Docket No. 13557.105128
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reexamination of:

Gong   Control No.: Not yet Assigned

Patent No.: 6,192,476   Examiner: Not Yet Assigned

Issue Date: Feb. 20, 2001   Art Unit: Not Yet Assigned

For: CONTROLLING ACCESS TO A RESOURCE

REQUEST FOR *EX PARTE* REEXAMINATION UNDER 37 C.F.R. § 1.510

Mail Stop Ex Parte Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

King & Spalding, LLP (hereinafter, "Requester") submits, under the provisions of 37 C.F.R. § 1.510 *et seq.*, a Request for Reexamination (hereinafter, "Request") of claims 1-21 of U.S. Patent No. 6,192,476 (hereinafter "the '476 patent") entitled "Controlling Access to a Resource," issued to Gong on Feb. 20, 2001. A copy of the '476 patent is provided as Exhibit 1 to the Request.

In support of its request, Requester provides the following:

- The $2520.00 fee for requesting *ex parte* reexamination set forth in 37 C.F.R. § 1.20(c)(1) (37 C.F.R. § 1.510(a));

- A statement pointing out each substantial new question of patentability based on prior patents and printed publications (37 C.F.R. § 1.510(b)(1));

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- An identification of every claim for which reexamination is requested, and a detailed explanation of the pertinency and manner of applying the cited prior art to every claim for which reexamination is requested (37 C.F.R. § 1.510(b)(2));

- A copy of every patent or printed publication relied upon or referred to in paragraphs (b)(1) and (b)(2) of 37 C.F.R. § 1.510, accompanied by an English language translation of all the necessary and pertinent parts of any non-English language patent or printed publication (37 C.F.R. § 1.510(b)(3));

- A copy of the entire patent including the front face, drawings, and specification/claims (in double column format) for which reexamination is requested, and a copy of any disclaimer, certificate of correction, or reexamination certificate issued in the patent. All copies must have each page plainly written on only one side of a sheet of paper ((37 C.F.R. § 1.510(b)(4)) (Exhibit 1); and

- A certification that a copy of the request has been served in its entirety on the patent owner at the address as provided for in 37 C.F.R. § 1.33(c). The name and address of the party served must be indicated. If service was not possible, a duplicate copy must be supplied to the Office ((37 C.F.R. § 1.510(b)(5)).

Pursuant to 35 U.S.C. § 303, the prior art references discussed in this Request raise "substantial new questions of patentability" with respect to claims 1-21 of the '476 patent.

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I.   INTRODUCTION

Requester seeks reexamination of claims 1-21 of the '476 patent (Exhibit 1) under 35 U.S.C. §§ 302-307 and 37 C.F.R. § 1.510 *et seq.* The application for the '476 patent was filed on April 7, 1998. The '476 patent is assigned to Sun Microsystems, Inc.

The claims of the '476 patent relate to a method and system for limiting access to a particular resource based on a permission level associated with a source code. *See* '476 patent, Abstract. The Examiner allowed the claims because they disclosed "permissions associated with a plurality of routines in a calling hierarchy." *See* Interview Summary (May 11, 2000) (attached as Exhibit 2). In particular, the Examiner allowed the application to issue over the prior art Fischer reference because he perceived Fischer to disclose a permission associated with only a singular routine. But Fischer discloses, in fact, "an originating program [that] calls a program (having a PCB 170) which will, in turn [] call the program 140," i.e., a plurality of routines in a calling hierarchy. Similarly, the Organick reference discloses security permissions associated with rings, such that "[t]he segments of any one process are associated with a set of generally two, but possibly more, concentric rings," i.e., a plurality of routines in a calling hierarchy. Furthermore, the Griffin reference discloses that "[c]ertificates and policies can be specified in hierarchical form, so that some levels of security can be delegated to trusted entities," wherein these permissions can be applied to a calling hierarchy, as illustrated by the Chan disclosure ("if main() calls foo(), which in turn calls bar()"). Each of these references is described in further detail below.

The Requester has identified at least four (4) prior art patents and printed publications that, alone or in combination, either anticipate or render obvious claims 1-21 of the '476 patent. The prior art patents and printed publications were either not cited to or not considered by the Examiner during prosecution of the '476 patent or they pose a significant new question of

patentability in light of the prosecution history of the '476 patent, and they are not cumulative to information cited to or considered by the Examiner during prosecution of the '476 patent. These prior art patents and printed publications anticipate or render obvious each element of the '476 patent, including the purportedly novel utilization of a "plurality of routines in a calling hierarchy" that was the basis for the '476 patent's allowability.

Accordingly, at least in view of these listed prior art references and the substantial new questions of patentability that they raise, the Requester respectfully requests the issuance of an order for reexamination, and further requests that claims 1-21 be canceled. The Requester respectfully requests that this Request be afforded special dispatch in accordance with 35 U.S.C. § 305 and 37 C.F.R. § 1.550.

The Requester further respectfully requests that the Director provide an order of action dates to accompany the decision ordering reexamination of the '476 patent.

II. STATEMENT UNDER 37 C.F.R. § 1.510 (B)(1) POINTING OUT SUBSTANTIAL NEW QUESTIONS OF PATENTABILITY

The prior art references discussed herein raise substantial new questions of the patentability of claims 1-21 of the '476 patent. Section II.A provides an overview of the '476 patent. Section II.B summarizes certain aspects of the law regarding reexamination. Section II.C summarizes the evidentiary standards applicable to reexamination. Section II.D provides a list of all prior art patents and printed publications relied upon in this Request. Section II.E provides a list of other supporting documents discussed in this Request. Section II.F provides a summary of pending litigation involving the '476 patent. Section II.G provides an identification of the substantial new questions of patentability raised in this Request. Section II.H provides an overview of the substantial new questions of patentability raised in this Request.

A. Overview of the '476 Patent

The '476 patent broadly claims a method and system for 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. *See* '476 patent at 2:59-62. The method of the '476 patent receives instructions from a code stream and uses those instructions to create objects. These objects then seek to execute certain functions or access certain resources. Whether the object succeeds in executing the function or accessing the resource depends on the permission levels associated with the underlying code received in the aforementioned code stream. *See id.* at 7:11-15; *see also id.* at 8:55-58 ("According to an embodiment of the present invention, protection domains are used to enforce security within computer systems. A protection domain can be viewed as a set of permissions granted to one or more principals."). Claims 1, 5, 6, 10, 14, 15, and 19 are independent claims.

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Claim 1 recites:

> A method for providing security, the method comprising the steps of:
> detecting when a request for an action is made by a principal; and
> in response to detecting the request, determining whether said action is authorized based on permissions associated with a plurality of routines in a calling hierarchy associated with said principal, wherein said permissions are associated with said plurality of routines based on a first association between protection domains and permissions.

Claim 5 recites:

> A method for providing security, the method comprising the steps of:
> detecting when a request for an action is made by a principal,
> determining whether said action is authorized based on an association between permissions and a plurality of routines in a calling hierarchy associated with said principal;
> wherein each routine of said plurality of routines is associated with a class; and
> wherein said association between permissions and said plurality of routines is based on a second association between classes and protection domains.

Claim 6 recites:

> A method for providing security, the method comprising the steps of:
> detecting when a request for an action is made by a principal; and
> in response to detecting the request, determining whether said action is authorized based on permissions associated with a plurality of routines in a calling hierarchy associated with said principal, wherein a first routine in said calling hierarchy is privileged; and
> wherein the step of determining whether said action is authorized further includes determining whether a permission required to perform said action is encompassed by at least one permission associated with each routine in said calling hierarchy between and including said first routine and a second routine in said calling hierarchy, wherein said second routine is invoked after said first routine, wherein said second routine is a routine for performing said requested action.

Claim 10 recites:

> A computer-readable medium carrying one or more sequences of one or more instructions, the one or more sequences of the one or more instructions including instructions which, when executed by one or more processors, causes the one or more processors to perform the steps of:
> detecting when a request for an action is made by a principal; and
> in response to detecting the request, determining whether said action is authorized based on permissions associated with a plurality of routines in a calling

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hierarchy associated with said principal, wherein said permissions are associated with said plurality of routines based on a first association between protection domains and permissions.

Claim 14 recites:

> A computer-readable medium bearing instructions for providing security, the instructions including instructions for performing the steps of:
> detecting when a request for an action is made by a principal;
> determining whether said action is authorized based on an association between permissions and a plurality of routines in a calling hierarchy associated with said principal;
> wherein each routine of said plurality of routines is associated with a class; and
> wherein said association between permissions and said plurality of routines is based on a second association between classes and protection domains.

Claim 15 recites:

> A computer-readable medium carrying one or more sequences of one or more instructions, the one or more sequences of the one or more instructions including instructions which, when executed by one or more processors, causes the one or more processors to perform the steps of:
> detecting when a request for an action is made by a principal; and
> in response to detecting the request, determining whether said action is authorized based on permissions associated with a plurality of routines in a calling hierarchy associated with said principal, wherein a first routine in said calling hierarchy is privileged; and
> wherein the step of determining whether said action is authorized further includes determining whether a permission required to perform said action is encompassed by at least one permission associated with each routine in said calling hierarchy between and including said first routine and a second routine in said calling hierarchy, wherein said second routine is invoked after said first routine, wherein said second routine is a routine for performing said requested action.

And Claim 19 recites:

> A computer system comprising:
> a processor;
> a memory coupled to said processor;
> said processor being configured to detect when a request for an action is made by a principal; and
> said processor being configured to respond to detecting the request by determining whether said action is authorized based on permissions associated with a plurality of routines in a calling hierarchy associated with said principal,

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wherein said permissions are associated with said plurality of routines based on a first association between protection domains and permissions.

The '476 patent issued from U.S. Patent Application Serial No. 08/988,431. The '476 patent does not claim priority to any previous documents. The '476 patent received three Office Actions. In the first Office Action the Examiner rejected claims 1, 3, 6-7, and 21-23 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,412,717 to Fischer ("Fischer"). The Examiner also rejected claims 2, 11-13, and 16-17 under 35 U.S.C. § 103(a) as being obvious in view of Fischer, and rejected claims 4-5 and 14-15 as being obvious over Fischer in view of U.S. Patent No. 5,758,153 to Atsatt et al. ("Atsatt"). The Examiner noted that Fischer disclosed a system and method with steps and means for detecting when a principal makes a request for an action. The Examiner described Fischer's disclosure as detecting when a program requests to perform a function or access a resource, and determining whether the action is authorized based on an association between permissions and a plurality of routines in a calling hierarchy associated with the principal and using program authorization information. *See* Office Action (Aug. 25, 1999) at p. 3-4 (attached as Exhibit 3).

In response, the Applicant focused heavily on the limitation of "permissions associated with a *plurality* of routines in a calling hierarchy." *See* Amendment and Response (Nov. 19, 1999) at p. 12 (emphasis added) (attached as Exhibit 4). The Applicant argued, essentially, that Fischer disclosed permissions associated with just one routine, as opposed to the plurality of routines of claim 1. *See id.* More specifically, the Applicant argued that claim 1's method of limiting access to resources based on permissions was not anticipated by the program authorization information ("PAI") of Fischer because "the permissions embodied in the PAI of *one and only one* program (the requesting program) are taken into account when determining whether an act can be performed." *See id* (emphasis added). In other words, the Applicant

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argued that the claims of the '476 patent are novel because the permissions are associated with a plurality of routines, as opposed to the purportedly singular disclosure of Fischer. This singular vs. plural distinction played the central role in the prosecution of the application that matured into the '476 patent. *See* Interview Summary ("It was agreed that the reference above 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.'") (emphasis added); Request for Reconsideration (May 18, 2000) at p. 2 (attached as Exhibit 5) ("[S]ince the claims actually recite 'a *plurality* of routines' (emphasis added), the single 'request' of Fischer would not properly be mapped to the 'plurality of routines' recited in the claims, in any case." Thus, it is clear that the grant of the '476 patent hinged on the novelty of permissions associated with a *plurality* of routines.

B.   Aspects of the law governing reexamination

1.   Citation of prior art

Any person at any time may file a request for reexamination by the Office of any claim of any patent on the basis of any prior art cited under the provisions of section 301." 35 U.S.C. § 302. Section 301 limits prior art to "patents or printed publications." 35 U.S.C. § 301.

MPEP 2128 classifies a reference as a printed publication if it is accessible to the public:

> A reference is proven to be a 'printed publication' 'upon a satisfactory showing that such *document* has been disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it.'

In re Wyer, 655 F.2d 221, 210 USPQ 790 (C.C.P.A. 1981) (quoting *I.C.E. Corp. v. Armco Steel Corp.,* 250 F. Supp. 738, 743, 148 USPQ 537, 540 (S.D.N.Y. 1966)).

2. "Old" prior art can raise a significant new question of patentability

The fact that a prior art reference was cited or even previously considered by an examiner does not preclude use of that reference to find a substantial new question of patentability. *See* 35 U.S.C. § 303(a); MPEP Section 2258.01; *see also In re Swanson*, 540 F.3d 1368, 1380-81 (Fed. Cir. 2008) (holding that consideration of a prior art reference in previous litigation and in an original examination does not preclude a finding of a SNQ based on the same prior art reference in reexamination).

A combination of such "old art" and art newly cited during the reexamination proceeding may raise a SNQ. *See* MPEP Section 2258.01. The Patent Office may even find a SNQ based exclusively on previously cited references.

> For example, a SNQ may be based solely on old art where the old art is being presented/viewed in a new light, or in a different way, as compared with its use in the earlier concluded examination(s), in view of a material new argument or interpretation presented in the request.

See id.

3. Obviousness standard under *KSR*

The Supreme Court recently relaxed the Federal Circuit's requirement of a "teaching/suggestion/motivation test," and instead held that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex Inc. et al.*, 550 U.S. 398, 416 (2007). The Court noted that "[w]hen a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation" of an existing system, then "§103(a) likely bars its patentability." *Id*. at 417. *KSR* also held that "if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would

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improve similar devices in the same way, using the technique is obvious" if within his or her skill. *See id.*

On October 10, 2007, after the prosecution of the '476 patent had come to a close, the U.S. Patent and Trademark Office ("USPTO") released Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103(a) in View of the Supreme Court Decision in *KSR Int'l Co. v. Teleflex Inc.*, 72 Fed. Reg. 195 at 57526 (the "PTO Guidelines"). The PTO Guidelines adopt the rationales from the *KSR* decision for determining obviousness. One of the rationales is "'Obvious to Try' – Choosing from a Finite Number of Identified, Predictable Solutions, With a Reasonable Expectation of Success." To reject a claim on this basis, the PTO Guidelines note that pertinent factors to consider are whether "there had been a finite number of identified, predictable potential solutions to the recognized need or problem," and "one of ordinary skill in the art could have pursued the known potential solutions with a reasonable expectation of success." *Id.* at 57532. The PTO Guidelines have been incorporated into the MPEP's examination guidelines for determining obviousness under 35 U.S.C. § 103. *See* MPEP 2141.

Additionally, the Federal Circuit has applied the *KSR* obviousness standard to combine multiple embodiments disclosed in a single prior art reference. *Boston Sci. Scimed, Inc. v. Cordis Corp.*, No. 2008-1073, 2009 U.S. App. LEXIS 588, at *24 (Fed. Cir. Jan. 15, 2009) (holding that a person of ordinary skill would have been motivated to combine one embodiment found in a patent reference with a second, separate embodiment found in the same patent reference).

4.   Prior art references need not be enabling in an obviousness inquiry

Moreover, prior art references need not be enabling in the context of an obviousness inquiry. As stated in the MPEP:

> "Even if a reference discloses an inoperative device, it is prior art for all that it teaches." *Beckman Instruments v. LKB Produkter AB*, 892 F.2d 1547, 1551, 13 USPQ2d 1301, 1304 (Fed. Cir. 1989). Therefore, "a non-enabling reference may qualify as prior art for the purpose of determining obviousness under 35 U.S.C. 103." *Symbol Techs. Inc. v. Opticon Inc.*, 935 F.2d 1569, 1578, 19 USPQ2d 1241, 1247 (Fed. Cir. 1991).

MPEP 2121.01; *see also* MPEP 2145; *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1357 (Fed. Cir. 2003) (holding that under 35 U.S.C. § 103, "a reference need not be enabled; it qualifies as prior art, regardless, for whatever is disclosed therein.") (citations to other cases omitted).

5.   Claims of the patent are to be broadly construed

In a reexamination proceeding, claims are to be given their broadest construction consistent with the specification. *See In re Icon Health & Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007) ("During reexamination, as with original examination, the PTO must give claims their broadest reasonable construction consistent with the specification.").

C.   Evidentiary standards

If the prior art patents and printed publications raise a substantial question of patentability of at least one claim of the patent, then a substantial new question of patentability is present. *See* MPEP 2242. A prior art patent or printed publication raises a substantial question of patentability where there is a substantial likelihood that a reasonable examiner would consider the prior art patent or printed publication important in deciding whether or not the claim is patentable. *Id.*

D.   Prior art patents and printed publications relied upon in this Request

In accordance with 37 C.F.R. § 1.510, reexamination of claims 1-21 of the '476 patent is requested in view of the prior art patents and printed publications listed below, which raise substantial new questions of patentability. This Request will demonstrate how claims 1-21 of the '476 patent are anticipated or rendered obvious in view of the following prior art references:

1. U.S. Patent No. 5,412,717 to Fischer, entitled "Computer System Security Method And Apparatus Having Program Authorization Information Data Structures," issued on May 2, 1995 (hereinafter "Fischer"), provided as Exhibit 6.

2. Elliott I. Organick. *The Multics System: An Examination of Its Structure*, Publication Date: 1972 (hereinafter "Organick"), provided as Exhibit 7.

3. U.S. Patent No. 5,958,050 to Griffin et al., entitled "Trusted Delegation System," filed on Dec. 26, 1996, issued on Sep. 28, 1999 (hereinafter "Griffin"), provided as Exhibit 8.

4. Patrick Chan. *The Java Class Libraries An Annotated Reference*, Addison-Wesley (Sept. 1996) (hereinafter "Chan"), provided as Exhibit 9.

E.   Supporting documents discussed in this Request

The following documents are provided to assist the Examiner in understanding the Request, including claim charts and references providing background information:

1. Claim Chart based on Fischer, provided as Exhibit 10.

2. Claim Chart based on Organick, provided as Exhibit 11.

3. Claim Chart based on Griffin and Chan, provided as Exhibit 12.

F.   Current Litigation

The Requester is aware of at least one current litigation matter involving the '476 patent. On August 12, 2010, Oracle America, Inc. filed a complaint in the U.S. District Court for the Northern District of California alleging that Google, Inc. infringed the '476 patent. The case is styled *Oracle America, Inc. v. Google, Inc.*, Civil Action No.: 3:10-cv-03561 WHA. A Joint Case Management Statement for the case, dated November 18, 2010, provides for a claim

construction hearing in the case to take place on April 20, 2011. Non-expert discovery will end

on July 29, 2011. The deadline for filing dispositive motions is September 8, 2011.

G. Identification of Substantial New Questions of Patentability

In this Request, substantial new questions of patentability for claims 1-21 of the '476

patent are identified in accordance with 37 CFR § 1.510(b)(1) as follows:

1. Anticipation under 35 U.S.C. § 102(b) based on the Fischer reference.

    a. Claims 1-21 are unpatentable under 35 U.S.C. § 102(b) as being anticipated by Fischer.

2. Anticipation under 35 U.S.C. § 102(b) based on the Organick reference.

    a. Claims 1, 3, 4, 6, 10, 12, 13, 15, and 19-21 are unpatentable under 35 U.S.C. § 102(b) as being anticipated by Organick.

3. Obviousness under 35 U.S.C. § 103(a) based on the Griffin and Chan references.

    a. Claims 1-21 are unpatentable under 35 U.S.C. § 103(a) as being obvious over Griffin in view of Chan.

H. Overview of Substantial New Questions of Patentability

As discussed above, the '476 patent broadly claims a method and system for 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. *See* '476 patent

at 2:59-62. Each and every claim in the '476 patent contains a limitation, either explicitly or by

way of dependency, wherein the permission for a given requested action is determined by

assessing the authorizations based on permissions associated with a ***plurality*** of routines. *See*

'476 patent claims 1, 5, 6, 10, 14, 15, and 19. This limitation was critical to allowance of the

application. As discussed above, during the prosecution of the application leading to the '476

patent, the applicant argued extensively that the claims of the '476 patent are novel because they

recite permissions associated with a ***plurality*** of routines, as opposed to the purportedly singular

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disclosure of, e.g., Fischer. *See* Interview Summary ("It was agreed that the reference above 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.'"). But this limitation was clearly anticipated by Fischer, and is apparent in other prior art including the Organick and Griffin references, as explained in more detail below and in the attached claim charts.

Fischer

Fischer "is directed to providing reliable security, even when operating with complex data structures, e.g., objects, containing their own program instructions, which are transmitted among users." *See* Fischer at 2:6-9. Since the Fischer reference was issued as a United States Patent on May 2, 1995, it is prior art to the '476 patent under 35 U.S.C. § 102(b), given a priority date for the '476 patent of Dec. 11, 1997. The Fischer reference was in front of the Patent Office during the prosecution of the application that matured into the '476 patent but its disclosure presents a substantial new question of patentability in light of the rationale for allowance of the '476 patent, including especially the Examiner's statement that the Fischer 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." *See* Interview Summary.

Fischer limits access by certain objects or programs by referencing certain "program authorization information" ("PAI") "associated with each program to be executed to thereby delineate the types of resources and functions that the program is allowed to utilize." *See* Fischer at 2:24-30. Thus, Fischer inherently detects when a request for an action is made by a principal, consistent with the Examiner's findings in the first Office Action. *See* Office Action at p. 3-4.

The Examiner's key finding which led to the allowance of claim 1, which is representative of the other independent claims of the '476 patent, was that the Fischer reference did not disclose permissions "associated with a plurality of routines in a calling hierarchy." 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.

But the Examiner's conclusion is inconsistent with the Fischer disclosure. Fischer discloses "an originating program" that "calls a program" having a program control block, or PCB. *See* Fischer at 10:24-26. Each program called has an associated program control block. The program control block "is the data structure utilized by the system monitor to control the execution of an associated program." *See id.* at 10:11-14. Fischer clearly discloses a hierarchy of programs: "an originating program . . . calls a program (having a PCB 170) which will, in turn [] call the program 140." *See* Fischer at 10:23-25. Associated with this hierarchy, "each new PCB will include a field such as 150 that points to the 'previous' or calling program control block." *See id.* at 10:26-28. Thus the hierarchy of programs has an associated hierarchy of program control blocks, each associated with varying program authorization information. Once the "called program finishes executing, the system removes its associated PCB from the top of the executed stack, removes the associated program from storage, removes the associated authorizing information and accesses the program control block immediately below it in the

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stack." *See id.* at 10:31-36. Even more specifically, the Fischer reference 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 inherently linked to the associated hierarchy of programs that carries the certifications and signatures in question. The Examiner made no mention of these patents, even though they are incorporated by reference in the Fischer reference.

In other words, Fischer discloses in one embodiment an "originating program" that "calls a program" (a request); when, and each time, a program call is made, Fischer checks the PAI for authorization (determining whether said action is authorized); the PAI of Fischer may include a "hierarchy of nested certifications and signatures" (permissions associated with a plurality of routines in a calling hierarchy). Thus the Fischer reference inherently discloses permissions "associated with a plurality of routines in a calling hierarchy."

A reasonable examiner would have considered the teachings of the Fischer reference to be important in determining whether or not the claims of the '476 patent were patentable. As detailed in the claim chart in Exhibit 10, the Fischer reference anticipates claims 1-21 of the '476 patent. And, as described above, the Fischer reference directly discloses the exact limitation that the Examiner cited as the novel element which led to the granting of the '476 patent. For this reason, the Fischer reference raises a substantial new question of patentability with respect to claims 1-21 of the '476 patent.

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Organick

The Organick reference discloses a sophisticated software system, dubbed the "Multics" system, with internal security control components. Since the Organick reference was first published in 1972, it is prior art to the '476 patent under 35 U.S.C. § 102(b), given a priority date for the '476 patent of Dec. 11, 1997. The Organick reference was in not front of the Patent Office during the prosecution of the application that matured into the '476 patent, nor is it cumulative of the prior art considered by the Patent Office. The sophisticated security control system disclosed in the Organick reference poses a substantial new question of patentability in light of the Examiner's stated grounds for patentability.

The Organick reference discloses a sophisticated computer system with built-in security controls. More specifically, Organick discloses a 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.

In other words, 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).

A reasonable examiner would have considered the teachings of Organick to be important in determining whether or not the claims of the '476 patent were patentable. As detailed in the claim chart in Exhibit 11, Organick anticipates claims 1, 3, 4, 6, 10, 12, 13, 15, and 19-21 of the '476 patent. For this reason, the Organick reference raises a substantial new question of patentability with respect to claims 1, 3, 4, 6, 10, 12, 13, 15, and 19-21 of the '476 patent.

Griffin and Chan

The Griffin reference discloses a method for the "management of trust relationships among code segments to be executed inside a trust boundary." *See* Griffin at 1:22–25. Since the Griffin reference issued as a United States Patent on Sept. 28, 1999, based on an application for patent filed on Dec. 26, 1996, it is prior art to the '476 patent under 35 U.S.C. § 102(e), given a priority date for the '476 patent of Dec. 11, 1997. The Chan reference was published in September of 1996. It is prior art to the '476 patent under 35 U.S.C. § 102(b). Neither the Griffin reference nor the Chan reference was in front of the Patent Office during the prosecution of the application that matured into the '476 patent, nor is either reference cumulative of the art considered by the Patent Office during the prosecution of the application that matured into the '476 patent. The combination of Griffin in view of Chan poses a substantial new question of patentability, as described below and in the attached claim chart.

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 1:23-25. More specifically, the system disclosed by Griffin is directed to "an improved trust management system . . . where 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 the receipt of code from a source that may be outside of a user's "trust boundary." *See* Griffin, Fig. 3. A "code identifier" then 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

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can be delegated to trusted entities." *See id.* These certificates and policies, specifically disclosed here in hierarchical form, correspond directly to the protection domains and permissions of the '476 patent.

Similarly, Chan discloses that "[a] security manager enforces security policies related to what a program is allowed to do." *See* Chan at p. 1188. Chan deploys its security management system by, in part, referencing the source of the code currently being executed on the stack. For example, Chan discloses certain "Execution Stack Information," whereby "[t]he *execution stack* is a record of the method calls that were made from the main program to the current method." *See* Chan at p. 1189. This execution stack "indicates all the methods that are in progress and pending termination of the current method call." *See id.* More specifically, consider an exemplary embodiment disclosed by Chan:

> "For example, if main() calls foo(), which in turn calls bar(), the execution stack when executing inside bar() would be bar() -> foo() -> main(). For some methods to perform some of the permission checking, they may need to inspect the execution stack to find out information about the current execution context. The SecurityManager class provides protected methods that can be used by subclasses of the SecurityManager for this purpose."

See Chan at p. 1189. Thus it is clear that Chan, in response to detecting a request from a method currently on the execution stack, will determine whether the requested action is authorized based on the permissions associated with the cascading hierarchy of calls.

In other words, Griffin discloses that "[i]f it is determined that clearance to trust is required to grant a particular access, a path of trust 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). Griffin also discloses that "[c]ertificates and policies can be specified in hierarchical form, so that some levels of security can be delegated to trusted entities," *see id.* at

Abstract, and Chan in turn discloses the application of a similar security program to an "execution stack," with explicit reference to a calling hierarchy by way of the following disclosure: "if main() calls foo(), which in turn calls bar()," (permissions associated with a plurality of routines in a calling hierarchy).

A reasonable examiner would have considered the teachings of Griffin in view of Chan to be important in determining whether or not the claims of the '476 patent were patentable. As detailed in the claim chart in Exhibit 12, Griffin in view of Chan renders obvious claims 1-21 of the '476 patent. For this reason, Griffin in view of Chan raises a substantial new question of patentability with respect to claims 1-21 of the '476 patent.

III.   DETAILED EXPLANATION UNDER 37 C.F.R. § 1.510(B)(2) OF THE PERTINENCY AND MANNER OF APPLYING THE CITED PRIOR ART TO EVERY CLAIM FOR WHICH REEXAMINATION IS REQUESTED

The detailed explanation herein under 37 C.F.R. § 1.510(b)(2) references detailed claim charts. The detailed explanation set forth in the claim charts describes the pertinence and manner of applying the prior art references to the claims of the '476 patent.

A.   Rejections of Claims

1.   Claims 1-21 are unpatentable under 35 U.S.C. § 102(b) as being anticipated by Fischer.

Fischer issued as a United States Patent on May 2, 1995. The Fischer reference is prior art to the '476 patent under 35 U.S.C. § 102(b). The Fischer reference was in front of the Patent Office during the prosecution of the application that matured into the '476 patent but it poses a substantial new question of patentability, as outlined above and as described in detail in the attached claim chart. As set forth in detail in the claim chart attached as Exhibit 10, the Fischer reference discloses each of the elements of claims 1-21.

2. **Claims 1, 3, 4, 6, 10, 12, 13, 15 and 19-21 are unpatentable under 35 U.S.C. § 102(b) as being anticipated by Organick.**

The Organick reference was first published in 1972. It is prior art to the '476 patent under 35 U.S.C. § 102(b). The Organick reference was not in front of the Patent Office during the prosecution of the application that matured into the '476 patent, nor is it cumulative to the art considered by the Patent Office during the prosecution of the application that matured into the '476 patent. As set forth in detail in the claim chart attached as Exhibit 11, the Organick reference, either alone or in combination with the other cited references, discloses or renders obvious each of the elements of claims 1, 3, 4, 6, 10, 12, 13, 15 and 19-21 of the '476 patent.

3. **Claims 1-21 are unpatentable under 35 U.S.C. § 103(a) as rendered obvious by Griffin in view of Chan.**

Griffin issued as a United States Patent on Sept. 28, 1999, based on an application for patent filed on Dec. 26, 1996. It is prior art to the '476 patent under 35 U.S.C. § 102(e). The Chan reference was published in September of 1996. It is prior art to the '476 patent under 35 U.S.C. § 102(b). Neither the Griffin reference nor the Chan reference was in front of the Patent Office during the prosecution of the application that matured into the '476 patent, nor is either reference cumulative of the art considered by the Patent Office during the prosecution of the application that matured into the '476 patent. As set forth in detail in the claim chart attached as Exhibit 12, the Griffin reference, either alone or in combination with the Chan reference, renders obvious each of the elements of claims 1-21 of the '476 patent.

IV. CONCLUSION

For the reasons provided herein, Requester respectfully submits that the prior art submitted herewith raises substantial new questions of patentability as to claims 1-21 of the '476 patent because, as discussed above, claims 1-21 of the '476 patent are either anticipated or rendered obvious in view of the prior art patents and printed publications discussed herein.

Accordingly, reexamination of claims 1-21 of the '476 patent is respectfully requested, finally rejecting these claims.

The undersigned further notes the standards set forth at 37 C.F.R. 1.550(f) wherein the reexamination Requester will be sent copies of Office actions issued during the reexamination proceedings as well as served (by the patent owner) with any document filed in the reexamination proceeding in accordance with 37 C.F.R. 1.248. (*See* MPEP §§ 2264 and 2266.)

If the Patent Office determines that a fee and/or other relief is required, Requester petitions for any required relief including authorizing the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 11-0980** referencing Docket No. 13557.105128.

As identified in the attached Certificate of Service and in accordance with 37 C.F.R. §§ 1.33(c) and 1.510(b)(5), a copy of the present request is being served to the address of the attorney or agent of record.

March 1, 2011   Respectfully submitted,

                                                  By / Robert T. Neufeld /

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