

The examination is being carried out on the **following application documents**

**Description, Pages**

1-85 filed in electronic form on 27-06-2019

**Claims, Numbers**

1-27 filed in electronic form on 03-04-2019

**Drawings, Sheets**

1/10-10/10 filed in electronic form on 27-06-2019

1 The following document D1 is referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1 EP 2 595 344 A2 (HUAWEI TECH CO LTD [CN]) 22 May 2013  
(2013-05-22)

2 The application does not meet the requirements of Article 84 EPC, because **claims 1, 9, 14 and 22** are not clear.

2.1 The expression "service chain detection" used in **independent claims 1 and 9** leaves the reader in doubt as to the meaning of the technical features to which it refers (it is not clear from the wording of claims whether a "service chain" or a "fault in the service chain" should be detected?), thereby rendering the definition of the subject-matter of said claims unclear (Article 84 EPC and Guidelines F-IV-4.1 and F-IV-4.3).

Since the features of the independent claims only refer to "fault tracing/detection", it appears, that these claims should be amended e.g. as follows: 'service chain fault detection'

2.2 The expression "service chain" used in **the independent claims 1, 9, 14 and 22** is vague and leaves the reader in doubt as to the meaning of the technical features to which it refers (which service and which chain?; to what exactly are these terms referring to and how are they defined?), thereby rendering the definition of the subject-matter of said claims unclear (Article 84 EPC and Guidelines F-IV-4.1 and F-IV-4.3).

- 2.3 The expressions "fault tracing detection" and "initiating fault detection" used in **independent claims 1, 9, 14 and 22** leave the reader in doubt as to the meaning of the technical features to which they refer (it is not clear which faults are exactly to be detected resp. traced and how such a fault detection is actually achieved only by obtaining ID's?; why is such a request packet sent?; **claim 1** only defines an ID of the SF node, but what about the other nodes on the path?), thereby rendering the definition of the subject-matter of said claims unclear (Article 84 EPC and Guidelines F-IV-4.1 and F-IV-4.3).

It is not clear for the person skilled in the art, that by the method steps defined in claim 1 (they do not even mention anything about an order of service function nodes) a fault in a planned processing order of the service function nodes shall and actually can be determined.

Therefore **claims 1, 9, 14 and 22** do not meet the requirements of Article 84 EPC in that the matter for which protection is sought is not defined. The claims attempt to define the subject-matter in terms of the result to be achieved.

- 2.4 Likewise **claims 9 and 22** do not meet the requirements of Article 84 EPC in that the matter for which protection is sought is not defined. The claims attempt to define the subject-matter in terms of the result to be achieved. Such a definition is only allowable under the conditions elaborated in the Guidelines F-IV, 4.10. In this instance, however, such a formulation is not allowable because it appears possible to define the subject-matter in more concrete terms, viz. in terms of how the effect is to be achieved.

Claims 9 and 22 define "determining, by the device for initiating fault detection, that forwarding between the SFE and the SF node is normal", without specifying how is actually achieved only by obtaining ID's?

- 3 The present application does not meet the requirements of Article 52(1) EPC, because the subject-matter of **the independent claims 1, 9, 14, 22 and 27**, as far as they can be understood, is not new in the sense of Article 54(1) and (2) EPC.

- 3.1 Document D1 (see in particular: paragraphs 7, 65-88, 103; claims 6-10) discloses according to all the features of **claim 1 (the references in parentheses applying to this document)**:

A service chain detection method ('**fault detection method**': **paragraph 7; claims 6-10**), wherein the method comprises:

obtaining, by a service forwarding entity, SFE, a first fault tracing detection request packet, and determining, by the SFE, to communicate with a service function, SF, node, wherein the first fault tracing detection request packet comprises a path identifier, ID, and the path ID is used to identify a path of a service chain ('initiate a fault detection request packet; determine a ring LSP FEC corresponding to the fault detection request packet, and encapsulate the ring LSP FEC into the fault detection request packet; the ring LSP FEC specifically includes the ring ingress node address, the ring egress node address and a ring identity'; the 'ring identity' in D1 is understood as a possible "path ID"; 'send the fault detection request packet along to downstream nodes'; a 'downstream node' in D1 is understood as an "SFE"; the aforementioned features of claim 1 are considered to be at least implicitly disclosed in D1: paragraphs 65-88);

obtaining, by the SFE, an ID of the SF node; and sending, by the SFE, a first fault tracing detection response packet to a device for initiating fault detection, wherein the first fault tracing detection response packet comprises the path ID and the ID of the SF node ('the control plane queries a downstream information mapping table of the ring LSP FEC to acquire downstream information of LSR2, which includes the address of the downstream node LSR3 and the outgoing label, encapsulates the downstream information of LSR2 into a fault detection reply packet, and returns the fault detection reply packet, Tracert echo reply, to LSR1; the fault detection reply packet includes information of LSR2 and information of LSR3; LSR1 determines, according to the returned information of LSR2 and information of LSR3, that the LSR2 node of the ring LSP has no fault, and determines that the next node of LSR2 is LSR3'; e.g. 'LSR3' in this particular scenario in D1 is understood as a possibility of an "SF"; 'encapsulate the ring LSP FEC into a fault detection reply packet, and send the fault detection reply packet after encapsulation to the ring ingress node 31'; the aforementioned features of claim 1 are considered to be at least implicitly disclosed in D1: paragraphs 65-88, 103).

The subject-matter of claim 1 is therefore not new (Article 54(1) and (2) EPC).

- 3.2 The same objection of lack of novelty also applies to **independent claims 9, 14, 22 and 27**, which essentially contain or should contain the corresponding combination of features as defined by claim 1.

Claim 9, 14, 22 and 27 is thus also not allowable under Articles 52(1), 54(1) and (2) EPC for the same reasons set out above with respect to claim 1.

4 **Dependent claims 2-8, 10-13, 15-21, 23-26** do not appear to contain any additional features, which in combination with the features of any claim to which they refer meet the requirements of the EPC with respect to novelty and inventive step, the reasons being as follows:

4.1 All the features of **the dependent claims 2-8, 10-13, 15-21, 23-26**, if not already directly or implicitly disclosed in D1, are considered obvious, if not trivial, possibilities for the person skilled in the art, which he would choose according to circumstances, namely depending on the requirements of operation and maintenance and/or network design, without exercise of an inventive skill.

Claims 2-8, 10-13, 15-21, 23-26 do not involve an inventive step in the sense of Article 56 EPC and therefore the requirements of Article 52(1) are not met.

5 It is not at present apparent which part of the application could serve as a basis for a new, allowable claim. Should the Applicant nevertheless regard some particular matter as patentable, an independent claim should be filed taking account of Rule 43(1) EPC. The Applicant should also indicate in the letter of reply the difference of the subject-matter of the new claim vis-à-vis the state of the art and the significance thereof, preferably using the problem-solution approach.

Moreover when filing an amended set of claims, the Applicant is requested to also take the following remarks into account:

5.1 To meet the requirements of Rule 42(1)(b) EPC, document D1 should be identified in the description and the relevant background art disclosed therein should be briefly discussed.

5.2 The vague and imprecise statements in the description on page 71 (paragraph 310) imply, that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity of the claims (Article 84 EPC) when used to interpret them (see the Guidelines, F-IV, 4.4). These statements should therefore be amended to remove this inconsistency.

5.3 The "incorporated herein by reference" statement in the description on page 1 (paragraph 1) should be deleted, since the invention should be self contained (see the Guidelines H-V, 2.5).

5.4 For clarity reasons (Article 84 EPC) paragraphs 311-359 relating to further Embodiments 1-48 on pages 71-85 should be deleted.

- 5.5 New independent claims should be drafted in the two-part form in accordance with Rule 43(1) EPC.
- 5.6 The features of the claims should be provided with reference signs placed in parentheses to increase the intelligibility of the claims (Rule 43(7) EPC). This applies to both the preamble and characterising portion (see the Guidelines, F-IV, 4.19).
- 5.7 When filing amended claims the Applicant should at the same time bring the description into conformity with the amended claims **in particular in compliance to the Guidelines F-IV 4.3(iii), F-IV 4.4 and C-V 1.1.0**. Care should be taken during revision, especially of the introductory portion and any statements of problem or advantage, not to add subject-matter which extends beyond the content of the application as originally filed (Article 123(2) EPC).
- Further the attention of the Applicant is drawn to the fact that amended claims may not relate to unsearched subject-matter (Rule 137(4) EPC).
- 5.8 In order to facilitate the examination of the conformity of the amended application with the requirements of Article 123(2) EPC, the Applicant is requested to clearly identify the amendments carried out, irrespective of whether they concern amendments by addition, replacement or deletion, and **to indicate the passages of the application as filed on which these amendments are based**.