.
3. Select 'Save'.

To view this trace file via 'Client':

1. Select the node from the Poll List and open it.
2. On the 'Trace' property sheet, select "View Log"

To enable or disable this trace log via 'nccmd':

1. Enable poll tracing with "set poll -p *pollname* -q on", or
   Disable poll tracing with "set poll -p *pollname* -q on"
2. Verify new poll tracing with "list poll -q off" or "list poll -q on".

The trace log cannot be viewed using 'nccmd'.

Location	/var/opt/NerveCenter/tables/polls/	

File	Poll_*pollname*_Schedule.csv	
Production	Created and updated by NerveCenter Server as configured per-node.	
User Controls	Enable/disable, viewing, deletion.	
Remote Access	Poll_*pollname*_Schedule.csv uploads to %HOMEPATH%\AppData\Local\Temp\ as *servername*_Poll_*pollname*_Schedule.csv	In NerveCenter 6 Client, log in to a NerveCenter Server, then on the poll dialog window, select checkbox for Tracing.

The table contains the same columns as ScheduledPolls.csv table

3.2.2. Poll Trace Log: Poll_*pollname*_log.csv

The Poll_pollname_log.csv records the poll manager processing for all polls occurring for that node.

Instructions for enable/disable and viewing this table is identical as for Poll Trace Schedule above.

Location	/var/opt/NerveCenter/log/polling/	
File	Poll_*pollname*_log.csv	
Production	Created and updated by NerveCenter Server as configured per-node.	
User Controls	Enable/disable, viewing, deletion.	
Remote Access	Poll_*pollname*_log.csv uploads to %HOMEPATH%\AppData\Local\Temp\ as *servername*_Poll_*pollname*_Log.csv	In NerveCenter 6 Client, log in to a NerveCenter Server, then on the poll dialog window, select checkbox for Tracing.

The table contains many of the columns from RunningPolls.csv.

Column	Range	Description	Example
Timestamp	Timestamp	Date and Time stamp	2012-04-20 14:30:03
Action	Poll | Scheduling | Outcome	Action being logged	Added
Poll	1... (integer)	Poll ID	16
Node	1… (integer)	Node ID	3
Range	<empty> | OID	Range	
Execution	1... (integer)	Poll Manager's unique ID for this poll	4240
ID	1… (integer)	Poll Manager's unique ID for this poll.	19941
Lag	0... (integer)	The time span, in seconds, between Start Time and actual start of execution.	0
Duration	0... (integer)	The time measurement, in seconds, of how long this poll executed.	2
Responses	0... (integer)	The number of responses handled during this poll's execution	29
Rows	0... (integer)	The subset of Responses, wherein the response(s) contained retrieved data rows.	28
Outcome	Pending | Canceled | ProtocolError | TimeOut | NetworkError	The status of the poll execution.	ProtocolError
Detail	(character string)	Further information about a poll operation's status. Often blank. If the poll operation has been canceled, a reason might be	Success. End of Table.

		provided here.	

Example:

```
Timestamp,Action,Poll,Node,Range,Execution,ID,Lag,Duration,Responses,Rows,Outcome,Detail
2012-04-20 18:22:04,Poll,20,,,,,,,,Added
2012-04-20 18:22:05,Scheduling,20,5,14,,,,,,Added
2012-04-20 18:22:05,Scheduling,20,2,1,,,,,,Added
2012-04-20 18:22:05,Scheduling,20,3,1,,,,,,Added
2012-04-20 18:22:05,Scheduling,20,5,16,,,,,,Added
2012-04-20 18:22:05,Scheduling,20,2,2,,,,,,Added
2012-04-20 18:22:07,Outcome,20,3,1,1,21187,1,1,1,0,ProtocolError,SNMPv1 NoSuchName Error
2012-04-20 18:22:07,Outcome,20,5,14,1,21179,1,1,1,1,Completed,Success
2012-04-20 18:22:07,Outcome,20,5,16,1,21189,1,1,1,1,Completed,Success
```

LogMatrix Technical Support

LogMatrix is committed to offering the industry's best technical support to our customers and partners. You can quickly and easily obtain support for NerveCenter, our proactive IT management software.

Professional Services

LogMatrix offers professional services when customization of our software is the best solution for a customer. These services enable us, in collaboration with our partners, to focus on technology, staffing, and business processes as we address a specific need.

Educational Services

LogMatrix is committed to providing ongoing education and training in the use of our products. Through a combined set of resources, we can offer quality classroom style or tailored on-site training.

Contacting the Customer Support Center

Telephone Support

Phone: 1-800-892-3646 or 1-508-597-5300

E-Email support

E-mail: techsupport@logmatrix.com.

Electronic Support

LogMatrix has a Web-based customer call tracking system where you can enter questions, log problems, track the status of logged incidents, and check the knowledge base.

When you purchased your product and/or renewed your maintenance contract, you would have received a user name and password to access the LogMatrix Call Tracking System using SalesForce. You may need to contact your contracts or NerveCenter administrator for the username and password for your account with SalesForce.

If you have not received or have forgotten your log-in credentials, please e-mail us with a contact name and company specifics at techsupport@logmatrix.com.

We are committed to providing ongoing education and training in the use of our products. Through a combined set of resources, we offer quality training to our global customer base.

Online Access

For additional NerveCenter support information, please go the LogMatrix website www.logmatrix.com for access to the following sections of information.

- Patches and Updates – latest installation files, patches and updates including documentation for NerveCenter.

- Software Alerts – latest software alerts relative to NerveCenter.

User Community Access

You can seek as well as share advice and tips with other NerveCenter users at http://community.logmatrix.com/LogMatrix/ .