MAX D. WHEELER (3439)
JOSEPH P. BARRETT (8088)
P. MATTHEW COX (9879)
SNOW, CHRISTENSEN & MARTINEAU
10 Exchange Place, Eleventh Floor
Post Office Box 45000
Salt Lake City, UT 84145
Telephone: (801) 521-9000
Facsimile: (801) 363-0400

JEFFREY A. MILLER (Admitted *Pro Hac Vice*)
SUGITHRA SOMASEKAR (Admitted *Pro Hac Vice*)
ORRICK, HERRINGTON & SUTCLIFFE LLP
1000 Marsh Road
Menlo Park, CA 94025
Telephone: (650) 614-7400
Facsimile: (650) 614-7401

Attorneys for Defendant
UPEK, INC.

IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF UTAH

CENTRAL DIVISION

INTERNATIONAL AUTOMATED SYSTEMS INC.; Plaintiff, vs. IBM; IBM CORPORATION; IBM PERSONAL COMPUTING DIVISION; LENOVO (UNITED STATES) INC.; LENOVO GROUP LTD.; UPEK, INC. and JOHN DOES 1-20; Defendants.	**DECLARATION OF DR. BEHNAM BAVARIAN IN SUPPORT OF UPEK'S MOTION FOR SUMMARY JUDGMENT THAT THE PATENT-IN-SUIT IS UNENFORCEABLE DUE TO NELDON JOHNSON'S INEQUITABLE CONDUCT AND THAT THIS CASE IS EXCEPTIONAL UNDER 35 U.S.C. § 285** Case No.: 2:06-CV-00072-DB Judge: Dee Benson

I, Behnam Bavarian, do hereby state as follows:

1.   I am the President and Chief Executive Officer of AFIS and Biometrics Consulting, Inc., which is a consulting firm dedicated to the biometrics industry. I have been directly involved in technologies used in the biometrics industry for over twenty seven years. I have a BS degree in Engineering from Abadan Institute of Technology in Iran that was awarded in 1978. I started my graduate work in engineering at Brown University in 1978. I then transferred to The Ohio State University, Columbus, Ohio, in 1979. At Ohio State, I earned a Master of Science degree and Ph.D. in Electrical and Computer Engineering in 1981 and 1984, respectively.

2.   A copy of my Curriculum Vitae is attached to this declaration as Exhibit 1. However, I would like to explain some of my background and experience. From 1984 through 1992, I was a professor in the Electrical and Computer Engineering department at the University of California at Irvine ("UCI"). While at UCI, I conducted original research into computer vision, digital image processing, pattern recognition, artificial intelligence and artificial neural networks, all of which are core technologies used in biometric identification products.

3.   In 1992, I joined a company called Printrak International ("Printrak"), where I was the technical lead for Printrak's sixth generation fingerprint biometric identification product line. This product was a tremendous success for Printrak and led to the company going public.

4.   In 2000, I became the Vice President of Engineering at Printrak. Later that year, Printrak was acquired by Motorola. After the Motorola acquisition, I became the Vice-President MCEI ("Motorola Communication and Electronic Inc.") of Motorola's Biometrics Business Unit. My accomplishments at Motorola are many. As just one example, I led the development of the latest and most advanced technology automated fingerprint identification system ("AFIS") product line in the industry, achieving tier one core technology performance status as defined by the National Institute of Standards and Technology ("NIST"). This product I was in charge of

developing won the 2004 Frost & Sullivan Award for Competitive Strategy Leadership.

5.　　I am currently a member of the NIST/ANSI Biometrics Exchange Standards Committee, the NIST Mobile Identification Committee, the NIST Multiple Biometrics Grand Challenge Committee and the International Conference on Biometrics Standards Committee. In the past, I have been on the European Biometrics Forum, the European Biosecure Network of Excellence and the European Union Commission Project in Minutia Template Interoperability Testing Committee. I was also a contributor to the ISO Biometrics Standards Committee.

6.　　As detailed in my C.V., I have authored many papers on biometrics and related technologies such as computer vision, pattern recognition, neural networks and artificial intelligence. I am listed as inventor on three patents and several pending patent applications relating to automatic fingerprint identification systems.

7.　　As part of my work in the biometrics industry, I have read and reviewed hundreds of papers, both from academic and industry sources, as well as company literature and patents. It has been an important part of my responsibilities to be aware of the different technologies available for sensing fingerprint patterns as well as image processing, template extraction and matching technologies. It was also my responsibility to select particular technologies for use in Printrak's and Motorola's fingerprint identification products, such as which particular sensor technology to use, algorithms (feature (also called template) extraction, feature matching, pattern matching)), as well as hardware (e.g., processor boards for feature extraction and matching).

8.　　I have been asked to provide my opinion on the "materiality" of United States Patent No. 4,325,570 ("the '570 Patent") to the patentability of United States Patent No. 5,598,474 ("the '474 Patent"). As I will explain, it is my belief that the '570 patent is very material to the patentability of the claims of the '474 Patent since it teaches essentially the same thing that the '474 Patent stated was not taught in the prior art.

9.　　It is my understanding that for a prior art reference to be considered "material" to the

2

patentability of a patent claim, the reference must be such that a patent examiner would have considered what is described in that reference to be important when deciding whether to allow the claim. This is the standard I am applying in my analysis of the '570 Patent as applied to the '474 Patent.

10. As part of my study, I have reviewed certain portions of the prosecution history of the '474 Patent. I have some understanding of the patent process because I have been named as an inventor on several patents, as I noted elsewhere in this declaration. From my review of the prosecution history, I note that the '474 Patent is related to an earlier application and I am informed that the earlier application is considered part of the prosecution history of the '474 Patent. The earlier application was given serial number 08/218,743. I will call this earlier application the '743 Application.

11. I have reviewed the '743 Application to determine whether it discloses finding "unique characteristics" in a fingerprint and giving each of these unique characteristics a code that identifies the type of unique characteristic and the relative location of such unique characteristics. I can find no such disclosure in the '743 Application.

12. Note that from studying the '474 Patent, it is clear that the term "unique characteristic" is directed to what are referred to as fingerprint "minutia". The '474 Patent discloses several items it refers to as "unique characteristics." See Column 11, lines 54-57. Minutia are fingerprint ridge characteristics that can be identified, e.g., ridge endings and bifurcations. I have also reviewed the specification of the '743 Application and can find no description of fingerprint minutia.

13. I have reviewed a rejection that the patent office mailed on July 20, 1994 during the prosecution of the '743 Application. In that rejection, the patent office stated that it appeared the several prior art patents, including what he identifies as Piosenka ('068'), disclose what is claimed. I will refer to this prior art patent as the '068 Patent.

14. I have also reviewed a document that was mailed to the patent office by the inventor's attorney on October 10, 1994 during the prosecution of the '743 Application. In that document, the earlier claims were cancelled and several new claims were added, including claim

11. The table below demonstrates the difference between claim 1 of the '474 Patent and claim 11 of the earlier application:

Claim 1 of U.S. Patent No. 4,598,474	Claim 11 of Earlier Application.
An apparatus for reading unique identifying characteristics from a body part,	A system for reading identifying characteristics from a body part,
transmitting said unique identifying characteristics to a computer,	transmitting an image of such characteristics to a computer,
digitizing the characteristics, and then having a computer with the ability to separate out from the whole unique identifying characteristics into separate unique identifying characteristics and then distinguish and identify the different unique characteristics	and digitizing the image of the characteristics
and then giving each of those unique identifying characteristics a unique code that represents the unique identifying characteristics type and location relative to other unique identifying characteristics	
for the purpose of affixing them on an identification document, or electronic storage medium including the following components:	for encoding on an identification document, comprising in combination:
means for transferring the characteristics from a camera means to a digitizer;	an optical scanning device for reading the characteristics from a body part to produce an image of the body part characteristics; means for transferring the image of the body part characteristics from the scanning device to a camera means; a camera means for receiving the image of the body part characteristic from the scanning device;

	a digitizer for changing the image of the body part characteristics to a digital number;
means for transferring the characteristics from the digitizer to the computer for the purpose of separating out from the whole image each unique identifying characteristic;	a computer for receiving the digital number from the digitizer for storage and processing; and
means for identifying each unique characteristic by type;	
means for giving each identifying characteristic its own unique code which is comprised of the type and also relative location;	
means for transmitting the unique identification characteristics code to the computer for storage and processing; and	
means for imprinting the unique identification characteristics codes on the electronic storage medium.	imprinting means for imprinting the digital number on the magnetic strip of an identification card.

15.   As can be seen, the claim in the earlier application did not require finding unique characteristics and assigning a unique code consisting of the type and relative location of unique characteristics, e.g., minutia.

16.   Another document from the prosecution history I reviewed is second rejection mailed by the patent office on December 15, 1994 during the prosecution of the '743 Application. In that rejection, the patent office said that claim 11 was "anticipated" by the '068 Patent. I am informed that the term "anticipation" means that all the elements of the claim are present in the cited prior art reference.

17.   On March 10, 1995, the application that would eventually issue as the '474 Patent was filed. The '474 Patent added new disclosure, including disclosure relating to assigning a unique code for "unique characteristics" where the code consists of the type and relative location of unique

characteristics. The '474 Patent also had the following statement:

> U.S. Pat. No. 4,993,068 does not identify the use of a computer program to find the unique biological identifying parts and separating them from the other parts of the image. It uses the whole biological image to compare it with the live image. This is where the present invention defers. The present invention deals with first separating and or finding and identifying the unique patterns and identifying marks from the rest of the biological image. It finds only the unique parts of the biometrics image and then identifies them by giving them a unique identification number or code and then combines them into a unique identification code. The unique identification code is composed of a location reference and a biologically unique identifiable mark. Col. 3, Lines 27-39.

18.   The '570 Patent discloses the concept of finding minutia points in a fingerprint image and creating a unique identifying code comprised of the type of minutia and also relative location. I have reprinted below Figure 1 of the '570 Patent:
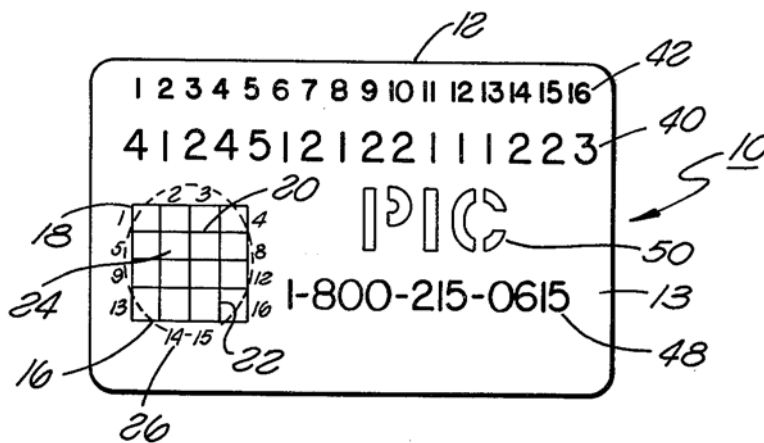
19.   The top row of the card that is labeled as number 42 is a relative location reference. Each number in this portion of the code corresponds to a grid number. The second row from the top that is labeled as number 40 is a fingerprint characteristic, e.g., fingerprint minutia:

6

Example 1

Number	Fingerprint Characteristic
1	ridge
2	bifurcation
3	enclosure
4	dot
5	ridge ending
6	scar or mutilation
7	ridge crossing
8	trifurcation
9	island
0	none of the above

20.   Thus, in the code described in the '570 Patent, location "1" has a fingerprint characteristic corresponding to type code "4" in it, which is a dot, location "2" has a fingerprint characteristic corresponding to type code "1" in it, which is a ridge, etc.

21.   Thus, '570 Patent describes creating a unique code comprised of the type and relative location of unique fingerprint characteristics. The code described in the '570 Patent is the same information as the code the '474 Patent identifies as the difference between the invention it describes and the '068 Patent, as can be seen from the quote from the '068 Patent above.

22.   Using the definition of "materiality" provided to me, my opinion is that the '570 Patent would have been highly material As is seen, the '570 Patent describes the same feature the '474 Patent says is the difference between itself and the prior art the patent office had when it examined the application that issued as '474 Patent. A patent examiner certainly would find it important that the feature the patentee is arguing cannot be found in the prior art was actually described in the prior art.

23.   Please note that automating the process of searching for minutia points in a fingerprint image was well known in 1995. AFIS systems that had this ability were available from companies such as Printrak (where I was responsible for the design of AFIS systems that had this ability), NEC, Morpho Systems, Cogent, Dermalog and Papillon. In addition, the National Bureau of Standards ("NBS"), a branch of the United States government, developed software and systems that automatically searched for minutia points in fingerprints.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on June 20, 2008 at Irvine, California.

_____
Behnam Bavarian