

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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Trend Micro Inc.,  
Petitioner

v.

Kajeet, Inc.,  
Patent Owner

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U.S. Patent No. 7,899,438

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**DECLARATION OF VIJAY K. MADISETTI  
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF  
U.S. PATENT NO. 7,899,438**

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## DECLARATION OF VIJAY K. MADISETTI

I, VIJAY K. MADISETTI, declare the following:

### **I. Introduction**

1. I am currently a Full Professor of Electrical & Computer Engineering at Georgia Tech. I have been retained by Petitioner Trend Micro Inc. (“Petitioner” or “Trend Micro”) to provide my expert opinions regarding the technology at issue in U.S. Patent No. 7,899,438 (the “’438 patent”), assigned to Kajeet, Inc. (“Kajeet”). I have been asked to compare the ’438 patent claims to prior art patents and publications. I submit this declaration in support of Petitioner’s petition for *Inter Partes* review of the ’438 patent. I am informed that Petitioner seeks review of claims 1-3, 6, 10, 27, and 33 of the ’438 patent in that petition (the “Challenged Claims”). I set forth my opinions from the perspective of a person of ordinary skill in the pertinent field.

2. Since I was retained, I was in frequent contact with counsel while working on this matter to communicate my opinions. My opinions are presented both in this declaration and in the petition for *Inter Partes* review, which it supports. In many, if not most cases, the language used to express my opinions in both documents is substantially the same. This is because I worked with counsel to capture my opinions and generally speaking, we captured them in the petition itself as opposed to developing both the petition and declaration in tandem. My



opinions, as reflected in the petition we prepared, were then incorporated into my declaration. I make this statement to explain the work process and underscore that the opinions in this declaration are my own, were formed by me, and were documented with the assistance of counsel in the manner described. As detailed herein, it is my opinion that the Challenged Claims are invalid based on prior art references that predate the earliest priority date of the '438 patent. If requested, I am prepared to testify about my opinions expressed herein.

## **II. Qualifications**

3. I am over the age of 18 and am competent to write this declaration. I have personal knowledge, or have developed knowledge, of these technologies based upon education, training, or experience of the matters set forth herein.

4. My qualifications are stated more fully in my *curriculum vitae* (CV), a copy of which is provided as Exhibit 1004.

### **A. General Work Experience**

5. I am a Full Professor of Electrical & Computer Engineering and have 38 years of experience in the fields of wireless communications, digital signal & video processing, computer networks, distributed computing, cellular networks, networking protocols, computer engineering, embedded systems, digital signal processing, RF & baseband ASIC design, digital TV, software engineering, cloud computing, and image & video processing. Since 1989, I have worked as a

professor of Electrical & Computer Engineering at Georgia Tech. From 1984 to 1989, prior to my current position, I was a post graduate researcher at UC Berkeley.

6. From 1995 to the present, I have been Director at VP Technologies, Inc., a startup company commercialized through Georgia Tech's Advanced Technology Development Corporation (ATDC). Our focus at VP Technologies is on digital IC development and interconnect/memory for military market.

7. From 2001 to 2007, I was Director at Soft Networks, LLC, another startup company commercialized through Georgia Tech support. My daily routines while at Soft Networks related to software development tools and compilers for Cellular/Wi-Fi/VOIP/telecommunication products.

8. From 2007 to 2008, I was Director at Elastic Video Inc., a startup company commercialized at Georgia Tech's VentureLab. While at Elastic Video I was involved in the development of image and video processing software for wireless and IP networking.

9. From 2010 to 2012, I provided consulting to Ericsson on 3G Standards particularly related to HSDPA and Mobile Applications.

## **B. Education**

10. I earned a Bachelor of Technology (Hons) in Electronics & Electrical Comm. Engineering from Indian Institute of Technology (IIT) in 1984, and a Ph.D in Electrical Engineering & Computer Sciences (EECS) from the University of California (UC) in 1989.

## **C. Professional Societies and Committee Memberships**

11. I am an Institute of Electrical and Electronics Engineers (“IEEE”) Fellow and, in 2006, I was awarded the 2006 Frederick Emmons Terman Medal by the American Society of Engineering Education (“ASEE”) and HP Corporation for my contributions to electrical engineering.

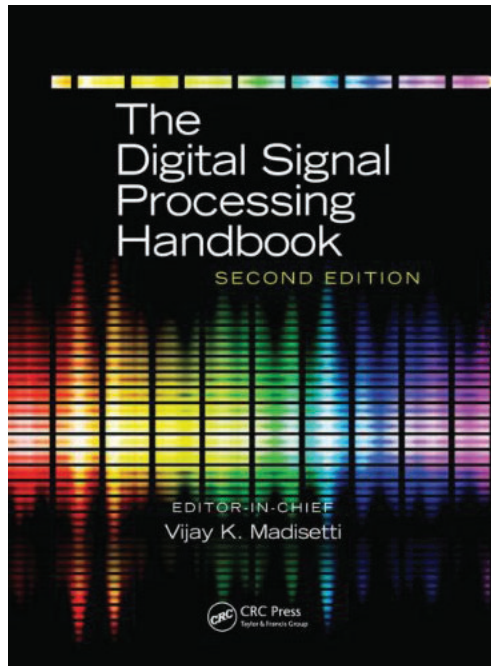
## **D. Publications**

12. I have authored, co-authored, or edited several books in the area of computer systems and distributed systems in the past twenty years, including:

- V. Madisetti, VLSI Digital Signal Processors, IEEE Press (1995).
- M. Romdhane, V. Madisetti, J. Hines, Quick-Turnaround ASIC Design in VHDL, Springer Verlag (1996).
- V. Madisetti, D. Williams (Editors), The Digital Signal Processing Handbook (First Edition) (1998).

- V. Madisetti (Co-Editor), VHDL: A CD-ROM Interactive Tutorial: Electronics Systems Design Methodologies, IEEE Standards Press, (1997).
- V. Madisetti, A. Arpnikanondt, Platform-Centric Approach to System-on-Chip (SoC) Design (2001).
- V. Madisetti, The Digital Signal Processing Handbook – Second Edition (2009/2010).
- A. Bahga, V. Madisetti, Cloud Computing: A Hands-On Approach (2013).
- A. Bahga, V. Madisetti, Internet of Things: A Hands-On Approach (2014).

13. I have been involved in research and technology in the area of digital signal processing since the late 1980s, and I am the Editor-in-Chief of the IEEE Press/CRC Press's 3-volume Digital Signal Processing Handbook (Editions 1 & 2) (1998, 2010).



14. In addition to editing books and papers, I also have editorship credit of Journals and Transactions including:

- **IEEE Design & Test of Computers**  
Special Issue: Reengineering Digital Systems  
April - June 1999 (Vol. 16, No. 2)  
*Madisetti, V.K (Editor)*  
Los Alamitos: CA, IEEE Computer Society Press, 1999.
- **IEEE Design & Test of Computers**  
Special Issue: Rapid Prototyping of Digital Systems  
Fall 1996 (Vol. 13, No. 3)  
*Madisetti, V., Richards, M. (Editors)*  
Los Alamitos: CA, IEEE Computer Society Press, 1994, 425 pp.
- **IEEE Transactions on Circuits & Systems II**  
*Associate Editor: 1993-1995.*
- **International Journal in Computer Simulation**  
*Associate Editor: 1990-1993.*

- **International Journal in VLSI Signal Processing**  
*Editorial Board: 1995 to Present.*

15. I have been published in 54 Refereed Journal Publications, which are all listed in my *curriculum vitae* (CV), a copy of which is provided as Exhibit 1004. Also listed in my CV are 38 peer reviewed conference publications, which I co-authored.

#### **E. Awards and Honors**

16. Throughout my career, I have received numerous awards and honors including (1) Jagadis Bose National Science Talent Fellowship, Indian Institute of Technology, Kharagpur, 1980-1984, (2) General Proficiency Prize, Indian Institute of Technology, Kharagpur, 1984, (3) Demetri Angelakos Outstanding Graduate Student Award, Univ. of California, Berkeley, 1989, (4) Ira Kay IEEE/ACM Best Paper Award for Best Paper presented at IEEE Annual Simulation Symposium, 1989, (5) IBM Faculty Development Award 1990, (6) Technical Program Chair, IEEE Workshop on Parallel and Distributed Simulation. 1990, (7) Technical Program Chair, IEEE MASCOTS'94, (8) NSF RI Award, 1990, (9) VHDL International Best PhD Dissertation Advisor Award, 1997, (10) Georgia Tech Outstanding Doctoral Dissertation Advisor Award, 2001, (11) ASEE 2006 Frederick Emmons Terman Medal, 2006, and (12) Fellow of IEEE.

### III. Scope of work

17. I have been asked to consider and provide my opinions on the validity of the Challenged Claims of the '438 patent, including the technical subject matter and the application of various references that predate the priority date of the patent. In particular, I have been asked to consider what one of ordinary skill in the art would have understood from the Challenged Claims and specifications of the '438 patent, whether certain references disclose or suggest the features recited in the Challenged Claims of the '438 patent, and whether one of ordinary skill in the art would have had reason to combine certain references to arrive at the claimed subject matter.

18. I am being compensated for my time spent on this matter at my usual and customary hourly rate of \$600. My compensation is in no way contingent on the nature of my findings, the presentation of my findings in testimony, or the outcome of any proceeding.

19. In forming my opinions, I have reviewed the following documents:

Ex. No.	Brief Description
1001	U.S. Patent No. 7,899,438
1002	File History of U.S. Patent No. 7,899,438
1004	Curriculum vitae of Vijay K. Madisetti
1006	A. Choudhary, <i>Policy-Based Network Management</i> , BELL LABS TECH. J., No. 9(1), 19-29 (2004)
1007	U.S. Patent No. 6,578,076 ("Putzolu")
1008	U.S. Patent Application Pub. No. 2005/0021978 ("Bhat")

#### **IV. Basis for Opinion**

20. My opinions set forth below are based on my education, training, experience, and the content of the references considered. My understanding of the relevant law, as discussed below, is based on my discussions with counsel for Trend Micro.

##### **A. Level of Ordinary Skill in the Art**

21. My opinions are provided based on what a person of ordinary skill in the art (“POSITA” or “ordinary artisan”) in the technical field of the invention would have understood at the time of the purported invention of the ’438 patent. I have been asked to initially assume the date of the purported invention for the ’438 patent is June 28, 2007 (“’438 effective filing date”).

22. I have been informed and understand that the content of a patent and prior art should be interpreted the way a person of ordinary skill in the art would have interpreted those references at the time of the invention of the patent. I understand that the person of ordinary skill is a hypothetical concept referring to one who thinks along the lines of conventional wisdom at the time.

23. I was asked to provide an opinion as to the level of one of ordinary skill in the art pertinent to the subject matter set forth in the ’438 patent at the time of the effective filing date. In 2007, it is my opinion that a person of ordinary skill in the art in the field of the ’438 patent would have been someone with knowledge



and/or training of a person holding the degree of Bachelor of Science in Computer Science or similar degree, and at least two years of prior experience with computer software systems.

24. Individuals with additional education or additional industrial experience could still be of ordinary skill in the art if that additional experience compensates for a deficit in one of the other aspects of the requirements stated above.

25. The basis for my familiarity with the level of ordinary skill is my 38 years of general experience in the field, though the testimony I offer is from the perspective of a person of ordinary skill as I have defined it above. For example, in my role as an instructor and in private practice in hiring and supervising software engineers of various levels both in companies and for my research, I am familiar with the actual level of skill of software engineers of various levels of experience. As discussed below, reconfiguring device software to offload functionality to a remote server was relatively well-known at the time of the invention and, although potentially time-consuming, would not have required the software engineering skills of a more experienced programmer. In reaching this opinion as to the hypothetical person of ordinary skill in the art, I have considered the types of problems encountered in the art, the prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the

technology, and the educational level and professional capabilities of workers in the field.

**B. Anticipation**

26. I understand and have been informed that in order for an inventor to be entitled to a patent, the invention must be “new.” There are a number of ways that an invention can be “anticipated,” that is, not new.

27. A patent claim is anticipated if each and every limitation of the patent claim is found either expressly or inherently in a single item of prior art. While a prior art reference need not use the same words as a patent claim to anticipate the claim, the prior art reference must describe the requirements of the claim with sufficient clarity such that an ordinary artisan would have been able to make and use the claimed invention based on the reference and his or her knowledge in the applicable technical field.

28. The disclosure of a feature of a claimed invention can be either “express,” meaning that the text, figures, or other content of a reference actually teaches the aspects of the patent claim, or the disclosure can be “inherent.” An express disclosure does not need to use the same words as the patent claim being considered, and does not need to be depicted in exactly the same way, but the disclosure must actually convey the claimed invention to an ordinary artisan using some combination of words, figures, data, or other portions of the patent. I have

been informed and understand that in order to establish that an element of a claim is “inherent” in the disclosure in a prior art reference, it must be clear to a person skilled in the art that the missing element is an inevitable part of what is explicitly described in the reference, and that it would have been recognized as necessarily present by a person skilled in the art. Inherency cannot be established by probabilities or possibilities, and the mere fact that something may result from a given set of circumstances is not enough to establish inherency.

29. Finally, I further understand that to anticipate a claim, the elements of the claim must be found in the prior art reference “arranged as in the claim.” I have been informed that this means that the elements of the prior art reference may not be recombined in a way that is not taught in the prior art to arrive at the invention; instead, the prior art must teach the claimed subject matter in the arrangement required by the claims.

### **C. Obviousness**

30. I have been informed and understand that subject matter claimed in a patent is obvious under 35 U.S.C. § 103 if a person of ordinary skill in the art at the time the alleged invention was made would have had reason to combine or modify the disclosures of one or more prior art references to arrive at the claimed subject matter. A claim may be unpatentable even if each and every claim limitation is not present or disclosed in a single prior-art item.

31. I have been informed and understand that, under the doctrine of obviousness, a claim is unpatentable if the differences between the invention and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to an ordinary artisan to which the subject matter pertains. An ordinary artisan is presumed to have knowledge of the relevant prior art at the time of the claimed invention.

32. I have been informed and understand that obviousness is based on the scope and content of the prior art, the differences between the prior art and the claim, the level of ordinary skill in the art, and secondary indicia of obviousness and nonobviousness to the extent such indicia exist. I have been advised that the following evidence, when present, must be considered before forming a conclusion that a claimed invention is obvious: (1) the invention's commercial success, (2) long-felt but unresolved needs, (3) the failure of others, (4) skepticism by experts, (5) praise by others, (6) teaching away by others, (7) recognition of a problem, and (8) copying of the invention by competitors. In this instance, however, I am not aware of any evidence of any of these factors. I will of course consider any evidence on these issues which is presented to me.

33. I have been informed and understand the determination of whether the Challenged Claims would have been obvious to a person of ordinary skill in the art and, therefore, invalid, is not governed by any rigid test or formula. A

determination that a claim is obvious is, instead, based on a common-sense determination that the claimed invention is merely a combination of known limitations to achieve predictable results. Any of the following rationales are acceptable justifications to conclude that a claim would have been obvious: (1) the claimed invention is simply a combination of known prior art methods to yield predictable results; (2) the claimed invention is a simple substitution of one known element for another to obtain predictable results; (3) the claimed invention uses known techniques to improve similar devices (or methods or products) in the same way; (4) the claimed invention applies a known technique to a known device (method or product) ready for improvement to yield predictable results; (5) the claimed invention was “obvious to try”—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; (6) there is known work in one field of endeavor that may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; or (7) there is some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill in the art to modify the prior art reference to combine prior art teachings to arrive at the claimed inventions.

34. I have been informed and understand that a claim may be obvious in light of a single reference, without the need to combine references, and that any

elements of the claim that are not found in the reference (if any) can be supplied by the common sense or knowledge of one of ordinary skill in the art or taught in different areas of the single reference.

35. I have been informed and understand that an analysis of whether a claimed invention is obvious must not rely on a hindsight combination of prior art. The analysis must proceed in the context of the time of the invention or claimed priority date and consider whether the invention as a whole would have been obvious to a person of ordinary skill in the art, taking into consideration any interrelated teachings of the prior art, the effects of demands known to the design community or present in the marketplace, and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine any known elements in the fashion claimed by the patent at issue.

**D. Analogous Art Legal Principles**

36. As I understand from counsel, there are two separate tests to determine whether a prior art reference constitutes analogous art that may be considered in determining whether a patent claim is invalid: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference is still reasonably pertinent to the particular problem with which the inventor is

involved. I further understand from counsel that the field of endeavor of the patent is not limited to the specific point of novelty, the narrowest possible conception of the field, or the particular focus within a given field. Rather, the field of endeavor inquiry must examine explanations of the invention's subject matter in the patent, including the embodiments, and structures of the invention.

## **V. Overview of the '438 Patent**

37. U.S. Patent No. 7,899,438, entitled "Feature Management of Communication Device," to Matthew Donald Baker *et al.*, issued on March 1, 2011.

### **A. Specification**

38. The '438 patent relates to a policy-based device management system. (Ex. 1001 at 1:12-27). The '438 patent purportedly allows a policy enforcement point to enforce "a decision by the service manager 20 and policy decision point 29 to accept or reject the service request." (*Id.* at 8:25-27).

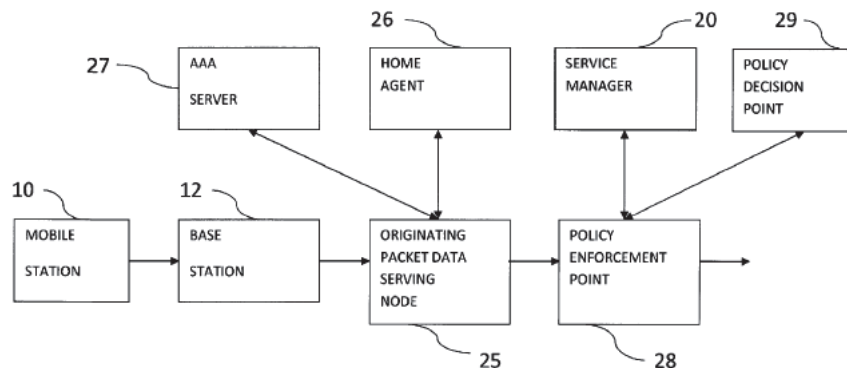


FIG. 2

(*Id.* at Fig. 2).

39. In particular, the '438 patent describes the PEP 28 as “a logical element that can be physically housed in another packet data serving node or a gateway device, depending on the service request.” (*Id.* at 8:20-22). “The PEP 28 is responsible for enforcing a decision by the service manager 20 and policy decision point 29 to accept or reject the service request.” (*Id.* at 8:25-27).

40. The policy decision point 29 is “a logical element that can be physically housed in the service manager 20 or in another server accessible to either the service manager 20 or the PEP 28.” (*Id.* at 8:33-35). The policy decision point 29 “maintains or stores a list of policies that have been established to control the features and functions of the mobile station 10 and decides, based on those policies, to either accept or reject the service request.” (*Id.* at 8:35-39).



41. The PEP 28 sends the request to the policy decision point 29. (*Id.* at 8:25-27; *see also id.* at 15:64-66, 17:41-43). The policy decision point 29 decides “to either accept or reject the service request” based on the policies stored at the policy decision point. (*Id.* at 8:35-39). The PEP 28 receives a decision from the policy decision point 29 granting or denying the request. (*Id.* at 8:25-33, 15:64-66). The PEP 28 enforces the decision made by the policy decision point 29, which based the decision on the policies stored at the policy decision point 29. (*Id.* at 8:25-29, 15:56-66).

42. The below charts summarize the elements of the Challenged Claims. Claims 1 and 27 share similar elements and are therefore presented side-by-side.

#### **B. Prosecution of the '438 Patent**

43. I have reviewed the select prosecution history items from the file wrapper of the '438 patent, which I understand has been attached as Exhibit 1002. I understand that on March 27, 2008, the Applicant submitted a Preliminary Amendment that amended the original claims. (*See* Ex. 1002). Specifically, I understand that the Applicant amended pending claim 1’s recitation of “the device” to read “the communication device.” (*Id.* at 3). I further understand original claim 1 was amended to recite the additional limitation where “the list of policies including a policy for managing content that can be sent, received, or used by the

communication device.” (*Id.*). I also understand the Applicant added new claims 2-24.

44. Based on my review of the file history items, I understand the Examiner did not offer any substantive rejection. Rather, I understand that the Examiner issued a Non-Final Rejection and rejected the pending claims for non-statutory obviousness-type double patenting. (Ex. 1002 at 24). In response, I understand the Applicant filed terminal disclaimers. (*Id.* at 27). The Examiner subsequently allowed the claims but did not provide any reasons for allowance. (*Id.* at 32-35).

### **C. Effective Filing Date and Date of Invention**

45. I have been informed by Trend Micro’s counsel that I should assume the earliest possible effective filing date for the ’438 patent is June 28, 2007. I have also been informed by Trend Micro’s counsel that I should assume the invention date for this patent is the same as the earliest effective filing date. Thus, I am not offering an opinion on whether the patent is entitled to that date of invention.

## **VI. Technology Background**

### **A. The State of the Art by June 2007**

46. At least as of June 2007, policy-based device management systems have been known and used in the art. (*See, e.g.*, Ex. 1006; Ex. 1007; Ex. 1008).

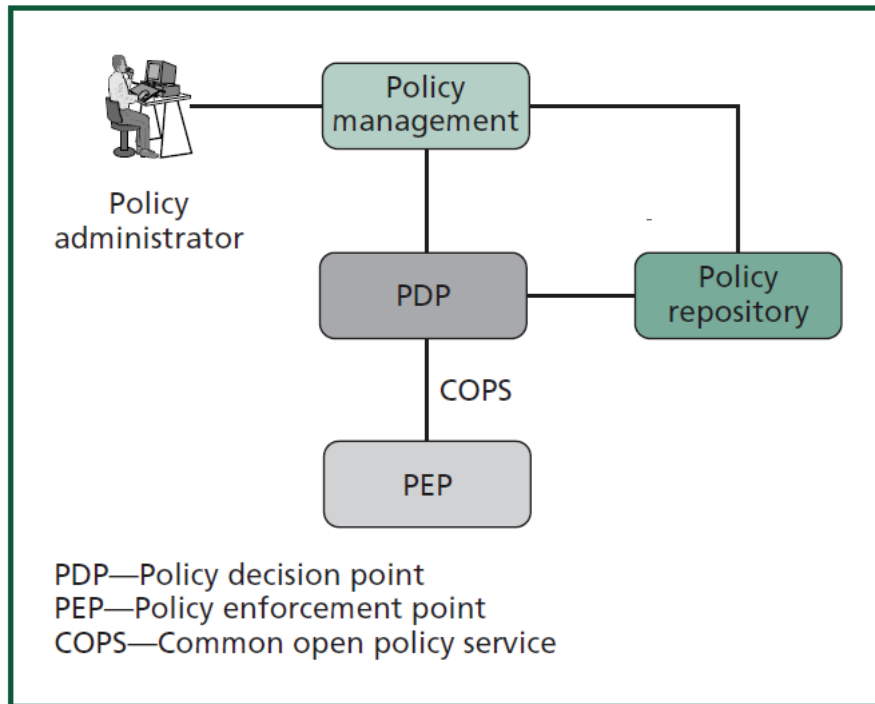
By 2007, an ordinary artisan was well aware of both the problem addressed by the '438 patent and the solution it purports to provide. (*See, e.g.*, Ex. 1006 at 19-20). Before 2007, policy-based network management systems for “controlling access to network resources” were being routinely utilized in computer networking. (*See, e.g.*, Ex. 1007 at 2:30-39).

47. As the '438 patent admits, at least as of 2007 it was “known to establish some measure of parental or administrative control over an account” and that certain solutions include systems that “allows users to place limited real-time controls over prepaid and postpaid accounts.” (Ex. 1001 at 3:25-29). Thus, as the '438 patent acknowledges, at least as of June 2007, such policy-based management systems for communication devices were routinely used and implemented in the art.

48. For example, Choudhary, published in 2004, recognized that “[a] policy-based approach to management can also allow the separation of rules that govern the behavior of a system from the functionality provided by the system,” which “make[s] it possible to adapt the behavior of a system without the need to recode its functionality.” (Ex. 1006 at 19). Choudhary further highlighted that such an approach allows for on-demand changes that “can be applied by changing policies without stopping the system or having to restart it.” (*Id.* at 19-20). According to Choudhary, such an approach “permits the system to adapt to the

evolutionary changes in the system and to new application requirements.” (*Id.* at 20).

49. While Choudhary explicated and described multiple policy-based architectures, the policy-based system generally employs a “policy decision point (PDP)” that “uses a policy repository that contains the parameters and data structures that the PDP needs to evaluate the policy rules to make policy-based management decisions.” (*Id.* at 20). As explained by Choudhary, the PDP works in combination with “a policy agent known as a policy enforcement point (PEP),” wherein the “PEP is a mechanism to abstract the managed object’s operations and management characteristics.” (*Id.* at 20-21). “The PEP communicates with the PDP using a standard protocol.” (*Id.* at 21). Choudhary’s general architecture is described in Figure 1 reproduced below:



**Figure 1.**  
**Policy reference architecture.**

(*Id.* at Fig. 1).

50. Other references underscore this commonly understood architecture for policy-based device management. For example, Putzolu, published in 2003, observed that a variety of “network devices, such as routers and switches, act as policy clients” which rely on the “policy server for policy-based admission control” were employed due “to the dramatic changes that have taken place in the way the Internet and corporate networks (e.g., intranets) are used.” (Ex. 1007 at 2:30-34, 2:46-48). Putzolu further described a system in which a policy server communicates with a plurality of policy clients, each serving as “a policy

enforcement point for policy-based control over the use of network resources,” as illustrated below:

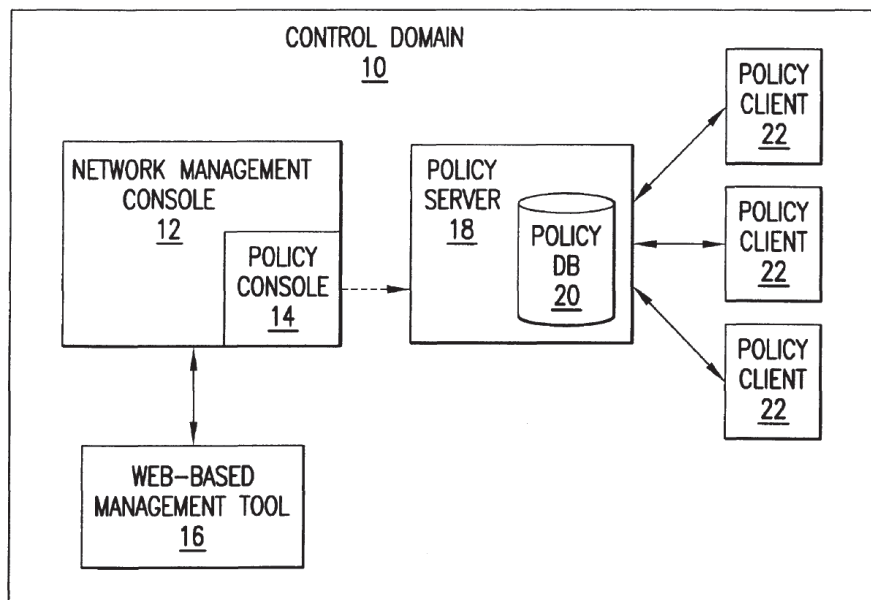


FIG.1

(*Id.* at 3:17-20, Fig. 1).

51. In this example, the policy client receives a request to use a network resource and applies “policies to determine whether or not to admit such a request.” (*Id.* at 3:20-23). In certain aspects, the policy client outsources this decision making to a policy server via communication of the request to the policy server, receives a response back from the policy server, and enforces the decision based on the response that is received from the policy server. (*Id.* at 3:23-27). The policy server generates its decision based on policies stored in the policy database and communicates the decision in a response to the policy client, which can store or cache the response for future use. (*Id.* at 3:34-41).

52. It was also already recognized that systems like the ones described in Putzolu provided advantages such as reduced processing times. For example, the policy client of Putzolu was known to “sort previously-accepted requests against new requests and make a local decision (i.e., without further intervention by policy server).” (*Id.* at 5:22-26). This prior art policy server had the capability to update the response stored at the policy client by “send[ing] unsolicited messages to policy client” to “force a change to a previously-approved state.” (*Id.* at 5:11-15).

53. Other references also describe policy-based network management systems similar to those disclosed by Putzolu. For instance, Bhat, published in 2005, describes methods and systems for “controlling access to resources” on a network. (Ex. 1008 at Abstract). In addition to disclosing a “remote interface” (e.g., a policy client) that “evaluate[s] subsequent requests from the user for the resource using the stored policy decision instead of having to communicate again with the source for the policy decision,” Bhat also explains the policy decision stored at the remote interface can be updated. (*Id.* at [0010]).

54. Moreover, Bhat broadly disclosed types of “requests” that may be subject to such policy-based management, which includes content that can be sent, used, or received, or to control features or functions performed by the communication device. (*See* Ex. 1008 at [0037] (“[a] resource is an object defined by the service type and identifiable by a unique name” such as “an application or a

service” including “MailServer1,” “a Uniform Resource Identifier (URI) or Uniform Resource Locator (URL)” or “a Web site such as <http://abcweb.abc.com>.”)).

55. As shown above, after the policy server receives the request from the policy client and makes the decision whether to grant the request based on the policies stored at the policy server, these prior art techniques demonstrate that the response with the decision is communicated from the policy server to the policy client for enforcement and can be stored at the policy client for future use. (Ex. 1007 at 3:34-41; *see also* Ex. 1008 at [0010]-[0011]).

56. In sum, well before June 2007, various types of communication devices were controlling access to the resources on a network. Communication devices had already, in response to communicating a request to a policy decider, received decisions from the policy decider, that were determined based on a policy stored therein, on whether to grant access to the network resource. And communication devices had stored those decisions received from the policy deciders such that those stored decisions were able to be updated at the communication device.

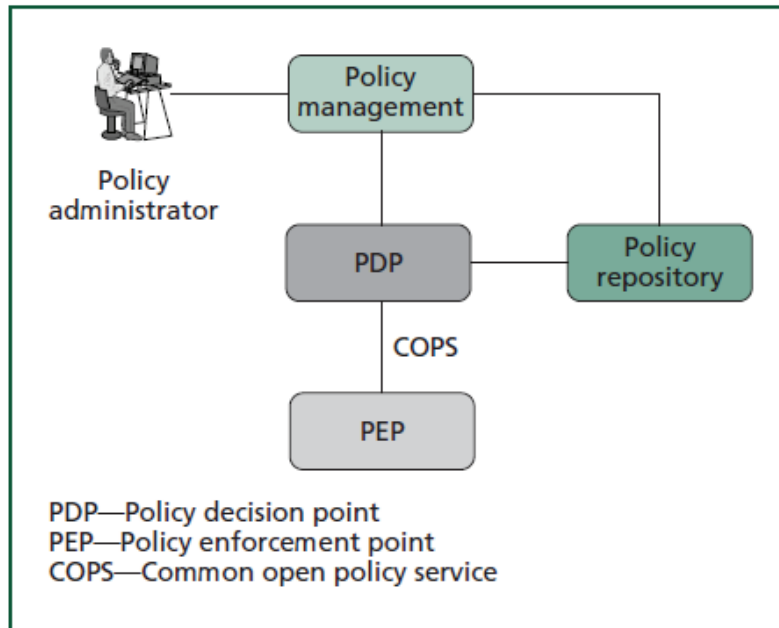
## **1. Summary of Choudhary**

57. Choudhary recognized the advantages from using a policy-based approach to network management, which separates “the rules that govern the



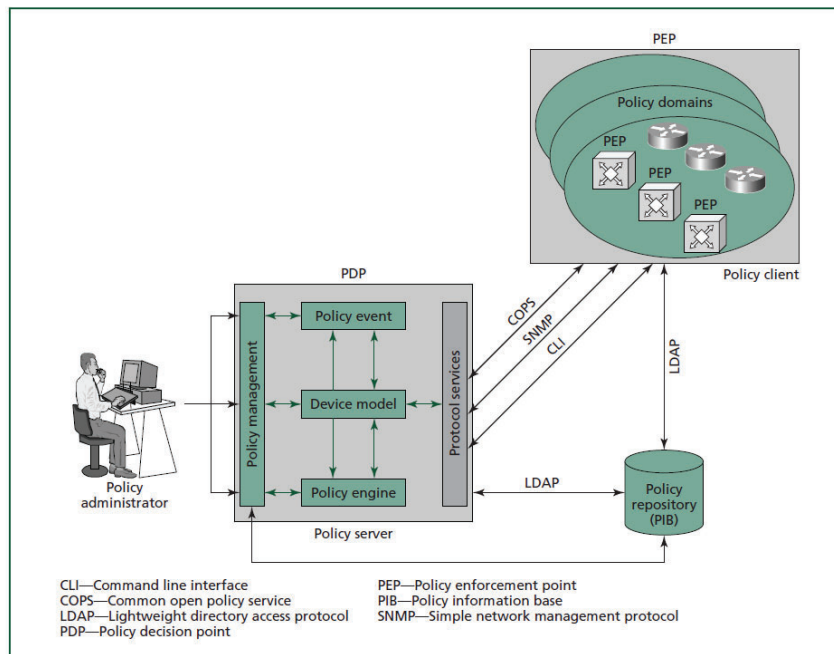
behavior of the system from the functionality provided by the system.” (Ex. 1006 at 19). Such advantages include, for example, making it “possible to adapt the behavior of a system without the need to recode its functionality” and allows for changes that “can be applied by changing policies without stopping the system or having to restart it.” (*Id.* at 19-20). These advantages “permits the system to adapt to the evolutionary changes in the system and to new application requirements.” (*Id.* at 20).

58. In operation, Choudhary taught a variety of architectures, including a “policy reference architecture,” which uses a PDP in combination with a PEP to generate and enforce policy decisions. (*Id.* at 20). As I explained above, “[t]he policy decision point (PDP) is the module where the policy expertise resides,” which “uses a policy repository that contains the parameters and data structures that the PDP needs to evaluate the policy rules to make policy-based management decisions.” (*Id.*). According to Choudhary, the PDP works in conjunction with “a policy enforcement point (PEP).” (*Id.*). “The PEP enforces the PDP decisions and communicates local events to the PDP,” wherein “[t]he PEP applies actions according to PDP decisions based on relevant policies and current network conditions” that may be “static, such as source and destination addresses or ports, and/or dynamic, such as current bandwidth availability or date and time.” (*Id.* at 22).



**Figure 1.**  
**Policy reference architecture.**

(Id. at Fig. 1).



**Figure 2.**  
**Policy management in the Lucent Softswitch.**

(Id. at Fig. 2).

## 2. Summary of Putzolu

59. As I explained above, Putzolu describes the exact same problem and teaches the same solution as the '438 patent. Putzolu teaches that a policy-based network management (“PBNM”) system can provide a “policy client” that serves as an intermediary between a communication device and “a policy server.” (Ex. 1007 at 2:40-52). Like the '438 patent, Putzolu teaches that the policy client outsources a request to the policy server, receives a decision to the request from the policy server, and “may also cache responses” from the policy server “for future use.” (*Id.* at 3:34-41).

60. Putzolu further discloses a PBNM system where “[n]etwork devices, such as routers and switches, act as policy clients, relying on the policy server for policy-based admission control.” (*Id.* at 2:46-48). In particular, the system of Putzolu includes a “policy server 18” in communication, over a network, with “a plurality of policy clients 22,” where “[e]ach policy client 22 serves as a policy enforcement point for policy-based control over the use of network resources.” (*Id.* at 3:18-21).

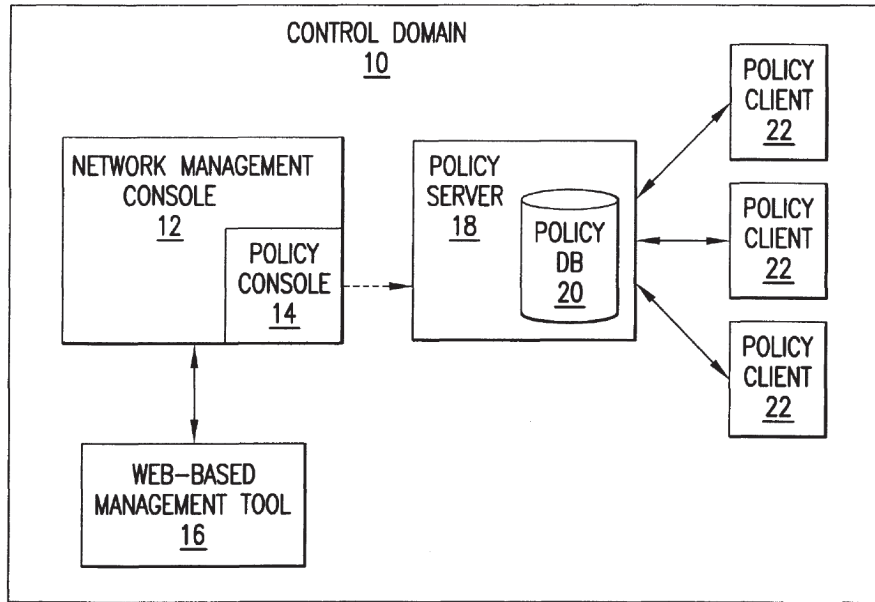


FIG.1

(*Id.* at Fig. 1).

61. Putzolu teaches that the policy client 22 receives “a request for use of a network resource” and “must then apply active policies to determine whether or not to admit such a request.” (*Id.* at 3:21-24). For example, Putzolu discloses that the PBNM system “implements policies directed substantially to admission control (e.g., whether an end user or an application will be allowed access to a particular multicast channel.” (*Id.* at 6:34-40). Putzolu further discloses that the determination of whether or not to admit the request is outsourced from the policy client 22 to the policy server 18. (*Id.* at 3:24-26). That is, “when the policy client 22 receives a request for access to a resource under its control, it simply sends a query to policy server 18.” (*Id.* at 3:34-37). Putzolu explains that the policy client

22 includes “a local policy module (LPM) (not shown) that communicates with policy server 18 for policy decisions.” (*Id.* at 3:38-41).

62. The policy server 18 is “configured to implement policies relating to management of a group of network devices” and “maintains a policy database 20 containing policy specification information.” (*Id.* at 3:4-9). Accordingly, when the request from the policy client 22 is received the “[p]olicy server 18 determines whether to allow the access, and communicates the decision to policy client 22.” (*Id.* at 3:38-39). Putzolu teaches specifically that the “[p]olicy server 18 uses information stored in policy database 20 and current state information (e.g., state of any already-admitted requests) to determine whether to accept the request, and then sends a response to policy client 22.” (*Id.* at 4:57-61).

63. The policy client 22 receives the response from the policy server 18 and “either admits or denies the request.” Putzolu discloses that the policy client 22 is “responsible for enforcing the policy decision,” such as, for example, allowing a user to use a specified amount of bandwidth. (*Id.* at 1:38-43, 4:9-18). Putzolu further discloses that the “[p]olicy client 22 may also cache responses from policy server 18 for future use.” (*Id.* at 3:38-41). While communication between the policy client 22 and the policy server 18 “is mainly in the form of request-response exchanges,” Putzolu teaches that the “policy server 18 can also send unsolicited messages to policy client 22 to, for example, force a change to a

previously-approved state.” (*Id.* at 5:11-15). Putzolu further teaches that the local policy module of the policy client 22 can “sort previously-accepted requests against new requests and make a local decision (i.e., without further intervention by policy server 18).” (*Id.* at 5:22-26). Putzolu thus provides a policy client capable of determining locally whether to grant a request without further intervention by the policy server, in addition to being capable of outsourcing a request to the policy server to determine whether to grant the request.

### **3. Summary of Bhat**

64. As I discussed above, Bhat similarly describes the same problem and solution as the ’438 patent. Bhat notes a need to improve efficiency in systems controlling access to resources evaluated by policy definitions. Bhat explains that typical systems involve a device that accesses a policy server to verify whether a user device has authority to access a resource. (Ex. 1008 at [0005]). The device will send a request to the policy server, which “evaluates the request against a defined policy” and returns “a decision with regard to whether access is granted or not” to the device. (*Id.* at [0007]).

65. For example, Bhat explains that the “policy decision can be used to allow access to a resource, and to define the actions that can be performed on the resource or using the resource after access is gained.” (*Id.* at [0041]). Bhat notes that such approaches are problematic because of inefficiency. (*Id.*). In particular,

Bhat notes that inefficiencies arise in such approaches due to “back-and-forth communication between the server 22 and the policy server 24” because “each request to the server 22 needs to be evaluated by the policy server 24.” (*Id.* at [0008]).

66. To solve this problem, both Bhat and the '438 patent sought to reduce the back-and-forth communications between the server (e.g., policy enforcement point) and the policy server by allowing the server to store a decision received from the policy server “instead of having to communicate again with the policy server.” (*Id.* at [0010]). Bhat thus provides a device that acts as a “remote interface for implementing and enforcing policy definitions and decisions on behalf of the policy server.” (*Id.*).

67. Like the '438 patent, Bhat discloses a system including a “Web server 61” acting as “a policy enforcement point,” and a “policy engine 63” acting as a “policy decision point,” as illustrated in its FIG. 3 below. (*Id.* at [0052]-[0053]).

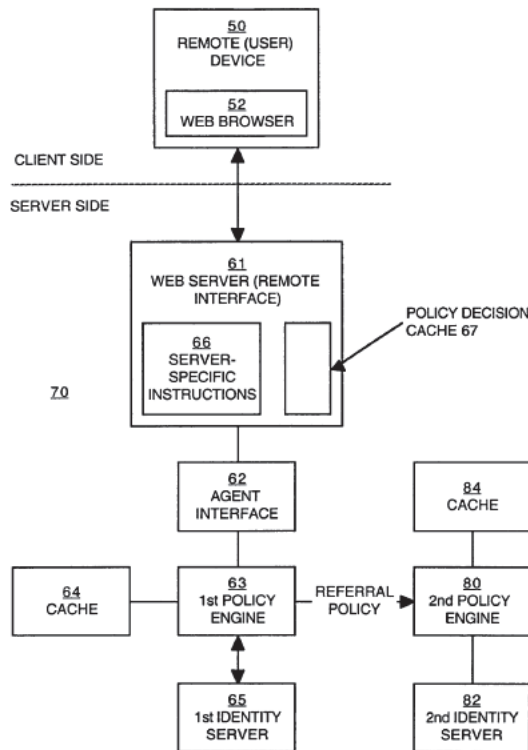


Figure 3

(*Id.* at Fig. 3).

68. Bhat explains that the functions of the policy engine 63 “include: defining policies for resources; evaluating the policies using the policy definitions; and returning the policy values (policy decisions) to the Web server 61.” (*Id.* at [0051]). The policy engine 63 stores the policy definitions in “a cache memory 64” to “reduce the time it takes to retrieve policy definitions.” (*Id.* at [0053]).

69. For instance, Bhat discloses that during an initial request process, a user via a “user node 92” communicates a request to the Web server 61 to access a resource under control of the Web server 61. (*Id.* at [0060]). The Web server 61 then communicates the initial request to the policy engine 63 for evaluation. (*Id.*).



After making a determination whether to grant the initial request, the policy engine 63 “returns a policy decision for the requested resource to Web serve 61.” (*Id.* at [0062]). The Web server 61 receives this policy decision from the policy engine 63 and, in addition to enforcing the policy decision, stores the policy decision in a “policy decision cache 67.” (*Id.* at [0041], [0056]-[0058], [0105]). Bhat further explains that “[b]ecause the policy decision is stored at the Web server 61, a subsequent request by the same user for the same resource can be evaluated by the Web server 61” without needing to “refer the request to a policy engine for evaluation.” (*Id.* at [0058]). Accordingly, when the Web server 61 receives a subsequent request by the same user for the same resource the Web server 61 does not need to communicate the subsequent request to the policy engine 63 for evaluation and, instead accesses the stored policy decision in the policy decision cache 67 to evaluate the subsequent request itself. (*Id.* at [0057]-[0058]).

70. Bhat recognizes that “a policy definition can change with time, and that a change in a policy definition can change a policy decision that has been already made and stored at the policy enforcement points (e.g., Web servers 61 and 91).” (*Id.* at [0074]). The Web server 61 receives updates from the policy engine 63 to update the policy decisions stored in the policy decision cache 67 of the Web server 61. (*Id.* at [0077], [0106]). For example, in a subsequent request, the Web server 61 can identify the stored policy decision, determine whether an update to

the policy decision is needed, and request the update from the policy engine 63 before enforcing the updated policy decision. (*Id.* at [0076], [0087]).

71. Additionally, Bhat broadly taught various types of “resources” that may be subject to policies. For instance, Bhat explained that “[a] resource is an object defined by the service type and identifiable by a unique name” including “an application or a service, for example.” (*Id.* at [0037]). According to Bhat, such types of “resources” includes “MailServer1,” “a Uniform Resource Identifier (URI) or Uniform Resource Locator (URL),” or “a Web site such as <http://abcweb.abc.com>.” (*Id.*).

## **VII. Claim Construction**

72. In my opinion, no terms in the Challenged Claims require any express construction. Rather, an ordinary artisan would understand the claim terms in their ordinary and customary meaning. Based on my review of the ’438 patent and relevant portions of the prosecution history, no term was re-defined or given any express meaning. Accordingly, each claim term would have been readily understood by an ordinary artisan in the context of the claims and the specification.

## VIII. Detailed Discussion of the Grounds for Unpatentability

73. I have been told to assume that the references discussed below are prior art. I am not offering an opinion as to whether a particular reference qualifies as prior art.

74. Claims 1-3, 6, 10, 27, and 33 of the '438 patent would have been obvious by the prior art, as set forth in detail below.

### A. Ground 1: Claims 1-3, 6, 10, 27, and 33 are Rendered Obvious by Choudhary

75. Claims 1-3, 6, 10, 27, and 33 would have been obvious in view of Choudhary. As described below, Choudhary teaches or suggests every element of claims 1-3, 6, 10, 27, and 33. Thus, the Challenged Claims would have been obvious in the view of an ordinary artisan.

#### 1. Claim 1

- a. **Claim 1[Pre]:** A system for managing in real-time a communication device used by a user on a communication network, comprising:

76. To the extent the preamble is considered limiting, Choudhary renders obvious these elements.

77. Choudhary taught “policy-based network management” for systems and methods in real-time that “allow for the separation of the rules that govern the behavior of a system from the functionality provided by the system.” (Ex. 1006 at 19). Choudhary further highlighted that “the current state of network management

is essentially the management of individual network elements, so the simple cases of policy-based network management merely seek to configure the individual devices” and that “the real value of the policy-based approach to network management is to achieve business objectives by managing services that require the network as a whole to have a desired overall behavior.” (*Id.* at 24).

78. According to Choudhary, “[o]ne of the first industry products in which the policy-based management approach and a standard architecture were implemented was the policy-based IP network monitoring system from Lucent Technologies,” which Choudhary described as “a good starting point for a more general policy management solution, deploying policies that are dynamic and enable *real-time* network management decisions.” (*Id.* at 24) (emphasis added).

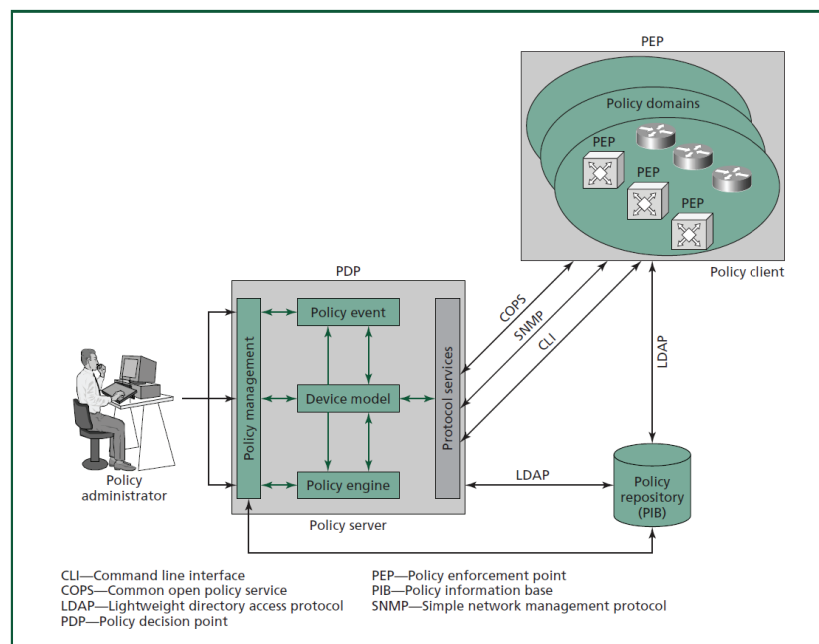
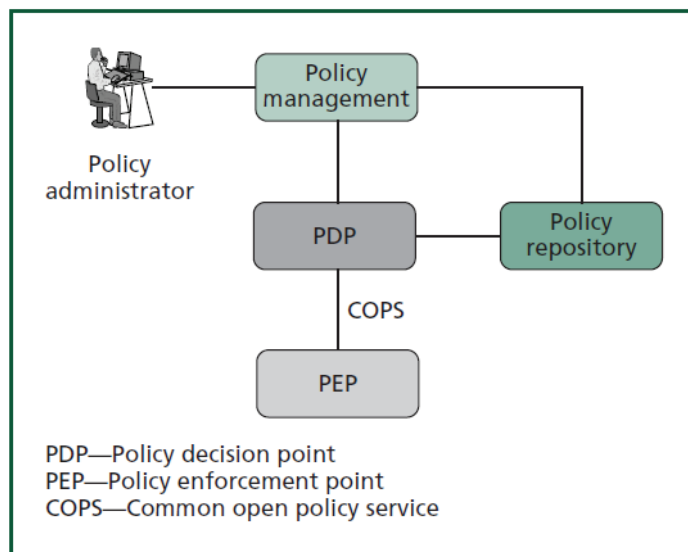


Figure 2.  
Policy management in the Lucent Softswitch.

79. In operation, Choudhary taught that “[e]ach managed object supports a policy agent known as a policy enforcement point (PEP)” and that the “PEP is designed and implemented for each managed object that the policy-based system is supposed to manage.” (Ex. 1006 at 20-21, Figs. 1-2). According to Choudhary, “managed objects” can include, but are not limited to, “a softswitch or one of its subsystems such as call control, call detail records, and low-level communications,” but that “[t]he managed object does not have to be a physical entity such as a switch or router,” and can be “[s]oftware systems, subsystems, applications, and other entities.” (*Id.* at 21). As Choudhary disclosed, “[t]he PEP is a mechanism to abstract the managed object’s operations and management characteristics using a general and preferably standard data model.” (*Id.*).

80. Choudhary further taught another element, the “policy decision point (PDP),” which “is the module where the policy expertise resides.” (*Id.* at 20). To that end, “[t]he PDP uses a policy repository that contains the parameters and data structures that the PDP needs to evaluate the policy rules to make policy-based management decisions.” (*Id.*). According to Choudhary, “[t]he PEP communicates with the PDP using a standard protocol.” (*Id.*).



**Figure 1.**  
**Policy reference architecture.**

81. As Choudhary taught, the “PEP enforces the PDP decisions and communicates local events to the PDP,” where the “PEP applies actions according to PDP decisions based on relevant policies and current network conditions,” which “may be static, such as source and destination addresses or ports, and/or dynamic, such as current bandwidth availability or date and time.” (*Id.* at 22).

82. The policy clients (i.e., PEPs) of Choudhary (outlined in red in Fig. 2 below) are implemented on communication devices on a communication network that perform the same function as the ’438 patent’s “policy enforcement points” (outlined in red in Fig. 2 below). (*See* Ex. 1001 at 8:25-27).

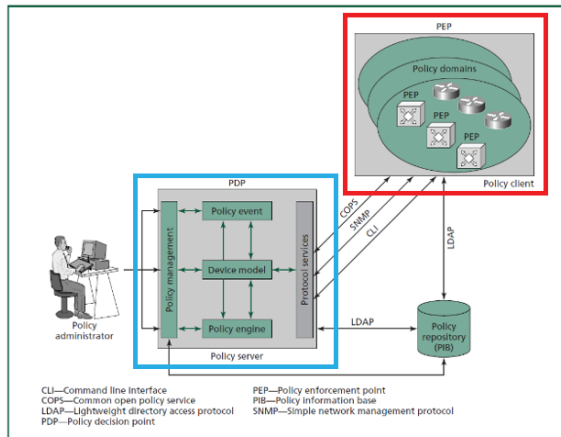


Figure 2.  
Policy management in the Lucent Softswitch.

(Ex. 1006 (Choudhary) at Fig. 2)  
(Annotated)

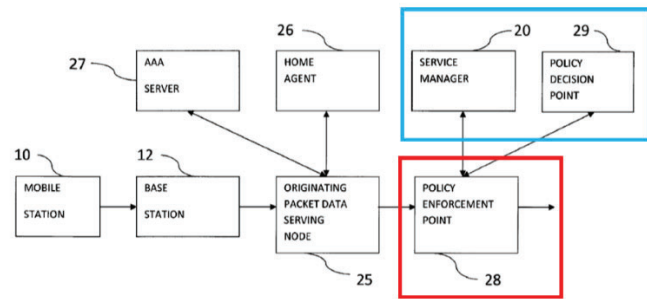


FIG. 2

(Ex. 1001 ('438 Patent) at Fig. 2)  
(Annotated)

83. Based on Choudhary's disclosure, an ordinary artisan would have appreciated that Choudhary disclosed systems for controlling the communication device, *e.g.*, through use of policy enforcement points and policy decision points, that is used by a user and in real-time over a communication network.

84. Accordingly, Choudhary renders obvious the preamble of claim 1.

- b. Claim 1[a]:** a policy decider for storing a list of policies that control one or more features or functions associated with the communication device and for automatically deciding to accept or deny a request sent to or from the communication device to perform the features or functions based on the list of policies, the list of policies including a policy for managing content that can be sent, received, or used by the communication device; and

85. An ordinary artisan would have understood that Choudhary disclosed these elements.

86. Choudhary disclosed managing features and functions associated with communication devices by way of a "policy decision point (PDP)," which is "the

module where the policy expertise resides.” (Ex. 1006 at 20). As Choudhary explained, the “PDP uses a policy repository that contains the parameters and data structures that the PDP needs to evaluate the policy rules to make policy-based management decisions.” (*Id.*).

87. In operation, a request can originate from the “managed object,” where “[t]he managed object does not have to be a physical entity such as a router or switch,” but “[s]oftware systems, subsystems, applications, and other entities can also be managed by the policy-based management system using appropriate PEPs.” (*Id.* at 21). As Choudhary disclosed, the “PEP is a mechanism to abstract the managed object’s operations and management characteristics,” where the “PEP communicates with the PDP using a standard protocol.” (*Id.*).

88. Choudhary taught “[t]he PDP makes decisions based on policies” automatically and that “[t]he policy management module can be implemented as part of the PDP, and a policy administration point is used as a management client.” (*Id.* at 22). According to Choudhary, the PDP retrieves policies “from a policy repository and perhaps other locations such as authentication servers.” (*Id.*). Choudhary further taught that, “[a]s an example, one could have a PDP for each domain” and that “[a] PDP would serve its PEPs within the domain that it manages, and at the same time, the PDP could itself act as a managed object for the purpose of the PDP at a higher echelon within the hierarchy of PDPs.” (*Id.* at 22).



89. Moreover, the PDP in Choudhary contemplates a wide variety of policies that control features and functions of communication devices. For instance, Choudhary broadly taught that “a policy can be a paper document, a table for selecting options, a sequence of logical assertions to automate operational decisions, or a tool to articulate business goals and service priorities and facilitate decisions in enforcing business rules and service priorities.” (*Id.* at Abstract). Choudhary further disclosed that “[a] policy defines a set of management activities that apply to domains encapsulating any rules and rule combination semantics used to construct that policy.” (*Id.* at 22). According to Choudhary, such feature and functions of a communication device can include content that can be sent or received, *e.g.*, “denying service to all calls except those related to an emergency operation” or “disconnecting service to those clients suspected of causing a DoS attack.” (*Id.* at 19).

90. Based on Choudhary’s disclosure, an ordinary artisan would have appreciated that Choudhary taught and suggested the use of a policy decider for storing a list of policies that control one or more features or functions associated with the communication device, and which automatically decides to accept or deny a request sent to or from the communication device to perform the features or functions based on the list of policies. Moreover, an ordinary artisan would have appreciated that the list of policies may include a policy for managing content that

can be sent, received, or used by the communication device on the communication network, *e.g.*, as business rules or service priorities, or policies that control software systems and applications. (*See* Ex. 1006 at Abstract, 19, 22; Ex. 1008 at [0037] (“[a] resource is an object defined by the service type and identifiable by a unique name” such as “MailServer1,” “a Uniform Resource Identifier (URI) or Uniform Resource Locator (URL),” or “a Web site such as <http://abcweb.abc.com>.”)).

91. Accordingly, Choudhary renders obvious element 1[a] of claim 1.

- c. **Claim 1[b]:** a policy enforcer for communicating the request to the policy decider and enforcing a decision by the policy decider as to whether the request has been accepted or denied by either notifying the user of the denied request and taking one or more actions consistent with the denied request or taking one or more actions consistent with the accepted request.

92. An ordinary artisan would have understood that Choudhary disclosed these elements.

93. As explained above, Choudhary taught that “[e]ach managed object supports a policy agent known as a policy enforcement point (PEP).” (Ex. 1006 at 20). Choudhary explained that a “PEP is designed and implemented for each managed object that the policy-based system is supposed to manage,” which would include communication devices, network elements, software, applications, and the like. (*Id.* at 21). As explained by Choudhary, “[t]he managed object does not have

to be a physical entity such as a switch or a router. Software systems, subsystems, applications, and other entities can also be managed by the policy-based management system using appropriate PEPs.” (*Id.*).

94. To that end, Choudhary taught that the “PEP communicates with the PDP using a standard protocol” and that the “PEP enforces the PDP decisions and communicates local events to the PDP.” (*Id.* at 22). Choudhary further explained that “[t]he PEP applies actions according to PDP decisions based on relevant policies and current network conditions,” which may be “static, such as source and destination addresses or ports, and/or dynamic, such as current bandwidth availability or date and time.” (*Id.* at 22).

95. Choudhary explained that “PEPs” have “two important functions,” that include executing “actions on the network element according to the directives received from the PDP” and to “gather information on the events that occur in the network elements.” (*Id.* at 25). In combination, the PDP and PEP work by “deploying policies that are dynamic and enable real-time network management decisions.” (*Id.* at 24). Choudhary further explained that the “PDP performs the following functions ... *receiving policy decision request from PEPs*, determining which policy is relevant, applying the policy, returning the results of the policy application (possibility with other policy elements such as error information),

sending policy elements to the PEP based on policy updates or requests from external entities...” (*Id.* at 22) (emphasis added).

96. Based on Choudhary’s disclosure, an ordinary artisan would have appreciated that Choudhary disclosed a policy enforcer for communication the request to the policy decider, which enforces a decision received from the policy decider as to whether the request has been accepted or denied. Moreover, an ordinary artisan would have understood that the PEP would have implicitly notified the user if the request has been denied and by taking one or more actions consistent with the denied request, *e.g.*, “denying service to all calls,” or by taking one or more actions consistent with the accepted request, *e.g.*, accepting service to all calls. (*See* Ex. 1006 at 19).

97. Accordingly, Choudhary renders obvious all of the limitations of claim 1.

2. **Claim 2:** “The system as recited in claim 1, wherein the policy establishes a total prohibition on content that can be sent, received, or used.”

98. Claim 2 depends from claim 1, which is disclosed by Choudhary as discussed above. (*See supra* at § VIII.A.1). Choudhary further renders obvious the additional limitation in claim 2.

99. For example, Choudhary broadly disclosed that “a policy can be a paper document, a table for selecting options, a sequence of logical assertions to

automate operational decisions, or a tool to articulate business goals and service priorities and facilitate decisions in enforcing business rules and service priorities.” (Ex. 1006 at Abstract). According to Choudhary, “policy actions are the responses that an organization wishes to enforce in case one or more of the specific policy events actually take place,” which includes “rerouting traffic, switching on a backup system, suspending a user account, denying service to all calls except those related to an emergency operation, monitoring a call from and/or to a hot number, and disconnecting service to those clients.” (*Id.* at 19). Choudhary further taught that the PDP generates decisions based on “relevant policies and current network conditions,” wherein the conditions may include “source or destination addresses.” (*Id.* at 22).

100. Based on Choudhary’s disclosure, an ordinary artisan would have appreciated and been motivated to manage a wide variety of certain features of a communication device, such as a total prohibition on the type of content that can be accessed, *e.g.*, “source and destination addresses,” or based on “current bandwidth availability or date and time.” (*Id.* at 22). Stated another way, an ordinary artisan would have appreciated that a policy against certain destination or source addresses, or a policy denying access to content after a certain time period, would be a prohibition of the type of content that can be sent, received, or used. (*See* Ex. 1008 at [0037] (“[a] resource is an object defined by the service type and

identifiable by a unique name” such as “MailServer1,” “a Uniform Resource Identifier (URI) or Uniform Resource Locator (URL),” or “a Web site such as <http://abcweb.abc.com>”).

101. As such, Choudhary renders obvious the additional limitation in claim 2.

3. **Claim 3:** “The system as recited in claim 1, wherein the policy establishes a quantity limit on content that can be sent, received or used in a given period of time.”

102. Claim 3 depends from claim 1, which is disclosed by Choudhary as discussed above. (*See supra* at § VIII.A.1). Choudhary further renders obvious the additional limitation in claim 3.

103. For example, Choudhary broadly disclosed policies that can be used to manage the features and functions of a communication device. According to Choudhary, “a policy can be a paper document, a table for selecting options, a sequence of logical assertions to automate operational decisions, or a tool to articulate business goals and service priorities and facilitate decisions in enforcing business rules and service priorities.” (Ex. 1006 at Abstract). Choudhary further taught policies that can be implemented to establish a quantity limit as to the content that can be sent, received, used, or accessed, *e.g.*, based on “source and destination addresses,” or based on “current bandwidth availability or date and time.” (*Id.* at 22; Ex. 1008 at [0037] (“[a] resource is an object defined by the

service type and identifiable by a unique name” such as “MailServer1,” “a Uniform Resource Identifier (URI) or Uniform Resource Locator (URL),” or “a Web site such as http://abcweb.abc.com”)).

104. Based on Choudhary’s teachings, an ordinary artisan would have appreciated that Choudhary broadly disclosed various types of policies, including policies that establish a quantity limit on content that can be sent, received, used, or accessed, in a given period of time.

105. As such, Choudhary renders obvious the additional limitation of claim 3.

4. **Claim 6:** “The system as recited in claim 1, wherein the policy establishes a limit on a type of content that can be sent, received, or used.”

106. Claim 6 depends from claim 1, which is disclosed by Choudhary as discussed above. (*See supra* at § VIII.A.1). Choudhary further renders obvious the additional limitation in claim 6.

107. As discussed above, with respect to claim 3, Choudhary disclosed this limitation. For instance, Choudhary broadly disclosed various policies and categories of policies that can be implemented as part of Choudhary’s policy-based management system, including policies to “articulate business goals and service priorities and facilitate decisions in enforcing business rules and service priorities.” (Ex. 1006 at 22; Ex. 1008 at [0037] (“[a] resource is an object defined by the

service type and identifiable by a unique name” such as “MailServer1,” “a Uniform Resource Identifier (URI) or Uniform Resource Locator (URL),” or “a Web site such as <http://abcweb.abc.com>”)).

108. As Choudhary taught, such policies may establish a quantity limit as to the content that can be sent, used, or received, including policies based on “source and destination addresses,” or policies based on “current bandwidth availability or date and time.” (Ex. 1006 at 22).

109. As such, Choudhary renders obvious the additional limitation in claim 6.

**5. Claim 10:** “The system as recited in claim 1, wherein the policy establishes a time frame during which it is acceptable to send, receive, or use the content.”

110. Claim 10 depends from claim 1, which is disclosed by Choudhary as discussed above. (*See supra* at § VIII.A.1). Choudhary further renders obvious the additional limitation in claim 10.

111. As discussed above, with respect to claim 3, Choudhary disclosed this limitation. For instance, Choudhary broadly disclosed policies and categories of policies that are used to “articulate business goals and service priorities and facilitate decisions in enforcing business rules and service priorities.” (Ex. 1006 at Abstract). Choudhary further taught policies that can be implemented to establish a time frame during which it is acceptable to send, receive, or use the content, for



example policies based on “current bandwidth availability or date and time.” (*Id.* at 22).

112. Based on Choudhary’s teachings, an ordinary artisan would have appreciated that Choudhary disclosed and suggested policies that establish a time frame during which content can be accessed, sent, or received.

113. As such, Choudhary renders obvious the additional limitation in claim 10.

## **6. Claim 27**

- a. Claim 27[Pre]:** A system for managing in real-time a communication device used by a user on a communication network, comprising:

114. As I described previously in Section VIII.A.1.a, to the extent the preamble is considered limiting, Choudhary described these elements. (*See supra* § VIII.A.1.a).

115. As I stated previously, an ordinary artisan would have appreciated that Choudhary disclosed systems for managing a communication device, *e.g.*, through the use of policy enforcement points and policy decision points, that is used in real time by a user over a communication network. (Ex. 1006 at Figs. 1 and 2, 20).

116. As such, Choudhary renders obvious the preamble of claim 27.

- b. Claim 27[a]:** a policy decider housed within a network device on the communication network for storing a list of policies that control one or more features or functions associated with the communication device and for

automatically deciding to accept or deny a request sent to or from the communication device to perform the features or functions based on one or more policies from the list of policies; and

117. As I described previously in Section VIII.A.1.b, Choudhary disclosed these elements. (*See supra* § VIII.A.1.b). For instance, an ordinary artisan would have appreciated that Choudhary taught and suggested the use of a policy decider for storing a list of policies to control one or more features or functions associated with the communication device, and which automatically decide to accept or deny a request sent to or from the communication device to perform the features or functions based on the one or more policies from the list of policies. (Ex. 1006 at 19-22).

118. Claim 27[a] further includes the additional limitation requiring the policy decision point is “housed within a network device on the communication network.” Choudhary also disclosed this element. For instance, Choudhary disclosed that “managed objects” include network elements but “does not have to be a physical entity such as a switch or a router,” and can also be “software systems, subsystems, applications, and other entities [that] can also be managed by the policy-based management system.” (Ex. 1006 at 21). According to Choudhary, the “PDP could itself act as a managed object for the purpose of the PDP at a higher echelon within the hierarchy of PDPs.” (*Id.* at 22). As a result, an ordinary artisan would have appreciated that, while the PDP does not have to be

housed on a physical entity such as a switch or a router, *e.g.*, a network element, the PDP could be housed on such a physical network element. (Ex. 1006 at Figs. 1 and 2, 24 (“Many policy-based management schemes that currently exist in the market for the firewalls and routers can fall under such a simple table-based approach. This is because the current state of network management is essentially the management of individual network elements, so the simple cases of policy-based network management merely seek to configure the individual devices”))).

119. As such, Choudhary renders obvious element 27[a] of claim 27.

- c. **Claim 27[b]:** a policy enforcer housed within a network device on the communication network for communicating the request to the policy decider and enforcing a decision by the policy decider as to whether the request has been accepted or denied by either notifying the user of the denied request and taking one or more actions consistent with the denied request or taking one or more actions consistent with the accepted request.

120. As I described previously in Section VIII.A.1.c, Choudhary disclosed these elements. (*See supra* § VIII.A.1.c). For instance, an ordinary artisan would have appreciated that Choudhary taught a policy enforcer for communicating the request to the policy decider, which enforces a decision received from the policy decider as to whether the request has been accepted or denied. (Ex. 1006 at 21, Figs. 1 and 2). As Choudhary taught, “[t]he PEP communicates with the PDP using a standard protocol,” where the “PDP performs the following functions ... receiving policy decision requests from PEPs ... sending policy elements to the

PEP.” (*Id.* at 21-22). An ordinary artisan would have understood that the PEP would have notified the user if the request has been denied by taking one or more actions consistent with the denied request, *e.g.*, “denying service to all calls,” or by taking one or more actions consistent with the accepted request, *e.g.*, allowing calls. (*Id.* at 19).

121. Claim 27[b] further includes the additional limitation requiring the policy enforcement point is “housed within a network device on the communication network.” Choudhary also disclosed this element. For instance, Choudhary taught that “[e]ach managed object supports a policy agent known as a policy enforcement point (PEP)” that can be housed on devices such as network devices, but is not limited to “a physical entity such as a switch or a router,” and can also be “software systems, subsystems, applications, and other entities [that] can also be managed by the policy-based management system.” (*Id.* at 21). As a result, an ordinary artisan would have appreciated that, while the policy enforcer does not have to be housed on a physical entity such as a switch or a router, *e.g.*, a network element, the PEP could be housed on such a physical network device. (Ex. 1006 at Figs. 1 and 2, 24 (“Many policy-based management schemes that currently exist in the market for the firewalls and routers can fall under such a simple table-based approach. This is because the current state of network management is essentially the management of individual network elements, so the

simple cases of policy-based network management merely seek to configure the individual devices”)).

122. As such, Choudhary renders obvious element 27[b] of claim 27.

123. Accordingly, Choudhary renders obvious all of the limitations of claim 27.

## 7. Claim 33

- a. **Claim 33[Pre]:** A system for managing in real-time a communication device used by a user on a communication network, comprising:

124. As I described previously in Sections VIII.A.1.a and VIII.A.6.b, to the extent the preamble is considered limiting, Choudhary described these elements. (*See supra* §§ VIII.A.1.a and VIII.A.6.b).

125. As I stated previously, an ordinary artisan would have appreciated that Choudhary disclosed systems for managing a communication device, *e.g.*, through the use of policy enforcement points and policy decision points, that is used in real time by a user over a communication network. (Ex. 1006 at Figs. 1 and 2, 20).

126. As such, Choudhary renders obvious the preamble of claim 33.

- b. **Claim 33[a]:** a policy decider for storing a list of policies that control one or more features or functions associated with the communication device and for automatically deciding to accept or deny a request sent to or from the communication device to perform the features or functions based on one or more policies from the list of policies; and

127. As I described previously in Sections VIII.A.1.b and VIII.A.6.b, Choudhary disclosed these elements. (*See supra* §§ VIII.A.1.b and VIII.A.6.b). For instance, an ordinary artisan would have appreciated that Choudhary taught and suggested the use of a policy decider for storing a list of policies to control one or more features or functions associated with the communication device, and which automatically decide to accept or deny a request sent to or from the communication device to perform the features or functions based on the one or more policies from the list of policies. (Ex. 1006 at 19-22).

128. As such, Choudhary renders obvious element 33[a] of claim 33.

- c. **Claim 33[b]:** a policy enforcer for communicating the request to the policy decider and enforcing a decision by the policy decider as to whether the request has been accepted or denied by either notifying the user of the denied request and taking one or more actions consistent with the denied request or taking one or more actions consistent with the accepted request.

129. As I described previously in Sections VIII.A.1.c and VIII.A.6.c, Choudhary disclosed these elements. (*See supra* §§ VIII.A.1.c and VIII.A.6.c). For instance, an ordinary artisan would have appreciated that Choudhary taught a policy enforcer for communicating the request to the policy decider, which enforces a decision received from the policy decider as to whether the request has been accepted or denied. (Ex. 1006 at 21, Figs. 1 and 2). As Choudhary taught, “[t]he PEP communicates with the PDP using a standard protocol,” where the

“PDP performs the following functions ... receiving policy decision requests from PEPs ... sending policy elements to the PEP.” (*Id.* at 21-22). An ordinary artisan would have understood that the PEP would have notified the user if the request has been denied by taking one or more actions consistent with the denied request, *e.g.*, “denying service to all calls,” or by taking one or more actions consistent with the accepted request, *e.g.*, allowing calls. (*Id.* at 19).

130. As such, Choudhary renders obvious element 33[b] of claim 33.

131. Accordingly, Choudhary renders obvious all of the limitations of claim 33.

## **8. Choudhary is Analogous Art**

132. As an initial matter, I discussed by understandings of the legal principles surrounding the analogous art inquiry above. (*See supra* § IV.D). I incorporate my understanding of those principles as set forth herein. In my opinion, it is proper for an ordinary artisan to look to the teachings of Choudhary in assessing the obviousness of the claims as set forth above.

133. In my opinion, Choudhary is analogous art under both tests of the analogous art inquiry. Specifically, in my opinion, Choudhary is in the same field of endeavor as the '438 patent and is also reasonably pertinent to the particular problem with which the inventor of the '438 patent was involved.

134. First, in my opinion, Choudhary is from the same field of endeavor as the '438 patent. For instance, Choudhary identifies a similar problem, which is the management of user behavior and/or access to network resources, as the one identified in the '438 patent. (*See* Ex. 1001 at 1:12-27 (“The present invention is directed to the real-time management of a device, and more particularly to the establishment and enforcement of policies or rules associated with the feature or functions that may be performed with the device. Modern communication devices are capable of many things, including making and receiving calls, exchanging data, playing games and music, sending and receiving email, accessing web sites, and paying for goods and services.”); *see also* Ex. 1006 at 19-20 (“A policy-based approach to management can also allow the separation of the rules that govern the behavior of a system from the functionality provided by the system. Hence, policy-based management can make it possible to adapt the behavior of a system without the need to recode its functionality. Further, changes can be applied by changing policies without stopping the system or having to restart it. This aspect of policy-based management permits the system to adapt to the evolutionary changes in the system and to new application requirements.”)). Thus, in my opinion, Choudhary is analogous art because it is from the same field of endeavor as the '438 patent.

135. Second, in my opinion, Choudhary is also reasonably pertinent to the particular problem with which the inventor was involved. For instance, Choudhary



disclosed systems and methods for managing access by a communication device through the use of certain elements such as a “policy enforcement point (PEP)” and a “policy decision point (PDP)” where “[t]he PDP uses a policy repository that contains the parameters and data structures that the PDP needs to evaluate the policy rules to make policy-based management decisions.” (Ex. 1006 at 20).

These elements are identical both in structure and in function to those elements that the ’438 patent discloses for managing features and functions of communication devices, *e.g.*, “[t]he PEP 28 is a logical element that ... is responsible for enforcing decisions by ... policy decision point 29.” (Ex. 1001 at 8:20-27, 8:28-29 (“[t]he PEP 28 operates in conjunction with the policy decision point (PDP) 29”)). Thus, in my opinion, Choudhary qualifies as analogous art because it is both from the same field of endeavor and reasonably pertinent to the particular problem with which the inventor of the ’438 patent was involved.

136. Moreover, to the extent Choudhary itself does not precisely disclose any claim limitation, an ordinary artisan would have been motivated to modify Choudhary’s teachings to apply the disclosed architecture for policy-based device access management of communication devices in order to reduce the workload and complexity of network management for administrators and to reduce memory requirements on individual devices. In my opinion, any such modification is well within the skillset of an ordinary artisan and would amount to no more than routine

design choice between predictable and known solutions, and an ordinary artisan would have had a reasonable expectation of success. In my opinion, an ordinary artisan would have expected success in modifying Choudhary's disclosure, for instance, by designing and modifying the types and categories of policies that an administrator can set, and there is nothing in Choudhary that suggests implementing certain policy types would be uniquely difficult. Thus, to the extent Choudhary is deemed to not teach or suggest any claim limitation, Choudhary's modification would have required no more than the application of prior art devices (*e.g.*, communication devices, policy enforcers, and policy deciders), according to known methods of network connectivity and software to yield a predictable result of implementing policy-based control over communication devices.

**B. Ground 2: Putzolu Renders Obvious Claims 1, 27, and 33**

137. Claims 1, 27, and 33 would have been obvious in view of Putzolu. As described below, Putzolu teaches or suggests every element of claims 1, 27, and 33. Thus, the Challenged Claims would have been obvious in the view of an ordinary artisan.

**1. Claim 1**

- a. Claim 1[Pre]:** A system for managing in real-time a communication device used by a user on a communication network, comprising:

138. To the extent the preamble is considered limiting, Putzolu renders obvious these elements.

139. For instance, Putzolu described “[p]olicy-based network management [as] a relatively-recent advance in the field of network management, responding in part to the dramatic changes that taken place in the way the Internet and corporate networks (*e.g.*, intranets) are used.” (Ex. 1007 at 2:30-34). Putzolu disclosed “an improved policy-based network management system.” (*Id.* at 2:29-30). As explained by Putzolu, in one embodiment, the architecture includes “a single control domain 10 for network management purposes,” where “[c]ontrol domain 10 may be, for example, a Windows NT domain or a routing administrative domain (AD).” (*Id.* at 2:53-59). The “[c]ontrol domain 10 includes a policy server 18 accessible through policy console 14.” (*Id.* at 3:1-2). The “[p]olicy server 18 is

capable of communicating with a plurality of policy clients 22.” (*Id.* at 3:18-19). The “[p]olicy client 22 typically resides at a network device responsible for data forwarding, such as a LAN switch, a router, or a firewall.” (*Id.* at 3:29-31).

140. According to Putzolu, “when policy client 22 receives a request for access to a resource under its control, it simply sends a query to policy server 18,” where “[p]olicy server 18 determines whether to allow the access, and communicates the decision to policy client 22.” (*Id.* at 3:31-39). “Each policy client 22 serves as a policy enforcement point for policy-based control over the use of network resources.” (*Id.* at 3:19-21). “Based on the response from policy server 18, policy client 22 enforces the decision by either allowing or disallowing the request.” (*Id.* at 3:26-28). From this disclosure, an ordinary artisan would have appreciated that Putzolu disclosed that the policy client resides on a device, *e.g.*, a router, a firewall, a network device, etc., where the communication device being controlled is used by a user to perform a function, *e.g.*, permitting the use of a network resource or accessing network resources, on a communication network.

141. As Putzolu illustrated, the policy clients of Putzolu (outlined in red in FIG. 1 below) are implemented on devices that perform the same function as the ’438 patent’s “policy enforcement points” (outlined in red in FIG. 2 below). (*See* Ex. 1001 at 8:25-33).

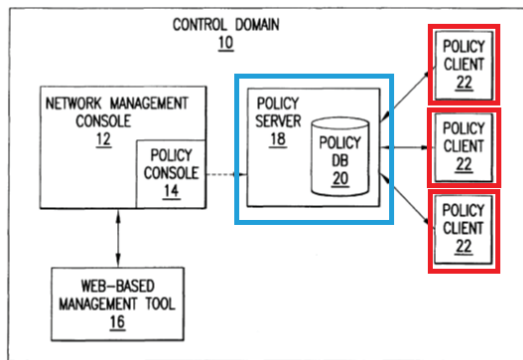


FIG. 1

(Ex. 1007 (Putzolu) at Fig. 1)  
(Annotated)

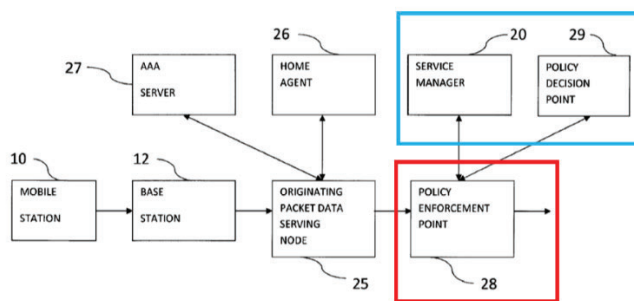


FIG. 2

(Ex. 1001 ('438 Patent) at Fig. 2)  
(Annotated)

142. Based on Putzolu's disclosure, an ordinary artisan would have understood that Putzolu expressly disclosed that the policy client 22 (*e.g.*, a policy enforcement point) may serve as an intermediary between a communication device and a policy server (*e.g.*, a policy decision point). (Ex. 1007 at 3:18-21 ("Policy server 18 is capable of communicating with a plurality of policy clients 22. Each policy client 22 serves as a policy enforcement point for policy-based control over the use of network resources.")).

143. Accordingly, an ordinary artisan would have appreciated that Putzolu disclosed systems for controlling a communication device, *e.g.*, through the use of policy enforcement points and policy decision points, in real-time over a communication network, where the communication device is used by a user.

144. As such, Putzolu renders obvious the preamble of claim 1.

- b. Claim 1[a]:** a policy decider for storing a list of policies that control one or more features or functions associated

with the communication device and for automatically deciding to accept or deny a request sent to or from the communication device to perform the features or functions based on the list of policies, the list of policies including a policy for managing content that can be sent, received, or used by the communication device; and

145. An ordinary artisan would have understood that Putzolu disclosed these elements.

146. For instance, Putzolu disclosed that the policy server, *e.g.*, the policy decider, of Putzolu receives access requests (sometimes referred to as a “query” in Putzolu) from the policy client, *e.g.*, the policy enforcer. (Ex. 1007 at 3:34-38 (“[W]hen policy client 22 receives a request for access to a resource under its control, it simply sends a query to policy server 18 using an appropriate protocol (an example of which is described below).”). As Putzolu taught, “policy server 18 maintains a policy database 20 containing policy specification information for established policies. (*Id.* at 3:7-9).

147. In operation, Putzolu taught “[p]olicy server 18 uses information *stored in policy database 20* and current state information (*e.g.*, state of any already-admitted requests) to determine whether to accept the request, and ***then sends a response to policy client 22.***” (*Id.* at 4:57-61). “Policy server 18 determines whether to allow the access, and ***communicates the decision*** to policy client 22.” (*Id.* at 3:38-39). The policy client receives the decision (or response) from the policy server in real-time. (*Id.* at 4:57-61; *id.* at 9:14-20 (“The conditions

associated with a given policy rule may be evaluated periodically by the policy server, or may be evaluated in response to some trigger event, as in the foregoing example. This latter approach has the advantage of leveraging current PBNM architectures wherein PDPs automatically evaluate policy conditions when a request is made for a managed resource.”)).

148. Additionally, Putzolu disclosed various types and categories of policies, including policies directed towards the type of content that can be used, sent, or received. (*Id.* at 4:31-43 (disclosing “set of policies designed to restrict the use of network bandwidth” including “an application desiring access to a network resource, such as a corporate database...”), *id.* at 6:42-46 (“policy rules involving the following aspects: privileges based on an entity’s identity, application of rules to groups of entities, restrictions based on time, restrictions based on the number or amount of usage, and support for logical combinations of basic rules.”), *id.* at 1:34-46 (“Policy decision points (PDPs) store policies, examine requests for access to network resources received from policy enforcement points (PEPs), and compare such requests to any policies that have been established for those resources. If such established policies exist, PDPs decide on the appropriate action (*e.g.*, approve or deny an access request) and accordingly inform one or more policy enforcement points (PEPs). Policy enforcement points are responsible for enforcing the policy decision.”); *see also* Ex. 1008 at [0037] (“[a] resource is an

object defined by the service type and identifiable by a unique name” such as “MailServer1,” “a Uniform Resource Identifier (URI) or Uniform Resource Locator (URL),” or “a Web site such as <http://abcweb.abc.com>”).

149. Accordingly, an ordinary artisan would have appreciated that Putzolu disclosed the use of a policy decider for storing a list of policies that control one or more features or functions associated with a communication device, and which automatically decides to accept or deny a request sent to or from the communication device to perform features or functions based on the list of policies. An ordinary artisan would have further appreciated that the list of policies can include a policy for managing content that can be sent, received, or used by the communication device on the communication network, *e.g.*, privileges based on the user’s identity, restrictions based on the number or amount of usage, or accessing content from network resources, *e.g.*, content from a corporate database. (Ex. 1007 at Fig. 1, 4:31-43, 6:42-49).

150. Accordingly, Putzolu renders obvious element 1[a] of claim 1.

- c. **Claim 1[b]:** a policy enforcer for communicating the request to the policy decider and enforcing a decision by the policy decider as to whether the request has been accepted or denied by either notifying the user of the denied request and taking one or more actions consistent with the denied request or taking one or more actions consistent with the accepted request.



151. An ordinary artisan would have understood that Putzolu disclosed these elements.

152. As I mentioned above in Section VIII.B.1.a-b, the policy client (*i.e.*, the policy enforcer or PEP) in Putzolu communicates the request to the policy server (*i.e.*, the policy decider or PDP), and enforces the decision received from the policy server. (*See supra* § VIII.B.1.a-b).

153. After Putzolu's policy client receives the decision (or response) from the policy server, the policy client enforces the decision. (Ex. 1007 at 3:26-28 (“Based on the response from policy server 18, ***policy client 22 enforces the decision*** by either allowing or disallowing the request.”); *id.* at 4:57-62 (“Policy server 18 uses information stored in policy database 20 and current state information (*e.g.*, state of any already-admitted requests) to determine whether to accept the request, and then sends a response to policy client 22. ***Policy client 22 then either admits or denies the request as appropriate.***”)).

154. Moreover, based on Putzolu's disclosure, in certain embodiments, enforcing the decision from the policy server 18 includes admitting or denying features or functions of the communication device based on the list of policies, which include policies for content that can be used, sent, or received, *e.g.*, access to a network resource, over the communication network when the decision grants the request – *i.e.*, providing access to the network resource or denying such access. (*Id.*

at claim 25 (“A policy-based network management system comprising: a policy enforcement point to *selectively enable access to a network resource*”); *id.* at 1:13-15 (“Network resources might include, for example, database servers, hosts, switches, routers, and firewalls.”); *id.* at 4:35-37, 10:54-67). Additionally, Putzolu taught that enforcing the decision from the policy server includes taking one or more actions consistent with the denied request, or taking one or more actions consistent with the accepted request. (*Id.* at 5:16-22 (“For example, a response from policy server 18 may include a non-negative integer indicating a relative priority of the response: higher numbers indicating higher priority, *and the value zero being used to completely deny a request.*”); *id.* at 4:61-62 (“Policy client 22 then either admits or denies the request as appropriate.”)).

155. Accordingly, an ordinary artisan would have appreciated that Putzolu disclosed that the policy server (*i.e.*, the policy decider) uses information that is stored in the policy database to generate a decision, where the decision is then sent to the policy client (*i.e.*, the policy enforcer) for enforcement. (*See* Ex. 1007 at 4:55-65 (“Policy server 18 uses information stored in policy database 20 ... to determine whether to accept the request, and then sends a response to policy client 22. Policy client 22 then either admits or denies the request as appropriate.”); *id.* at Fig. 1). Indeed, an ordinary artisan would have understood that the “decision” is distinct from the “policy” itself.

156. An ordinary artisan would have recognized that Figure 1 in Putzolu makes clear, that in this embodiment, the policy client is physically separate from the policy server, as they are on different servers or network elements, and that only a decision based upon a policy, and not the policy itself, is being communicated back to the policy client. (Ex. 1007 at 3:24-28 (“In the PBNM architecture shown in FIG. 1, policy client 22 is configured to *outsource* such decisions to policy server 18. Based on the response from policy server 18, policy client 22 enforces the decision by either allowing or disallowing the request.”)). Moreover, Putzolu confirms this ordinary interpretation because the specification taught that “[i]n the PBNM architecture shown in FIG. 1, policy client 22 can be configured with a *relatively-simple structure because it off-loads policy-interpretation tasks to policy server 18.*” (Ex. 1007 at 3:31-34) (emphasis added).

157. As such, Putzolu renders obvious element 1[b] of claim 1.

158. Accordingly, Putzolu renders obvious all of the limitations of claim 1.

## **2. Claim 27**

- a. Claim 27[Pre]:** A system for managing in real-time a communication device used by a user on a communication network, comprising:

159. As I described previously in Section VIII.B.1.a, to the extent the preamble is considered limiting, Putzolu described these elements. (*See supra* § VIII.B.1.a).

160. As I stated previously, an ordinary artisan would have appreciated that Putzolu disclosed systems for controlling a communication device, *e.g.*, through the use of policy servers (*i.e.*, policy decision points) and policy clients (*i.e.*, policy enforcement points), that is used by a user and in real-time over a communication network. (Ex. 1007 at Figs 1 and 2).

161. As such, Putzolu renders obvious the preamble of claim 27.

- b. Claim 27[a]:** a policy decider housed within a network device on the communication network for storing a list of policies that control one or more features or functions associated with the communication device and for automatically deciding to accept or deny a request sent to or from the communication device to perform the features or functions based on one or more policies from the list of policies; and

162. As I described previously in Section VIII.B.1.b, Putzolu described these elements. (*See supra* § VIII.B.1.b). As I stated previously, an ordinary artisan would have appreciated that Putzolu taught the use of a policy server (*i.e.*, a policy decider or PDP) for storing a list of policies that control one or more features or functions associated with the communication device, and where the policy decider automatically decides to accept or deny a request sent to or from the communication device to perform features or functions based on the list of policies. (Ex. 1007 at 1:34-44 (“Policy decision points (PDPs) store policies, examine requests for access to network resources received from policy enforcement points (PEPs), and compare such requests to any policies that have

been established for those resources. If such established policies exist, PDPs decide on the appropriate action (e.g., approve or deny an access request’’)).

163. Claim 27[a] further includes the additional limitation requiring that the policy decider is “housed within a network device on the communication network.” Putzolu also disclosed this element. For instance, Putzolu disclosed various embodiments where the policy-based network management system is described as “control domain 10,” which includes “a policy server 18 accessible through policy console 14” and where “policy server 18 maintains a policy database 20 containing specification information for established policies.” (Ex. 1007 at 3:1-16, Fig. 1). Based on Putzolu’s disclosure, an ordinary artisan would have recognized that the policy decider (*i.e.*, the policy server or PDP), could be housed on a network device, *e.g.*, a “server” or other similar network element. (Ex. 1007 at Figs. 1 and 2, 3:29-31 (“Policy client 22 typically resides at a network device’’)).

164. As such, Putzolu renders obvious element 27[a] of claim 27.

- c. **Claim 27[b]:** a policy enforcer housed within a network device on the communication network for communicating the request to the policy decider and enforcing a decision by the policy decider as to whether the request has been accepted or denied by either notifying the user of the denied request and taking one or more actions consistent with the denied request or taking one or more actions consistent with the accepted request.

165. As I described previously in Section VIII.B.1.c, Putzolu described these elements. (*See supra* § VIII.B.1.c). As I stated previously, an ordinary artisan would have appreciated that Putzolu disclosed a policy enforcer (*i.e.*, policy client 22 or PEP) for communicating the request to the policy decider (*i.e.*, policy server 18 or PDP), which enforces a decision received from the policy decider as to whether the request has been accepted or denied. (Ex. 1007 at 3:1-31, 3:38-41 (“[p]olicy server 18 determines whether to allow the access, and communicates the decision to policy client 22.”)). An ordinary artisan would have further understood that the policy enforcer would have notified the user if the request has been denied and would have taken one or more actions consistent with the denied request, or by taking one or more actions consistent with the accepted request, *e.g.*, “allowing or disallowing the request.” (*Id.* at 3:26-28).

166. Claim 27[b] further includes the additional limitation requiring that the policy enforcer is “housed within a network device on the communication network.” Putzolu also disclosed this element. For instance, Putzolu disclosed that “[p]olicy client 22 typically resides at a network device responsible for data forwarding, such as a LAN switch, a router, or a firewall.” (Ex. 1007 at 3:28-31). As such, in my opinion, an ordinary artisan would have recognized that Putzolu disclosed that the policy enforcer, *i.e.*, the policy client or PEP, could be housed on

a network device such as a switch, a router, a firewall, or the like. (*Id.* at Figs. 1 and 2, 3:1-40).

167. As such, Putzolu renders obvious element 27[b] of claim 27.

168. Accordingly, Putzolu renders obvious all of the limitations of claim 27.

### 3. Claim 33

- a. **Claim 33[Pre]:** A system for managing in real-time a communication device used by a user on a communication network, comprising:

169. As I described previously in Sections VIII.B.1.a and VIII.B.2.a, to the extent the preamble is considered limiting, Putzolu described these elements. (*See supra* §§ VIII.B.1.a and VIII.B.2.a).

170. As I stated previously, an ordinary artisan would have appreciated that Putzolu disclosed systems for controlling a communication device, *e.g.*, through the use of policy servers (*i.e.*, policy decision points or PDPs) and policy clients (*i.e.*, policy enforcement points or PEPs), that is used by a user and in real-time over a communication network. (Ex. 1007 at Figs 1 and 2).

171. As such, Putzolu renders obvious the preamble of claim 33.

- b. **Claim 33[a]:** a policy decider for storing a list of policies that control one or more features or functions associated with the communication device and for automatically deciding to accept or deny a request sent to or from the communication device to perform the features or functions based on one or more policies from the list of policies; and

172. As I described previously in Sections VIII.B.1.b and VIII.B.2.b, Putzolu disclosed these elements. (*See supra* §§ VIII.B.1.b and VIII.B.2.b). For instance, an ordinary artisan would have appreciated that Putzolu taught the use of a policy server (*i.e.*, a policy decider or PDP) for storing a list of policies that control one or more features or functions associated with the communication device, and where the policy decider automatically decides to accept or a deny a request sent to or from the communication device to perform the features or functions based on the list of policies. (Ex. 1007 at 1:34-44 (“Policy decision points (PDPs) store policies, examine requests for access to network resources received from policy enforcement points (PEPs), and compare such requests to any policies that have been established for those resources. If such established policies exist, PDPs decide on the appropriate action (e.g., approve or deny an access request)”)).

173. As such, Putzolu renders obvious element 33[a] of claim 33.

- c. **Claim 33[b]:** a policy enforcer for communicating the request to the policy decider and enforcing a decision by the policy decider as to whether the request has been accepted or denied by either notifying the user of the denied request and taking one or more actions consistent with the denied request or taking one or more actions consistent with the accepted request.

174. As I described previously in Sections VIII.B.1.c and VIII.B.2.c, Putzolu disclosed these elements. (*See supra* §§ VIII.B.1.c and VIII.B.2.c). For



instance, an ordinary artisan would have appreciated that Putzolu taught the use of a policy enforcer (*i.e.*, policy client or PEP) for communicating the request to the policy decider (*i.e.*, policy server or PDP), which enforces a decision received from the policy decider as to whether the request has been accepted or denied. (Ex. 1007 at 3:1-31 (“policy client 22 enforces the decision by either allowing or disallowing the request”), 3:38-41 (“[p]olicy server 18 determines whether to allow the access, and communicates the decision to policy client 22.”)). Additionally, an ordinary artisan would have understood that the policy enforcer would have implicitly notified the user if the request has been denied and by taking one or more actions consistent with the denied request, or by taking one or more actions consistent with the accepted request, *e.g.*, “allowing or disallowing the request.” (*Id.* at 3:26-28).

175. As such, Putzolu renders obvious element 33[b] of claim 33.

176. Accordingly, Putzolu renders obvious all of the limitations of claim 33.

#### **4. Putzolu is Analogous Art**

177. As an initial matter, I discussed by understandings of the legal principles surrounding the analogous art inquiry above. (*See supra* § IV.D). I incorporate my understanding of those principles as set forth herein. In my

opinion, it is proper for an ordinary artisan to look to the teachings of Putzolu in accessing the obviousness of the claims as set forth above.

178. In my opinion, Putzolu is analogous art under both tests of the analogous art inquiry. Specifically, in my opinion, Putzolu is in the same field of endeavor as the '438 patent and is also reasonably pertinent to the particular problem with which the inventor of the '438 patent was involved.

179. First, in my opinion, Putzolu is from the same field of endeavor as the '438 patent, *e.g.*, the field of access control for a computing or networking device. For instance, Putzolu identifies a similar problem, which is the management of user behavior and/or access to network resources, as the one identified in the '438 patent. (*See* Ex. 1001 at 1:12-27 (“The present invention is directed to the real-time management of a device, and more particularly to the establishment and enforcement of policies or rules associated with the feature or functions that may be performed with the device. Modern communication devices are capable of many things, including making and receiving calls, exchanging data, playing games and music, sending and receiving email, accessing web sites, and paying for goods and services.”); *see also* Ex. 1007 at 1:28-32 (“a new technology called policy-based network management (PBNM) has emerged. PBNM allows policies relating to the use of network resources to be stored in a management system for use in a more automated fashion than is generally possible with console-based

management.), 2:46-52 (“Network devices, such as routers and switches, act as policy clients, relying on the policy server for policy based admission control. For example, when a router receives a request to join an IP (Internet Protocol) multicast group, the router would communicate with a predetermined policy server to query whether the request can be accepted...”). Thus, in my opinion, Putzolu is analogous art because it is from the same field of endeavor as the ’438 patent.

180. Second, in my opinion, Putzolu is also reasonably pertinent to the particular problem with which the inventor was involved. For instance, Putzolu disclosed systems and methods for managing access by a communication device through the use of certain elements such as a “policy enforcement points (PEPs)” and “policy decision points (PDPs),” where the “policy decision points (PDPs) store policies, examiner requests for access to network resources received from policy enforcement points (PEPs), and compare such requests to any policies that have been established for those resources” and where “[p]olicy enforcement points are responsible for enforcing the policy decision.” (Ex. 1007 at 1:34-42). These elements are identical both in structure and in function to those elements that the ’438 patent discloses for managing features and functions of communication devices, *e.g.*, “[t]he PEP 28 is a logical element that ... is responsible for enforcing decisions by ... policy decision point 29.” (Ex. 1001 at 8:20-27, 8:28-29 (“[t]he PEP 28 operates in conjunction with the policy decision point (PDP) 29”). Thus,

in my opinion, Putzolu qualifies as analogous art because it is both from the same field of endeavor and reasonably pertinent to the particular problem with which the inventor of the '438 patent was involved.

181. Moreover, to the extent Putzolu itself does not precisely disclose any claim limitation, an ordinary artisan would have been motivated to modify Putzolu's teachings to apply the disclosed architecture for policy-based device access management of communication devices in order to reduce the workload and complexity of network management for administrators and to reduce memory requirements on individual devices. In my opinion, any such modification is well within the skillset of an ordinary artisan and would amount to no more than routine design choice between predictable and known solutions, and an ordinary artisan would have had a reasonable expectation of success. In my opinion, an ordinary artisan would have expected success in modifying Putzolu's disclosure, for instance, by designing and modifying the types and categories of policies that an administrator can set, and there is nothing in Putzolu that suggests implementing certain policy types would be uniquely difficult. Thus, to the extent Putzolu is deemed to not teach or suggest any claim limitation, Putzolu's modification would have required no more than the application of prior art devices (*e.g.*, communication devices, policy enforcers, and policy deciders), according to

known methods of network connectivity and software to yield a predictable result of implementing policy-based control over communication devices.

## **IX. Conclusion**

I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Dated: \_\_\_\_\_

1/8/22

By: \_\_\_\_\_

Vijay K. Madiseti

Vijay K. Madiseti  
1/8/22