

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

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PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2024/026158

International filing date (day/month/year)
25.04.2024

Priority date (day/month/year)
30.06.2023

International Patent Classification (IPC) or both national classification and IPC
INV. G06F12/0873 G06F12/0866 G06F3/06 G06F9/455 G06F9/46 G06F16/215

Applicant
GENESYS CLOUD SERVICES, INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA:



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Date of completion of
this opinion

see form
PCT/ISA/210

Authorized Officer

Jardon, Stéphan

Telephone No. -0



Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed.
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))
3. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. ☐ forming part of the international application as filed.
 - b. ☐ furnished subsequent to the international filing date for the purposes of international search (Rule 13*ter*.1(a)),
 - ☐ accompanied by a statement to the effect that the sequence listing does not go beyond the disclosure in the international application as filed.
4. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, this opinion has been established to the extent that a meaningful opinion could be formed without a WIPO Standard ST.26 compliant sequence listing.
5. Additional comments:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>1-20</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	<u>1-20</u>
	No: Claims	
Industrial applicability (IA)	Yes: Claims	<u>1-20</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial
applicability; citations and explanations supporting such statement**

1. Reference is made to the following document:

D1 = US 2019/227941 A1 (CHANG MU TIEN [US] ET AL) 25 July 2019 (2019-07-25)

2. The subject-matter of independent claim 1 is novel under Art. 33(2) PCT and inventive under Art. 33(3) PCT.

2.1 D1 is considered as the closest art to the subject-matter of claim 1 and discloses :

A method for configurable caching, deduplication, and rate limit handling of user interface data requests (see D1, Fig. 1, 3-5

"deduplication/dedupe cache 135" and par. [0030]-[0056]; see claim 1 "a cache memory including a dedupable read cache and a non-dedupable write buffer;"), the method comprising:

receiving a data request initiated by a user interface element of a user interface (see Fig. 2, "user interface 220");

determining whether a deduplication cache includes a deduplication entry associated with the data request (see D1, Fig. 5 "hit/miss check 510", par. [0036]-[0056]);

determining whether a main cache (see Fig. 3 "backend high capacity memory 130"; see claim 15 "cache memory including a non-dedupable write buffer as a second region;"), different from the deduplication cache, includes a cache entry associated with the data request in response to determining that the deduplication cache does not include the deduplication entry (see Fig. 3 "The use of dedupable memory in deduplication cache avoids multiple copies of the same data that is stored in cache dynamic RAM (DRAM) and allows for more data to be stored in the same physical amount of memory"; Fig. 5 "Cache controller" and "Miss block 520") ;

~~determining whether the data request is associated with a rate-limited group of application programming interface endpoints in response to one of (i) determining that the main cache does not include the cache entry associated with the data request or (ii) determining that the cache entry associated with the data request~~

~~has expired; and
making the data request to a backend system after a predefined
server retry period associated with the rate-limited group has
elapsed in response to determining that the data request is
associated with the rate-limited group.~~

2.2 D1 fails to disclose, with respect to claim 1, that the method for configurable caching, deduplication, and rate limit handling of user interface data requests further comprises :

determining whether the data request is associated with **a rate-limited group of application programming interface endpoints** in response to one of (i) determining that the main cache does not include the cache entry associated with the data request or (ii) determining that the cache entry associated with the data request has **expired**; and
making the data request to a backend system **after a predefined server retry period associated with the rate-limited group has elapsed** in response to determining that the data request is associated with the rate-limited group.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

2.3 The problem to be solved by the present invention may be regarded as to handle the varied and sometimes interconnected rate limits of a micro-service architecture providing API endpoints.

2.4 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

D1 is totally silent of rate limit grouping of associated API endpoints. D1 is also totally silent on a predefined period associated with the rate limited group has elapsed when making the data request to the back-end system.

The provision of a group API requests that share common retry behaviour solves the technical problem in a not trivial manner, such that an inventive step is acknowledged.

3 The same reasoning applies, *mutatis mutandis*, to the subject-matter of the corresponding independent apparatus claim 14, which therefore is also considered new and inventive.

4 Claims 2-13 and 15-20 are dependent on claims 1 and 14 respectively and as such also meet the requirements of the PCT with respect to novelty and inventive step.

Re Item VII

Certain defects in the international application

5. Contrary to the requirements of Rule 6.3(b) PCT, the independent claims are not in the two-part form, which in the present case would be appropriate, with those features known in combination from the prior art being placed in the preamble (Rule 6.3(b)(i) PCT) and the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).

6. Contrary to the requirements of Rule 6.2(b) PCT, the features of the claims are not provided with reference signs placed in parentheses.

7. In order to comply with the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in D1 is to be mentioned in the description.