
SRstackware[®] Intelligent Network Software

VRRP Command Reference

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Embedded Computing

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About this Manual

Overview of Contents

This manual contains an overview of the SRstackware® command line interface - the complete command reference for SRstackware Virtual Router Redundancy Protocol (VRRP).

Network administrators and developers who install and configure SRstackware IP routing software should use this manual.

This manual is divided into the following chapters and appendix:

[Chapter 1, SRstackware Command Line Interface Environment on page 15](#)

[Chapter 2, VRRP Commands on page 31](#)

[Appendix A, Related Documentation on page 43](#)



Abbreviations






This document uses the following abbreviations:

Abbreviation	Definition
BGP	Border Gateway Protocol
CLI	Command Line Interface
CRC	Cyclic Redundancy Check
IMI	Integrated Management Interface
IS-IS	Intermediate System - Intermediate System
LDP	Label Distribution Protocol
MAC	Media Access Control
NSM	Network Services Module
OSPF	Open Shortest Path First
RIP	Routing Information Protocol
VMAC	Virtual MAC
VRID	Virtual Router ID
VRRP	Virtual Router Redundancy Protocol

Conventions

The following table describes the conventions used throughout this manual.

Notation	Description
0x00000000	Typical notation for hexadecimal numbers (digits are 0 through F), for example used for addresses and offsets
0b0000	Same for binary numbers (digits are 0 and 1)
bold	Used to emphasize a word
Screen	Used for on-screen output and code related elements or commands. Sample of Programming used in a table (9pt)
Courier + Bold	Used to characterize user input and to separate it from system output
<i>Reference</i>	Used for references and for table and figure descriptions
File > Exit	Notation for selecting a submenu
<text>	Notation for variables and keys
[text]	Notation for software buttons to click on the screen and parameter description
...	Repeated item for example node 1, node 2, ..., node 12
.	Omission of information from example/command that is not necessary at the time
..	Ranges, for example: 0..4 means one of the integers 0,1,2,3, and 4 (used in registers)
	Logical OR
	Indicates a hazardous situation which, if not avoided, could result in death or serious injury
	Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury

Notation	Description
	Indicates a property damage message
	Indicates a hot surface that could result in moderate or serious injury
	Indicates an electrical situation that could result in moderate injury or death
<p>Use ESD protection</p> 	Indicates that when working in an ESD environment care should be taken to use proper ESD practices
	No danger encountered, pay attention to important information

Summary of Changes

This manual has been revised and replaces all prior editions.

Part Number	Publication Date	Description
6806800N84E	March 2020	Rebrand to SMART Embedded Computing template.
6806800N84D	July 2017	Added register trademark to SRstackware.
6806800N84C	June 2014	Re-branded to Artesyn template.
6806800N84B	October 2012	Added a note that this document is relevant, only if LAYER3SRS is licensed.
6806800N84A	February 2012	EA Release

SRstackware Command Line Interface Environment

1.1 Command Line Interface Primer

The SRstackware® Command Line Interface (CLI) is a text based facility conforming to industry standards. Many of the commands may be used in scripts to automate configuration tasks. Each CLI is usually associated with a specific function or a common function performing a specific task. Multiple users can telnet and issue commands using the Exec mode and the Privileged Exec mode. Only one user is allowed to use the Configure mode at a time.

The Integrated Management Interface (IMI) Shell gives users and administrators the ability to issue commands to several daemons from a single telnet session.

1.1.1 Definitions

token	A non-character, non-numeric symbol: {}, {}, (), <>, , ?, >, .., =
parameter	An UPPERCASE term for which the user substitutes input.
keyword	A lowercase term that the user types exactly as shown.

1.1.2 Command Line Help

The SRstackware CLI contains a text-based help facility. Access this help by typing in the full or partial command string and then typing a question mark "?". The SRstackware CLI displays the command keywords or parameters along with a short description.

For example, at the CLI command prompt, type

```
> show ? (the CLI does not display the question mark).
```

The CLI displays this keyword list with short descriptions for each keyword:

```
# show
  debugging      Debugging functions (see also 'undebug')
  history        Display the session command history
  ip             IP information
  memory         Memory statistics
  route-map     route-map information
  running-config running configuration
  startup-config Contents of startup configuration
  version       Displays version
```

SRstackware Command Line Interface Environment

If the ? is typed in the middle of a keyword, SRstackware displays help for that keyword only.

```
> show de? (the CLI does not display the question mark)
      debugging  Debugging functions (see also 'undebug')
```

If the ? is typed in the middle of a keyword but the incomplete keyword matches several other keywords, SRstackware displays help for all matching keywords.

```
> show i? (the CLI does not display the question mark)
      interface  Interface status and configuration
      ip         IP information
      isis       ISIS information
```

1.1.3 Syntax Help

1.1.3.1 Command Completion

The SRstackware CLI can complete the spelling of a command or a parameter. Begin typing the command or parameter and then press TAB. For example, at the CLI command prompt type `sh`:

```
> sh
Press TAB. The CLI shows:
> show
```

If the partial spelling of the command or parameter is ambiguous, then the SRstackware CLI displays the choices that match the abbreviation. Type `show i` and press TAB. The CLI shows:

```
> show i
      interface ip isis
> show i
```

The CLI displays the commands that start with letter `i`, such as `interface`, `ip`, and `isis`. Type `n` to select `interface` and press TAB. The CLI shows:

```
> show in
> show interface
```

Type `?` and the CLI displays the list of parameters for the `show interface` command.

```
> show interface
IFNAME Interface name
|      Output modifiers
>      Output redirection
<cr>
```


The CLI displays the only parameter associated with this command, the IFNAME parameter. For more information on the output modifiers and output redirection, see the Special Tokens for Show Commands section.

1.1.3.2 Command Abbreviations

The SRstackware CLI accepts abbreviations for commands. For example,

```
sh in eth0
```

is an abbreviation for the `show interface` command.

1.1.3.3 Command Line Errors

Any unknown spelling variation causes the command line parser to display in response to the `?`, the error `Unrecognized command`. The parser redisplay the command as last entered. When the user presses the enter key after typing an invalid command, the parser displays:

```
(config)#router ospf here
                        ^
```

```
% Invalid input detected at '^' marker.
```

where the `^` points to the first character in error in the command.

If a command is incomplete it displays this message:

```
> show
% Incomplete command
```

Some commands are too long for the display line and can wrap in mid-parameter or mid-keyword:

```
area 10.10.0.18 virtual-link 10.10.0.19 authentication-key
57393
```

1.2 Command Reference Primer

1.2.1 Typographic Conventions

The following table lists typographic conventions for command syntax descriptions.

Table 1-1 Typographic Conventions

Convention	Name	Description	Example
Monospaced font	Command	Represents command strings entered on a command line and sample source code	<code>show ip ospf</code>
Proportional font	Description	Gives specific details about a parameter.	advertise Advertises this range
UPPERCASE	Variable parameter	Indicates user input. Values to be entered according to the descriptions that follow. Each uppercased token expands into one or more other tokens.	area AREAID range ADDRESS
lowercase	Keyword parameter	Indicates keywords. Values to be entered exactly as shown in the command description.	<code>show ip ospf</code>
	Vertical bar	Delimits choices; One to be selected from the list. Not to be entered as part of the command.	A.B.C.D <0-4294967295>
()	Parentheses	Encloses optional parameters. None or only one to be chosen. Not to be entered as part of the command.	(A.B.C.D <0-4294967295>)
{ }	Braces	Encloses optional parameters. None, one or more than one to be chosen. Not to be entered as part of the command.	{priority <0-255> poll-interval <1-65535>}
[]	Square brackets	Encloses optional parameters. Choose one. Not to be entered as part of the command.	[parm2 parm2 parm3]

SRstackware Command Line Interface Environment

Table 1-1 *Typographic Conventions (continued)*

Convention	Name	Description	Example
?	Question mark	Used with the square brackets to limit the immediately following token to one occurrence. Not to be entered as part of the command.	[<u>parm1</u> <u>parm2</u> ? <u>parm3</u>] expands to parm1 parm3 parm1 parm2 (with parm3 occurring once)
< >	Angle brackets	Enclose a numeric range, endpoints inclusive. Not to be entered as part of the command	<0-65535>
=	Equal sign	Separates the variable from explanatory text. Not to be entered as part of the command.	PROCESSID = <0-65535>
.	Dot (period)	Allows the repetition of the element that immediately follows it multiple times. Not to be entered as part of the command.	.AA:NN can be expanded to: 1:01 1:02 1:03.
A.B.C.D	IP address	An IPv4-style address.	10.0.11.123
X:X::X:X	IP address	An IPv6-style address.	3ffe:506::1, where the:: represents all 0s for those address components not explicitly given.
LINE	End-of-line input token	Indicates user input of any string, including spaces. No other parameters may be entered after input for this token.	string of words
WORD	Single token	Indicates user input of any contiguous string (excluding spaces).	singlewordnospaces
IFNAME	Single token	Indicates the name of an interface.	eth0

1.3 Format used for Command Description

1.3.1 Command Name

Description of the command. What the command does and when should it be used.

1.3.1.1 Command Syntax

`sample-command-name mandatory-parameters (OPTIONAL-PARAMETERS)`

1.3.1.2 Default

The status of the command before it is executed. Is it enabled or disabled by default.

1.3.1.3 Command Mode

Name of the command mode in which this command is to be used. Such as, Exec, Privilege Exec, Configure mode, and so on.

1.3.1.4 Usage

This section is optional. It describes the usage of a specific command and the interactions between parameters. It also includes appropriate sample outputs for `show` commands.

1.3.1.5 Example

Used if needed to show the complexities of the command syntax.

1.3.1.6 Related Commands

This section is optional and lists those commands that are of immediate importance.

1.3.1.7 Equivalent Commands

This section is optional and lists commands that accomplish the same function.

1.3.1.8 Validation Commands

This section is optional and lists commands that can be used to validate the effects of other commands.

1.3.2 Command Negation

Some commands can be negated by using a `no` keyword.

In the following area virtual-link command, the `no` keyword is optional. This means that the entire syntax can be negated. Depending on the command or the parameters, command negation can mean the disabling of one entire feature for the router or the disabling of that feature for a specific ID, interface, or address.

```
(no) area AREAADDRESSID virtual-link ROUTERID
(AUTHENTICATE | MSGD | INTERVAL)
```

In the following example, negation is for the base command only. The negated form does not take any parameter.

```
default-metric <1-16777214>
no default-metric
```

1.3.3 Variable Parameter Expansion

For the area virtual-link command,

```
(no) area AREAADDRESSID virtual-link ROUTERID
(AUTHENTICATE | MSGD | INTERVAL)
```

the `AREAADDRESSID` parameter is replaced by either an IP address or a number in the given range:

```
AREAADDRESSID=A.B.C.D | <0-4294967295>
```

and `ROUTERID` by an IP address. The minimum command then is:

```
area 10.10.0.11 virtual-link 10.10.0.12
```

The parameters in the string `(AUTHENTICATE | MSGD | INTERVAL)` are optional, and only one may be chosen. Each one can be replaced by more keywords and parameters. One of these parameters, `MD5`, is replaced by the following string:

```
MD5= [message-digest-key <1-255> md5 MD5_KEY]
```

with `MD5_KEY` replaced by a 1-16 character string.

1.4 Show Command Tokens

Two tokens modify the output of the show commands. Use the `?` after typing the command to display:

```
# show users
| Output modifiers
> Output redirection
```



These tokens are available only through the IMI shell; they are unavailable to users who telnet to daemons.

1.4.1 Output Modifiers

Type the | (vertical bar) to use output modifiers.

begin	Begin with the line that matches
exclude	Exclude lines that match
include	Include lines that match
redirect	Redirect output

1.4.1.1 Begin

The begin parameter displays the output beginning with the first line containing a token matching the input string (everything typed after the begin token).

```
# show run | begin eth1
...skipping
interface eth1
  ipv6 address fe80::204:75ff:fee6:5393/64
!
interface eth2
  ipv6 address fe80::20d:56ff:fe96:725a/64
!
line con 0
  login
line vty 0 4
  login
!
end
```

1.4.1.2 Exclude

The exclude parameter excludes all lines of output that contain the input string. In the following output all lines containing the word “include” are excluded:

```
# show interface eth1 | exclude input
Interface eth1
```

```
Scope: both
Hardware is Ethernet, address is 0004.75e6.5393
index 3 metric 1 mtu 1500 <UP,BROADCAST,RUNNING,MULTICAST>
VRF Binding: Not bound
Label switching is disabled
No Virtual Circuit configured
Administrative Group(s): None
DSTE Bandwidth Constraint Mode is MAM
inet6 fe80::204:75ff:fee6:5393/64
    output packets 4438, bytes 394940, dropped 0
    output errors 0, aborted 0, carrier 0, fifo 0, heartbeat 0,
window 0
    collisions 0
```

1.4.1.3 Include

The include parameter includes only those lines of output that contain the input string. In the output below, all lines containing the word “input” are included:

```
# show interface eth1 | include input
    input packets 80434552, bytes 2147483647, dropped 0,
    multicast packets 0
    input errors 0, length 0, overrun 0, CRC 0, frame 0, fifo 1,
    missed 0
```

1.4.1.4 Redirect

The redirect parameter puts the lines of output into the indicated file.

```
# show history | redirect /var/frame.txt
```

1.4.2 Output Redirection

The output redirection token > allows the user to specify a target file for the lines of output.

```
# show history > /var/frame.txt
```

1.5 Common Command Modes

The commands available for each protocol are separated into several modes (nodes) arranged in a hierarchy. The Exec mode is the lowest. Each mode has its own special commands; in some modes, commands from a lower level are available.



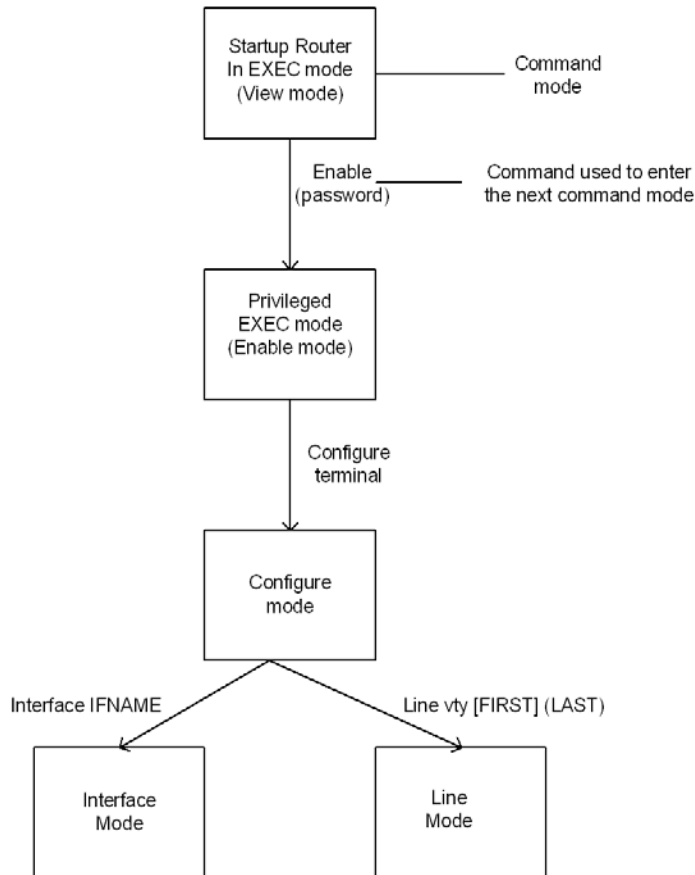
Multiple users can telnet and issue commands using the Exec mode and the Privileged Exec mode. Only one user is allowed to use the Configure mode at a time.

Table 1-2 Common Command Modes Descriptions

Mode	Description
Exec	Also called the View mode, is the base mode from where users can perform basic commands like <code>show</code> , <code>exit</code> , <code>quit</code> , <code>help</code> , <code>list</code> , and <code>enable</code> . All SRstackware daemons have this mode.
Privileged Exec	Also called the Enable mode, allows users to run <code>debug</code> , <code>write</code> (for saving and viewing the configuration) and <code>show</code> commands
Configure	Also called Configure Terminal mode, this mode serves as a gateway into the <code>Interface</code> , <code>Router</code> , <code>Line</code> , <code>Route Map</code> , <code>Key Chain</code> and <code>Address Family</code> modes.
Interface	Used to configure protocol-specific settings for a particular interface. Any attribute configured in this mode overrides an attribute configured in the <code>Router</code> mode
Line	Makes the <code>access-class</code> commands available

The diagram below displays the common command mode tree.

Figure 1-1 Common Command Mode Tree



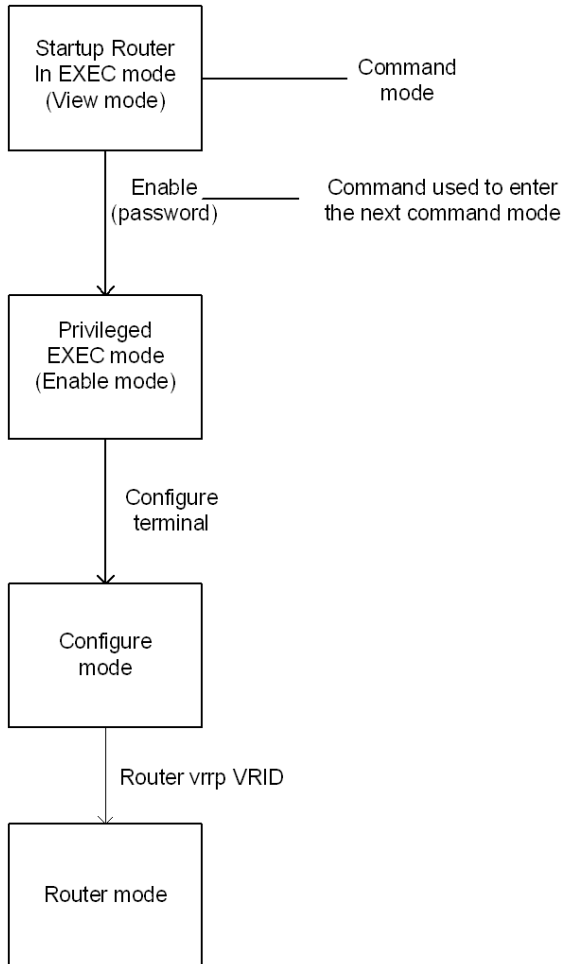
1.6 VRRP Command Modes

Router: Sometimes referred to as configure-router mode, this mode, available for the Label Distribution Protocol (LDP), Border Gateway Protocol (BGP), OSPF, and Routing Information Protocol (RIP) protocols only, makes available router and routing commands.

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The following diagram shows the complete command mode tree. For information about Exec, Privileged Exec, Configure, and Interface mode, refer to the Network Services Module (NSM) daemon command modes mentioned earlier in this chapter.

Figure 1-2 Complete Command Mode Tree



1.7 Commands Common to Multiple Protocols

Refer to the SRstackware Layer 2 Command Reference, Layer 3 Command Reference, and the Switch Configuration Command Reference for information about using these commands in multiple protocol daemons.

Table 1-3 Commands Common to Multiple Protocols

Command Name	Use this command to
<code>access-class</code>	filter a connection based on an IP access list, for IPv4 networks
<code>access-list</code>	configure an access-list for filtering packets
<code>access-list extended</code>	configure an extended access-list for filtering packets
<code>access-list standard</code>	configure a standard access-list for filtering packets
<code>banner</code>	toggle the displaying of the banner text
<code>clear ip prefix-list</code>	clear the IP prefix-list
<code>configure terminal</code>	enter the Configure Terminal mode
<code>copy running-config startup-config</code>	copy the current running configuration to the startup configuration file
<code>description</code>	provide interface-specific information
<code>disable</code>	exit Privileged Exec mode
<code>enable</code>	enter the Privileged Exec mode
<code>enable password</code>	change the password for the enable command
<code>end</code>	leave the current mode
<code>exec-timeout</code>	set command interpreter wait interval
<code>exit</code>	leave the current mode, or logout of the session
<code>help</code>	display online text assistance
<code>hostname</code>	set or change network server name
<code>ip prefix-list</code>	create an entry for a prefix list
<code>ipv6 access-class</code>	filter connection based on an IP access list for IPv6 networks
<code>ipv6 access-list</code>	configure an access-list for filtering frames
<code>ipv6 prefix-list</code>	create an entry for an IPv6 prefix list
<code>line vty</code>	enter Line mode

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Table 1-3 *Commands Common to Multiple Protocols*

Command Name	Use this command to
list	list all commands for a mode
log file	specify the file that collects logging information
log record-priority	specify the logging of the priority of a message
log syslog	begin logging information to the system log
log trap	limit logging to a specified level or type
login	set a password prompt and enable password checking
match as-path	match an autonomous system path access list
match community	specify the community to be matched
match extcommunity	specify the extended community to be matched
match interface	define the interface match criterion
match ip address	specify the match address of route
match ip address prefix-list	specify to match entries of prefix-lists
match ip next-hop	specify a next-hop address to be matched in a route-map
match ip next-hop prefix-list	specify the next-hop IP address match criterion, using the prefix-list
match ipv6 address	specify the match IPv6 address of route
match ipv6 address prefix-list	match entries of IPv6 prefix-lists
match ipv6 next-hop	specify a next-hop IPv6 address to be matched by the route-map
match metric	match a metric of a route
match origin	match origin code
match route-type	match specified external route type
match tag	match the specified tag value
password	specify a network password
quit	leave the current mode
route-map	enter the route-map mode and to permit or deny match/set operations

Table 1-3 Commands Common to Multiple Protocols

Command Name	Use this command to
<code>service advanced-vty</code>	set the VTY session to Privileged Exec mode instead of the Exec mode (which is the default)
<code>service password-encryption</code>	specify encryption of passwords
<code>service terminal-length</code>	set the terminal length for VTY sessions
<code>set aggregator</code>	set the AS number for the route map and router ID
<code>set as-path</code>	modify an autonomous system path for a route
<code>set atomic-aggregate</code>	set an atomic aggregate attribute
<code>set comm-list delete</code>	delete matching communities from inbound or outbound updates.
<code>set community</code>	set the communities attribute
<code>set community-additive</code>	add a community to the already existing communities
<code>set dampening</code>	set route-flap dampening parameters
<code>set extcommunity</code>	set an extended community attribute
<code>set ip next-hop</code>	set the specified next-hop value
<code>set ipv6 next-hop</code>	set a next hop-address
<code>set metric</code>	set a metric value for a route
<code>set metric-type</code>	set the metric type for the destination routing protocol
<code>set next-hop</code>	specify the next-hop address
<code>set origin</code>	set the origin code
<code>set originator-id</code>	set the originator ID attribute
<code>set tag</code>	set specified tag value
<code>set vpnv4 next-hop</code>	set a VPNv4 next-hop address
<code>set weight</code>	set weights for the routing table
<code>show access-list</code>	display the list of IP access lists
<code>show cli</code>	display the CLI tree of the current mode
<code>show list</code>	display a list of all commands in the current mode

SRstackware Command Line Interface Environment

Table 1-3 Commands Common to Multiple Protocols

Command Name	Use this command to
<code>show history</code>	display all commands used in a session
<code>show ip prefix-list</code>	display the prefix list entries
<code>show memory all</code>	display the memory reports for all protocols
<code>show memory free</code>	display the statistics of free memory for all protocol
<code>show memory summary</code>	display the summary of memory subsystem statistics
<code>show route-map</code>	display user readable route-map information
<code>show running-config</code>	display the current configuration
<code>show startup-config</code>	display the startup configuration (from storage)
<code>show version</code>	display the current SRstackware version
<code>terminal length</code>	set the number of lines in a terminal display
<code>terminal monitor</code>	display debugging on a monitor
<code>who</code>	display other VTY connections
<code>write file</code> and <code>write memory</code>	write the current configuration file
<code>write terminal</code>	display current configurations to the VTY terminal

VRRP Commands

2.1 Typical Command Sequences

Two or more VRRP routers participate in each VRRP configuration, one master and one backup. Typical configuration command sequences set up each router virtual IP addresses, priorities, and so on.

Router 1 (Default Master)

```
enable
configure terminal
router vrrp 1 eth0
virtual-ip A.B.C.D master
priority 255
preempt-mode true
advertisement-interval 2
enable
...
```

Router 2 (Default Backup)

```
enable
configure terminal
router vrrp 1 eth0
virtual-ip A.B.C.D backup
priority 200
preempt-mode true
advertisement-interval 2
enable
...
```

2.2 VRRP Commands

2.2.1 advertisement-interval

Use this command to configure the advertisement interval of the virtual router. This is the length of time, in seconds, between each advertisement sent from the master to its backup(s).

Use the `no` parameter with this command to disable this feature.

VRRP Commands

2.2.1.1 Command Syntax

```
advertisement-interval <1-10>
no advertisement-interval
```

<1-10> Specifies the advertisement interval in seconds. Default advertisement interval is 1 second.

2.2.1.2 Command Mode

Router mode

Examples

```
# configure terminal
(config)# router vrrp 3 eth0
(config-router)# advertisement-interval 6
```

2.2.2 circuit-failover

Use this command to enable the VRRP circuit failover feature.

Use the `no` parameter with this command to disable this feature.

2.2.2.1 Command Syntax

```
(no) circuit-failover IFNAME <1-253>
```

IFNAME An interface of the router that will be monitored by the virtual router. This is usually an upstream interface. If the interface goes down, another router within the VRRP group may take over as a master.

<1-253> Delta value. The value by which virtual routers decrement their priority value during a circuit failover event. Configure this value to be greater than the difference of priorities on the master and backup routers.

2.2.2.2 Command Mode

Router mode

Examples

```
# configure terminal
(config) router vrrp 1 eth0
(config-router)# circuit-failover eth1 30
```


2.2.3 debug vrrp

Use this command to specify debugging options for VRRP. The `all` parameter turns on all the debugging options.

Use the `no` parameter with this command to disable this function.

2.2.3.1 Command Syntax

```
(no) debug vrrp (all)
```

2.2.3.2 Command Mode

Configure mode and Privileged Exec mode

Examples

```
# configure terminal
(config)# debug vrrp all
```

2.2.4 debug vrrp events

Use this command to specify debugging options for VRRP event troubleshooting.

Use the `no` parameter with this command to disable this function.

2.2.4.1 Command Syntax

```
(no) debug vrrp events
```

2.2.4.2 Command Mode

Configure mode and Privileged Exec mode

2.2.4.3 Usage

The `debug vrrp events` command enables the display of debug information related to VRRP internal events.

Examples

```
# configure terminal
(config)# debug vrrp events
```

VRRP Commands

2.2.5 debug vrrp packet

Use this command to specify debugging options for VRRP packets.

Use the `no` parameter with this command to disable this function.

2.2.5.1 Command Syntax

```
(no) debug vrrp packet (send|recv)
```

`send` Specifies the debug option set for sent packets.

`recv` Specifies the debug option set for received packets.

2.2.5.2 Command Mode

Configure mode and Privileged Exec mode

2.2.5.3 Usage

The `debug vrrp packet` command enables the display of debug information related to sending and receiving of packets.

Examples

```
# configure terminal
(config)# debug vrrp packet send
```

2.2.6 disable

Use this command to disable a VRRP session on the router (to stop it from participating in virtual routing)

2.2.6.1 Command Syntax

```
disable
```

2.2.6.2 Command Mode

Router mode

Example

```
# configure terminal
(config)# router vrrp 5 eth0
(config-router)# disable
```

2.2.6.3 Related Commands

enable

2.2.7 enable

Use this command to enable the VRRP session on the router (to make it participate in virtual routing).

2.2.7.1 Command Syntax

```
enable
```

2.2.7.2 Command Mode

Router mode

2.2.7.3 Usage

You must configure the virtual IP address and define the interface for the VRRP session (using the `virtual-ip` and `interface` commands) before using this command.

Example

```
# configure terminal
(config)# router vrrp 5 eth0
(config-router)# enable
```

2.2.7.4 Related Commands

disable

2.2.8 preempt-mode

Use this command to configure preempt mode. If set to true, the highest priority backup will always be the master when the default master is unavailable. If set to false, a higher priority backup will not preempt a lower priority backup who is acting as master.

2.2.8.1 Command Syntax

```
preempt-mode true
preempt-mode false

true Preemption enabled. Default is true.
false Preemption disabled. The preempt mode to configure.
```

VRRP Commands

2.2.8.2 Command Mode

Router mode

2.2.8.3 Usage

When the master router fails, the backup routers come online in priority order highest to lowest. Preempt mode on true allows a higher priority backup router to relieve a lower priority backup.

Example

```
# configure terminal
(config)# router vrrp 4 eth0
(config-router)# preempt 5 false
```

2.2.9 priority

Use this command to configure the VRRP router priority within the virtual router. The highest priority router is always the master.

Use the `no` parameter with this command to disable this feature.

2.2.9.1 Command Syntax

```
priority <1-255>
no priority
```

<1-255> The priority. For the master router, use 255 for this parameter; otherwise use any number from the range <1-254>. Default values for priority are: master router= 255; backup = 100.

2.2.9.2 Command Mode

Router mode

Examples

```
# configure terminal
(config)# router vrrp 3 eth0
(config-router)# priority 101
```

2.2.10 router vrrp

Use this command to configure VRRP. This command allows you to enter the Router mode. Use the `no` parameter with this command to remove the VRRP configuration from NSM. Disable the VRRP session before using the `no router vrrp` command.

2.2.10.1 Command Syntax

```
(no) router vrrp VRID IFNAME
```

VRID <1-255> The ID of the virtual router session to create.

IFNAME The interface name on which the VRRP virtual router is enabled.

2.2.10.2 Command Mode

Configure mode

Example

```
# configure terminal
(config)# router vrrp 5 eth0
(config-router)#
```

2.2.11 show debugging vrrp

Use this command to display the set VRRP debugging option.

To modify the lines displayed, use the `|` (output modifier token); to save the output to a file, use the `>` output redirection token. For more information, see [Chapter 1, SRstackware Command Line Interface Environment on page 15](#).

2.2.11.1 Command Syntax

```
show debugging vrrp
```

2.2.11.2 Command Mode

Privileged Exec mode

Examples

```
# show debugging vrrp
```

VRRP Commands

2.2.12 show running-config router vrrp

Use this command to show the running configuration for VRRP.

To modify the lines displayed, use the | (output modifier token); to save the output to a file, use the > output redirection token. For more information, see [Chapter 1, SRstackware Command Line Interface Environment on page 15](#).



This command is available only if the enable-vrrp configuration option is enabled in the configure script.

2.2.12.1 Command Syntax

```
show running-config router vrrp
```

2.2.12.2 Command Mode

Exec and Privileged Exec

Examples

```
# show running-config router vrrp
!
router vrrp 2 eth0
circuit-failover eth1 3
advertisement-interval 4
!
```

2.2.13 show vrrp

Use this command to display information about all VRRP sessions.

To modify the lines displayed, use the | (output modifier token); to save the output to a file, use the > output redirection token. For more information, see [Chapter 1, SRstackware Command Line Interface Environment on page 15](#).

2.2.13.1 Command Syntax

```
show vrrp
```

2.2.13.2 Command Mode

Privileged Exec mode

Example

```
# show vrrp
```

2.2.14 show vrrp (for IPv4)

Use this command to display all relevant information for a particular IPv4 VRRP session.

To modify the lines displayed, use the | (output modifier token); to save the output to a file, use the > output redirection token. For more information, see [Chapter 1, SRstackware Command Line Interface Environment on page 15](#).

2.2.14.1 Command Syntax

```
show vrrp VRID IFNAME
```

VRID = <1-255> The virtual router ID for which to display information. The session must already exist.

IFNAME The interface name on which the VRRP virtual router is enabled.

2.2.14.2 Command Mode

Privileged Exec mode

Example

The following example displays information about VRRP session 1, interface eth0.

```
# show vrrp 1 eth0
```

2.2.15 undebg vrrp all

Use this command to disable all VRRP debugging.

2.2.15.1 Command Syntax

```
undebg vrrp all
```

2.2.15.2 Command Mode

Privileged Exec mode

Examples

```
# undebg vrrp all
```

VRRP Commands

2.2.16 undebg vrrp events

Use this command to disable debugging options for VRRP event troubleshooting.

2.2.16.1 Command Syntax

```
undebg vrrp events
```

2.2.16.2 Command Mode

Privileged Exec mode

Examples

```
# undebg vrrp events
```

2.2.17 undebg vrrp packet

Use this command to disable debugging options for VRRP packets.

2.2.17.1 Command Syntax

```
undebg vrrp packet (send|recv)
```

send Disable the debug option set for sent packets.

recv Disable the debug option set for received packets.

2.2.17.2 Command Mode

Privileged Exec mode

2.2.17.3 Usage

The `undebg vrrp packet` command disables the debugging option set for sent and received VRRP packets.

Examples

```
# undebg vrrp packet send
```

2.2.18 virtual-ip

Use this command to set the virtual IP address for the VRRP session. This is the IP address of the virtual router that end hosts set as their default gateway.

Use the `no` parameter with this command to disable this feature.

2.2.18.1 Syntax Description

```
virtual-ip A.B.C.D master
virtual-ip A.B.C.D backup
no virtual-ip
```

A.B.C.D The virtual IP address of the virtual router.

master Sets the default state of the VRRP router within the Virtual Router as master. For master, the router must own the Virtual IP address.

backup Sets the default state of the VRRP router within the Virtual Router as backup.

2.2.18.2 Command Mode

Router mode

Example

```
# configure terminal
(config)# router vrrp 5 eth0
(config-router)# virtual-ip 10.10.20.30 master
```

2.2.19 vrrp vmac

Use this command to enable or disable Virtual MAC.

2.2.19.1 Command Syntax

```
vrrp vmac enable|disable
enable Enable virtual MAC addressing
disable Disable virtual MAC addressing, and use physical MAC addressing
```

2.2.19.2 Command Mode

Configure mode

2.2.19.3 Usage

This command affects all VRRP groups in a router. On a single network segment, multiple VRRP groups can be configured, each using a different VMAC. The use of VMAC addressing allows for faster switchover when a backup router assumes the master role.

The VMAC address is assigned to a router interface at the time the VRRP group is enabled in the router.

VRRP Commands

Example

```
# configure terminal
#(config) vrrp vmac enable
```

Related Documentation

A.1 SMART Embedded Computing Documentation

The documentation listed is referenced in this manual. Technical documentation can be found by using the Documentation Search at <https://www.smarterembedded.com/ec/support/> or you can obtain electronic copies of SMART EC documentation by contacting your local sales representative.

Table A-1 SMART EC Documentation

Document Title and Source	Document Number
SRstackware Intelligent Network Software Troubleshooting Guide	6806800N83
SRstackware Intelligent Network Software Layer 2 Command Reference	6806800N88
SRstackware Intelligent Network Software RIP Command Reference	6806800N85
SRstackware Intelligent Network Software Layer 2 Configuration Guide	6806800N86
SRstackware Intelligent Network Software OSPF Command Reference	6806800N87
SRstackware Application Programming Interface Developer Guide	6806800N90
SRstackware Intelligent Network Software Layer 3 Configuration Guide	6806800N89
SRstackware Intelligent Network Software Switch Configuration Command Reference	6806800N92
SRstackware Intelligent Network Software Layer 3 Command Reference	6806800N93
SRstackware Intelligent Network Software Protocol Demo Guide	6806800N07
SRstackware FAQ	6806800N91

Related Documentation

