

Competitive Analysis: Sangfor NGAF vs SonicWall



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SANGFOR



SonicWall Introduction

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SonicWall, a major network security player, is based in Milpitas, California, offering multiple firewall product lines, branded as TZ Series, NSA Series, SuperMassive Series, NSSP Series and NSV Series. The NSV series supports VMware ESXI, Microsoft Hyper-V, and both BYOL and pay-as-you-go support for Microsoft Azure and AWS.

According to one of Gartner's recent report, it says, "SonicWall firewalls have their primary client base in midsize enterprises. Although the vendor has high-performing data center appliances, Gartner does not see them in this use case. The vendor has been introducing multiple product-related enhancements for the past three years, to offer a complete set of features. Overall, the visibility of the vendor on firewall shortlists is decreasing.

In addition to firewalls, SonicWall also sells wireless, remote access email security, cloud application security and endpoint security products.

Recent company news includes the introduction of a secure SD-WAN feature, adding zero-touch deployment through cloud management, Cloud App Security, Capture Security Center (CSC) for centralized management of all products, and Analyzer 2.0, which is SonicWall's flow analytics solution."

Source: Gartner Magic Quadrant for Network Firewalls 2019

SonicWall Disadvantages

02

Sales: According to Gartner's report, it sees declining SonicWall firewall revenue, recognizing SonicWall as the only UTM vendor with a revenue decline (-3.9%) in 2018. It also doesn't see it as a favorable shortlist candidate, based on client inquiries.

Market Responsiveness: The vendor lacks strong responsiveness as per the demands of clients. It was late in introducing virtual appliances, and in support for public cloud and SD-WAN. Gartner finds that SonicWall has been closing gaps, rather than introducing innovative features. Despite introducing multiple virtual appliances, its firewalls still lack support for SDN platforms, something being offered by the majority of its competitors in the market.

Product: The vendor lacks an on-premises sandboxing appliance, a desirable feature for highly regulated enterprises that do not want their data to leave the premises, particularly in emerging regions such as the Middle East, Asia and Latin America.

Customer Feedback: Surveyed clients have reported a lack of mature logging as one of the product weaknesses in GMS. They have specifically mentioned the logging details around firewall-rule-administration-related changes, which are not detailed enough.

Product Strategy: The vendor lacks integration capabilities with third-party NAC platforms. This makes SonicWall a less desirable shortlist candidate for enterprises seeking correlation and integration capabilities between their NAC products to disconnect infected hosts.

SonicWall is missing critical capabilities, listed as below:

- | | |
|-------------------------------|--|
| ■ Cloud-based deployment | ■ Integrated analytics and engagement tools |
| ■ Offline configuration | ■ Standard reporting and dash boards |
| ■ Device detection | ■ Cloud-ready visualization platform included |
| ■ Advanced malware protection | ■ Usage and bandwidth consumption map included |

Sangfor Strengths

1. Independent Anti-Ransomware Status Page:

Sangfor NGAF performs ransomware exposed surface inspection. Through business asset open ports, ransomware commonly uses vulnerabilities and weak password inspection to find exposed surfaces. NGAF also makes specific optimization suggestions based on network intelligence.

2. Powerful Ransomware Killing - Sangfor Engine Zero Performance:

IPS

Equipment	Policy	Vulnerability Attack	Vulnerability Blocked	Block Rate
NGAF	Default	34	29	85%
Sonicwall	Default	34	18	53%

WAF

Equipment	Policy	Vulnerability Attack	Vulnerability Blocked	Block Rate
NGAF	Default	379	379	100%
Sonicwall	Default	379	78	21%

Known Malware

Equipment	Policy	Malware Sample	Malware Blocked	Block Rate
NGAF	Default	300	299	99.67%
Sonicwall	Default	300	70	23%

Unknown Malware

Equipment	Policy	Malware Sample	Malware Blocked	Block Rate
NGAF	Default	43	43	100.00%
Sonicwall	Default	43	25	58%

3. Sangfor RDP/SMB/SSH slow and distributed brute force protection

4. Ransomware C2 process evidence display

5. Data Center Security - Least Privileged Access provides better visibility of production traffic, and reduces the attack surface of critical assets

6. Strategy Optimization Module:

Policy clean-up, asset discovery, network mapping and policy tracking

7. Cloud-Based Management:

Platform-X supports device monitoring, unified upgrade, remote password-free login, cloud policy template editing, unified policy issuance, intelligent alarms, report analysis, and serial number unified viewing.

8. Centralized Management:

Sangfor Central Manager

9. Zero touch deployment & centralized monitoring and management

10. Advanced Threat Detection: relying on cloud, behavior and AI technologies

- Advanced Threat Intelligence
- C&C Identification with DGA
- Engine Zero: Advanced Malware Inspection Engine
- Cloud-Based Sandboxing

11. Real-Time Threat Detection

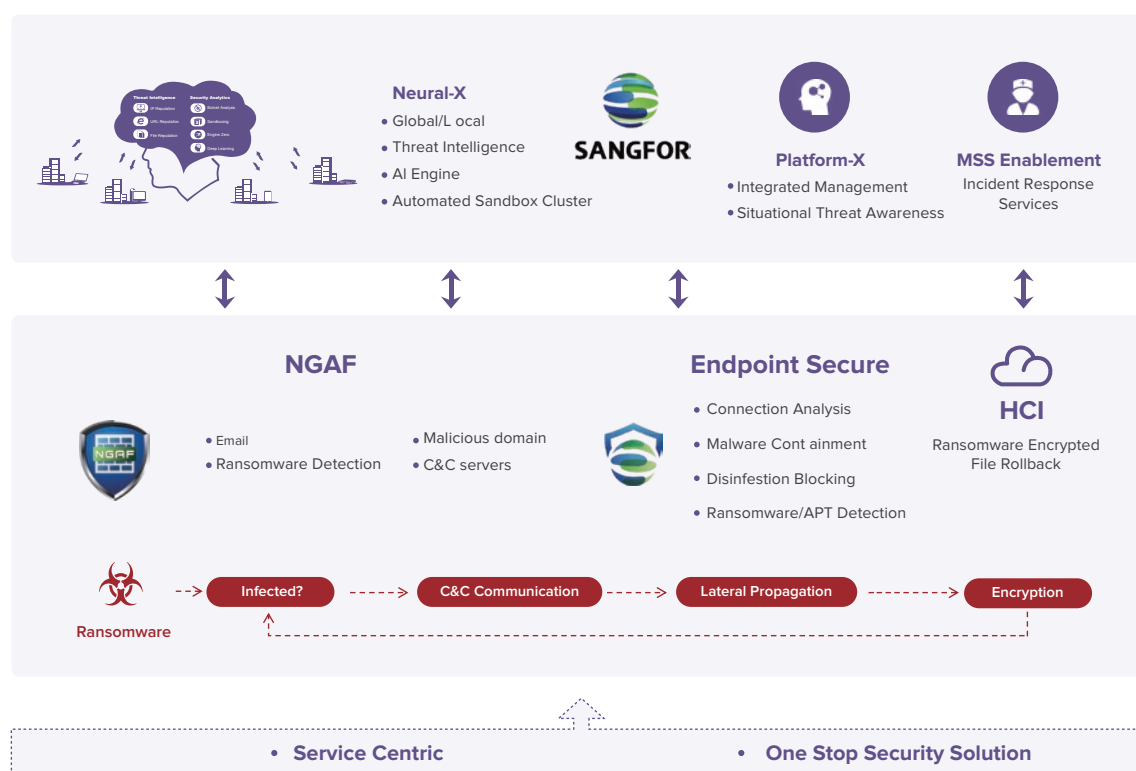
Sangfor provides an easy to understand risk score and visibility for the enterprises, significantly improving the time to detect and respond.

12. SANGFOR NGAF Cluster analysis of threatening events based on asset perspective

13. Fully integrated ability to cover cloud, network and endpoint.

14. For scenarios with multiple zones and multiple firewalls, SANGFOR NGAF provides global threat management and visualization through Cyber Command.

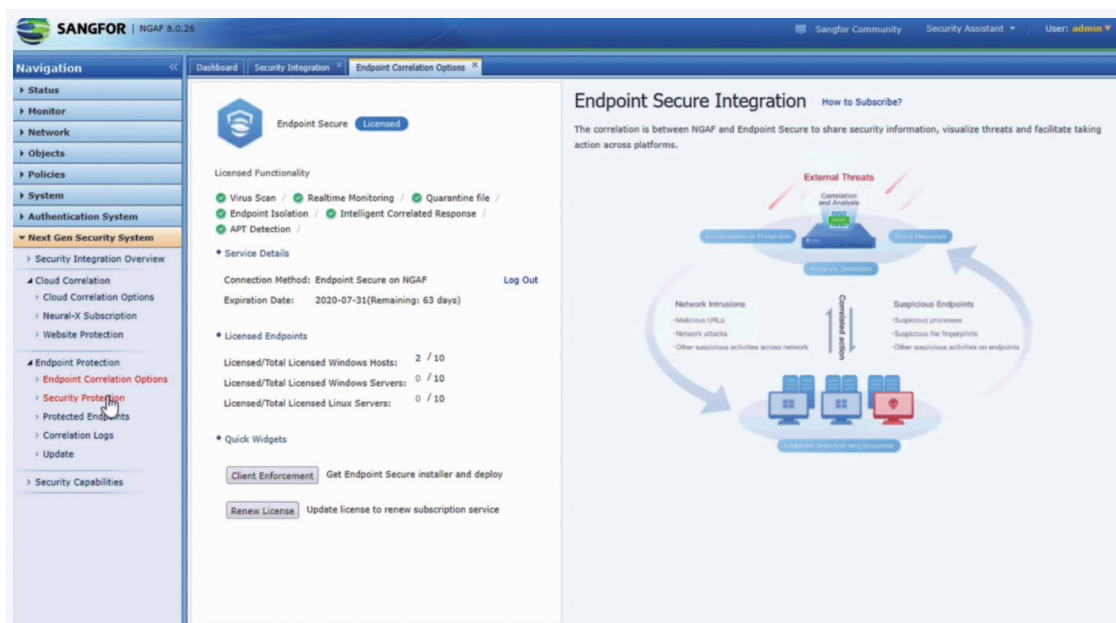
15. Multi-Product Integrated Solution:



16. Automation between Firewall and Endpoint Secure/Cyber Command

17. Centralized Threat Correlation between Firewall and Endpoint Secure

Sangfor is the only vendor with comprehensive integrated EDR on firewall, extremely suited to the mid-market, and with EDR hosted on Platform-X suited to large enterprise deployment.



Competitive Comparison

04

● Strong ● Weak

Features	Sangfor	SonicWall	Sangfor advantages
Security Visibility	●	●	Integrated Security Reporter providing a holistic, end-to-end security overview, from business system to endpoint users and their correlation, detailed visibility.
Total Business System Protection	●	●	Support Application Firewall which includes: Top 10 OWASP Certified, Support web application threat signatures, HTTP Anomalies Detection, Application Hiding, Integrated Web Scanner & Vulnerability Scanner and Integrated Security Reporter
Real Time Detection & Rapid Response	●	●	Automatic protection for pre-attack, mid-attack and post-attack.
Known & Unknown Threat Protection	●	●	Sangfor Engine Zero: 1. Supports Machine Learning method to recognize new variants of malware, viruses and ransomware 2. Supports behavior detection methods for new file-based threat 3. Uploads suspicious files to cloud to detect, not including files with private information Sangfor Neural-X: 1. Supports the use of cloud threat intelligence to do Unknown Threat Discovery and Advanced Threat Analytics 2. Suspicious URL/DNS will be detected by Neural-X 3. Professional support 4. Updates Calendar to show upgrade capabilities and trends 5. Shows hot events

● Strong ● Weak

Features	Sangfor	SonicWall	Sangfor advantages
Traditional FW	●	●	Sangfor NGAF is compatible with all traditional firewall features, including switching/routing, access control, AA/AS dual-system hot backup, software and hardware bypass, system management, log reporting, session management, anti-DDoS attacks, application proxy, DHCP/ DNS, etc
IPS	●	●	<p>1. Sangfor supports vulnerability attack protection for server and client, protecting clients from worms, Trojans, spyware, scanning, DoS, DDoS, vulnerability exploits, buffer overflow attacks, abnormal protocol and attacks with evasive tactic employed.</p> <p>2. Sangfor supports brute-force attack for FTP, IMAP Auth, IMAP Login, IMAP Standard, IMAP Tls, MS Sql2000, MS Sql2008, Mysql, Ntlm, Oracle, POP3 Apop, POP3 Tls, POP3 User, RDP Win8, RDP Winxp, Rlogin, SMB, SMB2, SMTP Auth, SSH, Telnet, VNC Encrypt, VNC Unencrypt, Weblogic;</p> <p>3. Sangfor supports automatically blocking, logging and upload of gray threat to the "cloud"</p> <p>4. Detects more than 4000+ signatures</p> <p>5. The policy can be configured based on src/dst zone, src/dst IP group</p> <p>6. Sangfor supports TCP evasion detection</p>
Application Control	●	●	<p>Sangfor supports ACL based on source IP/zone, users/groups, dst IP/zone, application, protocol, src/dst port, and schedule;</p> <p>Supports more than 1000 applications, more than 2500 application rules and custom rules</p> <p>It is not recommended to enable log record and persistent connection</p> <p>Supports up to 4096 entries</p>
URL Filter	●	●	<p>Sangfor supports URL filter based on source IP/zone, users/groups, dst IP/zone, URL category and schedule.</p> <p>Support HTTP(get), HTTP(post), HTTPS filter</p> <p>Supports HTTP(S) upload/download file type filter</p> <p>URL and file types can be customized</p>
E-mail Security	●	●	<p>Sangfor mail protection supports detection of mail attachments with viruses, malicious links, XSS attacks, file filters, and collision attacks.</p> <p>Mail whitelist can be added with IP address and email address, with a sender and receiver.</p> <p>Mail protection default detects port 25,110,143, it can support other ports using custom settings.</p>
Anti-ransomware	●	●	<p>Sangfor Ransomware Protection: Pre-attack: Sangfor provides vulnerability assessment</p> <p>Mid-Attack: Sangfor provides AI-based malware inspection and RDP password brute force inspection</p> <p>Post-Attack - Sangfor provides quick response</p>

● Strong ● Weak

Features	Sangfor	SonicWall	Sangfor advantages
Centralized management	●	●	<p>Sangfor supports joining NGAF device to Central Management platform Sangfor BBC2.5.3 and being managed through the platform.</p> <p>(a) Push down configurations from Sangfor Central Manager to NGAF devices and management of those configurations on Sangfor Central Manager.</p> <p>(b) NGAF devices can be upgraded via Sangfor Central Manager by importing upgrade package manually or by obtaining upgrade package online.</p> <p>(c) 12 databases on NGAF device can be updated via Sangfor Central Manager, including Sangfor Engine Zero file verification model database, URL database, IPS vulnerability signature database, software update, application signature database, WAF signature database, sensitive keyword database, vulnerability database for RT analytics, IP address database,</p> <p>threat intelligence database, hot threat database and security events database.</p> <p>(d) Support pushing down predefined and custom signature database from Sangfor Central Manager.</p> <p>(e) Security overview, business system and user/group security information can be reported to and displayed on Sangfor Central Manager.</p> <p>(f) Support configuring alarm settings centrally on Sangfor Central Manager platform and reporting alarm configuration from branch devices.</p> <p>(g) Support connecting NGAF device deployed in high availability or cluster environment to Sangfor Central Manager platform for central management.</p> <p>(h) Support 15 predefined zones in Network > Interfaces > Zone.</p>
Neural-X (Cloud based TI)	●	●	<p>Neural-X is a security center with threat intelligence and unknown threat detection capabilities. The threat intelligence center, also a security capability center, gathers masses of intelligence data, including that from Sangfor's on-line security devices, third-party security vendor (such as Virustotal purchase and Google open inquiry) and security communities. The center carries out user granularity analysis for accumulated security intelligence data through big data and cloud computing technology by utilizing various data analysis and artificial intelligence algorithms, and sends real-time intelligence to security devices (such as NGAF, Cyber Command, IAM, ES, and WAF, that have access to Neural-X) by subscription. Security devices load intelligence as required, and carry out detection, analysis and disposition based on intelligence according to their own functions.</p>

● Strong ● Weak

Features	Sangfor	SonicWall	Sangfor advantages
Wifi integration protection	●	●	Sangfor does not support this function at the moment
Product integration	●	●	Sangfor provides many product integration solutions for different customers. For instance, Firewall + Sangfor Endpoint Secure + Central Manager + Cyber Command + Neural-X, Firewall + Platform-X + Sangfor Endpoint Secure.
Mobile endpoints	●	●	Sangfor does not support this function at the moment
Web Application	●	●	<p>Sangfor Web Application function:</p> <ol style="list-style-type: none"> 1. Use next generation WAF engine, including traditional SNORT based engine and Semantic engine, defends against the 10 major web-based attacks identified by the Open Web Application Security Project (OWASP), including SQL injection, XSS and CSRF. 2. Supports restricting suspicious file uploading with asp, asa, exe, jsp, php, aspx, php3, php4, phtml, and vbs file types. 3. Supports application hiding of HTTP error page replacement, HTTP (S) response headers hidden, and FTP server and software version information hidden, etc. 4. Supports CC attack prevention 5. Supports FTP Weak Password Protection, web-access weak password, web-access cleartext request inspection and defense against brute-force attacks 6. Supports performing inspection of content at the perimeter for incoming traffic. Only allow input parameters that conform to the application functionalities required of the web application and no malicious input parameters; 7. Supports HTTP protocol abnormal detection and sHTTP request method filter 8. Supports protect for HTTP attack based on session and cookies 9. Supports more than 3000+ signatures 10. Supports machine learning to learn the business model and reduce false positive for webshell, SQL injection, etc.
Cloud-based management	●	●	Sangfor Platform-X is a cloud-based security management platform, equipped to manage all Sangfor security products in the cloud by collecting, analyzing and displaying all security logs. It supports NGAF & Endpoint Secure management, event correlation etc.

● Strong ● Weak

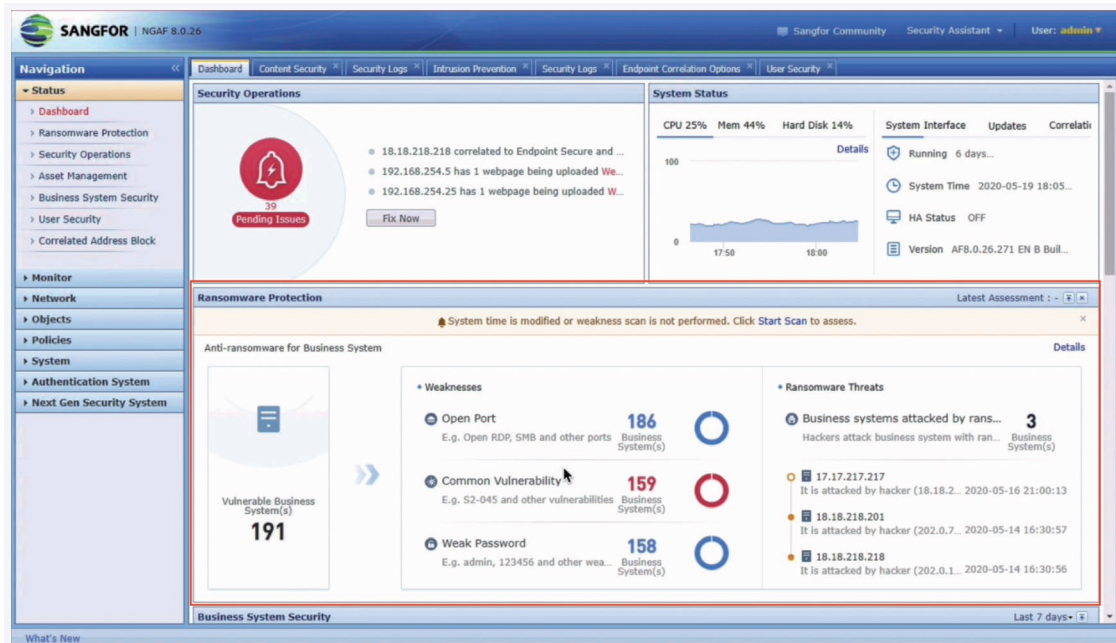
Features	Sangfor	SonicWall	Sangfor advantages
Reporting & analytics	●	●	Sonicwall requires additional reporting tool-Sonicwall Analytics
Simplified Security Operation	●	●	Friendly user interface, with minimize the challenge of misconfiguration of security policies. Intuitive reporting which provides details information for management, incident response, as well as daily operations.
SDN	●	●	Sonicwall is lack of SDN function while Sangfor can support SDN with Sangfor HCI. The cooperation with Huawei and H3C on SDN function is in process.

Model Comparison

05

NGAF	Threat Prevention Throughput	SonicWall	Threat Prevention Throughput
M4500	1Gbps	TZ500 / TZ500 W	700Mbps
M5100	1.2Gbps	TZ600 / TZ600 P	800Mbps
M5200	1.75Gbps	NSa 3650	1.75Gbps
M5300	3.5Gbps	NSa 4650	2.5Gbps
M5400	4.2Gbps	NSa 5650	3.4Gbps
M5500	8.4Gbps	NSa 9250	6.5Gbps
M5600	16.8Gbps	NSa 9650	9.4Gbps
M5900	50.4Gbps	NSSP 12400	33.5Gbps
M6000	67.2Gbps	NSSP 12800	67.5Gbps

1. Independent Anti-Ransomware Module



2. SDN is a function which SonicWall doesn't have. As of today, Sangfor doesn't support VMware NSX. Instead, Sangfor has strong SDN support through Sangfor HCI, and our NGAF has a native integration.
3. Sangfor WAF is a pay-as-you-go licensing model which is much more cost effective than SonicWall
4. SonicWall integration is not real integration, with no automation disposition
5. SonicWall has been accused of providing a less detailed view of data
6. SonicWall only has a cloud sandbox and no local sandbox, and is not suitable for enterprises that do not want data to leave the local area
7. Sangfor can provide incident response service, which many vendors cannot provide.

Certifications & Achievements

07

Gartner

Gartner

Sangfor Technologies has been listed in the Gartner Magic Quadrant for Network Firewalls since 2014.



NSS LABS Private Test Result

Sangfor NGFW 10 Private Test with NSS Labs (2019/2020)

Sangfor NGFW 10 Private Engagement Scorecard (2019.11.7)
(Model: NGAF M5300-F-I)

Test ID Description	Result	Rated Throughput
3 Security Effectiveness		
3.3.1 False Positive Testing	PASS	4, 629
3.3.2 Exploit Block Rate	/	
3.3.2.1 Exploit Library Block Rate	97.5%	
3.3.2.2 Live Exploit Block Rate	Pull From CAWS	
3.3.3 Coverage by Attack Vector	/	
3.3.3.1 Attacker Initiated	97.0%	
3.3.3.2 Target Initiated	98.2%	
3.3.3 Combined Total	97.5%	

SSL/TLS Private Test Engagement (2020.3.17)
TLS Scorecard Sangfor Complete Vendor (Model: M5300-F-I)

Test ID Description	Result
2 SSL/TLS Functionality Testing	
2.1 Decryption Validation	PASS
2.3.1 Top 30 Cipher Suites	24 out of 24
2.3.2 Emergent Ciphers	2 out of 2
2.3.3 x25519 elliptical curve specification	FAIL
2.4 Prevention of weak ciphers	PASS
Decryption bypass policy based on layer 3 information	PASS
Decryption bypass policy based on layer 4 information	PASS
Decryption bypass policy based on Server Name Indication (SNI)	FAIL
TLS extension information	
Decryption bypass policy based on Common Name (CN) and/or Subject Alternative Name (SAN)	FAIL
2.5 Certificate validation	FAIL
2.6 Support for Session ID re-use method	PASS
Support for Session Ticket re-use method	PASS

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Performance Comparison

Test ID	Configuration	Throughput (Mbps)	Latency (ms)
1	TLS ECDHE-RSA WITH AES 128 GCM SHA256	1,000	1.000
2	TLS ECDHE-RSA WITH AES 256 GCM SHA256	1,000	1.000
3	TLS ECDHE-RSA WITH AES 128 GCM SHA256	1,000	1.000
4	TLS ECDHE-RSA WITH AES 256 GCM SHA256	1,000	1.000
5	TLS ECDHE-RSA WITH AES 128 GCM SHA256	1,000	1.000
6	TLS ECDHE-RSA WITH AES 256 GCM SHA256	1,000	1.000

Performance Comparison (Mbps)

Baseline HTTP

TLS ECDHE-RSA WITH AES 256 GCM SHA256 (N)

TLS ECDHE-RSA WITH AES 256 GCM SHA256 (R)

TLS ECDHE-RSA WITH AES 128 GCM SHA256 (N)

TLS ECDHE-RSA WITH AES 128 GCM SHA256 (R)

2880KB

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EAL4+ (In Progress)



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