

AMENDED AND RESTATED CERTIFICATE OF INCORPORATION
OF
APACHE DESIGN SOLUTIONS, INC.

Andrew T. Yang and Warren T. Lazarow hereby certify that:

ONE: They are the duly elected and acting Chief Executive Officer and Secretary, respectively, of Apache Design Solutions, Inc., a Delaware corporation (the "**corporation**"). The date of filing of said corporation's original certificate of incorporation with the Delaware Secretary of State is January 3, 2001.

TWO: The following resolutions amending and restating the corporation's Amended and Restated Certificate of Incorporation were approved by a majority of the outstanding shares of Common Stock and at least seventy-five percent (75%) of the outstanding shares of Series A Preferred Stock, each voting as a separate class, by written action in lieu of a meeting and by the corporation's board of directors in accordance with the provisions of Sections 245 and 242 of the General Corporation Law and notice has been given to the non-consenting stockholders in accordance with the provisions of Section 228(d) of the General Corporation Law.

The Amended and Restated Certificate of Incorporation of the corporation is hereby amended and restated to read in its entirety as follows:

ARTICLE 1.

The name of the corporation is Apache Design Solutions, Inc.

ARTICLE 2.

The address of the registered office of the corporation in the State of Delaware and the County of New Castle is 2711 Centreville Road, Suite 400, Wilmington, Delaware and the name of the registered agent at that address is Corporation Service Company.

ARTICLE 3.

The purpose of the corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of Delaware.

ARTICLE 4.

A. Classes of Stock. This corporation is authorized to issue two classes of shares to be designated respectively Preferred Stock ("**Preferred Stock**") and Common Stock ("**Common Stock**"). The total number of shares of capital stock that the corporation is authorized to issue is twenty-five million seven hundred thirty-three thousand six hundred sixty-

five (25,733,665). The total number of shares of Preferred Stock this corporation shall have authority to issue is five million nine hundred thirty-three thousand six hundred sixty-five (5,933,665). The total number of shares of Common Stock this corporation shall have authority to issue is twenty million (20,000,000). The Preferred Stock shall have a par value of \$0.0001 per share and the Common Stock shall have a par value of \$0.0001 per share.

B. The Preferred Stock. Three million six hundred thirty-three thousand six hundred sixty-five (3,633,665) of the shares of Preferred Stock shall be designated "**Series A Preferred Stock**," and two million three hundred thousand (2,300,000) shares of the Preferred Stock shall be designated as "**Series B Preferred Stock**." The powers, preferences, rights, restrictions, and other matters relating to the Preferred Stock are as follows:

1. Dividends.

a. The holders of the Series A Preferred Stock and the Series B Preferred Stock shall be entitled to receive on a pari passu basis annual dividends at the rate of 8% of the Original Issue Price (as defined herein) per share of Series A Preferred Stock or Series B Preferred Stock, as the case may be, payable out of funds legally available therefor, prior and in preference to any declaration or payment of any dividend on the Common Stock. Such dividends shall be payable only when, as, and if declared by the Board of Directors and shall be non-cumulative. The "**Original Issue Price** for the Series A Preferred Stock" shall be \$0.4792 per share (as adjusted for any stock dividends, combinations or splits with respect to such shares) and the "**Original Issue Price** for the Series B Preferred Stock" shall be \$2.00 per share (as adjusted for any stock dividends, combinations or splits with respect to such shares). No dividends (other than those payable solely in the Common Stock of the corporation) shall be paid on any shares of Common Stock of the corporation during any fiscal year of the corporation unless and until a similar dividend on the Preferred Stock shall have been paid or declared and set apart during that fiscal year.

b. In the event the corporation shall declare a distribution payable in securities of other persons, evidences of indebtedness issued by the corporation or other persons, assets (excluding cash dividends) or options or rights to purchase any such securities or evidences of indebtedness, then, in each such case the holders of the Preferred Stock shall be entitled to a proportionate share of any such distribution as though the holders of the Preferred Stock were the holders of the number of shares of Common Stock of the corporation into which their respective shares of Preferred Stock are convertible as of the record date fixed for the determination of the holders of Common Stock of the corporation entitled to receive such distribution.

2. Liquidation Preference.

a. In the event of any liquidation, dissolution or winding up of the corporation, whether voluntary or involuntary, the holders of the Series B Preferred Stock shall be entitled to receive, prior and in preference to any distribution of any of the assets or surplus funds of the corporation to the holders of the Series A Preferred Stock or the Common Stock by reason of their ownership thereof, an amount equal to (i) the Original Issue Price for the Series B Preferred Stock plus (ii) all accrued but unpaid dividends thereon. If upon the

occurrence of such event, the assets and funds thus distributed among the holders of the Series B Preferred Stock shall be insufficient to permit the payment to such holders of the full aforesaid preferential amount, then the entire assets and funds of the corporation legally available for distribution shall be distributed ratably among the holders of the Series B Preferred Stock in proportion to the preferential amount each such holder is otherwise entitled to receive.

b. After payment to the holders of the Series B Preferred Stock of the amounts set forth in Article 4(B)(2)(a) above, the holders of the Series A Preferred Stock shall be entitled to receive, prior and in preference to any distribution of any of the assets or surplus funds of the corporation to the holders of the Common Stock by reason of their ownership thereof, an amount equal to (i) the Original Issue Price for the Series A Preferred Stock plus (ii) all accrued but unpaid dividends thereon. If upon the occurrence of such event, the assets and funds thus distributed among the holders of the Series A Preferred Stock shall be insufficient to permit the payment to such holders of the full aforesaid preferential amount, then the entire assets and funds of the corporation legally available for distribution shall be distributed ratably among the holders of the Series A Preferred Stock in proportion to the preferential amount each such holder is otherwise entitled to receive.

c. After payment to the holders of the Series B Preferred Stock of the amounts set forth in Article 4(B)(2)(a) above and payment to the holders of the Series A Preferred Stock of the amounts set forth in Article 4(B)(2)(b) above, the entire remaining assets and funds of the corporation legally available for distribution, if any, shall be distributed among the holders of the Common Stock and the Preferred Stock in proportion to the shares of Common Stock then held by them and the shares of Common Stock which they then have the right to acquire upon conversion of the shares of Preferred Stock then held by them.

d. For purposes of this Article 4(B)(2), (i) any acquisition of the corporation by means of merger or other form of corporate reorganization in which outstanding shares of the corporation are exchanged for securities or other consideration issued, or caused to be issued, by the acquiring corporation or its subsidiary (other than a mere reincorporation transaction or an equity financing transaction primarily for capital raising purposes) and pursuant to which the holders of the outstanding voting securities of the corporation immediately prior to such merger or other form of corporate reorganization fail to hold, in the same approximate proportions, equity securities representing a majority of the voting power of the corporation or surviving entity immediately following such merger or other form of corporate reorganization or (ii) a sale of all or substantially all of the assets of the corporation, shall be treated as a liquidation, dissolution or winding up of the corporation (each, a "**Liquidation Event**") and shall entitle the holders of Preferred Stock to receive at the closing in cash, securities or other property (valued as provided in Article 4(B)(2)(e) below) in amounts as specified in Article 4(B)(2)(a), Article 4(B)(2)(b) and Article 4(B)(2)(c) above.

e. Whenever the distribution provided for in this Article 4(B)(2) shall be payable in securities or property other than cash, the value of such distribution shall be the fair market value of such securities or other property determined as follows:

(1) Securities not subject to investment letter or other similar restrictions on free marketability covered by (2) below:

(A) if traded on a securities exchange or The Nasdaq Stock Market, the value shall be deemed to be the average of the closing prices of the securities on such exchange or system over the thirty (30) day period ending three (3) days prior to the relevant date of determination;

(B) if actively traded over-the-counter but not on The Nasdaq Stock Market, the value shall be deemed to be the average of the closing bid or sale prices (whichever is applicable) over the thirty (30) day period ending three (3) days prior to the relevant date of determination; and

(C) if there is no active public market, the value shall be the fair market value thereof, as mutually determined by the corporation and the holders of at least a majority of the then outstanding Preferred Stock, voting together as a single class; provided, however, that if no such mutual determination can be reached, the valuation shall be made by an appraiser of recognized standing selected by the corporation and the holders of at least a majority of the then outstanding Preferred Stock, voting together as a single class. The cost of such appraisal shall be shared equally by the holders of Preferred Stock and the corporation.

(2) The method of valuation of securities subject to investment letter or other restrictions on free marketability (other than restrictions arising solely by virtue of a stockholder's status as an affiliate or former affiliate) shall be to make an appropriate discount from the market value determined as above in paragraph (1) to reflect the approximate fair market value thereof, as mutually determined by this corporation and the holders of at least a majority of the voting power of the then outstanding Preferred Stock, voting together as a single class.

3. Redemption.

a. At any time after the five (5) year anniversary of the date on which a share of Series B Preferred Stock was first issued, after the receipt by this corporation of a written request from the holders of not less than (i) in the case of the Series A Preferred Stock, seventy-five percent (75%) of the then outstanding Series A Preferred Stock, and (ii) in the case of the Series B Preferred Stock, seventy-five percent (75%) of the then outstanding Series B Preferred Stock, that all outstanding shares of such series of Preferred Stock be redeemed, and concurrently with surrender by such holders of the certificates representing such shares, this corporation shall, to the extent it may lawfully do so, redeem all such shares by paying in cash therefor a sum per share equal to Original Issue Price for such series of Preferred Stock plus all declared or accumulated but unpaid dividends on such shares (the "**Redemption Price**"). Such redemption shall occur as soon as is reasonably practicable, but in any event within sixty (60) days of the receipt of the request by the corporation (the "**Redemption Date**"). Any redemption effected pursuant to this subsection 3(a) shall be made on a pro rata basis among the holders of the Preferred Stock in proportion to the number of shares of Preferred Stock then held by such holders.

b. As soon as is practicable, but in any event within thirty (30) days of the receipt of the request by the corporation, written notice shall be mailed, first class postage prepaid, to each holder of record (at the close of business on the business day next preceding the day on which notice is given) of the series of Preferred Stock to be redeemed, at the address last shown on the records of the corporation for such holder, notifying such holder of the redemption to be effected, specifying (i) the Redemption Date, (ii) the Redemption Price, (iii) the place at which payment may be obtained and calling upon such holder to surrender to the corporation, in the manner and at the place designated, his or her certificate or certificates representing the shares to be redeemed and (iv) that all outstanding shares of such series of Preferred Stock shall be redeemed (the "**Redemption Notice**"). Except as provided in Article 4(B)(3)(c), on or after the Redemption Date, each holder of shares of such series of Preferred Stock shall surrender to this corporation the certificate or certificates representing shares of such series of Preferred Stock, in the manner and at the place designated in the Redemption Notice, and thereupon the Redemption Price of such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof and each surrendered certificate shall be cancelled.

c. From and after the Redemption Date, unless there shall have been a default in payment of the Redemption Price, all rights of the holders of such shares of Preferred Stock (except the right to receive the Redemption Price without interest upon surrender of their certificate or certificates) shall cease with respect to such shares, and such shares shall not thereafter be transferred on the books of the corporation or be deemed to be outstanding for any purpose whatsoever. If the funds of the corporation legally available for redemption of shares of Preferred Stock on any Redemption Date are insufficient to redeem the total number of shares of Preferred Stock to be redeemed on such date, those funds which are legally available will be used to redeem the maximum possible number of such shares ratably among the holders of such shares to be redeemed based upon their holdings of Preferred Stock. The shares of Preferred Stock not redeemed shall remain outstanding and entitled to all the rights and preferences provided herein. At any time thereafter when additional funds of the corporation are legally available for the redemption of shares of Preferred Stock, such funds will immediately be used to redeem the balance of the shares which the corporation has become obliged to redeem on any Redemption Date but which it has not redeemed.

4. Voting Rights.

a. Voting. Each holder of shares of Preferred Stock shall be entitled to the number of votes equal to the number of shares of Common Stock into which such shares of Preferred Stock could be converted and shall have voting rights and powers equal to the voting rights and powers of the Common Stock (except as otherwise expressly provided herein or as required by law, voting together with the Common Stock as a single class) and shall be entitled to notice of any stockholders' meeting in accordance with the Bylaws of the corporation. Fractional votes shall not, however, be permitted and any fractional voting rights resulting from the above formula (after aggregating all shares into which shares of Preferred Stock held by each holder could be converted) shall be rounded to the nearest whole number (with one-half being rounded upward).

b. Election of Board of Directors.

(1) For so long as shares of Series A Preferred Stock remain outstanding, the holders of Series A Preferred Stock, voting as a separate class, shall be entitled to elect one (1) member of the corporation's Board of Directors at each meeting or pursuant to each consent of the corporation's stockholders for the election of directors, and to remove from office such director and to fill any vacancy caused by the resignation, death or removal of such director;

(2) For so long as shares of Preferred Stock remain outstanding, the holders of a majority in interest of the Preferred Stock, voting together as a single class, shall be entitled to elect one (1) member of the corporation's Board of Directors at each meeting or pursuant to each consent of the corporation's stockholders for the election of directors, and to remove from office such director and to fill any vacancy caused by the resignation, death or removal of such director; and

(3) The holders of a majority in interest of the Common Stock, voting as a separate class, shall be entitled to elect one (1) member of the corporation's Board of Directors at each meeting or pursuant to each consent of the corporation's stockholders for the election of directors, and to remove from office such director and to fill any vacancy caused by the resignation, death or removal of such director.

5. Conversion. The holders of the Preferred Stock shall have conversion rights as follows (the "**Conversion Rights**"):

a. Right to Convert. Each share of Preferred Stock shall be convertible, at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the corporation or any transfer agent for such stock, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Original Issue Price for such share of Preferred Stock by the conversion price applicable to such share, determined as hereinafter provided (the "**Conversion Price**"), in effect on the date the certificate is surrendered for conversion. The price at which shares of Common Stock shall be deliverable upon conversion of shares of the Series A Preferred Stock (the "**Series A Conversion Price**") shall initially be the Original Issue Price for the Series A Preferred Stock. The price at which shares of Common Stock shall be deliverable upon conversion of shares of the Series B Preferred Stock (the "**Series B Conversion Price**") shall initially be the Original Issue Price for the Series B Preferred Stock. Such initial Series A Conversion Price and Series B Conversion Price shall be adjusted as hereinafter provided.

b. Automatic Conversion. Each share of Preferred Stock shall automatically be converted into shares of Common Stock at the then effective Conversion Price for such share of Preferred Stock immediately upon the earliest to occur of: (i) the closing of the sale of the corporation's Common Stock in a firm commitment, underwritten public offering registered under the Securities Act of 1933, as amended (the "**Securities Act**"), with aggregate proceeds to the corporation (before deduction for underwriters' discounts and expenses relating to the issuance) of which exceed \$20,000,000 and at a public offering price per share that is not less than two (2) times the Original Issue Price for the Series B Preferred Stock (as appropriately

adjusted for any stock dividends, combinations or stock splits), (ii) the closing of any Liquidation Event pursuant to which the aggregate consideration payable to the corporation's stockholders equals or exceeds the Minimum Threshold Amount (as defined herein) or (iii) the date specified by written consent or agreement of holders of a majority of the shares of Preferred Stock then outstanding, voting together as a single class. For the purposes of this Section 4, the "**Minimum Threshold Amount**" shall mean the sum of (A) \$60,000,000 and (B) an amount equal to three (3) times the aggregate proceeds received by the corporation from any equity financing consummated by the corporation following the sale and issuance of the final share of Series B Preferred Stock authorized pursuant to Article 4(B) hereof (not including the issuance of any securities exempted from the definition of "Additional Shares of Common Stock" pursuant to Section 5(f)(i)(D)(I) through (VI) below).

c. Mechanics of Conversion.

(1) Before any holder of Preferred Stock shall be entitled to convert the same into shares of Common Stock, he or she shall surrender the certificate or certificates therefor, duly endorsed, at the office of the corporation or of any transfer agent for such stock, and shall give written notice to the corporation at such office that he or she elects to convert the same and shall state therein the name or names in which he or she wishes the certificate or certificates for shares of Common Stock to be issued. The corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Preferred Stock, a certificate or certificates for the number of shares of Common Stock to which he or she shall be entitled as aforesaid. Such conversion shall be deemed to have been made immediately prior to the close of business on the date of surrender of the shares of Preferred Stock to be converted, and the person or persons entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder or holders of such shares of Common Stock on such date.

(2) If the conversion is in connection with an underwritten offering of securities pursuant to the Securities Act, the conversion may, at the option of any holder tendering shares of Preferred Stock for conversion, be conditioned upon the closing with the underwriters of the sale of securities pursuant to such offering, in which event the person(s) entitled to receive the Common Stock upon conversion of the Preferred Stock shall not be deemed to have converted such Preferred Stock until immediately prior to the closing of such sale of securities.

d. Adjustments to Conversion Prices for Stock Dividends and for Combinations or Subdivisions of Common Stock. In the event that this corporation at any time or from time to time after the date on which a share of Preferred Stock was first issued shall declare or pay, without consideration, any dividend on the Common Stock payable in Common Stock or in any right to acquire Common Stock for no consideration, or shall effect a subdivision of the outstanding shares of Common Stock into a greater number of shares of Common Stock (by stock split, reclassification or otherwise than by payment of a dividend in Common Stock or in any right to acquire Common Stock), or in the event the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, then the Conversion Price for any series of Preferred Stock in effect immediately prior to such event shall, concurrently with the effectiveness of such event, be

proportionately decreased or increased, as appropriate. In the event that this corporation shall declare or pay, without consideration, any dividend on the Common Stock payable in any right to acquire Common Stock for no consideration then the corporation shall be deemed to have made a dividend payable in Common Stock in an amount of shares equal to the maximum number of shares issuable upon exercise of such rights to acquire Common Stock.

e. Adjustments for Reclassification and Reorganization. If the Common Stock issuable upon conversion of the Preferred Stock shall be changed into the same or a different number of shares of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares provided for in Article 4(B)(5)(d) above or a merger or other reorganization referred to in Article 4(B)(2)(c) above), the Conversion Price then in effect for any series of Preferred Stock shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted so such series of Preferred Stock shall be convertible into, in lieu of the number of shares of Common Stock which the holders would otherwise have been entitled to receive, a number of shares of such other class or classes of stock equivalent to the number of shares of Common Stock that would have been subject to receipt by the holders upon conversion of such series of Preferred Stock immediately before that change.

f. Adjustments for Issuance of Additional Equity Securities:

(i) Special Definitions. For purposes of this Section 5(f), the following definitions shall apply:

(A) **"Option"** shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(B) **"Original Issue Date"** shall mean, (i) with respect to the Series A Preferred Stock, the date on which a share of Series A Preferred Stock was first issued, and (ii) with respect to the Series B Preferred Stock, the date on which a share of Series B Preferred Stock was first issued

(C) **"Convertible Securities"** shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock.

(D) **"Additional Shares of Common Stock"** shall mean all shares of Common Stock issued (or, pursuant to Section 5(f)(iii) below, deemed to be issued) by the corporation after the Original Issue Date, other than shares of Common Stock issued or issuable:

(I) upon the conversion of shares of Preferred Stock or as a dividend or distribution on the Preferred Stock;

(II) pursuant to the acquisition of another corporation or entity by the corporation by way of merger, purchase of all or substantially all of

the assets of the corporation, stock for stock exchange or other reorganization or recapitalization approved by the Board of Directors of the corporation;

(III) to officers, directors or employees of, or consultants to, the corporation or a subsidiary under a stock option or other equity incentive plan or agreement approved by and in a manner determined by the Board of Directors of the corporation;

(IV) upon the closing of a public offering of the corporation's securities pursuant to the Securities Act;

(V) by reason of a dividend, stock split, split-up or other distribution on shares of Common Stock for which adjustment is otherwise made pursuant to this Section 5; or

(VI) options or warrants to purchase shares of capital stock, issued to financial institutions, strategic partners, vendors or lessors in connection with commercial credit arrangements, equipment financings, strategic partnerships or similar transactions approved by the Board of Directors of the corporation.

(ii) No Adjustment of Conversion Price. No adjustment in the applicable Conversion Price shall be made, unless the consideration per share (determined pursuant to Section 5(f)(v)) for an Additional Share of Common Stock issued or deemed to be issued by the corporation is less than the applicable Conversion Price in effect on the date of, and immediately prior to, the issue of such Additional Shares.

(iii) Issue of Securities Deemed Issue of Additional Shares of Common Stock. If the corporation at any time or from time to time after the Original Issue Date for any series of Preferred Stock shall issue any Options or Convertible Securities or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto without regard to any provision contained therein designed to protect against dilution) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date, provided that Additional Shares of Common Stock shall not be deemed to have been issued unless the consideration per share (determined pursuant to Section 5(f)(v) hereof) of such Additional Shares of Common Stock would be less than the applicable Conversion Price in effect for such series of Preferred Stock on the date of, and immediately prior to, the deemed issuance, or such record date, as the case may be, provided further that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(A) No further adjustment in any Conversion Price shall be made upon the subsequent issue of Convertible Securities or shares of Common

Stock upon the exercise of such Options or conversion or exchange of such Convertible Securities;

(B) If such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase in the consideration payable to the corporation, or decrease in the number of shares of Common Stock issuable upon the exercise, conversion or exchange thereof the applicable Conversion Prices computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities;

(C) Upon the expiration of any such Options or rights, the termination of any such rights to convert or exchange or the expiration of any options or rights related to such convertible or exchangeable securities, the Conversion Prices to the extent in any way affected by or computed using such options, rights or securities, shall be recomputed to reflect the issuance of only the number of shares of Common Stock (and convertible or exchangeable securities which remain in effect) actually issued upon the exercise of such options or rights, upon the conversion or exchange of such securities or upon the exercise of the options or rights related to such securities;

(D) No readjustment pursuant to clause (B) or (C) above shall have the effect of increasing any Conversion Price to an amount which exceeds the lower of (a) the Conversion Price in effect for such series of Preferred Stock on the original adjustment date and (b) the Conversion Price for such series of Preferred Stock that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such readjustment date;

(E) In the case of any Options which expire by their terms not more than 90 days after the date of issue thereof, no adjustments of the Conversion Price shall be made until the expiration or exercise of all such Options issued on the same date, whereupon such adjustment shall be made in the manner provided in clause (C) above; and

(F) If such record date shall have been fixed and such Options or Convertible Securities are not issued on the date fixed therefore, the adjustments previously made in the Conversion Price which became effective on such record date shall be cancelled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this subsection 5(f)(iii) as of the actual date of their issuance.

(iv) Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock. Subject to the provisions of Section 5(f)(ii) above, in the event the corporation shall at any time after the Original Issue Date for any series of Preferred Stock issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Section 5(f)(iii), but excluding shares issued as a dividend or distribution as provided in Section 5(d) or upon a stock split or combination as provided in Section 5(e)), without consideration or for a consideration per share less than the Conversion

Price in effect for such series of Preferred Stock on the date of and immediately prior to such issue, then and in such event, such Conversion Price shall be reduced concurrently with such issue to a price (calculated to the nearest cent) determined by multiplying such Conversion Price by a fraction, (x) the numerator of which shall be the number of shares of Common Stock outstanding immediately prior to such issue plus the number of shares of Common Stock which the aggregate consideration received by the corporation for the total number of Additional Shares of Common Stock so issued would purchase at such Conversion Price and (y) the denominator of which shall be the number of shares of Common Stock outstanding immediately prior to such issue plus the number of such Additional Shares of Common Stock so issued, provided that for the purposes of this subsection 5(f)(iv), the “**number of shares of Common Stock outstanding**” shall be deemed to include all shares of Common Stock then outstanding and all shares of Common Stock issuable upon conversion of all then outstanding Preferred Stock.

Notwithstanding the foregoing, the applicable Conversion Price shall not be so reduced at such time if the amount of such reduction would be an amount less than \$.01, but any such amount shall be carried forward and reduction with respect thereto made at the time of and together with any subsequent reduction which, together with such amount and any other amount or amounts so carried forward, shall aggregate \$.01 or more.

(v) Determination of Consideration. For purposes of this Section 5(f), the consideration received by the corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(A) Cash and Property. Such consideration shall:

(I) insofar as it consists of cash, be computed at the aggregate of cash received by the corporation, excluding amounts paid or payable for accrued interest or accrued dividends;

(II) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined mutually in good faith by this corporation and the holders of at least a majority of all then outstanding Preferred Stock, voting together as a single class; and

(III) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (I) and (II) above, as determined mutually in good faith by this corporation and the holders of at least a majority of all then outstanding Preferred Stock, voting together as a single class.

(B) Options and Convertible Securities. The consideration per share received by the corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Section 5(f)(iii), relating to Options and Convertible Securities, shall be determined by dividing:

- (x) the total amount, if any, received or receivable by the corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein designed to protect against dilution) payable to the corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by
- (y) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein designed to protect against dilution) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities.

g. No Impairment. The corporation will not, by amendment of its Certificate of Incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the corporation, but will at all times in good faith assist in the carrying out of all the provisions of this Article 4(B)(5) and in the taking of all such action as may be necessary or appropriate in order to protect the Conversion Rights of the holders of the Preferred Stock against impairment.

h. Certificates as to Adjustments. Upon the occurrence of each adjustment or readjustment of any Conversion Price pursuant to this Article 4(B)(5), the corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and prepare and furnish to each holder of Preferred Stock a certificate executed by the corporation's President or a Vice President setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The corporation shall, upon the written request at any time of any holder of Preferred Stock, furnish or cause to be furnished to such holder a like certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price for such series of Preferred Stock at the time in effect, and (iii) the number of shares of Common Stock and the amount, if any, of other property which at the time would be received upon the conversion of the Preferred Stock.

i. Notices of Record Date. In the event that the corporation shall propose at any time: (i) to declare any dividend or distribution upon its Common Stock, whether in cash, property, stock or other securities, whether or not a regular cash dividend and whether or not out of earnings or earned surplus; (ii) to offer for subscription pro rata to the holders of any class or series of its stock any additional shares of stock of any class or series or other rights; (iii) to effect any reclassification or recapitalization of its Common Stock outstanding involving a change in the Common Stock; or (iv) to merge or consolidate with or

into any other corporation, or sell, lease or convey all or substantially all of its assets, or to liquidate, dissolve or wind up;

Then, in connection with each such event, the corporation shall send to the holders of the Preferred Stock: (1) at least twenty (20) days prior written notice of the date on which a record shall be taken for such dividend, distribution or subscription rights (and specifying the date on which the holders of Common Stock shall be entitled thereto) or for determining rights to vote, if any, in respect of the matters referred to in (iii) and (iv) above; and (2) in the case of the matters referred to in (iii) and (iv) above, at least twenty (20) days prior written notice of the date when the same shall take place (and specifying the date on which the holders of Common Stock shall be entitled to exchange their Common Stock for securities or other property deliverable upon the occurrence of such event).

j. Issue Taxes. The corporation shall pay any and all issue and other taxes that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of shares of Preferred Stock pursuant hereto; provided, however, that the corporation shall not be obligated to pay any transfer taxes resulting from any transfer requested by any holder in connection with any such conversion.

k. Reservation of Stock Issuable Upon Conversion. The corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Preferred Stock, such number of its shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of the Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, the corporation will take such corporate action as may, in the opinion of its counsel, be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purpose, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to this Certificate.

l. Fractional Shares. No fractional share shall be issued upon the conversion of any share or shares of Preferred Stock. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Preferred Stock by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If, after the aforementioned aggregation, the conversion would result in the issuance of a fraction of a share of Common Stock, the corporation shall, in lieu of issuing any fractional share, pay the holder otherwise entitled to such fraction a sum in cash equal to the fair market value of such fraction on the date of conversion (as determined in good faith by the Board of Directors of the corporation).

m. Notices. Any notice required by the provisions of this Article 4(B)(5) to be given to the holders of shares of Preferred Stock shall be deemed given if deposited in the United States mail, postage prepaid, and addressed to each holder of record at his address appearing on the books of the corporation or, if sent by electronic mail, upon confirmed receipt of such electronic transmission by its intended recipient.

6. Protective Provisions.

a. So long as at least twenty-five percent (25%) of the shares of Preferred Stock remain outstanding as of the Original Issue Date of the Series B Preferred Stock, the corporation shall not, without the vote or written consent by the holders of at least (i) two-thirds of the then outstanding shares of Series A Preferred Stock, voting as a separate class, and (ii) a majority of the then outstanding shares of Series B Preferred Stock, voting as a separate class:

(1) Effect a Liquidation Event;

(2) Authorize or issue, or obligate itself to issue, any other equity security (including any security convertible into or exercisable for any equity security) senior to or on parity with the Preferred Stock in any respect;

(3) Reclassify the preferences, privileges, rights, powers or restrictions provided for the benefit, or increase or decrease the authorized number, of any series of the Preferred Stock;

(4) Redeem, repurchase or declare a dividend with regard to any security of the corporation (not including the corporation's repurchase upon termination of employment of capital stock granted pursuant to a stock benefit plan or agreement approved by the Board of Directors);

(5) Amend or repeal any provision of the corporation's Certificate of Incorporation or Bylaws; or

(6) Increase or decrease the authorized number of directors of the corporation.

7. No Reissuance of Preferred Stock. No share or shares of Preferred Stock acquired by the corporation by reason of purchase, conversion or otherwise shall be reissued, and all such shares shall be cancelled, retired and eliminated from the shares which the corporation shall be authorized to issue.

8. The Common Stock.

a. Dividend Rights. Subject to the prior rights of the holders of all classes of stock at the time outstanding having prior rights as to dividends, the holders of the Common Stock shall be entitled to receive, when and as declared by the Board of Directors, out of any assets or the corporation legally available therefor, such dividends as may be declared from time to time by the Board of Directors.

b. Liquidation Rights. Upon the liquidation, dissolution or winding up of the corporation, the assets of the corporation shall be distributed as provided in Article 4(B)(2) hereof.

c. Redemption. The Common Stock shall not be redeemable.

d. Voting Rights. The holder of each share of Common Stock shall have the right to one vote, and shall be entitled to notice of any stockholders' meeting in accordance with the Bylaws of this corporation, and shall be entitled to vote upon such matters and in such manner as may be provided by law.

ARTICLE 5.

A director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the Delaware General Corporation Law, or (iv) for any transaction from which the director derived any improper personal benefit. If the Delaware General Corporation Law is amended after approval by the stockholders of this Article to authorize corporation action further eliminating or limiting the personal liability of directors then the liability of a director of the corporation shall be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law as so amended.

Any repeal or modification of the foregoing provisions of this Article 5 by the stockholders of the corporation shall not adversely affect any right or protection of a director of the corporation existing at the time of such repeal or modification.

ARTICLE 6.

The corporation reserves the right to amend, alter, change or repeal any provision contained in this Certificate of Incorporation, in the manner now or hereafter prescribed by statute, and all rights conferred on stockholders herein are granted subject to this reservation.

ARTICLE 7.

Election of directors need not be by written ballot unless the Bylaws of the corporation shall so provide. The right to cumulate votes in the election of Directors shall not exist with respect to shares of stock of the corporation.

ARTICLE 8.

The number of directors which shall constitute the whole Board of Directors shall be fixed from time to time by, or in the manner provided in, the Bylaws or in an amendment thereof duly adopted by the Board of Directors or by the stockholders or by resolution of the Board of Directors.

ARTICLE 9.

Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws may provide. The books of the corporation may be kept (subject to any provision contained in the statutes) outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the Bylaws of the corporation.

ARTICLE 10.

Except as otherwise provided in this Certificate of Incorporation, in furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of the corporation.

ARTICLE 11.

The corporation expressly elects not to be governed by Section 203 of the Delaware General Corporation Law.

IN WITNESS WHEREOF, the corporation has caused this Amended and Restated Certificate of Incorporation to be signed by Andrew T. Yang, its Chief Executive Officer, and attested to by Warren T. Lazarow, its Secretary, on December 31, 2003.

APACHE DESIGN SOLUTIONS, INC.

By: /s/ Andrew T. Yang

Name: Andrew T. Yang

Title: Chief Executive Officer

Attest: /s/ Warren T. Lazarow

Name: Warren T. Lazarow

Title: Secretary