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# **Rebellion UI Production**

Apache Hardening

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### 1. Document Control

# 1.1 Document Preparation

Date	Version	Author	Role	Comment
06/24/2015	0.1	Cloud Security Engineering	Cloud Security	1st Draft

#### 1.2 Document Review Members

A series of workshop and review meetings held between x/x/x and x/x/x with the following people contributing to the reviewing and approval process.

Date	Version	Reviewer	Role	Status
		Arjun Shah	Delivery lead	

#### 1.3 Informed participants

Date	Version	Resource	Role	Status

#### 1.4 Document Approval/Signoff

Date	Version	Reviewer	Role	Status

#### 2. Overview

This document covers the standard configurations for apache web servers in Rebellion environment.

# 3. Application Hardening Standards

#### 3.1 Operating System Security

Oracle Enterprise Linux is the standard operating system used for all instances in Rebellion per EIT standards. As a Red Hat Enterprise Linux derivative, Oracle Linux provides full compatibility for applications designed to be run in RHEL environments, with the significant advantage that Oracle freely distributes Oracle Linux without the need for licencing, leading to significant cost savings over Red Hat's per-server licensing. Oracle Linux is preferable to CentOS, another freely available RHEL derivative, because Oracle Linux is backed by Oracle, with notable enhancements and the option of receiving official Oracle support. Configuration standards for Operating system are covered

separately under Operating system hardening standards documentation.

# 3.2 Application Security

#### 3.2.1 Apache

The Apache HTTP server is utilized across all AWS Rebellion systems and environments. The version of Apache used is v2.2. These standards are derived from industry best practices and references from Center for Internet Security (CIS) Benchmark guides for Apache.

#### 3.2.1.1 Standard Configuration

Ref.			
No	Description	Reference	Settings
	The /tmp directory is a world-writable directory used for temporary storage by all users and some	The /tmp reside on a separate mount point created based on Operating system hardening	
1.1.1	applications.	standards	/tmp directory created  Modules are disabled by commenting out or removing the LoadModule directive from the Apache configuration files httpd.conf #LoadModule auth_basic_module modules/mod_auth_basic.so #LoadModule auth_digest_module modules/mod_auth_digest.so #LoadModule authn_file_module modules/mod_authn_file.so #LoadModule authn_alias_module modules/mod_authn_alias.so #LoadModule authn_anon_module modules/mod_authn_anon.so #LoadModule authn_dbm_module modules/mod_authn_dbm_so #LoadModule authn_default_module modules/mod_authn_default_module modules/mod_authn_default_so #LoadModule authz_host_module modules/mod_authz_host.so
	Fachla auto		#LoadModule authz_user_module modules/mod_authz_user.so #LoadModule authz_owner_module modules/mod_authz_owner.so
	Enable only necessary Authentication and	Accordate the total Add to conflict to some last the	#LoadModule authz_groupfile_module modules/mod_authz_groupfile.so #LoadModule authz_dbm_module
1.2.1	Authorization  Modules - 'Loaded  auth* modules'	/usr/sbin/httpd -M   /usr/bin/egrep 'auth' /usr/sbin/httpd -M   /usr/bin/egrep 'Idap	modules/mod_authz_dbm.so #LoadModule authz_default_module modules/mod_authz_default.so

			#LoadModule Idap_module
			modules/mod_ldap.so
			#LoadModule authnz_ldap_module
			modules/mod_authnz_ldap.so
	Enable the Log Config		Franklad Abada a Cauffa Mandala Land Mandala
	Module - 'log_config_module		Enabled the Log Config Module LoadModule log_config_module
1.2.2	is loaded'"	'/usr/sbin/httpd -M   /bin/grep log_config	modules/mod_log_config.so
1.2.2	15 10ddcd	7 usi/sum/mttpu ivi   7 um/grcp log_comig	Disabled load module by commenting out or
	Disable WebDAV	'/usr/sbin/httpd -M   /usr/bin/egrep -v	removing the LoadModule directive from
	modules -	'^([Ll]oaded [Ss]yntax)'   /usr/bin/egrep	the Apache configuration files httpd.conf
	'dav_*module is not	'dav[^\s]+module'   /usr/bin/awk '{print} END {if	#LoadModule status_module
1.2.3	loaded'"	(NR == 0) print "none"}"	modules/mod_status.so
	Disable Status	/usr/sbin/httpd -M   /usr/bin/egrep -v	Disabled the LoadModule directive from the
	module -	'^([LI]oaded [Ss]yntax)'   /usr/bin/egrep	Apache configuration files httpd.conf
124	'status_module is not	'status_module'   /usr/bin/awk '{print} END {if	#LoadModule status_module
1.2.4	loaded	(NR == 0) print "none"}"	modules/mod_status.so
	Disable Autoindex	'/usr/sbin/httpd -M   /usr/bin/egrep -v	
	module -	'^([Ll]oaded [Ss]yntax)'   /usr/bin/egrep	
	'autoindex_module is	'autoindex_module'   /usr/bin/awk '{print} END {if	autoindex_module is enabled but have set
1.2.5	not loaded	(NR == 0) print "none"}"	Options = None as per the recommendation.
		'/usr/sbin/httpd -M   /usr/bin/egrep -v	Disabled the LoadModule directive from the
	Disable Proxy	'^([Ll]oaded [Ss]yntax)'   /usr/bin/egrep 'proxy_'	Apache configuration files httpd.conf
	Modules - 'proxy_* is	/usr/bin/awk '{print} END {if (NR == 0) print	#LoadModule proxy_module
1.2.6	not loaded	"none"}"	modules/mod_proxy.so
	Disable User	/usr/sbin/httpd -M   /usr/bin/egrep -v	Disabled the LoadModule directive from the
	Directories Modules -	'^([Ll]oaded [Ss]yntax)'   /usr/bin/egrep	Apache configuration files httpd.conf
1.2.7	'userdir_* is not loaded	'userdir_'   /usr/bin/awk '{print} END {if (NR == 0) print "none"}"	#LoadModule userdir_module
1.2.7	loaded	/usr/sbin/httpd -M   /usr/bin/egrep -v	modules/mod_userdir.so  Disabled the LoadModule directive from the
	Disable Info module -	'^([Ll]oaded [Ss]yntax)'   /usr/bin/egrep	Apache configuration files httpd.conf
	'info_module is not	'info_module'   /usr/bin/awk '{print} END {if (NR	#LoadModule info_module
1.2.8	loaded	== 0) print "none"}''	modules/mod_info.so
		/etc/httpd/conf/httpd.conf	
		/usr/bin/id apache'	
	Dung the Arrest 144	This to a green I this to be a second of the	
	Run the Apache Web	/bin/ps axu   /bin/grep httpd   /usr/bin/egrep -v	
	Server as a non-root user - 'httpd.conf	'(^root grep\s+httpd)'   /usr/bin/egrep -v '^apache'   /usr/bin/awk '{print} END {if (NR == 0)	Applications runs as apache user and apache
1.3.1	User = apache	print "none"}"	group
1.0.1	Give the Apache User	F	0
	Account an Invalid	/bin/grep apache /etc/passwd   /usr/bin/egrep -v	
	Shell - 'apache user	'\sbin\/nologin\s*\$'   /usr/bin/awk '{print} END	
1.3.2	shell is /sbin/nologin	{if (NR == 0) print "none"}"	Set to /sbin/nologin shell.
	Lock the Apache User		
	Account - 'apache		
1.3.3	user password	/usr/bin/passwd -S apache	passwd -l apache
	Amarka Diwastawa a		
	Apache Directory and File Ownership -		
	'\$APACHE PREFIX	Update APACHE_PREFIX with the proper value for	change apache path /usr/local/apache2 to
1.3.4	owned by root:root	the local environment	/etc/httpd/conf- Owned by root
	Switca by 100t.100t	and local chim offinicht	, sta, intepa, com Owned by 100t

	Apache Directory and		
	File Permissions -		
	'\$APACHE_PREFIX		
1.3.5	mode 755'	Update /etc/httpd/conf to 755	Apache Directories are set to 755
	Apache Directory and		
	File Permissions -		
	'\$APACHE_PREFIX/bi		All apache directory has permission 755 and
1.3.5	n mode 751	Update /etc/httpd/conf with 755 and files to 644	files 644
	The		
	CoreDumpDirectory		
	directive can be used		
	to specify a directory		
	which Apache		
	attempts to switch		
	before dumping core	Change CORE_DUMP_DIR with the appropriate	Added CoreDumpDirectory /var/log/httpd in
1.3.6	for debugging	value for the local environment	httpd.conf file
	The PidFile directive		
	sets the file path to		
	the process ID file to		
	which the server		
	records the process		
	ID of the server Pid		
	File Security - 'PidFile		
1.3.8	is configured'	/etc/httpd/conf/httpd.conf	PID file is configured
	The PidFile directive		
	sets the file path to		
	the process ID file to		
	which the server		
	records the process		
	ID of the server,		
	which is usefulfor		
	sending a signal to		
	the server process or		
	for checking on the		
	health of the process.		
	If the PidFile is placed in a writable		
	directory, other accounts could		
	create a denial of		
	service attack and		
	prevent the server		
	from starting by		
	creating a pid file		/var/run/httpd - drwxx 2 root apache –
1.3.8	with the same name.	Validate Pid File Security - 'PidFile permissions	httpd
1.5.0	The ScoreBoardFile	Tanada i i i i i i i i i i i i i i i i i i	
	directive sets a file		
	path which the server		
	will use for inter-		
	process	ScoreBoard File Security - 'ScoreBoardFile is	
	communication (IPC)	configured	
	among the Apache	/etc/httpd/conf/httpd.conf" does not contain	
1.3.9	processes	"^[\s\t]*[Ss]core[Bb]oard[Ff]ile\s+	Changes updated
		Extra broader of care with tarrets	G

	1		T
	Deny Access to OS	/bin/sed -n '/ <directory \=""></directory> /,/<\/Directory>/p'	
	Root Directory -	/etc/httpd/conf/httpd.conf   /usr/bin/egrep	
	'httpd.conf Order =	'^\s*[Oo]rder\s+	
	Deny,Allow		
	Deny Access to OS	'/bin/sed -n '/ <directory \=""></directory> /,/<\/Directory>/p'	perl -ne 'print if /^ * <directory *\="" i<="" th=""></directory>
	Root Directory -	/etc/httpd/conf/httpd.conf   /usr/bin/egrep	/<\/Directory/i' /etc/httpd/conf/httpd.conf
	'httpd.conf Deny =	'^\s*[Dd]eny\s+''	<directory></directory>
	from all'	(* (* -1 - ) (* -	Order deny,allow
	Deny Access to OS	/bin/sed -n '/ <directory \=""></directory> /,/<\/Directory>/p'	Deny from all
	Root Directory -	/etc/httpd/conf/httpd.conf   /usr/bin/egrep	Options None
	'httpd.conf no Allow	'^\s*[Aa]llow\s+'   /usr/bin/awk '{print} END {if	AllowOverride None
1 1 1	•		
1.4.1	directives exist	(NR == 0) print "none"}"	
		/bin/sed -n '/ <directory "="" ,="" <\="" directory="">/p'</directory>	
		/etc/httpd/conf/httpd.conf   /usr/bin/egrep	
		'^\s*[Oo]rder\s+'   /usr/bin/egrep -v	
		'^\s*[Oo]rder\s+[Dd][Ee][Nn][Yy],\s*[Aa][Ll][Ll][O	
	Allow Appropriate	o][Ww]'   /usr/bin/awk '{print} END {if (NR == 0)	
	Access to Web	print "none"}''	
	Content - 'httpd.conf		
	Order = Deny,Allow	/bin/sed -n '/ <directory< td=""><td></td></directory<>	
	Allow Appropriate	"\\/var\\/www\\/html"/,/<\/Directory>/p'	
	Access to Web	/etc/httpd/conf/httpd.conf   /usr/bin/egrep	
	Content - 'httpd.conf	'^\s*[Dd]eny\s+''	
	Deny is configured	(2 [Dajeny (3)	Apply configuration as per recommendation
		/hin/and in I/sDivingtons	
	Allow Appropriate	/bin/sed -n '/ <directory< td=""><td>in all directory. <directory></directory></td></directory<>	in all directory. <directory></directory>
	Access to Web	"\\/var\\/www\\/html"/,/<\/Directory>/p'	Order deny,allow
	Content - 'httpd.conf	/etc/httpd/conf/httpd.conf   /usr/bin/egrep	Deny from all
1.4.2	Allow is configured	'^\s*[Aa]llow\s+''	
	The Apache OverRide		
	directive allows for		
	.htaccess files to be		
	used to override		
	much of the		
	configuration,		
	including		
	authentication,handli		
	ng of document		
	types, auto		
	generated indexes,		
	_		
	access control, and		
	options. When the		
	server finds an		
	.htaccess file (as		
	specified by		
	AccessFileName) it		
	needs to know which		
	directives declared in		
	that file can override		
	earlier access		
	information. When		
	this directive is set to		
	None, then .htaccess		
	files are completely		
	ignored. In this case,		
	the server will not		<directory></directory>
	even attempt to read		Spirectory/
	.htaccess files in the	/hin/sod n 1/2 Directory \ \ / / / \ / Directory \ /-!	AllowOverride None
		/bin/sed -n '/ <directory \=""></directory> /,/<\Directory>/p'	
1 4 2	filesystem. When this	/etc/httpd/conf/httpd.conf   /usr/bin/egrep	/Directors
1.4.3	directive is set to All,	'^\s*[Aa]llow[Oo]verride\s+'	

	then any directive which has the .htaccess. Context is allowed in .htaccess files.Restrict OverRide for the OS Root Directory - 'httpd.conf AllowOverride = None		
1.4.4	Restrict OverRide for All Directories - 'httpd.conf AllowOverride = None	/bin/sed -n '/ <directory "="" ,="" <\="" directory="">/p' /etc/httpd/conf/httpd.conf   /usr/bin/egrep '^\s*[Aa]llow[Oo]verride\s+'   /usr/bin/egrep -v '^\s*[Aa]llow[Oo]verride\s+[Nn]one'   /usr/bin/awk '{print} END {if (NR == 0) print "none"}"</directory>	<directory> AllowOverride None </directory>
1.5.1	Restrict Options for the OS Root Directory - 'httpd.conf Options = None	'/bin/sed -n '/ <directory \=""></directory> /,/<\/Directory>/p' /etc/httpd/conf/httpd.conf   /usr/bin/egrep '^\s*[Oo]ptions\s+''	<pre><directory> Options None </directory></pre>
1.5.2	Restrict Options for the Web Root Directory - 'httpd.conf Options = None or Multiviews	<pre>'/bin/sed -n '/<directory "="" ,="" <\="" directory="">/p' /etc/httpd/conf/httpd.conf   /usr/bin/egrep '^\s*[Oo]ptions\s+'   /usr/bin/egrep -v '^\s*[Aa]llow[Oo]verride\s+([Nn]one [Mm]ulti[Vv ]iews)'   /usr/bin/awk '{print} END {if (NR == 0) print "none"}"</directory></pre>	<directory> Options None </directory>
1.5.3	Minimize Options for Other Directories - 'httpd.conf Options does not have Includes	'/bin/sed -n '/ <directory "="" ,="" <\directory="">/p' /etc/httpd/conf/httpd.conf   /usr/bin/egrep '^\s*[Oo]ptions\s+'   /usr/bin/egrep -v '\s*[Ii]ncludes[N]o[Ee]xec'   /usr/bin/egrep '\s*[Ii]ncludes'   /usr/bin/awk '{print} END {if (NR == 0) print "none"}"</directory>	Includes option not used.
1.5.4	Remove Default HTML Content - 'httpd-manual is not installed	"/etc/httpd/conf/httpd.conf" does not contain "^[\s\t]* <location server-status="">\s*"</location>	Content has been removed
1.5.4	Remove Default HTML Content - 'Server Status handler does not exist	"/etc/httpd/conf/httpd.conf" does not contain "^[\s\t]* <location server-status="">\s*"</location>	Content has been removed
1.5.4	Remove Default HTML Content - 'Server Information handler does not exist	"/etc/httpd/conf/httpd.conf" does not contain "^[\s\t]* <location server-info="">\s*"</location>	Content has been removed
1.5.4	Remove Default HTML Content - 'perl- status handler does not exist	"/etc/httpd/conf/httpd.conf" does not contain "^[\s\t]* <location perl-status="">\s*"</location>	Content has been removed
1.5.5	Remove Default CGI Content printenv - 'printenv does not exist'	/var/www/cgi-bin/printenv	Content has been removed

	I		
	Damana Dafault CCI		
	Remove Default CGI Content test-cgi -		
	'test-cgi does not		
1.5.6	exist	/var/www/cgi-bin/test-cgi	Content has been removed
1.5.0		/vai/www/cgi-biii/test-cgi	Content has been removed
	Limit HTTP Request	White food in 14 Discretors	
	Methods -	'/bin/sed -n '/ <directory< td=""><td>ALCOHOLOGIC POST OPTIONS</td></directory<>	ALCOHOLOGIC POST OPTIONS
	'httpd.conf	"\\\/var\\/www\\/html"/,/<\/Directory>/p'	<limitexcept get="" options="" post=""></limitexcept>
4 - 7	Document Root	/etc/httpd/conf/httpd.conf   /usr/bin/egrep	deny from all
1.5.7	Order = Allow, Deny	'^\s*[Oo]rder\s+''	
	Limit HTTP Request		
	Methods -		
	'httpd.conf	The common of Main for the Mark Pinnston	
	Document Root	The command '/bin/sed -n '/ <directory< td=""><td>Configure distincts</td></directory<>	Configure distincts
	LimitExcept =	"\\\/var\\/www\\/html"/,/<\/Directory>/p'	Configure <limitexcept get="" options="" post=""></limitexcept>
1 - 7	GET,POST or	/etc/httpd/conf/httpd.conf   /usr/bin/egrep	deny from all
1.5.7	OPTIONS only'	'^\s*<[Ll]imit[Ee]xcept\s+"	for all directories.
	Disable HTTP TRACE		
	Method - 'httpd.conf		
1.5.8	TraceEnable = off'	/etc/httpd/conf/httpd.conf	Trace is OFF
	Restrict HTTP		
	Protocol Versions -		
	'httpd.conf		
	RewriteEngine = on		
	Restrict HTTP		
	Protocol Versions -		
	'httpd.conf	'/bin/egrep '^[\s\t]*[Rr]ewrite[Ee]ngine\s*'	
	RewriteCond =	/etc/httpd/conf/httpd.conf   /usr/bin/egrep -v	
	%{THE_REQUEST}	'^[\s\t]*[Rr]ewrite[Ee]ngine\s+[Oo][Nn]\s*\$'	
	!HTTP/1.1\$'	/usr/bin/awk '{print} END {if (NR == 0) print	
	Restrict HTTP	"none"}"	
	Protocol Versions -		
	'httpd.conf	'/bin/egrep '^[\s\t]*[Rr]ewrite[Cc]ond\s*'	
	RewriteRule = .* - [F]	/etc/httpd/conf/httpd.conf   /usr/bin/egrep -v	
	Restrict HTTP	'^[\s\t]*[Rr]ewrite[Cc]ond\s+%{THE_REQUEST}\s+	
	Protocol Versions -	!HTTP/1\\.1\\$'   /usr/bin/awk '{print} END {if (NR	
	'httpd.conf	== 0) print "none"}"	
	<virtualhost></virtualhost>		
	RewriteEngine = on	'/bin/sed -n '/### Section 3: Virtual Hosts/,\$p'	
	Restrict HTTP	/etc/httpd/conf/httpd.conf   /usr/bin/egrep	
	Protocol Versions -	'( <virtualhost [rr]ewrite[ee]ngine)''< td=""><td>Add this in httpd.conf file</td></virtualhost [rr]ewrite[ee]ngine)''<>	Add this in httpd.conf file
	'httpd.conf		RewriteEngine On
	<virtualhost></virtualhost>	'/bin/sed -n '/### Section 3: Virtual Hosts/,\$p'	RewriteOptions Inherit
	RewriteOptions =	/etc/httpd/conf/httpd.conf   /usr/bin/egrep	RewriteCond %{THE_REQUEST} !HTTP/1\.1\$
1.5.9	inherit	'( <virtualhost [rr]ewrite[oo]ptions)''< td=""><td>RewriteRule .* - [F]</td></virtualhost [rr]ewrite[oo]ptions)''<>	RewriteRule .* - [F]
		'/bin/sed -n '/ <filesmatch< td=""><td></td></filesmatch<>	
		"\^\\\.ht"/,/<\/FilesMatch>/p'	
	Restrict Access to	/etc/httpd/conf/httpd.conf   /usr/bin/egrep	
	.ht* files - 'httpd.conf	'^\s*[Oo]rder\s+''	
	Order = allow,deny	'/bin/sed -n '/ <filesmatch< td=""><td></td></filesmatch<>	
	Restrict Access to	"\^\\\.ht"/,/<\/FilesMatch>/p'	
	.ht* files - 'httpd.conf	/etc/httpd/conf/httpd.conf   /usr/bin/egrep	<filesmatch "^\.ht"=""></filesmatch>
	Deny = from all	'^\s*[Dd]eny\s+''	Order allow,deny
	Restrict Access to		Deny from all
	.ht* files - 'httpd.conf	'/bin/sed -n '/ <filesmatch< td=""><td>Satisfy All</td></filesmatch<>	Satisfy All
1.5.10	Satisfy = all	"\^\\\.ht"/,/<\/FilesMatch>/p'	

		/etc/httpd/conf/httpd.conf   /usr/bin/egrep '^\s*[Ss]atisfy\s+"	
1.6.1	Configure the Error Log - 'httpd.conf LogLevel = notice info or debug	'/bin/sed -n '/ <filesmatch "\^\\.ht"="" ,="" <\="" filesmatch="">/p' /etc/httpd/conf/httpd.conf   /usr/bin/egrep '^\s*[Ss]atisfy\s+"</filesmatch>	LogLevel notice
	Configure the Error Log - 'httpd.conf ErrorLog is	'/bin/sed -n '1,/### Section 3: Virtual Hosts/p' /etc/httpd/conf/httpd.conf   /usr/bin/egrep	
1.6.1	configured  Configure the Error  Log - 'httpd.conf <virtualhost>  ErrorLog is  configured</virtualhost>	'/[\s\t]*[Ee]rror[LI]og\s*"  '/bin/sed -n '/### Section 3: Virtual Hosts/,\$p' /etc/httpd/conf/httpd.conf   /usr/bin/egrep '( <virtualhost [ee]rror[li]og)"< td=""><td>LogLevel notice; ErrorLog "logs/error_log"  VirtualHost config not used and disabled</td></virtualhost [ee]rror[li]og)"<>	LogLevel notice; ErrorLog "logs/error_log"  VirtualHost config not used and disabled
1.6.2	Configure the Access Log - 'httpd.conf LogFormat is configured	Update LOG_FORMAT to the appropriate value for the local environment.	LogFormat "%h %l %u %t \"%r\" %>s %b \"%{Referer}i\" \"%{User-agent}i\"" CustomLog log/access_log combined
1.6.2	Configure the Access Log - 'httpd.conf CustomLog is configured	/bin/sed -n '1,/### Section 3: Virtual Hosts/p' /etc/httpd/conf/httpd.conf   /usr/bin/egrep '^[\s\t]*[Cc]ustom[Ll]og\s*''	set CustomLog logs/access_log combined
1.6.2	Configure the Access Log - 'httpd.conf <virtualhost> ErrorLog is configured</virtualhost>	'/bin/sed -n '/### Section 3: Virtual Hosts/,\$p' /etc/httpd/conf/httpd.conf   /usr/bin/egrep '( <virtualhost [cc]ustom[ll]og)"< td=""><td>VirtualHost config not used and disabled</td></virtualhost [cc]ustom[ll]og)"<>	VirtualHost config not used and disabled
1.6.4	Log Storage and Rotation - '/etc/logrotate.conf rotate log files = weekly'	Script awslogs.conf is already available at /var/awslogs/etc and used for transfer logs to another location.	Script awslogs.conf is already available at /var/awslogs/etc and used for transfer logs to another location.
1.6.4	Log Storage and Rotation - '/etc/logrotate.conf rotate > 52	Script awslogs.conf is already available at /var/awslogs/etc and used for transfer logs to another location.	Script awslogs.conf is already avaiable at /var/awslogs/etc and used for transfer logs to another location.
1.7.1	Install SSL, NSS modules	Mod_ssl loaded	Modules Loaded
1.7.2	Install a valid trusted certificate	Load T-Mobile Root, Intermediate and Issuing Certs	T-mobile certs used for SSL/TLS CA Root certs loaded to the server config in ssl.conf.

	Durate at the Common		
	Protect the Servers Private Key -		
	'httpd.conf		
	SSLCertificateFile is a	Store the private key in clear text so that a	Private key to owned by root:root with
1.7.3	private key'	passphrase is not required.	permission 0400.
1.7.5	private key	pussprinuse is not required.	permission o-co.
			cat /etc/httpd/conf.d/ssl.conf   grep
	Restrict weak SSL		SSLProtocol
	Protocols and Ciphers	Restrict weak SSL Protocols and Ciphers. Only TLS	352. 101035.
	- 'httpd.conf	versions should be allowed	SSLProtocol all -SSLv2 -SSLv3 - Added in
1.7.4	SSLProtocol		ssl.conf
	Restrict weak SSL		
	Protocols and Ciphers		
	- 'httpd.conf		
	SSLHonorCipherOrde		
	r = On'	Restrict weak SSL Protocols and Ciphers -	
1.7.4		'httpd.conf SSLHonorCipherOrder = On'	SSLHonorCipherOrder on in ssl.conf
	Restrict weak SSL		
	Protocols and Ciphers		
	- 'httpd.conf		SSLHonorCipherOrder On
	VirtualHost	Restrict weak SSL Protocols and Ciphers -	SSLCipherSuite
	SSLHonorCipherOrde	'httpd.conf VirtualHost SSLHonorCipherOrder =	ALL:!EXP:!NULL:!ADH:!LOW:!SSLv2:!SSLv3:!
1.7.4	r = On	On	MD5:!RC4
	Restrict Insecure SSL		
	Renegotiation -		
	'httpd.conf	/ota/bttnd/conf/bttnd.comf	CCI Incorure Demogratication off
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1.5.11   directive exists   /etc/httpd/conf/httpd.conf      Information Leakage via Default Apache Content - 'httpd.conf include conf/extra/httpd- autoindex.conf does autoindex.conf fas been removed   httpd.conf include conf/extra/httpd- autoindex.conf has been removed				
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	0.0.0.0:80 does not exists		
	Restrict Browser		
	Frame Options -		
	'httpd.conf X-Frame-	Restrict Browser Frame Options - 'httpd.conf X-	Header always append X-Frame-Options
1.9.4	Options SAMEORIGIN	Frame-Options SAMEORIGIN	SAMEORIGIN

# 4. Reference

https://benchmarks.cisecurity.org/tools2/apache/CIS\_Apache\_HTTP\_Server\_Benchmark\_v3.0.0.pdf