

**RESTATED CERTIFICATE OF INCORPORATION
OF
ZHONE TECHNOLOGIES, INC.**

ZHONE TECHNOLOGIES, INC., a corporation organized and existing under the laws of the State of Delaware, hereby certifies as follows:

1. The name of this corporation is Zhone Technologies, Inc. The original Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on April 21, 1997 under the name MWD, Inc.

2. This Restated Certificate of Incorporation was duly adopted by this corporation's Board of Directors in accordance with Section 245 of the Delaware General Corporation Law (the "DGCL"), and restates and integrates and does not further amend the provisions of this corporation's Certificate of Incorporation as heretofore amended or supplemented, and there is no discrepancy between those provisions and the provisions of this Restated Certificate of Incorporation.

3. The text of the Certificate of Incorporation as heretofore amended or supplemented is hereby restated to read in its entirety as follows:

**“ARTICLE I
NAME**

The name of the corporation is Zhone Technologies, Inc. (the "Corporation").

**ARTICLE II
REGISTERED OFFICE AND AGENT**

The address of the Corporation's registered office in the State of Delaware is 1209 Orange Street, City of Wilmington, New Castle County, Delaware. The name of its registered agent at such address is The Corporation Trust Company.

**ARTICLE III
PURPOSE**

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

**ARTICLE IV
CAPITAL STOCK**

The total number of shares of all classes of capital stock which the Corporation shall have authority to issue is Nine Hundred Twenty-Five Million (925,000,000) shares, of which:

Nine Hundred Million (900,000,000) shares, par value \$.001 per share, shall be shares of common stock (the “Common Stock”); and

Twenty-Five Million (25,000,000) shares, par value \$.001 per share, shall be shares of preferred stock (the “Preferred Stock”).

(A) Common Stock. Except as (1) otherwise required by law or (2) expressly provided in this Restated Certificate of Incorporation (as amended from time to time), each share of Common Stock shall have the same powers, rights and privileges and shall rank equally, share ratably and be identical in all respects as to all matters.

(1) Dividends. Subject to the rights of the holders of Preferred Stock, and to the other provisions of this Restated Certificate of Incorporation (as amended from time to time), holders of Common Stock shall be entitled to receive equally, on a per share basis, such dividends and other distributions in cash, securities or other property of the Corporation as may be declared thereon by the Board of Directors from time to time out of assets or funds of the Corporation legally available therefore.

(2) Voting Rights. At every annual or special meeting of stockholders of the Corporation, each holder of Common Stock shall be entitled to cast one (1) vote for each share of Common Stock standing in such holder’s name on the stock transfer records of the Corporation.

(3) Liquidation Rights. In the event of any liquidation, dissolution or winding up of the affairs of the Corporation, whether voluntary or involuntary, after payment or provision for payment of the Corporation’s debts and amounts payable upon shares of Preferred Stock entitled to a preference, if any, over holders of Common Stock upon such dissolution, liquidation or winding up, the remaining net assets of the Corporation shall be distributed among holders of shares of Common Stock equally on a per share basis. A merger or consolidation of the Corporation with or into any other corporation or other entity, or a sale or conveyance of all or any part of the assets of the Corporation (which shall not in fact result in the liquidation of the Corporation and the distribution of assets to its stockholders) shall not be deemed to be a voluntary or involuntary liquidation or dissolution or winding up of the Corporation within the meaning of this Paragraph (A)(3).

(B) Preferred Stock. The Board of Directors is authorized, subject to limitations prescribed by law, to provide by resolution or resolutions for the issuance of shares of Preferred Stock in one or more series, to establish the number of shares to be included in each such series, and to fix the voting powers (if any), designations, powers, preferences, and relative, participating, optional or other rights, if any, of the shares of each such series, and any qualifications, limitations or restrictions thereof. Irrespective of the provisions of Section 242(b)(2) of the DGCL, the number of authorized shares of Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority in voting power of the stock of the Corporation entitled to vote, without the separate vote of the holders of the Preferred Stock as a class.

ARTICLE V
BOARD OF DIRECTORS

(A) Management. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors. The Board of Directors may exercise all such authority and powers of the Corporation and do all such lawful acts and things as are not by statute or this Restated Certificate of Incorporation directed or required to be exercised or done by the stockholders.

(B) Number of Directors. The number of directors of the Corporation shall be fixed from time to time by, or in the manner provided in, the Bylaws; provided, however, that the number of directors shall not be less than three (3) nor more than eleven (11).

(C) Classes and Terms of Directors. The directors shall be divided into three classes, as nearly equal in number as possible, and no class shall include less than one director. The initial term of office for members of the first class shall expire at the annual meeting of stockholders in 2002; the initial term of office for members of the second class shall expire at the annual meeting of stockholders in 2003; and the initial term of office for members of the third class shall expire at the annual meeting of stockholders in 2004. At each annual meeting of stockholders following such initial classification and election, directors elected to succeed those directors whose terms expire shall be elected for a term of office to expire at the third succeeding annual meeting of stockholders after their election, and shall continue to hold office until their respective successors are elected and qualified. In the event of any increase in the number of directors fixed by the Board of Directors, the additional directors shall be classified so that all classes of directors have as nearly equal numbers of directors as may be possible. In the event of any decrease in the number of directors, all classes of directors shall be decreased equally as nearly as may be possible.

(D) Newly-Created Directorships and Vacancies. Subject to the rights of the holders of any class of Common Stock or series of Preferred Stock then outstanding, newly created directorships resulting from any increase in the number of directors or any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or any other cause may be filled by the Board of Directors, provided that a quorum is then in office and present, or by a majority of the directors then in office, if less than a quorum is then in office, or by the sole remaining director. Directors elected to fill a newly created directorship or other vacancies shall hold office for the remainder of the full term of the class of directors in which the new directorship was created or the vacancy occurred and until such director's successor has been elected and has qualified.

(E) Removal of Directors. Subject to the rights of the holders of any series of Preferred Stock then outstanding, any director may be removed from office at any time, but only for cause, at a meeting called for that purpose, and only by the affirmative vote of the holders of at least 66-2/3% of the voting power of all shares of Common Stock entitled to vote generally in the election of directors, voting together as a single class.

(F) Rights of Holders of Preferred Stock. Notwithstanding the foregoing provisions of this Article V, whenever the holders of one or more series of Preferred Stock issued by the Corporation shall have the right, voting separately or together by series, to elect directors at an annual or special meeting of stockholders, the election, term of office, filling of vacancies and other features of such directorship shall be governed by the rights of such Preferred Stock as set forth in the certificate of designations governing such series.

(G) Written Ballot Not Required. Elections of directors need not be by written ballot unless the Bylaws of the Corporation shall otherwise provide.

(H) Bylaws. The Board of Directors is expressly authorized to adopt, amend or repeal the bylaws of the Corporation. Any bylaws made by the directors under the powers conferred hereby may be amended or repealed by the directors or by the stockholders. Notwithstanding the foregoing and anything contained in this Restated Certificate of Incorporation to the contrary, the bylaws of the Corporation shall not be amended or repealed by the stockholders, and no provision inconsistent therewith shall be adopted by the stockholders, without the affirmative vote of the holders of 66-2/3% of the voting power of all shares of the Corporation entitled to vote generally in the election of directors, voting together as a single class.

ARTICLE VI LIMITATION OF LIABILITY

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; provided, however, that the foregoing shall not eliminate or limit the liability of a director (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 DGCL, or (iv) for any transaction from which the director derived an improper personal benefit. If the DGCL is hereafter amended to permit further elimination or limitation of 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 DGCL as so amended. Any repeal or modification of this Article VI by the stockholders of the Corporation or otherwise shall not adversely affect any right or protection of a director of the Corporation existing at the time of such repeal or modification.

ARTICLE VII INDEMNIFICATION

Each person who was or is made a party or is threatened to be made a party to or is involved (including, without limitation, as a witness) in any actual or threatened action, suit or proceeding, whether civil, criminal, administrative or investigative (hereinafter a "proceeding"), by reason of the fact that he is or was a director or officer of the Corporation or is or was serving at the request of the Corporation as a director or officer of another corporation or of a partnership, limited liability company, joint venture, trust or other enterprise, including service with respect to an employee benefit plan (hereinafter an "Indemnitee"), whether the basis of such proceeding is alleged action in an official capacity as a director or officer or in any other capacity

while so serving, shall be indemnified and held harmless by the Corporation to the full extent authorized by the DGCL, as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than said law permitted the Corporation to provide prior to such amendment), or by other applicable law as then in effect, against all expense, liability and loss (including attorneys' fees and related disbursements, judgments, fines, excise taxes or penalties under the Employee Retirement Income Security Act of 1974, as amended from time to time ("ERISA"), penalties and amounts paid or to be paid in settlement) actually and reasonably incurred or suffered by such Indemnitee in connection therewith, and such indemnification shall continue as to a person who has ceased to be a director, officer, partner, member or trustee and shall inure to the benefit of his or her heirs, executors and administrators. Each person who is or was serving as a director or officer of a subsidiary of the Corporation shall be deemed to be serving, or have served, at the request of the Corporation.

(A) Procedure. Any indemnification (but not advancement of expenses) under this Article VII (unless ordered by a court) shall be made by the Corporation only as authorized in the specific case upon a determination that indemnification of the director or officer is proper in the circumstances because he has met the applicable standard of conduct set forth in the DGCL, as the same exists or hereafter may be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than said law permitted the Corporation to provide prior to such amendment). Such determination shall be made with respect to a person who is a director or officer at the time of such determination (a) by a majority vote of the directors who were not parties to such proceeding (the "Disinterested Directors"), even though less than a quorum, (b) by a committee of Disinterested Directors designated by a majority vote of Disinterested Directors, even though less than a quorum, (c) if there are no such Disinterested Directors, or if such Disinterested Directors so direct, by independent legal counsel in a written opinion, or (d) by the stockholders.

(B) Advances for Expenses. Expenses (including attorneys' fees, costs and charges) incurred by a director or officer of the Corporation in defending a proceeding shall be paid by the Corporation in advance of the final disposition of such proceeding upon receipt of an undertaking by or on behalf of the director or officer to repay all amounts so advanced in the event that it shall ultimately be determined that such director or officer is not entitled to be indemnified by the Corporation as authorized in this Article VII. The majority of the Disinterested Directors may, in the manner set forth above, and upon approval of such director or officer of the Corporation, authorize the Corporation's counsel to represent such person, in any proceeding, whether or not the Corporation is a party to such proceeding.

(C) Procedure for Indemnification. Any indemnification or advance of expenses (including attorney's fees, costs and charges) under this Article VII shall be made promptly, and in any event within 60 days upon the written request of the director or officer (and, in the case of advance of expenses, receipt of a written undertaking by or on behalf of Indemnitee to repay such amount if it shall ultimately be determined that Indemnitee is not entitled to be indemnified therefor pursuant to the terms of this Article VII). The right to indemnification or advances as granted by this Article VII shall be enforceable by the director or officer in any court of

competent jurisdiction, if the Corporation denies such request, in whole or in part, or if no disposition thereof is made within 60 days. Such person's costs and expenses incurred in connection with successfully establishing his/her right to indemnification, in whole or in part, in any such action shall also be indemnified by the Corporation. It shall be a defense to any such action (other than an action brought to enforce a claim for the advance of expenses (including attorney's fees, costs and charges) under this Article VII where the required undertaking, if any, has been received by the Corporation) that the claimant has not met the standard of conduct set forth in the DGCL, as the same exists or hereafter may be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than said law permitted the Corporation to provide prior to such amendment), but the burden of proving such defense shall be on the Corporation. Neither the failure of the Corporation (including its Board of Directors, its independent legal counsel and its stockholders) to have made a determination prior to the commencement of such action that indemnification of the claimant is proper in the circumstances because he/she has met the applicable standard of conduct set forth in the DGCL, as the same exists or hereafter may be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than said law permitted the Corporation to provide prior to such amendment), nor the fact that there has been an actual determination by the Corporation (including its Board of Directors, its independent legal counsel and its stockholders) that the claimant has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that the claimant has not met the applicable standard of conduct.

(D) Other Rights; Continuation of Right to Indemnification. The indemnification and advancement of expenses provided by this Article VII shall not be deemed exclusive of any other rights to which a person seeking indemnification or advancement of expenses may be entitled under any law (common or statutory), bylaw, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in his/her official capacity and as to action in another capacity while holding office or while employed by or acting as agent for the Corporation, and shall continue as to a person who has ceased to be a director or officer, and shall inure to the benefit of the estate, heirs, executors and administrators of such person. All rights to indemnification under this Article VII shall be deemed to be a contract between the Corporation and each director or officer of the Corporation who serves or served in such capacity at any time while this Article VII is in effect. Any repeal or modification of this Article VII or any repeal or modification of relevant provisions of the DGCL or any other applicable laws shall not in any way diminish any rights to indemnification of such director or officer or the obligations of the Corporation arising hereunder with respect to any proceeding arising out of, or relating to, any actions, transactions or facts occurring prior to the final adoption of such modification or repeal. For the purposes of this Article VII, references to "the Corporation" include all constituent corporations absorbed in a consolidation or merger as well as the resulting or surviving corporation, so that any person who is or was a director or officer of such a constituent corporation or is or was serving at the request of such constituent corporation as a director or officer of another corporation, partnership, joint venture, trust or other enterprise shall stand in the same position under the provisions of this Article VII, with respect to the resulting or surviving corporation, as he would if he/she had served the resulting or surviving corporation in the same capacity.

(E) Insurance. The Corporation shall have power to purchase and maintain insurance on behalf of any person who is or was or has agreed to become a director or officer of the Corporation, or is or was serving at the request of the Corporation as a director or officer of another corporation, partnership, joint venture, trust or other enterprise, against any liability asserted against him and incurred by him or on his behalf in any such capacity, or arising out of his status as such, whether or not the Corporation would have the power to indemnify him against such liability under the provisions of this Article VII; provided, however, that such insurance is available on acceptable terms, which determination shall be made by a vote of a majority of the Board of Directors.

(F) Savings Clause. If this Article VII or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the Corporation shall nevertheless indemnify each person entitled to indemnification under the first paragraph of this Article VII as to all expense, liability and loss (including attorneys' fees and related disbursements, judgments, fines, ERISA excise taxes and penalties, penalties and amounts paid or to be paid in settlement) actually and reasonably incurred or suffered by such person and for which indemnification is available to such person pursuant to this Article VII to the full extent permitted by any applicable portion of this Article VII that shall not have been invalidated and to the full extent permitted by applicable law.

ARTICLE VIII STOCKHOLDER ACTION

Any action required or permitted to be taken by the stockholders of the Corporation must be effected at a duly called annual or special meeting of such holders and may not be effected by any consent in writing by such holders.

ARTICLE IX AMENDMENT

The Corporation reserves the right to amend, alter, change or repeal any provision contained in this Restated Certificate of Incorporation, in the manner now or hereafter prescribed by statute, and all rights conferred upon stockholders herein are granted subject to this reservation. Notwithstanding any other provision of this Certificate of Incorporation or the Bylaws of the Corporation, and notwithstanding the fact that a lesser percentage or separate class vote may be specified by law, this Certificate of Incorporation, the Bylaws of the Corporation or otherwise, but in addition to any affirmative vote of the holders of any particular class or series of the capital stock required by law, this Certificate of Incorporation, the Bylaws of the Corporation or otherwise, the affirmative vote of the holders of at least 66-2/3% of the voting power of all shares of the Corporation entitled to vote generally in the election of directors, voting together as a single class, shall be required to adopt any provision inconsistent with, to amend or repeal any provision of, or to adopt a bylaw inconsistent with, Articles V, VI, VII, VIII or IX of this Certificate of Incorporation.”

IN WITNESS WHEREOF, this Restated Certificate of Incorporation which restates and integrates the provisions of the Certificate of Incorporation of the Corporation, and which has been duly adopted in accordance with the provisions of Section 245 of the DGCL, has been executed by the undersigned on this 16th day of February, 2005.

ZHONE TECHNOLOGIES, INC.

By: /s/ Morteza Ejabat

Name: Morteza Ejabat

Title: Chief Executive Officer