

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

**WSOU INVESTMENTS, LLC d/b/a
BRAZOS LICENSING AND
DEVELOPMENT,**

Plaintiff,

V.

**HUAWEI TECHNOLOGIES CO., LTD.
AND HUAWEI TECHNOLOGIES USA
INC.,**

Defendants.

CIVIL ACTION NO. 6:20-cv-00889

JURY TRIAL DEMANDED

ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff WSOU Investments, LLC d/b/a Brazos Licensing and Development (“Brazos” or “Plaintiff”), by and through its attorneys, files this Complaint for Patent Infringement against Defendants Huawei Technologies Co. Ltd. and Huawei Technologies USA Inc. (collectively “Huawei” or “Defendants”) and alleges:

NATURE OF THE ACTION

1. This is a civil action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. §§ 1, et seq., including §§ 271, 281, 284, and 285.

THE PARTIES

2. Brazos is a limited liability corporation organized and existing under the laws of Delaware, with its principal place of business at 606 Austin Avenue, Suite 6, Waco, Texas 76701.

3. On information and belief, Defendant Huawei Technologies Co., Ltd. is a Chinese corporation that does business in Texas, directly or through intermediaries, with a principal place of business at Bantian, Longgang District, Shenzhen 518129, People's Republic of China.

4. Upon information and belief, Defendant Huawei Technologies USA Inc. is a corporation organized and existing under the laws of Texas that maintains an established place of business at 2391 NE Interstate 410 Loop, San Antonio, Texas 78217. Huawei Technologies USA, Inc. is authorized to do business in Texas and may be served via its registered agent, CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201-3136.

5. Defendants operate under and identify with the trade name "Huawei." Each of the Defendants may be referred to individually as a "Huawei Defendant" and, collectively, Defendants may be referred to below as "Huawei" or as the "Huawei Defendants."

JURISDICTION AND VENUE

6. This is an action for patent infringement which arises under the Patent Laws of the United States, in particular, 35 U.S.C. §§271, 281, 284, and 285.

7. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a).

8. This Court has specific and general personal jurisdiction over each Huawei Defendant pursuant to due process and/or the Texas Long Arm Statute, because each Huawei Defendant has committed acts giving rise to this action within Texas and within this judicial district. The Court's exercise of jurisdiction over each Huawei Defendant would not offend

traditional notions of fair play and substantial justice because Huawei has established minimum contacts with the forum. For example, on information and belief, Huawei Defendants have committed acts of infringement in this judicial district, by among other things, selling and offering for sale products that infringe the asserted patent, directly or through intermediaries, as alleged herein.

9. Venue in the Western District of Texas is proper pursuant to 28 U.S.C. §§1391 and 1400(b) because Defendants have committed acts of infringement in this judicial district and have regular and established places of business in this judicial district and in Texas. As non-limiting examples, on information and belief, Defendants have sold or offered to sell the Accused Products in this judicial district and have employees or agents that operate Huawei equipment in this judicial district, including at 189 CR 265, Georgetown, TX 78626, 1150 S. Bell Blvd., Cedar Park, TX 78613, 1399 S A W Grimes Blvd., Round Rock, TX 78664, 12335 IH 35, Jarrell, TX 76537, 1050 Rabbit Hill Rd., Unit #E, Georgetown, TX 78626, 1602 A W Grimes Blvd., Round Rock, TX 78664, 4120 IH 35 N, Georgetown, TX 78626, 900 CR 272, Leander, TX 78641, 1950 Crystal Falls Pkwy., Leander, TX 78641, 1101 N. Industrial Blvd., Round Rock, TX 78681, 506 McNeil Rd., Round Rock, TX 78681, 3210 Chisholm Trail Rd., Round Rock, TX 78681, 112 Roundville Ln., Round Rock, TX 78664, 202 Central Dr. W, Georgetown, TX 78628, 3595 E. Hwy. 29, Georgetown, TX 78626, 1402 W Welch St., Taylor, TX 76574, 3801 Oak Ridge Dr., Round Rock, TX 78681, 1957 Red Bud Ln. #B, Round Rock, TX 78664, 6603 S Lakewood Dr., Georgetown, TX 78633, 500 W Front, Hutto, TX 78634.

COUNT ONE - INFRINGEMENT OF
U.S. PATENT NO. 6,704,304

10. Brazos re-alleges and incorporates by reference the preceding paragraphs of this Complaint.

11. On March 9, 2004, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 6,704,304 (“the ’304 Patent”), entitled “Selective establishment of telecommunications connections over packet and circuit switched networks.” A true and correct copy of the ’304 Patent is attached as Exhibit A to this Complaint.

12. Brazos is the owner of all rights, title, and interest in and to the ’304 Patent, including the right to assert all causes of action arising under the ’304 Patent and the right to any remedies for the infringement of the ’304 Patent.

13. Huawei makes, uses, sells, offers for sale, imports, and/or distributes in the United States, including within this judicial district, products such as, but not limited to, Huawei’s Unified Communications platform (collectively, the “Accused Products”).

14. The Accused Products include, but are not limited to, the Unified Gateway U1960 and corresponding products such as Integrated Access Devices.

15. The Accused Products implement an apparatus for establishing a telecommunications connection in a telecommunications network, wherein the telecommunication network comprises a core packet network and a circuit public switched telephone network (PSTN).

16. Huawei provides a Unified Communications (UC) solution which employs a variety of hardware equipment such as IP terminals, voice gateway, and Unified Communications Management to deliver unified communication (UC) services.

17. The Accused Products employ a Unified Gateway U1960 as a core voice gateway that works with Huawei IP terminals and UC applications to provide unified communication services.

18. The Unified Gateway U1960 initiates communication with a Public Switched Telephone Network (PSTN) to allow Plain Old Telephone Service (POTS) users to communicate with IP terminal users. The Unified Gateway U1960 supports the communication between a plurality of users employed with the IP terminal and POTS (e.g., analog phones).

Product Overview

Huawei Unified Gateway U1960 (U1960 for short) is a core voice gateway in the Huawei Unified Communications (UC) solution that supports a maximum of 1,000 users. It works with Huawei IP terminals and UC applications to provide professional IP telephony (IPT) and UC services.



Figure 1 U1960

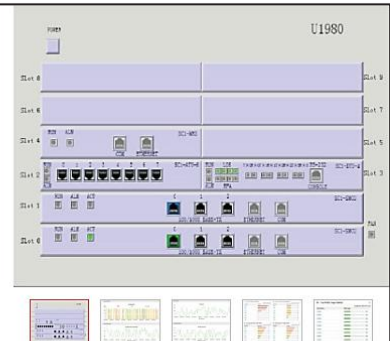
The lightweight U1960 uses the highly-integrated broadband and narrowband design to allow for hybrid networking of analog phones and IP phones. It can connect to the public switched telephone network (PSTN) or to voice switches in private networks using digital, analog, and broadband SIP trunks.

U1960 is equipped with modular boards to simplify installations and support hot swapping. U1960 can be quickly deployed and easily maintained with the assistance of graphical configuration tools.

Source: <https://e.huawei.com/us/material/communication/e651c14c726b40f693c05303c3ce2ad3>

Unified Communications & Video Surveillance Management

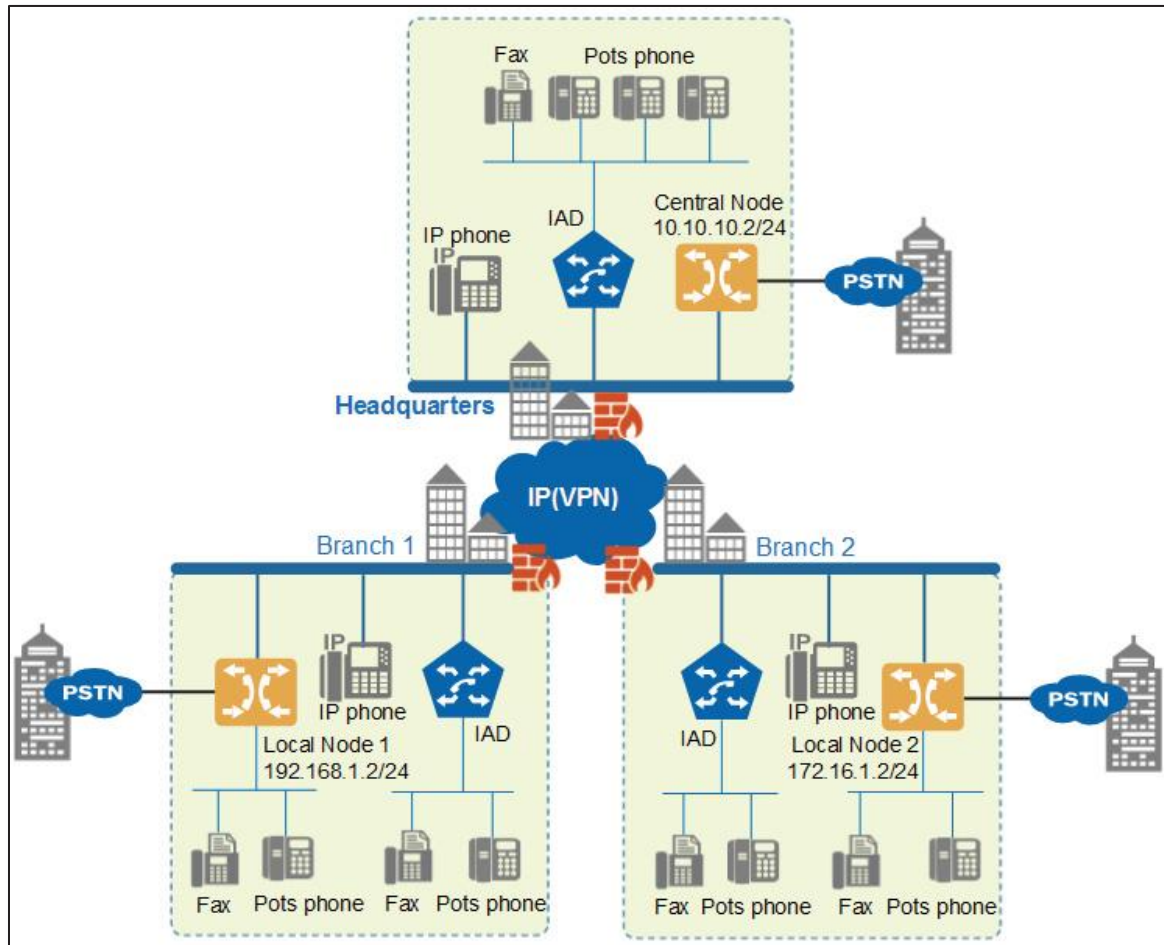
Huawei Unified Communications and Video Surveillance Management supports management and monitoring of unified communications, videoconferencing, and video surveillance devices. With eSight, a large number of IP phones can be deployed and upgraded in batches, voice quality can be tracked, and video conferencing issues can be diagnosed. This promotes efficient deployment of voice communication systems and quick fault location in voice and video conferences, ensuring the stable operation of voice systems and videoconferencing systems.



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Source: <https://e.huawei.com/us/products/software/mgmt-sys/esight/communication-surveillance>

19. The below figure from Huawei documentation is an example telecommunication network that implements the Huawei UC solution. The example network includes an IP (VPN) network (core packet network) and the PSTN (circuit PSTN) that allows the U1960 (represented by the gold symbol) process the calls to establish the communication session (e.g., connection) between the IP terminal or the analog terminals (or, POTS).



Source:

https://support.huawei.com/hedex/hdx.do?docid=EDOC1000073292&id=uc_cfge_00056&lang=en

Network Description

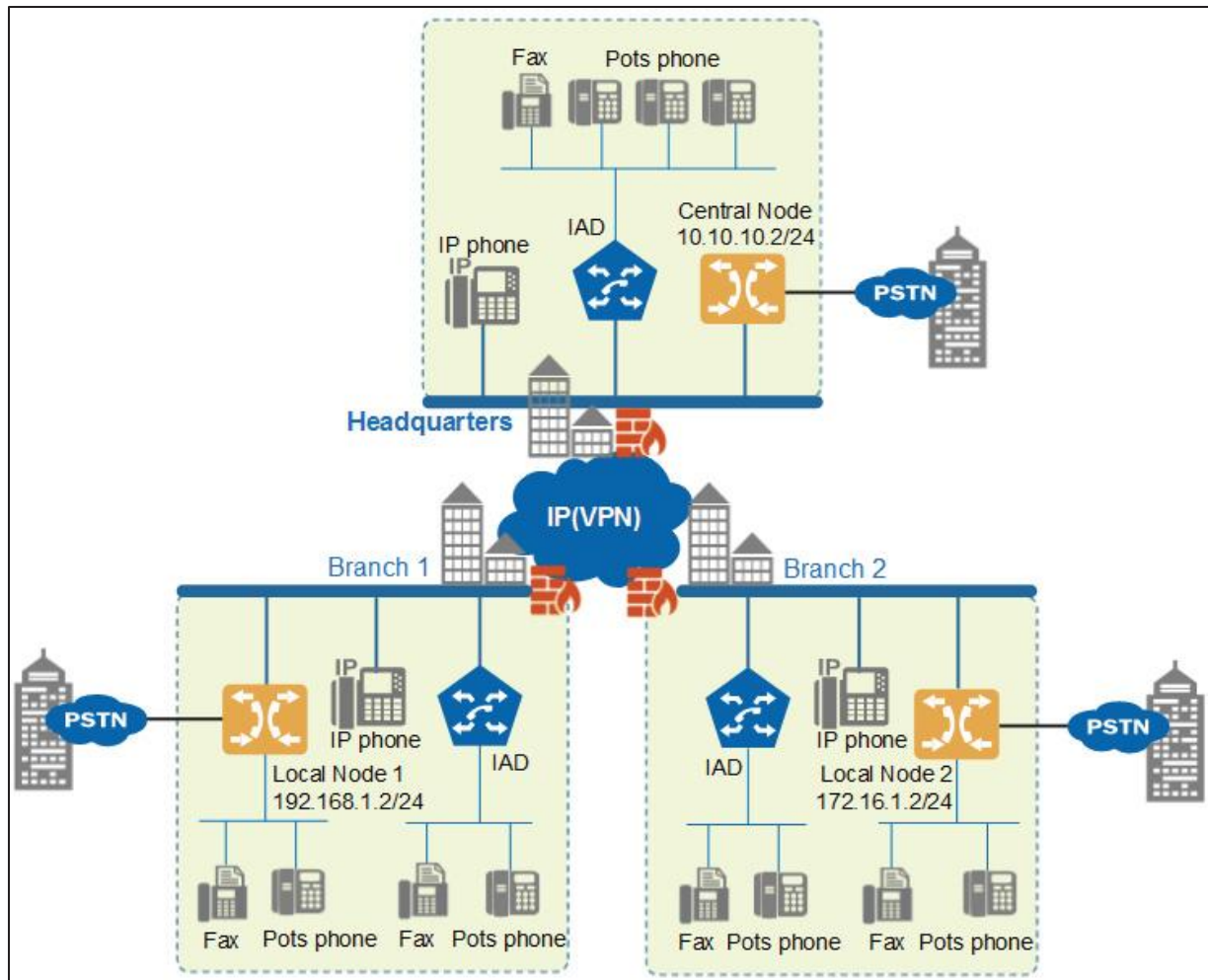
- The unified gateways at the central node (central node for short) and local nodes (local node for short) are connected using SIP trunks. They also use a heartbeat mechanism to constantly check each other's status.
- When the central node is correctly connected to the local node:
 - All users at the headquarters and branches register with the central node.
 - The central node processes all internal calls.
- When the central node is faulty or disconnects from the local node, local users register with the local node, and the local node processes service requests (including intra-office calls and incoming and outgoing calls) from local users. This is known as local regeneration.

Source:

https://support.huawei.com/hedex/hdx.do?docid=EDOC1000073292&id=uc_cfge_00056&lang=en

20. The Accused Products comprise a packet access network connectable to a plurality of customer telephone stations.

21. The below figure from Huawei documentation shows an example deployment of the Accused Products with a packet access network that comprises various hardware equipment (packet access network) such as Unified Gateway U1960, Integrated Access Device (IAD) that accesses and connects with the IP (VPN core packet network) to provide UC services such as Voice over IP and Fax over IP. Further, the example network deployed with U1960 and IAD also connects to the POTS phones (customer telephone stations) that allow analog terminals to communicate with IP terminals.



Source:


https://support.huawei.com/hedex/hdx.do?docid=EDOC1000073292&id=uc_cfge_00056&lang=en

eSpace IAD

The Integrated Access Device is an IP-based gateway for accessing voice and fax resources. The IAD196 provides voice services of high efficiency and high quality based on the Internet or enterprise intranets. As the media access gateway of Voice over IP (VoIP) and Fax over IP (FoIP), the IAD is applied to the Next Generation Network (NGN) or IP Multimedia Subsystem (IMS). The IAD196 converts analog voice data into IP packets and transmits data through the IP network.

[Close](#)

[Visio Stencil](#) | [Specifications](#)



Huawei-eSpace-IAD104H

Source: <https://support.huawei.com/enterprise/en/enterprise-communications/espace-iad-pid-15259>

22. The U1960 functions as a server system that processes internal calls to control and route the calls to the intended destination (e.g., a phone user).

Network Description

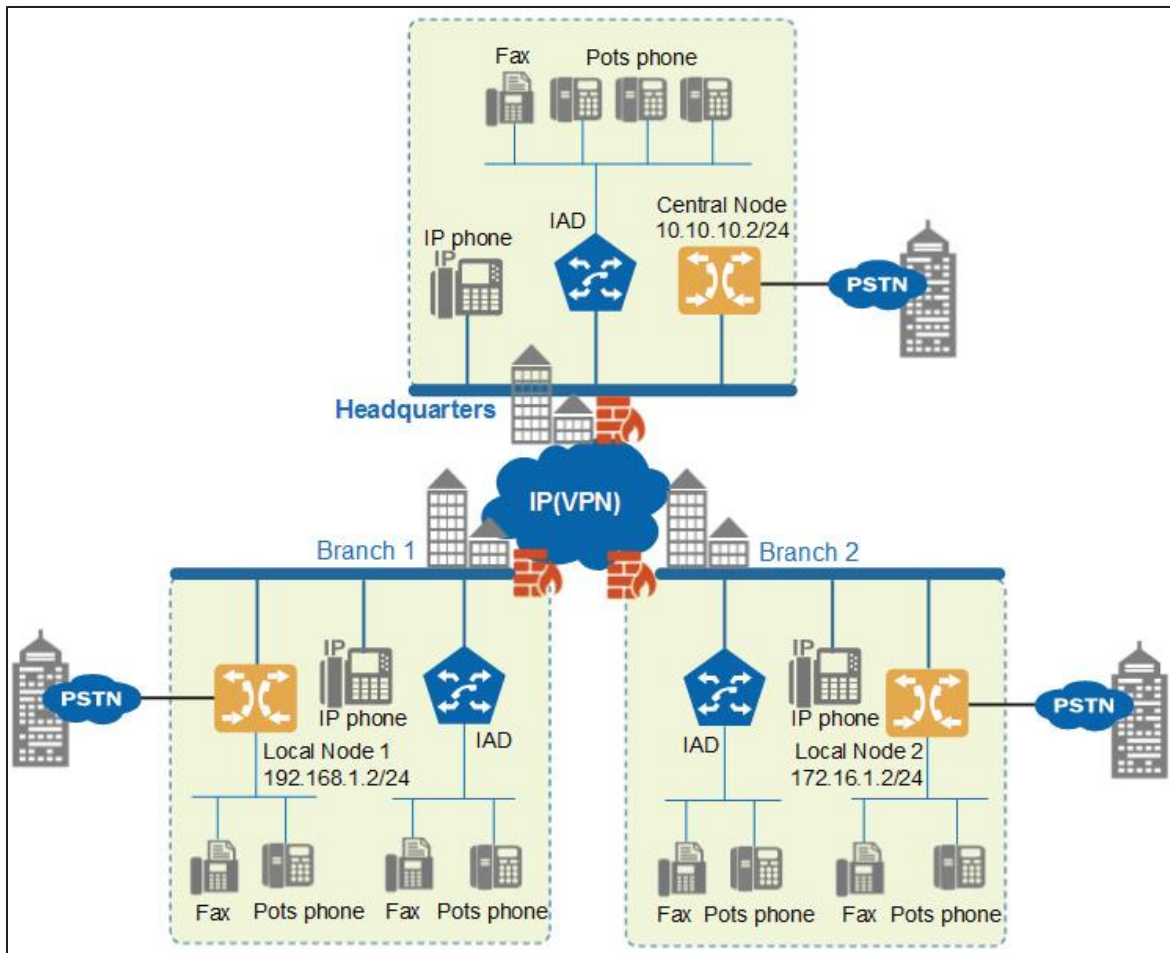
- The unified gateways at the central node (central node for short) and local nodes (local node for short) are connected using SIP trunks. They also use a heartbeat mechanism to constantly check each other's status.
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Source:

https://support.huawei.com/hedex/hdx.do?docid=EDOC1000073292&id=uc_cfge_00056&lang=en

23. In the Accused Products, the packet access network comprises an interface gateway and a packet switch. The packet switch accesses the PSTN and the core packet network.

24. The packet access network of the Accused Products employs hardware equipment such as IAD and U1960 (interface gateway) that provide UC services to the users with IP or analog terminals. The U1960 represented by the gold symbol in the below figure from Huawei documentation functions as a packet switch, which connects with the PSTN and the IP (VPN) (e.g., core packet network).



Source:

https://support.huawei.com/hedex/hdx.do?docid=EDOC1000073292&id=uc_cfge_00056&lang=en

U1960

Unified Gateway U1960

Subscribe

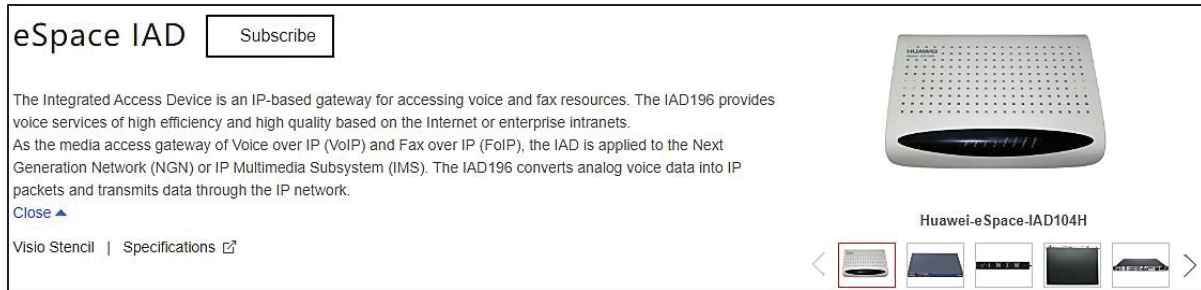
The U1960 (also known as eSpace U1960) works as a voice PBX in midsize enterprises or as a local access gateway in midsize branches, providing services for 300–1000 users. The eSpace U1900 series unified gateways provide professional voice over IP (VoIP) services.

Close ▲

Specifications ↗

Huawei-eSpace-U1960_back

Source: <https://support.huawei.com/enterprise/en/enterprise-communications/espace-u1960-pid-8057951>

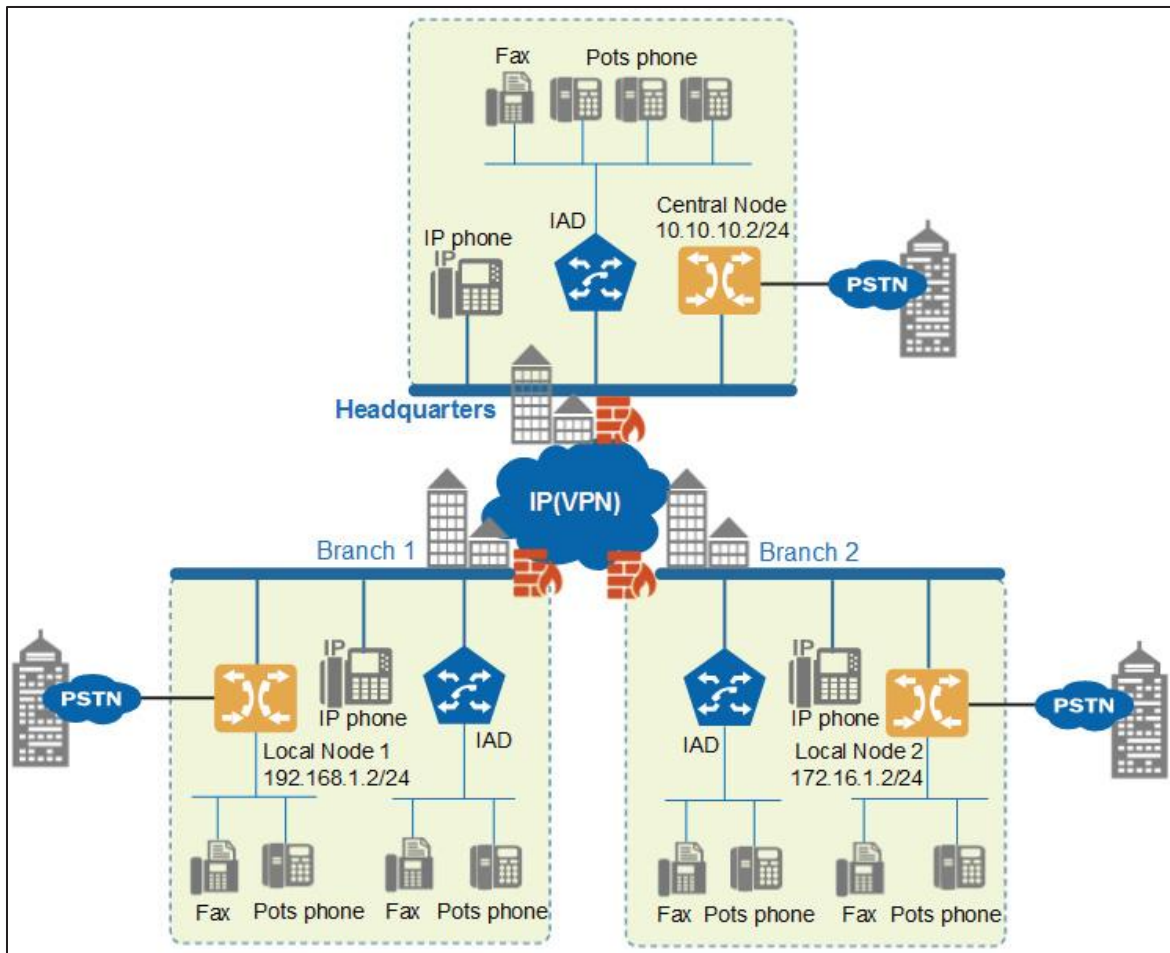


Source: <https://support.huawei.com/enterprise/en/enterprise-communications/espace-iad-pid-15259>

25. The Accused Products include an interface gateway with circuits that convert signals from the plurality of customer telephone stations to packets for switching by the packet switch.

26. The U1960 functions as the interface gateway that receives the analog signals from the POTS users connected with the PSTN to communicate in the network. The U1960 uses a modular circuit board to convert the analog signals into IP packets to switch and transmit the data over the IP (VPN) to the central node that process and establish the call.

27. The IAD also functions as an interface gateway that receives analog signals from the connected analog phone (POTS) to communicate in the network. The IAD includes a standalone circuit or circuits installed with a software program to convert the analog voice signal into IP packets and transmits data through the IP network for switching by the central node.



Source:

https://support.huawei.com/hedex/hdx.do?docid=EDOC1000073292&id=uc_cfge_00056&lang=en

Product Overview

Huawei Unified Gateway U1960 (U1960 for short) is a core voice gateway in the Huawei Unified Communications (UC) solution that supports a maximum of 1,000 users. It works with Huawei IP terminals and UC applications to provide professional IP telephony (IPT) and UC services.



Figure 1 U1960

The lightweight U1960 uses the highly-integrated broadband and narrowband design to allow for hybrid networking of analog phones and IP phones. It can connect to the public switched telephone network (PSTN) or to voice switches in private networks using digital, analog, and broadband SIP trunks.

U1960 is equipped with modular boards to simplify installations and support hot swapping. U1960 can be quickly deployed and easily maintained with the assistance of graphical configuration tools.

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eSpace IAD

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Close ▲

Visio Stencil | Specifications ▢



Huawei-eSpace-IAD104H



Source: <https://support.huawei.com/enterprise/en/enterprise-communications/espace-iad-pid-15259>

28. The Accused Products include a system for controlling connections through the packet switch. The Accused Products deploy the U1960 as the central node that process the internal calls to control and route the calls to the intended destination (e.g., phone user).

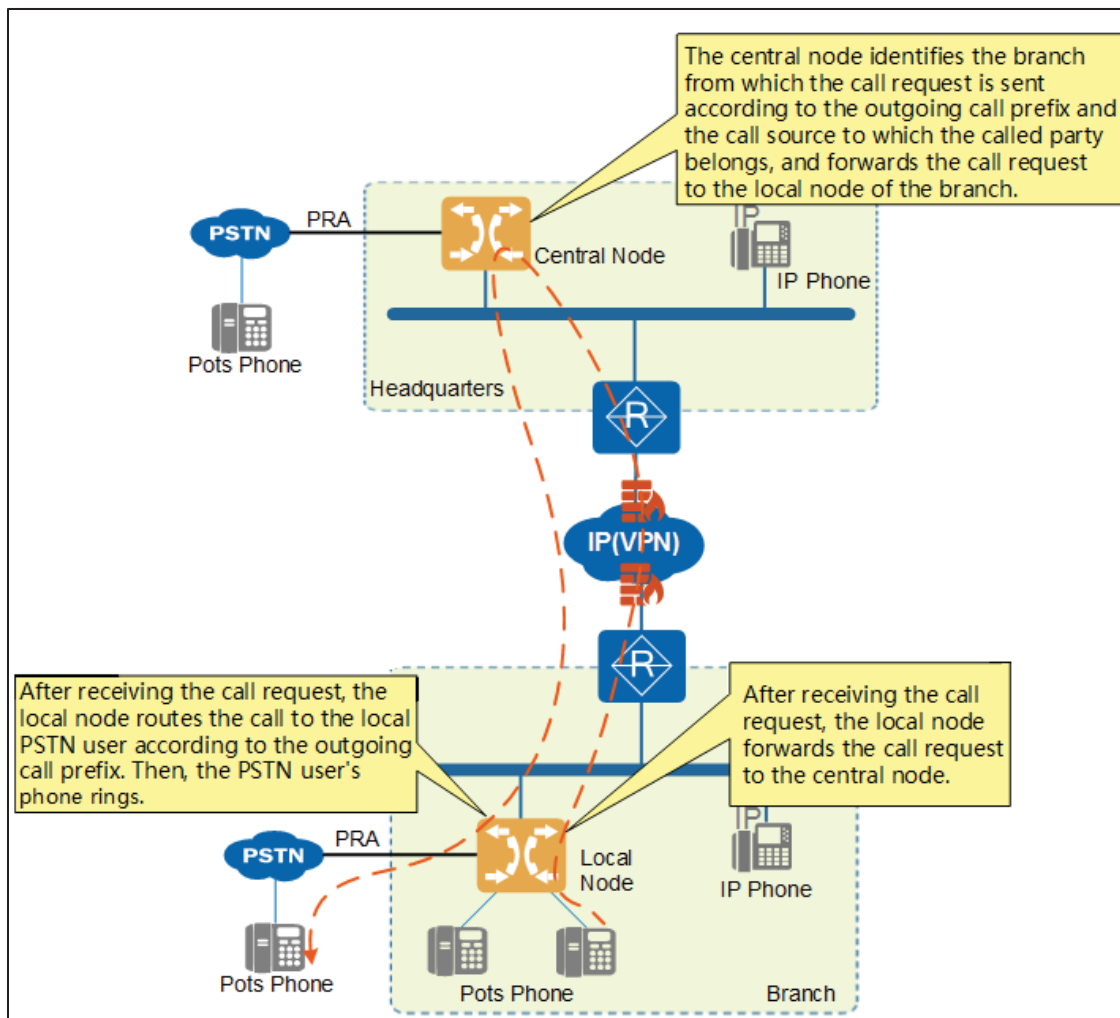
29. The below figures from Huawei documentation show an example scenario where the U1960 functions as a server system to process the call request to determine that the call should be routed over the PSTN to establish the communication session. The below figures from Huawei documentation also show an example scenario where the U1960 functions as server system to processes the call request to determine that the call should not be routed to the PSTN to establish the communication session.

Network Description

- The unified gateways at the central node (central node for short) and local nodes (local node for short) are connected using SIP trunks. They also use a heartbeat mechanism to constantly check each other's status.
- When the central node is correctly connected to the local node:
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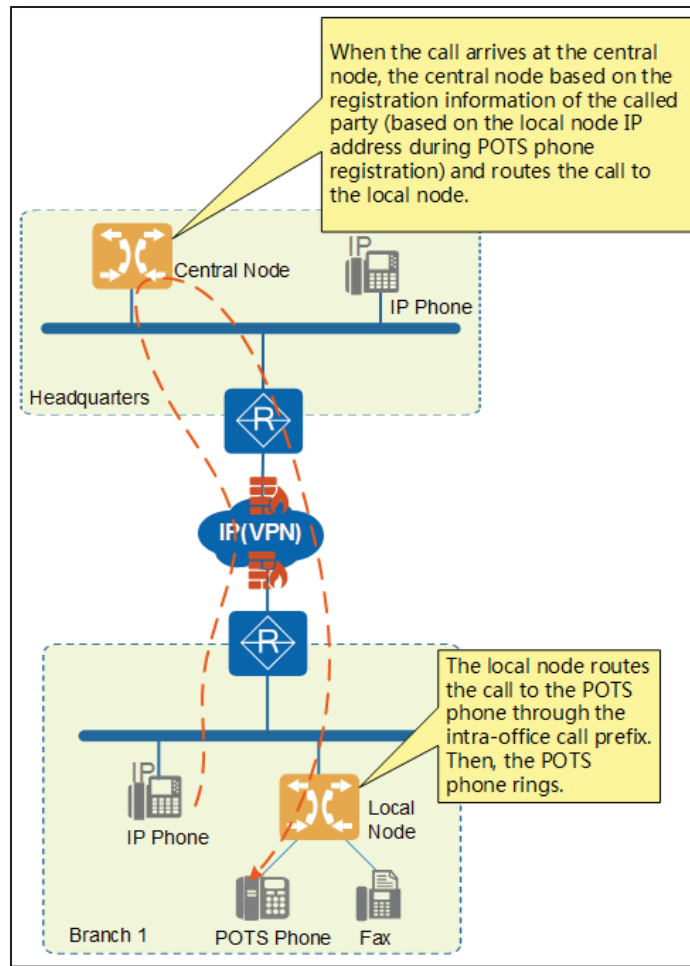
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30. In view of preceding paragraphs, each and every element of at least claim 1 of the '304 Patent is found in the Accused Products.

31. Huawei has and continues to directly infringe at least one claim of the '304 Patent, literally or under the doctrine of equivalents, by making, using, selling, offering for sale, importing, and/or distributing the Accused Products in the United States, including within this judicial district, without the authority of Brazos.

32. Huawei has received notice and actual or constructive knowledge of the '304 Patent since at least the date of service of this Complaint.

33. Since at least the date of service of this Complaint, through its actions, Huawei has actively induced product makers, distributors, retailers, and/or end users of the Accused Products to infringe the '304 Patent throughout the United States, including within this judicial district, by, among other things, advertising and promoting the use of the Accused Products in various websites, including providing and disseminating product descriptions, operating manuals, and other instructions on how to implement and configure the Accused Products. Examples of such advertising, promoting, and/or instructing include the documents at:

- <https://e.huawei.com/us/material/communication/e651c14c726b40f693c05303c3ce2ad3>
- <https://e.huawei.com/us/products/software/mgmt-sys/esight/communication-surveillance>
- https://support.huawei.com/hedex/hdx.do?docid=EDOC1000073292&id=u_c_cfge_00056&lang=en
- <https://support.huawei.com/enterprise/en/enterprise-communications/espace-iad-pid-15259>,
- <https://support.huawei.com/enterprise/en/enterprise-communications/espace-u1960-pid-8057951>

34. Since at least the date of service of this Complaint, through its actions, Huawei has contributed to the infringement of the '304 Patent by having others sell, offer for sale, or use the Accused Products throughout the United States, including within this judicial district, with knowledge that the Accused Products infringe the '304 Patent. The Accused Products are especially made or adapted for infringing the '304 Patent and have no substantial non-infringing use. For example, in view of the preceding paragraphs, the Accused Products contain functionality which is material to at least one claim of the '304 Patent.

JURY DEMAND

Brazos hereby demands a jury on all issues so triable.

REQUEST FOR RELIEF

WHEREFORE, Brazos respectfully requests that the Court:

- (A) Enter judgment that Huawei infringes one or more claims of the '304 Patent literally and/or under the doctrine of equivalents;
- (B) Enter judgment that Huawei has induced infringement and continues to induce infringement of one or more claims of the '304 Patent;
- (C) Enter judgment that Huawei has contributed to and continues to contribute to the infringement of one or more claims of the '304 Patent;
- (D) Award Brazos damages, to be paid by Huawei in an amount adequate to compensate Brazos for such damages, together with pre-judgment and post-judgment interest for the infringement by Huawei of the '304 Patent through the date such judgment is entered in accordance with 35 U.S.C. §284, and increase such award by up to three times the amount found or assessed in accordance with 35 U.S.C. §284;
- (E) Declare this case exceptional pursuant to 35 U.S.C. §285; and Award Brazos its costs, disbursements, attorneys' fees, and such further and additional relief as is deemed appropriate by this Court.

Dated: September 29, 2020

Respectfully submitted,

-
/s/ James L. Etheridge

James L. Etheridge

Texas State Bar No. 24059147

Ryan S. Loveless

Texas State Bar No. 24036997

Travis L. Richins

Texas State Bar No. 24061296

Brett A. Mangrum

Texas State Bar No. 24065671

Jeffrey Huang

ETHERIDGE LAW GROUP, PLLC

2600 E. Southlake Blvd., Suite 120 / 324

Southlake, Texas 76092

Telephone: (817) 470-7249

Facsimile: (817) 887-5950

Jim@EtheridgeLaw.com

Ryan@EtheridgeLaw.com

Travis@EtheridgeLaw.com

Brett@EtheridgeLaw.com

JeffH@EtheridgeLaw.com

COUNSEL FOR PLAINTIFF

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traditional notions of fair play and substantial justice because Huawei has established minimum contacts with the forum. For example, on information and belief, Huawei Defendants have committed acts of infringement in this judicial district, by among other things, selling and offering for sale products that infringe the asserted patent, directly or through intermediaries, as alleged herein.

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COUNT ONE - INFRINGEMENT OF
U.S. PATENT NO. 7,406,260

10. Brazos re-alleges and incorporates by reference the preceding paragraphs of this Complaint.

11. On July 29, 2008, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,406,260 (“the ’260 Patent”), entitled “Method and system for network wide fault isolation in an optical network.” A true and correct copy of the ’260 Patent is attached as Exhibit A to this Complaint.

12. Brazos is the owner of all rights, title, and interest in and to the ’260 Patent, including the right to assert all causes of action arising under the ’260 Patent and the right to any remedies for the infringement of the ’260 Patent.

13. Huawei makes, uses, sells, offers for sale, imports, and/or distributes in the United States, including within this judicial district, products such as, but not limited to, Huawei routers with fault management functionality (collectively, the “Accused Products”).

14. The Accused Products include Huawei NetEngine 40E series routers.

15. Huawei’s NE20E-S routers use the latest VRP8 platform, which is also used by the NE5000E core router. The VRP uses the Resilient Distributed Framework (RDF) with a separated management plane, service plane, data plane, and monitoring module.

NetEngine 20E-S Series Universal Service Routers

Reliable universal service transmission for industry users.



Source: <https://e.huawei.com/in/products/enterprise-networking/routers/ne/ne20e-s>

NetEngine 20E-S Series

The NetEngine 20E-S series is suitable for enterprise networks of various types and scales. Powered by Huawei's proprietary Network Processing (NP) chips, and packed with innovative technologies — such as Internet Protocol (IP) hard pipe, IP Flow Performance Measurement (FPM), and Bidirectional Forwarding Detection (BFD) — NetEngine 20E-S routers provide high performance transmission, high-quality private line services, and accurate fault detection and location. With 99.999% reliability achieved through comprehensive hardware and software reliability technologies, a Software-Defined Networking (SDN) architecture enables balanced traffic distribution, improving network bandwidth utilization. And with an operating temperature spanning -40°C to 65°C, the NetEngine 20E-S series is designed to withstand even the harshest environments.

Source: <https://e.huawei.com/in/products/enterprise-networking/routers/ne/ne20e-s>

16. In the Accused Products, the VRP8 platform in the accused instrumentality helps in locating and isolating the fault.

Product characteristics

Advanced VRP platform

NE20E-S routers use the latest VRP8 platform, which is also used by the NE5000E core router. The VRP uses the Resilient Distributed Framework (RDF), with separated management plane, service plane, data plane, and monitoring module to increase system flexibility, reliability, manageability, and expandability.

The VRP system is mature. So far, more than 4 million sets are running on live networks. Its rich features and stability have proven themselves through a wide variety of applications.

Source: https://e.huawei.com/in/related-page/products/enterprise-network/routers/ne/ne20e-s/brochure/router_ne20e-s

17. The Accused Products support Wavelength-Division Multiplexing (WDM) interfaces. WDM is used to transmit two or more optical signals of different wavelengths through the same optical fiber.

18. The Accused Products have management functions with five major functions – performance management, configuration management, security management, fault management, and charging management. Fault management provides alarms and helps users to isolate and rectify faults.

Wavelength-division multiplexing (WDM), a technology used in the MAN and WAN, is used to transmit two or more optical signals of different wavelengths through the same optical fiber. A WDM system uses a multiplexer at the transmitter to join multiple optical carrier signals of different wavelengths (carrying different information) together on a single optical fiber, and a demultiplexer at the receiver to split the optical carrier signals apart. Then, an optical receiver further processes and restores the optical carrier signals to the original signals.

WDM interfaces supported by the NE20E consist of two interfaces, namely the controller WDM interface and its corresponding GE interface. Parameters related to the optical layer and electrical layer are configured in the controller WDM interface view, and all service features are configured in the GE interface view. The mapping mode of service signals on WDM interfaces is Ethernet over OTN.

Source: <https://support.huawei.com/enterprise/en/doc/EDOC1100016465?section=j003>

The fault management function is one of five functions (performance management, configuration management, security management, fault management, and charging management) that make up a telecommunications management network. The primary purposes of this function are to monitor the operating anomalies and problems of devices and networks in real time and to monitor, report, and store data on faults and device running conditions. Fault management also provides alarms, helping users isolate or rectify faults so that affected services can be restored.

Source: <https://support.huawei.com/enterprise/en/doc/EDOC1100016465?section=j003>

19. The Accused Products have an alarm function that reports alarms whenever a fault is detected in the supported communication network (optical network). The Accused Products also locate and analyze the faults rapidly based on the reported alarms.

20. The VRP8 fault management model in the Accused Products helps in identifying the critical root alarm which is generated based on the fault in the network.

Alarms are reported if a fault is detected. Classifying, associating, and processing received alarms help keep you informed of the running status of devices and helps you locate and analyze faults rapidly.

Table 1-8 lists the alarm functions supported by the HUAWEI.

Table 1-8 Alarm functions

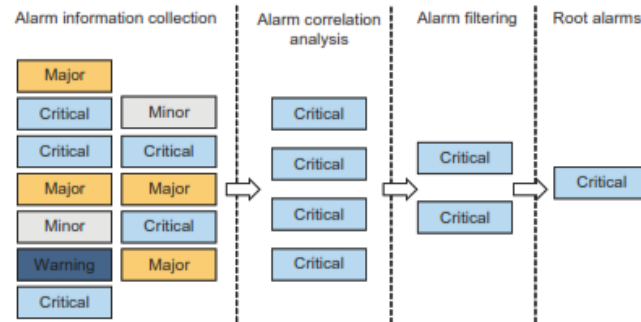
Function	Description
Alarm masking	Maintenance engineers can configure alarm masking on terminals so that terminals detect only alarms that are not masked. This function helps users ignore the alarms that do not need to be displayed.
Alarm suppression	<p>Alarm suppression can be classified as jitter suppression or correlation suppression.</p> <ul style="list-style-type: none"> ● Jitter suppression: uses alarm continuity analysis to allow the device not to report the alarm if a fault lasts only a short period of time and to display a stable alarm generated if a fault flaps. ● Correlation suppression: uses alarm correlation rules to reduce the number of reported alarms, reducing the network load and facilitating fault locating.

Source: <https://support.huawei.com/enterprise/en/doc/EDOC1100016465?section=j003>

Fault Management

As shown in **Figure 1-7**, the VRP8 implements fault management based on service objects. The VRP8 creates a service object relationship model to analyze the correlation between alarms, filter out invalid alarms, and report root alarms, speeding up fault identification.

Figure 1-7 VRP8 fault management model



Source: <https://support.huawei.com/enterprise/en/doc/EDOC1100016465?section=j003>

21. The Accused Product includes an internal reliability guarantee mechanism that displays the alarm and helps in locating the fault.

Use of the active alarm table and internal reliability guarantee mechanism allows alarms to be displayed immediately so that faults can be rapidly and correctly located and analyzed.

Source: <https://support.huawei.com/enterprise/en/doc/EDOC1100016465?section=j003>

22. In the Accused Products, in case of any fault or link down condition, all the circuit cross connects (CCC) are interrupted. This information is reported and used for the analysis of the fault isolation. Accordingly, based upon the information and belief, the accused instrumentality constructs a list of all affected OCh paths in the optical network.

Alarm Correlation Analysis

An event may cause multiple alarms. These alarms are correlated. Alarm correlation analysis facilitates fault locating by differentiating root alarms from correlative alarms.

Alarm correlation analyzes the relationships between alarms based on the predefined alarm correlations. Use the linkDown alarm as an example. If a linkDown alarm is generated on an interface and the link down event results in the interruption of circuit cross connect (CCC) services on the interface, an hwCCCVcDown alarm is generated. According to the predefined alarm correlations, the linkDown alarm is a root alarm, and the hwCCCVcDown alarm is a correlative alarm.

After the system generates an alarm, it analyzes the alarm's correlation with other existing alarms. After the analysis is complete, the alarm carries a tag identifying whether it is a root alarm, a correlative alarm or independent alarm. If the alarm needs to be sent to a Simple Network Management Protocol (SNMP) agent and forwarded to the network management system (NMS), the system determines whether NMS-based correlative alarm suppression is configured.

- If NMS-based correlative alarm suppression is configured, the system filters out correlative alarms and reports only root alarms and independent alarms to the NMS.
- If NMS-based correlative alarm suppression is not configured, the system reports root alarms, correlative alarms and independent alarms to the NMS.

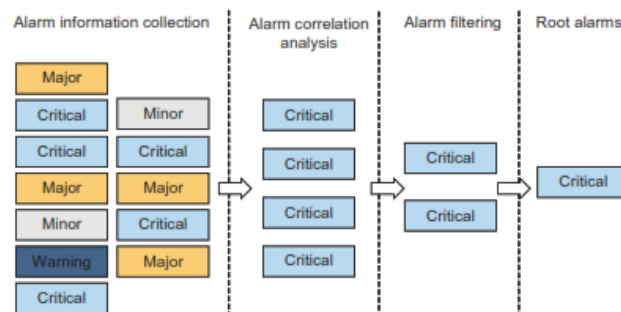
Source: <https://support.huawei.com/enterprise/en/doc/EDOC1100016465?section=j003>

23. In the Accused Products, whenever any fault occurs in the networking link (OCh path), alarms is triggered. In order to analyze and locate the fault, multiple alarms are masked in both the transmit and the receive directions.

Fault Management

As shown in **Figure 1-7**, the VRP8 implements fault management based on service objects. The VRP8 creates a service object relationship model to analyze the correlation between alarms, filter out invalid alarms, and report root alarms, speeding up fault identification.

Figure 1-7 VRP8 fault management model



Source: <https://support.huawei.com/enterprise/en/doc/EDOC1100016465?section=j003>

Alarms are reported if a fault is detected. Classifying, associating, and processing received alarms help keep you informed of the running status of devices and helps you locate and analyze faults rapidly.

Table 1-8 lists the alarm functions supported by the HUAWEI.

Table 1-8 Alarm functions

Function	Description
Alarm masking	Maintenance engineers can configure alarm masking on terminals so that terminals detect only alarms that are not masked. This function helps users ignore the alarms that do not need to be displayed.
Alarm suppression	<p>Alarm suppression can be classified as jitter suppression or correlation suppression.</p> <ul style="list-style-type: none"> ● Jitter suppression: uses alarm continuity analysis to allow the device not to report the alarm if a fault lasts only a short period of time and to display a stable alarm generated if a fault flaps. ● Correlation suppression: uses alarm correlation rules to reduce the number of reported alarms, reducing the network load and facilitating fault locating.

Source: <https://support.huawei.com/enterprise/en/doc/EDOC1100016465?section=j003>

24. The Accused Product gathers a list of all the alarms present at any port. A user can configure to receive updates about specific alarm or configure the threshold time after which any alarm should be reported. Reported alarms are of various categories based on the type of fault and the impacted service in the networking element (e.g, OCh alarm, port level alarm, or card level alarm).

Alarm Suppression

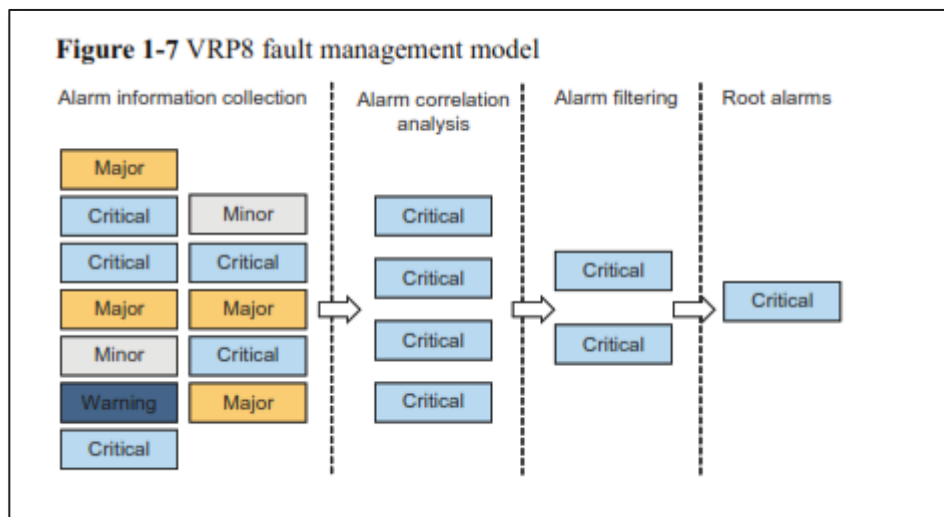
If different types of faults trigger more than one alarm, CFM alarm suppression allows the alarm with the highest level to be sent to the NMS. If alarms persist after the alarm with the highest level is cleared, the alarm with the second highest level is sent to the NMS. The process repeats until all alarms are cleared.

The principles of CFM alarm suppression are as follows:

- Alarms with high levels require immediate troubleshooting.
- A single fault may trigger alarms with different levels. After the alarm with the highest level is cleared, alarms with lower levels may also be cleared.

Source: <https://support.huawei.com/enterprise/en/doc/EDOC1100016465?section=j003>

25. The Accused Products engage in an alarm correlation analysis to determine the correlated alarms and reduce the number of reported alarms. The Accused Products also perform Alarm filtering to report the alarms specified by a user. Once the analysis of the correlated alarms is completed by the Accused Products, information is added to each alarm in order to easily identify the root alarm, correlated alarm, and an independent alarm.



Source: <https://support.huawei.com/enterprise/en/doc/EDOC1100016465?section=j003>

Alarm Correlation Analysis

An event may cause multiple alarms. These alarms are correlated. Alarm correlation analysis facilitates fault locating by differentiating root alarms from correlative alarms.

Alarm correlation analyzes the relationships between alarms based on the predefined alarm correlations. Use the linkDown alarm as an example. If a linkDown alarm is generated on an interface and the link down event results in the interruption of circuit cross connect (CCC) services on the interface, an hwCCCVcDown alarm is generated. According to the predefined alarm correlations, the linkDown alarm is a root alarm, and the hwCCCVcDown alarm is a correlative alarm.

After the system generates an alarm, it analyzes the alarm's correlation with other existing alarms. After the analysis is complete, the alarm carries a tag identifying whether it is a root alarm, a correlative alarm or independent alarm. If the alarm needs to be sent to a Simple Network Management Protocol (SNMP) agent and forwarded to the network management system (NMS), the system determines whether NMS-based correlative alarm suppression is configured.

- If NMS-based correlative alarm suppression is configured, the system filters out correlative alarms and reports only root alarms and independent alarms to the NMS.
- If NMS-based correlative alarm suppression is not configured, the system reports root alarms, correlative alarms and independent alarms to the NMS.

Source: <https://support.huawei.com/enterprise/en/doc/EDOC1100016465?section=j003>

26. In view of preceding paragraphs, each and every element of at least claim 1 of the '260 Patent is found in the Accused Products.

27. Huawei has and continues to directly infringe at least one claim of the '260 Patent, literally or under the doctrine of equivalents, by making, using, selling, offering for sale, importing, and/or distributing the Accused Products in the United States, including within this judicial district, without the authority of Brazos.

28. Huawei has received notice and actual or constructive knowledge of the '260 Patent since at least the date of service of this Complaint.

29. Since at least the date of service of this Complaint, through its actions, Huawei has actively induced product makers, distributors, retailers, and/or end users of the Accused Products to infringe the '260 Patent throughout the United States, including within this judicial district, by, among other things, advertising and promoting the use of the Accused Products in various websites, including providing and disseminating product descriptions, operating manuals, and other instructions on how to implement and configure the Accused Products. Examples of such advertising, promoting, and/or instructing include the documents at:

- <https://e.huawei.com/in/products/enterprise-networking/routers/ne/ne20e-s>
- https://e.huawei.com/in/related-page/products/enterprise-network/routers/ne/ne20e-s/brochure/router_ne20e-s
- <https://support.huawei.com/enterprise/en/doc/EDOC1100016465?section=j003>

30. Since at least the date of service of this Complaint, through its actions, Huawei has contributed to the infringement of the '260 Patent by having others sell, offer for sale, or use the Accused Products throughout the United States, including within this judicial district, with knowledge that the Accused Products infringe the '260 Patent. The Accused Products are especially made or adapted for infringing the '260 Patent and have no substantial non-infringing

use. For example, in view of the preceding paragraphs, the Accused Products contain functionality which is material to at least one claim of the '260 Patent.

JURY DEMAND

Brazos hereby demands a jury on all issues so triable.

REQUEST FOR RELIEF

WHEREFORE, Brazos respectfully requests that the Court:

- (A) Enter judgment that Huawei infringes one or more claims of the '260 Patent literally and/or under the doctrine of equivalents;
- (B) Enter judgment that Huawei has induced infringement and continues to induce infringement of one or more claims of the '260 Patent;
- (C) Enter judgment that Huawei has contributed to and continues to contribute to the infringement of one or more claims of the '260 Patent;
- (D) Award Brazos damages, to be paid by Huawei in an amount adequate to compensate Brazos for such damages, together with pre-judgment and post-judgment interest for the infringement by Huawei of the '260 Patent through the date such judgment is entered in accordance with 35 U.S.C. §284, and increase such award by up to three times the amount found or assessed in accordance with 35 U.S.C. §284;
- (E) Declare this case exceptional pursuant to 35 U.S.C. §285; and
- (F) Award Brazos its costs, disbursements, attorneys' fees, and such further and additional relief as is deemed appropriate by this Court.

Dated: September 29, 2020

Respectfully submitted,

-
/s/ James L. Etheridge

James L. Etheridge

Texas State Bar No. 24059147

Ryan S. Loveless

Texas State Bar No. 24036997

Travis L. Richins

Texas State Bar No. 24061296

Brett A. Mangrum

Texas State Bar No. 24065671

Jeffrey Huang

ETHERIDGE LAW GROUP, PLLC

2600 E. Southlake Blvd., Suite 120 / 324

Southlake, Texas 76092

Telephone: (817) 470-7249

Facsimile: (817) 887-5950

Jim@EtheridgeLaw.com

Ryan@EtheridgeLaw.com

Travis@EtheridgeLaw.com

Brett@EtheridgeLaw.com

JeffH@EtheridgeLaw.com

COUNSEL FOR PLAINTIFF

**WSOU INVESTMENTS, LLC d/b/a
BRAZOS LICENSING AND
DEVELOPMENT,**

V.

**HUAWEI TECHNOLOGIES CO., LTD.
AND HUAWEI TECHNOLOGIES USA
INC.,**

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**CIVIL ACTION NO. 6:20-cv-00892**

## JURY TRIAL DEMANDED

Plaintiff WSOU Investments, LLC d/b/a Brazos Licensing and Development (“Brazos” or “Plaintiff”), by and through its attorneys, files this Complaint for Patent Infringement against Defendants Huawei Technologies Co. Ltd. and Huawei Technologies USA Inc. (collectively “Huawei” or “Defendants”) and alleges:

## NATURE OF THE ACTION

1. This is a civil action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. §§ 1, et seq., including §§ 271, 281, 284, and 285.

## **THE PARTIES**

2. Brazos is a limited liability corporation organized and existing under the laws of Delaware, with its principal place of business at 606 Austin Avenue, Suite 6, Waco, Texas 76701.

3. On information and belief, Defendant Huawei Technologies Co., Ltd. is a Chinese corporation that does business in Texas, directly or through intermediaries, with a principal place of business at Bantian, Longgang District, Shenzhen 518129, People's Republic of China.

4. Upon information and belief, Defendant Huawei Technologies USA Inc. is a corporation organized and existing under the laws of Texas that maintains an established place of business at 2391 NE Interstate 410 Loop, San Antonio, Texas 78217. Huawei Technologies USA, Inc. is authorized to do business in Texas and may be served via its registered agent, CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201-3136.

5. Defendants operate under and identify with the trade name "Huawei." Each of the Defendants may be referred to individually as a "Huawei Defendant" and, collectively, Defendants may be referred to below as "Huawei" or as the "Huawei Defendants."

## **JURISDICTION AND VENUE**

6. This is an action for patent infringement which arises under the Patent Laws of the United States, in particular, 35 U.S.C. §§271, 281, 284, and 285.

7. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a).

8. This Court has specific and general personal jurisdiction over each Huawei Defendant pursuant to due process and/or the Texas Long Arm Statute, because each Huawei Defendant has committed acts giving rise to this action within Texas and within this judicial district. The Court's exercise of jurisdiction over each Huawei Defendant would not offend

traditional notions of fair play and substantial justice because Huawei has established minimum contacts with the forum. For example, on information and belief, Huawei Defendants have committed acts of infringement in this judicial district, by among other things, selling and offering for sale products that infringe the asserted patent, directly or through intermediaries, as alleged herein.

9. Venue in the Western District of Texas is proper pursuant to 28 U.S.C. §§1391 and 1400(b) because Defendants have committed acts of infringement in this judicial district and have regular and established places of business in this judicial district and in Texas. As non-limiting examples, on information and belief, Defendants have sold or offered to sell the Accused Products in this judicial district and have employees or agents that operate Huawei equipment in this judicial district, including at 189 CR 265, Georgetown, TX 78626, 1150 S. Bell Blvd., Cedar Park, TX 78613, 1399 S A W Grimes Blvd., Round Rock, TX 78664, 12335 IH 35, Jarrell, TX 76537, 1050 Rabbit Hill Rd., Unit #E, Georgetown, TX 78626, 1602 A W Grimes Blvd., Round Rock, TX 78664, 4120 IH 35 N, Georgetown, TX 78626, 900 CR 272, Leander, TX 78641, 1950 Crystal Falls Pkwy., Leander, TX 78641, 1101 N. Industrial Blvd., Round Rock, TX 78681, 506 McNeil Rd., Round Rock, TX 78681, 3210 Chisholm Trail Rd., Round Rock, TX 78681, 112 Roundville Ln., Round Rock, TX 78664, 202 Central Dr. W, Georgetown, TX 78628, 3595 E. Hwy. 29, Georgetown, TX 78626, 1402 W Welch St., Taylor, TX 76574, 3801 Oak Ridge Dr., Round Rock, TX 78681, 1957 Red Bud Ln. #B, Round Rock, TX 78664, 6603 S Lakewood Dr., Georgetown, TX 78633, 500 W Front, Hutto, TX 78634.



**COUNT ONE - INFRINGEMENT OF**  
**U.S. PATENT NO. 7,460,658**

10. Brazos re-alleges and incorporates by reference the preceding paragraphs of this Complaint.

11. On December 2, 2008, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,460,658 (“the ’658 Patent”), entitled “Apparatus, and an associated method, for selectably and automatically redirecting a telephonic call to a secondary location.” A true and correct copy of the ’658 Patent is attached as Exhibit A to this Complaint.

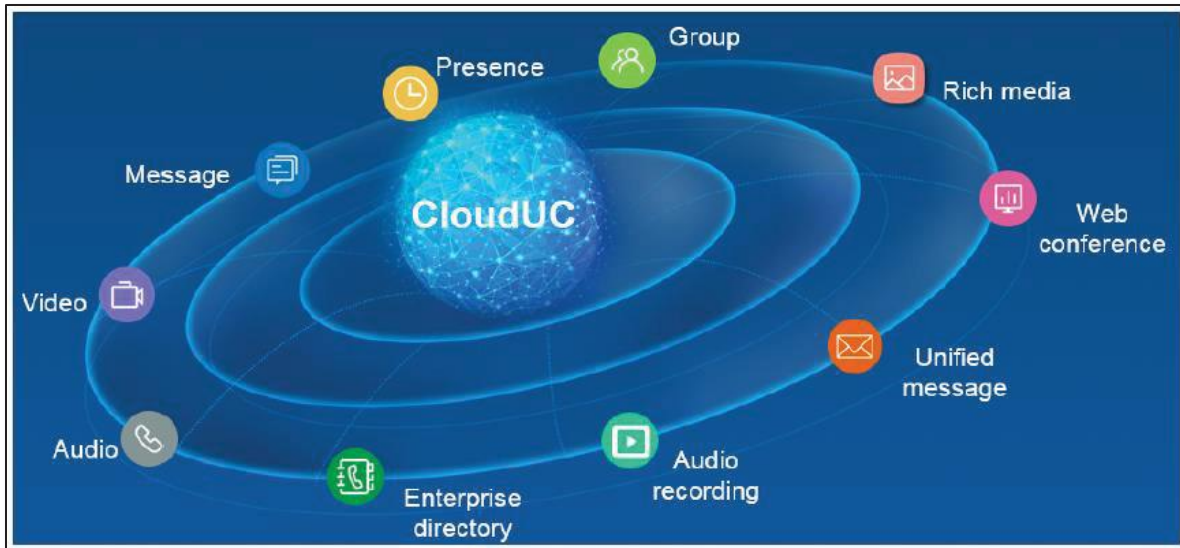
12. Brazos is the owner of all rights, title, and interest in and to the ’658 Patent, including the right to assert all causes of action arising under the ’658 Patent and the right to any remedies for the infringement of the ’658 Patent.

13. Huawei makes, uses, sells, offers for sale, imports, and/or distributes in the United States, including within this judicial district, products such as, but not limited to, Huawei CloudPBX Solutions (collectively, the “Accused Products”).

14. The Accused Products include Huawei CloudPBX Solution V600R006C00.

15. The Huawei CloudPBX Solution is a communication system that allows communication via voice, video, content sharing, and the like using a packet data network. The Huawei CloudPBX also supports Call Forward Services, which includes a communication diversion service. The users can redirect an incoming call to a desired pre-set phone number using this service.

16. With the Accused Product, a user can use the service on an Office Phone and a personal phone such that the user has option to communicate through the user’s office IP Phone (first location) or mobile phone (second location) using some pre-set rules.



Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1000157983&partNo=3001&mid=SUPE\\_DOC&t=1583748295000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1000157983&partNo=3001&mid=SUPE_DOC&t=1583748295000).

## 4 Call Forward Services

### 4.1 Communications Diversion Service

The Communications Diversion (CDIV) service enables an incoming call to be redirected to a preset phone number or voice mailbox according to the preset conditions. Based on preset conditions, the CDIV service is classified into: Call Forwarding Unconditional (CFU), Call Forwarding No Reply (CFNR), Call Forwarding Busy (CFB), and Call Forwarding Offline (CFNL).

### 4.2 Communication Deflection

The Communication Deflection (CD) service enables the called party to return a 302 message to the terminating application server (AS) upon receiving an incoming call, so that the terminating AS triggers the CD service according to the forwarded-to number carried in the 302 message.

Source: <https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>

## 6.16 Multi-terminal Collaboration Empowering Seamless Communication Experience

### Seamless Switching Between Terminals

When out of office, users can use their mobile phones to receive calls. Once back in office, they can switch to the IP phones for better voice quality without interrupting the calls.

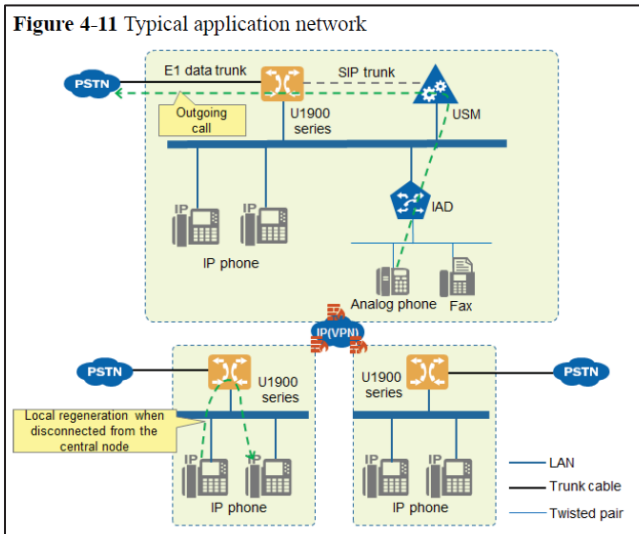
**Figure 6-35** Seamless switching between terminals



Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1000157983&partNo=3001&mid=SUPE\\_DOC&t=1583748295000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1000157983&partNo=3001&mid=SUPE_DOC&t=1583748295000).

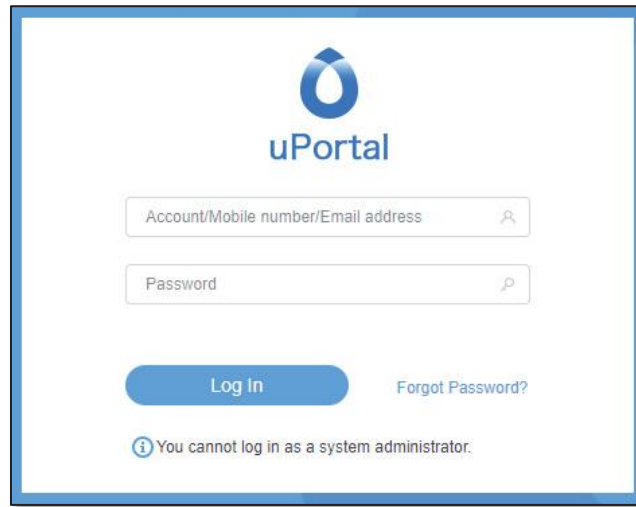
17. The Accused Product also includes Call Control and Media Processing Components, which lets the users of PBX service access a PSTN or mobile network (first telephonic network) as well through which the users can communicate.



Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1000157983&partNo=3001&mid=SUPE\\_DOC&t=1583748295000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1000157983&partNo=3001&mid=SUPE_DOC&t=1583748295000).

18. User of the Huawei CloudPBX Solution are provided a “uPortal” login account. The CloudPBX user can log in to the “uPortal” using the login credentials from any location over the internet and set the user preferences for various services such as “Call Forwarding Service.” The user can explore the “Call Forwarding” option under “Call Service.”



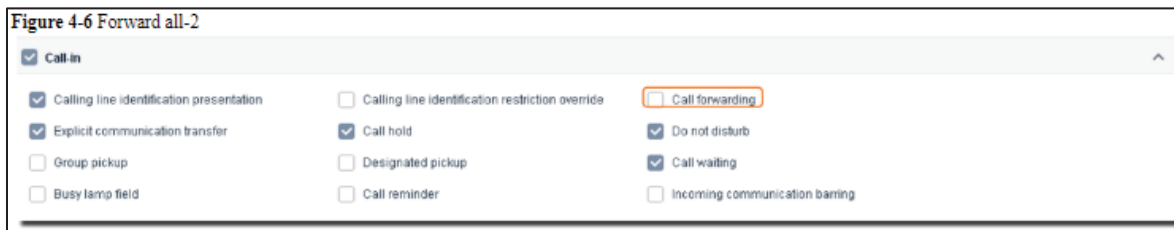
Source: [https://cloudec.huaweicloud.com/uPortal/portal/login.sraction?language=en\\_US](https://cloudec.huaweicloud.com/uPortal/portal/login.sraction?language=en_US)

1. Log in to the uPortal as a common user.
2. Choose **Call Service > Call Forwarding**, and modify CDIV service rules, as shown in [Figure 4-7](#).
3. Click **Save**.

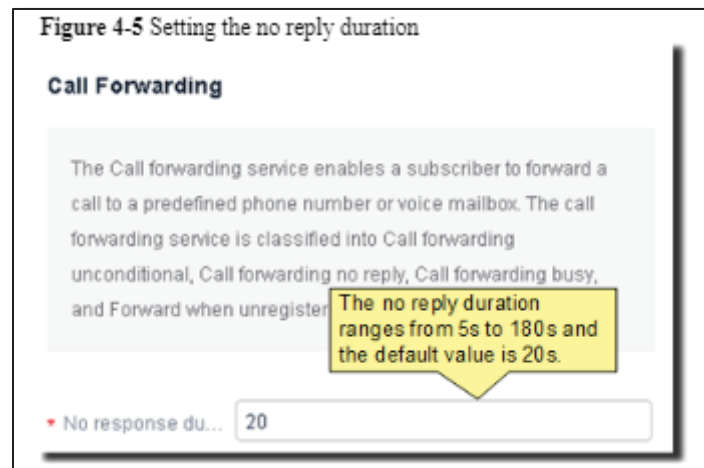
Source: <https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>

19. The Accused Product allows a CloudPBX user to set preferences for Communications Diversion (CDIV) call forwarding service in “uPortal” such as Call Forwarding Unconditional (CFU), Call Forwarding No Reply (CFNR), Call Forwarding Busy (CFB), and Call Forwarding Offline (CFNL). Huawei’s Communications Diversion (CDIV) service enables an incoming call to be redirected to a pre-set phone number or voice mailbox, according to the pre-set conditions.

20. In the CDIV configuration, the Accused Product allows a user to provide an alternative number to which the calls must be routed and enable call forwarding. After enabling this feature, all the calls to a phone number that follow the pre-set condition are redirected to the alternative number provided.



Source: <https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>



Source: <https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>.

**Figure 4-7 Modifying CDIV services rules**

Rule

Whether enabled

☒ Enable
☐ Disable

Forward type

Call forwarding unconditional

Call forwarding ...

☒ Forwarded-t...
☐ Voice mailbox

100351

More

Time type

☐ All
☒ Specific time

Mode

Date mode

2017-4-13

2017-4-14

Time duration

01

:

02

:

03

:

59

Calling number

Specific numbers

100356

-

+

Source: <https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>

| Parameter                     | Description                                                                                                                                                                                                                                                                                                           |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Whether enabled               | When this parameter is set to <b>Enable</b> , the user has the CDIV service configured using the CDIV service rule.                                                                                                                                                                                                   |
| Forward type                  | <ul style="list-style-type: none"> <li>This parameter can be set to <b>Call forwarding unconditional</b>, <b>Call forwarding no reply</b>, <b>Call forwarding busy</b>, or <b>Forward when unregistered</b>.</li> <li>In this example, <b>Forward type</b> is set to <b>Call forwarding unconditional</b>.</li> </ul> |
| Call forwarding unconditional | The user can forward an incoming call to a forwarded-to number or voice mailbox based on site requirements.                                                                                                                                                                                                           |
| Time type                     | <ul style="list-style-type: none"> <li>This parameter specifies whether the CDIV service is triggered within a specified period or any period.</li> <li>The CDIV service can be triggered within specified days of a week, specified period of a day, or specified period of specified days.</li> </ul>               |
| Calling number                | This parameter specifies whether the CDIV service is triggered when the incoming call is initiated from a specified number or any number.                                                                                                                                                                             |

21. Source:

<https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>The Accused Product allows user to provide user preferences (indications) for call forwarding using the “uPortal” over the Internet (provided to the packet data network). The user preferences set

42



conditions on which the call is redirected. The user can also manipulate these conditions to indicate when the user wants to receive a call on a particular phone number (and hence a particular location).

22. The Accused Product allows a user to configure “Call Forwarding No Reply (CFNR)” such that when the user is out of office, the user receives a call on the user’s personal mobile number (second location). The user can select and configure CFNR on the user’s Office phone number (first location) such that the incoming call is forwarded to the user’s personal phone number when the office phone is not answered for a specific time.

**Figure 4-7 Modifying CDIV services rules**

Rule

Whether enabled ☒ Enable ☐ Disable

Forward type

Call forwarding ... ☒ Forwarded-to... ☐ Voice mailbox

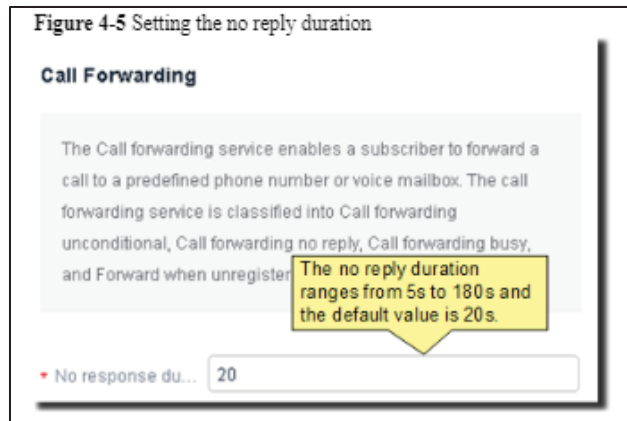
More ▾

Time type ☐ All ☒ Specific time

Mode   
   
 :  :  :

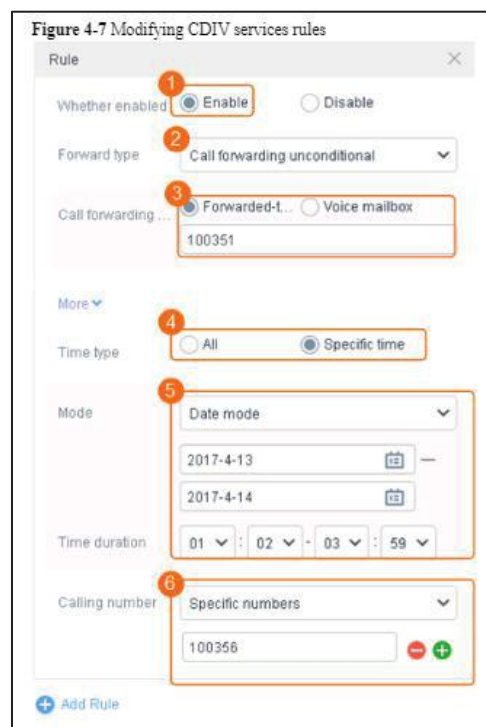
Calling number

Source: <https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>.

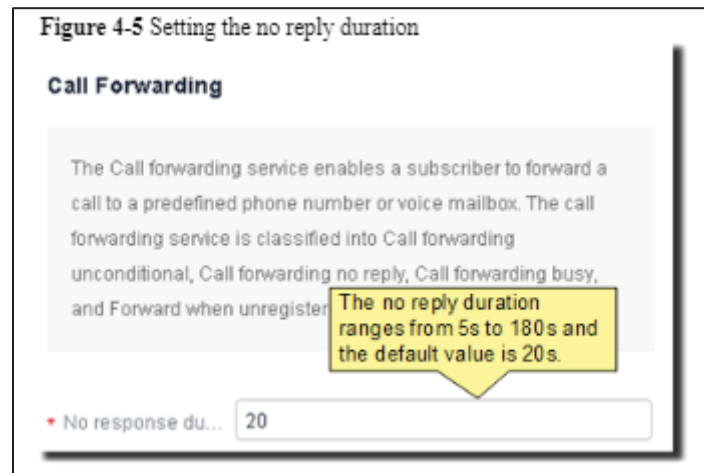


Source: <https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>.

23. The Accused Product allows the user to enable call forwarding for a number by entering an alternative number to which the calls have to be redirected. The index is formed by indexing together the values representative of selection (the number to which the calls must be redirected) with the calling indicia (the number from which the calls need to be redirected). This index is then stored at some place, which would be accessed later for redirecting the calls.



Source: <https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>.



Source: <https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>.

24. The Accused Product accesses a database to retrieve the index values when a calling party places a call to access the number from which the calls have to be redirected (i.e., the calling indicia) to the number to which the calls have to be redirected (i.e. values representative of selection made by the user).

**Figure 4-7 Modifying CDIV services rules**

Rule

Whether enabled ☒ Enable ☐ Disable

Forward type Call forwarding unconditional

Call forwarding ... ☒ Forwarded-1... ☐ Voice mailbox  
100351

More

Time type ☐ All ☒ Specific time

Mode Date mode  
2017-4-13  
2017-4-14

Time duration 01 : 02 : 03 : 59

Calling number Specific numbers  
100356

+ Add Rule

Source: <https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>.

**Figure 4-5 Setting the no reply duration**

**Call Forwarding**

The Call forwarding service enables a subscriber to forward a call to a predefined phone number or voice mailbox. The call forwarding service is classified into Call forwarding unconditional, Call forwarding no reply, Call forwarding busy, and Forward when unregistered.

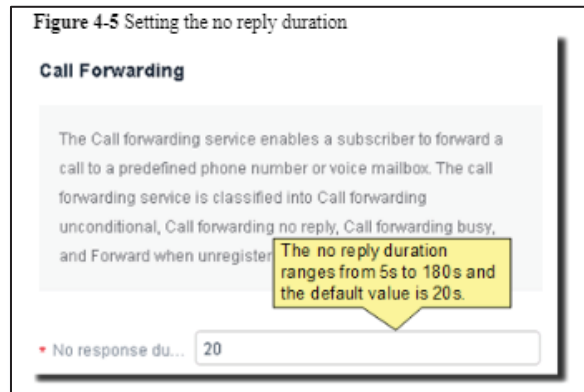
The no reply duration ranges from 5s to 180s and the default value is 20s.

No response du... 20

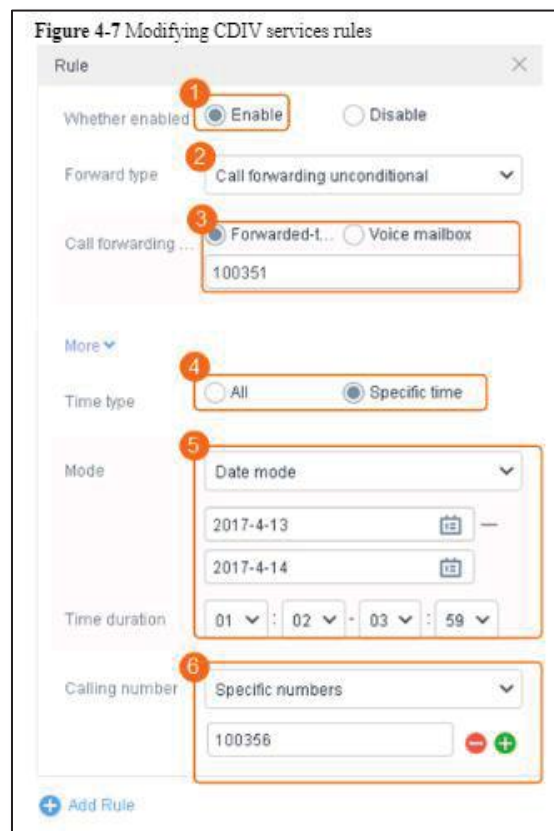
Source: <https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>.

25. The Accused Product retrieves the index stored in the database, since indicia is indexed to the values representative of selection (numbers from which and to which call must be forwarded, respectively). The call that is placed to the number from which the calls have to be

redirected (calling indicia) is redirected to the alternate phone number (values representative of selection made by the user). Hence, the information accessed from the database is used to complete the routing of the call.



Source: <https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>



Source: <https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>.

## 4 Call Forward Services

### 4.1 Communications Diversion Service

The Communications Diversion (CDIV) service enables an incoming call to be redirected to a preset phone number or voice mailbox according to the preset conditions. Based on preset conditions, the CDIV service is classified into: Call Forwarding Unconditional (CFU), Call Forwarding No Reply (CFNR), Call Forwarding Busy (CFB), and Call Forwarding Offline (CFNL).

### 4.2 Communication Deflection

The Communication Deflection (CD) service enables the called party to return a 302 message to the terminating application server (AS) upon receiving an incoming call, so that the terminating AS triggers the CD service according to the forwarded-to number carried in the 302 message.

### **4.1 Communications Diversion Service**

The Communications Diversion (CDIV) service enables an incoming call to be redirected to a preset phone number or voice mailbox according to the preset conditions. Based on preset conditions, the CDIV service is classified into: Call Forwarding Unconditional (CFU), Call Forwarding No Reply (CFNR), Call Forwarding Busy (CFB), and Call Forwarding Offline (CFNL).

#### **4.1.1 Feature Configuration**

The Communications Diversion (CDIV) service enables an incoming call to be redirected to a preset phone number or voice mailbox according to the preset conditions. Based on preset conditions, the CDIV service is classified into: Call Forwarding Unconditional (CFU), Call Forwarding No Reply (CFNR), the Call Forwarding Busy (CFB), and Call Forwarding Offline (CFNL).

Source: <https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>

26. In view of preceding paragraphs, each and every element of at least claim 13 of the '658 Patent is found in the Accused Products.

27. Huawei has and continues to directly infringe at least one claim of the '658 Patent, literally or under the doctrine of equivalents, by making, using, selling, offering for sale, importing, and/or distributing the Accused Products in the United States, including within this judicial district, without the authority of Brazos.

28. Huawei has received notice and actual or constructive knowledge of the '658 Patent since at least the date of service of this Complaint.

29. Since at least the date of service of this Complaint, through its actions, Huawei has actively induced product makers, distributors, retailers, and/or end users of the Accused Products to infringe the '658 Patent throughout the United States, including within this judicial district, by, among other things, advertising and promoting the use of the Accused Products in various websites, including providing and disseminating product descriptions, operating manuals, and other instructions on how to implement and configure the Accused Products. Examples of such advertising, promoting, and/or instructing include the documents at:

- [https://download.huawei.com/download/e/download.do?actionFlag=download&nid=EDOC1000157983&partNo=3001&mid=SUPE\\_DOC&t=1583748295000](https://download.huawei.com/download/e/download.do?actionFlag=download&nid=EDOC1000157983&partNo=3001&mid=SUPE_DOC&t=1583748295000)
- [https://cloudec.huaweicloud.com/uPortal/portal/login.sraction?language=en\\_US](https://cloudec.huaweicloud.com/uPortal/portal/login.sraction?language=en_US)
- <https://support.huawei.com/enterprise/en/doc/EDOC1000158008?section=z006>

30. Since at least the date of service of this Complaint, through its actions, Huawei has contributed to the infringement of the '658 Patent by having others sell, offer for sale, or use the Accused Products throughout the United States, including within this judicial district, with knowledge that the Accused Products infringe the '658 Patent. The Accused Products are especially made or adapted for infringing the '658 Patent and have no substantial non-infringing use. For example, in view of the preceding paragraphs, the Accused Products contain functionality which is material to at least one claim of the '658 Patent.

#### **JURY DEMAND**

Brazos hereby demands a jury on all issues so triable.

#### **REQUEST FOR RELIEF**

WHEREFORE, Brazos respectfully requests that the Court:

- (A) Enter judgment that Huawei infringes one or more claims of the '658 Patent literally and/or under the doctrine of equivalents;
- (B) Enter judgment that Huawei has induced infringement and continues to induce infringement of one or more claims of the '658 Patent;
- (C) Enter judgment that Huawei has contributed to and continues to contribute to the infringement of one or more claims of the '658 Patent;
- (D) Award Brazos damages, to be paid by Huawei in an amount adequate to compensate Brazos for such damages, together with pre-judgment and post-



judgment interest for the infringement by Huawei of the '658 Patent through the date such judgment is entered in accordance with 35 U.S.C. §284, and increase such award by up to three times the amount found or assessed in accordance with 35 U.S.C. §284;

- (E) Declare this case exceptional pursuant to 35 U.S.C. §285; and
- (F) Award Brazos its costs, disbursements, attorneys' fees, and such further and additional relief as is deemed appropriate by this Court.

Dated: September 29, 2020

Respectfully submitted,

-  
/s/ James L. Etheridge  
James L. Etheridge  
Texas State Bar No. 24059147  
Ryan S. Loveless  
Texas State Bar No. 24036997  
Travis L. Richins  
Texas State Bar No. 24061296  
Brett A. Mangrum  
Texas State Bar No. 24065671  
Jeffrey Huang  
ETHERIDGE LAW GROUP, PLLC  
2600 E. Southlake Blvd., Suite 120 / 324  
Southlake, Texas 76092  
Telephone: (817) 470-7249  
Facsimile: (817) 887-5950  
Jim@EtheridgeLaw.com  
[Ryan@EtheridgeLaw.com](mailto:Ryan@EtheridgeLaw.com)  
Travis@EtheridgeLaw.com  
Brett@EtheridgeLaw.com  
JeffH@EtheridgeLaw.com

**COUNSEL FOR PLAINTIFF**

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

**WSOU INVESTMENTS, LLC d/b/a  
BRAZOS LICENSING AND  
DEVELOPMENT,**

**Plaintiff,**

**V.**

**HUAWEI TECHNOLOGIES CO., LTD.  
AND HUAWEI TECHNOLOGIES USA  
INC.,**

### Defendants.



**CIVIL ACTION NO. 6:20-cv-00893**

## JURY TRIAL DEMANDED

# ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff WSOU Investments, LLC d/b/a Brazos Licensing and Development (“Brazos” or “Plaintiff”), by and through its attorneys, files this Complaint for Patent Infringement against Defendants Huawei Technologies Co. Ltd. and Huawei Technologies USA Inc. (collectively “Huawei” or “Defendants”) and alleges:

### NATURE OF THE ACTION

1. This is a civil action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. §§ 1, et seq., including §§ 271, 281, 284, and 285.

### **THE PARTIES**

2. Brazos is a limited liability corporation organized and existing under the laws of Delaware, with its principal place of business at 606 Austin Avenue, Suite 6, Waco, Texas 76701.

3. On information and belief, Defendant Huawei Technologies Co., Ltd. is a Chinese corporation that does business in Texas, directly or through intermediaries, with a principal place of business at Bantian, Longgang District, Shenzhen 518129, People's Republic of China.

4. Upon information and belief, Defendant Huawei Technologies USA Inc. is a corporation organized and existing under the laws of Texas that maintains an established place of business at 2391 NE Interstate 410 Loop, San Antonio, Texas 78217. Huawei Technologies USA, Inc. is authorized to do business in Texas and may be served via its registered agent, CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201-3136.

5. Defendants operate under and identify with the trade name "Huawei." Each of the Defendants may be referred to individually as a "Huawei Defendant" and, collectively, Defendants may be referred to below as "Huawei" or as the "Huawei Defendants."

### **JURISDICTION AND VENUE**

6. This is an action for patent infringement which arises under the Patent Laws of the United States, in particular, 35 U.S.C. §§271, 281, 284, and 285.

7. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a).

8. This Court has specific and general personal jurisdiction over each Huawei Defendant pursuant to due process and/or the Texas Long Arm Statute, because each Huawei Defendant has committed acts giving rise to this action within Texas and within this judicial district. The Court's exercise of jurisdiction over each Huawei Defendant would not offend

traditional notions of fair play and substantial justice because Huawei has established minimum contacts with the forum. For example, on information and belief, Huawei Defendants have committed acts of infringement in this judicial district, by among other things, selling and offering for sale products that infringe the asserted patent, directly or through intermediaries, as alleged herein.

9. Venue in the Western District of Texas is proper pursuant to 28 U.S.C. §§1391 and 1400(b) because Defendants have committed acts of infringement in this judicial district and have regular and established places of business in this judicial district and in Texas. As non-limiting examples, on information and belief, Defendants have sold or offered to sell the Accused Products in this judicial district and have employees or agents that operate Huawei equipment in this judicial district, including at 189 CR 265, Georgetown, TX 78626, 1150 S. Bell Blvd., Cedar Park, TX 78613, 1399 S A W Grimes Blvd., Round Rock, TX 78664, 12335 IH 35, Jarrell, TX 76537, 1050 Rabbit Hill Rd., Unit #E, Georgetown, TX 78626, 1602 A W Grimes Blvd., Round Rock, TX 78664, 4120 IH 35 N, Georgetown, TX 78626, 900 CR 272, Leander, TX 78641, 1950 Crystal Falls Pkwy., Leander, TX 78641, 1101 N. Industrial Blvd., Round Rock, TX 78681, 506 McNeil Rd., Round Rock, TX 78681, 3210 Chisholm Trail Rd., Round Rock, TX 78681, 112 Roundville Ln., Round Rock, TX 78664, 202 Central Dr. W, Georgetown, TX 78628, 3595 E. Hwy. 29, Georgetown, TX 78626, 1402 W Welch St., Taylor, TX 76574, 3801 Oak Ridge Dr., Round Rock, TX 78681, 1957 Red Bud Ln. #B, Round Rock, TX 78664, 6603 S Lakewood Dr., Georgetown, TX 78633, 500 W Front, Hutto, TX 78634.

**COUNT ONE - INFRINGEMENT OF**  
**U.S. PATENT NO. 7,933,211**

10. Brazos re-alleges and incorporates by reference the preceding paragraphs of this Complaint.

11. On April 26, 2011, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,933,211 (“the ’211 Patent”), entitled “Method and system for providing prioritized failure announcements.” A true and correct copy of the ’211 Patent is attached as Exhibit A to this Complaint.

12. Brazos is the owner of all rights, title, and interest in and to the ’211 Patent, including the right to assert all causes of action arising under the ’211 Patent and the right to any remedies for the infringement of the ’211 Patent.

13. Huawei makes, uses, sells, offers for sale, imports, and/or distributes in the United States, including within this judicial district, products such as, but not limited to, Huawei Cloud Stack (collectively, the “Accused Products”).

14. Huawei Cloud Stack is an on-premise cloud infrastructure for government and enterprise customers. Huawei Cloud Stack includes FusionSphere Virtualization layer, FusionSphere OpenStack cloud platform layer, and ManageOne unified management layer.

15. With ManageOne, the overview and maintenance administrators can monitor all the network resources. ManageOne provides alarm monitoring to monitor system resources and detect and handle faults.

# HUAWEI CLOUD Stack

HUAWEI CLOUD Stack is cloud infrastructure on the premises of government and enterprise customers, offering seamless service experience on cloud and on-premises. HUAWEI CLOUD Stack comes in multiple editions to meet a range of diversified needs, such as moving legacy applications and workloads to the cloud, big data analytics and AI training, and building large-scale city clouds and industry clouds.

Huawei CLOUD Stack — Huawei's full-stack hybrid cloud — includes the: FusionSphere Virtualization layer, FusionSphere OpenStack cloud platform layer, service components offering different capabilities as the cloud service layer, ManageOne unified management layer, FusionBridge connecting to the public cloud to implement hybrid cloud deployment, and the cloud data center that provides customers with service awareness, business intelligence, unified management, and unified services.

Source: <https://e.huawei.com/us/solutions/cloud-computing/huawei-cloud-stack>.

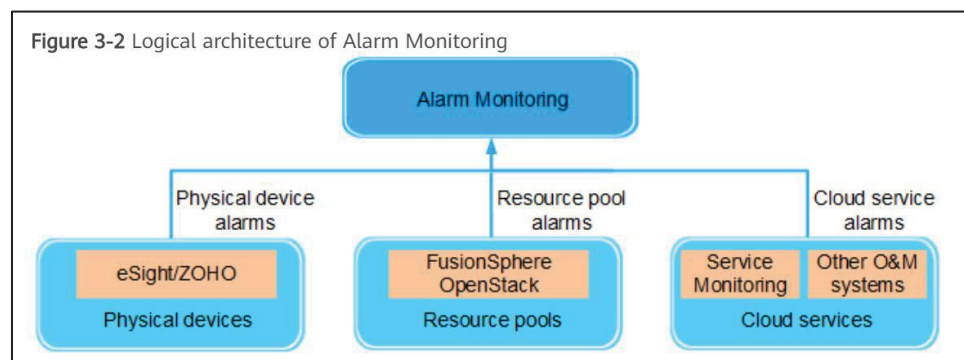
**ManageOne Maintenance Portal provides all-round and hierarchical monitoring functions. O&M personnel can monitor resources, alarms, performance, capacity usage, and other information of the entire network, and learn the health status of network elements (NEs) and ICT resources in real time, which reduces IT costs, increases O&M efficiency, and improves user experience.**

Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE\\_DOC&t=1593336499000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE_DOC&t=1593336499000).

## 3.2 Alarm Monitoring

Alarm Monitoring on ManageOne Maintenance Portal centrally monitors the alarms of system services and third-party systems, facilitating quick locating and handling of network faults and ensuring normal services. Alarm Monitoring is dedicated to monitoring and O&M of ever-evolving complex networks. Alarm Monitoring can be used to monitor faults on traditional networks and next-generation networks, which reduces fault recovery durations and improves network O&M efficiency.



Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE\\_DOC&t=1593336499000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE_DOC&t=1593336499000)

16. The alarms in the ManageOne system are based on various parameters (at least two priority indicators) such as Alarm Location, Alarm Severity, Alarm Source, and Alarm Type. The Alarm Location indicates the information that assists in fault locating. An Alarm Severity indicator provides the severity, importance, and urgency of a fault. Values include “Critical,” “Major,” “Minor,” and “Warning.” By using these attributes, these alarms can be classified.



**Table 3-25** Parameters in the alarm list

| Parameter               | Description                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Alarm ID                | Indicates an alarm ID. Each alarm is uniquely identified by an alarm ID.                                                                                                                                                                                                                                                                              |
| Alarm Serial Number     | Indicates the alarm SN. When an alarm is generated, it may be modified multiple times. For example, its severity may change or it may be cleared. The SN uniquely identifies an alarm.<br><br>When alarms are merged, the original alarms are moved to the historical-alarm list. The <b>Current Alarms</b> page record the new alarm and its new SN. |
| List Serial Number      | Indicates the serial number assigned to an alarm after the alarm is merged. It is different from the alarm serial number.                                                                                                                                                                                                                             |
| Alarm Matched Rule Name | Indicates the name of the rule that an alarm matches.                                                                                                                                                                                                                                                                                                 |
| VDC ID                  | Indicates the VDC ID. Each VDC is uniquely identified by a VDC ID and a VDC name.                                                                                                                                                                                                                                                                     |
| VDC Name                | Indicates the VDC name.                                                                                                                                                                                                                                                                                                                               |
| Occurrences             | Indicates the number of occurrences times or merged times for an alarm triggered by a fault. This parameter helps users to increase concerns on the alarm and handle it in time.<br><br>This parameter is not displayed on the <b>Masked Alarms</b> and <b>Historical Alarms</b> pages.                                                               |
| Alarm source            | Indicates the device or NE that generates an alarm.<br>For example: Operations Support System (OSS)                                                                                                                                                                                                                                                   |

|               |                                                                                                                                                       |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Location Info | Indicates the information that assists in fault locating. Based on the information, you can quickly locate the location where the alarm is generated. |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|

|          |                                                                                    |
|----------|------------------------------------------------------------------------------------|
| Severity | Indicates the alarm severities, which include critical, major, minor, and warning. |
|----------|------------------------------------------------------------------------------------|



|                   |                                                               |
|-------------------|---------------------------------------------------------------|
| Alarm Source Type | Indicates the type of the NE where an alarm is generated.     |
| Type              | For details about alarm types, see <a href="#">Concepts</a> . |



|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operation     | <p>Indicates the operations that users can perform on the alarm.</p> <ul style="list-style-type: none"> <li>• Acknowledge alarms.</li> <li>• Clear alarms.</li> <li>• Check alarm records.</li> <li>• <b>Set Masking Rule:</b> For details, see <a href="#">3.2.5.6 Configuring Masking Rules</a>.</li> <li>• <b>Set Identification Rule:</b> For details, see <a href="#">3.2.5.9 Configuring Identification Rules</a>.</li> <li>• <b>Set Notification Rule:</b> For details, see <a href="#">3.2.5.8 Configuring Notification Rules</a>.</li> <li>• <b>Set Severity and Type Redefinition Rule:</b> For details, see <a href="#">3.2.5.10 Configuring Severity and Type Redefinition Rules</a>.</li> <li>• <b>Set Name Redefinition Rule:</b> For details, see <a href="#">3.2.5.11 Configuring Name Redefinition Rules</a>.</li> <li>• <b>Set Intermittent/Toggling Rule:</b> For details, see <a href="#">3.2.5.14 Configuring an Intermittent or Toggling Rule</a>.</li> <li>• <b>Set Alarm Aggregation Rule:</b> For details, see <a href="#">3.2.5.15 Configuring Aggregation Rules</a>.</li> </ul> |
| Location Info | <p>Indicates the information that assists in fault locating. Based on the information, you can quickly locate the location where the alarm is generated.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE\\_DOC&t=1593336499000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE_DOC&t=1593336499000).

**Table 3-5** Alarm severities

| Alarm Severity | Default Color                                                                       | Description                                                                                              | Handling Policy                                                                                               |
|----------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Critical       |  | Services are affected. Corrective measures must be taken immediately.                                    | The fault must be rectified immediately. Otherwise, services may be interrupted or the system may break down. |
| Major          |  | Services are affected. If the fault is not rectified in a timely manner, serious consequences may occur. | Major alarms need to be handled in time. Otherwise, important services will be affected.                      |

| Alarm Severity | Default Color                                                                       | Description                                                                                                                      | Handling Policy                                                    |
|----------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Minor          |  | Minor impact on services. Problems of this severity may result in serious faults, and therefore corrective actions are required. | You need to find out the cause of the alarm and rectify the fault. |
| Warning        |  | Potential or imminent fault that affects services is detected, but services are not affected.                                    | Warning alarms are handled based on network and NE running status. |

Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE\\_DOC&t=1593336499000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE_DOC&t=1593336499000).

**Table 3-9 Alarm and event types**

| Type                     | Description                                                                                                                                                                                                                            |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Communication alarm      | Alarms caused by failures of the communications in an NE, between NEs, between an NE and a management system, or between management systems. For example, device communication interruption alarm.                                     |
| Quality of service alarm | Alarms caused by service quality deterioration. For example, device congestion alarm.                                                                                                                                                  |
| Processing error alarm   | Alarms caused by software or processing errors. For example, version mismatch alarm.                                                                                                                                                   |
| Equipment alarm          | Alarms caused by physical resource faults. For example, board fault alarm.                                                                                                                                                             |
| Environmental alarm      | Alarms generated when the environment where the device resides is faulty. For example, temperature alarm generated when the hardware temperature is too high.                                                                          |
| Integrity alarm          | Alarms generated when requested operations are denied. For example, alarms caused by unauthorized modification, addition, and deletion of user information.                                                                            |
| Operation alarm          | Alarms generated when the required services cannot run properly due to problems such as service unavailability, faults, or incorrect invocation. For example, alarms caused by service rejection, service exit, and procedural errors. |
| Physical resource alarm  | Alarms generated when physical resources are damaged. For example, alarms caused by cable damage and intrusion into an equipment room.                                                                                                 |

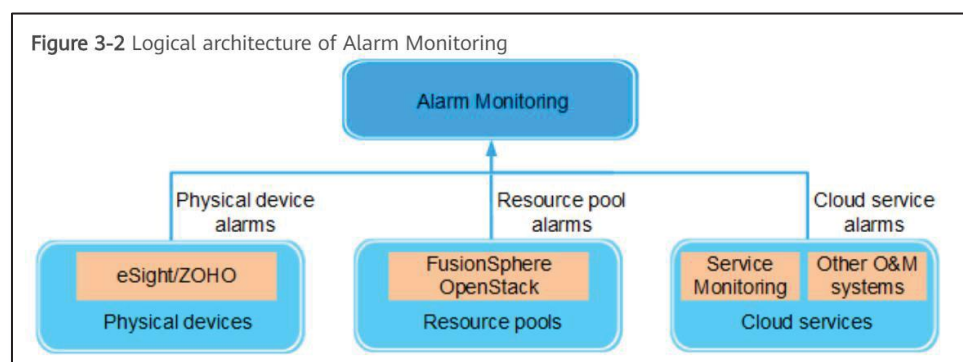
| Type                 | Description                                                                                                                                                                                        |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Security alarm       | Alarms generated when security issues are detected by a security service or mechanism. For example, alarms caused by authentication failures, confidential disclosures, and unauthorized accesses. |
| Time domain alarm    | Alarms generated when an event occurs at improper time. For example, alarms caused by information delay, invalid key, or resource access at unauthorized time.                                     |
| Property change      | Events generated when MO attributes change. For example, events caused by addition, reduction, and change of attributes.                                                                           |
| Object creation      | Events generated when an MO instance is created.                                                                                                                                                   |
| Object delete        | Events generated when an MO instance is deleted.                                                                                                                                                   |
| Relationship change  | Events generated when MO relationship attributes change.                                                                                                                                           |
| State change         | Events generated when MO status attributes change.                                                                                                                                                 |
| Route change         | Events generated when routes change.                                                                                                                                                               |
| Protection switching | Alarms or events caused by the switchover.                                                                                                                                                         |
| Over limit           | Alarms or events reported when the performance counter reaches the threshold.                                                                                                                      |
| File transfer status | Alarms or events reported when the file transfer succeeds or fails.                                                                                                                                |
| Backup status        | Events generated when MO backup status changes.                                                                                                                                                    |
| Heart beat           | Events generated when heartbeat notifications are sent.                                                                                                                                            |

Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE\\_DOC&t=1593336499000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE_DOC&t=1593336499000)

17. ManageOne features alarm monitoring to detect and fix alarms. In this architecture, faults/errors (fault condition or failure) are detected at the physical devices or resource pools (network elements). These network elements then generate the alarms on detecting the fault condition.

### 3.2 Alarm Monitoring



Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE\\_DOC&t=1593336499000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE_DOC&t=1593336499000).

### Alarm and Event

If the system or MOs detect an exception or a significant status change, an alarm or event will be displayed on the GUI of alarm management. MOs refer to the objects or NEs connected to alarm management. **Table 3-4** describes the definitions of the alarm and event.

Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE\\_DOC&t=1593336499000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE_DOC&t=1593336499000).

18. Using the alarm attributes, errors can be classified and prioritized based on its severity and location. As an example, ManageOne provides a Masking Rules feature to mask unimportant alarms or events. If two masking rules are configured for the same alarm, the rule with higher priority takes effect (i.e. determining a fault correction priority).

### 3.2.5.6 Configuring Masking Rules

You can set an alarm masking rule to mask alarms or events that you are not concerned about. New alarms or events meeting the masking rules will not be displayed on the **Current Alarms** and **Event Logs** pages. The system provides preset masking rules for users to mask unimportant alarms or events. If preset masking rules cannot meet requirements, administrators can create masking rules as required.

Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE\\_DOC&t=1593336499000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE_DOC&t=1593336499000).



**Procedure**

- Step 1** Choose **Alarms > Alarm Settings** from the main menu.
- Step 2** In the navigation pane, choose **Masking Rules**.
- Step 3** On the **Masking Rules** page, click **Create** and select **Alarm Masking Rules**.
- Step 4** In the **Basic Information** area, set the rule name, description, and whether to enable the rule.
- Step 5** In the **Conditions** area, set the alarm severities, alarm sources, and alarms for the rule to take effect. Set advanced conditions to filter the alarms for the rule to take effect based on alarm parameters.
- NOTE**
- By default, **Designated alarms** is deselected, indicating that the rule takes effect for all alarms.
  - All alarm sources** is available only when the user can manage all resources.
  - In the **Alarm sources** area, you can select **All alarm sources** to mask the alarms that meet the conditions and are generated by the system and all MOs. Therefore, exercise caution when you set the alarm source.
- Step 6** In the **Time Filter** area, set when the rule is effective. You can set the effective time and effective cycle.
- NOTE**
- If all options of **Time Filter** are not selected, the rule is effective at any time.
- Step 7** In the **Action** area, set **Masked alarms** to **Discard** or **Show in Masked Alarms**.
- NOTE**
- When an event masking rule is being created, masked events can only be discarded.
  - If **Discard** is selected, the alarm will not be displayed. Therefore, exercise caution when performing this operation.
- Step 8** Set the priority of this rule. When an alarm meets two alarm masking rules, the rule with a higher priority takes effect.



Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE\\_DOC&t=1593336499000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE_DOC&t=1593336499000).

19. The Accused Product allows an administrator to monitor alarms and view “Top 10 Alarms” and “Top 10 Alarm Sources.” All the alarms occurring at that instant are prioritized, and the top priority alarms are shown under “Top 10 Alarms.”

### 3.2.2 Monitoring and Viewing Alarms or Events

O&M personnel can monitor and view alarms or events in Alarm Management in real time to learn about the alarms or events on the system in real time and take corresponding measures.

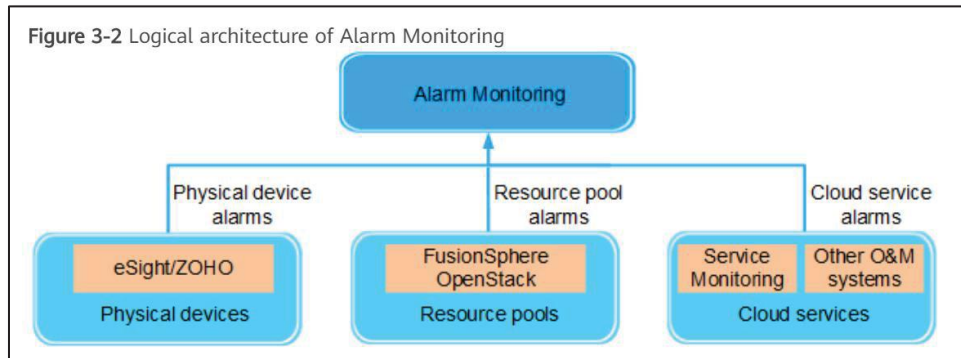
|                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Monitoring alarms using alarm indicators     | The alarm indicators in the upper right corner of the <b>Current Alarms</b> page show the number of critical alarms, number of major alarms, number of minor alarms, and number of warning alarms.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Monitoring alarms using the statistics panel | Click  in the upper right corner of the <b>Current Alarms</b> page to view the alarm statistics charts. The statistical result is obtained based on the filtered alarms. By default, the <b>Top 10 Alarms</b> , <b>Duration</b> , <b>Top 10 Alarm Sources</b> , and <b>Severity</b> statistical charts are displayed on the statistics panel. If you want to view the <b>Status</b> statistical chart or adjust the display sequence of the charts, click  on the upper right of the statistics panel. In the upper right of each chart, select the chart to be displayed from the drop-down menu. On the statistics panel, you can click any statistical result to quickly filter the alarms that meet the condition. If you close the statistics panel, the filter criteria selected on the panel are automatically deselected. |

Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE\\_DOC&t=1593336499000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE_DOC&t=1593336499000)

20. ManageOne can prioritize alarms after detecting fault conditions. When an alarm is generated at a network element, the alarm is transmitted to the ManageOne panel/dashboard (network management function) for the admin to take action (transmit an announcement notification). This alarm includes both visual and audio notifications indicating said detected fault condition (or failure) on the ManagOne panel/dashboard and contains details about the alarm.

## 3.2 Alarm Monitoring





Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE\\_DOC&t=1593336499000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE_DOC&t=1593336499000).

### 3.2.2 Monitoring and Viewing Alarms or Events

O&M personnel can monitor and view alarms or events in Alarm Management in real time to learn about the alarms or events on the system in real time and take corresponding measures.

|                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Monitoring alarms using alarm indicators     | The alarm indicators in the upper right corner of the <b>Current Alarms</b> page show the number of critical alarms, number of major alarms, number of minor alarms, and number of warning alarms.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Monitoring alarms using the statistics panel | Click  in the upper right corner of the <b>Current Alarms</b> page to view the alarm statistics charts. The statistical result is obtained based on the filtered alarms. By default, the <b>Top 10 Alarms</b> , <b>Duration</b> , <b>Top 10 Alarm Sources</b> , and <b>Severity</b> statistical charts are displayed on the statistics panel. If you want to view the <b>Status</b> statistical chart or adjust the display sequence of the charts, click  on the upper right of the statistics panel. In the upper right of each chart, select the chart to be displayed from the drop-down menu. On the statistics panel, you can click any statistical result to quickly filter the alarms that meet the condition. If you close the statistics panel, the filter criteria selected on the panel are automatically deselected. |

Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE\\_DOC&t=1593336499000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE_DOC&t=1593336499000).



### 3.2.3 Handling Alarms

You can use Alarm Monitoring to handle alarms to facilitate troubleshooting. For example, you can specify an alarm handler and acknowledge or clear alarms.

#### Prerequisites

You have the rights for **Alarm Operation**, **Clear Alarm**, **Set Redefinition Rules**, and **Synchronize Alarms**.

#### Context

Alarm Monitoring comprises the following major alarm operations: acknowledging alarms, clearing alarms, changing alarm severities, and setting alarms to the invalid or maintenance state. **Table 3-12** describes alarm acknowledgment and clearance operations. **Figure 3-3** shows the relationships between alarm statuses.

Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE\\_DOC&t=1593336499000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE_DOC&t=1593336499000).

### 3.2.5.3 Setting Alarm Sounds

You can set different alarm sounds for alarm at different severities or specify alarm sound for different alarm names to facilitate alarm monitoring. When an alarm is generated, the sound box on your PC produces a corresponding sound.

Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE\\_DOC&t=1593336499000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE_DOC&t=1593336499000)

21. In view of preceding paragraphs, each and every element of at least claim 1 of the '211 Patent is found in the Accused Products.

22. Huawei has and continues to directly infringe at least one claim of the '211 Patent, literally or under the doctrine of equivalents, by making, using, selling, offering for sale, importing, and/or distributing the Accused Products in the United States, including within this judicial district, without the authority of Brazos.

23. Huawei has received notice and actual or constructive knowledge of the '211 Patent since at least the date of service of this Complaint.

24. Since at least the date of service of this Complaint, through its actions, Huawei has actively induced product makers, distributors, retailers, and/or end users of the Accused Products to infringe the '211 Patent throughout the United States, including within this judicial district, by, among other things, advertising and promoting the use of the Accused Products in various websites, including providing and disseminating product descriptions, operating manuals, and other instructions on how to implement and configure the Accused Products. Examples of such advertising, promoting, and/or instructing include the documents at:

- <https://e.huawei.com/us/solutions/cloud-computing/huawei-cloud-stack>
- [https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE\\_DOC&t=1593336499000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1100105316&partNo=k001&mid=SUPE_DOC&t=1593336499000)

25. Since at least the date of service of this Complaint, through its actions, Huawei has contributed to the infringement of the '211 Patent by having others sell, offer for sale, or use the Accused Products throughout the United States, including within this judicial district, with knowledge that the Accused Products infringe the '211 Patent. The Accused Products are especially made or adapted for infringing the '211 Patent and have no substantial non-infringing use. For example, in view of the preceding paragraphs, the Accused Products contain functionality which is material to at least one claim of the '211 Patent.

#### **JURY DEMAND**

Brazos hereby demands a jury on all issues so triable.

#### **REQUEST FOR RELIEF**

WHEREFORE, Brazos respectfully requests that the Court:

- (A) Enter judgment that Huawei infringes one or more claims of the '211 Patent literally and/or under the doctrine of equivalents;

- (B) Enter judgment that Huawei has induced infringement and continues to induce infringement of one or more claims of the '211 Patent;
- (C) Enter judgment that Huawei has contributed to and continues to contribute to the infringement of one or more claims of the '211 Patent;
- (D) Award Brazos damages, to be paid by Huawei in an amount adequate to compensate Brazos for such damages, together with pre-judgment and post-judgment interest for the infringement by Huawei of the '211 Patent through the date such judgment is entered in accordance with 35 U.S.C. §284, and increase such award by up to three times the amount found or assessed in accordance with 35 U.S.C. §284;
- (E) Declare this case exceptional pursuant to 35 U.S.C. §285; and Award Brazos its costs, disbursements, attorneys' fees, and such further and additional relief as is deemed appropriate by this Court.

Dated: September 29, 2020

Respectfully submitted,

-  
/s/ James L. Etheridge

James L. Etheridge

Texas State Bar No. 24059147

Ryan S. Loveless

Texas State Bar No. 24036997

Travis L. Richins

Texas State Bar No. 24061296

Brett A. Mangrum

Texas State Bar No. 24065671

Jeffrey Huang

ETHERIDGE LAW GROUP, PLLC

2600 E. Southlake Blvd., Suite 120 / 324

Southlake, Texas 76092

Telephone: (817) 470-7249

Facsimile: (817) 887-5950

Jim@EtheridgeLaw.com

Ryan@EtheridgeLaw.com

Travis@EtheridgeLaw.com  
Brett@EtheridgeLaw.com  
JeffH@EtheridgeLaw.com

**COUNSEL FOR PLAINTIFF**

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

**WSOU INVESTMENTS, LLC d/b/a  
BRAZOS LICENSING AND  
DEVELOPMENT,**

**Plaintiff,**

**V.**

**HUAWEI TECHNOLOGIES CO., LTD.  
AND HUAWEI TECHNOLOGIES USA  
INC.,**

## Defendants.

**CIVIL ACTION NO. 6:20-cv-00916**

## JURY TRIAL DEMANDED

# ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff WSOU Investments, LLC d/b/a Brazos Licensing and Development (“Brazos” or “Plaintiff”), by and through its attorneys, files this Complaint for Patent Infringement against Defendants Huawei Technologies Co. Ltd. and Huawei Technologies USA Inc. (collectively “Huawei” or “Defendants”) and alleges:

### NATURE OF THE ACTION

1. This is a civil action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. §§ 1, et seq., including §§ 271, 281, 284, and 285.

### **THE PARTIES**

2. Brazos is a limited liability corporation organized and existing under the laws of Delaware, with its principal place of business at 606 Austin Avenue, Suite 6, Waco, Texas 76701.

3. On information and belief, Defendant Huawei Technologies Co., Ltd. is a Chinese corporation that does business in Texas, directly or through intermediaries, with a principal place of business at Bantian, Longgang District, Shenzhen 518129, People's Republic of China.

4. Upon information and belief, Defendant Huawei Technologies USA Inc. is a corporation organized and existing under the laws of Texas that maintains an established place of business at 2391 NE Interstate 410 Loop, San Antonio, Texas 78217. Huawei Technologies USA, Inc. is authorized to do business in Texas and may be served via its registered agent, CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201-3136.

5. Defendants operate under and identify with the trade name "Huawei." Each of the Defendants may be referred to individually as a "Huawei Defendant" and, collectively, Defendants may be referred to below as "Huawei" or as the "Huawei Defendants."

### **JURISDICTION AND VENUE**

6. This is an action for patent infringement which arises under the Patent Laws of the United States, in particular, 35 U.S.C. §§271, 281, 284, and 285.

7. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a).

8. This Court has specific and general personal jurisdiction over each Huawei Defendant pursuant to due process and/or the Texas Long Arm Statute, because each Huawei Defendant has committed acts giving rise to this action within Texas and within this judicial district. The Court's exercise of jurisdiction over each Huawei Defendant would not offend

traditional notions of fair play and substantial justice because Huawei has established minimum contacts with the forum. For example, on information and belief, Huawei Defendants have committed acts of infringement in this judicial district, by among other things, selling and offering for sale products that infringe the asserted patent, directly or through intermediaries, as alleged herein.

9. Venue in the Western District of Texas is proper pursuant to 28 U.S.C. §§1391 and 1400(b) because Defendants have committed acts of infringement in this judicial district and have regular and established places of business in this judicial district and in Texas. As non-limiting examples, on information and belief, Defendants have sold or offered to sell the Accused Products in this judicial district and have employees or agents that operate Huawei equipment in this judicial district, including at 189 CR 265, Georgetown, TX 78626, 1150 S. Bell Blvd., Cedar Park, TX 78613, 1399 S A W Grimes Blvd., Round Rock, TX 78664, 12335 IH 35, Jarrell, TX 76537, 1050 Rabbit Hill Rd., Unit #E, Georgetown, TX 78626, 1602 A W Grimes Blvd., Round Rock, TX 78664, 4120 IH 35 N, Georgetown, TX 78626, 900 CR 272, Leander, TX 78641, 1950 Crystal Falls Pkwy., Leander, TX 78641, 1101 N. Industrial Blvd., Round Rock, TX 78681, 506 McNeil Rd., Round Rock, TX 78681, 3210 Chisholm Trail Rd., Round Rock, TX 78681, 112 Roundville Ln., Round Rock, TX 78664, 202 Central Dr. W, Georgetown, TX 78628, 3595 E. Hwy. 29, Georgetown, TX 78626, 1402 W Welch St., Taylor, TX 76574, 3801 Oak Ridge Dr., Round Rock, TX 78681, 1957 Red Bud Ln. #B, Round Rock, TX 78664, 6603 S Lakewood Dr., Georgetown, TX 78633, 500 W Front, Hutto, TX 78634.



**COUNT ONE - INFRINGEMENT OF**  
**U.S. PATENT NO. 7,406,074**

10. Brazos re-alleges and incorporates by reference the preceding paragraphs of this Complaint.

11. On July 29, 2008, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,406,074 (“the ’074 Patent”), entitled “Bundling messages in communication networks.” A true and correct copy of the ’074 Patent is attached as Exhibit A to this Complaint.

12. Brazos is the owner of all rights, title, and interest in and to the ’074 Patent, including the right to assert all causes of action arising under the ’074 Patent and the right to any remedies for the infringement of the ’074 Patent.

13. Huawei makes, uses, sells, offers for sale, imports, and/or distributes in the United States, including within this judicial district, products such as, but not limited to, Huawei router (including but not limited to S5730 - SI) with VRP (Versatile Routing Platform) (collectively, the “Accused Products”).

14. Huawei VRP supports BGP4, an inter-Autonomous System routing protocol. BGP-4 introduces mechanisms that allow aggregation of routes, including aggregation of AS paths.

15. In the Accused Products, the ethernet switch module of Huawei’s SI series is built on the Huawei Versatile Routing Platform and supports RFC 4271 Border Gateway Protocol 4 & RFC 4760 Multiprotocol Extensions for BGP-4.

The S5730-SI series switches are next-generation standard gigabit Layer 3 Ethernet switches that provide flexible all-gigabit access and cost-effective fixed GE/10GE ports as well as 40GE uplink ports. The S5730-SI builds on next-generation high-performing hardware and the Huawei Versatile Routing Platform (VRP). The S5730-SI supports simplified operations and maintenance (O&M), intelligent stack (iStack), and flexible Ethernet networking. It also provides enhanced Layer 3 features and mature IPv6 features. The S5730-SI can be used in various scenarios. For example, it can be used as an access or aggregation switch on a campus network or as an access switch in a data center.

Source:

<https://e.huawei.com/us/material/networking/campusswitch/8b86e4522a5b465cb6538212ff6a539a>

|                  |                  |                                                                                                                       |                                                                                                 |
|------------------|------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Network Protocol | IP Services      | <ul style="list-style-type: none"> <li>• Proxy ARP</li> <li>• 802.1q</li> <li>• Static DNS</li> </ul>                 | <ul style="list-style-type: none"> <li>• Static ARP</li> <li>• DHCP Server and Relay</li> </ul> |
|                  | Non IP Services  | <ul style="list-style-type: none"> <li>• IPX</li> </ul>                                                               | <ul style="list-style-type: none"> <li>• DLSW</li> </ul>                                        |
|                  | IP Performance   | <ul style="list-style-type: none"> <li>• IP Fast Forwarding</li> <li>• Van Jacobson TCP Header Compression</li> </ul> |                                                                                                 |
|                  | Routing Protocol | <ul style="list-style-type: none"> <li>• Static Route</li> <li>• OSPF</li> </ul>                                      | <ul style="list-style-type: none"> <li>• RIPv1 &amp; RIPv2</li> <li>• BGP4</li> </ul>           |

Source: <https://docshare02.docshare.tips/files/13259/132591328.pdf>

- RFC 3046 DHCP Option82
- RFC 3376 Internet Group Management Protocol, Version 3 (IGMPv3)
- RFC 3513 IP Version 6 Addressing Architecture
- RFC 3579 RADIUS Support For EAP
- RFC 4271 A Border Gateway Protocol 4 (BGP-4)
- RFC 4760 Multiprotocol Extensions for BGP-4
- draft-grant-tacacs-02 TACACS+
- RFC 6241 Network Configuration Protocol (NETCONF)
- RFC 6020 YANG - A Data Modeling Language for the Network Configuration Protocol (NETCONF)

Source:

<https://e.huawei.com/us/material/networking/campusswitch/8b86e4522a5b465cb6538212ff6a539a>

16. In the Accused Products, a BGP speaker (a first component) is a router/switch that uses VRP (supporting BGP 4 protocol or RFC 4271). A BGP speaker (a first component) advertises multiple routes (or plurality of messages) as the UPDATE message (or bundled

message).

**BGP Identifier**

A 4-octet unsigned integer that indicates the BGP Identifier of the sender of BGP messages. A given BGP **speaker** sets the value of its BGP Identifier to an IP address assigned to that BGP **speaker**. The value of the BGP Identifier is determined upon startup and is the same for every local interface and BGP peer.

**BGP **speaker****

A router that implements BGP.

Source: <https://tools.ietf.org/html/rfc4271>.

For the purpose of this protocol, a route is defined as a unit of information that pairs a set of destinations with the attributes of a path to those destinations. The set of destinations are systems whose IP addresses are contained in one IP address prefix that is carried in the Network Layer Reachability Information (NLRI) field of an UPDATE message, and the path is the information reported in the path attributes field of the same UPDATE message.

Routes are advertised between BGP speakers in UPDATE messages.

**Multiple** routes that have the same path attributes can be advertised in a single UPDATE message by including **multiple** prefixes in the NLRI field of the UPDATE message.

Routes are stored in the Routing Information Bases (RIBs): namely, the Adj-RIBs-In, the Loc-RIB, and the Adj-RIBs-Out, as described in [Section 3.2](#).

Source: <https://tools.ietf.org/html/rfc4271>

17. In the Accused Products, the BGP4 protocol sends multiple routes (plurality of messages) as a single UPDATE message (bundled message) between BGP speakers.

For the purpose of this protocol, a route is defined as a unit of information that pairs a set of destinations with the attributes of a path to those destinations. The set of destinations are systems whose IP addresses are contained in one IP address prefix that is carried in the Network Layer Reachability Information (NLRI) field of an UPDATE message, and the path is the information reported in the path attributes field of the same UPDATE message.

Routes are advertised between BGP speakers in UPDATE messages. Multiple routes that have the same path attributes can be advertised in a single UPDATE message by including multiple prefixes in the NLRI field of the UPDATE message.

Routes are stored in the Routing Information Bases (RIBs): namely, the Adj-RIBs-In, the Loc-RIB, and the Adj-RIBs-Out, as described in [Section 3.2](#).

Source: <https://tools.ietf.org/html/rfc4271>.

18. In the Accused Products, multiple route messages (or plurality of messages) can consist of multiple “WITHDRAWN” routes (or at least two failure notifications), e.g., routes that are no longer available for use.

BGP provides mechanisms by which a BGP speaker can inform its peers that a previously advertised route is no longer available for use. There are three methods by which a given BGP speaker can indicate that a route has been withdrawn from service:

- a) the IP prefix that expresses the destination for a previously advertised route can be advertised in the WITHDRAWN ROUTES field in the UPDATE message, thus marking the associated route as being no longer available for use,
- b) a replacement route with the same NLRI can be advertised, or
- c) the BGP speaker connection can be closed, which implicitly removes all routes the pair of speakers had advertised to each other from service.

Changing the attribute(s) of a route is accomplished by advertising a replacement route. The replacement route carries new (changed) attributes and has the same address prefix as the original route.

Source: <https://tools.ietf.org/html/rfc4271>

19. The Accused Products have a bundled message made of a plurality of failure notifications.



20. In the Accused Products, the “UPDATE” message (or the bundled message) includes multiple withdrawn/unfeasible routes (a plurality of failure notifications) where each withdrawn route (each failure notification) corresponds to the failure of a different route path (a different connection) in the communication network.

An UPDATE message is used to advertise feasible routes that share common path attributes to a peer, or to **withdraw** multiple unfeasible routes from service (see 3.1). An UPDATE message MAY simultaneously advertise a feasible route and **withdraw** multiple unfeasible routes from service. The UPDATE message always includes the fixed-size BGP header, and also includes the other fields, as shown below (note, some of the shown fields may not be present in every UPDATE message):

|  |                                                   |  |
|--|---------------------------------------------------|--|
|  | <b>Withdrawn Routes Length</b> (2 octets)         |  |
|  | <b>Withdrawn Routes</b> (variable)                |  |
|  | Total Path Attribute Length (2 octets)            |  |
|  | Path Attributes (variable)                        |  |
|  | Network Layer Reachability Information (variable) |  |

Source: <https://tools.ietf.org/html/rfc4271>

21. In the Accused Products, the BGP speaker transmits the “UPDATE” message (or the bundled message) to its peers (or to a second component of the communication network). The “UPDATE” message includes multiple withdrawn routes (or multiple failure notifications), indicating that the route has been withdrawn from service.

**BGP Identifier**

A 4-octet unsigned integer that indicates the BGP Identifier of the sender of BGP messages. A given BGP speaker sets the value of its BGP Identifier to an IP address assigned to that BGP speaker. The value of the BGP Identifier is determined upon startup and is the same for every local interface and BGP peer.

**BGP speaker**

A router that implements BGP.

Source: <https://tools.ietf.org/html/rfc4271>

BGP provides mechanisms by which a BGP speaker can inform its peers that a previously advertised route is no longer available for use. There are three methods by which a given BGP speaker can indicate that a route has been withdrawn from service:

- a) the IP prefix that expresses the destination for a previously advertised route can be advertised in the WITHDRAWN ROUTES field in the UPDATE message, thus marking the associated route as being no longer available for use,
- b) a replacement route with the same NLRI can be advertised, or
- c) the BGP speaker connection can be closed, which implicitly removes all routes the pair of speakers had advertised to each other from service.

Changing the attribute(s) of a route is accomplished by advertising a replacement route. The replacement route carries new (changed) attributes and has the same address prefix as the original route.

Source: <https://tools.ietf.org/html/rfc4271>

22. In the Accused Products, the BGP speaker (the first component) follows procedures defined in RFC4271 (BGP-4 standard) when generating the “UPDATE” message (or bundled message) that is to be sent to a peer (or the second component) unless the BGP speaker advertises its ability to send multiple paths for <AFI, SAFI> and also receives similar reception capabilities from the peer. In case of the ability to send multiple paths, the speaker generates route update for <AFI, SAFI>. The peer acts accordingly to process (or recover) the “UPDATE” message (or bundled message).

A BGP speaker MUST follow the procedures defined in [RFC4271] when generating an UPDATE message for a particular <AFI, SAFI> to a peer unless the BGP speaker advertises the ADD-PATH Capability to the peer indicating its ability to send multiple paths for the <AFI, SAFI>, and also receives the ADD-PATH Capability from the peer indicating its ability to receive multiple paths for the <AFI, SAFI>, in which case the speaker MUST generate a route update for the <AFI, SAFI> based on the combination of the address prefix and the Path Identifier, and use the extended NLRI encodings specified in this document. The peer SHALL act accordingly in processing an UPDATE message related to a particular <AFI, SAFI>.

Source: <https://tools.ietf.org/html/rfc7911>

23. In the Accused Products, if the exchange of capabilities is successful, then BGP speaker will be able to process (or recover) all BGP updates properly.

The only explicit indication that the encoding described in Section 3 is in use in a particular BGP session is the exchange of Capabilities described in Section 4. If the exchange is successful [RFC5492], then the BGP speakers will be able to process all BGP UPDATES properly, as described in Section 5. However, if, for example, a packet analyzer is used on the wire to examine an active BGP session, it may not be able to properly decode the BGP UPDATES because it lacks prior knowledge of the exchanged Capabilities.

Source: <https://tools.ietf.org/html/rfc7911>.

The meaning and use of the fields are as follows:

Address Family Identifier (AFI):

This field is the same as the one used in [RFC4760].

Subsequent Address Family Identifier (SAFI):

This field is the same as the one used in [RFC4760].

Send/Receive:

This field indicates whether the sender is (a) able to receive multiple paths from its peer (value 1), (b) able to send multiple paths to its peer (value 2), or (c) both (value 3) for the <AFI, SAFI>.

If any other value is received, then the capability SHOULD be treated as not understood and ignored [RFC5492].

Source: <https://tools.ietf.org/html/rfc7911>



**Address Family Identifier (AFI):**

This field in combination with the Subsequent Address Family Identifier field identifies the set of Network Layer protocols to which the address carried in the Next Hop field must belong, the way in which the address of the next hop is encoded, and the semantics of the Network Layer Reachability Information that follows. If the Next Hop is allowed to be from more than one Network Layer protocol, the encoding of the Next Hop MUST provide a way to determine its Network Layer protocol.

Presently defined values for the Address Family Identifier field are specified in the IANA's Address Family Numbers registry [[IANA-AF](#)].

Source: <https://tools.ietf.org/html/rfc4760>.

**Subsequent Address Family Identifier (SAFI):**

This field in combination with the Address Family Identifier field identifies the set of Network Layer protocols to which the address carried in the Next Hop must belong, the way in which the address of the next hop is encoded, and the semantics of the Network Layer Reachability Information that follows. If the Next Hop is allowed to be from more than one Network Layer protocol, the encoding of the Next Hop MUST provide a way to determine its Network Layer protocol.

Source: <https://tools.ietf.org/html/rfc4760>

24. In the Accused Products, routes (including the “WITHDRAWN” routes) that are updated in the “UPDATE” message are stored in the Routing Information Base (RIBs) of the BGP speaker (first component or Router). Each FIB is programmed by one or more routing information bases (RIB). Therefore, convergence of FIBs means convergence of RIBs.

For the purpose of this protocol, a route is defined as a unit of information that pairs a set of destinations with the attributes of a path to those destinations. The set of destinations are systems whose IP addresses are contained in one IP address prefix that is carried in the Network Layer Reachability Information (NLRI) field of an UPDATE message, and the path is the information reported in the path attributes field of the same UPDATE message.

Routes are advertised between BGP speakers in UPDATE messages.

**Multiple** routes that have the same path attributes can be advertised in a single UPDATE message by including **multiple** prefixes in the NLRI field of the UPDATE message.

Routes are stored in the Routing Information Bases (RIBs): namely, the Adj-RIBs-In, the Loc-RIB, and the Adj-RIBs-Out, as described in [Section 3.2](#).

Source: <https://tools.ietf.org/html/rfc4271>

The forwarding information base (FIB) is the actual information that a routing/switching device uses to choose the interface that a given packet will use for egress. For example, the FIB might be programmed such that a packet bound to a destination in 192.168.1.0/24 should be sent out of physical port ethernet1/2. There may actually be multiple FIB's on a device for unicast forwarding vs multicast RPF checking, different protocols (ip vs mpls vs ipv6) but the basic function is the same - selection criteria (usually destination) mapping to output interface/encapsulation. Individual FIB's may also be partitioned to achieve concurrent independent forwarding tables (i.e. vrf's).

**Each FIB is programmed by one or more routing information bases (RIB).** The RIB is a selection of routing information learned via static definition or a dynamic routing protocol. The algorithms used within various RIB's will vary - so, for example, the means by which BGP or OSPF determines potential best paths vary quite a bit. The means by which multiple RIB's are programmed into a common (set) of FIB's in a box will vary by implementation but this is where concepts like administrative distance are used (e.g. identical paths are learned via eBGP and OSPF, the eBGP is usually preferred for FIB injection). Again, RIB's may also be potentially partitioned to allow for multiple vrf's, etc.

Source: [https://networkengineering.stackexchange.com/questions/38588/rib-vs-fib-differences#:~:text=The%20forwarding%20information%20base%20\(FIB,packet%20will%20use%20for%20egress.&text=The%20RIB%20is%20a%20selection,or%20a%20dynamic%20routing%20protocol](https://networkengineering.stackexchange.com/questions/38588/rib-vs-fib-differences#:~:text=The%20forwarding%20information%20base%20(FIB,packet%20will%20use%20for%20egress.&text=The%20RIB%20is%20a%20selection,or%20a%20dynamic%20routing%20protocol)

25. In the Accused Products, the above information (RFC 7477) detailing BGP FIB convergence/restoration is limited to IPv4 and IPv6 as defined in RFC 4271 and RFC 4760. Both RFCs are supported by switch modules built on Huawei VRP operating system. Re-convergence of RIBs (or restoration processing for a plurality of connections) is performed by the BGP peer (or second component) based on RFC 7477.

RFC 7747

BGP Convergence Methodology

April 2016

**1. Introduction**

This document defines the methodology for benchmarking data-plane Forwarding Information Base (FIB) convergence performance of BGP in routers and switches using topologies of three or four nodes. The methodology proposed in this document applies to both IPv4 and IPv6, and if a particular test is unique to one version, it is marked accordingly. For IPv6 benchmarking, the Device Under Test (DUT) will require the support of Multiprotocol BGP (MP-BGP) [RFC4760] [RFC2545]. Similarly, both Internal BGP (iBGP) and External BGP (eBGP) are covered in the tests as applicable.

The scope of this document is to provide methodology for BGP FIB convergence measurements with BGP functionality limited to IPv4 and IPv6 as defined in [RFC4271] and MP-BGP [RFC4760] [RFC2545]. Other BGP extensions to support Layer 2 and Layer 3 Virtual Private Networks (VPNs) are outside the scope of this document. Interaction with IGP (IGP interworking) is outside the scope of this document.

Source: <https://tools.ietf.org/html/rfc7747>

26. In the Accused Products, updating a peer (the second component) about the ‘withdrawn routes’ using “UPDATE” messages is done by a BPG speaker (or the first component) or a router that implements BGP. Therefore, both the peer and speaker are part of a switch node in the communication network.

**BGP Identifier**

A 4-octet unsigned integer that indicates the BGP Identifier of the sender of BGP messages. A given BGP **speaker** sets the value of its BGP Identifier to an IP address assigned to that BGP **speaker**. The value of the BGP Identifier is determined upon startup and is the same for every local interface and BGP peer.

**BGP **speaker****

A router that implements BGP.

Source: <https://tools.ietf.org/html/rfc4271>

27. In view of preceding paragraphs, each and every element of at least claim 1 of the ’074 Patent is found in the Accused Products.

28. Huawei has and continues to directly infringe at least one claim of the ’074 Patent, literally or under the doctrine of equivalents, by making, using, selling, offering for sale,



importing, and/or distributing the Accused Products in the United States, including within this judicial district, without the authority of Brazos.

29. Huawei has received notice and has had actual or constructive knowledge of the '074 Patent since at least the date of service of this Complaint.

30. Since at least the date of service of this Complaint, through its actions, Huawei has actively induced product makers, distributors, retailers, and/or end users of the Accused Products to infringe the '074 Patent throughout the United States, including within this judicial district, by, among other things, advertising and promoting the use of the Accused Products in various websites, including providing and disseminating product descriptions, operating manuals, and other instructions on how to implement and configure the Accused Products. Examples of such advertising, promoting, and/or instructing include the documents at:

- <https://e.huawei.com/us/material/networking/campusswitch/8b86e4522a5b465cb6538212ff6a539a>

31. Since at least the date of service of this Complaint, through its actions, Huawei has contributed to the infringement of the '074 Patent by having others sell, offer for sale, or use the Accused Products throughout the United States, including within this judicial district, with knowledge that the Accused Products infringe the '074 Patent. The Accused Products are especially made or adapted for infringing the '074 Patent and have no substantial non-infringing use. For example, in view of the preceding paragraphs, the Accused Products contain functionality which is material to at least one claim of the '074 Patent.

**JURY DEMAND**

Brazos hereby demands a jury on all issues so triable.

**REQUEST FOR RELIEF**

WHEREFORE, Brazos respectfully requests that the Court:

- (A) Enter judgment that Huawei infringes one or more claims of the '074 Patent literally and/or under the doctrine of equivalents;
- (B) Enter judgment that Huawei has induced infringement and continues to induce infringement of one or more claims of the '074 Patent;
- (C) Enter judgment that Huawei has contributed to and continues to contribute to the infringement of one or more claims of the '074 Patent;
- (D) Award Brazos damages, to be paid by Huawei in an amount adequate to compensate Brazos for such damages, together with pre-judgment and post-judgment interest for the infringement by Huawei of the '074 Patent through the date such judgment is entered in accordance with 35 U.S.C. §284, and increase such award by up to three times the amount found or assessed in accordance with 35 U.S.C. §284;
- (E) Declare this case exceptional pursuant to 35 U.S.C. §285; and
- (F) Award Brazos its costs, disbursements, attorneys' fees, and such further and additional relief as is deemed appropriate by this Court.

Dated: October 2, 2020

Respectfully submitted,

-  
/s/ James L. Etheridge

James L. Etheridge

Texas State Bar No. 24059147

Ryan S. Loveless

Texas State Bar No. 24036997

Travis L. Richins

Texas State Bar No. 24061296

Brett A. Mangrum

Texas State Bar No. 24065671

Jeffrey Huang

ETHERIDGE LAW GROUP, PLLC

2600 E. Southlake Blvd., Suite 120 / 324

Southlake, Texas 76092

Telephone: (817) 470-7249

Facsimile: (817) 887-5950

Jim@EtheridgeLaw.com

Ryan@EtheridgeLaw.com

Travis@EtheridgeLaw.com

Brett@EtheridgeLaw.com

JeffH@EtheridgeLaw.com

**COUNSEL FOR PLAINTIFF**

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## **THE PARTIES**

2. Brazos is a limited liability corporation organized and existing under the laws of Delaware, with its principal place of business at 606 Austin Avenue, Suite 6, Waco, Texas 76701.

3. On information and belief, Defendant Huawei Technologies Co., Ltd. is a Chinese corporation that does business in Texas, directly or through intermediaries, with a principal place of business at Bantian, Longgang District, Shenzhen 518129, People's Republic of China.

4. Upon information and belief, Defendant Huawei Technologies USA Inc. is a corporation organized and existing under the laws of Texas that maintains an established place of business at 2391 NE Interstate 410 Loop, San Antonio, Texas 78217. Huawei Technologies USA, Inc. is authorized to do business in Texas and may be served via its registered agent, CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201-3136.

5. Defendants operate under and identify with the trade name "Huawei." Each of the Defendants may be referred to individually as a "Huawei Defendant" and, collectively, Defendants may be referred to below as "Huawei" or as the "Huawei Defendants."

## **JURISDICTION AND VENUE**

6. This is an action for patent infringement which arises under the Patent Laws of the United States, in particular, 35 U.S.C. §§271, 281, 284, and 285.

7. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a).

8. This Court has specific and general personal jurisdiction over each Huawei Defendant pursuant to due process and/or the Texas Long Arm Statute, because each Huawei Defendant has committed acts giving rise to this action within Texas and within this judicial district. The Court's exercise of jurisdiction over each Huawei Defendant would not offend

traditional notions of fair play and substantial justice because Huawei has established minimum contacts with the forum. For example, on information and belief, Huawei Defendants have committed acts of infringement in this judicial district, by among other things, selling and offering for sale products that infringe the asserted patent, directly or through intermediaries, as alleged herein.

9. Venue in the Western District of Texas is proper pursuant to 28 U.S.C. §§1391 and 1400(b) because Defendants have committed acts of infringement in this judicial district and have regular and established places of business in this judicial district and in Texas. As non-limiting examples, on information and belief, Defendants have sold or offered to sell the Accused Products in this judicial district and have employees or agents that operate Huawei equipment in this judicial district, including at 189 CR 265, Georgetown, TX 78626, 1150 S. Bell Blvd., Cedar Park, TX 78613, 1399 S A W Grimes Blvd., Round Rock, TX 78664, 12335 IH 35, Jarrell, TX 76537, 1050 Rabbit Hill Rd., Unit #E, Georgetown, TX 78626, 1602 A W Grimes Blvd., Round Rock, TX 78664, 4120 IH 35 N, Georgetown, TX 78626, 900 CR 272, Leander, TX 78641, 1950 Crystal Falls Pkwy., Leander, TX 78641, 1101 N. Industrial Blvd., Round Rock, TX 78681, 506 McNeil Rd., Round Rock, TX 78681, 3210 Chisholm Trail Rd., Round Rock, TX 78681, 112 Roundville Ln., Round Rock, TX 78664, 202 Central Dr. W, Georgetown, TX 78628, 3595 E. Hwy. 29, Georgetown, TX 78626, 1402 W Welch St., Taylor, TX 76574, 3801 Oak Ridge Dr., Round Rock, TX 78681, 1957 Red Bud Ln. #B, Round Rock, TX 78664, 6603 S Lakewood Dr., Georgetown, TX 78633, 500 W Front, Hutto, TX 78634.

**COUNT ONE - INFRINGEMENT OF**  
**U.S. PATENT NO. 7,423,962**

10. Brazos re-alleges and incorporates by reference the preceding paragraphs of this Complaint.

11. On September 9, 2008, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,423,962 (“the ’962 Patent”), entitled “Redundancy and load balancing in a telecommunication unit and system.” A true and correct copy of the ’962 Patent is attached as Exhibit A to this Complaint.

12. Brazos is the owner of all rights, title, and interest in and to the ’962 Patent, including the right to assert all causes of action arising under the ’962 Patent and the right to any remedies for the infringement of the ’962 Patent.

13. Huawei makes, uses, sells, offers for sale, imports, and/or distributes in the United States, including within this judicial district, products such as, but not limited to, Huawei Devices with Hot Standby feature (collectively, the “Accused Products”).

14. The Accused Products include, but are not limited to, but not limited to USG6000 Series Firewall.

15. Huawei provides the USG6000 Series Next-Generation Firewall (NGFW) Module, which implements in-depth detection on applications and contents to enhance network security. NGFW uses Intelligent Awareness Engine (IAE) for all security functions to scan the packets once and extract all necessary data.

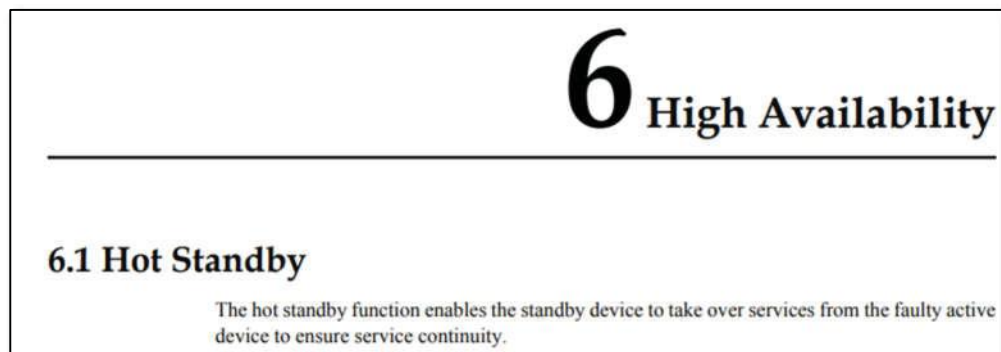
**2.1.2 Next Generation Firewall**

The next generation firewall implements in-depth detection on applications and contents to enhance network security.

Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1000047749&partNo=3001&mid=SUPE\\_DOC&t=1583214451000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1000047749&partNo=3001&mid=SUPE_DOC&t=1583214451000)

16. Huawei NGFW provides High Availability features like Hot Standby, which ensures service continuation even if a device fails. The Hot Standby function enables switchover to a redundant standby device in case of a fault to ensure service continuity. In this deployment, two NGFWs (a first and a second parallel physical cluster nodes) are deployed to enhance system availability. If one NGFW fails, the other NGFW takes over the service responsibilities, ensuring service continuity (first cluster node is configured to serve as a redundancy unit to the second cluster node and vice versa). The Host Standby has two working modes: Active/Standby mode and Load-Balancing mode.



Source:

[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1000047749&partNo=3001&mid=SUPE\\_DOC&t=1583214451000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1000047749&partNo=3001&mid=SUPE_DOC&t=1583214451000)

### 2.2.3 Scenario C: Hot Standby

The hot standby mechanism implements uninterrupted service transmission to ensure high availability.

In this deployment, two NGFWs working in hot backup mode are deployed to enhance system availability. If one NGFW fails, the other takes over service processing, ensuring service continuity.

The configuration of hot standby varies according to:

- Interface working mode: Layer 2 or Layer 3
- Devices connected to the NGFW: routers or switches
- Hot standby mode: active/standby mode or load-balancing mode

#### NOTE

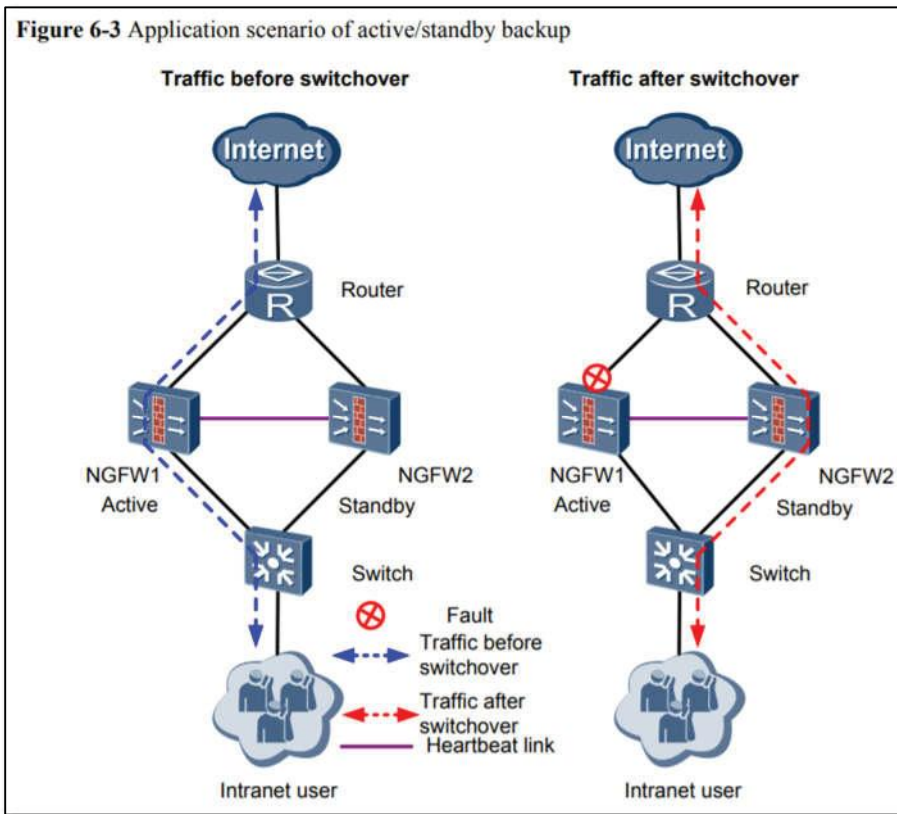
- Active/Standby mode: Only one NGFW works at a time. If the active NGFW fails, the standby NGFW becomes active and forwards all traffic.
- Load-balancing mode: Two NGFWs work at the same time. If one NGFW fails, the other forwards all traffic.

Source:

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17. In active/standby mode of Hot Standby, one of the NGFW is in an active state, and the other NGFW is in the Standby state. In regular operation, the active NGFW unit processes all the traffic (i.e. physical cluster nodes capable of transmitting data), and the redundant NGFW remains in Standby mode. If a fault occurs on active NGFW, the traffic is switched over to the redundant NGFW which was in the Standby mode.

### 6.1.2.1 Active/Standby Mode



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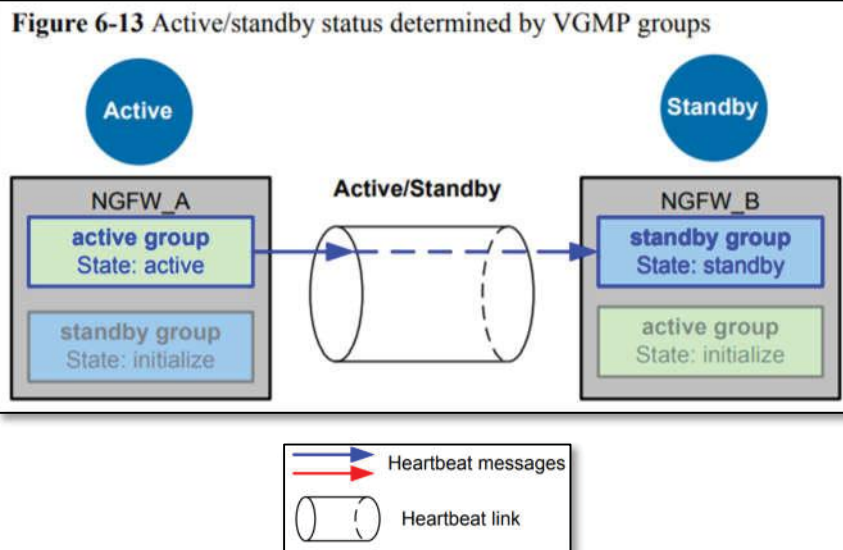
[https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1000047749&partNo=3001&mid=SUPE\\_DOC&t=1583214451000](https://download.huawei.com/edownload/e/download.do?actionFlag=download&nid=EDOC1000047749&partNo=3001&mid=SUPE_DOC&t=1583214451000)

18. Huawei NGFW can work in Active/Standby mode for High Availability. Each NGFW belongs to two VRRP Group Management Protocol (VGMP) Groups (logical nodes in the first and second cluster node), which are active group and standby group. When there is a fault in the active NGFW, the active NGFW and standby NGFW exchange their respective states. Likewise, the active group on the previously active NGFW switches to standby state and the standby group on the previously standby NGFW switches to the active state.

As shown in **Figure 6-13**, each NGFW belongs two VGMP groups: one active and one standby. The default priority of the active VGMP group is 65001, and that of the standby VGMP group is 65000.

The status of a VGMP group determines the status of the NGFW.

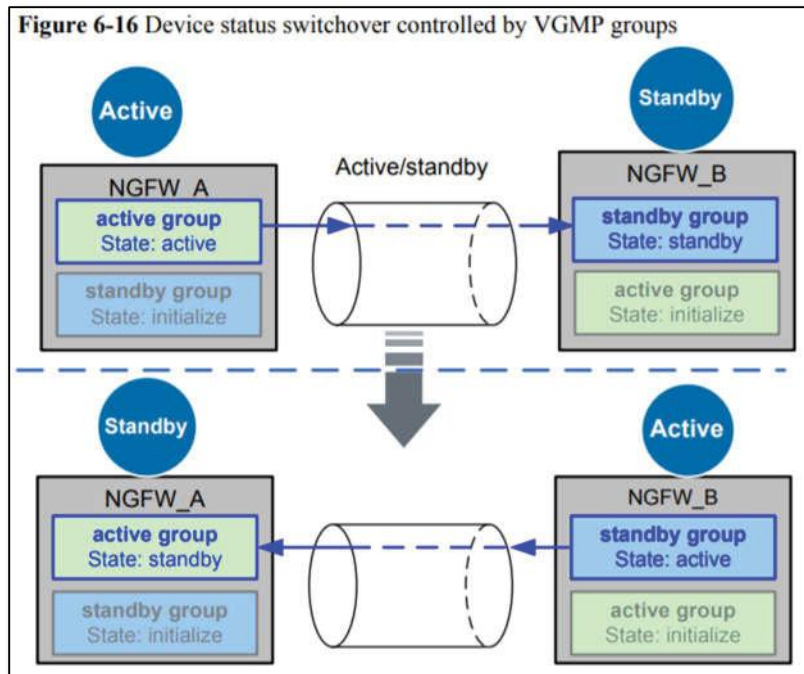
- If the NGFWs work in active/standby mode, the NGFW in the active VGMP group is in active state, and the NGFW in the standby VGMP group is in standby state.



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19. Active/Standby mode, active and standby groups on active and standby NGFW respectively, becomes load allocation alternatives. The active group (a first logical node of the load allocation alternative which is active) resides in the active NGFW (first cluster node). The standby group (a second logical node of the load allocation alternative which is standby) is provided in the standby NGFW (second cluster node).

## Device Status Switchover Controlled by VGMP Groups

- **In active/standby mode**

Normally, the priority of the active VGMP group on NGFW\_A is 65001, and NGFW\_A is the active device.

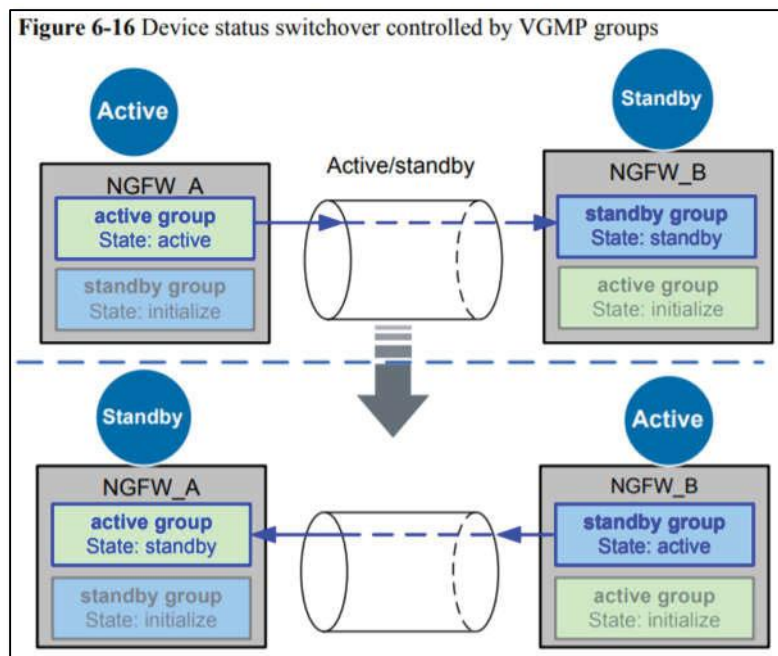
When a monitored interface of NGFW\_A goes faulty, the priority of the active VGMP group on NGFW\_A decreases to 64999, which is smaller than that of the standby VGMP group on NGFW\_B. Therefore, the active VGMP group on NGFW\_A becomes the standby VGMP group, and NGFW\_A becomes the standby device. The standby VGMP group on NGFW\_B becomes the active VGMP group, and NGFW\_B becomes the active device.

If the preemption function is enabled and NGFW\_A recovers, the priority of the standby VGMP group on NGFW\_A changes back to 65001, which is higher than that (65000) of the active VGMP group on NGFW\_B. Then NGFW\_A preempts to be the active device.

If the preemption function is disabled and NGFW\_A recovers, NGFW\_A still acts as the standby device and does not process services.

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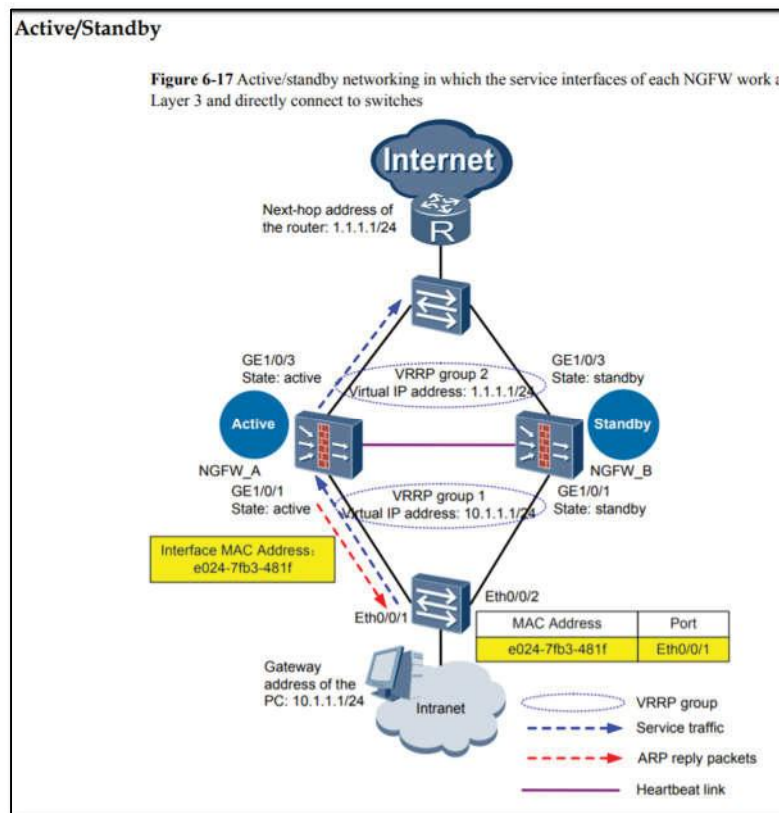
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20. The Huawei NGFW is able to work in Active mode or Standby mode. When active NGFW malfunctions and there is a fault in the active NGFW (cluster node), then a switchover of the active and standby groups (switchover of the load allocation alternatives) is performed to provide high availability.

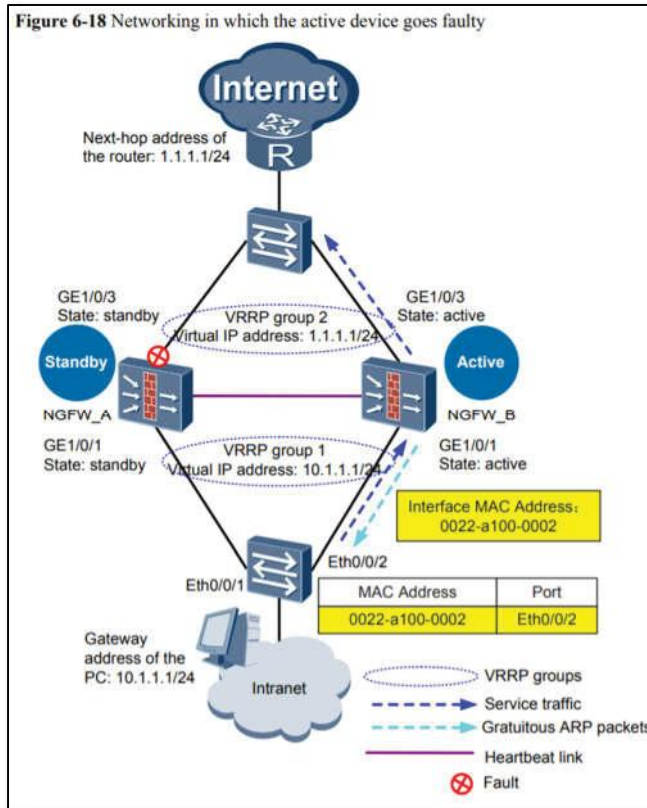
21. The active group (the active logical node) is provided in the active NGFW (the faulty cluster node). The active group on the active NGFW switches to standby state, and the corresponding standby group on the standby NGFW switches to the active state (changing the logical nodes from standby to active and the active logical nodes to standby).

#### 6.1.4.1 Networking 1: Service Interfaces of Each NGFW Working at Layer 3 and Directly Connecting to Switches



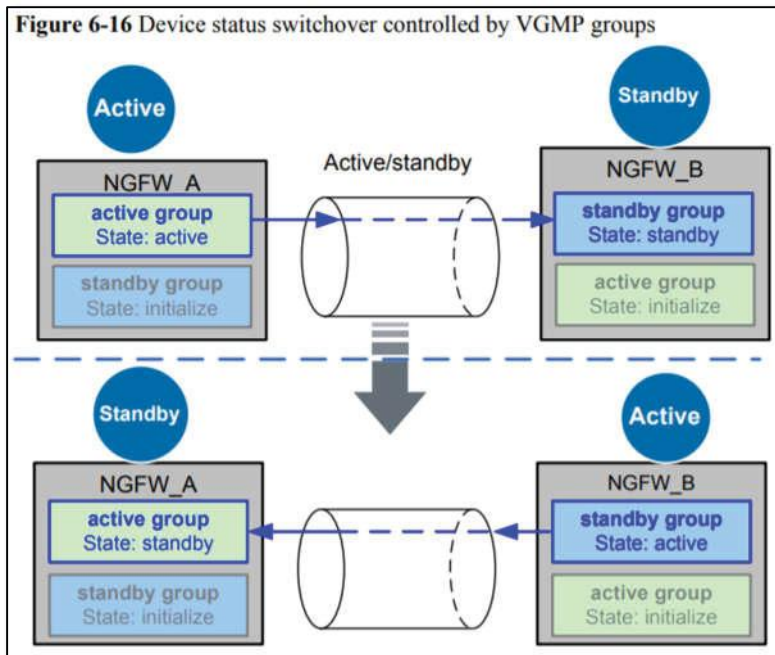
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22. The fault and the corresponding switchover is not visible outside the network element, to maintain service continuity. Likewise, the active and standby group (load allocation alternative) on both sides of the two NGFW forms VRRP groups wherein each VRRP group have a specific virtual IP address. Network elements that are directly connected to each NGFW are configured with the corresponding virtual IP address such that the network elements continue to remain functional in case of a fault, and these network elements are unaware of the fault. Based on this virtual IP address, data is received and forwarded further in the network.



- Active/standby

1. Configure a VRRP group on each service interface of the active device and add the VRRP groups to a active VGMP group.

As shown in **Figure 6-27**, VRRP group 2 configured on GE1/0/1 and VRRP group 1 configured on GE1/0/3 of NGFW\_A are added to the active VGMP group.

2. Configure a VRRP group on each service interface of the standby device and add the VRRP groups to the standby VGMP group.

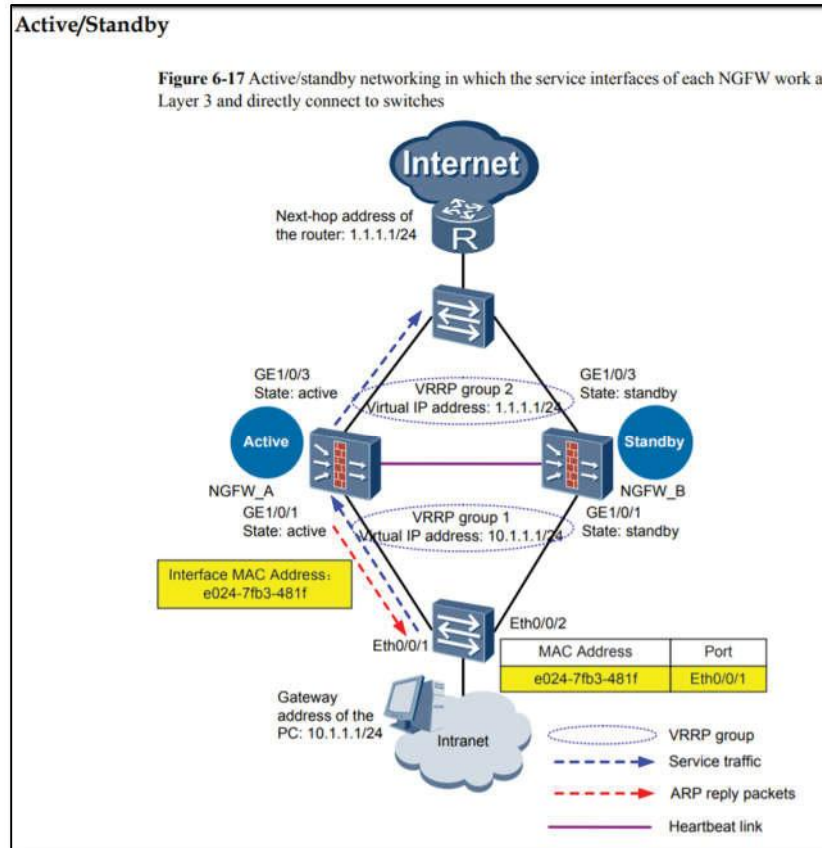
As shown in **Figure 6-27**, VRRP group 2 configured on GE1/0/1 and VRRP group 1 configured on GE1/0/3 of NGFW\_A are added to the standby VGMP group.

3. On the hosts or devices that are directly connected to each NGFW, set the gateway address or next-hop address of the static route to the virtual IP address of the corresponding VRRP group.

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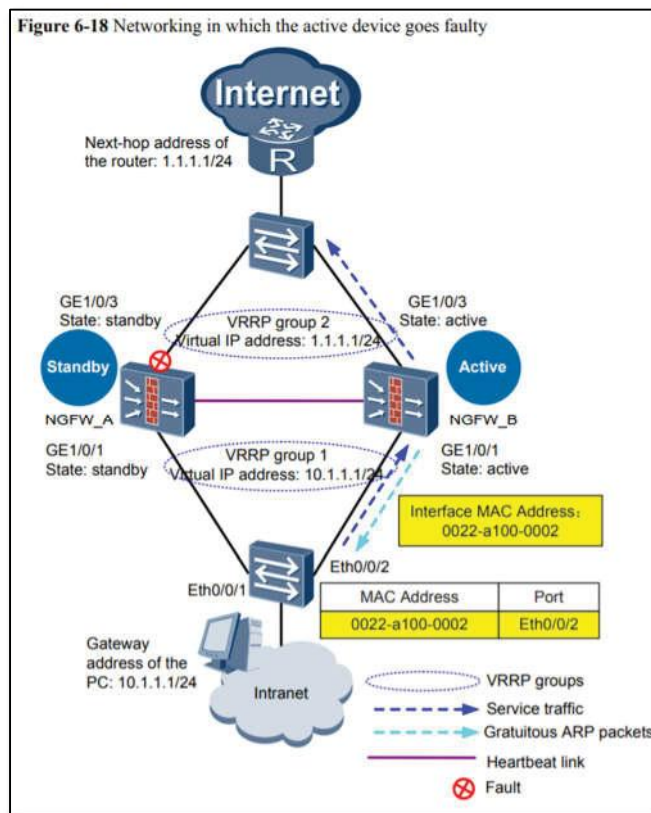
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#### 6.1.4.1 Networking 1: Service Interfaces of Each NGFW Working at Layer 3 and Directly Connecting to Switches



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23. In view of preceding paragraphs, each and every element of at least claim 9 of the '962 Patent is found in the Accused Products.

24. Huawei has and continues to directly infringe at least one claim of the '962 Patent, literally or under the doctrine of equivalents, by making, using, selling, offering for sale, importing, and/or distributing the Accused Products in the United States, including within this judicial district, without the authority of Brazos.



25. Huawei has received notice and actual or constructive knowledge of the '962 Patent since at least the date of service of this Complaint.

26. Since at least the date of service of this Complaint, through its actions, Huawei has actively induced product makers, distributors, retailers, and/or end users of the Accused Products to infringe the '962 Patent throughout the United States, including within this judicial district, by, among other things, advertising and promoting the use of the Accused Products in various websites, including providing and disseminating product descriptions, operating manuals, and other instructions on how to implement and configure the Accused Products. Examples of such advertising, promoting, and/or instructing include the documents at:

- [https://download.huawei.com/download/e/download.do?actionFlag=download&nid=EDOC1000047749&partNo=3001&mid=SUPE\\_DOC&t=1583214451000](https://download.huawei.com/download/e/download.do?actionFlag=download&nid=EDOC1000047749&partNo=3001&mid=SUPE_DOC&t=1583214451000)

27. Since at least the date of service of this Complaint, through its actions, Huawei has contributed to the infringement of the '962 Patent by having others sell, offer for sale, or use the Accused Products throughout the United States, including within this judicial district, with knowledge that the Accused Products infringe the '962 Patent. The Accused Products are especially made or adapted for infringing the '962 Patent and have no substantial non-infringing use. For example, in view of the preceding paragraphs, the Accused Products contain functionality which is material to at least one claim of the '962 Patent.

#### **JURY DEMAND**

Brazos hereby demands a jury on all issues so triable.

#### **REQUEST FOR RELIEF**

WHEREFORE, Brazos respectfully requests that the Court:

- (A) Enter judgment that Huawei infringes one or more claims of the '962 Patent literally and/or under the doctrine of equivalents;
- (B) Enter judgment that Huawei has induced infringement and continues to induce infringement of one or more claims of the '962 Patent;
- (C) Enter judgment that Huawei has contributed to and continues to contribute to the infringement of one or more claims of the '962 Patent;
- (D) Award Brazos damages, to be paid by Huawei in an amount adequate to compensate Brazos for such damages, together with pre-judgment and post-judgment interest for the infringement by Huawei of the '962 Patent through the date such judgment is entered in accordance with 35 U.S.C. §284, and increase such award by up to three times the amount found or assessed in accordance with 35 U.S.C. §284;
- (E) Declare this case exceptional pursuant to 35 U.S.C. §285; and
- (F) Award Brazos its costs, disbursements, attorneys' fees, and such further and additional relief as is deemed appropriate by this Court.

Dated: October 2, 2020

Respectfully submitted,

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/s/ James L. Etheridge

James L. Etheridge

Texas State Bar No. 24059147

Ryan S. Loveless

Texas State Bar No. 24036997

Travis L. Richins

Texas State Bar No. 24061296

Brett A. Mangrum

Texas State Bar No. 24065671

Jeffrey Huang

ETHERIDGE LAW GROUP, PLLC

2600 E. Southlake Blvd., Suite 120 / 324

Southlake, Texas 76092

Telephone: (817) 470-7249

Facsimile: (817) 887-5950

Jim@EtheridgeLaw.com

Ryan@EtheridgeLaw.com

Travis@EtheridgeLaw.com

Brett@EtheridgeLaw.com

JeffH@EtheridgeLaw.com

**COUNSEL FOR PLAINTIFF**