



**THE PARTIES**

2. Brazos is a limited liability corporation organized and existing under the laws of Delaware, with its principal place of business at 605 Austin Ave, Ste 6, Waco, TX 76701.

3. On information and belief, Defendant Huawei Investment & Holding 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. 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.

5. 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, TX 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.

6. Upon information and belief, Defendant Huawei Device Co. Ltd. (formerly known as Huawei Device (Dongguan) Co.) is a Chinese corporation that does business in Texas, directly or through intermediaries, and maintains a principal place of business in No.2 of Xincheng Road, Songshan Lake Zone, Dongguan, Guangdong 523808, People's Republic of China.

7. Upon information and belief, Huawei Device (Shenzhen) Co., Ltd. (formerly known as Huawei Device Co., Ltd.) is a wholly-owned subsidiary of Defendant Huawei

Device Co. Ltd. is a Chinese corporation that does business in Texas, directly or through intermediaries, and maintains a principal place of business in Bantian, Longgang District, Shenzhen 518129, People's Republic of China.

8. On information and belief, Defendant Huawei Device USA, Inc., is a Texas corporation with a principal place of business located at 5700 Tennyson Parkway, Suite 600, Plano, Texas 75024. Huawei Device 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.

9. All of the 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." Upon information and belief, Defendant Huawei Investment & Holding Co., Ltd. provides consolidated financial reporting for Huawei entities, including all Huawei Defendants.

#### **JURISDICTION AND VENUE**

10. 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.

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

12. 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.

13. Venue in the Western District of Texas is proper pursuant to 28 U.S.C. §§1391(b), (c)(3), and 1400(b) because Huawei Technologies USA Inc. and Huawei Device USA Inc. have committed acts of infringement in this judicial district and have a regular and established places of business in this judicial district and in Texas. As non-limiting examples, on information and belief, Huawei Technologies USA Inc. and Huawei Device USA Inc. 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. 7,508,755**

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

15. On March 24, 2009, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,508,755 (“the ’755 Patent”), entitled “Methods and devices for creating an alternate path for a bi-directional LSP.” A true and correct copy of the ’755 Patent is attached as Exhibit A to this Complaint.

16. Brazos is the owner of all rights, title, and interest in and to the ’755 Patent, including the right to assert all causes of action arising under the ’755 Patent and the right to any remedies for the infringement of the ’755 Patent.

17. 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 supporting Fast reroute (FRR) through MPLS TE (collectively, the “Accused Products”).

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

19. The NetEngine40E series Universal Service Router (USR) is a “high-end network product that features line-rate forwarding capability, a well-designed Quality of Service (QoS) mechanism, strong service-processing capability, and excellent expansibility.”

The NetEngine40E series Universal Service Router (USR) is a high-end network product that features line-rate forwarding capability, a well-designed Quality of Service (QoS) mechanism, strong service-processing capability, and excellent expansibility. It can be deployed at the edges of Internet Protocol (IP) backbone networks, IP Metropolitan Area Networks (MANs), Internet Data Center (IDC) networks and other large-scale IP networks. The NetEngine40E can provide comprehensive services for enterprises and residential areas as a universal edge device. Based on distributed hardware forwarding and non-blocking switching technologies, the NetEngine40E provides maximum 480G line cards to satisfy the increased demand for bandwidth.

<https://e.huawei.com/us/related-page/products/enterprise-network/routers/ne/ne40e/brochure/router-ne40e>.

## NE40E Series Universal Service Routers



Based on a 2T platform, equipped with Huawei's Solar chipsets, and powered by its Versatile Routing Platform (VRP), the NetEngine 40E-X series provides the industry's highest capacity 2T routing line cards. Combining performance with low power consumption, innovative Internet Protocol (IP) hard pipe technology, and quick evolution capabilities, NetEngine 40E routers meet the low latency and high reliability requirements of business-critical services as well as mature Wide Area Network (WAN) Software-Defined Networking (SDN) solutions. They can serve as core nodes on enterprise WANs, access nodes on large-scale enterprise networks, interconnection and aggregation nodes on campus networks, and edge nodes on large-scale Internet Data Center (IDC) networks.

<https://support.huawei.com/enterprise/us/routers/ne40e-pid-15837>

20. The NetEngine40E supports the MPLS TE feature.

MPLS	<ul style="list-style-type: none"> <li>● MPLS TE and MPLS/BGP VPN, in compliance with RFC 2547</li> <li>● Inter-AS VPN Option A/B/C</li> <li>● Integration with Internet services</li> <li>● Martini and Kompella MPLS L2VPN</li> <li>● L2VPN techniques, such as VPLS and VLL</li> <li>● IP interworking over heterogeneous media</li> <li>● Multicast VPN</li> <li>● MPLS-TP, EVPN, Remote LFA</li> </ul>
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<https://e.huawei.com/us/related-page/products/enterprise-network/routers/ne/ne40e/brochure/router-ne40e>

21. MPLS TE supports Fast reroute, FRR, (i.e., re-routing traffic) to protect links and nodes on MPLS TE tunnels. It rapidly switches traffic to a backup path to minimize traffic loss.

#### **TE FRR**

Traffic engineering (TE) fast reroute (FRR) protects links and nodes on MPLS TE tunnels. If a link or node fails, TE FRR rapidly switches traffic to a backup path, minimizing traffic loss.

<https://support.huawei.com/enterprise/us/doc/EDOC1100027154?section=j015&topicName=mpls-te>

22. A link or node failure in an MPLS TE tunnel triggers a CR-LSP (Constraint-based Routing Label Switched Path) switchover. TE FRR establishes a backup path that rapidly takes over traffic, minimizing traffic loss.

A link or node failure in an MPLS TE tunnel triggers a primary/backup CR-LSP switchover. During the switchover, IGP routes converge to a backup CR-LSP, and CSPF recalculates a path over which the primary CR-LSP is reestablished. Traffic is dropped during this process.

TE FRR can be used to minimize traffic loss. TE FRR establishes a backup path that excludes faulty links or nodes. The backup path can rapidly take over traffic, minimizing traffic loss. In addition, the ingress attempts to reestablish the primary CR-LSP.

<https://support.huawei.com/enterprise/us/doc/EDOC1100027154?section=j015&topicName=mpls-te>.

23. Associated bidirectional CR-LSPs provide bandwidth protection for bidirectional services. When a fault occurs, bidirectional switching is performed for associated CR-LSPs.

#### **Associated Bidirectional CR-LSPs**

Associated bidirectional CR-LSPs provide bandwidth protection for bidirectional services. Bidirectional switching can be performed for associated bidirectional CR-LSPs if faults occur.

<https://support.huawei.com/enterprise/us/doc/EDOC1100027154?section=j015&topicName=mpls-te>

24. In the case of Faults, two CR-LSPs form an associated bidirectional CR-LSP.

25. The associated bidirectional CR-LSP is used to prevent traffic congestion. If a fault occurs on one end, the other is notified of the fault so that both ends triggers traffic switchover. (i.e., receive traffic traveling along a bi-directional LSP in a forward direction to an alternate path in the forward direction).

A forward CR-LSP and a reverse CR-LSP between two nodes are established. Each CR-LSP is bound to the ingress of its reverse CR-LSP. The two CR-LSPs then form an associated bidirectional CR-LSP. The associated bidirectional CR-LSP is mainly used to prevent traffic congestion. If a fault occurs on one end, the other end is notified of the fault so that both ends trigger traffic switchovers, which traffic transmission is uninterrupted.

<https://support.huawei.com/enterprise/us/doc/EDOC1100027154?section=j015&topicName=mpls-te>

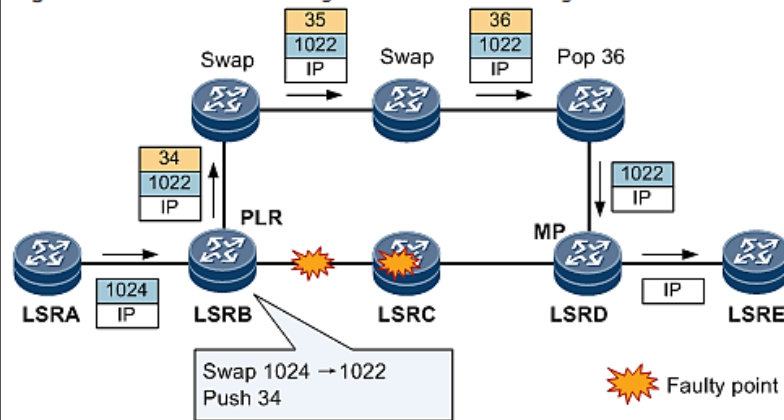
26. TE FRR supports establishing an alternate path for a CR-LSP. It uses make before break mechanism. It modifies the path by changing the inner label to “1024.” The path changes to “LSRB>Swap > swap > swap LSRD>” replacing LSRC. The new path constructs an alternate path for a CR-LSP. Once, the modified path establishes, the original CR-LSP is torn down.

27. TE FRR supports establishing an alternate modified path for a CR-LSP. Once, the modified path establishes, the original CR-LSP is torn down.



forwards the packet to LSRE at the next hop. Figure 4-24 illustrates the forwarding process after TE FRR switching is complete.

Figure 4-24 Packet forwarding after TE FRR switching



The ingress performs a traffic switchback.

After TE FRR (either manual or auto FRR) switching is complete, the PLR (ingress) attempts to reestablish the primary CR-LSP using the make-before-break mechanism. Service traffic and RSVP messages switch from the bypass CR-LSP back to the successfully reestablished primary CR-LSP. The reestablished CR-LSP is called a modified CR-LSP. The original primary CR-LSP is only torn down after the modified CR-LSP is established successfully.

<https://support.huawei.com/enterprise/us/doc/EDOC1100027154?section=j015&topicName=mpls-te>

28. The backup path establishes through TE-FRR. MPLS TE triggers a primary CR-LSP switchover. The switchover converges the routes to a backup CR-LSP route.

A link or node failure in an MPLS TE tunnel triggers a primary/backup CR-LSP switchover. During the switchover, IGP routes converge to a backup CR-LSP, and CSPF recalculates a path over which the primary CR-LSP is reestablished. Traffic is dropped during this process.

TE FRR can be used to minimize traffic loss. TE FRR establishes a backup path that excludes faulty links or nodes. The backup path can rapidly take over traffic, minimizing traffic loss. In addition, the ingress attempts to reestablish the primary CR-LSP.

<https://support.huawei.com/enterprise/us/doc/EDOC1100027154?section=j015&topicName=mpls-te>

29. A forward CR-LSP and a reverse CR-LSP establishes. If a fault occurs on one end, the other end is notified of the fault (i.e., switch over a message sent along an alternate path) so that both ends trigger traffic switchovers.

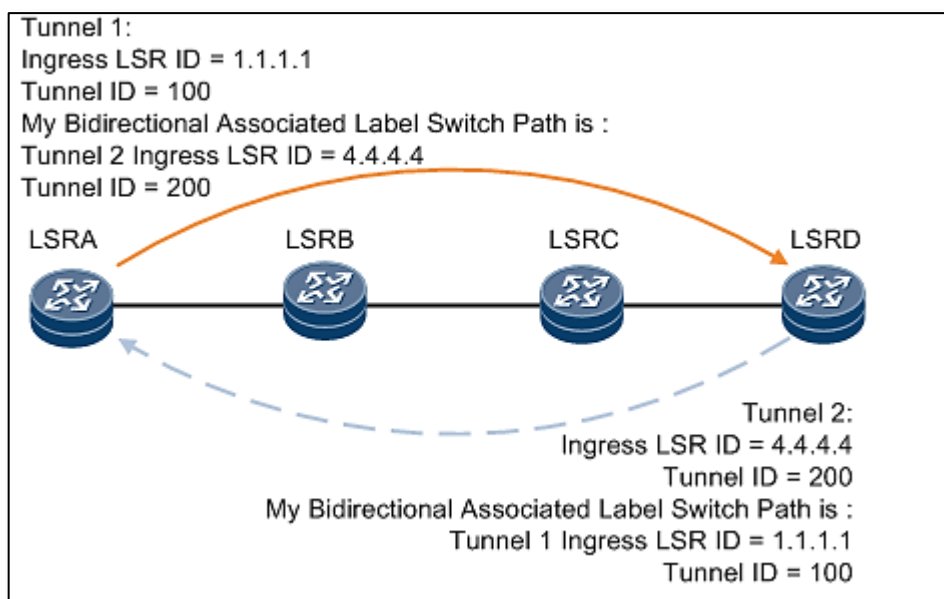
A forward CR-LSP and a reverse CR-LSP between two nodes are established. Each CR-LSP is bound to the ingress of its reverse CR-LSP. The two CR-LSPs then form an associated bidirectional CR-LSP. The associated bidirectional CR-LSP is mainly used to prevent traffic congestion. If a fault occurs on one end, the other end is notified of the fault so that both ends trigger traffic switchovers, which traffic transmission is uninterrupted.

<https://support.huawei.com/enterprise/us/doc/EDOC1100027154?section=j015&topicName=mpls-te>

30. TE FRR supports establishing an alternate modified path for a CR-LSP. Once, the modified path establishes, the original CR-LSP is torn down.

31. The output of the forward path and the input for the backward path converges to the same CR-LSP which is LSRD. The forward and reverse CR-LSPs are bound to each other.

- The tunnel ID and ingress LSR ID of the reverse CR-LSP are specified on each tunnel interface so that the forward and reverse CR-LSPs are bound to each other. For example, in Figure 4-47, set the reverse tunnel ID to 200 and ingress LSR ID to 4.4.4.4 on Tunnel1 so the reverse tunnel is bound to Tunnel1.



<https://support.huawei.com/enterprise/us/doc/EDOC1100027154?section=j029&topicName=associated-bidirectional-cr-lsps>.

32. The forward and reverse CR-LSPs establishes over the same path to implementing the consistent delay time. The forward and reverse CR-LSPs can establish over

the same path or over different paths (i.e., re-routing traffic traveling along a bi-directional LSP in a backward direction to an alternate path in the backward direction based on the switch over message).

The ingress LSR ID of the reverse CR-LSP is the same as the egress LSR ID of the forward CR-LSP.

The forward and reverse CR-LSPs can be established over the same path or over different paths. Establishing the forward and reverse CR-LSPs over the same path is recommended to implement the consistent delay time.

<https://support.huawei.com/enterprise/us/doc/EDOC1100027154?section=j029&topicName=associated-bidirectional-cr-lsps>

33. In view of preceding paragraphs, each and every element of at least claim 18 of the '755 Patent is found in the Accused Products.

34. Huawei has and continues to directly infringe at least one claim of the '755 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.

35. Huawei has received notice and actual or constructive knowledge of the '755 Patent since at least the date of service of this Complaint.

36. 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 '755 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/related-page/products/enterprise-network/routers/ne/ne40e/brochure/router-ne40e>
- <https://support.huawei.com/enterprise/us/routers/ne40e-pid-15837>
- <https://support.huawei.com/enterprise/us/doc/EDOC1100027154?section=j015&topicName=mpls-te>

37. Since at least the date of service of this Complaint, through its actions, Huawei has contributed to the infringement of the '755 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 '755 Patent. The Accused Products are especially made or adapted for infringing the '755 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 '755 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 '755 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 '755 Patent;
- (C) Enter judgment that Huawei has contributed to and continues to contribute to the infringement of one or more claims of the '755 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 '755 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: March 16, 2020

Respectfully submitted,

/s/ James L. Etheridge

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