



Secure Router Manual

XG-1541

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This Quick Start Guide covers the first time connection procedures for the Netgate XG-1541 1U Secure Router and also provides information needed to stay up and running.

GETTING STARTED

Use the following steps to configure the TNSR Secure Router.

1. To configure the Network Interfaces and gaining access to the Internet, follow the instructions provided in the [Zero-to-Ping](#) documentation.

Note: Not all steps in the Zero-to-Ping documentation will be necessary for every configuration scenario.

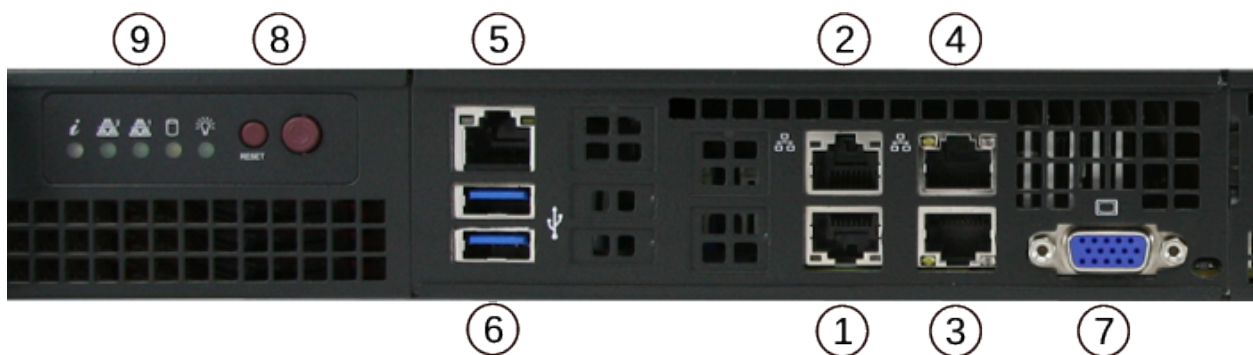
2. Once the Host OS is capable of reaching the Internet, check for updates ([Updating TNSR](#)) before proceeding. This ensures the security and integrity of the router before TNSR interfaces are exposed to the Internet.
3. Finally, configure the TNSR instance to meet the specific use case. The topics are listed on the left column of the [TNSR Documentation](#) site. There are also [TNSR Configuration Example Recipes](#) that might be of assistance when configuring TNSR.

INPUT AND OUTPUT PORTS

Contents

- *Input and Output Ports*
 - *Default Configuration*
 - * *Network Ports*
 - * *Other I/O*
 - * *Status LEDs*
 - *With CPIC-8955 Accelerator Card with Intel® QuickAssist Technology*
 - *With 2 Port Intel 1 Gbps Ethernet Expansion Card*
 - *With 4 Port Intel 1 Gbps Ethernet Expansion Card*
 - *With 2 Port Chelsio 10 Gbps Ethernet Expansion Card*

2.1 Default Configuration



2.1.1 Network Ports

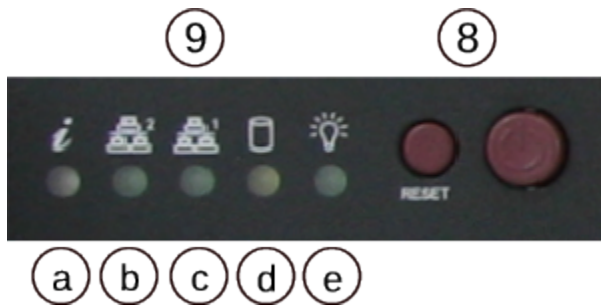
Port	CentOS Label	TNSR Label	Port Type	Port Speed
1	eno1	GigabitEthernet6/0/0	RJ-45	1 Gbps
2	eno2	GigabitEthernet6/0/1	RJ-45	1 Gbps
3	eno3	TenGigabitEthernet3/0/0	RJ-45	10 Gbps
4	eno4	TenGigabitEthernet3/0/1	RJ-45	10 Gbps

Note: Default Host OS Interface is **eno1**. The Host OS Interface is one network interface that is only available to the host OS and not available in TNSR. Though technically optional, we strongly recommend having one for accessing and updating the host OS.

2.1.2 Other I/O

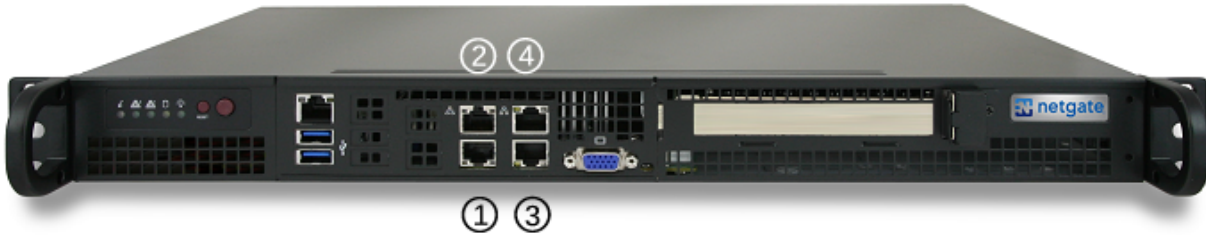
Port	I/O Type
5	IPMI
6	2x USB 3.0
7	VGA
8	Reset & Power buttons
9	Status LEDs (see table below)

2.1.3 Status LEDs



LED	State	Description
9a	Continuously on and red	An overheat condition has occurred. (This may be caused by cable congestion.)
	Blinking red (1Hz)	Fan failure, check for an inoperative fan.
	Blinking red (0.25Hz)	Power failure, check for a non-operational power supply.
	Solid blue	Local UID has been activated. Use this function through IPMI to locate the server in a rack mount environment.
	Blinking blue	Remote UID is on. Use this function through IPMI to identify the server from a remote location.
9b	Flashing	Indicates network activity on igb1 (upper left port).
9c	Flashing	Indicates network activity on igb0 (lower left port).
9d	Flashing	Indicates IDE channel activity on the hard drive.
9e	Illuminated	Indicates power is being supplied to the system power supply units. This LED should normally be illuminated when the system is operating.
	Off	Indicates no power is being supplied to the system power supply. System is powered off.
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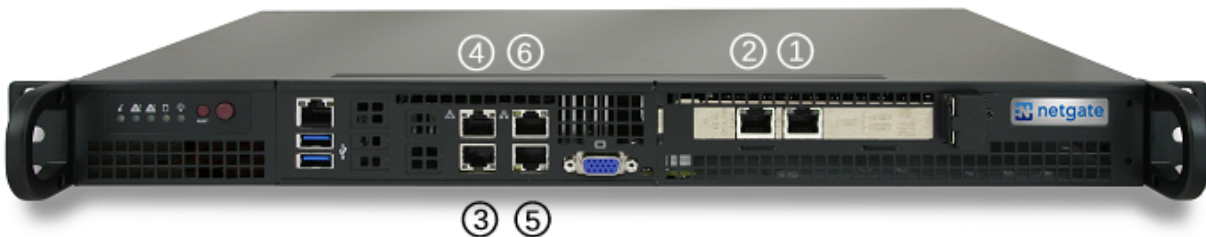
2.2 With CPIC-8955 Accelerator Card with Intel® QuickAssist Technology



Port	CentOS Label	TNSR Label	Port Type	Port Speed
1	eno1	GigabitEthernet6/0/0	RJ-45	1 Gbps
2	eno2	GigabitEthernet6/0/1	RJ-45	1 Gbps
3	eno3	TenGigabitEthernet3/0/0	RJ-45	10 Gbps
4	eno4	TenGigabitEthernet3/0/1	RJ-45	10 Gbps

Note: Default Host OS Interface is **eno1**. The Host OS Interface is one network interface that is only available to the host OS and not available in TNSR. Though technically optional, we strongly recommend having one for accessing and updating the host OS.

2.3 With 2 Port Intel 1 Gbps Ethernet Expansion Card

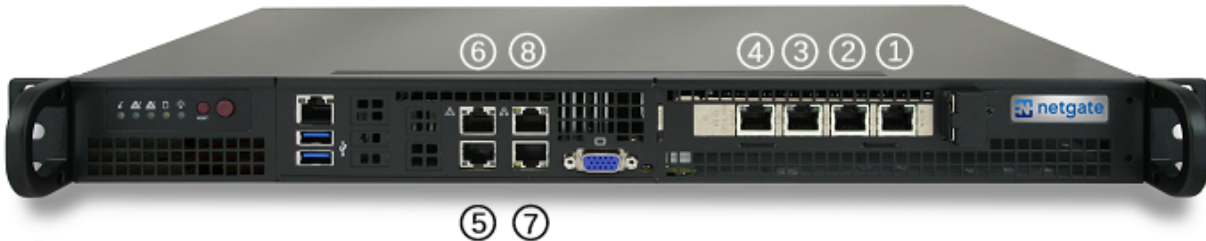


Port	CentOS Label	TNSR Label	Port Type	Port Speed
1	ens2f0	GigabitEthernet5/0/0	RJ-45	1 Gbps
2	ens2f1	GigabitEthernet5/0/1	RJ-45	1 Gbps
3	eno1	GigabitEthernet7/0/0	RJ-45	1 Gbps
4	eno2	GigabitEthernet7/0/1	RJ-45	1 Gbps
5	eno3	TenGigabitEthernet3/0/0	RJ-45	10 Gbps
6	eno4	TenGigabitEthernet3/0/1	RJ-45	10 Gbps

Note: Default Host OS Interface is **eno1**. The Host OS Interface is one network interface that is only available to the host OS and not available in TNSR. Though technically optional, we strongly recommend having one for accessing and updating the host OS.

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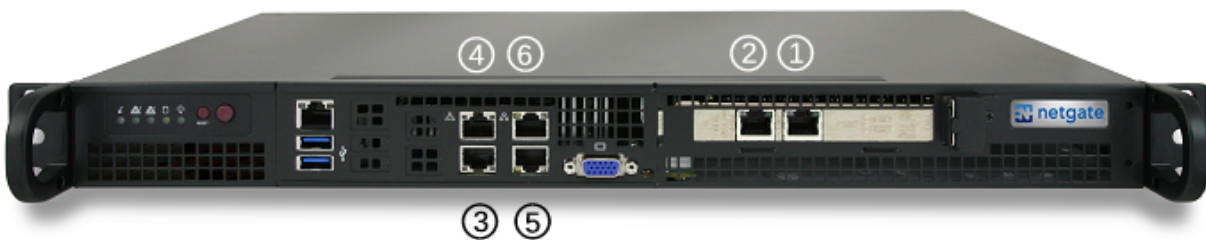
2.4 With 4 Port Intel 1 Gbps Ethernet Expansion Card



Port	CentOS Label	TNSR Label	Port Type	Port Speed
1	ens2f0	GigabitEthernet5/0/0	RJ-45	1 Gbps
2	ens2f1	GigabitEthernet5/0/1	RJ-45	1 Gbps
3	ens2f2	GigabitEthernet5/0/2	RJ-45	1 Gbps
4	ens2f3	GigabitEthernet5/0/3	RJ-45	1 Gbps
5	eno1	GigabitEthernet7/0/0	RJ-45	1 Gbps
6	eno2	GigabitEthernet7/0/1	RJ-45	1 Gbps
7	eno3	TenGigabitEthernet3/0/0	RJ-45	10 Gbps
8	eno4	TenGigabitEthernet3/0/1	RJ-45	10 Gbps

Note: Default Host OS Interface is **eno1**. The Host OS Interface is one network interface that is only available to the host OS and not available in TNSR. Though technically optional, we strongly recommend having one for accessing and updating the host OS.

2.5 With 2 Port Chelsio 10 Gbps Ethernet Expansion Card



1) 10 Gbps SFP+	4) 1 Gbps RJ-45
2) 10 Gbps SFP+	5) 10 Gbps RJ-45
3) 1 Gbps RJ-45	6) 10 Gbps RJ-45

SAFETY AND LEGAL

Contents

- *Safety and Legal*
 - *Safety Notices*
 - *Electrical Safety Information*
 - *FCC Compliance*
 - *Industry Canada*
 - *Australia and New Zealand*
 - *CE Marking*
 - *RoHS/WEEE Compliance Statement*
 - *Declaration of Conformity*
 - *Disputes*
 - *Applicable Law*
 - *Site Policies, Modification, and Severability*
 - *Miscellaneous*
 - *Limited Warranty*

3.1 Safety Notices

1. Read, follow, and keep these instructions.
2. Heed all warnings.
3. Only use attachments/accessories specified by the manufacturer

Warning: Do not use this product in location that can be submerged by water.

Warning: Do not use this product during an electrical storm to avoid electrical shock.

3.2 Electrical Safety Information

1. Compliance is required with respect to voltage, frequency, and current requirements indicated on the manufacturer's label. Connection to a different power source than those specified may result in improper operation, damage to the equipment or pose a fire hazard if the limitations are not followed.
2. There are no operator serviceable parts inside this equipment. Service should be provided only by a qualified service technician.
3. This equipment is provided with a detachable power cord which has an integral safety ground wire intended for connection to a grounded safety outlet.
 - a) Do not substitute the power cord with one that is not the provided approved type. If a 3 prong plug is provided, never use an adapter plug to connect to a 2-wire outlet as this will defeat the continuity of the grounding wire.
 - b) The equipment requires the use of the ground wire as a part of the safety certification, modification or misuse can provide a shock hazard that can result in serious injury or death.
 - c) Contact a qualified electrician or the manufacturer if there are questions about the installation prior to connecting the equipment.
 - d) Protective grounding/earthing is provided by Listed AC adapter. Building installation shall provide appropriate short-circuit backup protection.
 - e) Protective bonding must be installed in accordance with local national wiring rules and regulations.

3.3 FCC Compliance

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment.

3.4 Industry Canada

This Class B digital apparatus complies with Canadian ICES-3(B). Cet appareil numérique de la classe B est conforme à la norme NMB-3(B) Canada.

3.5 Australia and New Zealand

This is a AMC Compliance level 2 product. This product is suitable for domestic environments.

3.6 CE Marking

CE marking on this product represents the product is in compliance with all directives that are applicable to it.

3.7 RoHS/WEEE Compliance Statement

3.7.1 English

European Directive 2002/96/EC requires that the equipment bearing this symbol on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product should be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities. Correct disposal and recycling will help prevent potential negative consequences to the environment and human health. For more detailed information about the disposal of your old equipment, please contact your local authorities, waste disposal service, or the shop where you purchased the product.

3.7.2 Deutsch

Die Europäische Richtlinie 2002/96/EC verlangt, dass technische Ausrüstung, die direkt am Gerät und/oder an der Verpackung mit diesem Symbol versehen ist, nicht zusammen mit unsortiertem Gemeindeabfall entsorgt werden darf. Das Symbol weist darauf hin, dass das Produkt von regulärem Haushaltsmüll getrennt entsorgt werden sollte. Es liegt in Ihrer Verantwortung, dieses Gerät und andere elektrische und elektronische Geräte über die dafür zuständigen und von der Regierung oder örtlichen Behörden dazu bestimmten Sammelstellen zu entsorgen. Ordnungsgemäßes Entsorgen und Recyceln trägt dazu bei, potentielle negative Folgen für Umwelt und die menschliche Gesundheit zu vermeiden. Wenn Sie weitere Informationen zur Entsorgung Ihrer Altgeräte benötigen, wenden Sie sich bitte an die örtlichen Behörden oder städtischen Entsorgungsdienste oder an den Händler, bei dem Sie das Produkt erworben haben.

3.7.3 Español

La Directiva 2002/96/CE de la UE exige que los equipos que lleven este símbolo en el propio aparato y/o en su embalaje no deben eliminarse junto con otros residuos urbanos no seleccionados. El símbolo indica que el producto en cuestión debe separarse de los residuos domésticos convencionales con vistas a su eliminación. Es responsabilidad suya desechar este y cualesquiera otros aparatos eléctricos y electrónicos a través de los puntos de recogida que ponen a su disposición el gobierno y las autoridades locales. Al desechar y reciclar correctamente estos aparatos estará contribuyendo a evitar posibles consecuencias negativas para el medio ambiente y la salud de las personas. Si desea obtener información más detallada sobre la eliminación segura de su aparato usado, consulte a las autoridades locales, al servicio de recogida y eliminación de residuos de su zona o pregunte en la tienda donde adquirió el producto.

3.7.4 Français

La directive européenne 2002/96/CE exige que l'équipement sur lequel est apposé ce symbole sur le produit et/ou son emballage ne soit pas jeté avec les autres ordures ménagères. Ce symbole indique que le produit doit être éliminé dans un circuit distinct de celui pour les déchets des ménages. Il est de votre responsabilité de jeter ce matériel ainsi que tout autre matériel électrique ou électronique par les moyens de collecte indiqués par le gouvernement et les pouvoirs publics des collectivités territoriales. L'élimination et le recyclage en bonne et due forme ont pour but de lutter contre l'impact néfaste potentiel de ce type de produits sur l'environnement et la santé publique. Pour plus d'informations sur le mode d'élimination de votre ancien équipement, veuillez prendre contact avec les pouvoirs publics locaux, le service de traitement des déchets, ou l'endroit où vous avez acheté le produit.

3.7.5 Italiano

La direttiva europea 2002/96/EC richiede che le apparecchiature contrassegnate con questo simbolo sul prodotto e/o sull'imballaggio non siano smaltite insieme ai rifiuti urbani non differenziati. Il simbolo indica che questo prodotto non deve essere smaltito insieme ai normali rifiuti domestici. È responsabilità del proprietario smaltire sia questi prodotti sia le altre apparecchiature elettriche ed elettroniche mediante le specifiche strutture di raccolta indicate dal governo o dagli enti pubblici locali. Il corretto smaltimento ed il riciclaggio aiuteranno a prevenire conseguenze potenzialmente negative per l'ambiente e per la salute dell'essere umano. Per ricevere informazioni più dettagliate circa lo smaltimento delle vecchie apparecchiature in Vostro possesso, Vi invitiamo a contattare gli enti pubblici di competenza, il servizio di smaltimento rifiuti o il negozio nel quale avete acquistato il prodotto.

3.8 Declaration of Conformity

3.8.1 Český[Czech]

NETGATE tímto prohlašuje, e tento NETGATE device, je ve shod se základními požadavky a dalšími podmínkami ustanovenými směrnicí 1999/5/ES.

3.8.2 Dansk [Danish]

Undertegnede NETGATE erklærer herved, at følgende udstyr NETGATE device, overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.

3.8.3 Nederlands [Dutch]

Hierbij verklaart NETGATE dat het toestel NETGATE device, in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG. Bij deze verklaart NETGATE dat deze NETGATE device, voldoet aan de essentiële eisen en aan de overige relevante bepalingen van Richtlijn 1999/5/EC.

3.8.4 English

Hereby, NETGATE , declares that this NETGATE device, is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

3.8.5 Eesti [Estonian]

Käesolevaga kinnitab NETGATE seadme NETGATE device, vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.

3.8.6 Suomi [Finnish]

NETGATE vakuuttaa täten että NETGATE device, tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen. Français [French] Par la présente NETGATE déclare que l'appareil Netgate, device est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.

3.8.7 Deutsch [German]

Hiermit erklärt Netgate, dass sich diese NETGATE device, in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet". (BMW)

3.8.8 Ελληνικά [Greek]

ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ ΝΕΤΓΑΤΕ ΔΗΛΩΝΕΙ ΟΤΙ ΝΕΤΓΑΤΕ device, ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1995/5/ΕΚ.

3.8.9 Magyar [Hungarian]

Alulírott, NETGATE nyilatkozom, hogy a NETGATE device, megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.

3.8.10 Íslenska [Icelandic]

Hér me l sir NETGATE yfir ví a NETGATE device, er í samræmi við grunnkröfur og a rar kröfur, sem ger ar eru í tilskipun 1999/5/EC.

3.8.11 Italiano [Italian]

Con la presente NETGATE dichiara che questo NETGATE device, è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.

3.8.12 Latviski [Latvian]

Ar o NETGATE deklar , ka NETGATE device, atbilst Direkt vas 1999/5/EK b tiskaj m pras b m un citiem ar to saist tajiem noteikumiem.

3.8.13 Lietuviškai [Lithuanian]

NETGATE deklaruoja, kad šis NETGATE įrenginys atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.

3.8.14 Malti [Maltese]

Hawnhekk, Netgate, jiddikjara li dan NETGATE device, jikkonforma mal- ti ijiet essenzjali u ma provvedimenti o rajn relevanti li hemm fid-Dirrettiva 1999/5/EC.

3.8.15 Norsk [Norwegian]

NETGATE erklærer herved at utstyret NETGATE device, er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.

3.8.16 Slovensky [Slovak]

NETGATE t mto vyhlasuje, e NETGATE device, sp a základné po iadavky a v etky príslu né ustanovenia Smernice 1999/5/ES.

3.8.17 Svenska [Swedish]

Härmed intygar NETGATE att denna NETGATE device, står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

3.8.18 Español [Spanish]

Por medio de la presente NETGATE declara que el NETGATE device, cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.

3.8.19 Polski [Polish]

Niniejszym, firma NETGATE o wiadcza, e produkt serii NETGATE device, spełnia zasadnicze wymagania i inne istotne postanowienia Dyrektywy 1999/5/EC.

3.8.20 Português [Portuguese]

NETGATE declara que este NETGATE device, está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.

3.8.21 Română [Romanian]

Prin prezenta, NETGATE declară că acest dispozitiv NETGATE este în conformitate cu cerințele esențiale și alte prevederi relevante ale Directivei 1999/5/CE.

3.9 Disputes

ANY DISPUTE OR CLAIM RELATING IN ANY WAY TO YOUR USE OF ANY PRODUCTS/SERVICES, OR TO ANY PRODUCTS OR SERVICES SOLD OR DISTRIBUTED BY RCL OR ESF WILL BE RESOLVED BY BINDING ARBITRATION IN AUSTIN, TEXAS, RATHER THAN IN COURT. The Federal Arbitration Act and federal arbitration law apply to this agreement.

THERE IS NO JUDGE OR JURY IN ARBITRATION, AND COURT REVIEW OF AN ARBITRATION AWARD IS LIMITED. HOWEVER, AN ARBITRATOR CAN AWARD ON AN INDIVIDUAL BASIS THE SAME DAMAGES AND RELIEF AS A COURT (INCLUDING INJUNCTIVE AND DECLARATORY RELIEF OR STATUTORY DAMAGES), AND MUST FOLLOW THE TERMS OF THESE TERMS AND CONDITIONS OF USE AS A COURT WOULD.

To begin an arbitration proceeding, you must send a letter requesting arbitration and describing your claim to the following:

Rubicon Communications LLC
Attn.: Legal Dept.
4616 West Howard Lane, Suite 900
Austin, Texas 78728
legal@netgate.com

The arbitration will be conducted by the American Arbitration Association (AAA) under its rules. The AAA's rules are available at www.adr.org. Payment of all filing, administration and arbitrator fees will be governed by the AAA's rules.

We each agree that any dispute resolution proceedings will be conducted only on an individual basis and not in a class, consolidated or representative action. We also both agree that you or we may bring suit in court to enjoin infringement or other misuse of intellectual property rights.

3.10 Applicable Law

By using any Products/Services, you agree that the Federal Arbitration Act, applicable federal law, and the laws of the state of Texas, without regard to principles of conflict of laws, will govern these terms and conditions of use and any dispute of any sort that might arise between you and RCL and/or ESF. Any claim or cause of action concerning these terms and conditions or use of the RCL and/or ESF website must be brought within one (1) year after the claim or cause of action arises. Exclusive jurisdiction and venue for any dispute or claim arising out of or relating to the parties' relationship, these terms and conditions, or the RCL and/or ESF website, shall be with the arbitrator and/or courts located in Austin, Texas. The judgment of the arbitrator may be enforced by the courts located in Austin, Texas, or any other court having jurisdiction over you.

3.11 Site Policies, Modification, and Severability

Please review our other policies, such as our pricing policy, posted on our websites. These policies also govern your use of Products/Services. We reserve the right to make changes to our site, policies, service terms, and these terms and conditions of use at any time.

3.12 Miscellaneous

If any provision of these terms and conditions of use, or our terms and conditions of sale, are held to be invalid, void or unenforceable, the invalid, void or unenforceable provision shall be modified to the minimum extent necessary in order to render it valid or enforceable and in keeping with the intent of these terms and conditions. If such modification is not possible, the invalid or unenforceable provision shall be severed, and the remaining terms and conditions shall be enforced as written. Headings are for reference purposes only and in no way define, limit, construe or describe the scope or extent of such section. Our failure to act with respect to a breach by you or others does not waive our right to act with respect to subsequent or similar breaches. These terms and conditions set forth the entire understanding and agreement between us with respect to the subject matter hereof, and supersede any prior oral or written agreement pertaining thereto, except as noted above with respect to any conflict between these terms and conditions and our reseller agreement, if the latter is applicable to you.

3.13 Limited Warranty

DISCLAIMER OF WARRANTIES AND LIMITATION OF LIABILITY

THE PRODUCTS/SERVICES AND ALL INFORMATION, CONTENT, MATERIALS, PRODUCTS (INCLUDING SOFTWARE) AND OTHER SERVICES INCLUDED ON OR OTHERWISE MADE AVAILABLE TO YOU THROUGH THE PRODUCTS/SERVICES ARE PROVIDED BY US ON AN "AS IS" AND "AS AVAILABLE" BASIS, UNLESS OTHERWISE SPECIFIED IN WRITING. WE MAKE NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, AS TO THE OPERATION OF THE PRODUCTS/SERVICES, OR THE INFORMATION, CONTENT, MATERIALS, PRODUCTS (INCLUDING SOFTWARE) OR OTHER SERVICES INCLUDED ON OR OTHERWISE MADE AVAILABLE TO YOU THROUGH THE PRODUCTS/SERVICES, UNLESS OTHERWISE SPECIFIED IN WRITING. YOU EXPRESSLY AGREE THAT YOUR USE OF THE PRODUCTS/SERVICES IS AT YOUR SOLE RISK.

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CONNECTING TO THE CONSOLE PORT

Connecting to the VGA console is identical to connecting any computer to a monitor. Just connect the VGA cable (DB-15) between the Netgate appliance and the monitor. Use USB or PS/2 keyboard and mouse as applicable to your hardware.

ADDITIONAL RESOURCES

5.1 Professional Services

Support does not cover more complex tasks such as network design and conversion from other firewalls. These items are offered as professional services and can be purchased and scheduled accordingly.

<https://www.netgate.com/our-services/professional-services.html>

5.2 Netgate Training

Netgate training offers training courses for increasing your knowledge of Netgate products and services. Whether you need to maintain or improve the security skills of your staff or offer highly specialized support and improve your customer satisfaction; Netgate training has got you covered.

<https://www.netgate.com/training/>

5.3 Resource Library

To learn more about how to use your Netgate appliance and for other helpful resources, make sure to browse our Resource Library.

<https://www.netgate.com/resources/>

WARRANTY AND SUPPORT

- One year manufacturer's warranty.
- Please contact Netgate for warranty information or view our [Product Lifecycle](#) page.
- All Specifications subject to change without notice.

Enterprise Support is included with an active software subscription, for more information view our [Netgate Global Support](#) page.

See also:

For more information on how to use pfSense® software, see the [TNSR Documentation](#) and [Resource Library](#).