

Roteador de três interfaces sem configuração do Cisco IOS Firewall NAT

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[Introdução](#)

Este documento fornece um exemplo de configuração típica de empresa de pequeno porte conectada à Internet, que executa seus próprios servidores. A conexão com a Internet ocorre via linha serial. Ethernet 0 está conectada à rede interna (uma LAN única). A Ethernet 1 está conectada a uma rede DMZ, que tem um único nó usado para fornecer serviços ao mundo externo. O ISP atribuiu à empresa o netblock 192.168.27.0/24. Ele é igualmente dividido entre o DMZ e a LAN interna com máscara de sub-rede 255.255.255.128. A política básica é:

- Permita que os usuários na rede interna conectem a todo o serviço nos Internet públicas.
- Permitir que qualquer pessoa na Internet se conecte aos serviços WWW, FTP e SMTP no servidor DMZ, e fazer com que o DNS os consulte. Isto permite que os povos exteriores ver página da web da empresa, para pegarar arquiva a empresa afixou para o consumo exterior, e para enviar o correio na empresa.
- Permita que os usuários internos conectem-se aos serviço POP no servidor DMZ (para selecionar correio) e estabeleçam uma sessão Telnet (para administrá-lo).
- Não permita que nada no DMZ inicie nenhuma conexão, seja com a rede privada, seja com a internet.
- Examine todas as conexões que cruzam o Firewall a um servidor de SYSLOG na rede privada. As máquinas na rede interna usam o servidor DNS no DMZ. As listas de acesso de entrada são usadas em todas as relações a fim impedir a falsificação. As listas de acesso de emissor são usadas para controlar que tráfego pode ser enviado a toda a dada interface.

Refira o [roteador de duas interfaces sem NAT usando a configuração do Cisco IOS Firewall](#) a fim configurar um roteador de duas relações sem NAT usando o Firewall de Cisco IOS®.

Refira o [roteador de duas interfaces com configuração do Cisco IOS Firewall NAT](#) a fim configurar

um roteador de duas relações com NAT usando um Cisco IOS Firewall.

Pré-requisitos

Requisitos

Não existem requisitos específicos para este documento.

Componentes Utilizados

As informações neste documento são baseadas nas versões de software e hardware:

- Cisco IOS Software Release 12.2(15)T13 com Firewall Feature Set
- Roteador do Cisco 7204 VXR

As informações neste documento foram criadas a partir de dispositivos em um ambiente de laboratório específico. Todos os dispositivos utilizados neste documento foram iniciados com uma configuração (padrão) inicial. Se a sua rede estiver ativa, certifique-se de que entende o impacto potencial de qualquer comando.

Convenções

Consulte as [Convenções de Dicas Técnicas da Cisco](#) para obter mais informações sobre convenções de documentos.

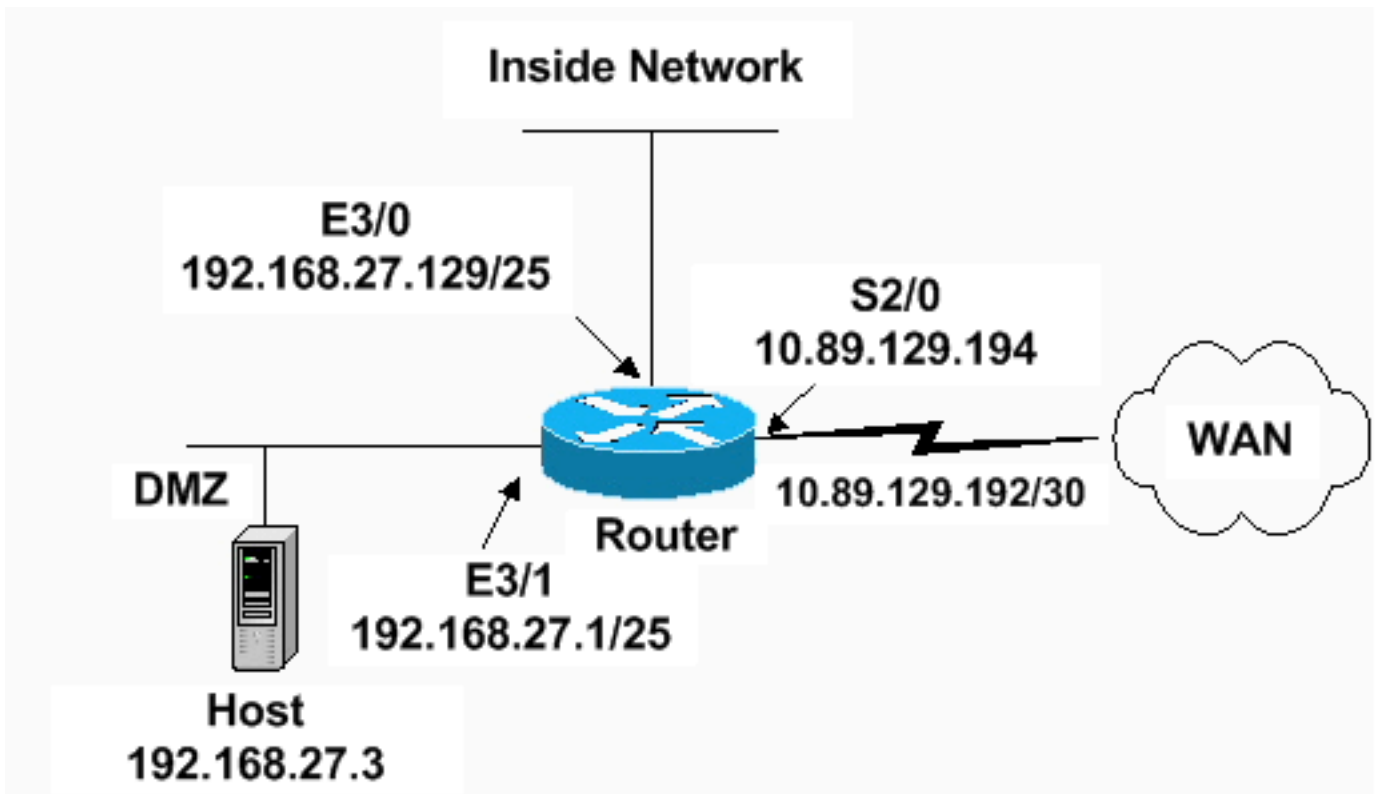
Configurar

Nesta seção, você encontrará informações para configurar os recursos descritos neste documento.

Nota: Use a [Command Lookup Tool](#) ([somente clientes registrados](#)) para obter mais informações sobre os comandos usados nesta seção.

Diagrama de Rede

Este documento utiliza a seguinte configuração de rede:



Configurações

Este documento usa esta configuração.

Roteador de VXR 7204

```

version 12.2
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname Router
!
logging queue-limit 100
enable secret 5 <something>
!
ip subnet-zero
ip cef
no ip domain lookup
!
ip inspect audit-trail
!
!--- Sets the length of time a TCP session !--- is
still managed after no activity. ! ip inspect tcp idle-
time 14400 ! !--- Sets the length of time a UDP session
!--- is still managed after no activity. ! ip inspect
udp idle-time 1800 ! !--- Sets the length of time a DNS
name lookup session !--- is still managed after no
activity. ! ip inspect dns-timeout 7 ! !--- Sets up
inspection list "standard" !--- to be used for
inspection of inbound Ethernet 0 !--- and inbound serial
(applied to both interfaces). ! ip inspect name standard
cuseeme ip inspect name standard ftp ip inspect name
standard h323 ip inspect name standard http ip inspect
name standard rcmd ip inspect name standard realaudio ip
inspect name standard smtp ip inspect name standard
sqlnet ip inspect name standard streamworks ip inspect

```

```

name standard tcp ip inspect name standard tftp ip
inspect name standard udp ip inspect name standard
vdolive ip audit notify log ip audit po max-events 100 !
no voice hpi capture buffer no voice hpi capture
destination ! mta receive maximum-recipients 0 !
interface ethernet 3/0 ip address 192.168.27.129
255.255.255.128 ! !--- Apply the access list to allow
all legitimate !--- traffic from the inside network and
prevent spoofing. ! ip access-group 101 in ! !--- Apply
inspection list "standard" for inspection !--- of
inbound Ethernet traffic. This inspection opens !---
temporary entries on access lists 111 and 121. ! ip
inspect standard in duplex full interface ethernet 3/1
ip address 192.168.27.1 255.255.255.128 ! !--- Apply the
access list to permit DMZ traffic (except spoofing) !---
on the DMZ interface inbound. The DMZ is not permitted
to initiate !--- any outbound traffic except Internet
Control Message Protocol (ICMP). ! ip access-group 111
in ! !--- Apply inspection list "standard" for
inspection of outbound !--- traffic from e1. This adds
temporary entries on access list 111 !--- to allow
return traffic, and protects servers in DMZ from !---
distributed denial of service (DDoS) attacks. ip inspect
standard out duplex full ! interface serial 2/0 ip
address 10.89.129.194 255.255.255.252 !--- Apply the
access list to allow legitimate traffic. ! ip access-
group 121 in serial restart_delay 0 ! ip classless no ip
http-server !--- A syslog server is located at this
address. logging 192.168.27.131 !--- This command
enables the logging of session !--- information
(addresses and bytes). !--- Access list 20 is used to
control which !--- network management stations can
access via SNMP. ! access-list 20 permit 192.168.27.5 !
!--- Use an access list to allow all legitimate traffic
from !--- the inside network and prevent spoofing. The
inside !--- network can only connect to the Telnet and
POP3 !--- service of 192.168.27.3 on DMZ, and can ping
(ICMP) to the DMZ. !--- Additional entries can be added
to permit SMTP, WWW, and !--- so forth, if necessary. In
addition, the inside network can !--- connect to any
service on the Internet. ! access-list 101 permit tcp
192.168.27.128 0.0.0.127 host 192.168.27.3 eq pop3
access-list 101 permit tcp 192.168.27.128 0.0.0.127 host
192.168.27.3 eq telnet access-list 101 permit icmp
192.168.27.128 0.0.0.127 192.168.27.0 0.0.0.127 access-
list 101 deny ip 192.168.27.128 0.0.0.127 192.168.27.0
0.0.0.127 access-list 101 permit ip 192.168.27.128
0.0.0.127 any access-list 101 deny ip any any ! ! !---
The access list permits ping (ICMP) from the DMZ and
denies all !--- traffic initiated from the DMZ.
Inspection opens !--- temporary entries to this list. !
access-list 111 permit icmp 192.168.27.0 0.0.0.127 any
access-list 111 deny ip any any ! ! ! !--- Access list
121 allows anyone on the Internet to connect to !---
WWW, FTP, DNS, and SMTP services on the DMZ host. It
also !--- allows some ICMP traffic. access-list 121
permit udp any host 192.168.27.3 eq domain access-list
121 permit tcp any host 192.168.27.3 eq domain access-
list 121 permit tcp any host 192.168.27.3 eq www access-
list 121 permit tcp any host 192.168.27.3 eq ftp access-
list 121 permit tcp any host 192.168.27.3 eq smtp
access-list 121 permit icmp any 192.168.27.0 0.0.0.255
administratively-prohibited access-list 121 permit icmp
any 192.168.27.0 0.0.0.255 echo access-list 121 permit

```

```

icmp any 192.168.27.0 0.0.0.255 echo-reply access-list
121 permit icmp any 192.168.27.0 0.0.0.255 packet-too-
big access-list 121 permit icmp any 192.169.27.0
0.0.0.255 time-exceeded access-list 121 permit icmp any
192.168.27.0 0.0.0.255 traceroute access-list 121 permit
icmp any 192.168.27.0 0.0.0.255 unreachable access-list
121 deny ip any any ! !--- Apply access list 20 for SNMP
process. ! snmp-server community secret RO 20 snmp-
server enable traps tty ! call rsvp-sync ! mgcp profile
default ! dial-peer cor custom ! gatekeeper shutdown !
line con 0 exec-timeout 5 0 password 7
14191D1815023F2036 login local line vty 0 4 exec-timeout
5 0 password 7 14191D1815023F2036 login local length 35
end

```

Verificar

Use esta seção para confirmar se a sua configuração funciona corretamente.

A [Output Interpreter Tool \(apenas para clientes registrados\)](#) (OIT) suporta determinados comandos show. Use a OIT para exibir uma análise da saída do comando show.

- **lista de acesso da mostra** — Verifica a configuração correta das Listas de acesso configuradas na executar [configuração](#). Router#`show access-list` Standard IP access list 20 10 permit 192.168.27.5 Extended IP access list 101 10 permit tcp 192.168.27.128 0.0.0.127 host 192.168.27.3 eq pop3 20 permit tcp 192.168.27.128 0.0.0.127 host 192.168.27.3 eq telnet 30 permit icmp 192.168.27.128 0.0.0.127 192.168.27.0 0.0.0.127 40 deny ip 192.168.27.128 0.0.0.127 192.168.27.0 0.0.0.127 50 permit ip 192.168.27.128 0.0.0.127 any 60 deny ip any any (9 matches) Extended IP access list 111 10 permit icmp 192.168.27.0 0.0.0.127 any 20 deny ip any any permit udp any host 192.168.27.3 eq domain 20 permit tcp any host 192.168.27.3 eq domain 30 permit tcp any host 192.168.27.3 eq www 40 permit tcp any host 192.168.27.3 eq ftp 50 permit tcp any host 192.168.27.3 eq smtp 60 permit icmp any 192.168.27.0 0.0.0.255 administratively-prohibited 70 permit icmp any 192.168.27.0 0.0.0.255 echo 80 permit icmp any 192.168.27.0 0.0.0.255 echo-reply 90 permit icmp any 192.168.27.0 0.0.0.255 packet-too-big 100 permit icmp any 192.169.27.0 0.0.0.255 time-exceeded 110 permit icmp any 192.168.27.0 0.0.0.255 traceroute 120 permit icmp any 192.168.27.0 0.0.0.255 unreachable 130 deny ip any any (4866 matches) Router#
- **mostre a auditoria toda IP** — Verifica a configuração dos comandos logging. Router#`show ip audit all` Event notification through syslog is enabled Event notification through Net Director is disabled Default action(s) for info signatures is alarm Default action(s) for attack signatures is alarm Default threshold of recipients for spam signature is 250 PostOffice:HostID:0 OrgID:0 Msg dropped:0 :Curr Event Buf Size:0 Configured:100 Post Office is not enabled - No connections are active Router#
- **a mostra IP inspeciona tudo** — Verifica a configuração das regras da inspeção do Cisco IOS Firewall pela relação. Router#`show ip inspect all` Session audit trail is enabled Session alert is enabled one-minute (sampling period) thresholds are [400:500] connections max-incomplete sessions thresholds are [400:500] max-incomplete tcp connections per host is 50. Block-time 0 minute. tcp synwait-time is 30 sec -- tcp finwait-time is 5 sec tcp idle-time is 14400 sec -- udp idle-time is 1800 sec dns-timeout is 7 sec Inspection Rule Configuration Inspection name standard cuseeme alert is on audit-trail is on timeout 14400 ftp alert is on audit-trail is on timeout 14400 h323 alert is on audit-trail is on timeout 14400 http alert is on audit-trail is on timeout 14400 rcmd alert is on audit-trail is on timeout 14400 realaudio alert is on audit-trail is on timeout 14400 smtp alert is on audit-trail is on timeout 14400 sqlnet alert is on audit-trail is on timeout 14400 streamworks alert is on audit-trail is on timeout 1800 tcp alert is on audit-trail is on timeout 14400 tftp alert is on audit-trail is on timeout 1800 udp alert is on audit-trail is on timeout 1800 vdolive alert is on audit-trail is on timeout 14400 Interface Configuration Interface Ethernet3/0 Inbound inspection rule is standard cuseeme alert is on audit-trail is on timeout 14400 ftp alert is on audit-trail is on timeout 14400 h323 alert is on audit-trail is on timeout 14400 http alert is on

```
audit-trail is on timeout 14400 rcmd alert is on audit-trail is on timeout 14400 realaudio
alert is on audit-trail is on timeout 14400 smtp alert is on audit-trail is on timeout 14400
sqlnet alert is on audit-trail is on timeout 14400 streamworks alert is on audit-trail is on
timeout 1800 tcp alert is on audit-trail is on timeout 14400 tftp alert is on audit-trail is
on timeout 1800 udp alert is on audit-trail is on timeout 1800 vdolive alert is on audit-
trail is on timeout 14400 Outgoing inspection rule is not set Inbound access list is 101
Outgoing access list is not set Interface Ethernet3/1 Inbound inspection rule is not set
Outgoing inspection rule is standard cuseeme alert is on audit-trail is on timeout 14400 ftp
alert is on audit-trail is on timeout 14400 h323 alert is on audit-trail is on timeout 14400
http alert is on audit-trail is on timeout 14400 rcmd alert is on audit-trail is on timeout
14400 realaudio alert is on audit-trail is on timeout 14400 smtp alert is on audit-trail is
on timeout 14400 sqlnet alert is on audit-trail is on timeout 14400 streamworks alert is on
audit-trail is on timeout 1800 tcp alert is on audit-trail is on timeout 14400 tftp alert is
on audit-trail is on timeout 1800 udp alert is on audit-trail is on timeout 1800 vdolive
alert is on audit-trail is on timeout 14400 Inbound access list is 111 Outgoing access list
is not set Router#
```

Troubleshooting

Depois que você configura o roteador do firewall de IOS, se as conexões não trabalham, assegure-se de que você permita a inspeção com o **IP inspecione (nome definido) dentro ou comando out** na relação. Nesta configuração, o **IP inspeciona o padrão é dentro** aplicado para os Ethernet de interface 3/0 e o **IP inspeciona o padrão para fora** é aplicado para os Ethernet de interface 3/1.

Refira [pesquisando defeitos configurações do Cisco IOS Firewall](#) para mais informações sobre do Troubleshooting.

Informações Relacionadas

- [Página de suporte do Cisco IOS Firewall](#)
- [Suporte Técnico e Documentação - Cisco Systems](#)