

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner

v.

CARBYNE BIOMETRICS, LLC,
Patent Owner

Case: IPR2024-00332
U.S. Patent No. 10,929,512

**PATENT OWNER'S SUR-REPLY TO PETITIONER'S REPLY TO
PATENT OWNER'S RESPONSE**

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PREVIOUSLY SUBMITTED EXHIBITS

Exhibit	Description
2001	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 14 (Defendant’s Rule 12(b)(6) Motion to Dismiss the Complaint for Failure to State a Claim Under 35 U.S.C. §101) (W.D. Tex. May 24, 2023)
2002	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 30 (Plaintiff’s Response to Defendant’s Rule 12(b)(6) Motion to Dismiss the Complaint for Failure to State a Claim Under 35 U.S.C. §101) (W.D. Tex. June 1, 2023)
2003	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 31 (Defendant’s Reply Brief In Support of Motion to Dismiss for Failure to State Claim Under 35 U.S.C. §101) (W.D. Tex. June 28, 2023).
2004	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 64 (Defendant’s Opposed Motion to Stay Pending Transfer) (W.D. Tex. November 28, 2023)
2005	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 37 (Defendant’s Opposed Motion to Transfer (redacted)) (W.D. Tex. July 26, 2023)
2006	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 66 (Carbyne’s Response to Motion to Stay Pending Transfer) (W.D. Tex. December 5, 2023)
2007	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 50 (Carbyne’s Response to Motion to Transfer Venue) (W.D. Tex. October 27, 2023)
2008	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 55 (Apple’s Reply In Support of Its Motion to Transfer Venue) (W.D. Tex. November 10, 2023)
2009	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 60 (Carbyne’s Surreply in Response to Motion to Transfer

	Venue) (W.D. Tex. November 16, 2023)
2010	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 42 (Apple’s Opening Claim Construction Brief) (W.D. Tex. October 4, 2023)
2011	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 49 (Carbyne’s Response to Apple’s Proposed Claim Construction) (W.D. Tex. October 25, 2023)
2012	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 54 (Apple’s Reply Claim Construction Brief) (W.D. Tex. November 8, 2023)
2013	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 62 (Carbyne’s Sur-Reply to Apple’s Claim Construction Brief) (W.D. Tex. November 22, 2023)
2014	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 69 (Minute Entry re Markman Hearing and Motion to Transfer Venue) (W.D. Tex. December 12, 2023)
2015	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 73 (Apple’s Motion to Stay Pending The Court’s Written Order on Transfer) (W.D. Tex. January 17, 2024)
2016	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 79 (Carbyne’s Response to Motion to Stay Pending Written Order on Transfer) (W.D. Tex. January 24, 2024)
2017	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Dkt 80 (Apple’s Reply in Support of Motion to Stay Pending Court’s Written Order on Transfer) (W.D. Tex. January 24, 2024)
2018	<i>In Re Apple</i> , Case No. 2024-111, Dkt 2 (Apple’s Petition for Writ of Mandamus) (Fed. Cir. February 1, 2024)
2019	<i>In Re Apple</i> , Case No. 2024-111, Dkt. 13 (Carbyne’s Response to Writ of Mandamus) (Fed. Cir. February 20, 2024)
2020	<i>In Re Apple Inc.</i> , Case No. 2024-111, Dkt 15 (Apple’s Reply In

	Support of Petition for Writ of Mandamus) (Fed. Cir. February 27, 2024)
2021	<i>In Re Apple Inc.</i> , Case No. 2024-111, Dkt 18 (Order Denying Writ of Mandamus) (Fed. Cir., March 18, 2024)
2022	United States Patent and Trademark Office Memorandum Dated June 21, 2022 re: Interim Procedure for Discretionary Denials in AIA post-grant proceedings with Parallel District Court Litigation
2023	<i>Cloud of change, LLC v. Lightspeed POS Inc.</i> , Case NO. 6:21-cv-0102 Order Denying Lightspeed POS Inc’s Opposed Motion to Stay Pending Resolution of <i>Inter Partes</i> Review (W.D. Tex. Dated May 15, 2023)
2024	<i>Sonrai Memory Limited v. LG Electronics, Inc.</i> 2022 WL 2307475 (W.D. Tex. June 27, 2022)
2025	<i>Carbyne Biometrics, LLC v. Apple Inc.</i> , Case No. 1:23-cv-00324, Apple’s Amended Preliminary Invalidity Contentions (W.D. Tex. October 6, 2023) (excerpts)
2026	U.S. Patent No. 11,514,138
2027	U.S. Patent No. 11,841,929
2028	U.S. Patent No. 11,475,105
2029	U.S. Patent No. 11,556,617
2030	U.S. Patent Application 2011/0138450 (“Kesanupalli ’450”)
2031	U.S. Patent No. 7,780,080 (“Owen”)
2032	<i>Intentionally Omitted</i>
2033	<i>Intentionally Omitted</i>
2034	<i>Intentionally Omitted</i>
2035	Email Correspondence From Counsel Of Petitioner To Counsel of Patent Owner re <i>Sotera</i> Stipulations and <i>Carbyne Biometrics, LLC</i>

	<i>v. Apple Inc.</i> , 1:23-cv-0032 (W.D. Tex.)
2036	Email Correspondence From Counsel Of Petitioner To The Board re <i>Sotera</i> Stipulations for IPRs IPR2024-00329, -00330, -00331, -00332, -00333, -00334 and-00507.

I. INTRODUCTION

Petitioner's Reply does not change the outcome of these proceedings.

First, under the guise of rebutting Patent Owner's showing that the second processor in the Kesanupalli-Challener-Cheng combination does not and cannot *perform* a secure backup *to* a storage service, Petitioner creates new constructions for the terms "perform" and "to" to argue that the second processor performs the backup up by handing off the backup process to the first processor. This contortion is not correct and Petitioner's instance on relying on certain embodiments in 512 Patent specification to enlarge the scope of the claim is legally wrong. Petitioner's new construction is also directly contradicted by the claims which use the distinct terms *facilitate* and *perform*. The claims require that the second processor be configured to "facilitate a login" and "perform a secure backup." In the former, the second processor need only facilitate or assist in the login. In the later, the second processor must perform or carry out the backup. Regardless, Petitioner's broadening claim construction argument is late since it was not raised in the Petition.

Second, despite Patent Owner's arguments to the contrary, in its Reply, Petitioner continues to assume that a POSITA would simply combine disparate elements from Kesanupalli, Challener, and Cheng without considering the underlying principles of each, including their specific architectural choices, design constraints, and operational goals. By overlooking these considerations, Petitioner's

proposed combination is textbook hindsight bias: Petitioner starts from the 512 claims and kludges references together, without concern for how they actually work, in an attempt to meet the claims.

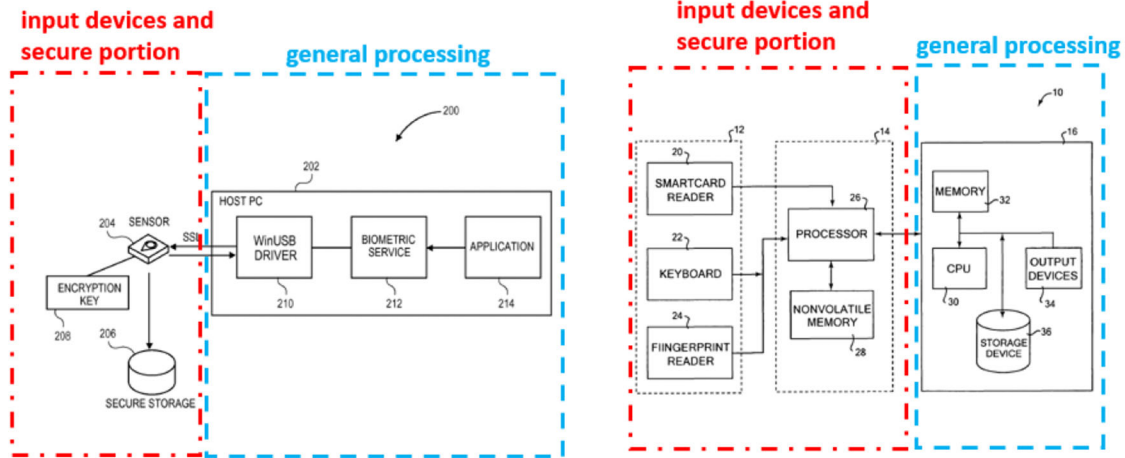
II. Argument

A. Petitioner’s Reply regurgitates its Petition—the prior art does not teach a second processor configured to perform a secure backup to a storage service.

The claims require that the “second processor is configured to” “perform a secure backup of the record to a storage service.” *See, e.g.*, Ex. 1011 (512 Patent) at Claim 1 (blue indicating what the first processor must be configured to do and the red indicating what the second processor must be configured to do).

I. A system, comprising: a first processor of a first device, wherein the first processor is configured to: based at least in part on a request associated with a user to access an external resource, establish a secure connection with the external resource; and communicate with a second processor using a restricted interface, wherein the second processor is configured to: receive a biometric input from a sensor, wherein the biometric input corresponds to at least one of a fingerprint, a feature usable for facial recognition, a voiceprint, a feature usable for a retina scan, or a typing feature; and access a record stored in a secure storage, wherein the record is associated at least with the external resource; retrieve, from the record, at least one of a password, a cookie, or a cryptographic key; perform a cryptographic operation; in response to determining that there is a match between the biometric input and a stored biometric template accessed by the second processor, facilitate a login of the user to the external resource at least in part by transmitting, via the established connection, output based at least in part on the at least one of the password, the cryptographic key, or the cookie retrieved from the record, and wherein the user is logged in to the external resource based at least in part on the output; and perform a secure backup of the record to a storage service, wherein a second device associated with the user is registered with the storage service, and wherein the record is downloaded from the storage service by the second device; and a memory coupled to the first processor and configured to provide the first processor with instructions.
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Petitioner’s architecture of the Kesanupalli-Challener system is reproduced below:



Kesanupalli, FIG. 2, Annotated

Challenger, FIG. 1, Annotated

Pet. 20. In this system, Petitioner has taken the Challenger TPM secure portion and incorporated it into the sensor of Kesanupalli. Pet. 20; Ex. 2037 (Goodrich Decl.) at ¶ 66. Petitioner points to the TPM/Sensor as the “second processor” that the claims explicitly require “*perform[s]* a secure backup of the record *to* a storage service.”

In its Response, Patent Owner highlighted that the TPM (second processor) would not be the processor *performing* the backup in the Kesanupalli-Challenger-Cheng system. *See* Response at 33; Ex. 2037 (Goodrich Decl.) at ¶66. Petitioner now argues that “PO’s suggestion that the second processor must be the sole actor involved in performing a secure backup to a storage service such as a cloud service is not what is described in the ’512 patent or what would be understood by a POSITA.” Reply at 17. Petitioner’s arguments: (1) attempt to broaden the claims via

embodiments in the specification; (2) conflate *performing* an action with *facilitating* an action; and (3) are late.

1. Petitioner’s improper reliance on unclaimed embodiments from the specification to broaden the claims and allow the first processor to perform the secure backup to the storage service is legally wrong.

Petitioner improperly argues that that embodiments in the specification disclose that the first processor can be an interim component that performs the backup. *See* Reply at 21-25. By making this argument, Petitioner admits that its prior art combination does not disclose a second processor that is configured to perform a secure backup to a storage service. Yet, even if the specification contains embodiments with such a disclosure, what controls is the language of the claims and not the specification. *MySpace, Inc. v. GraphOn Corp.*, 672 F.3d 1250, 1256 (Fed. Cir. 2012) (“To determine the latter—what exactly was claimed—the focus is on the *precise* words of the particular claim or claims at issue”) (emphasis added). “After all, the claims, not the specification, provide the measure of the patentee’s right to exclude.” *Johnson & Johnston Associates Inc. v. R.E. Service Co., Inc.*, 285 F.3d 1046, 1053 (Fed. Cir. 2002) (en banc).

Petitioner does not point to anything in the claims—because it cannot—permitting the first processor to be the processor that actually *performs* the secure backup to the storage service. Instead, Petitioner points to Figure 3 and its

accompanying specification discussion in support of its position. *See, e.g.*, Reply at 21 (“The ’512 patent discusses the first and second processor in the context of its FIG. 3, which is discussed beginning at column 3, line 66. . . . In terms of a backup process, the 512 patent describes that the sensitive data is within ‘an encrypted and authenticated container that can be stored on insecure storage, e.g., on the device, and also backed up (e.g., to a cloud storage service 140 or to an alternate form of external storage).’”). But reading these embodiments into the claim enlarges the scope of this claim and renders the word perform largely superfluous. *See Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405, 419 (1908) (“The invention, of course, must be described and the mode of putting it to practical use [disclosed], but the claims measure the invention. They may be explained and illustrated by the description. *They cannot be enlarged by it.*”) (emphasis added).

Petitioner fails to acknowledge that every embodiment in the ’512 Patent might not be claimed by these specific claims. Just because the backup method may include the first processor in some embodiments, does not mean that the present claims require the same. *MySpace*, 672 F.3d at 1256; *Johnson & Johnston*, 285 F.3d at 1053. A patent’s claims need not cover every embodiment disclosed in the specification. *Id.* For example, US Patent 11,475,105—which largely shares a specification with the 512 Patent—claims a processor configured to “initiate a backup.” *See* Ex. 2028 (105 Patent) at claim 1. The verb “initiate” may be broad

enough to include starting the backup and handing it off to a different processor—as Petitioner suggests—but that is not what is claimed in the 512 Patent by the word “perform,” which means to carry out a task.

Finally, Petitioner’s appeal to the deposition testimony of Dr. Goodrich is unavailing. Reply at 22-23. Dr. Goodrich did not state that the claims allow for the first processor to perform the backup as Petitioner suggests. *Id.* Rather, Petitioner asked Dr. Goodrich to explain various *embodiments* in the specification. *See* Ex. 1031 (Goodrich Dep. Trans.) at 35-36. Dr. Goodrich never said the embodiments were required by the claims. Rather, Dr. Goodrich was asked about certain embodiments where there is a communication flow between the *second processor* and the *first processor*. *See* Reply at 22 (showing a question about a specific embodiment of the patent). Accordingly, Petitioner’s arguments relying on embodiments in the specification to broaden what it means to “perform a secure backup” are wrong.

2. *Petitioner’s arguments conflate “facilitating” a secure backup to a storage service with “performing” a secure backup to a storage service.*

Beyond reading the embodiments into the claim, Petitioner’s understanding “perform a secure backup to a storage service” is contradicted by the claims themselves. By reading “perform” so broadly, the difference between perform and facilitate (used earlier in the claim) is nonexistent, which strays from typical claim

construction tenets that require different terms to have different meanings. *See Comaper Corp. v. Antec, Inc.*, 596 F.3d 1343, 1348 (Fed. Cir. 2010) (“There is an inference . . . that two different terms used in a patent have different meanings.”). As Petitioner states, facilitate means to help bring about or to make easier. Reply at 24-25. Yet, Petitioner’s understanding of perform conveys the exact same idea—namely, that the second processor need not complete the backup, it just needs to start it and help bring about the backup.

512 Patent	Petitioner’s Understanding of the 512 Patent
communicate with a second processor using a restricted interface, wherein the second processor is configured to: ... in response to determining that there is a match between the biometric input and a stored biometric template accessed by the second processor, facilitate a login of the user to the external resource at least in part by transmitting ... perform a secure backup of the record to a storage service . . .	communicate with a second processor using a restricted interface, wherein the second processor is configured to: ... in response to determining that there is a match between the biometric input and a stored biometric template accessed by the second processor, facilitate a login of the user to the external resource at least in part by transmitting ... facilitate a secure backup of the record to a storage service . . .

This cannot be the correct. Perform needs to convey a different meaning that facilitate. *See Comaper Corp.*, 596 F.3d at 1348.

3. In any event, Petitioner waived its claim construction arguments by not raising them in the Petition.

Under 37 C.F.R. § 42.104(b)(3), the Petition is required to include proposed constructions for any claim terms that may require interpretation. By failing to

provide a construction for the term “perform” or suggest its broad understanding in its Petition, Petitioner has waived any argument regarding its meaning. *See* 37 C.F.R. § 42.104(b)(3) (“In addition to the requirements of §§ 42.6, 42.8, 42.22, and 42.24, the petition must set forth: . . . How the challenged claim is to be construed”). It cannot raise the new claim construction argument in the reply. *Yita LLC v. MacNeil IP LLC*, 69 F. 4th 1356, 1365-66 (Fed. Cir. 2023) (“[A]n ‘IPR petitioner may not raise in reply an entirely new rationale’... not ‘raised in its petition’ or ‘responsive to arguments raised in the patent owner’s response brief.’”) (citations omitted). Petitioner did not request that “perform a secure backup to a storage service” be construed as anything other than its plain and ordinary meaning in its Petition, which is the meaning that Patent Owner has consistently applied in these proceedings. Now on the verge of the Final Written Decision, Petitioner urges this Board to enlarge the scope of the term to make up for the flaws in its prior art. This gamesmanship should not be allowed.

B. Petitioner’s hyperbolic arguments fail to demonstrate that a POSITA would have been motivated to combine Kesanupalli, Challenger, and Cheng.

“It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.” *In re Wesslau*, 353 F.2d 238

(CCPA 1965). Yet, this is exactly what Petitioner does to come to the conclusion that it would have been obvious to add Challener's TPM to the Kesanupalli system. Petitioner's "[e]vidence suggesting reasons to combine cannot be viewed in a vacuum apart from evidence suggesting reasons not to combine" such as the design goals of Kesanupalli. *See Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1363 (Fed. Cir. 2017); *See* Response at 14-29 (discussing design choices of Kesanupalli).

To put it simply, for a POSITA reviewing Kesanupalli's disclosure of its generic system designed to promote better password practices, the obvious solution wouldn't be about Challener's TPM solution. *See id.*; *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 424-25 (2007). Yet, Petitioner's Reply continues to ignore the entire teachings of Kesanupalli. Patent Owner's Response detailed why a POSITA would not have been motivated to combine Challener's TPM architecture with Kesanupalli's system. Response at 14-31. Namely, the TPM wouldn't provide any real benefit to Kesanupalli's system. Response at 29 (A TPM "would not have added any additional benefit to the user."); Ex. 2037 (Goodrich Decl.) at ¶60.

Petitioner is dead set on invalidating the claims and is combining the TPM in a vacuum devoid of any context—other than the claims of the '512 Patent themselves. Here, the only reason to add the TPM is to invalidate the claims. *See* Ex. 2037 (Goodrich Decl.) at ¶60 ("A POSITA – such as Ramesh Kesanupalli himself –

would clearly understand this and that such a combination would be adding a superfluous component to a system that already is fully functional for its purpose, like adding gold plating to a toothpick.”); *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1369 (Fed. Cir. 2012) (“hindsight provides the only discernable reason to combine the prior art references.”); *Otsuka Pharm. Co., v. Sandoz, Inc.*, 678 F.3d 1280, 1296 (Fed. Cir. 2012) (“The inventor’s own path itself never leads to a conclusion of obviousness; that is hindsight. What matters is the path that the person of ordinary skill in the art would have followed, as evidenced by the pertinent prior art.”).

And Patent Owner’s expert agrees that Kesanupalli and Challenger would not be combined. As Dr. Goodrich explained, just because a POSITA could add a TPM to Kesanupalli’s system, doesn’t mean they would have. *See* Ex. 2037 (Goodrich Decl) at ¶60 (comparing the Challenger-Kesanupalli combination to gold plating a toothpick); *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (“[O]bviousness concerns whether a skilled artisan not only could have made but would have been motivated to make the combinations or modifications of prior art to arrive at the claimed invention.”). Here, adding the TPM may increase the protection of the record locally, but Kesanupalli already had ways the protect the record and adding the TPM wouldn’t have accomplished anything. *See* Response at 11-13; *See* Ex. 2037 (Goodrich Decl.) at ¶57.

Finally, Petitioner believes that Patent Owner's analysis would "eviscerate the obviousness doctrine." Reply at 3. Not so. Patent Owner's rebuttal looked at what actual POSITA's, like the named inventors of the asserted references, actually did. Patent Owner's focuses on the entirety of the asserted prior art reference, not just the parts that Petitioner focuses on, and discusses why a POSITA plainly aware of TPM architectures, like Ramesh Kesanupalli, may not have included a TPM in the architecture of his system. Response at 29. There is nothing incorrect about Patent Owner highlighting the "suggesting reasons not to combine" to the prior art references. *See Arctic Cat Inc.*, 876 F.3d at 1363; *In re Wesslau*, 353 F.2d 238. In fact it is Petitioner, not Patent owner, who runs afoul of the obvious doctrine by not considering anything beyond the alleged invalidating disclosures in Kesanupalli. *See Arctic Cat Inc.*, 876 F.3d at 1363("[e]vidence suggesting reasons to combine cannot be viewed in a vacuum").

III. CONCLUSION

For any or all of the above-described reasons, Patent Owner respectfully requests that the Board find all claims of the '512 Patent valid.

Dated: February 27, 2025

Respectfully submitted,

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CERTIFICATION OF WORD COUNT

The undersigned hereby certifies that the portions of the above-captioned **PATENT OWNER'S SUR-REPLY RESPONSE** specified in 37 C.F.R. §42.24 have 2,321 words, in compliance with the 5,600 word limit set forth in 37 C.F.R. §42.24(c)(4). This word count was prepared using Microsoft Word 2010.

Dated: February 27, 2024

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CERTIFICATION OF SERVICE

The undersigned hereby certifies that a copy of this **PATENT OWNER’S SUR-
REPLY PURSUANT TO 37 C.F.R. § 42.23** has been served on Petitioner via
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