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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/011,521	03/01/2011	6,192,476	13557.105128	8619

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EXAMINER	
ART UNIT	PAPER NUMBER

DATE MAILED: 03/23/2011

Please find below and/or attached an Office communication concerning this application or proceeding.

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(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

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EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. *90/011,521*.

PATENT NO. *6,192,476*.

ART UNIT *3992*.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Order Granting / Denying Request For Ex Parte Reexamination	Control No.	Patent Under Reexamination	
	90/011,521	6,192,476	
	Examiner	Art Unit	
	MARY STEELMAN	3992	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

The request for *ex parte* reexamination filed *01 March 2011* has been considered and a determination has been made. An identification of the claims, the references relied upon, and the rationale supporting the determination are attached.

Attachments: a)☒ PTO-892, b)☒ PTO/SB/08, c)☐ Other: _____

1. ☒ The request for *ex parte* reexamination is GRANTED.

RESPONSE TIMES ARE SET AS FOLLOWS:

For Patent Owner's Statement (Optional): TWO MONTHS from the mailing date of this communication (37 CFR 1.530 (b)). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c).**

For Requester's Reply (optional): TWO MONTHS from the **date of service** of any timely filed Patent Owner's Statement (37 CFR 1.535). **NO EXTENSION OF THIS TIME PERIOD IS PERMITTED.** If Patent Owner does not file a timely statement under 37 CFR 1.530(b), then no reply by requester is permitted.

2. ☐ The request for *ex parte* reexamination is DENIED.

This decision is not appealable (35 U.S.C. 303(c)). Requester may seek review by petition to the Commissioner under 37 CFR 1.181 within ONE MONTH from the mailing date of this communication (37 CFR 1.515(c)). **EXTENSION OF TIME TO FILE SUCH A PETITION UNDER 37 CFR 1.181 ARE AVAILABLE ONLY BY PETITION TO SUSPEND OR WAIVE THE REGULATIONS UNDER 37 CFR 1.183.**

In due course, a refund under 37 CFR 1.26 (c) will be made to requester:

a) ☐ by Treasury check or,

b) ☐ by credit to Deposit Account No. _____, or

c) ☐ by credit to a credit card account, unless otherwise notified (35 U.S.C. 303(c)).

cc:Requester (if third party requester)

Response to Request for Ex Parte Reexamination

The Third Party Request (03/01/2011) for *ex parte* reexamination of claims 1-21 of USPN 6,192,476 B1 to Gong is acknowledged. A substantial new question of patentability affecting claims 1-21 of USPN 6,192,476 B1 to Gong (hereinafter "Gong" or '476) is raised by the Third Party's request for *ex parte* reexamination.

Information Disclosure Statement

The Information disclosure statement (PTO-SB-08) filed on 03/01/2011 has been considered.

Ongoing Duty to Disclose

The patent owner is reminded of the continuing responsibility under 37 CFR 1.565(a) to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving the patent under reexamination throughout the course of this reexamination proceeding. The third party requester is also reminded of the ability to similarly appraise the Office of any such activity or proceeding throughout the course of this reexamination proceeding.

Prosecution History

10/143574, filed 05/13/2002, now USPN 6,934,758 is a continuation of 09/537746, filed 03/30/2000, now USPN 6,389,540

09/537746 is a continuation of 09/044915, filed 03/20/1998, now USPN 6,138,238

09/044915 is a continuation in part of 08/988431, filed 12/11/1997, now USPN 6,192,476 (issue

date 02/20/2001)

09/044915 Claims Priority from Provisional Application 60/076,048, filed 02/26/1998

The original Examiner issued a non final office action (08/25/1999) objecting to claims 8-10 and 18-20, and rejecting claims 1, 3, 6-7, and 21-23 as anticipated by USPN 5,311,591 to Fischer. A Final Office action was issued in response to Applicant's Response (11/19/1999) maintaining the rejection. An agreement was reached (Interview Summary, 05/11/2000) noting that Fischer '591 failed to disclose "determining whether an action is authorized based on permissions associated with a plurality of routines in a calling hierarchy associated with a principal." The following correspondence, a Request for Reconsideration (05/18/2000) recited, "The limitation expressed as "permissions associated with a plurality of routines in a calling hierarchy," is not taught at least because the "request" made by the program, disclosed by Fischer, maps to the "request" of Applicant's claims, and therefore can not also map to another element of Applicant's claims. That is, the "request" of Fischer does not properly map to "a routine in a calling hierarchy" as argued in the final Office Action (final Office Action, page 4). Furthermore, since the claims actually recite "a plurality of routines" (emphasis provided), the single "request" of Fischer would not properly he mapped to the "plurality of routines" recited in the claims, in any case. Atsatt does not cure the deficiencies of Fischer, because Atsatt also does not teach or suggest permissions associated with a plurality of routines in a calling hierarchy." The application issued and USPN 6,192,476 B1 on 02/20/2001.

Prior Art References

USPN 5,412,717 to Fischer, entitled "Computer System Security Method And Apparatus Having Program Authorization Information Data Structures," file date 05/15/1992, issue date 05/02/1995 (hereinafter "Fischer" or '717), qualifies as a 102(b) reference. [USPN 5,412,717 to Fischer is an abandoned patent. USPN 5,311,591 to Fischer, a continuation of '717, was used in the original prosecution of the Gong '431 Patent Application.]

Elliott I. Organick, "The Multics System: An Examination of Its Structure", 1972 (hereinafter "Organick"), qualifies as a 102(b) reference.

USPN 5,958,050 to Griffin et al., entitled "Trusted Delegation System," file date 12/26/1996, issue date 09/28/1999 (hereinafter "Griffin" or '050), qualifies as prior art under 102(e).

Patrick Chan, "The Java Class Libraries An Annotated Reference", 09/1996 (hereinafter "Chan"), qualifies as prior art under 102(b).

Summary of Patent under Reexamination

The '476 patent claims a method, computer readable medium, and system embodiments of enhancing security by limiting access to a resource depending on permissions, wherein the permissions are dynamic and change depending on the permission levels of the requesting code ('476, 2:59-62). Instructions from a code stream create principals (thread objects/processes, '476, 3: 1-2). Execution of a principal results in requests to access certain actions/functions or certain resources, where successful access depends on the permission levels associated with the underlying code associated with the function ('476, Abstract; 7:11-15; 8:55-58). As a

"principal" (execution thread/process) requests an action, a determination is made as to whether such action execution is authorized based on permissions associated with each routine (method/function) in a calling hierarchy (call stack) invoked by or on behalf of the associated thread. The calling hierarchy indicates the routines (e.g. functions, methods) that have been invoked by or on behalf of a principal (e.g. thread, process) but have not been exited ('476, 3: 1-10). "The sequence of calls that resulted in execution of the currently executing code of a thread is reflected in the call stack of the thread ('476, 10:58-60)." A security policy maps a particular code identifier and a particular authorized permission ('476, 9: 21-25). According to an embodiment of the present invention, protection domains, sets of permissions granted to one or more principals, are used to enforce security within computer systems ('476, 8: 57-58).

Significant New Question of Patentability

The request indicates that Requester considers the following substantial new questions of patentability (SNQs) to be raised by the prior art cited in the Request:

SNQ 1. A substantial new question of patentability as to claims 1-21 is raised by reference USPN 5,412,717 to Fischer. Requester has proposed that claims 1-21 are anticipated by USPN 5,412,717 to Fischer. USPN 5,311,591 to Fischer was cited during the prosecution of the '431 patent application (USPN 6,912,476). Fischer's teachings ('717) (now abandoned), are presented in a new light using rational not recognized or considered in the previous examination.

The Examiner of record, in the statement for allowance noted (Interview Summary) that the Fischer '591 reference "does not teach or suggest determining whether an action is authorized based on permissions associated with a plurality of routines in a calling hierarchy associated with a principal." As taken from the Request, p. 17, in a discussion regarding Gong '476, "This limitation is described in further detail in the specification: "A calling hierarchy indicates the routines (e.g. functions, methods) that have been invoked by or on behalf of a principal (e.g. thread, process) but have not been exited." *See* '476 patent at 3:7-10. In other words, when a calling hierarchy is present on the call stack of a principal, the access rights of the principal depend on the source of the code on the call stack; because the source of the code on the call stack will vary, as certain code is implemented and then exited, the access rights of the principal will vary as well. *See* '476 patent, Abstract." Requester also notes features not considered by the original examiner of the '431 Patent Application: that Fischer '717 incorporates by reference USPN 4,868,877 and USPN 5,005,200 ('717, 6: 37), where the Abstract of '200 discloses an "enhanced digital signature certification" which employs a "hierarchy of nested certifications and signatures" (action authorizations based on permissions associated with a plurality of routines).

Fischer discloses in one embodiment an "originating program" that "calls a program" (a request). Each time a program call is made, Fischer' invention checks the Program Authorization Information, PAI, for authorization (determining whether said action is authorized); the PAI of Fischer incorporates by reference two other patents, *see id.* at 6:37, with the same inventor--U.S. Patent Nos. 4,868,877 and 5,005,200--which disclose an "enhanced digital signature certification" which employs "[a] hierarchy of nested certifications and

signatures," see U.S. Patent No. 5,005,200, Abstract. This hierarchy of nested certifications and signatures is linked to the associated hierarchy of programs that carries the certifications and signatures in question (permissions associated with a plurality of routines in a calling hierarchy). The PCB of the called program is not added to the top of the execution stack (calling hierarchy/call stack) until it is determined that the program is permitted to be invoked ('717, 15: 63-67). Associated with this hierarchy, "each new PCB will include a field such as 150 that points to the 'previous' or calling program control block" ('717, 10: 26-28). The Fischer's Program Control Block (PCB) is analogous to the calling hierarchy or call stack, as disclosed by Gong '476.

It is agreed that the consideration of Fischer '717, alone, raises a substantial new question of patentability as to claims 1-21 of Gong '476. See Request 03/01/2011, pages 16-18 and Exhibit 10 claim chart. There is a substantial likelihood that a reasonable examiner would consider these teachings important in deciding whether or not the claims are patentable.

SNQ 2. A substantial new question of patentability as to claims 1, 3, 4, 6, 10, 12, 13, 15, and 19-21 is raised by the Organick reference. Organick was not previously cited in the examination of Application Control No. 08/988,431 which issued as USPN 6,192,476 B1 to Gong.

Organick discloses a sophisticated security control system, called The Multics system which employs a "ring structure" to achieve the controlled sharing of information. *See* Organick at p. xvi. The Multics system used access controls along with the ring structure to allow for

multi-level permission: "access control and ring brackets . . . are fundamental to the system of protection and to the controlled sharing of data and procedures in Multics." *See* Organick at p. 133. The Multics system will first implement its security system upon the detection of a request: "[R]ing compartmentalization is carried out with some hardware aid. Multics exploits special GE 645 fault-detection hardware to detect and trap a process whenever it attempts to make a cross-ring reference, in order to invoke the intervention of supervisory software." *See* Organick at p. 133. Once the request is detected, therefore, the Multics system will implement its supervisory software. This software will allow some actions and disallow certain other actions. Specifically: a procedure that is assigned the category of ring r is privileged during its execution to call (or to reference) any procedure (or data) segment in ring r or in any ring peripheral to, that is "outside of," ring r. Conversely, a procedure of ring r is prevented from referencing data segments in a more "privileged," that is, "inner" ring and is permitted call access to more privileged procedures only through specially controlled entry points called "gates." *See* Organick at p. 130. Organick clearly discloses a set of permissions that are based on a multitude or plurality of routines, i.e., procedures that are assigned to rings, in a calling hierarchy. The rings of Organick correspond directly to the "protection domains and permissions" of the '476 patent. For example: "The segments of any one process are associated with a set of generally *two, but possibly more,* concentric rings." *See id.* (emphasis added). In fact, Organick discloses "up to 64 rings," wherein the rings are associated with fault-inducing bit patterns that may allow or deny access depending on the function or access level sought, i.e., permissions. *See id.* at p. 153. Organick discloses "fault-detection hardware to detect and trap a process whenever it attempts to make a cross-ring reference," (detecting a request). Organick then discloses referencing the ring level permission

of the procedure (determining whether an action is authorized); wherein the supervisory software of Organick references "two, but possibly more, concentric rings" (permissions...) associated with the variable number of related "segments of any one process," (... associated with a plurality of routines in a calling hierarchy).

It is agreed that the Organick reference raises a substantial new question of patentability as to claims **1, 3, 4, 6, 10, 12, 13, 15, and 19-21 of USPN 6,192,476 B1 to Gong**. There is a substantial likelihood that a reasonable examiner would consider these teachings important in deciding whether or not the claims are patentable.

SNQ 3. A substantial new question of patentability as to claims 1-21 is raised by the combination of Griffin and Chan. Neither Griffin nor Chan was previously cited in the examination of Application Control No. 08/988,431 which issued as USPN 6,192,476 B1 to Gong.

Griffin discloses a security management program, or trust management system, "for management of trust relationships among code segments to be executed inside a trust boundary." *See* Griffin at 1:22-25. Trust in program code can be varied for a user given the user's particular circumstances and the source of the program code. *See id.* at 3:26-29. Griffin discloses ('050, 4: 29-37) that portions of code being examined and executed are class defined in an object oriented programming environment, although the invention is not limited to object oriented programs. A "code identifier" analyzes the code and determines "whether execution of the portion of code is allowed by the policy rules given the potential resource use." *See id.,* at Abstract. The code analyzer of Griffin employs a set of permissions-- what it calls certificates or policies--which are

granted to one or more principals; these "[c]ertificates and policies can be specified in hierarchical form, so that some levels of security can be delegated to trusted entities." *See id.*

Griffin discloses that "[i]f it is determined that clearance to trust is required to grant a particular access, a path of trust (in a calling hierarchy associated with said principal) must be found before the access will be granted by the trust manager," (detecting a request); Griffin then employs a "trust manager" that "examines each new class before it is allowed to load," (determining whether the action is authorized).

Chan, a text book of describing Java Class Libraries, provides explicit teachings of the Security Manager (analogous to Griffin's trust manager) class. A security manager may be defined with permission checks of the current execution context (principal/thread/process), information that the system has about the currently executing thread (including the thread group to which it belongs, the identity of the user executing the Java program, and the machine on which the Java program is executing) (1188-1189). "For some methods to perform some of the permission checking, they may need to inspect the execution stack (calling hierarchy) to find out information about the current execution context." (1189)

The combination would have been obvious because Griffin teaches that a path of trust must be found before the access will be granted by the trust manager, and then employs a trust manager to examine each new class before it is allowed to load. Chan provides a supporting definition of the Security Manager, known to examine the calling hierarchy of the stack to analyze the permission authorizations. It would have been obvious to one of ordinary skill in the

art at the time of the invention to modify Griffin's disclosed trust manager, with the specific details provided by Chan to determine whether permissions should be granted.

It is agreed that the combination of Griffin and Chan raises a substantial new question of patentability as to claims 1-21 of USPN 6,192,476 B1 to Gong. There is a substantial likelihood that a reasonable examiner would consider these teachings important in deciding whether or not the claims are patentable.

Decision Granting the Order

A substantial new question of patentability affecting claims 1-21 of USPN 6,192,476 B1 to Gong is raised by the request for reexamination. In view of the above, the request for reexamination is **GRANTED**. Claims 1-21 of USPN 6,192,476 B1 to Gong will be reexamined.

Extensions of Time

Extensions of time under 37 CFR 1.136 (a) will not be permitted in these proceedings because the provisions of 37 CFR 1.136 apply only to an applicant and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 305 requires that ex parte reexamination proceedings "will be concluded with special dispatch" (37 CFR 1.555(a)). Extensions of time in ex parte reexamination proceedings are provided for in 37 CFR 1.550(c).

Patent Owner Amendment

Patent owner is notified that any proposed amendment to the specification and/or claims in this reexamination proceeding must comply with 37 CFR 1.530(d)-(j), must be formally

presented pursuant to 37 CFR 1.52(a) and (b), and must contain any fees required by 37 CFR 1.20(c).

In a reexamination proceeding, Patent Owner may waive the right under 37 C.F.R. 1.530 to file a Patent Owner Statement. The document needs to contain a statement that Patent Owner waives the right under 37 C.F.R. 1.530 to file a Patent Owner Statement and proof of service in the manner provided by 37 C.F.R. 1.248, if the request for reexamination was made by a third party requester, see 37 C.F.R 1.550(f). The Patent Owner may consider using the following statement in a document waiving the right to file a Patent Owner Statement:

Patent Owner waives the right under 37 C.F.R. 1.530 to file a Patent Owner Statement.

Conclusion

Any paper filed with the USPTO, i.e., any submission made, by either the Patent Owner or the Third Party Requester must be served on every other party in the reexamination proceeding, including any other third party requester that is part of the proceeding due to merger of the reexamination proceedings. As proof of service, the party submitting the paper to the Office must attach a Certificate of Service to the paper, which sets forth the name and address of the party served and the method of service. Papers filed without the required Certificate of Service may be denied consideration. 37 CFR 1.903; MPEP 2666.06.

After the filing of a request for reexamination by a 3rd party requester, any document filed by either the patent owner or the third party requester must be served on the other party (or parties where two or more third party requester proceedings are merged) in the reexamination proceeding in the manner provided in 37 CFR 1.248. See 37 CFR 1.550 (f).

All correspondence relating to this *ex parte* reexamination proceeding should be directed:

By Mail to: Mail Stop *Ex Parte* Reexam
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United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand: Customer Service Window
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401 Dulany Street
Alexandria, VA 22314

Registered users of EFS-Web may alternatively submit such correspondence via the electronic filing system EFS-Web, at https://sportal.uspto.gov/authenticate/authenticateuserlocalepf.html. EFS-Web offers the benefit of quick submission to the particular area of the Office that needs to act on the correspondence. Also, EFS-Web submissions are "soft scanned" (i.e., electronically uploaded) directly into the official file for the reexamination proceeding, which offers parties the opportunity to review the content of their submissions after the "soft scanning" process is complete. Any inquiry concerning this communication should be directed to Mary Steelman at telephone number 571-272-3704.

/Mary Steelman/

Mary Steelman, Primary Examiner

Central Reexamination Unit 3992

Conferees:

EDK

ADK