

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

## SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of the  
Securities Exchange Act of 1934

Filed by the Registrant  Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Pursuant to §240.14a-12

**Rubicon Technology, Inc.**  
(Name of Registrant as Specified in Its Charter)

(Name of Person(s) Filing Proxy Statement, if Other Than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.
- (1) Title of each class of securities to which transaction applies:
- (2) Aggregate number of securities to which transaction applies:
- (3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):
- (4) Proposed maximum aggregate value of transaction:
- (5) Total fee paid:
- Fee paid previously with preliminary materials:
- Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.
- (1) Amount Previously Paid:
- (2) Form, Schedule or Registration Statement No.:
- (3) Filing Party:
- (4) Date Filed:

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**RUBICON TECHNOLOGY, INC.**

**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS**

**TO BE HELD ON JULY 16, 2020**

As a stockholder of Rubicon Technology, Inc., a Delaware corporation (the "Company," "we," "us" or "our"), you are cordially invited to attend the Annual Meeting of Stockholders of the Company (the "Annual Meeting") to be held at 900 East Green Street, Bensenville, Illinois 60106, at 8:30 a.m. local time on July 16, 2020, for the following purposes:

1. To approve an amendment to our Eighth Amended and Restated Certificate of Incorporation (as amended, our "Certificate of Incorporation"), to declassify the Board of Directors and provide for the annual election of directors;
2. To ratify the Company's Section 382 Rights Agreement and approve a three year extension thereof;
3. To elect one director to serve an one-year term (or if the amendment of our Certificate of Incorporation to declassify our Board of Directors set forth in Proposal 1 is not approved, to elect a Class I director to serve for a three year term);
4. To ratify the selection of Marcum LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2020;
5. To approve, on a non-binding advisory basis, the compensation of our named executive officers (Say-on-Pay); and

6. To transact such other business as may properly come before the Annual Meeting or any continuation or adjournment thereof.

Our Board of Directors has fixed the close of business on June 8, 2020, as the record date for determining the stockholders entitled to notice of, and to vote at, the Annual Meeting and at any postponement or adjournment thereof.

We hope that you can attend the Annual Meeting. Whether you attend the Annual Meeting or not, your vote is important, and we encourage you to vote your shares promptly. We are pleased to offer multiple options for voting your shares. You may vote your shares by proxy via the Internet or by telephone, mail or written ballot at the Annual Meeting.

BY ORDER OF THE BOARD OF DIRECTORS,

/s/ TIMOTHY E. BROG  
TIMOTHY E. BROG  
ACTING SECRETARY

Bensenville, Illinois  
June 16, 2020

**This Notice of Annual Meeting and Proxy Statement are being distributed or made available, as the case may be, on or about June 16, 2020.**

**Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting of Stockholders to Be Held on July 16, 2020.**

**This Proxy Statement and the 2019 Annual Report are available with your 16-digit control number at:**

[www.proxyvote.com](http://www.proxyvote.com)

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RUBICON TECHNOLOGY, INC.  
900 EAST GREEN STREET  
BENSENVILLE, ILLINOIS 60106  
Corporate Internet Site: [www.rubicontechnology.com](http://www.rubicontechnology.com)

PROXY STATEMENT  
FOR THE  
ANNUAL MEETING OF STOCKHOLDERS  
TO BE HELD ON JULY 16, 2020

QUESTIONS AND ANSWERS ABOUT THE PROXY MATERIALS, ANNUAL MEETING AND VOTING

**1. Why am I receiving these materials?**

We are providing this meeting notice, proxy statement and proxy card (the “Proxy Materials”) in connection with the solicitation by the Board of Directors of

Rubicon Technology, Inc., a Delaware corporation (“Rubicon,” the “Company,” “we,” “us,” or “our”), of proxies to be voted at our 2020 Annual Meeting of Stockholders (the “Annual Meeting”). The proxies also may be voted at any continuations, adjournments or postponements of the Annual Meeting. This proxy statement contains information you may use when deciding how to vote in connection with the Annual Meeting. We are first sending the Proxy Materials to stockholders on or about June 16, 2020.

## **2. When and where is the Annual Meeting, and who may attend?**

The Annual Meeting will be held on July 16, 2020, at 8:30 a.m. local time, at 900 East Green Street, Bensenville, Illinois 60106. Stockholders who are entitled to vote and our invited guests may attend the Annual Meeting.

## **3. What do I need to attend the Annual Meeting?**

**Stockholders of Record.** If you are a “stockholder of record” and plan to attend the Annual Meeting, please bring photo identification.

**Beneficial Owners.** If you are a “beneficial owner” and you plan to attend the Annual Meeting, you must present proof of your ownership of shares of our common stock as of June 8, 2020, such as a bank or brokerage account statement or a letter from the bank, broker or other nominee indicating that you are the beneficial owner of the shares, as well as photo identification. If you wish to vote at the Annual Meeting, you must also obtain a signed proxy from your bank, broker, trustee or other nominee who holds the shares on your behalf in order to cast your vote.

The answer to Question 11 set forth below describes the difference between stockholders of record and beneficial owners.

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## **4. What proposals are being presented for stockholder vote at the Annual Meeting?**

There are five proposals from Rubicon to be considered and voted on at the Annual Meeting:

1. Proposal 1: To approve an amendment to our Eighth Amended and Restated Certificate of Incorporation (as amended, our “Certificate of Incorporation”), to declassify the Board of Directors and provide for the annual election of directors
2. Proposal 2: To ratify the Company’s Section 382 Rights Agreement and approve a three year extension thereof, which is designed to protect the tax benefits of the Company’s net operating loss carryforwards
3. Proposal 3: To elect one director to serve an one-year term (or to elect a Class I Director to serve for a three-year term if Proposal 1 to amend our Certificate of Incorporation to declassify our Board of Directors is not approved)
4. Proposal 4: To ratify the selection of Marcum LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2020
5. Proposal 5: To approve, on a non-binding advisory basis, the compensation of our named executive officers (Say-on-Pay)

## **5. How does the Board of Directors recommend that I vote?**

Our Board recommends that you vote your shares:

- **FOR** the approval of the Eighth Amended and Restated Certificate of Incorporation (as amended, our “Certificate of Incorporation”), to declassify the Board of Directors and provide for the annual election of directors;
- **FOR** the ratification of the Company’s Section 382 Rights Agreement and approve a three year extension thereof; which is designed to protect the tax benefits of the Company’s net operating loss carryforwards;
- **FOR** the election of the Board’s nominee, Susan M. Westphal, as director for an one-year term (or as a Class I Director for a three-year term if Proposal 1 to amend our Certificate of Incorporation to declassify our Board of Directors is not approved);
- **FOR** the ratification of the selection of Marcum LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2020; and
- **FOR** the resolution approving the compensation of our named executive officers (Say-on-Pay).

## **6. Are there any other matters to be acted upon at the Annual Meeting?**

We do not expect any matters to be presented for action at the Annual Meeting other than the matters described in this proxy statement. If any matters not set forth in the meeting notice included in the Proxy Materials are properly brought before the Annual Meeting, the persons named in the enclosed proxy card will have the discretion to vote on those matters for you.

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## **7. Who is entitled to vote at the Annual Meeting?**

You are entitled to vote at the Annual Meeting if you owned shares of our common stock as of the close of business on the record date, June 8, 2020. Each share of common stock is entitled to one vote on each matter properly brought before the Annual Meeting and there is no cumulative voting. As of June 8, 2020, we had [2,480,000] shares of common stock outstanding. Both Delaware law and our Second Amended and Restated Bylaws (our “bylaws”) require our Board to establish a record date in order to determine who is entitled to receive notice of the Annual Meeting, and to vote at the Annual Meeting and any continuations, adjournments or postponements thereof.

## **8. How many stockholders must be present to hold the Annual Meeting?**

Under Delaware law and our bylaws, holders of a majority of our outstanding shares of common stock as of the close of business on June 8, 2020, must be present in person or represented by proxy at the Annual Meeting. This is referred to as a quorum. The inspector of election will determine whether a quorum is present at the Annual Meeting. As of June 8, 2020, we had [2,480,000] shares of common stock outstanding. Accordingly, the presence of the holders of common stock representing at least [1,240,001] shares will be required to establish a quorum. Your shares are counted as present if you attend the Annual Meeting and vote in person or if you properly return a proxy over the Internet, by telephone or by mail. Abstentions and broker non-votes, if any, will be counted for purposes of establishing a quorum.

**9. What happens if I do not submit voting instructions for a proposal? What is discretionary voting? What is a broker non-vote?**

If you properly complete, sign, date and return a proxy card or voting instruction form, your shares of our common stock will be voted as you specify. If you are a stockholder of record and you sign and return a proxy card, but make no specifications on such proxy card, your shares of our common stock will be voted in accordance with the recommendations of our Board, as provided above. If you are a beneficial owner and you do not provide voting instructions to your bank, broker, trustee or other nominee holding shares of our common stock for you, your shares of our common stock will not be voted with respect to any proposal for which the stockholder of record does not have discretionary authority to vote. Rules of the New York Stock Exchange (“NYSE”) determine whether proposals presented at stockholder meetings are “discretionary” or “non-discretionary.” If a proposal is determined to be discretionary, your bank, broker, trustee or other nominee is permitted under NYSE rules to vote on the proposal without receiving voting instructions from you. If a proposal is determined to be non-discretionary, your bank, broker, trustee or other nominee is not permitted under NYSE rules to vote on the proposal without receiving voting instructions from you. A “broker non-vote” occurs when a bank, broker, trustee or other nominee holding shares for a beneficial owner returns a valid proxy, but does not vote on a particular proposal because it does not have discretionary authority to vote on the matter and has not received voting instructions from the stockholder for whom it is holding shares.

**10. How many votes are needed to approve the proposals? What is the effect of abstentions and broker non-votes on the outcome of the proposals?**

<b>Proposal</b>	<b>Voting Options</b>	<b>Vote Required to Adopt the Proposal</b>	<b>Effect of Abstentions</b>	<b>Effect of Broker Non-Votes</b>
1: Declassification of the Board of Directors	For, against, or abstain	Affirmative vote of at least 75% of the shares of common stock outstanding and entitled to vote	Treated as votes against	Treated as votes against
2: Ratification of the Company’s Section 382 Rights Agreement and approval of a three year extension thereof	For, against, or abstain	Affirmative vote of a majority of the shares of common stock present in person or by proxy and entitled to vote	Treated as votes against	No effect
3: Election of one director	For or withhold	Affirmative vote of a plurality of the shares of common stock present in person or by proxy and entitled to vote	No effect	No effect
4: Ratification of the selection of our independent registered public accounting firm	For, against or abstain	Affirmative vote of a majority of the shares of common stock present in person or by proxy and entitled to vote	Treated as votes against	No effect
5: Approval, on a non-binding advisory basis, of executive compensation (Say-on-Pay)	For, against or abstain	Affirmative vote of a majority of the shares of common stock present in person or by proxy and entitled to vote	Treated as votes against	No effect

Our directors are elected by a plurality of the shares of our common stock present in person or by proxy and entitled to vote. At the Annual Meeting, one director seat is up for election. That means the director candidate receiving the highest number of “FOR” votes will be elected. Under our bylaws, all other matters require the affirmative vote of the holders of a majority of the shares of our common stock present in person or by proxy and entitled to vote, except as otherwise provided by statute, our Certificate of Incorporation or our bylaws. A properly executed card marked “WITHHOLD” with respect to the election of a director nominee will be counted for purposes of determining whether there is a quorum at the Annual Meeting, but will not be considered to have been voted on the director election.

**11. What is the difference between holding shares as a stockholder of record and as a beneficial owner?**

If your shares are registered in your name on the books and records of our transfer agent, you are a “stockholder of record.” Rubicon sent the proxy materials directly to you.

If your shares are held for you in the name of your bank, broker, trustee or other nominee, your shares are held in “street name” and you are considered the “beneficial owner.” The proxy materials have been forwarded to you by your bank, broker, trustee or other nominee, who is considered, with respect to those shares, the stockholder of record. As the beneficial owner, you have the right to direct your bank, broker, trustee or other nominee on how to vote your shares by using the voting instruction form provided by your nominee. The answer to Questions 9 and 10 describes brokers’ discretionary voting authority and when your bank, broker, trustee or other nominee is permitted to vote your shares without instructions from you. The answer to Question 3 describes how beneficial owners may attend the Annual Meeting.

**12. What can I do if I change my mind after I vote my shares?**

If you are a stockholder of record, you can revoke your proxy before it is counted by (1) sending written notice of revocation, that is dated later than the date of your proxy, to Timothy E. Brog, our Acting Secretary, at 900 East Green Street, Bensenville, Illinois 60106, (2) timely delivering a valid, later-dated proxy that we receive no later than the conclusion of voting at the Annual Meeting, or (3) if you are present at the Annual Meeting, either voting in person or notifying the Acting Secretary in writing at the Annual Meeting of your wish to revoke your proxy. Your attendance alone at the Annual Meeting will not be enough to revoke your proxy.

If you are a beneficial owner of shares of our common stock, you may submit new voting instructions by contacting your bank, broker, trustee or other nominee. You may also vote in person at the Annual Meeting if you obtain a legal proxy.

**13. What if I do not specify a choice for a matter when returning a proxy?**

Proxies that are signed and returned but do not contain voting instructions will be voted (1) “FOR” the approval of the Amendment to the Certificate of Incorporation to declassify the Board of Directors; (2) “FOR” the ratification of the Company’s Section 382 Rights Agreement and approval of a three year extension thereof; (3) “FOR” the election of Susan Westphal as director; (4) “FOR” the ratification of Marcum LLP as our independent registered accounting firm for the fiscal

If necessary, and unless the shares represented by the proxy are voted in a manner contrary to the manner described in the preceding paragraph, the persons named in the proxy may also vote in favor of a proposal to recess the Annual Meeting and to reconvene it on a subsequent date or dates, without further notice, in order to solicit and obtain sufficient votes to approve or disapprove any matters being considered at the Annual Meeting.

**14. Will my shares be voted if I do not provide my proxy or instruction form?**

If you are a Stockholder of Record and do not provide a proxy, you must attend the Annual Meeting in order to vote. If you are a Beneficial Owner and hold shares through an account with a bank or broker, your shares may be voted on certain matters if you do not provide voting instructions. Brokerage firms have the authority under the New York Stock Exchange rules to vote shares for which their customers do not provide voting instructions on routine matters. The approval of an amendment to our Certificate of Incorporation to declassify the Board of Directors and to provide for annual election of directors, ratification of the Section 382 Rights Agreement and the approval of a three year extension thereof, election of directors, and the advisory vote on executive compensation are not considered routine matters. When a proposal is not routine and the brokerage firm has not received voting instructions from the beneficial owner, the brokerage firm cannot vote the shares on that proposal. This is called a broker non-vote. We urge you to give voting instructions to your broker on all five of our Proposals.

**15. What does it mean if I receive more than one proxy card?**

If you received multiple proxy cards, it means that you hold your shares in different ways (e.g., trust, custodial accounts, joint tenancy) or in multiple accounts. You should complete, sign, date and return your proxy card(s), as described in each proxy card you received.

**16. Who will pay for the cost of this proxy solicitation and how will the Company solicit votes?**

We pay all expenses incurred in connection with this solicitation of proxies to vote at the Annual Meeting. In addition to solicitation by mail, some of our directors, officers and employees may solicit proxies in person or by telephone at no additional compensation. We will also request banks, brokers, trustees and other nominees holding shares of our common stock beneficially owned by others to forward these proxy materials to the beneficial owners and upon request we will reimburse such nominees for the customary costs of forwarding the proxy materials.

**PROPOSAL 1:**  
**APPROVAL OF AN AMENDMENT TO OUR EIGHTH AMENDED  
AND RESTATED CERTIFICATE OF INCORPORATION, TO DECLASSIFY THE  
BOARD OF DIRECTORS AND PROVIDE FOR THE ANNUAL ELECTION OF DIRECTORS**

**Overview**

Article 7 of the Certificate of Incorporation currently provides that our Board is divided into three classes, as nearly equal in number as possible, with each class of directors serving a staggered term, so that the term of only one class expires at each annual meeting of stockholders and each class is elected to a three-year term.

Our Board has unanimously approved and recommended to our stockholders for approval an amendment to our Certificate of Incorporation to declassify the Board and provide for the annual election of directors. If Proposal 1 is approved by our stockholders, at the Annual Meeting our Certificate of Incorporation will be amended and our stockholders will be asked to elect one Class I director for a term of one year. If our stockholders do not approve this proposal, our Board of Directors will remain classified and our stockholders will instead be asked to elect one Class I director for a term of three years. (See Proposal 3, Election of Director on page 12)

The proposed amendment would eliminate the classification of our Board effective as of our 2021 annual meeting of stockholders (the “2021 Annual Meeting”). The proposed amendment would not shorten the terms of our incumbent Class II directors, which expire in 2021. Our Class III director, whose term expires at our 2022 annual meeting of stockholders, has indicated his support for the declassification of our Board by agreeing to resign from his term effective as of the date of the 2021 Annual Meeting if stockholders approve Proposal 1. As a result, if Proposal 1 is approved by our stockholders, all of our directors will be up for election for a one-year term at the 2021 Annual Meeting and each year thereafter. Upon effectiveness of the proposed amendment, any person appointed to fill any vacancy in the Board (including a vacancy by reason of an increase in the size of the Board, or the death, resignation, retirement, disqualification or removal of a director) will hold office until the next succeeding annual meeting of stockholders and until such director’s successor has been duly elected and qualified or until such person’s earlier death, resignation, retirement, disqualification or removal.

The Certificate of Incorporation currently provides for a classified Board of Directors and permits the removal of directors only for cause and only by the affirmative vote of the holders of at least 75% of shares entitled to vote at an election of directors. Consistent with Delaware law for unclassified boards, the amendment to the Certificate of Incorporation will permit stockholders holding a majority of shares entitled to vote at an election of directors to remove directors either with or without cause from and after the 2021 Annual Meeting.

The proposed amendment to Article 7 of the Certificate of Incorporation is in substantially the form set forth in **Appendix A** to this proxy statement. If approved, the Company expects to promptly file a certificate of amendment to our Certificate of Incorporation with the Secretary of State of the State of Delaware and the proposed amendment will become effective upon the filing of the certificate of amendment or at a later time determined at the discretion of our Board. If our stockholders do not approve this Proposal 1, our Board will remain classified.

The Board has considered carefully the advantages and disadvantages of maintaining a classified board structure. The Board has decided that it is an appropriate time to propose an amendment to the Certificate of Incorporation eliminating the classified Board. This amendment will bring the Company’s governance structure into line with the stockholder-favorable market practice of all directors being elected annually, thereby enhancing the rights of stockholders and improving the Company’s corporate governance to maximize accountability to stockholders. If approved, the proposal will give stockholders the opportunity each year to register their views on the performance of the entire Board.

**Vote Required**

Approval of this proposal requires the affirmative vote of at least 75% of the shares of our common stock outstanding and entitled to vote. For more information on the voting requirements, see “Questions and Answers about the Proxy Materials, Annual Meeting and Voting.”

**Recommendation of the Board of Directors**

**OUR BOARD UNANIMOUSLY RECOMMENDS THAT YOU VOTE  
“FOR” THE APPROVAL OF THE AMENDMENT TO OUR EIGHTH AMENDED  
AND RESTATED CERTIFICATE OF INCORPORATION TO DECLASSIFY THE  
BOARD OF DIRECTORS AND PROVIDE FOR THE ANNUAL ELECTION OF DIRECTORS**

## PROPOSAL 2:

### RATIFICATION OF THE COMPANY'S SECTION 382 RIGHTS AGREEMENT AND APPROVAL OF A THREE YEAR EXTENSION

Our Board of Directors is asking stockholders to ratify the Section 382 Rights Agreement, dated as of December 18, 2017 (the "Section 382 Rights Agreement"), by and between us and American Stock Transfer & Trust Company, LLC, as rights agent and approve of a three year extension thereof. The Section 382 Rights Agreement was entered into in an effort to preserve stockholder value by protecting against a possible limitation on our ability to use our net operating loss carryforwards ("NOLs"), which for U.S. federal income tax purposes were estimated at approximately \$188.1 million as of December 31, 2019.

If our stockholders do not ratify the Section 382 Rights Agreement and the approval of a three year extension thereof at the Annual Meeting, by its terms the Section 382 Rights Agreement will expire on December 18, 2020 and will not be renewed.

#### Background and Reasons for the Proposal

We have generated significant NOLs. Except as limited by U.S. federal income tax laws, we generally can use NOLs to offset future taxable income (thereby reducing our future U.S. federal income tax obligations), provided that we will forfeit any NOLs arising in taxable years ending before January 1, 2018, to the extent they expire unused. Assuming a federal corporate tax rate of 21%, we estimate that these NOLs, if fully utilized, could result in potential tax savings of up to approximately \$39.5 million, provided that the present value of such savings, even if the NOLs are fully utilized, depends on a number of assumptions, including the amount and timing of our future taxable income, future tax rates, limitations on the use of NOLs, and an appropriate discount rate, none of which can be accurately predicted.

Although we are unable to quantify an exact value, we believe that the NOLs are a valuable asset and our Board of Directors believes it is in our best interest to attempt to prevent the imposition of limitations on their use.

For U.S. federal income tax purposes, the benefits of our NOLs could be reduced, and our use of the NOLs could be substantially delayed (possibly to the point of expiring unused in the case of NOLs arising in taxable years ending before January 1, 2018), if we experience an "ownership change," as determined under Section 382 of the Internal Revenue Code of 1986, as amended ("Section 382"). In general, an "ownership change" occurs whenever, immediately after the close of any testing date, the percentage of the corporation's stock owned by one or more "5-percent stockholders" is more than 50 percentage points higher than the lowest percentage of the corporation's stock that such stockholders owned at any time during the three-year period preceding the testing date. The concept of a 5-percent stockholder is highly complex, particularly when entities directly or indirectly own the corporation's stock. If an ownership change occurs, Section 382 would impose an annual limit on the amount of our NOLs that we can use to offset taxable income, generally equal to the product of the total value of our outstanding equity immediately prior to the ownership change (adjusted by certain items specified in Section 382) and the "long-term tax-exempt rate" (i.e., the highest of the federal long-term rates in effect for the month of the ownership change or for the two preceding months). A number of complex rules apply to calculating this annual limit. If an ownership change were to occur, the limitations imposed by Section 382 could significantly delay the use of a material amount of our NOLs (possibly to the point of expiring unused in the case of NOLs arising in taxable years ending before January 1, 2018) and, therefore, significantly impair the value of our NOLs.

The Section 382 Rights Agreement is intended to preserve the benefits of our NOLs by acting as a deterrent to any person (an "Acquiring Person") acquiring (together with all affiliates and associates of such person) beneficial ownership of 4.9% or more of our outstanding common stock within the meaning of Section 382, without the approval of our Board of Directors. Our stockholders who beneficially owned 4.9% or more of our outstanding common stock as of July 24, 2017 (the "Rights Dividend Declaration Date") are not be deemed to be an Acquiring Person, but such person will be deemed an Acquiring Person if such person (together with all affiliates and associates of such person) becomes the beneficial owner of securities representing a percentage of our common stock that exceeds by .5% or more the lowest percentage of beneficial ownership of our common stock that such person had at any time since the Rights Dividend Declaration Date.

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#### Section 382 Ownership Change Determinations

The rules of Section 382 are very complex and are beyond the scope of this summary discussion. Some of the factors that must be considered in determining whether a Section 382 ownership change has occurred include the following:

- Each stockholder who owns less than 5% of our common stock is generally (but not always) aggregated with other such stockholders and treated as a single "5-percent stockholder" for purposes of Section 382. Transactions in the public markets among such stockholders are generally (but not always) excluded from the Section 382 calculation.
- There are several rules regarding the aggregation and segregation of stockholders who otherwise do not qualify as Section 382 "5-percent stockholders." Ownership of stock is generally attributed to its ultimate beneficial owner without regard to ownership by nominees, trusts, corporations, partnerships or other entities.
- Acquisitions by a person that cause the person to become a Section 382 "5-percent stockholder" generally result in a 5% (or more) change in ownership, regardless of the size of the final purchase(s) that caused the threshold to be exceeded.
- Certain constructive ownership rules, which generally attribute ownership of stock owned by estates, trusts, corporations, partnerships or other entities to the ultimate indirect individual owner thereof, or to related individuals, are applied in determining the level of stock ownership of a particular stockholder. Special rules can result in the treatment of options (including warrants) or other similar interests as having been exercised if such treatment would result in an ownership change.

Our redemption or buyback of our common stock will increase the ownership of any Section 382 "5-percent stockholders" (including groups of stockholders who are not individually 5-percent stockholders) and can contribute to an ownership change. In addition, it is possible that a redemption or buyback of shares could cause a holder of less than 5% to become a Section 382 "5-percent stockholder," resulting in a 5% (or more) change in ownership.

#### Certain Factors Stockholders Should Consider

Our Board of Directors believes that attempting to protect our NOLs is in our stockholders' best interests. However, you should consider the factors below when making your decision with respect to the ratification of the Section 382 Rights Agreement and the approval of a three year extension thereof.

**Continued Risk of Ownership Change.** Although the Section 382 Rights Agreement is intended to reduce the likelihood of an "ownership change," we cannot assure you that it will be effective. The amount by which an ownership interest may change in the future could be affected by many factors, including purchases and sales of shares by stockholders holding 5% or more of our outstanding common stock, over which we have no control. Absent a court determination, we cannot assure you that the Section 382 Rights Agreement restrictions on acquisition of our common stock will be enforceable against all our stockholders, and they may be subject to challenge on equitable grounds.

**Potential Anti-Takeover Effect.** While the Section 382 Rights Agreement is not intended to prevent a takeover, it does have a potential anti-takeover effect because an Acquiring Person may be diluted upon the occurrence of a triggering event. Accordingly, the overall effects of the Section 382 Rights Agreement may be to render more difficult, or discourage a merger, tender offer, or assumption of control by a substantial holder of our securities. However, as is the case with traditional stockholder rights plans or “poison pills,” the Section 382 Rights Agreement should not interfere with any merger or other business combination approved by our Board of Directors.

**Potential Impact on Value.** The Section 382 Rights Agreement could negatively impact the value of our common stock by deterring persons or groups of persons from acquiring our common stock, including in acquisitions for which some stockholders might receive a premium above market value.

**Potential Effects on Liquidity.** The Section 382 Rights Agreement is intended to deter persons or groups of persons from acquiring beneficial ownership of our common stock in excess of the specified limitations. A stockholder’s ability to dispose of our common stock may be limited if the Section 382 Rights Agreement reduces the number of persons willing to acquire our common stock or the amount they are willing to acquire. A stockholder may become an Acquiring Person upon actions taken by persons related to, or affiliated with, them. Stockholders are advised to carefully monitor their ownership of our common stock and consult their own legal advisors and, or us to determine whether their ownership of the shares approaches the proscribed level.

**Internal Revenue Service.** The Internal Revenue Service (“IRS”) could challenge the amount of our NOLs or claim we experienced an ownership change, which could reduce the amount of our NOLs that we can use or eliminate our ability to use them altogether. The IRS has not audited or otherwise validated the amount of our NOLs. The IRS could challenge the amount of our NOLs, which could limit our ability to use our NOLs to reduce our future taxable income. In addition, the complexity of Section 382’s provisions and the limited knowledge any public company has about the ownership of its publicly traded stock make it difficult to determine whether an ownership change has occurred. Therefore, we cannot assure you that the IRS will not claim that we experienced an ownership change and attempt to reduce or eliminate the benefit of our NOLs even if the Section 382 Rights Agreement is in place.

#### **Description of the Section 382 Rights Agreement**

The following description of the Section 382 Rights Agreement is qualified in its entirety by reference to the text of the Section 382 Rights Agreement, which is attached to this Proxy Statement as Appendix B and incorporated herein by reference. We urge you to read carefully the Section 382 Rights Agreement in its entirety, as the discussion below is only a summary.

**The Rights.** The Board authorized the issuance of one right (a “Right”) for each outstanding share of common stock, par value \$0.001 per share, of the Company (the “Common Stock”) payable to stockholders of record as of the close of business on January 2, 2018 (the “Record Date”). One Right will also be issued together with each share of our Common Stock issued after January 2, 2018, but before the Distribution Date (as defined below) and, in certain circumstances, after the Distribution Date. Subject to the terms, provisions and conditions of the Rights Agreement, if the Rights become exercisable, each Right would initially represent the right to purchase from the Company one one-thousandth of a share of Series A Junior Participating Preferred Stock, par value \$0.001 per share, of the Company (the “Series A Preferred Stock”) for a purchase price of \$40.00 (the “Purchase Price”). If issued, each one-thousandth of a share of Series A Preferred Stock would give the stockholder approximately the same dividend, voting and liquidation rights as does one share of Common Stock. However, prior to exercise, a Right does not give its holder any rights as a stockholder of the Company, including, without limitation, any dividend, voting or liquidation rights.

**Initial Exercisability.** The Rights will not be exercisable until the earlier of (i) ten business days after a public announcement that a person has become an “Acquiring Person” by acquiring beneficial ownership of 4.9% or more of outstanding Common Stock (or, in the case of a person that had beneficial ownership of 4.9% or more of the outstanding Common Stock as of the close of business on December 18, 2017, by obtaining beneficial ownership of any additional shares of Common Stock representing 0.5% or more of the shares of Common Stock then outstanding (other than pursuant to a dividend or distribution paid or made by the Company on the outstanding shares of the Common Stock or pursuant to a split or subdivision of the outstanding shares of Common Stock) at a time such person still beneficially owns 4.9% or more of the outstanding Common Stock), and (ii) ten business days (or such later date as may be specified by the Board prior to such time as any person becomes an Acquiring Person) after the commencement of a tender or exchange offer by or on behalf of a person that, if completed, would result in such person becoming an Acquiring Person (the “Distribution Date”).

Until the Distribution Date, Common Stock certificates or the ownership statements issued with respect to uncertificated shares of Common Stock will evidence the Rights. Any transfer of shares of Common Stock prior to the Distribution Date will also constitute a transfer of the associated Rights. After the Distribution Date, separate rights certificates will be issued and the Rights may be transferred other than in connection with the transfer of the underlying shares of Common Stock unless and until the Board has determined to effect an exchange pursuant to the Rights Agreement (as described below).

**Flip-In Event.** In the event that a person becomes an Acquiring Person, each holder of a Right, other than Rights that are or, under certain circumstances, were beneficially owned by the Acquiring Person (which will thereupon become void), will thereafter have the right to receive upon exercise of a Right and payment of the Purchase Price, a number of shares of our Common Stock (or, in certain circumstances, cash, property or other securities of the Company) having a market value equal to two times the Purchase Price. However, Rights are subject to redemption and exchange at the option of the Company (as described below).

**Flip-Out Event.** In the event that, at any time following a person becoming an Acquiring Person, (i) the Company engages in a merger or other business combination transaction in which the Company is not the surviving corporation; (ii) the Company engages in a merger or other business combination transaction in which the Company is the surviving corporation and the Common Stock is changed or exchanged; or (iii) 50% or more of the Company’s assets, cash flow or earning power is sold or transferred, each holder of a Right (except Rights which have previously been voided as set forth above) shall thereafter have the right to receive, upon exercise of the Right, common stock of the acquiring company having a value equal to two times the Purchase Price.

**Redemption.** At any time until the earlier of December 18, 2020 and ten calendar days following the first date of public announcement that a person has become an Acquiring Person or that discloses information which reveals the existence of an Acquiring Person or such earlier date as a majority of the Board becomes aware of the existence of an Acquiring Person, the Board may redeem the Rights in whole, but not in part, at a price of \$0.001 per Right (the “Redemption Price”). The redemption of the Rights may be made effective at such time, on such basis and with such conditions as the Board in its sole discretion may establish. Immediately upon any redemption of the Rights, the right to exercise the Rights will terminate and the only right of the holders of Rights will be to receive the Redemption Price.

**Exchange.** At any time after a person becomes an Acquiring Person, the Board may, at its option, exchange the Rights (other than Rights that have become void), in whole or in part, at an exchange ratio of one share of Common Stock, or a fractional share of Series A Preferred Stock (or of a share of a similar class or series of the Company’s preferred stock having similar rights, preferences and privileges) of equivalent value, per Right (subject to adjustment). Immediately upon an exchange of any Rights, the right to exercise such Rights will terminate and the only right of the holders of Rights will be to receive the number of shares of Common Stock (or fractional share of Series A Preferred Stock or of a share of a similar class or series of the Company’s preferred stock having similar rights, preferences and privileges) equal to the number of such Rights held by such holder multiplied by the exchange ratio.

**Preferred Stock Provisions.** Each one one-thousandth of a share of Series A Preferred Stock, if issued: (i) will be nonredeemable and junior to any other series of preferred stock the Company may issue (unless otherwise provided in the terms of such other series), (ii) will entitle holders to preferential cumulative quarterly dividends in an amount per share of Series A Preferred Stock equal to the greater of (a) \$1 or (b) 1,000 times the aggregate the dividends, if any, declared on one share of Common Stock, (iii) will entitle holders upon liquidation (voluntary or otherwise) to receive \$1,000 per share of Series A Preferred Stock plus an amount equal to accrued and unpaid dividends and distributions thereon, whether or not declared, (iv) will have the same voting power as one share of Common Stock, and

**Expiration.** The Rights and the Rights Agreement will expire on the earliest of (i) December 18, 2020, (ii) the time at which the Rights are redeemed pursuant to the Rights Agreement, (iii) the time at which the Rights are exchanged in full pursuant to the Rights Agreement, (iv) the date that the Board determines that the Rights Agreement is no longer necessary for the preservation of material valuable Tax Benefits, (v) the beginning of a taxable year of the Company to which the Board determines that no Tax Benefits may be carried forward, and (vi) a determination by the Board, prior to the time any Person becomes an Acquiring Person, that the Rights Agreement and the Rights are no longer in the best interests of the Company and its stockholders.

**Anti-Dilution Provisions.** The Board may adjust the Purchase Price, the number of shares of Series A Preferred Stock or other securities or assets issuable and the number of outstanding Rights to prevent dilution that may occur as a result of certain events, including among others, a stock dividend, a stock split or a reclassification of the Series A Preferred Stock or Common Stock. With certain exceptions, no adjustments to the Purchase Price will be required until cumulative adjustments amount to at least 1% of the Purchase Price.

**Amendments.** For so long as the Rights are redeemable, the Board may supplement or amend any provision of the Rights Agreement in any respect without the approval of the holders of the Rights. From and after the time the Rights are no longer redeemable, the Board may supplement or amend the Rights Agreement only to cure an ambiguity, to alter time period provisions, to correct inconsistent provisions, or to make any additional changes to the Rights Agreement which the Company may deem necessary or desirable, but only to the extent that those changes do not impair or adversely affect any Rights holder (other than an Acquiring Person or any Affiliate or Associate of an Acquiring Person or certain of their transferees) and do not result in the Rights again becoming redeemable or the Rights Agreement again becoming amendable other than in accordance with this sentence.

**Vote Required to Ratify the Company's Section 382 Rights Agreement and approve a three year extension thereof**

The ratification of the Company's Section 382 Rights Agreement and approval of a three year extension thereof, will require the affirmative vote of a majority of the shares present in person or by proxy and entitled to vote. For more information on the voting requirements, see "Questions and Answers about the Proxy Materials, Annual Meeting and Voting." Broker non-votes are not counted as votes for or against this proposal and will therefore have no effect on the outcome of the vote.

**Recommendation of Our Board of Directors**

**OUR BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A  
VOTE "FOR" THE RATIFICATION OF THE COMPANY'S SECTION 382  
RIGHTS AGREEMENT AND APPROVAL OF A THREE YEAR EXTENSION THEREOF**

**PROPOSAL 3:**

**ELECTION OF DIRECTOR**

Our bylaws permit our Board of Directors to establish by resolution the authorized number of directors. Our Board of Directors currently consists of four directors, who are divided into three classes with staggered three-year terms. The current term of our Class I director, Susan Westphal, will expire at this Annual Meeting. Following the recommendation of the Nominating and Governance Committee, the Board of Directors recommends the re-election of Ms. Westphal as director for a one-year term at the Annual Meeting (or as a Class I Director for a three-year term if Proposal 1 to amend our Certificate of Incorporation to declassify our Board of Directors is not approved).

The individuals named as proxies on the enclosed proxy card intend to vote your shares of common stock for the election of Ms. Westphal, the nominee proposed by the Board, unless otherwise directed. Ms. Westphal has consented to serving as a nominee and being named as a nominee in this proxy statement, and to serving as a director if elected at the Annual Meeting. However, if, contrary to our present expectations, Ms. Westphal is unable to serve or for good cause will not serve, your proxy will be voted for a substitute nominee designated by our Board of Directors, unless otherwise directed.

All of our directors bring to our Board of Directors a wealth of executive leadership experience derived from their service as corporate executives as well as service as directors on other boards. When evaluating director candidates, the Nominating and Governance Committee takes into account all factors it considers appropriate, which include (i) ensuring that the Board of Directors, as a whole, is diverse and consists of individuals with various and relevant career experience, relevant technical skills, industry knowledge and experience, and financial expertise (including expertise that could qualify a director as a "financial expert," as that term is defined by the rules of the SEC), and (ii) minimum individual qualifications, including strength of character, mature judgment, familiarity with the Company's business and industry and independence of thought. The Nominating and Governance Committee also considers geographical, cultural, experiential and other forms of diversity when evaluating director candidates. In addition, the Nominating and Governance Committee also may consider the extent to which the candidate would fill a present need on the Board of Directors. Information about Ms. Westphal and the rest of our current directors, including their business experience for the past five years, appears below.

**NOMINEE FOR ELECTION**

**Class I Director**

Following is a continuing Class I director whose current term will expire at our 2020 Annual Meeting.

**Susan M. Westphal**, 54, is a continuing Class I director whose current term expires at our 2020 Annual Meeting. Ms. Westphal has served as a member of our Board of Directors since March 17, 2017. She currently serves as a member of the Audit, Compensation, and Nominating and Governance Committees. Ms. Westphal, is Chief Counsel at Melissa & Doug, LLC, a leading designer of educational toys and children's products, since February 2016. Ms. Westphal is responsible for a range of legal, strategic, and organizational matters. From January 2012 to January 2016, Ms. Westphal was an attorney with Brody and Associates, LLC. Ms. Westphal was previously an attorney at law firms including Epstein, Becker, & Green, p.c, where she represented corporate clients in litigations and negotiations in commercial, real estate, and employment matters. She holds a JD from The George Washington University National Law Center and a BA from Tufts University. Ms. Westphal's qualifications to serve on our Board of Directors include her extensive legal and negotiation experience.

**Vote Required to Elect Director**

Under our bylaws, our directors are elected by a plurality of the shares present in person or by proxy and entitled to vote. For more information on the voting requirements, see "Questions and Answers about the Proxy Materials, Annual Meeting and Voting."

**Recommendation of Our Board of Directors**

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**DIRECTORS WHOSE TERMS DO NOT EXPIRE THIS YEAR**

**Class II Directors**

**Timothy Brog**, 56, is a continuing Class II director whose current term expires at our 2021 Annual Meeting. Mr. Brog joined us in May 2016 as a member of our Board of Directors and was appointed as our President and Chief Executive Officer effective March 17, 2017. Mr. Brog served on our Audit Committee from July 1, 2016 until March 17, 2017 and on the Compensation Committee from December 14, 2016 to March 17, 2017. From March 2015 until March 17, 2017, Mr. Brog served as the president of Locksmith Capital Management LLC, an investment advisory firm. Previously, he served as Chairman of the Board of Directors of Peerless Systems Corporation from June 2008 to February 2015, Chief Executive Officer from August 2010 to March 2015 and a director beginning in July 2007. Mr. Brog served as a Managing Director and Portfolio Manager to Locksmith Value Opportunity Fund LP from September 2007 to August 2010. He also served as Managing Director of E2 Investment Partners LLC, a special purpose vehicle to invest in Peerless, from March 2007 to July 2008. Prior to his experience at Locksmith Capital and E2 Investment Partners, Mr. Brog was President of Pembridge Capital Management LLC and the Portfolio Manager of Pembridge Value Opportunity Fund LP, a small cap value hedge fund, from June 2004 to September 2007. He also worked as the Managing Director of The Edward Andrews Group Inc., a boutique investment bank, from 1996 to 2007. From 1989 to 1995, Mr. Brog was a corporate finance and mergers and acquisitions associate of the law firm Skadden, Arps, Slate, Meagher & Flom LLP. Mr. Brog has previously served as a director of Eco-Bat Technologies Limited from October 2007 to July 2019, Chairman of the Board and Chairman of the Audit Committee of Deer Valley Corporation from October 2014 to April 2015, and as a member of the board of directors of the Topps Company Inc., from July 2006 to October 2007. Mr. Brog received a JD from Fordham University School of Law in 1989 and a BA from Tufts University in 1986. Mr. Brog's qualifications to serve on our Board of Directors include his operational, legal, investment banking, executive management and financial analysis experience.

**Michael Mikolajczyk**, 68, is a continuing Class II director whose current term expires at our 2021 Annual Meeting. Mr. Mikolajczyk has served as a member of our Board of Directors from June 2001 until May 2002 and rejoined our Board of Directors in March 2004. Mr. Mikolajczyk was elected as the chairman of our Board of Directors in December 2017. Mr. Mikolajczyk also serves as a member of our Audit, Compensation, and Nominating and Governance Committees. Since September 2003, Mr. Mikolajczyk has served as managing director of Catalyst Capital Management, LLC, a private equity firm. From 2001 through 2003, Mr. Mikolajczyk worked as an independent consultant providing business and financial advisory services to early stage and mid-cap companies. Mr. Mikolajczyk also served as vice chairman of Diamond Management & Technology Consultants, Inc., a management and technology consulting firm, from 2000 to 2001, president from 1998 to 2000 and chief financial officer from 1994 to 1998. Mr. Mikolajczyk served as chief financial officer of Technology Solutions Company, a business solutions provider, from 1993 to 1994. In addition, Mr. Mikolajczyk served as a director of Diamond Management & Technology Consultants, Inc. from 1994 to 2010 and served as director of Kanbay International, Inc. from 2004 to 2007. Mr. Mikolajczyk is a CPA in the State of Michigan and holds an MBA from Harvard Business School and a BS in business from Wayne State University. Mr. Mikolajczyk's qualifications to serve on our Board of Directors include his experience as an operating executive and his years of experience providing business and financial advisory services. Mr. Mikolajczyk is a financial expert with extensive experience in corporate governance.

**Class III Director**

**Jefferson Gramm**, 44, is a continuing Class III director whose current term will expire at our 2022 Annual Meeting. Mr. Gramm, in connection with a Stock Purchase Agreement dated November 16, 2017, was appointed to the Board on November 16, 2017. He currently serves as a member of our Audit, Compensation and Nominating and Governance Committees. Mr. Gramm has served as managing director, managing partner and portfolio manager of Bandera Partners, LLC, a value-oriented investment partnership, and Bandera Partners Management LLC, an affiliate general partner entity, since August 2006. Previous to Bandera Partners, Mr. Gramm was a managing director of Arklow Capital LLC, a hedge fund manager focused on distressed and value investments, from October 2004 to July 2006. Mr. Gramm serves as a director of Tandy Leather Company, a distributor of leather and related products, since 2014 and as chairman of the board since 2017. Mr. Gramm served as director of Peerless Systems Corporation from June 2009 to November 2010, as director of Morgan's Foods Inc., a restaurant company, from April 2013 to May 2014, and as director of Ambassadors Group, Inc., an educational travel company, from May 2014 to October 2015. He holds an MBA from Columbia University and a BA from the University of Chicago. Mr. Gramm's qualifications to serve on our Board of Directors include his extensive experience in finance, especially in areas of reviewing acquisition targets and negotiating and the consummation of potential acquisitions.

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**PROPOSAL 4:**

**RATIFICATION OF SELECTION OF  
INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

The Audit Committee of the Board of Directors has selected Marcum LLP ("Marcum") to serve as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2020, and is submitting this matter to the stockholders for ratification at the Annual Meeting. Marcum has served as the Company's independent registered public accounting firm since 2017. One or more representatives of Marcum will be present at the Annual Meeting to make a statement if they desire to do so and to be available to respond to appropriate questions that may be asked by stockholders.

Neither our bylaws nor other governing documents or law require stockholder ratification of the selection of Marcum as our independent registered public accounting firm. However, the Board is submitting the selection of Marcum to the stockholders for ratification as a matter of good corporate practice. In the event the proposal to ratify the selection of Marcum is defeated, the adverse vote will be considered as a direction to the Board to select another independent registered public accounting firm for the next fiscal year ending December 31, 2021. However, because of the expense and difficulty in changing independent registered public accounting firms after the beginning of a year, the Board intends to allow the appointment of Marcum for the fiscal year ending December 31, 2020 to stand unless the Board finds other reasons for making a change.

**Audit Fees**

The aggregate fees billed by Marcum for audit services of the Company's annual financial statements and review services of the Company's quarterly financial statements for the fiscal year 2019 were \$146,481. The aggregate fees billed by Marcum for audit services of the Company's annual financial statements and assistance with and review of SEC filings for the fiscal year 2018 were \$150,000.

**Audit-Related Fees**

There were no audit-related fees billed by Marcum in the fiscal years 2019 and 2018.

**Tax Fees**

There were no tax fees billed by Marcum in the fiscal years 2019 and 2018.

There were no other fees billed by Marcum in the fiscal years 2019 and 2018 for any other services.

#### Pre-Approval Policy and Procedures

In accordance with the Sarbanes-Oxley Act of 2002, the Audit Committee is required to pre-approve all auditing services and permissible non-audit services, including related fees and terms, to be performed for the Company by its independent registered public accounting firm subject to the de minimis exceptions for non-audit services described under the Exchange Act, which are approved by the Audit Committee prior to the completion of the audit. In the fiscal years 2019 and 2018, the Audit Committee pre-approved all audit and non-audit services provided to the Company by its independent registered public accounting firm.

#### Vote Required

Approval of this proposal requires the affirmative vote of a majority of the shares of our common stock present in person or by proxy and entitled to vote. For more information on the voting requirements, see “Questions and Answers about the Proxy Materials, Annual Meeting and Voting.”

#### Recommendation of the Board of Directors

**OUR BOARD UNANIMOUSLY RECOMMENDS THAT YOU VOTE “FOR” THE RATIFICATION OF THE SELECTION OF MARCUM LLP TO SERVE AS THE COMPANY’S INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR THE FISCAL YEAR ENDING DECEMBER 31, 2020.**

### PROPOSAL 5:

#### ADVISORY VOTE ON EXECUTIVE COMPENSATION

##### Overview

The Company is providing its stockholders an advisory vote on executive compensation as required by Section 14A of the Exchange Act and Rule 14a-21 promulgated thereunder. The advisory vote on executive compensation is a non-binding vote to approve the compensation of the Company’s named executive officers, as disclosed pursuant to SEC rules in this proxy statement, including the compensation tables and the accompanying narrative disclosure. The advisory vote on executive compensation is not a vote on the Company’s general compensation policies or compensation of the Board of Directors.

The Company’s executive compensation programs are designed to attract, motivate and retain highly qualified executive officers who are able to achieve corporate objectives and create stockholder value. The Compensation Committee believes the Company’s executive compensation programs reflect a strong pay-for-performance philosophy and are well aligned with the stockholders’ long-term interests. The Compensation Committee believes the Company’s executive compensation programs have been effective at incentivizing the achievement of improved financial performance and returns to stockholders.

At our 2017 annual meeting of stockholders, the Company’s stockholders approved a one-year frequency for the stockholder advisory vote to approve executive compensation. While the stockholder vote on the frequency of future advisory votes on executive compensation is not binding, the Board will take it into consideration when determining the frequency of future advisory votes to approve executive compensation.

Stockholders are being asked to vote on the following resolution:

**RESOLVED**, that the compensation paid to the Company’s named executive officers, as disclosed pursuant to SEC rules in this proxy statement, including the compensation tables and accompanying narrative disclosure under “Executive Compensation,” is hereby APPROVED.

While this advisory vote on executive compensation is not binding on the Board of Directors, the Board of Directors will take into account the result of the vote when determining future executive compensation arrangements.

#### Vote Required

Approval of this proposal requires the affirmative vote of a majority of the shares of our common stock present in person or by proxy and entitled to vote. For more information on the voting requirements, see “Questions and Answers about the Proxy Materials, Annual Meeting and Voting.”

#### Recommendation of the Board of Directors

**OUR BOARD UNANIMOUSLY RECOMMENDS THAT YOU VOTE “FOR” THE RESOLUTION APPROVING EXECUTIVE COMPENSATION.**

### CORPORATE GOVERNANCE

#### Director Independence

Our Board of Directors undertook a review of the independence of each director and considered whether any director has a material relationship with us that could compromise his or her ability to exercise independent judgment in carrying out his or her responsibilities. As a result of this review, our Board of Directors determined that Messrs. Mikolajczyk, Gramm and Ms. Westphal are independent under the standards for director independence adopted by the Board of Directors and are “independent directors” as defined under the rules of the NASDAQ Stock Market. Based on the foregoing, our Board of Directors has concluded that a majority of our Board of Directors has been independent during the periods covered by this proxy statement, as required by the rules of the NASDAQ Stock Market. The standards for director independence adopted by the Board of Directors are available for review on our website [www.rubicontechnology.com](http://www.rubicontechnology.com).

#### Board of Directors Leadership Structure

Our Board of Directors is led by an independent Chairman, Mr. Mikolajczyk. The Board has determined that having an independent Chairman is in the best interest of the Company’s stockholders at this time and adopted a formal policy to that effect on December 14, 2016. The Board believes that this leadership structure is appropriate because it strikes an effective balance between management and independent director participation in the Board process. The independent Chairman role allows our Chief Executive Officer to focus on his management responsibilities in leading the business, setting the strategic direction of the Company and optimizing the day-to-day performance and operations of the Company. At the same time, the independent Chairman can focus on Board leadership, providing guidance to the Chief Executive Officer and the Company’s overall business strategy. The Board believes that the separation of functions between the Chief Executive Officer and Chairman of the Board provides independent leadership of the Board in the exercise of its management oversight responsibilities, increases the

accountability of the Chief Executive Officer and creates transparency into the relationship among executive management, the Board of Directors and the stockholders. The independent Chairman regularly presides at executive sessions of the independent directors, without the presence of management.

### **Board of Directors Oversight of Risk**

Our executive management team is responsible for our day-to-day risk management activities. The Board of Directors oversees these risk management activities, delegating its authority in this regard to the standing committees of the Board of Directors. The Audit Committee is responsible for discussing with executive management policies with respect to financial risk and enterprise risk management. The Audit Committee also oversees the Company's corporate compliance programs. The Compensation Committee considers risk in connection with its design of compensation programs for our executives. The Nominating and Governance Committee reviews the Company's corporate governance principles and their implementation. Each committee regularly reports to the Board of Directors. In addition to each committee's risk management oversight, the Board of Directors regularly engages in discussions of the most significant risks that the Company is facing and how these risks are being managed.

The Board of Directors believes that each committee's risk oversight function, together with the efforts of the full Board of Directors and the Chief Executive Officer in this regard, enables the Board of Directors to effectively oversee the Company's risk management activities.

### **Committees of the Board of Directors and Meetings**

Our Board of Directors has established three standing committees: an Audit Committee, a Compensation Committee and a Nominating and Governance Committee. Described below are the membership and principal responsibilities of each of the standing committees of the Board of Directors, as well as the number of meetings held during 2019. Each of these committees is composed entirely of non-employee directors who have been determined by our Board of Directors to be independent under the current requirements of the NASDAQ Stock Market and the rules and regulations of the SEC. Each committee operates under a charter approved by the Board of Directors setting out the purposes and responsibilities of the committee. All committee charters are available for review on our website, [www.rubicontechnology.com](http://www.rubicontechnology.com). The information contained on our website is not a part of this proxy statement and shall not be deemed incorporated by reference into this proxy statement or any other public filing made by us with the SEC.

The Board of Directors held five meetings during 2019. Each of our directors attended at least 75% of the aggregate of the total number of meetings of the Board of Directors and the committees on which he or she served during 2019. Our non-employee directors meet regularly without our Chief Executive Officer present.

### **Audit Committee**

From January 1, 2019 to December 31, 2019, our Audit Committee was comprised of Michael E. Mikolajczyk, Susan M. Westphal and Jefferson Gramm.

Mr. Mikolajczyk is the chairman of our Audit Committee. Our Board of Directors has determined that each member of our Audit Committee, during the period served on the committee, met or meets the requirements for financial sophistication and independence for Audit Committee membership under the current requirements of the NASDAQ Stock Market and SEC rules and regulations. Our Board of Directors has also determined that Mr. Mikolajczyk is an "audit committee financial expert" as defined in the SEC rules. The Audit Committee's responsibilities include, but are not limited to:

- selecting and hiring our independent registered public accounting firm, and approving the audit and permitted non-audit services to be performed by our independent registered public accounting firm;
- evaluating the qualifications, experience, performance and independence of our independent registered public accounting firm;
- monitoring the integrity of our financial statements and our compliance with legal and regulatory requirements as they relate to financial statements or accounting matters;
- reviewing the adequacy, effectiveness and integrity of our internal control policies and procedures;
- discussing the scope and results of the audit with the independent registered public accounting firm and reviewing with management and the independent registered public accounting firm our interim and year-end operating results;
- preparing the Audit Committee report required by the SEC in our annual proxy statement; and
- overseeing management with respect to enterprise and financial risk management.

Our Audit Committee held six meetings during 2019.

### **Compensation Committee**

From January 1, 2019 to December 31, 2019, our Compensation Committee was comprised of Jefferson Gramm, Michael E. Mikolajczyk and Susan M. Westphal.

Mr. Gramm is the chairman of our Compensation Committee. The Compensation Committee's responsibilities include, but are not limited to:

- reviewing and approving our Chief Executive Officer's and other executive officers' annual base salaries and annual bonuses;
- evaluating and recommending to the Board of Directors incentive compensation plans;
- overseeing an evaluation of the performance of our executive officers;
- administering, reviewing and making recommendations with respect to our equity compensation plans; and

- reviewing and making recommendations to the Board of Directors with respect to director compensation.

The Compensation Committee may, in its sole discretion, retain or obtain the advice of one or more compensation consultants or other advisors to assist it with these duties.

Our Compensation Committee held two meetings during 2019.

### **Nominating and Governance Committee**

Ms. Westphal is the chairman of our Nominating and Governance Committee. The Nominating and Governance Committee's responsibilities include, but are not limited to:

- developing and recommending to the Board of Directors criteria for Board of Directors and committee membership;
- assisting our Board of Directors in identifying prospective director nominees and recommending to the Board of Directors nominees for each annual meeting of stockholders;
- recommending members for each committee to our Board of Directors;
- reviewing developments in corporate governance practices and developing and recommending governance principles applicable to our Board of Directors; and
- overseeing the evaluation of the Board of Directors.

Our Nominating and Governance Committee held one meeting during 2019.

#### **Code of Conduct**

We have adopted a Business Code of Conduct that applies to all of our employees, officers and directors. A copy of the Business Code of Conduct is available on our website at [www.rubicontechnology.com](http://www.rubicontechnology.com), and any waiver from or amendment to the Business Code of Conduct granted to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, will be timely disclosed on the Company's website as set forth above rather than by filing a Form 8-K. The information found on our website is not part of this proxy statement or any report filed with or furnished to the SEC.

#### **Policies and Procedures Governing Director Nominations**

The Nominating and Governance Committee considers candidates for nomination to the Board of Directors from a number of sources, including recommendations by current members of the Board of Directors and members of management. Current members of the Board of Directors are considered for re-election unless they have notified us that they do not wish to stand for re-election. The Nominating and Governance Committee will also consider director candidates recommended by our stockholders, although a formal policy has not been adopted with respect to consideration of such candidates because stockholders may nominate director candidates pursuant to our bylaws. Stockholders desiring to submit recommendations for director candidates must follow the following procedures:

- The Nominating and Governance Committee will accept recommendations of director candidates throughout the year; however, in order for a recommended candidate to be considered for nomination for election at an upcoming annual meeting of stockholders, the recommendation must be received by the Acting Secretary of the Company not later than the close of business on the 60th day nor earlier than the close of business on the 90th day prior to the anniversary date of our most recent annual meeting of stockholders, unless the date of the annual meeting is more than 30 days before or more than 60 days after the first anniversary of the preceding year's annual meeting, in which case notice must be delivered not earlier than the 90th day prior to such annual meeting and not later than the close of business on the later of the 60th day prior to such annual meeting or the 10th day following the day on which we first publicly announce the date of such annual meeting. If the number of directors to be elected to the Board is increased and the Company does not make public announcement naming all of the nominees for director or specifying the size of the increased Board at least 70 days prior to the first anniversary of the preceding year's annual meeting, a stockholder's nomination notice will also be considered timely with respect to nominees for any newly created positions if such notice is delivered to the Acting Secretary not later than the close of business on the 10th day following the day on which such public announcement is first made by the Company.

- A stockholder making the recommendation must be a stockholder of record at the time of giving of notice, be entitled to vote at the meeting and comply with the notice procedures set forth in the bylaws. Furthermore, this recommendation must be in writing and must include the following initial information: (i) as to each person whom the stockholder proposes to nominate for election as a director, all information relating to such person that would be required to be disclosed in proxy solicitations for election of directors in an election contest, or would otherwise be required, in each case pursuant to Regulation 14A under the Securities and Exchange Act of 1934, as amended (the "Exchange Act") and Rule 14a-11 promulgated under the Exchange Act, including such person's written consent to being named in the proxy statement as a nominee and to serving as a director if elected; and (ii) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the nomination is made, the name and address of such stockholder and beneficial owner, and the class and number of shares of the Company that are owned beneficially and of record by such stockholder and beneficial owner. The Nominating and Governance Committee may subsequently request additional information regarding the candidate.
- Recommendations must be sent by U.S. Mail, courier or expedited delivery service to Timothy E. Brog, Acting Secretary, Rubicon Technology, Inc., 900 East Green Street, Bensenville, Illinois 60106.

In evaluating nominees for director, the Nominating and Governance Committee is guided by, among other things, the objective that the Board of Directors be composed of qualified, dedicated and highly regarded individuals who have experience relevant to our operations and who understand the complexities of our business environment. See "Proposal 1: Election of Director" on page 6 for a discussion of the evaluation of director candidates. The Nominating and Governance Committee may also consider other factors such as whether the candidate is independent under the standards adopted by the Board of Directors and within the meaning of the listing standards of the NASDAQ Stock Market, and whether the candidate meets any additional requirements for service on the Audit Committee. The Nominating and Governance Committee does not intend to evaluate candidates recommended by stockholders any differently than other candidates.

#### **Stockholder Communications with the Board of Directors**

Interested parties, including stockholders, may communicate by mail with all or selected members of the Board of Directors. Correspondence should be addressed to the Board of Directors or any individual director(s) or group or committee of directors either by name or title (for example, "Chairman of the Nominating and Governance Committee" or "All Non-Management Directors"). All correspondence should be sent c/o Timothy E. Brog, Acting Secretary, Rubicon Technology, Inc., 900 East Green Street, Bensenville, Illinois 60106. The Acting Secretary will, in consultation with the appropriate members of the Board, as necessary, generally screen out communications from stockholders to identify communications that are (i) commercial, charitable or other solicitations for products, services and funds, (ii) matters of a personal nature not relevant for stockholders, or (iii) matters that are of a type that render them improper or irrelevant to the functioning of the Board and the Company.

#### **Attendance at Annual Meeting**

Directors are encouraged, but not required, to attend our annual stockholders' meeting. All directors attended the 2019 Annual Meeting of Stockholders.

## REPORT OF THE AUDIT COMMITTEE

The primary purpose of the Audit Committee is to assist the Board of Directors in its general oversight of Rubicon's financial reporting process.

Rubicon's management is responsible for the preparation, consistency, integrity and fair presentation of the financial statements, accounting and financial reporting principles, and systems of internal control and procedures designed to ensure compliance with accounting standards, applicable laws, and regulations. Rubicon's independent registered public accounting firm, Marcum LLP, is responsible for performing an independent audit of the financial statements and issuing its report thereon.

The Audit Committee conducted its oversight activities in accordance with the duties and responsibilities outlined in the Audit Committee charter. These activities included, but were not limited to, the following during the fiscal year ended December 31, 2019:

- Reviewed and discussed with management and the independent registered public accounting firm the audited financial statements, the quarterly financial statements, and press releases for the year ended December 31, 2019. Management has the primary responsibility for such financial statements and press releases.
- Reviewed with management and the independent registered public accounting firm management's annual report on internal controls over financial reporting.
- Received the written disclosures and the letter from the independent registered public accounting firm required by the applicable requirements of the Public Company Accounting Oversight Board regarding the independent registered public accounting firm's communications with the Audit Committee concerning independence, and discussed with the independent registered public accounting firm its independence.

In reliance on the committee's review and discussions of the matters referred to above, the Audit Committee recommended to the Board of Directors that the audited financial statements and management's annual report on internal controls over financial reporting be included in Rubicon's Annual Report on Form 10-K for the fiscal year ended December 31, 2019.

Michael E. Mikolajczyk, Chairman  
Susan M. Westphal  
Jefferson Gramm

*The foregoing Audit Committee Report is not soliciting material, is not deemed filed with the SEC and is not to be incorporated by reference in any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.*

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## DIRECTOR COMPENSATION

In 2019, all non-employee directors received an annual fee of \$20,000 cash, payable quarterly and at every Annual Meeting, non-employee directors receive \$10,000 in restricted stock units ("RSUs") which vest on the day immediately preceding the next following Annual Meeting of Stockholders. The Chairman of the Board and Chairman of the Audit Committee each receive an additional annual cash retainer of \$5,000, payable quarterly.

We also have a policy of reimbursing directors for travel, lodging and other reasonable expenses incurred in connection with their attendance at Board or committee meetings or conducting Company business.

The following table sets forth information regarding the aggregate compensation we paid to the non-employee members of our Board of Directors for 2019.

Name	Fees earned or paid in cash (\$)	Stock awards <sup>(1)</sup> (\$)	Total (\$)
Michael E. Mikolajczyk	30,000	10,000 <sup>(2)</sup>	40,000
Susan M. Westphal	20,000	10,000 <sup>(3)</sup>	30,000
Jefferson Gramm	20,000	10,000 <sup>(4)</sup>	30,000

(1) Amounts reflect the aggregate grant date fair value of the restricted stock units granted in 2019 in accordance with FASB ASC Topic 718.

(2) On May 30, 2019, we granted Mr. Mikolajczyk 1,391 shares of restricted stock.

(3) On May 30, 2019, we granted Ms. Westphal 1,391 shares of restricted stock.

(4) On May 30, 2019, we granted Mr. Gramm 1,391 shares of restricted stock.

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## EXECUTIVE COMPENSATION

### Current Executive Officers

Timothy E. Brog, age 56, was appointed as our President and Chief Executive Officer effective March 17, 2017. Mr. Brog has also been a member of our Board of Directors since May 2016. His biographical information is provided under "Proposal 1: Election of Directors" on page 6 above.

Mathew J. Rich, age 47, was appointed as our Chief Financial Officer effective November 18, 2019. From August 15, 2019 to November 15, 2019, Mr. Rich was a financial consultant to the Company. Prior to August 2019, Mr. Rich was a regional strategy lead for Cargill's food ingredients business. From 2007 to 2016, Mr. Rich held roles of increasing responsibility across Unilever's North American foods businesses. Prior to that, Mr. Rich served in various capacities for Abbott Laboratories and The Procter & Gamble Company. Mr. Rich holds an MBA from the University of Chicago Booth School of Business and is registered as a Certified Public Accountant.

**Summary Compensation Table**

The table below sets forth, the compensation earned by Timothy E. Brog, the President and Chief Executive Officer, William F. Weissman, our former President and Chief Executive Officer, Mathew J. Rich, the Chief Financial Officer, and Inga A. Slavutsky and Mardel A. Graffy, our former Chief Financial Officers, during fiscal 2018 and fiscal 2019. Such persons are referred to in this proxy statement as our “named executive officers.” Mr. Weissman’s employment with us ended on March 16, 2017. Ms. Slavutsky was the Company’s Chief Financial Officer from June 1, 2018 to April 24, 2019 and prior to that she was our comptroller. Ms. Graffy’s employment with us ended on June 1, 2018. Per terms of Mr. Weissman’s employment agreement severance payments continued through part of 2018.

<b>Name and Principal Position</b>	<b>Year</b>	<b>Salary (\$)</b>	<b>Bonus (\$)</b>	<b>Stock Awards (\$)</b>	<b>All Other Compensation (\$)</b>	<b>Total (\$)</b>
Timothy E. Brog President & Chief Executive Officer	2019	350,000	—	445,410(1)	—	795,410
	2018	350,000	—	209,169(2)	—	559,169
Mathew J. Rich Chief Financial Officer	2019	19,238	—	—	—	19,238
William F. Weissman <sup>(3)</sup> Former President & Chief Executive Officer	2018	—	—	—	68,120(4)	68,120
Inga A. Slavutsky <sup>(5)</sup> Former Chief Financial Officer	2019	41,500	13,750(6)	—	—	55,250
	2018	112,050	3,700(7)	3,250(8)	—	119,000
Mardel A. Graffy <sup>(9)</sup> Former Chief Financial Officer	2018	91,775	3,750(10)	3,086(11)	—	98,611

(1) Pursuant to Mr. Brog’s employment agreement, he was eligible for a bonus based upon certain objectives set forth by the Compensation Committee and agreed to by him. For work performed in 2018 and paid in 2019, Mr. Brog was eligible to earn up to 49,000 shares (the “Objective Bonus Shares”) of the Company’s common stock if certain goals were achieved. The Board of Directors determined that Mr. Brog’s objectives were met and such shares were issued to Mr. Brog in 2019.

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(2) On January 1, 2018, we granted Mr. Brog 30,902 RSUs. The equity grant is subject to price-based vesting and was not an outright stock grant. Amount represents the full aggregate grant date fair value of this grant, calculated in accordance with FASB ASC Topic 718. For a discussion of the assumptions and methodologies used in calculating the grant date fair value of the RSU awards in 2018, please see Note 8 to the Company’s consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2018.

(3) Mr. Weissman served as our President and Chief Executive Officer from December 2014 to March 16, 2017. The table includes his compensation for the year ended December 31, 2018.

(4) Reflects severance and continuation of benefits paid in 2018 in accordance with Mr. Weissman’s employment agreement for termination without cause on March 16, 2017.

(5) Ms. Slavutsky was our Chief Financial Officer from June 2018 to April 2019. The table includes her compensation for the years ended December 31, 2018 and December 31, 2019. In addition, after her resignation, Ms. Slavutsky performed services for the Company on a fee basis and was paid an additional \$950 for such services. Such payment was excluded from the table above.

(6) Amount represents a \$13,750 cash bonus paid to Ms. Slavutsky in 2019.

(7) Amount represents a \$3,700 cash bonus paid to Ms. Slavutsky in 2018.

(8) In 2018, we granted Ms. Slavutsky 438 shares of Rubicon common stock.

(9) Ms. Graffy was our Chief Financial Officer from December 2014 to June 2018. The table includes her compensation for the year ended December 31, 2018.

(10) Amount represents a \$3,750 cash bonus paid to Ms. Graffy.

(11) In 2018, we granted Ms. Graffy 444 shares of Rubicon common stock.

(12) Prior to his appointment as CFO in November 2019, Mr. Rich served as a consultant to the Company from August 2019 to the date of such appointment and was paid \$46,250 for his services during that period. Amount represents a \$3,750 cash bonus paid to Ms. Graffy.

**Discussion of Summary Compensation Table**

Our executive compensation policies and practices for fiscal 2019 and 2018, pursuant to which the compensation set forth in the “Summary Compensation Table” table was paid or awarded, are described below.

**Base salary**

Pursuant to the terms of their employment agreements, the annual base salaries for 2019 for Mr. Brog, Mr. Rich and Ms. Slavutsky were \$350,000, \$165,000 and \$130,000, respectively. For 2018, the annual base salaries for Mr. Brog, Ms. Slavutsky and Ms. Graffy were \$350,000, \$130,000 and \$200,000, respectively. We formally evaluate executive performance on an annual basis, and these evaluations are one of the factors considered in making adjustments to base salaries.

**Incentive bonuses**

The primary objectives of our incentive bonus plan are to provide an incentive for superior work, to motivate our executives toward even higher achievement and business results, to tie our executives’ goals and interests to ours and our stockholders’ and to enable us to attract and retain highly qualified individuals. These targets are typically set in the first three months of the year. The targets under our objective incentive bonus plan are mutually agreed upon by the independent directors and each of the executives.

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### **Discretionary Incentive bonuses**

In 2019, the Compensation Committee approved a bonus plan for some of our employees in key areas of operations. Accordingly, in 2019 Ms. Slavutsky received a cash bonus of \$13,750. Mr. Brog did not receive a discretionary bonus in 2019.

In 2018, Ms. Graffy received a discretionary cash bonus of \$3,750 and Ms. Slavutsky received a discretionary cash bonus of \$3,700.

### **Objective incentive compensation**

In 2008, our Board of Directors adopted a policy generally to grant equity awards to executives once per year to the extent equity awards are to be granted during such year (except in the case of newly hired executives, as described below). With respect to newly hired executives, our practice is typically to make equity grants at the first meeting of the Board of Directors following such executive's hire date. We do not have any program, plan or practice to time equity awards in coordination with the release of material non-public information.

Pursuant to Mr. Brog's employment agreement, he was eligible for a bonus based upon certain objectives set forth by the Compensation Committee and agreed to by him.

In 2019, Mr. Brog was eligible to earn up to 40,500 shares (the "2019 Objective Bonus Shares") of the Company's common stock if certain goals were achieved. While Mr. Brog's 2018 goal for earning his bonus was based solely on preserving and building capital through liquidation of assets, management of short-term investments, and reductions of liabilities, his 2019 goals included several specific, and more qualitative, targets that the Board believes are critical to the long term success of the Company. There is no set formula to weight the importance of each target -- the Board will consider Mr. Brog's performance in relation to all three targets when determining the amount of his bonus.

#### **Goal 1: Progress towards an acquisition**

The Board wishes to incentivize Mr. Brog to further develop the Company's acquisition pipeline, with the ultimate goal of finding suitable acquisition targets and eventually closing a transaction. To achieve Goal 1, the Board wants to see material progress from Mr. Brog in improving deal-flow and allocating more time to the search for acquisitions. A signed purchase agreement or the actual consummation of an acquisition would also satisfy Goal 1.

#### **Goal 2: Signed purchase agreements for the Malaysia properties**

The Board believes the Company's assets in Malaysia continue to be an unwanted distraction from Rubicon's domestic operations. Mr. Brog would achieve Goal 2 by negotiating and signing a purchase agreement for one or both of the Malaysia properties with Board approval. Material progress in finding a buyer for the properties will also be considered by the Board for achieving Goal 2.

#### **Goal 3: 2019 Year-End Cash**

Similar to in 2018, the Board wishes to incentivize Mr. Brog in his efforts to preserve capital.

As of December 31, 2018, Rubicon's net short-term investments, cash and cash equivalents and restricted cash were as follows:

Cash and cash equivalents:	\$	11,241,000
Restricted Cash:	\$	169,000
Short-term investments:	\$	14,356,000
Total:	\$	25,766,000

The term "Total Cash" is defined as cash and cash equivalents, restricted cash and short-term investments. The total current liabilities as of December 31, 2018 were \$1,194,000 ("TCL"). The difference between the Total Cash (\$25,766,000) and the TCL (\$1,194,000) as of December 31, 2018 was \$24,572,000.

If the difference between the Total Cash and the TCL as of December 31, 2019 ("2019 YE Cash") is equal to or greater than \$25,000,000 then Mr. Brog would satisfy Goal 3.

The 2019 YE Cash would be adjusted for any unusual items that occur in 2019. For instance, if Rubicon merges or acquires another entity, then the cash used in such transactions and the related costs thereto should be added back into the 2019 YE Cash. If cash is raised pursuant to the sale of Rubicon's Common Stock then the net cash raised shall be subtracted from the 2019 YE Cash. If Rubicon uses cash to repurchase shares of its Common Stock, that cash shall be subtracted from 2019 YE Cash. The above examples are for illustrative purposes only and are not a complete list of the types of unusual items that may occur in 2019.

Prior to December 31, 2019, Mr. Brog had no rights, interest or title in the 2019 Objective Bonus Shares and such shares were not deemed issued or granted in 2019. If setting the bonus objectives described above violates any provision of the 2016 Rubicon Stock Incentive Plan, then the payment of this bonus shall be null and void and Mr. Brog and the Compensation Committee shall negotiate in good faith a new bonus that will be approximately equal to the value of the bonus described above.

Notwithstanding that Mr. Brog reached certain of the objectives set forth by the Compensation Committee, due to the Covid-19 crisis, the fact that no other employee earned a bonus for 2019 and a relatively poor performance of certain investments made by the Company, Mr. Brog requested that the Board not consider him for the payment of a bonus, at least not until the sale of the Company's real estate located in Malaysia is consummated. The Board accepted Mr. Brog's request and no 2019 Objective Bonus Shares have been granted.

For work performed in 2018 and paid in 2019, Mr. Brog was eligible to earn up to 49,000 shares (the "2018 Objective Bonus Shares") of the Company's common stock if certain goals were achieved. The Board of Directors determined that Mr. Brog's objectives were met and such shares were issued to Mr. Brog in 2019.

Mr. Brog's 2018 objective incentive compensation goals, in order to earn the 2018 Objective Bonus Shares, was based upon the (a) liquidation of certain of Rubicon's assets, (b) generation and preservation of Rubicon's net short-term investments, cash and cash equivalents and restricted cash and (c) reduction of current liabilities, each of which were on the Company's Balance Sheet as of December 31, 2018. As of December 31, 2017, Rubicon's net short-term investments, cash and cash equivalents and restricted cash were as follows:

Cash and cash equivalents:	\$	11,544,190
Restricted Cash:	\$	180,655
Short-term investments:	\$	6,450,833
Total:	\$	18,175,678

The term "2017 Total Cash" was defined as cash and cash equivalents, restricted cash and short-term investments. The total current liabilities as of December 31, 2017 were \$1,715,000 ("2017 TCL"). The difference between the 2017 Total Cash (\$18,175,678) and the 2017 TCL (\$1,714,851) as of December 31, 2017 was \$16,460,827. The closing price of the Common Stock the day prior to the agreement of these bonus objectives was \$7.16 per share.

If the difference between the 2018 Total Cash and the 2018 TCL as of December 31, 2018 (“2018 YE Cash”) is equal to or greater than \$26,000,000 then Mr. Brog shall earn all of the 2018 Objective Bonus Shares. If the 2018 YE Cash is equal to or less than \$23,000,000 then Brog shall earn none of the 2018 Objective Bonus Shares. If the 2018 YE Cash is less than \$26,000,000 and greater than \$23,000,000 then Brog shall earn a pro rata percentage of the 2018 Objective Bonus Shares.

The 2018 YE Cash would be adjusted for any unusual items that occur in 2018. In 2018, the purchase by the Company of its building located at 900 East Green Street, Bensenville, Illinois and the amount of cash used in the Company’s Stock Repurchase Plan were deemed to be unusual items.

The Board determined that in 2018, Mr. Brog achieved all of the goals set forth by the Compensation Committee and therefore all of the 2018 Objective Bonus Shares were earned and subsequently issued.

**Severance and change in control arrangements**

Payments upon termination are described below under “Termination of Employment or Change in Control”.

**OUTSTANDING EQUITY AWARDS AT 2019 FISCAL YEAR-END**

The following table sets forth the outstanding equity awards for our named executive officers as of December 31, 2019.

Name	Option Awards				Stock Awards			
	Number of securities underlying unexercised options (#) exercisable	Number of securities underlying unexercised options (#) unexercisable	Option exercise price (\$)	Option expiration date	Number of shares or units of stock that have not vested (#)	Market value of shares or units of stock that have not vested (\$)	Equity incentive plan awards: number of unearned shares, units or other rights that have not vested (#)	Equity incentive plan awards: market or payout value of unearned shares, units or other rights that have not vested (\$)
Timothy Brog	—	—	—	—	14,098(1)	117,295		
	—	—	—	—	30,902(3)	257,105		

- (1) The award of 14,098 RSUs vests in the amounts set forth below on the first date the 15-trading day average closing price of the Company’s common stock equals or exceeds the corresponding target price of \$11.00 for the common stock before March 15, 2021, provided that Mr. Brog remains employed with us through the applicable vesting dates. This award did not vest in 2019.
- (2) The market value of unvested stock awards is calculated by multiplying the number of unvested RSUs by \$8.32, the closing price of the Company’s common stock on The NASDAQ Stock Market on December 31, 2019.
- (3) The award of 30,902 RSUs vest in the amounts set forth below on the first date the 15-trading day average closing price of the Company’s common stock equals or exceeds the corresponding target price for the common stock before March 15, 2021: 902 - \$11.00, 15,000 - \$12.50 and 15,000 - \$14.00, provided that Mr. Brog remains employed with us through the applicable vesting dates. No tranches vested in 2019.

**TERMINATION OF EMPLOYMENT OR CHANGE IN CONTROL**

**Mr. Brog’s Severance Terms.** Pursuant to the terms of his employment agreement, if Mr. Brog’s employment is terminated by us without “cause” or if he resigns for “good reason,” he will receive a continuation of his annual base salary for twelve months thereafter and all of his outstanding RSU awards will become vested, provided that Mr. Brog delivers a release of claims to the Company. In addition, he is entitled to receive any unused vacation pay, any bonus earned prior to the termination date that remained unpaid, and continuation of his medical and welfare benefits for a period of twelve months thereafter. If within two years after a “change in control,” as defined in the 2016 Plan and summarized below, we terminate Mr. Brog without cause or he resigns for good reason, he will be entitled to a lump sum payment equal to 100% of his annual base salary in lieu of the salary continuation described above.

For purposes of Mr. Brog’s agreement (i) “cause” generally is defined as willful misconduct materially and adversely affecting us; theft, fraud, embezzlement or similar behavior; indictment or conviction of a felony; or willfully failing to substantially perform the material duties of his position, other than failure resulting from incapacity due to physical or mental illness, following a demand for performance delivered by the Board of Directors and a specified cure period of not less than 10 days; and (ii) “good reason” generally is defined as a material reduction in base salary or benefits; substantial diminution in Mr. Brog’s duties, responsibilities or title, if uncured by us within 30 days of receipt of notice from Mr. Brog; or Mr. Brog is required by the Board to work in the Company’s office located in any place other than in the New York metropolitan area for more than 12 days in any one month in order to maintain employment with the Company.

**Restrictive Covenants.** Each executive’s employment agreement contained or contains customary non-competition and non-solicitation covenants. These restrictions survive for a period of 12 months after the executive’s resignation or termination, and in the event of a breach of his or her employment agreement, the period is automatically extended by the period of the breach.

**Equity Compensation Awards.** The equity compensation awards granted under the 2016 Plan or 2007 Plan may become vested upon a change in control. The 2016 and 2007 Plans provide that in the event of “change in control,” as defined in the 2016 and 2007 Plans, each outstanding award will be treated as the Compensation Committee determines, including that the successor corporation or its parent or subsidiary may be required to assume or substitute an equivalent award for each outstanding award. The Compensation Committee is not required to treat all awards similarly. If there is no assumption or substitution of outstanding awards, the award recipient will fully vest in and have the right to exercise all of his or her outstanding options and stock appreciation rights, all restrictions on restricted stock and RSUs will lapse and all performance goals or other vesting requirements for performance awards will be deemed achieved at 100% of target levels and all other terms and conditions will be deemed met. If an option or stock appreciation right is not assumed or substituted, the Compensation Committee will provide notice to the award recipient that the option or stock appreciation right will be fully vested and exercisable for a period of time determined by the Compensation Committee in its discretion, and the option or stock appreciation right will terminate upon the expiration of such period. Notwithstanding the Compensation Committee’s general discretionary authority described above, the individual award agreements may provide for the vesting of such awards upon the occurrence of a change in control.

Under the 2016 and 2007 Plans, a “change in control” is deemed to occur when (i) a person becomes the beneficial owner (directly or indirectly) of at least 50% of the voting power represented by the Company’s outstanding voting securities, (ii) the Company sells or disposes of all or substantially all of its assets, (iii) the composition of the Board of Directors changes within a two-year period resulting in fewer than a majority of the directors being “incumbent directors” (as defined in the 2016 and 2007 Plans), or (iv) a merger or consolidation of the Company is consummated with any other corporation resulting in the voting securities of the Company outstanding immediately prior thereto representing (either by remaining outstanding or by being converted into voting securities of the surviving entity or its parent) less than 50% of the total voting power represented by the voting securities of the Company or such surviving entity or its parent outstanding immediately after such merger or consolidation.

### LIMITATION ON LIABILITY AND INDEMNITY

Our Certificate of Incorporation contains provisions that limit or eliminate the liability of our directors for monetary damages to the fullest extent permitted by Delaware law. Consequently, our directors will not be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duties as a director, except liability for:

- any breach of the director’s duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases, redemptions or other distributions as provided in Section 174 of the Delaware General Corporation Law; or
- any transaction from which the director derived an improper personal benefit.

Our bylaws provide that we are required to indemnify our directors and officers, in each case to the fullest extent permitted by Delaware law. Our bylaws also provide that we are obligated to advance expenses incurred by a director or officer in advance of the final disposition of any action or proceeding and permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in that capacity regardless of whether we would otherwise be permitted to indemnify him or her under the provisions of Delaware law. We have entered into agreements and intend to continue to enter into agreements to indemnify our executive officers and directors. With certain exceptions, these agreements provide for indemnification for related expenses including, among other things, attorneys’ fees, judgments, fines and settlement amounts incurred by any of these individuals in any action or proceeding for which indemnification is available. We believe these bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers. We also maintain directors’ and officers’ insurance.

### SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

#### SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

Unless otherwise noted, the following table sets forth, as of June 8, 2020, the beneficial ownership of our common stock by:

- each person that was a beneficial owner of 5% or more of our outstanding shares of common stock;
- each of our named executive officers;
- each of our directors, including the director nominees; and
- all of our named executive officers and directors as a group.

Beneficial ownership is determined in accordance with the rules of the SEC. Except as described below, in computing the number of shares beneficially owned by a person and the percentage ownership of that person, shares of common stock subject to RSUs, options or warrants held by that person that are currently exercisable or exercisable within 60 days of indicated in the footnotes below, the address for each beneficial owner is c/o Rubicon Technology, Inc., 900 East Green Street, Bensenville, Illinois 60106.

Name of beneficial owner	Shares beneficially owned	
	Number	Percent
<b>5% stockholders:</b>		
Bandera Master Fund L.P. <sup>(1) (7)</sup>	258,256	10.4%
Aldebaran Capital, LLC <sup>(2)</sup>	160,373	6.4%
Sentientia Capital Management LLC <sup>(3)</sup>	143,120	5.8%
<b>Named Executive Officers and Directors:</b>		
Timothy Brog <sup>(4)</sup>	75,000	3.0%
Mathew J. Rich	—	*
Jefferson Gramm <sup>(5)</sup>	261,450	10.5%
Michael E. Mikolajczyk <sup>(6)</sup>	61,047	2.5%
Susan M. Westphal <sup>(7)</sup>	6,628	*
<b>All executive officers and directors as a group (5 persons)<sup>(8)</sup></b>	<b>404,125</b>	<b>16.3%</b>

\* Represents less than 1% of the outstanding shares of common stock.

(1) The ownership information set forth in the table is based on information contained in a statement on Schedule 13D (the “Bandera 13D”), filed on November 11, 2017, with the SEC by Bandera Master Fund L.P. (“Bandera”), together with Bandera Partners LLC, Gregory Bylinsky and Jefferson Gramm, Managing Partners, Managing Directors and Portfolio Managers of Bandera Partners (“Reporting Persons”) with respect to ownership of shares of our common stock. The Bandera 13D reflects that each of Bandera Master Fund L.P. and Bandera Partners has sole dispositive and voting power with respect to 258,256 of the reported shares. Bandera reports on the Bandera 13D that each of Messrs. Bylinsky and Gramm as Managing Partners, Managing Directors and Portfolio Managers of Bandera Partners may be deemed to have shared power to vote or dispose of the shares owned by Bandera. Bandera reports on the

- (2) The ownership information set forth in the table is based on information contained in a statement on Schedule 13D (the “Aldebaran 13D”), filed on June 30 2017, with the SEC by Aldebaran Capital LLC (“Aldebaran”), together with Kenneth R. Skarbeck (“Reporting Persons”) with respect to ownership of shares of our common stock. The Aldebaran 13D reports that included in the 160,373 shares held by Aldebaran are 3,770 shares beneficially held in family accounts related to Kenneth R. Skarbeck. The Aldebaran 13D reflects that the Reporting Persons have shared dispositive and voting power with respect to 160,373 of the reported shares. Aldebaran reports on the Aldebaran 13D that no person other than the Reporting Persons have the right to receive or the power to direct the receipts of dividends from, or the proceeds from the sale of, our common stock and that none of Aldebaran’s clients have an economic interest in more than 5% of the Company’s outstanding shares. The principal business address of Aldebaran is 10293 N. Meridian Street, Suite 100, Indianapolis, Indiana 46290.
- (3) The ownership information set forth in the table is based on information contained in a statement on Schedule 13D (the “Sententia 13D”), filed on December 5, 2017, with the SEC by Sententia Capital Management LLC (“Sententia”), together with Sententia Group, LP, Sententia CI-I, LP and Michael R. Zapata (“Reporting Persons”) with respect to ownership of shares of our common stock. The Sententia 13D reflects that each of the Reporting Persons have dispositive and voting power with respect to 143,120 of the reported shares. Sententia reports on the Sententia 13D that no person other than the Reporting Persons have the right to receive or the power to direct the receipts of dividends from, or the proceeds from the sale of, our common stock but that none of Sententia’s clients have an economic interest of more than 5% of the Company’s outstanding shares. The principal business address of Sententia is 745 Fifth Avenue, 14th Floor, New York, New York 10151.
- (4) Excludes 45,000 restricted stock units granted to Mr. Brog. One third of such RSUs will vest if prior to May 12, 2021, the 15-trading day average closing price of the Company’s common stock is greater than or equal to the target prices of \$11.00, \$12.50 and \$14.00, respectively.
- (5) Includes 1,995 shares of common stock, owned by Mr. Gramm, and 258,256 shares of common stock beneficially owned by Bandera Master Fund LLP. See footnote (1) above for a description of the relationship between Mr. Gramm and Bandera Master Fund LLP. Mr. Gramm disclaims beneficial ownership of the shares beneficially owned by Bandera Master Fund LLP. Also includes 1,199 RSUs that will vest on the date of the 2020 stockholder meeting of July 16, 2020.
- (6) Includes 1,199 RSUs that will vest on the date of the 2020 stockholder meeting of July 16, 2020.
- (7) Includes 1,199 RSUs that will vest on the date of the 2020 stockholder meeting of July 16, 2020.
- (8) Includes 421,528 shares of common stock and 3,597 RSUs beneficially owned by our executive officers and directors.

#### **SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE**

Section 16(a) of the Exchange Act requires our directors, executive officers and persons who own more than 10% of our common stock to file with the SEC initial reports of ownership and reports of changes in ownership of our common stock and to provide us copies of these reports. Based solely on a review of the copies of these reports furnished to us and written representations that no other reports were required to be filed, we believe that all such filings applicable to our officers, directors and beneficial owners of greater than 10% of our common stock were made timely during the fiscal year ended December 31, 2019.

#### **CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS**

##### **Policy and Procedures for Review, Approval or Ratification**

We recognize that transactions between the Company and related persons present a potential for actual or perceived conflicts of interest. Our general policies with respect to such transactions are included in our Code of Conduct which is administered by our Audit Committee. All employees and members of our Board of Directors agree to be bound by the Code of Conduct. As a supplement to the Code of Conduct, the Audit Committee adopted a written policy setting out the procedures and standards to be followed for the identification and evaluation of “related party transactions.” For purposes of the policy, a related party transaction is any transaction or series of related transactions in excess of \$120,000 in which we are a party and in which a “related person” has a material interest. Related persons include our directors, director nominees, executive officers, beneficial owners of 5% or more of any class of our voting securities and members of their immediate families. The Audit Committee has determined that certain transactions are deemed to be pre-approved under this policy. These include (i) transactions with another company in which the related person’s only interest is as a director or beneficial owner of less than 10% of the equity interests in that other company and (ii) certain compensation arrangements that have either been disclosed in our public filings with the SEC or approved by our Compensation Committee.

We collect information about potential related party transactions in our annual questionnaires completed by directors, executive officers and certain beneficial owners of 5% or more of any class of our voting securities. Potential related party transactions are first reviewed and assessed by our Acting Secretary to consider the materiality of the transactions and then reported to the Audit Committee. If a related party transaction is identified during the year, it is reported promptly to the Audit Committee. The Audit Committee reviews and considers all relevant information available to it about each related party transaction. A related party transaction is approved or ratified only if the Audit Committee determines that it is in, or is not inconsistent with, our best interests and those of our stockholders and is in compliance with the Code of Conduct.

On June 10, 2019, the Company acquired 12,818 shares of Common Stock at a price of \$8.12 per share from Michael Mikolajczyk, the Company’s Chairman of the Audit Committee and the Board of Directors. This purchase was unanimously approved by all of the disinterested directors of the Company.

#### **2021 STOCKHOLDER PROPOSALS FOR INCLUSION IN THE PROXY STATEMENT**

Any proposal that a stockholder intends to present for action at the 2021 Annual Meeting must have been received by the Company no later than February 17, 2020, in order for the proposal to be included in the proxy statement and form of proxy for the 2021 Annual Meeting. Any such proposal must meet the applicable requirements of the Exchange Act and the rules and regulations thereunder. Such proposals should be sent to Timothy E. Brog, Acting Secretary, Rubicon Technology, Inc., 900 East Green Street, Bensenville, Illinois 60106.

#### **OTHER STOCKHOLDER PROPOSALS AND NOMINATIONS**

Our bylaws prescribe the procedures that a stockholder must follow to nominate persons for election to the Board of Directors at an annual meeting or to bring other business before an annual meeting (other than matters that have been included in our proxy statement for such meeting). Any nomination or proposed business that is not made in accordance with these procedures will be disregarded. The following summary of these procedures is qualified by reference to our bylaws, a copy of which may be obtained, without charge, from Timothy E. Brog, Acting Secretary, Rubicon Technology, Inc., 900 East Green Street, Bensenville, Illinois 60106.

A stockholder who intends to nominate a director for election or bring other business before the 2021 Annual Meeting must deliver timely written notice thereof to Timothy E. Brog, our Acting Secretary, at the address shown above and must be a stockholder of record at the time notice is delivered and entitled to vote at the 2021 Annual Meeting. To be timely, the notice must be delivered to the Acting Secretary not later than the close of business on May 15, 2021 and not earlier than the close of business on April 17, 2021 unless the date of the 2021 Annual Meeting is more than 30 days before or more than 60 days after July 16, 2020, in which case notice must be so delivered not earlier than the close of business on the 90<sup>th</sup> day prior to such annual meeting date and not later than the close of business on the later of the 60<sup>th</sup> day prior to such annual meeting or the 10<sup>th</sup> day following the day on which we first publicly announce the date of such annual meeting.

Any such notice must contain the information specified in the bylaws regarding the stockholder giving the notice and, as applicable, each person whom the stockholder wishes to nominate for election as a director and the other business proposed to be brought before the 2021 Annual Meeting.

With respect to stockholder proposals not included in the Company's proxy statement for the 2021 Annual Meeting, the persons named in the Board of Directors' proxy for such meeting will be entitled to exercise the discretionary voting power conferred by such proxy under the circumstances specified in Rule 14a-4(c) under the Exchange Act, including with respect to proposals not received by the Company within a reasonable time before the mailing of the proxy statement for the 2021 Annual Meeting.

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#### **"HOUSEHOLDING" OF PROXY MATERIALS**

We have delivered only one full copy of the proxy materials, to multiple stockholders who share an address, unless we received contrary instructions from the affected stockholders prior to the mailing date. We agree to deliver promptly, upon written or oral request, a separate copy of the notice or, if applicable, the proxy materials, as requested, to any stockholder at the shared address to which a single copy of these documents was delivered. Beneficial owners should contact their bank, broker, trustee or other nominee and stockholders of record should submit their requests to: Timothy E. Brog, Acting Secretary, Rubicon Technology, Inc., 900 East Green Street, Bensenville, Illinois 60106, Telephone: (847) 295-7000. If you are a stockholder residing at a shared address and would like to request an additional copy of the notice or, if applicable, the proxy materials, with respect to future mailings, or to request to receive only one copy of the notice or proxy materials if you are currently receiving multiple copies, please send your request to the Acting Secretary at the address provided above.

**COPIES OF THE COMPANY'S ANNUAL REPORT ON FORM 10-K FOR THE FISCAL YEAR ENDED DECEMBER 31, 2019, AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION, CAN BE OBTAINED WITHOUT CHARGE UPON WRITTEN REQUEST TO TIMOTHY E. BROG, ACTING SECRETARY, RUBICON TECHNOLOGY, INC., 900 EAST GREEN STREET, BENSENVILLE, ILLINOIS 60106.**

BY ORDER OF THE BOARD OF DIRECTORS,

/s/ TIMOTHY E. BROG  
TIMOTHY E. BROG  
ACTING SECRETARY

Bensenville, Illinois  
June 16, 2020

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Appendix A

#### **Form of Amendment to Certificate of Incorporation – Declassification of Board**

#### **FORM OF AMENDMENT TO EIGHTH AMENDED AND RESTATED CERTIFICATE OF INCORPORATION**

(Adopted in Accordance with the Provisions of Section 242  
of the General Corporation Law of the State of Delaware (the "DGCL"))

Rubicon Technology, Inc., a corporation organized and existing under and by virtue of the laws of the State of Delaware (the "Corporation"), does hereby certify as follows:

1. The name of the Corporation is Rubicon Technology, Inc.

2. At a meeting of the Board of Directors of the Corporation (the "Board"), resolutions were duly adopted setting forth a proposed amendment (the "Amendment") of the Eighth Amended and Restated Certificate of Incorporation of the Corporation (the "Certificate of Incorporation"), declaring said amendment to be advisable and calling a meeting of the stockholders of the Corporation for consideration thereof. The Amendment is set forth in paragraph 3 below.

3. The Certificate of Incorporation be, and hereby is, amended by deleting Article 7, Election of Directors, in its entirety, and substituting in lieu thereof, a new Article 7 as follows:

#### **"ARTICLE 7 ELECTION OF DIRECTORS**

(a) Election of Directors need not be by written ballot except to the extent provided in the bylaws of the Corporation.

(b) The number of Directors of the Corporation shall be fixed from time to time in the manner set forth in the Bylaws.

(c) Directors shall be elected by the affirmative vote of the plurality of shares present in person or by proxy at the meeting and entitled to vote.

(d) The Directors of the Corporation shall until the election of Directors at the Corporation's 2021 annual meeting of stockholders be divided into three classes: Class I, Class II and Class III. Commencing at the Corporation's 2020 annual meeting of stockholders and for each subsequent annual meeting of stockholders, each Director elected at such annual meeting shall be elected to hold office for a term expiring at the next succeeding annual meeting of stockholders and until such person's successor shall be elected and qualified, or until such person's earlier death, resignation, retirement, disqualification or removal from office. Commencing with the Corporation's 2021 annual meeting of stockholders, the classification of the Board shall cease.

(e) Subject to the rights, if any, of the holders of any series of Preferred Stock to elect Directors and to fill vacancies in the Board, any and all vacancies in the Board, however occurring, including, without limitation, by reason of an increase in the size of the Board, or the death, resignation, retirement,

disqualification or removal of a Director, shall be filled by a majority of the Directors then in office, even if less than a quorum, or by the sole remaining Director, at any meeting of the Board and not by the stockholders. Any Director appointed in accordance with the preceding sentence shall hold office until the next succeeding annual meeting of stockholders and until such Director's successor shall have been duly elected and qualified or until such person's earlier death, resignation, retirement, disqualification or removal.

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(f) Subject to the rights, if any, of any series of Preferred Stock to elect Directors and to remove any Director whom the holders of any such stock have the right to elect, prior to the 2021 annual meeting of stockholders, any Director (including persons elected by Directors to fill vacancies in the Board) may be removed from office (i) only with cause and (ii) only by the affirmative vote of the holders of 75% or more of the shares then entitled to vote at an election of Directors. Subject to the rights, if any, of any series of Preferred Stock to elect Directors and to remove any Director whom the holders of any such stock have the right to elect, and except as otherwise provided by the DGCL, effective as of and after the 2021 annual meeting of stockholders, any Director may be removed with or without cause by the holders of a majority of shares then entitled to vote at an election of Directors. At least forty-five (45) days prior to any meeting of stockholders at which it is proposed that any Director be removed from office, written notice of such proposed removal and the alleged grounds thereof shall be sent to the Director whose removal will be considered at the meeting.”

4. Pursuant to a resolution of the Board, a meeting of the stockholders of the Corporation was duly called and held upon notice in accordance with Section 222 of the DGCL at which meeting the necessary number of shares as required by statute were voted in favor of the Amendment.

5. The Amendment was duly adopted in accordance with the provisions of Section 242 of the DGCL.

6. In accordance with Section 103(d) of the DGCL, the Amendment shall become effective on the date and at the time set forth below:

Effective date:

Effective time:

**IN WITNESS WHEREOF**, Rubicon Technology, Inc. has caused this Amendment to Eighth Amended and Restated Certificate of Incorporation to be signed by its duly authorized officer as of \_\_\_\_\_, 2020.

**RUBICON TECHNOLOGY, INC.**

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

Title:

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Appendix B

**Section 382 Rights Agreement**

**SECTION 382 RIGHTS AGREEMENT**

by and between

**RUBICON TECHNOLOGY, INC.**

and

**AMERICAN STOCK TRANSFER & TRUST COMPANY, LLC,**

as Rights Agent

Dated as of December 18, 2017

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## EXHIBITS

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## SECTION 382 RIGHTS AGREEMENT

SECTION 382 RIGHTS AGREEMENT, dated as of December 18, 2017 (the “Agreement”), between Rubicon Technology, Inc., a Delaware corporation (the “Company”), and American Stock Transfer & Trust Company, LLC, as Rights Agent (the “Rights Agent”).

### WITNESSETH

WHEREAS, the Company and certain of its Subsidiaries (as hereinafter defined) have generated net operating losses for United States federal income tax purposes (“NOLs”);

WHEREAS, the NOLs may potentially provide valuable Tax Benefits (as hereinafter defined) to the Company;

WHEREAS, the Company desires to preserve its ability to engage in acquisitions or other transactions approved by the Board of Directors of the Company (the “Board”) in which the Company would desire to issue securities (whether debt or equity) directly from the Company without adversely affecting the Tax Benefits because of the potential of an “ownership change” within the meaning of Section 382 of the Code (as hereinafter defined);

WHEREAS, the Company desires to avoid an “ownership change” within the meaning of Section 382 of the Code (as hereinafter defined) and thereby preserve the Company’s ability to utilize the NOLs and, in furtherance of such objective, the Company wishes to enter into this Agreement;

WHEREAS, on December 18, 2017 (the “Rights Dividend Declaration Date”), the Board authorized and declared a dividend distribution of one right (a “Right”) for each share of common stock, par value \$0.001 per share, of the Company (the “Common Stock”) outstanding at the Close of Business (as hereinafter defined) on January 2, 2018 (the “Record Date”), each Right initially representing the right to purchase one one-thousandth of a share of Preferred Stock (as hereinafter defined) of the Company, upon the terms and subject to the conditions hereinafter set forth, and further authorized and directed the issuance of one Right (subject to adjustment as provided herein) with respect to each share of Common Stock issued or delivered by the Company after the Record Date but prior to the earlier of the Distribution Date (as hereinafter defined) and the Expiration Date (as hereinafter defined) or as provided in Section 21 hereof.

NOW, THEREFORE, in consideration of the mutual agreements herein set forth, the parties hereby agree as follows:

Section 1. Certain definitions. For purposes of this Agreement, the following terms shall have the meanings indicated:

(a) “4.9% Stockholder” shall mean a Person (other than the Company, any Related Person or any Exempt Person) who Beneficially Owns (as hereinafter defined) 4.9% or more of the then-outstanding Common Stock.

(b) “Acquiring Person” shall mean any Person who or which, together with all Affiliates and Associates of such Person, is or becomes a 4.9% Stockholder, regardless of whether or not such Person continues to be a 4.9% Stockholder; provided, however, that an “Acquiring Person” shall not include (i) the Company, (ii) a Related Person, (iii) an Exempt Person, or (iv) an Existing Holder. Notwithstanding the foregoing: (A) no Person shall become an “Acquiring Person” solely as a result of (x) a reduction in the number of shares of Common Stock outstanding due to the repurchase of shares of Common Stock by the Company, (y) a dividend or distribution paid or made by the Company on the outstanding shares of Common Stock or pursuant to a split or subdivision of the outstanding shares of Common Stock, and/or (z) an Exempt Transaction; and (B) if the Board determines in good faith that a Person who would otherwise be an “Acquiring Person” has become such inadvertently, and such Person divests as promptly as practicable a sufficient number of shares of Common Stock so that such Person would no longer be an “Acquiring Person,” then such Person shall not be deemed to be or have become an “Acquiring Person” at any time for any purposes of this Agreement. The Board shall not be required to make any determination with respect to a potential Acquiring Person, including whether the potential Acquiring Person is an Exempt Person or whether the change of Beneficial Ownership of the potential Acquiring Person has resulted from an Exempt Transaction, until five (5) Business Days after the date on which all Board members first received actual notice of the change of Beneficial Ownership at issue. Notwithstanding the foregoing, the Board may, in its sole discretion, determine that any Person shall not be deemed to be an “Acquiring Person” for any purposes of this Agreement.

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(c) “Affiliate” and “Associate” shall have the respective meanings ascribed to such terms in Rule 12b-2 of the General Rules and Regulations under the Exchange Act as in effect on the date of this Agreement, and to the extent not included within the foregoing clause of this Section 1(c), shall also include, with respect to any Person, any other Person (other than a Related Person or an Exempt Person) whose shares of Common Stock would be deemed constructively owned by such first Person, owned by a single “entity” (as defined in Section 1.382-3(a)(1) of the Treasury Regulations) or otherwise aggregated with shares owned by such first Person pursuant to the provisions of Section 382 of the Code, or any successor provision or replacement provision, and the Treasury Regulations thereunder; provided, however, that a Person shall not be deemed to be the Affiliate or Associate of another Person solely because either or both Persons are or were directors of the Company.

(d) “Agreement” shall have the meaning set forth in the preamble of this Agreement.

(e) “Authorized Officer” shall mean the President and Chief Executive Officer, or Chief Financial Officer of the Company.

(f) A Person shall be deemed the “Beneficial Owner” of, shall be deemed to have “Beneficial Ownership” of and shall be deemed to “Beneficially Own” any securities:

(i) which such Person or any of such Person’s Affiliates or Associates, directly or indirectly owns or has the right to acquire (whether such right is exercisable immediately or only after the passage of time or upon the satisfaction of one or more conditions (whether or not in the control of such Person), compliance with regulatory requirements or otherwise) pursuant to any agreement, arrangement or understanding (whether or not in writing) or upon the exercise of conversion rights, exchange rights, rights (other than these Rights), warrants or options, or otherwise, or the obligation to acquire as a result of such Person’s ownership or beneficial ownership of the Company’s outstanding equity units or any purchase contract originally issued as part of an equity unit); provided, however, that a Person shall not be deemed the Beneficial Owner of, or to Beneficially Own, securities tendered pursuant to a tender or exchange offer made by or on behalf of such Person or any of such Person’s Affiliates or Associates until such tendered securities are accepted for purchase or exchange;

(ii) which such Person or any of such Person’s Affiliates or Associates, directly or indirectly, has the right to vote or dispose of or has “beneficial ownership” of (as determined pursuant to Rule 13d-3 of the General Rules and Regulations under the Exchange Act), including pursuant to any agreement, arrangement or understanding, whether or not in writing; provided, however, that a Person shall not be deemed the Beneficial Owner of, or to Beneficially Own, any security under this subparagraph (ii) as a result of an agreement, arrangement or understanding (whether or not in writing) to vote such security if such agreement, arrangement or understanding (A) arises solely from a revocable proxy given in response to a public proxy or consent solicitation made pursuant to, and in accordance with, the applicable provisions of the General Rules and Regulations under the Exchange Act and (B) is not reportable by such Person on Schedule 13D under the Exchange Act (or any comparable or successor report);

(iii) which are Beneficially Owned, directly or indirectly, by any other Person (or any Affiliate or Associate thereof) with respect to which such Person (or any of such Person’s Affiliates or Associates) has any agreement, arrangement or understanding (whether or not in writing) for the purpose of acquiring, holding, voting (except pursuant to a revocable proxy as described in the proviso to subparagraph (ii) of this paragraph (f)) or disposing of any voting securities of the Company; or

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(iv) which such Person actually owns (directly or indirectly) or would be deemed to actually or constructively own pursuant to Section 382 of the Code, or any successor provision or replacement provision, and the Treasury Regulations promulgated thereunder.

Notwithstanding the foregoing, nothing in this paragraph (f) shall cause a Person engaged in business as an underwriter of securities to be the Beneficial Owner of, or to Beneficially Own, any securities acquired through such Person’s participation in good faith in a firm commitment underwriting until the expiration of forty (40) days after the date of such acquisition, and then only if such securities continue to be owned by such Person at such expiration of forty (40) days.

Notwithstanding anything in this definition of Beneficial Ownership to the contrary, the phrase “then outstanding,” when used with reference to a Person’s Beneficial Ownership of securities of the Company, shall mean the number of such securities then issued and outstanding together with the number of such securities not then actually issued and outstanding which such Person would be deemed to own beneficially hereunder.

(g) “Board” shall have the meaning set forth in the recitals of this Agreement.

(h) “Business Day” shall mean any day other than a Saturday, Sunday or a day on which banking institutions in the State of New York are authorized or obligated by law or executive order to close.

(i) “Common Stock” shall have the meaning set forth in the preamble of this Agreement.

(j) “Close of Business” on any given date shall mean 5:00 P.M., New York City time, on such date; provided, however, that if such date is not a Business Day, it shall mean 5:00 P.M., New York City time, on the next succeeding Business Day.

(k) “Code” shall mean the Internal Revenue Code of 1986, as amended.

(l) “Company” shall have the meaning set forth in the preamble of this Agreement.

(m) “Company’s Bylaws” shall mean the Amended and Restated Bylaws of the Company, as the same may be amended from time to time after the date hereof.

(n) “Company’s Charter” shall mean the Amended and Restated Certificate of Incorporation of the Company, as the same may be amended from time to time after the date hereof.

(o) “Current Per Share Market Price” shall have the meaning set forth in Section 11(d)(i) or Section 11(d)(ii) hereof, as applicable.

(p) “Current Value” shall have the meaning set forth in Section 11(a)(iii) hereof.

(q) “Distribution Date” shall mean the earliest of (i) the Close of Business on the 10th Business Day after the Stock Acquisition Date and (ii) the Close of Business on the 10th Business Day (or, such later date as may be specified by the Board prior to such time as any Person becomes an Acquiring Person) after the commencement of a tender or exchange offer by or on behalf of any Person (other than the Company, any Related Person or any Exempt Person), if upon the consummation thereof such Person would become an Acquiring Person; provided, however, that if a tender or exchange offer is terminated prior to the occurrence of a Distribution Date, then no Distribution Date shall occur as a result of such tender or exchange offer.

(r) “Equivalent Preferred Stock” shall have the meaning set forth in Section 11(b) hereof.

(s) “Exchange Act” shall mean the Securities Exchange Act of 1934, as amended.

(t) “Exchange Ratio” shall have the meaning set forth in Section 23(a) hereof.

(u) “Exempt Person” shall mean any Person (together with its Affiliates and Associates) whose status as a 4.9% Stockholder, as determined by the Board in its sole and absolute discretion, (i) would not jeopardize or endanger in any material respect the availability to the Company of its Tax Benefits, or (ii) is otherwise in the best interests of the Company, provided, however, that, such a Person shall cease to be an Exempt Person if the Board, in its sole discretion, makes a contrary determination based on the potential effect of such Person’s status as a 4.9% Stockholder (together with all Affiliates and Associates of such Person) regardless of the reason therefor.

(v) “Exempt Transaction” shall mean any transaction that the Board determines, in its sole discretion, is exempt from this Agreement, which determination shall be made in the sole and absolute discretion of the Board, including, without limitation, if the Board determines that (i) neither the Beneficial Ownership of shares of Common Stock by such Person, directly or indirectly, as a result of such transaction nor any other aspect of such transaction would jeopardize or endanger the availability to the Company of the Tax Benefits, or (ii) such transaction is otherwise in the best interests of the Company.

(w) “Existing Holder” shall mean any Person that, as of the date hereof, is the Beneficial Owner of 4.9% or more of the shares of Common Stock outstanding unless and until such Existing Holder acquires Beneficial Ownership of additional shares of Common Stock (other than as a result of a dividend or distribution paid or made by the Company on the outstanding shares of Common Stock or pursuant to a split or subdivision of the outstanding shares of Common Stock) representing 0.5% or more of the then outstanding shares of Common Stock unless, upon becoming the Beneficial Owner of such additional share(s), such Existing Holder is not then the Beneficial Owner of 4.9% or more of the then outstanding shares of Common Stock.

(x) “Expiration Date” shall mean the earliest of (i) the Final Expiration Date, (ii) the time at which the Rights are redeemed as provided in Section 22 hereof, (iii) the time at which the Rights are exchanged in full as provided in Section 23 hereof, (iv) the date that the Board determines that this Agreement is no longer necessary for the preservation of material valuable Tax Benefits, (v) the beginning of a taxable year of the Company to which the Board determines that no Tax Benefits may be carried forward, and (vi) a determination by the Board, prior to the time any Person becomes an Acquiring Person, that this Agreement and the Rights are no longer in the best interests of the Company and its stockholders.

(y) “Final Expiration Date” shall be December 18, 2020.

(z) “NOLs” shall have the meaning set forth in the Recitals to this Agreement.

(aa) “Ownership Statement” shall have the meaning set forth in Section 3(a) hereof.

(bb) “Person” shall mean any individual, firm, corporation, partnership, limited liability company, limited liability partnership, trust or other legal entity, or any group of persons making a “coordinated acquisition” of shares or otherwise treated as an entity within the meaning of Section 1.382-3(a)(1) of the Treasury Regulations or otherwise for purposes of Section 382 of the Code, or any successor provision or replacement provision, and includes any successor (by merger or otherwise) of such individual or entity.

(cc) “Preferred Stock” shall mean the shares of Series A Junior Participating Preferred Stock, par value \$0.001 per share, of the Company having the rights and preferences set forth in the form of Certificate of Designation, Preferences and Rights of Series A Junior Participating Preferred Stock attached hereto as Exhibit A.

(dd) “Purchase Price” shall mean initially \$40.00 per one one-thousandth of a share of Preferred Stock, subject to adjustment from time to time as provided in this Agreement.

(ee) “Record Date” shall have the meaning set forth in the recitals to this Agreement.

(ff) “Redemption Price” shall mean \$0.001 per Right, subject to adjustment of the Company to reflect any stock split, stock dividend or similar transaction occurring after the date hereof.

(gg) “Related Person” shall mean (i) any Subsidiary of the Company or (ii) any employee benefit or stock ownership plan of the Company or of any Subsidiary of the Company or any entity organized, appointed or established by the Company for or pursuant to the terms of such plan.

(hh) “Rights” shall have the meaning set forth in the recitals to this Agreement.

(ii) “Rights Agent” shall have the meaning set forth in the preamble of this Agreement except as otherwise provided in Section 18 and Section 20 hereof.

(jj) “Rights Certificates” shall mean certificates evidencing the Rights, in substantially the form attached hereto as Exhibit B.

(kk) “Rights Dividend Declaration Date” shall have the meaning set forth in the recitals to this Agreement.

(ll) “Section 11(a)(ii) Event” shall have the meaning set forth in Section 11(a)(ii) hereof.

(mm) “Section 11(a)(ii) Trigger Date” shall have the meaning set forth in Section 11(a)(iii) hereof.

(nn) “Section 11(o) Event” shall mean any event described in clause (x), (y) or (z) of Section 11(o)(i) hereof.

(oo) “Securities Act” shall mean the Securities Act of 1933, as amended.

(pp) “Spread” shall have the meaning set forth in Section 11(a)(iii) hereof.

(qq) “Stock Acquisition Date” shall mean the first date of public announcement (which, for purposes of this definition, shall include, without limitation, a report filed or amended pursuant to Section 13(d) or Section 13(g) under the Exchange Act) by the Company or an Acquiring Person that an Acquiring Person has become such or that discloses information which reveals the existence of an Acquiring Person, or such earlier date as a majority of the Board becomes aware of the existence of an Acquiring Person.

(rr) “Subsidiary” shall mean, with reference to any Person, any corporation or other entity of which an amount of securities or other ownership interest having ordinary voting power sufficient to elect at least a majority of the directors or other Persons having similar functions of such corporation or other entity are at the time, directly or indirectly, Beneficially Owned, or otherwise controlled by such Person.

(ss) “Substitution Period” shall have the meaning set forth in Section 11(a)(iii) hereof.

(tt) "Summary of Rights" shall mean a copy of a summary of the terms of the Rights, in substantially the form attached hereto as Exhibit C.

(uu) "Tax Benefits" shall mean the net operating loss carry-overs, capital loss carry-overs, general business credit carry-overs, alternative minimum tax credit carry-overs and foreign tax credit carry-overs, as well as any loss or deduction attributable to a "net unrealized built-in loss" within the meaning of Section 382 of the Code, or any successor provision or replacement provision, and the Treasury Regulations promulgated thereunder, of the Company or any direct or indirect Subsidiary thereof.

(vv) "Trading Day" shall mean a day on which the principal national securities exchange on which the shares of Common Stock are listed or admitted to trading is open for the transaction of business or if the shares of Common Stock are not listed or admitted to trading on any national securities exchange, a Business Day.

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(ww) "Treasury Regulations" shall mean final, temporary and proposed regulations of the Department of the Treasury promulgated under the Code and any successor regulation, including any amendments thereto.

(xx) "Trust" shall have the meaning set forth in Section 23(a) hereof.

(yy) "Trust Agreement" shall have the meaning set forth in Section 23(a) hereof.

Section 2. Appointment of the Rights Agent. The Company hereby appoints the Rights Agent to act as agent for the Company in accordance with the terms and conditions hereof, and the Rights Agent hereby accepts such appointment. The Company may from time to time appoint such co-rights agents as it may deem necessary or desirable, upon ten (10) days' prior written notice to the Rights Agent. The Rights Agent shall have no duty to supervise, and shall in no event be liable for, the acts or omission of any such co-rights agent. Prior to the appointment of a co-rights agent, the specific duties and obligations of each such co-rights agents shall be set forth in writing and delivered to the Rights Agent and the proposed co-rights agent.

### Section 3. Issuance of Rights Certificates.

(a) Until the Distribution Date, (i) the Rights shall be evidenced (subject to Section 3(b) and Section 3(c) hereof) by the certificates representing the shares of Common Stock in the names of the record holders thereof (which certificates representing such shares of Common Stock shall also be deemed to be certificates for Rights) or by the current ownership statements issued with respect to uncertificated shares of Common Stock in lieu of such certificates ("Ownership Statements") (which Ownership Statements shall be deemed also to be certificates for Rights) and (ii) the Rights shall be transferable only in connection with the transfer of the underlying shares of Common Stock.

(b) On or as promptly as practicable after the Record Date, the Company shall send, in accordance with Section 25 hereof, to each record holder of shares of Common Stock as of the Close of Business on the Record Date, a copy of a Summary of Rights. With respect to shares of Common Stock outstanding as of the Record Date, until the Distribution Date, the Rights associated with such shares of Common Stock will be evidenced by the certificate or Ownership Statement for such shares of Common Stock registered in the names of the holders thereof, in each case together with the Summary of Rights. Until the Distribution Date, the surrender for transfer of any certificate or Ownership Statement for shares of Common Stock outstanding on the Record Date, with or without a copy of the Summary of Rights, shall also constitute the transfer of the Rights associated with the shares of Common Stock represented by such certificate or Ownership Statement.

(c) Rights shall be issued by the Company in respect of all shares of Common Stock (other than any shares of Common Stock that may be issued upon the exercise or exchange of any Right) issued or delivered by the Company after the Record Date but prior to the earlier of the Distribution Date and the Expiration Date, and, to the extent provided in Section 21 hereof, after the Distribution Date. Certificates and Ownership Statements representing such shares of Common Stock shall have stamped on, impressed on, printed on, written on, or otherwise affixed to them a legend in substantially the following form or such similar legend as the Company may deem appropriate and is not inconsistent with the provisions of this Agreement and as do not affect the rights, duties or responsibilities of the Rights Agent, or as may be required to comply with any applicable law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange or transaction reporting system on which the shares of Common Stock may from time to time be listed or quoted:

*"This [certificate/statement] also evidences and entitles the holder hereof to certain Rights as set forth in the Section 382 Rights Agreement by and between Rubicon Technology, Inc. and American Stock Transfer & Trust Company, LLC, dated as of December 18, 2017 and as amended from time to time (the "Rights Agreement"), the terms of which are hereby incorporated herein by reference and a copy of which is on file at the principal executive offices of Rubicon Technology, Inc. The Rights are not exercisable prior to the occurrence of certain events specified in the Rights Agreement. Under certain circumstances, as set forth in the Rights Agreement, such Rights may be redeemed, may be exchanged, may expire, may be amended, or may be evidenced by separate certificates and no longer be evidenced by this [certificate/statement]. Rubicon Technology, Inc. shall mail to the holder of this [certificate/statement] a copy of the Rights Agreement, as in effect on the date of mailing, without charge promptly after receipt of a written request therefor. Under certain circumstances as set forth in the Rights Agreement, Rights that are or were beneficially owned by an Acquiring Person or any Affiliate or Associate of an Acquiring Person (as such terms are defined in the Rights Agreement) may become null and void."*

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With respect to such certificates or Ownership Statements containing the foregoing legend, until the Distribution Date, the Rights associated with the shares of Common Stock represented by such certificates or Ownership Statements shall be represented by such certificates or Ownership Statements alone and the surrender for transfer of any certificate or Ownership Statement for shares of Common Stock shall also constitute the transfer of the Rights associated with the shares of Common Stock represented by such certificate or Ownership Statement.

(d) As promptly as practicable after the Distribution Date, the Company shall prepare and execute, the Rights Agent shall countersign and the Company shall send or cause to be sent (and the Rights Agent will, if requested by the Company in writing, and if provided with all necessary information, send), in accordance with Section 25 hereof, to each record holder of shares of Common Stock, as of the Close of Business on the Distribution Date (other than an Acquiring Person or any Associate or Affiliate of an Acquiring Person), a Rights Certificate representing one Right for each share of Common Stock so held, subject to adjustment as provided herein. In the event that an adjustment in the number of Rights per share of Common Stock has been made pursuant to Section 11(i) or Section 11(p) hereof, at the time of distribution of the Rights Certificates, the Company shall not be required to issue Rights Certificates evidencing fractional Rights but may, in lieu thereof, make the necessary and appropriate rounding adjustments (in accordance with Section 13(a) hereof) so that Rights Certificates evidencing only whole numbers of Rights are distributed and cash is paid in lieu of any fractional Rights. As of and after the Distribution Date, the Rights shall be represented solely by such Rights Certificates. The Company shall promptly notify the Rights Agent in writing upon the occurrence of the Distribution Date and, if such notification is given orally, the Company shall confirm same in writing on or prior to the next Business Day.

(e) In the event that the Company purchases or otherwise acquires any shares of Common Stock after the Record Date but prior to the Distribution Date, any Rights associated with such shares of Common Stock shall be deemed cancelled and retired so that the Company shall not be entitled to exercise any Rights associated with the shares of Common Stock so purchased or acquired.

Section 4. Form of Rights Certificates. The Rights Certificates (and the form of election to purchase and the form of assignment and the certificates

contained therein to be printed on the reverse thereof) shall each be substantial as to the form attached hereto as Exhibit B with such changes and marks of identification or designation, and such legends, summaries or endorsements printed thereon as the Company may deem appropriate and as are not inconsistent with the provisions of this Agreement, or as may be required to comply with any applicable law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange or transaction reporting system on which the Rights may from time to time be listed or quoted, or to conform to usage. Subject to the provisions of Section 21 hereof, the Rights Certificates, whenever distributed shall entitle the holders thereof to purchase such number of one one-thousandths of a share of Preferred Stock as is set forth therein at the Purchase Price; provided, however, that the Purchase Price, the number and kind of securities issuable upon exercise of each Right and the number of Rights outstanding shall be subject to adjustment as provided in this Agreement.

#### Section 5. Countersignature and Registration.

(a) The Rights Certificates shall be executed on behalf of the Company by any Authorized Officer, either manually or by facsimile signature, and shall have affixed thereto the Company's seal or a facsimile thereof, which shall be attested by any other Authorized Officer, either manually or by facsimile signature. The Rights Certificates shall be countersigned by the Rights Agent, either manually or by facsimile signature, and shall not be valid for any purpose unless so countersigned. In case any officer of the Company who shall have signed any of the Rights Certificates shall cease to be such officer of the Company before countersignature by the Rights Agent and issuance and delivery by the Company, such Rights Certificates, nevertheless, may be countersigned by the Rights Agent and issued and delivered by the Company with the same force and effect as though the person who signed such Rights Certificates had not ceased to be such officer of the Company; and any Rights Certificates may be signed on behalf of the Company by any person who, at the actual date of the execution of such Rights Certificate, shall be a proper officer of the Company to sign such Rights Certificate, although at the date of the execution of this Agreement any such person was not such an officer.

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(b) Following the Distribution Date, upon receipt by the Rights Agent of written notice of the occurrence of the Distribution Date pursuant to Section 3(d) hereof, the Rights Agent shall keep or cause to be kept, at its office or offices designated for such purposes and at such other offices as may be required to comply with any applicable law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange or any transaction reporting system on which the rights may from time to time be listed or quoted, books for registration and transfer of the Rights Certificates issued hereunder. Such books shall show the names and addresses of the respective holders of the Rights Certificates, the number of Rights evidenced on its face by each of the Rights Certificates and the date of each of the Rights Certificates.

#### Section 6. Transfer, Split-Up, Combination and Exchange of Rights Certificates; Mutilated, Destroyed, Lost or Stolen Rights Certificates.

(a) Subject to the provisions of Section 11(a)(ii) and Section 13 hereof, at any time after the Close of Business on the Distribution Date, and prior to the Expiration Date, any Rights Certificate(s) (other than Rights Certificates representing Rights that have been redeemed or exchanged pursuant to Section 22 or Section 23 hereof) representing exercisable Rights may be transferred, split-up, combined or exchanged for another Rights Certificate(s), entitling the registered holder to purchase a like number of one one-thousandths of a share of Preferred Stock (or other securities, cash or other assets, as the case may be) as the Rights Certificate(s) surrendered then entitled such holder (or former holder in the case of a transfer) to purchase. Any registered holder desiring to transfer, split-up, combine or exchange any such Rights Certificate(s) must make such request in writing delivered to the Rights Agent, and must surrender the Rights Certificate(s) to be transferred, split-up, combined or exchanged, with the forms of assignment and certificate contained therein duly executed, at the office or offices of the Rights Agent designated for such purpose. The Rights Certificates are transferable only on the registry books of the Rights Agent. Neither the Rights Agent nor the Company shall be obligated to take any action whatsoever with respect to the transfer of any such surrendered Rights Certificate until the registered holder shall have (i) completed and signed the certificate contained in the form of assignment on the reverse side of such Rights Certificate, (ii) provided such additional evidence of the identity of the Beneficial Owner (or former Beneficial Owner) and the Affiliates and Associates of such Beneficial Owner (or former Beneficial Owner) as the Company or the Rights Agent shall reasonably request, and (iii) paid a sum sufficient to cover any tax or charge that may be imposed in connection with any transfer, split-up, combination or exchange of Rights Certificates as required by Section 9(d) hereof. Thereupon the Rights Agent shall, subject to Section 11(a)(ii), Section 13 and Section 23 hereof, countersign and deliver to the Person entitled thereto a Rights Certificate or Rights Certificates, as the case may be, as so requested registered in such name or names as may be designated by the surrendering registered holder. The Rights Agent shall promptly forward any such sum collected by it to the Company or to such Person or Persons as the Company shall specify by written notice. The Rights Agent shall have no duty or obligation unless and until it is satisfied that all such taxes and/or charges have been paid.

(b) Upon receipt by the Company and the Rights Agent of evidence reasonably satisfactory to them of the loss, theft, destruction or mutilation of a Rights Certificate, and, in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to them, and reimbursement to the Company and the Rights Agent of all reasonable expenses incidental thereto, and upon surrender to the Rights Agent and cancellation of the Rights Certificate, if mutilated, the Company shall execute and deliver a new Rights Certificate of like tenor to the Rights Agent and the Rights Agent will countersign and deliver such new Rights Certificate to the registered holder in lieu of the Rights Certificate so lost, stolen, destroyed or mutilated.

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#### Section 7. Exercise of Rights; Purchase Price; Expiration Date of Rights.

(a) Subject to Section 11(a)(ii) hereof, at any time after the Distribution Date and prior to the Expiration Date, the registered holder of any Rights Certificate may exercise the Rights evidenced thereby (except as otherwise provided herein, including, without limitation, the restrictions on exercisability as set forth in Section 9(e), Section 11(a)(iii), Section 22(a) and Section 23(a) hereof) in whole or in part upon surrender of the Rights Certificate, with the form of election to purchase and the certificate contained therein on the reverse side thereof duly executed, to the Rights Agent at the office or agency of the Rights Agent designated for such purpose, together with payment of the Purchase Price (including any applicable tax or charge required to be paid by the holder of such Rights Certificate in accordance with the provisions of Section 9(d) hereof) for each one one-thousandth of a share of Preferred Stock (or other securities, cash or other assets, as the case may be) as to which the Rights are exercised.

(b) Upon receipt of a Rights Certificate representing exercisable Rights with the form of election to purchase and the certificate contained therein properly completed and duly executed, accompanied by payment of the Purchase Price for each one one-thousandth of a share of Preferred Stock (or other securities, cash or other assets, as the case may be) to be purchased and an amount equal to any applicable tax or charge required to be paid under Section 9(d) hereof by certified check, cashier's check, bank draft or money order payable to the order of the Company, the Rights Agent shall, subject to Section 19(j) hereof, thereupon promptly (i) (A) requisition from any transfer agent of the shares of Preferred Stock (or make available, if the Rights Agent is the transfer agent for such shares) certificates representing the total number of one one-thousandths of a share of Preferred Stock to be purchased (and the Company hereby irrevocably authorizes and directs its transfer agent to comply with all such requests) or (B) if the Company shall have at its discretion elected to deposit any shares of Preferred Stock issuable upon exercise of the Rights hereunder with a depository agent, requisition from the depository agent depository receipts representing such number of one one-thousandths of a share of Preferred Stock as are to be purchased (and the Company hereby irrevocably authorizes and directs such depository agent to comply with all such requests), (ii) after receipt of such certificates (or depository receipts, as the case may be) cause the same to be delivered to or upon the order of the registered holder of such Rights Certificate, registered in such name or names as may be designated by such holder, (iii) when appropriate, requisition from the Company or any transfer agent therefor of certificates representing the number of equivalent shares to be issued in lieu of the issuance of shares of Common Stock in accordance with the provisions of Section 11(a)(iii) hereof, (iv) when appropriate, after receipt of such certificates, cause the same to be delivered to or upon the order of the registered holder of such Rights Certificate, registered in such name or names as may be designated by such holder, (v) when appropriate, requisition from the Company of the amount of cash to be paid in lieu of the issuance of fractional shares in accordance with the provisions of Section 13 hereof, and (vi) when appropriate, after receipt, deliver such cash to the registered holder of such Rights Certificate.

(c) In case the registered holder of any Rights Certificate shall exercise less than all the Rights evidenced thereby, the Rights Agent shall prepare, execute and deliver a new Rights Certificate evidencing Rights equivalent to the Rights remaining unexercised to the registered holder of such Rights Certificate or to such holder's duly authorized assigns, subject to the provisions of Section 13 hereof.

(d) Notwithstanding anything in this Agreement to the contrary, neither the Rights Agent nor the Company shall be obligated to undertake any action with respect to any purported transfer, split-up, combination or exchange of any Rights Certificate pursuant to Section 6 hereof or exercise or assignment of a Rights Certificate as set forth in this Section 7 unless the registered holder of such Rights Certificate shall have (i) duly and properly completed and signed the certificate contained in the form of assignment or the form of election to purchase, as applicable, set forth on the reverse side of the Rights Certificate surrendered for such transfer, split-up, combination, exchange, exercise or assignment, and (ii) provided such additional evidence of the identity of the Beneficial Owner (or former Beneficial Owner) thereof and of the Rights evidenced thereby and Affiliates and Associates thereof as the Company or the Rights Agent may reasonably request.

Section 8. Cancellation and Destruction of Rights Certificates. All Rights Certificates surrendered for the purpose of exercise, transfer, split-up, combination or exchange shall, if surrendered to the Company or any of its agents, be delivered to the Rights Agent for cancellation or in cancelled form, or, if surrendered to the Rights Agent, shall be cancelled by it, and no Rights Certificates shall be issued in lieu thereof except as expressly permitted by any of the provisions of this Agreement. The Company shall deliver to the Rights Agent for cancellation and retirement, and the Rights Agent shall so cancel and retire, any other Rights Certificate purchased or acquired by the Company otherwise than upon the exercise thereof. The Rights Agent shall deliver all cancelled Rights Certificates to the Company, or shall, at the written request of the Company, destroy such cancelled Rights Certificates, and in such case shall deliver a certificate of destruction thereof to the Company.

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Section 9. Company Covenants Concerning Securities and Rights.

(a) The Company covenants and agrees that it shall cause to be reserved, authorized for issuance and kept available out of its authorized and unissued shares of Preferred Stock, a number of shares of Preferred Stock that shall be sufficient to permit the exercise in full of all outstanding Rights in accordance with Section 7 hereof.

(b) The Company covenants and agrees so long as the shares of Preferred Stock (and, following the occurrence of a Section 11(a)(ii) Event, shares of Common Stock or other securities, as the case may be) issuable upon the exercise of the Rights may be listed on any national securities exchange, or quoted on a quotation system, it shall endeavor to cause, from and after such time as the Rights become exercisable, all securities reserved for issuance upon the exercise of Rights to be listed on such exchange, or quoted on such quotation system, upon official notice of issuance upon such exercise.

(c) The Company covenants and agrees it will take all such actions as may be necessary to ensure that all shares of Preferred Stock (and, following the occurrence of a Section 11(a)(ii) Event, shares of Common Stock or other securities, as the case may be) delivered upon exercise of Rights, at the time of delivery of the certificates for such securities, shall be (subject to payment of the Purchase Price) duly authorized, validly issued, fully paid and nonassessable securities.

(d) The Company covenants and agrees it will pay when due and payable any and all federal and state taxes and charges that may be payable in respect of the issuance or delivery of the Rights Certificates and of any certificates representing securities issued upon the exercise of Rights; provided, however, that the Company shall not be required to pay any tax or charge which may be payable in respect of any transfer or delivery of Rights Certificates to a person other than, or the issuance or delivery of certificates or depository receipts representing securities issued upon the exercise of Rights in a name other than, that of the registered holder of the Rights Certificate evidencing Rights surrendered for exercise, or to issue or deliver any certificates or depository receipts representing securities issued upon the exercise of any Rights until any such tax or charge has been paid (any such tax or charge being payable by the holder of such Rights Certificate at the time of surrender) or until it has been established to the Company's reasonable satisfaction that no such tax or charge is due.

(e) If the Company determines that registration under the Securities Act is required, then the Company shall use commercially reasonable efforts (i) to file, as soon as practicable after the Distribution Date, on an appropriate form, a registration statement under the Securities Act with respect to the securities issuable upon exercise of the Rights, (ii) to cause such registration statement to become effective as soon as practicable after such filing and (iii) to cause such registration statement to remain effective (with a prospectus at all times meeting the requirements of the Securities Act) until the earlier of (A) the date as of which the Rights are no longer exercisable for such securities and (B) the Expiration Date. The Company shall also take such action as may be appropriate under, or to ensure compliance with, the securities or "blue sky" laws of the various states in connection with the exercisability of the Rights. The Company may temporarily suspend, for a period of time not to exceed 90 calendar days after the date the Company determines that registration is required, the exercisability of the Rights in order to prepare and file such registration statement and to permit it to become effective or to qualify the rights, the exercise thereof or the issuance of shares of Preferred Stock, Common Stock, or other securities upon the exercise thereof under state securities or "blue sky" laws. Upon any such suspension, the Company shall issue a public announcement stating that the exercisability of the Rights has been temporarily suspended, as well as a public announcement at such time as the suspension is no longer in effect. The Company shall notify the Rights Agent in writing whenever it makes a public announcement pursuant to this Section 9(e) and give the Rights Agent a copy of such announcement. In addition, if the Company determines that a registration statement or other document should be filed under the Securities Act or any state securities laws following the Distribution Date, the Company may temporarily suspend the exercisability of the Rights, for a period of time not to exceed ninety (90) calendar days after the date the Company makes such determination, in each relevant jurisdiction, until such time as a registration statement has been declared effective or any such other document filed and, if required, approved, and, upon any such suspension, the Company shall issue a public announcement stating that the exercisability of the Rights has been temporarily suspended, as well as a public announcement at such time as the suspension is no longer in effect. Notwithstanding anything in this Agreement to the contrary, the Rights shall not be exercisable in any jurisdiction if the requisite registration or qualification in such jurisdiction has not been effected or the exercise of the Rights is not permitted under applicable law.

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(f) Notwithstanding anything in this Agreement to the contrary, after the later of the Stock Acquisition Date and the Distribution Date, the Company shall not, except as permitted by Section 22 or Section 26 hereof, take (or permit any Subsidiary to take) any action if at the time such action is taken it is reasonably foreseeable that such action shall eliminate or otherwise diminish the benefits intended to be afforded by the Rights.

(g) In the event that the Company is obligated to issue other securities of the Company, pay cash or distribute other assets pursuant to Section 7, Section 11, Section 13, Section 22 or Section 23 hereof, it shall make all arrangements necessary so that such other securities, cash or other assets are available for distribution by the Rights Agent, if and when necessary to comply with this Agreement.

Section 10. Record Date. Each Person in whose name any certificate for a number of one one-thousandths of a share of Preferred Stock (or Common Stock or other securities, as the case may be) is issued upon the exercise of Rights shall for all purposes be deemed to have become the holder of record of such shares of Preferred Stock (or Common Stock or other securities, as the case may be) represented thereby on, and such certificate shall be dated, the date upon which the Rights Certificate representing such Rights was duly surrendered and payment of the Purchase Price (and all applicable taxes and charges) was made; provided, however, that if the date of such surrender and payment is a date upon which the transfer books of the Company for shares of Preferred Stock (or Common Stock or other securities, as the case may be) are closed, such Person shall be deemed to have become the record holder of such securities on, and such certificate shall be dated, the next succeeding Business Day on which the transfer books of the Company are open. Prior to the exercise of the Rights evidenced thereby, the holder of a Rights Certificate shall not be entitled to any rights of a holder of any security of the Company with respect to shares for which the Rights are or may be exercisable,

including, without limitation, the right to vote, to receive dividends or other distributions, to exercise any preemptive rights, and shall not be entitled to receive any notice of any proceedings of the Company, except as provided herein.

Section 11. Adjustment of Purchase Price, Number and Kind of Securities or Number of Rights. The Purchase Price, the number of shares of Preferred Stock or other securities or property purchasable upon exercise of each Right and the number of Rights outstanding are subject to adjustment from time to time as provided in this Section 11.

(a) (i) In the event the Company shall at any time after the Record Date (A) declare a dividend on the shares of Preferred Stock payable in shares of Preferred Stock, (B) subdivide the outstanding shares of Preferred Stock, (C) combine the outstanding shares of Preferred Stock into a smaller number of shares of Preferred Stock, or (D) issue any shares of its capital stock in a reclassification of the shares of Preferred Stock (including any such reclassification in connection with a consolidation or merger in which the Company is the continuing or surviving corporation), except as otherwise provided in this Section 11(a), the Purchase Price in effect at the time of the record date for such dividend or of the effective date of such subdivision, combination or reclassification, as the case may be, and the number and kind of shares of capital stock issuable on such date, shall be proportionately adjusted so that the holder of any Right exercised after such time shall be entitled to receive, upon payment of the Purchase Price then in effect, the aggregate number and kind of shares of capital stock which, if such Right had been exercised immediately prior to such date (whether or not such Right was then exercisable) and at a time when the transfer books of the Company for the shares of Preferred Stock (or other capital stock, as the case may be) were open, the holder would have owned upon such exercise and been entitled to receive by virtue of such dividend, subdivision, combination or reclassification; provided, however, that in no event shall the consideration to be paid upon the exercise of one Right be less than the aggregate par value of the shares of capital stock of the Company issuable upon exercise of one Right.

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(ii) Subject to Section 22 and Section 23 of this Agreement and except as otherwise provided in this Section 11(a)(ii) and Section 11(a)(iii) hereof, in the event that any Person becomes an Acquiring Person (a "Section 11(a)(ii) Event"), each holder of a Right shall thereafter have the right to receive, upon exercise thereof at a price equal to the then-current Purchase Price, in accordance with the terms of this Agreement and in lieu of shares of Preferred Stock, such number of shares of Common Stock (or at the option of the Company, such number of one one-thousandths of a share of Preferred Stock) as shall equal the result obtained by (x) multiplying the then-current Purchase Price by the number of one one-thousandths of a share of Preferred Stock for which a Right was exercisable immediately prior to the first occurrence of a Section 11(a)(ii) Event and (y) dividing that product by 50% of the Current Per Share Market Price of the Common Stock (determined pursuant to Section 11(d) hereof) on the date of such first occurrence; provided, however, that the Purchase Price (as so adjusted) and the number of shares of Common Stock so receivable upon exercise of a Right shall thereafter be subject to further adjustment as appropriate in accordance with Section 11(f) hereof.

*For example*, a stockholder of the Company who Beneficially Owns 5,000 shares of Common Stock will receive 5,000 Rights, each Right entitling such stockholder to purchase one one-thousandth of a share of Preferred Stock. Pursuant to this Section 11(a)(ii), for each Right such stockholder owns, he/she will be entitled to receive a total number of shares of Common Stock according to the following equation:

$$\text{No. of Shares of Common Stock} = \frac{\text{Purchase Price} \times 1}{50\% \times \text{Current Per Share Market Price of the Common Stock}}$$

For the purpose of the above example, the total number of shares of Common Stock such stockholder will receive upon exercising all 5,000 Rights will be the product of multiplying the above "No. of Shares of Common Stock" by 5,000.

Notwithstanding anything in this Agreement to the contrary, however, from and after the first occurrence of a Section 11(a)(ii) Event, any Rights that are Beneficially Owned by (A) any Acquiring Person (or any Affiliate or Associate of any Acquiring Person), (B) a transferee of any Acquiring Person (or any such Affiliate or Associate) who becomes a transferee after the occurrence of such Person becoming an Acquiring Person, or (C) a transferee of any Acquiring Person (or any such Affiliate or Associate) who became a transferee prior to or concurrently with such Person becoming an Acquiring Person pursuant to either (1) a transfer from the Acquiring Person (or any such Affiliate or Associate) to holders of its equity securities or to any Person with whom the Acquiring Person (or any such Affiliate or Associate) has any continuing agreement, arrangement or understanding, written or otherwise, regarding the transferred Rights or (2) a transfer that the Board has determined is part of a plan, arrangement or understanding, written or otherwise, which has the purpose or effect of avoiding the provisions of this paragraph, shall be null and void without any further action and any holder of such Rights shall thereafter have no rights whatsoever with respect to such Rights, whether under any provision of this Agreement or otherwise. The Company will use commercially reasonable efforts to ensure that the provisions of this Section 11(a)(ii) are complied with, but shall have no liability to any holder of Rights Certificates or other Person as a result of its failure to make any determinations with respect to an Acquiring Person or its Affiliates, Associates or transferees hereunder. From and after the occurrence of any Person becoming an Acquiring Person, no Right Certificates shall be issued pursuant to Section 3 or Section 6 hereof that represents Rights that are or have become void pursuant to the provisions of this paragraph, and any Right Certificates delivered to the Rights Agent that represents Rights that are or have become void pursuant to the provisions of this paragraph shall be cancelled.

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(iii) The Company may at its option substitute for a share of Common Stock issuable upon the exercise of Rights in accordance with the foregoing Section 11(a)(ii) such number or fractions of shares of Preferred Stock having an aggregate current market value equal to the Current Per Share Market Price of a share of Common Stock. In the event that there shall be an insufficient number of shares of Common Stock authorized but unissued (and unreserved) to permit the exercise in full of the Rights in accordance with the foregoing Section 11(a)(ii), the Board shall, with respect to such deficiency, to the extent not prohibited by applicable law or any material agreements then in effect to which the Company is a party (A) determine the excess of (1) the value of the shares of Common Stock issuable upon the exercise of a Right in accordance with the foregoing Section 11(a)(ii) (the "Current Value") over (2) the then-current Purchase Price (such excess, the "Spread"), and (B) with respect to each Right (other than Rights which have become void pursuant to Section 11(a)(ii)), make adequate provision to substitute for the shares of Common Stock issuable in accordance with Section 11(a)(ii) upon exercise of the Right and payment of the applicable Purchase Price, (1) cash, (2) a reduction in the Purchase Price, (3) shares of Preferred Stock or other equity securities of the Company (including, without limitation, shares or fractions of shares of preferred stock which, by virtue of having dividend, voting and liquidation rights substantially comparable to those of the shares of Common Stock, are deemed in good faith by the Board to have substantially the same value as the shares of Common Stock), (4) debt securities of the Company, (5) other assets, or (6) any combination of the foregoing, having a value which, when added to the value of the shares of Common Stock actually issued upon exercise of such Right, shall have an aggregate value equal to the Current Value, where such aggregate value has been determined by the Board (upon the advice of a nationally recognized investment banking firm selected by the Board in good faith); provided, however, if the Company shall not make adequate provision to deliver value pursuant to clause (B) above within thirty (30) calendar days following the later of (x) the first occurrence of a Section 11(a)(ii) Event and (y) the date on which the Company's right of redemption pursuant to Section 22(a) expires (the later of (x) and (y) being referred to herein as the "Section 11(a)(ii) Trigger Date"), then the Company shall be obligated to deliver, to the extent not prohibited by applicable law or any material agreements then in effect to which the Company is a party, upon the surrender for exercise of a Right and without requiring payment of the Purchase Price, shares of Common Stock (to the extent available), and then, if necessary, such number or fractions of shares of Preferred Stock (to the extent available) and then, if necessary, cash, which shares and cash have an aggregate value equal to the Spread. If within the 30-day period referred to above the Board shall determine in good faith that it is likely that sufficient additional shares of Common Stock could be authorized for issuance upon exercise in full of the Rights, then, if the Board so elects, such 30-day period may be extended to the extent necessary, but not more than ninety (90) calendar days after the Section 11(a)(ii) Trigger Date, in order that the Company may seek stockholder approval for the authorization of such additional shares (such 30-day period, as it may be extended, is hereinafter called the "Substitution Period"). To the extent that the Company determines that some action need be taken pursuant to the second or third sentence of this Section 11(a)(iii), the Company (I) shall provide, subject to Section 11(a)(ii), that such action shall apply uniformly to all outstanding Rights, and (II) may suspend the exercisability of the Rights until the expiration of the Substitution Period in order to seek any authorization of additional shares or to decide the appropriate form of distribution to be made pursuant to such second sentence and to determine the value

thereof. In the event of any such suspension, the Company shall issue a public announcement stating that the exercise of the Rights has been temporarily suspended, as well as a public announcement at such time as the suspension is no longer in effect.

(b) If the Company fixes a record date for the issuance of rights, options or warrants to all holders of shares of Preferred Stock entitling them (for a period expiring within forty-five (45) calendar days after such record date) to subscribe for or purchase shares of Preferred Stock (or securities having equivalent rights, privileges and preferences as the shares of Preferred Stock (for purposes of this Section 11(b), “Equivalent Preferred Stock”)) or securities convertible into shares of Preferred Stock or Equivalent Preferred Stock at a price per share of Preferred Stock or Equivalent Preferred Stock (or having a conversion price per share, if a security convertible into shares of Preferred Stock or Equivalent Preferred Stock) less than the Current Per Share Market Price of the shares of Preferred Stock (determined pursuant to Section 11(d) hereof) on such record date, the Purchase Price to be in effect after such record date shall be determined by multiplying the Purchase Price in effect immediately prior to such record date by a fraction, the numerator of which is the number of shares of Preferred Stock outstanding on such record date plus the number of shares of Preferred Stock which the aggregate offering price of the total number of shares of Preferred Stock and Equivalent Preferred Stock so to be offered (or the aggregate initial conversion price of the convertible securities so to be offered) would purchase at such Current Per Share Market Price and the denominator of which is the number of shares of Preferred Stock outstanding on such record date plus the number of additional shares of Preferred Stock and Equivalent Preferred Shares to be offered for subscription or purchase (or into which the convertible securities so to be offered are initially convertible); provided, however, that in no event shall the consideration to be paid upon the exercise of one Right be less than the aggregate par value of the shares of capital stock issuable upon exercise of one Right. In case such subscription price may be paid in a consideration part or all of which is in a form other than cash, the value of such consideration shall be as determined in good faith by the Board, whose determination shall be described in a written statement filed with the Rights Agent. Shares of Preferred Stock owned by or held for the account of the Company shall not be deemed outstanding for the purpose of any such computation. Such adjustments shall be made successively whenever such a record date is fixed, and in the event that such rights, options or warrants are not so issued, the Purchase Price shall be adjusted to be the Purchase Price which would then be in effect if such record date had not been fixed.

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(c) If the Company fixes a record date for the making of a distribution to all holders of shares of Preferred Stock (including any such distribution made in connection with a consolidation or merger in which the Company is the continuing or surviving corporation) of evidences of indebtedness, cash (other than a regular periodic cash dividend), assets, stock (other than a dividend payable in shares of Preferred Stock) or subscription rights, options or warrants (excluding those referred to in Section 11(b) hereof), the Purchase Price to be in effect after such record date shall be determined by multiplying the Purchase Price in effect immediately prior to such record date by a fraction, the numerator of which is the Current Per Share Market Price of the shares of Preferred Stock (as determined pursuant to Section 11(d) hereof) on such record date or, if earlier, the date on which shares of Preferred Stock begin to trade on an ex-dividend or when issued basis for such distribution, less the fair market value (as determined in good faith by the Board, whose determination shall be described in a written statement filed with the Rights Agent) of the portion of the evidences of indebtedness, cash, assets or stock so to be distributed or of such subscription rights, options or warrants applicable to one share of Preferred Stock, and the denominator of which is such Current Per Share Market Price of the shares of Preferred Stock; provided, however, that in no event shall the consideration to be paid upon the exercise of one Right be less than the aggregate par value of the shares of capital stock issuable upon exercise of one Right. Such adjustments shall be made successively whenever such a record date is fixed; and in the event that such distribution is not so made, the Purchase Price shall again be adjusted to be the Purchase Price which would then be in effect if such record date had not been fixed.

(d) (i) For the purpose of any computation hereunder, the “Current Per Share Market Price” of a share of Common Stock on any date shall be deemed to be the average of the daily closing prices per share of a share of Common Stock for the 30 consecutive Trading Days immediately prior to, but not including, such date; provided, however, that in the event that the Current Per Share Market Price of Common Stock is determined during a period following the announcement by the Company of (A) a dividend or distribution on such shares of Common Stock payable in shares of Common Stock or securities convertible into such shares (other than the Rights) or (B) any subdivision, combination or reclassification of such shares of Common Stock, and prior to the expiration of 30 Trading Days after, but not including, the ex-dividend date for such dividend or distribution, or the record date for such subdivision, combination or reclassification, then, and in each such case, the Current Per Share Market Price shall be appropriately adjusted to take into account ex-dividend trading or to reflect the current per share market price per share equivalent of such shares of Common Stock. The closing price for each day shall be the last sale price, regular way, or, in case no such sale takes place on such day, the average of the closing bid and asked prices, regular way, in either case as reported in the principal consolidated transaction reporting system with respect to securities listed or admitted to trading on the NASDAQ Stock Market or, if the Common Stock is not listed or admitted to trading on the NASDAQ Stock Market, as reported in the principal consolidated transaction reporting system with respect to securities listed on the principal national securities exchange on which the Common Stock is listed or admitted to trading or, if the Common Stock is not listed or admitted to trading on any national securities exchange, the last quoted price or, if not so quoted, the average of the high bid and low asked prices in the over-the-counter market, as reported on a quotation system then in use, or, if on any such date the Common Stock is not quoted by any such organization, the average of the closing bid and asked prices as furnished by a professional market maker making a market in the Common Stock selected by the Board. If the Common Stock is not publicly held or not so listed or traded, or is not the subject of available bid and asked quotes, the Current Per Share Market Price of such Common Stock shall mean the fair value per share as determined in good faith by the Board, whose determination shall be described in a statement filed with the Rights Agent.

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(ii) For the purpose of any computation hereunder, the “Current Per Share Market Price” of a share of Preferred Stock shall be determined in accordance with the method set forth above in Section 11(d)(i). If the Current Per Share Market Price of Preferred Stock cannot be determined in the manner provided above, it shall be conclusively deemed to be an amount equal to the current per share market price of the shares of Common Stock multiplied by one thousand (as such number may be appropriately adjusted to reflect events such as stock splits, stock dividends, recapitalizations or similar transactions relating to the shares of Common Stock occurring after the date of this Agreement). If neither the Common Stock nor the Preferred Stock are publicly held or so listed or traded, or the subject of available bid and asked quotes, Current Per Share Market Price of the Preferred Stock shall mean the fair value per share as determined in good faith by the Board, whose determination shall be described in a statement filed with the Rights Agent. For all purposes of this Agreement, the current per share market price of one one-thousandth of a Preferred Share will be equal to the current per share market price of one Preferred Share divided by one thousand.

(e) Except as set forth below, no adjustment in the Purchase Price shall be required unless such adjustment would require an increase or decrease of at least 1% in such Purchase Price; provided, however, that any adjustments which by reason of this Section 11(e) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 11 shall be made to the nearest cent or to the nearest one one-millionth of a share of Preferred Stock or one one-thousandth of a share of Common Stock or other security, as the case may be. Notwithstanding the first sentence of this Section 11(e), any adjustment required by this Section 11 shall be made no later than the earlier of (i) three years from the date of the transaction which requires such adjustment and (ii) the Expiration Date.

(f) If as a result of an adjustment made pursuant to Section 11(a) hereof, the holder of any Right thereafter exercised becomes entitled to receive any securities of the Company other than shares of Preferred Stock, thereafter the number or kind of such other securities so receivable upon exercise of any Right (or the Purchase Price in respect thereof) shall be subject to adjustment from time to time in a manner and on terms as nearly equivalent as practicable to the provisions with respect to the shares of Preferred Stock (and the Purchase Price in respect thereof) contained in this Section 11, and the provisions of Section 7, Section 9, Section 10 and Section 13 hereof with respect to the shares of Preferred Stock (and the Purchase Price in respect thereof) shall apply on like terms to any such other securities (and the Purchase Price in respect thereof).

(g) All Rights originally issued by the Company subsequent to any adjustment made to the Purchase Price hereunder shall evidence the right to purchase, at the adjusted Purchase Price, the number of one one-thousandths of a share of Preferred Stock issuable from time to time hereunder upon exercise of the Rights, all subject to further adjustment as provided herein.

(h) Unless the Company has exercised its election as provided in Section 11(i) hereof, upon each adjustment of the Purchase Price pursuant to Section 11(b) or Section 11(c) hereof, each Right outstanding immediately prior to the making of such adjustment shall thereafter evidence the right to purchase, at the adjusted Purchase Price, that number of one one-thousandths of a share of Preferred Stock (calculated to the nearest one one-millionth of a share of Preferred Stock) obtained by (i) multiplying (x) the number of one one-thousandths of a share of Preferred Stock issuable upon exercise of a Right immediately prior to such adjustment of the Purchase Price by (y) the Purchase Price in effect immediately prior to such adjustment of the Purchase Price and (ii) dividing the product so obtained by the Purchase Price in effect immediately after such adjustment of the Purchase Price.

(i) The Company may elect, on or after the date of any adjustment of the Purchase Price, to adjust the number of Rights in substitution for any adjustment in the number of one one-thousandths of a share of Preferred Stock issuable upon the exercise of a Right. Each of the Rights outstanding after such adjustment of the number of Rights shall be exercisable for the number of one one-thousandths of a share of Preferred Stock for which a Right was exercisable immediately prior to such adjustment. Each Right held of record prior to such adjustment of the number of Rights shall become that number of Rights (calculated to the nearest one hundred-thousandth) obtained by dividing the Purchase Price in effect immediately prior to adjustment of the Purchase Price by the Purchase Price in effect immediately after adjustment of the Purchase Price. The Company shall make a public announcement of its election to adjust the number of Rights, indicating the record date for the adjustment, and, if known at the time, the amount of the adjustment to be made. The Company shall also, as promptly as practicable, notify the Rights Agent in writing of same pursuant to Section 9(e) hereof and give the Rights Agent a copy of such announcement. Such record date may be the date on which the Purchase Price is adjusted or any day thereafter, but if the Rights Certificates have been issued, such record date shall be at least ten (10) calendar days later than the date of the public announcement. If Rights Certificates have been issued, upon each adjustment of the number of Rights pursuant to this Section 11(i), the Company shall, as promptly as practicable, cause to be distributed to holders of record of Rights Certificates on such record date Rights Certificates evidencing, subject to the provision of Section 13 hereof, the additional Rights to which such holders are entitled as a result of such adjustment, or, at the option of the Company, shall cause to be distributed to such holders of record in substitution and replacement for the Rights Certificates held by such holders prior to the date of adjustment, and upon surrender thereof if required by the Company, new Rights Certificates evidencing all the Rights to which such holders are entitled after such adjustment. Rights Certificates so to be distributed shall be issued, executed, and countersigned in the manner provided for herein (and may bear, at the option of the Company, the adjusted Purchase Price) and shall be registered in the names of the holders of record of Rights Certificates on the record date specified in the public announcement.

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(j) Without respect to any adjustment or change in the Purchase Price or the number or kind of securities issuable upon the exercise of the Rights, the Rights Certificates theretofore and thereafter issued may continue to express the Purchase Price and the number and kind of securities which were expressed in the initial Rights Certificate issued hereunder.

(k) Before taking any action that would cause an adjustment reducing the Purchase Price below one one-thousandth of the then par value, if any, of the shares of Preferred Stock or below the then par value, if any, of any other securities of the Company issuable upon exercise of the Rights, the Company shall take any corporate action which may, in the opinion of its counsel, be necessary in order that the Company may validly and legally issue fully paid and nonassessable shares of Preferred Stock or such other securities, as the case may be, at such adjusted Purchase Price.

(l) In any case in which this Section 11 otherwise requires that an adjustment in the Purchase Price be made effective as of a record date for a specified event, the Company may elect to defer until the occurrence of such event the issuance to the holder of any Right exercised after such record date of the number of one one-thousandths of a share of Preferred Stock or other securities of the Company, if any, issuable upon such exercise over and above the number of one one-thousandths of a share of Preferred Stock or other securities of the Company, if any, issuable upon such exercise on the basis of the Purchase Price in effect prior to such adjustment; provided, however, that the Company delivers to such holder a due bill or other appropriate instrument evidencing such holder's right to receive such additional shares of Preferred Stock or other securities upon the occurrence of the event requiring such adjustment.

(m) Notwithstanding anything in this Agreement to the contrary, the Company shall be entitled to make such reductions in the Purchase Price, in addition to those adjustments expressly required by this Section 11, as and to the extent that in its good faith judgment the Board determines to be necessary or advisable in order that any (i) consolidation or subdivision of the shares of Preferred Stock, (ii) issuance wholly for cash of shares of Preferred Stock at less than the Current Per Share Market Price therefor, (iii) issuance wholly for cash of shares of Preferred Stock or securities which by their terms are convertible into or exchangeable for shares of Preferred Stock, (iv) stock dividends or (v) issuance of rights, options or warrants referred to in this Section 11, hereafter made by the Company to holders of its shares of Preferred Stock is not taxable to such stockholders.

(n) Notwithstanding anything in this Agreement to the contrary, in the event that the Company at any time after the Record Date and prior to the Distribution Date (i) pays a dividend on the outstanding shares of Common Stock payable in shares of Common Stock, (ii) subdivides the outstanding shares of Common Stock, (iii) combines the outstanding shares of Common Stock into a smaller number of shares, or (iv) issues any shares of its capital stock in a reclassification of the outstanding shares of Common Stock (including any such reclassification in connection with a consolidation or merger in which the Company is the continuing or surviving corporation), the number of Rights associated with each share of Common Stock then outstanding, or issued or delivered thereafter but prior to the Distribution Date (or issued or delivered on or after the Distribution Date pursuant to Section 21 hereof), shall be proportionately adjusted so that the number of Rights thereafter associated with each share of Common Stock following any such event equals the result obtained by multiplying the number of Rights associated with each share of Common Stock immediately prior to such event by a fraction the numerator of which is the total number of shares of Common Stock outstanding immediately prior to the occurrence of the event and the denominator of which is the total number of shares of Common Stock outstanding immediately following the occurrence of such event. The adjustments provided for in this Section 11(n) shall be made successively whenever such a dividend is paid or such a subdivision, combination or reclassification is effected.

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(o) Consolidation, Merger or Sale or Transfer of Assets, Cash Flow or Earning Power. (i) In the event that, following the Stock Acquisition Date, directly or indirectly, (x) the Company shall consolidate with, or merge with and into, any other Person, and the Company shall not be the continuing or surviving corporation of such consolidation or merger, (y) any Person shall consolidate with, or merge with or into, the Company, and the Company shall be the continuing or surviving corporation of such consolidation or merger and, in connection with such consolidation or merger, all or part of the outstanding shares of Common Stock shall be changed into or exchanged for stock or other securities of any other Person or cash or any other property, or (z) the Company shall sell or otherwise transfer (or one or more of its Subsidiaries shall sell or otherwise transfer), in one transaction or a series of related transactions, assets, cash flow or earning power aggregating more than 50% of the assets, cash flow or earning power of the Company and its Subsidiaries (taken as a whole) to any Person or Persons, then, and in each such case, proper provision shall be made so that: (i) each holder of a Right shall thereafter have the right to receive, upon the exercise thereof at the then current Purchase Price in accordance with the terms of this Agreement and in lieu of shares of Preferred Stock, such number of validly authorized and issued, fully paid, non-assessable and freely tradeable shares of Common Stock of the Principal Party (as such term is hereinafter defined), not subject to any liens, encumbrances, rights of first refusal or other adverse claims, as shall be equal to the result obtained by (1) multiplying the then current Purchase Price by the number of one one-thousandths of a share of Preferred Stock for which a Right is exercisable immediately prior to the first occurrence of a Section 11(o) Event (or, if a Section 11(a)(ii) Event has occurred prior to the first occurrence of a Section 11(o) Event, multiplying the number of such one one-thousandths of a share for which a Right was exercisable immediately prior to the first occurrence of a Section 11(a)(ii) Event by the Purchase Price in effect immediately prior to such first occurrence of a Section 11(a)(ii) Event), and (2) dividing that product by 50% of the Current Per Share Market Price (as determined pursuant to Section 11(d)(i) hereof) of the Common Stock of such Principal Party on the date of consummation of such Section 11(o) Event; (ii) such Principal Party shall thereafter be liable for, and shall assume, by virtue of such Section 11(o) Event, all the obligations and duties of the Company pursuant to this Agreement; (iii) the term "Company" shall thereafter be deemed to refer to such Principal Party, it being specifically intended that the provisions of Section 11 hereof shall apply only to such Principal Party following the first occurrence of a Section 11(o) Event; (iv) such Principal Party shall take such steps (including, but not limited to, the reservation of a sufficient number of

shares of its Common Stock) in connection with the consummation of any such consolidation as may be necessary to assure that the provisions hereof shall thereafter be applicable, as nearly as reasonably may be, in relation to its shares of Common Stock thereafter deliverable upon the exercise of the Rights; and (v) the provisions of Section 11(a)(ii) hereof shall be of no effect following the first occurrence of any Section 11(o) Event.

(ii) “Principal Party” shall mean: (A) in the case of any transaction described in clause (x) or (y) of the first sentence of Section 11(o)(i), the Person that is the issuer of any securities into which shares of Common Stock of the Company are converted in such merger or consolidation, and if no securities are so issued, the Person that is the other party to such merger or consolidation; and (B) in the case of any transaction described in clause (z) of the first sentence of Section 11(o)(i), the Person that is the party receiving the greatest portion of the assets, cash flow or earning power transferred pursuant to such transaction or transactions; provided, however, that in any such case, (1) if the Common Stock of such Person is not at such time and has not been continuously over the preceding twelve-month period registered under Section 12 of the Exchange Act, and such Person is a direct or indirect Subsidiary of another Person the Common Stock of which is and has been so registered, “Principal Party” shall refer to such other Person; and (2) in case such Person is a Subsidiary, directly or indirectly, of more than one Person, the Common Stock of two or more of which are and have been so registered, “Principal Party” shall refer to whichever of such Persons is the issuer of the Common Stock having the greatest aggregate market value.

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(iii) The Company shall not consummate any such consolidation, merger, sale or transfer unless the Principal Party shall have a sufficient number of authorized shares of its Common Stock which have not been issued or reserved for issuance to permit the exercise in full of the Rights in accordance with this Section 11(o) and unless prior thereto the Company and such Principal Party shall have executed and delivered to the Rights Agent a supplemental agreement providing for the terms set forth in paragraphs (i) and (ii) of this Section 11(o) and further providing that, as soon as practicable after the date of any consolidation, merger or sale of assets mentioned in paragraph (i) of this Section 11(o), the Principal Party will:

(A) prepare and file a registration statement under the Securities Act, with respect to the Rights and the securities purchasable upon exercise of the Rights on an appropriate form, and will use its best efforts to cause such registration statement (x) to become effective as soon as practicable after such filing and (y) to remain effective (with a prospectus at all times meeting the requirements of the Securities Act) until the Expiration Date; and

(B) take all such other action as may be necessary to enable the Principal Party to issue the securities purchasable upon exercise of the Rights, including but not limited to the registration or qualification of such securities under all requisite securities laws of jurisdictions of the various states and the listing of such securities on such exchanges and trading markets as may be necessary or appropriate; and

(C) deliver to holders of the Rights historical financial statements for the Principal Party and each of its Affiliates which comply in all respects with the requirements for registration on Form 10 under the Exchange Act.

The provisions of this Section 11(o) shall similarly apply to successive mergers or consolidations or sales or other transfers. In the event that a Section 11(o) Event shall occur at any time after the occurrence of a Section 11(a)(ii) Event, the Rights which have not theretofore been exercised shall thereafter become exercisable in the manner described in Section 11(o)(i).

Section 12. Certificate of Adjusted Purchase Price or Number of Shares. Whenever an adjustment is made or any event affecting the Rights or their exercisability (including, without limitation, an event which causes Rights to become null and void) occurs as provided in Section 11 thereof, the Company shall promptly (a) prepare a certificate setting forth such adjustment and a brief statement of the facts and calculations accounting for such adjustment or describing such event, (b) file with the Rights Agent, and with each transfer agent for the shares of Preferred Stock and the shares of Common Stock (if the Rights Agents is not also the transfer agent), a copy of such certificate, and (c) if a Distribution Date has occurred, give a brief summary thereof to each holder of a Rights Certificate in accordance with Section 25 hereof. The Rights Agent shall be fully protected in relying on any such certificate and on any adjustment therein contained and shall not be deemed to have knowledge of any such adjustment unless and until it shall have received such certificate; provided, however, that the Rights Agent will not be entitled to such protection in cases of bad faith or willful misconduct.

Section 13. Fractional Rights and Fractional Shares.

(a) The Company shall not be required to issue fractions of Rights, except prior to the Distribution Date as provided in Section 11(n) hereof, or to distribute Rights Certificates which evidence fractional Rights. In lieu of such fractional Rights, the Company shall pay to the registered holders of the Rights Certificates with regard to which such fractional Rights would otherwise be issuable, an amount in cash equal to the same fraction of the current market value of one Right. For purposes of this Section 13(a), the current market value of one Right is the closing price of the Rights for the Trading Day immediately prior to the date on which such fractional Rights would have been otherwise issuable. The closing price for any Trading Day shall be the last sale price, regular way, or, in case no such sale takes place on such day, the average of the closing bid and asked prices, regular way, in either case as reported in the principal consolidated transaction reporting system with respect to securities listed or admitted to trading on the NASDAQ Stock Market or, if the Rights are not listed or admitted to trading on the NASDAQ Stock Market, as reported in the principal consolidated transaction reporting system with respect to securities listed on the principal national securities exchange on which the Rights are listed or admitted to trading or, if the Rights are not listed or admitted to trading on any national securities exchange, the last quoted price or, if not so quoted, the average of the high bid and low asked prices in the over-the-counter market, as reported on a quotation system then in use or, if on any such date the Rights are not quoted, the average of the closing bid and asked prices as furnished by a professional market maker making a market in the Rights, such market maker to be selected by the Board. If the Rights are not publicly held or are not so listed or traded, or are not the subject of available bid and asked quotes, the current market value of one Right shall mean the fair value thereof as determined in good faith by the Board, whose determination shall be described in a statement filed with the Rights Agent.

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(b) The Company shall not be required to issue fractions of shares of Preferred Stock (other than fractions which are integral multiples of one one-thousandth of a share of Preferred Stock) upon exercise of the Rights or to distribute certificates which evidence fractional shares of Preferred Stock (other than fractions which are integral multiples of one one-thousandth of a share of Preferred Stock). Fractions of Preferred Stock in integral multiples of one one-thousandth of such Preferred Stock may, in the sole discretion of the Company, be evidenced by depositary receipts pursuant to an appropriate agreement between the Company and a depositary selected by it, provided that such agreement provides that the holders of such depositary receipts have all the rights, privileges and preferences to which they are entitled as Beneficial Owners of the Preferred Stock represented by such depositary receipts. In lieu of fractional shares of Preferred Stock that are not integral multiples of one one-thousandth of a share of Preferred Stock, the Company may pay to the registered holders of Rights Certificates at the time such Rights are exercised as herein provided an amount in cash equal to the same fraction of the current market value of one one-thousandth of a share of Preferred Stock. For purposes of this Section 13(b), the current market value of one one-thousandth of a share of Preferred Stock shall be one one-thousandth of the closing price of a share of Preferred Stock (as determined pursuant to Section 11(d)(ii) hereof) for the Trading Day immediately prior to the date of such exercise; provided, however, that if the closing price of the shares of the Preferred Stock cannot be so determined, the closing price of the shares of the Preferred Stock for such Trading Day shall be conclusively deemed to be an amount equal to the closing price of the shares of Common Stock for such Trading Day multiplied by one thousand (as such number may be appropriately adjusted to reflect events such as stock splits, stock dividends, recapitalizations or similar transactions relating to the Common Stock shares occurring after the date of this Agreement).

(c) Following the occurrence of a Section 11(a)(ii) Event, the Company shall not be required to issue fractions of shares of Common Stock upon exercise or exchange of the Rights or to distribute certificates or Ownership Statements which evidence fractional shares of Common Stock. In lieu of issuing any

such fractional shares of Common Stock, the Company may pay to any holder or which such fractional shares of Common Stock would otherwise be issuable an amount in cash equal to the same fraction of the current market value of one such share of Common Stock. For purposes of this Section 13(c), the current market value of one share of Common Stock shall be the closing price thereof (as determined pursuant to Section 11(d)(i) hereof) on the Trading Day immediately prior to the date of such exercise or exchange.

(d) The holder of a Right by the acceptance of the Rights expressly waives such holder's right to receive any fractional Rights or any fractional shares upon exercise of a Right, except as permitted by this Section 13.

#### Section 14. Rights of Action.

(a) All rights of action in respect of this Agreement, excepting the rights of action given to the Rights Agent hereunder, are vested in the respective registered holders of the Rights Certificates (or, prior to the Distribution Date, the registered holders of shares of Common Stock); and any registered holder of any Rights Certificate (or, prior to the Distribution Date, of the shares of Common Stock), without the consent of the Rights Agent or of the holder of any other Rights Certificate (or, prior to the Distribution Date, of the shares of Common Stock), may, on such first holder's behalf and for such first holder's own benefit, enforce, and may institute and maintain any suit, action or proceeding against the Company to enforce, or otherwise act in respect of, such first holder's right to exercise the Rights evidenced by such Rights Certificate in the manner provided in such Rights Certificate and in this Agreement. Without limiting the foregoing or any remedies available to the holders of Rights, it is specifically acknowledged that the holders of Rights would not have an adequate remedy at law for any breach of this Agreement and shall be entitled to specific performance of the obligations hereunder and injunctive relief against actual or threatened violations of the obligations hereunder of any Person subject to this Agreement.

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(b) Notwithstanding anything in this Agreement to the contrary, neither the Company nor the Rights Agent shall have any liability to any holder of a Right or other Person as a result of its inability to perform any of its obligations under this Agreement by reason of any preliminary or permanent injunction or other order, judgment, decree or ruling (whether interlocutory or final) issued by a court of competent jurisdiction or by a governmental regulatory, self-regulatory or administrative agency or commission, or any statute, rule, regulation, or executive order promulgated or enacted by any governmental authority, prohibiting or otherwise restraining performance of such obligation; provided, however, that the Company shall use commercially reasonable efforts to have any such injunction, order, judgment, decree or ruling lifted or otherwise overturned as soon as possible.

Section 15. Agreement of Rights Holders. Every holder of a Right, by accepting the same, consents and agrees with the Company and the Rights Agent and with every other holder of a Right that:

(a) prior to the Distribution Date, the Rights shall be transferable only in connection with the transfer of shares of Common Stock;

(b) after the Distribution Date, the Rights Certificates are transferable only on the registry books of the Rights Agent if surrendered at the principal office or offices of the Rights Agent designated for such purposes, duly endorsed or accompanied by a properly executed instrument of transfer with the appropriate forms and certificates contained therein fully executed;

(c) subject to Section 6(a) and Section 7(d) hereof or unless otherwise provided under this Agreement, the Company and the Rights Agent may deem and treat the Person in whose name a Rights Certificate (or, prior to the Distribution Date, the associated Common Stock share certificate or Ownership Statement) is registered as the absolute owner thereof and of the Rights evidenced thereby (notwithstanding any notations of ownership or writing on the Rights Certificates or the associated Common Stock share certificate or Ownership Statement made by anyone other than the Company or the Rights Agent) for all purposes whatsoever, and neither the Company nor the Rights Agent shall be affected by any notice to the contrary; and

(d) such holder expressly waives any right to receive any fractional Rights and any fractional securities upon exercise or exchange of a Right, except as otherwise provided in Section 13 hereof.

Section 16. Rights Certificate Holder Not Deemed a Stockholder. No holder, of any Rights Certificate, by means of such possession, shall be entitled to vote, receive dividends or be deemed for any purpose the holder of the number of one one-thousandths of a share of Preferred Stock or any other securities of the Company which may at any time be issuable on the exercise of the Rights represented thereby, nor shall anything contained herein or in any Rights Certificate be construed to confer upon the holder of any Rights Certificate, by means of such possession, any of the rights of a stockholder of the Company including any right to vote on any matter submitted to stockholders at any meeting thereof, including the election of directors, or to give or withhold consent to any corporate action, or to receive notice of meetings or other actions affecting stockholders (except as provided in Section 24 hereof), or to receive dividends or subscription rights, or otherwise, until the Right or Rights evidenced by such Rights Certificate have been exercised in accordance with the provisions of this Agreement.

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#### Section 17. Concerning the Rights Agent.

(a) The Company agrees to pay to the Rights Agent reasonable compensation for all services rendered by it hereunder, and, from time to time, on demand of the Rights Agent, its reasonable expenses and counsel fees and other disbursements incurred in the preparation, administration and execution of this Agreement and the exercise and performance of its duties hereunder. The Company also agrees to indemnify the Rights Agent for, and to hold it harmless against, any loss, liability, damage, judgment, fine, penalty, claim, demand, cost or expense incurred without gross negligence, bad faith or willful misconduct on the part of the Rights Agent, for anything done or omitted by the Rights Agent in connection with the acceptance and administration of this Agreement and the performance of its duties and responsibilities and the exercise of its rights hereunder, including the costs and expenses of defending against any claim of liability arising therefrom, directly or indirectly. The costs and expenses of enforcing this right of indemnification will also be paid by the Company. The provisions of this Section 17 shall survive the exercise, exchange, redemption or expiration of the Rights, the resignation, replacement or removal of the Rights Agent and the termination of this Agreement.

(b) The Rights Agent may conclusively rely on, and will be protected and shall incur no liability for or in respect of any action taken, suffered or omitted by it in connection with, its acceptance or administration of this Agreement and the exercise and performance of its duties and responsibilities and the exercise of its rights hereunder, in reliance upon any Rights Certificate or certificate evidencing shares of Preferred Stock, Common Stock or other securities of the Company or an Ownership Statement, or any instrument of assignment or transfer, power of attorney, endorsement, affidavit, letter, notice, direction, consent, certificate, statement, or other paper or document believed by it to be genuine and to be signed, executed and, where necessary, verified or acknowledged, by the proper Person or Persons, or otherwise upon the advice of counsel as set forth in Section 19 hereof.

(c) Notwithstanding anything in this Agreement to the contrary, in no event will the Rights Agent be liable for special, indirect or consequential loss or damage of any kind whatsoever (including but not limited to lost profits), even if the Rights Agent has been advised of the likelihood of such loss or damage and regardless of the form of action.

#### Section 18. Merger, Consolidation or Change of Name of the Rights Agent.

(a) Any Person into which the Rights Agent or any successor Rights Agent may be merged or with which it may be consolidated, or any Person

resulting from any merger or consolidation to which the Rights Agent is a party, or any successor Rights Agent is a party, or any Person succeeding to the corporate trust, stock transfer or other shareholder services business of the Rights Agent or any successor Rights Agent will be the successor to the Rights Agent under this Agreement without the execution or filing of any paper or any further act on the part of any of the parties hereto; provided that such Person would be eligible for appointment as a successor Rights Agent under the provisions of Section 20 hereof if at the time such successor Rights Agent shall succeed to the agency created by this Agreement any of the Rights Certificates shall have been countersigned but not delivered, any such successor Rights Agent may adopt the countersignature of a predecessor Rights Agent and deliver such Rights Certificates so countersigned; and if at that time any of the Rights Certificates shall not have been countersigned, any successor Rights Agent may countersign such Rights Certificates either in the name of the predecessor or in the name of the successor Rights Agent; and in all such cases such Rights Certificates shall have the full force provided in the Rights Certificates and in this Agreement.

(b) If at any time the name of the Rights Agent changes and at such time any of the Rights Certificates have been countersigned but not delivered, the Rights Agent may adopt the countersignature under its prior name and deliver Rights Certificates so countersigned; and if at that time any of the Rights Certificates have not been countersigned, the Rights Agent may countersign such Rights Certificates either in its prior name or in its changed name; and in all such cases such Rights Certificates shall have the full force provided in the Rights Certificates and in this Agreement.

Section 19. Duties of the Rights Agent. The Rights Agent undertakes to perform the duties and obligations expressly imposed by this Agreement (and no implied duties) upon the following terms and conditions, by all of which the Company and the holders of Rights Certificates, by their acceptance thereof, shall be bound:

(a) The Rights Agent may consult with competent legal counsel (who may be legal counsel for the Company), and the advice or opinion of such counsel shall be full and complete authorization and protection to the Rights Agent and the Rights Agent shall incur no liability for or in respect of any action taken, suffered or omitted by it in good faith and in accordance with the content of such advice or opinion.

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(b) Whenever in the performance of its duties under this Agreement the Rights Agent shall deem it necessary or desirable that any fact or matter (including, without limitation, the identity of any Acquiring Person and the determination of the Current Per Share Market Price) be proved or established by the Company prior to taking, suffering or omitting to take any action hereunder, such fact or matter (unless other evidence in respect thereof be herein specifically prescribed) may be deemed to be conclusively proved and established by a certificate signed by any Authorized Officer and delivered to the Rights Agent; and such certificate, pursuant to its terms, shall be full and complete authorization and protection to the Rights Agent for any action taken or suffered in good faith by it under the provisions of this Agreement in reliance upon such certificate.

(c) The Rights Agent shall be liable hereunder only for its own gross negligence, bad faith or willful misconduct.

(d) The Rights Agent shall not be liable for or by reason of any of the statements of fact or recitals contained in this Agreement or in the Rights Certificates (except its countersignature thereof) and it shall not be required to verify the same, but all such statements and recitals are and shall be deemed to have been made by the Company only.

(e) The Rights Agent will have no liability in respect of the validity of this Agreement or the execution and delivery hereof (except the due execution and delivery hereof by the Rights Agent) or in respect of the validity or execution of any Rights Certificate (except its countersignature thereof); nor shall it be responsible for any breach by the Company of any covenant contained in this Agreement or in any Rights Certificate; nor shall it be responsible for any adjustment required under the provisions of Section 11, Section 22 or Section 23 hereof or responsible for the manner, method or amount of any such adjustment or the ascertaining of the existence of facts that would require any such adjustment (except with respect to the exercise of Rights evidenced by Rights Certificates after actual notice of any such adjustment); nor shall it by any act hereunder be deemed to make any representation or warranty as to the authorization or reservation of any shares of Common Stock or Preferred Stock to be issued pursuant to this Agreement or any Rights Certificate or as to whether any shares of Common Stock or Preferred Stock shall, when so issued, be validly authorized and issued, fully paid and nonassessable.

(f) The Company agrees that it shall perform, execute, acknowledge and deliver or cause to be performed, executed, acknowledged and delivered all such further and other acts, instruments and assurances as may reasonably be required by the Rights Agent for the carrying out or performing by the Rights Agent of the provisions of this Agreement.

(g) The Rights Agent is hereby authorized and directed to accept instructions with respect to the performance of its duties and the exercise of the rights hereunder from any Authorized Officer, and to apply to any such Authorized Officer for advice or instructions in connection with its duties, and it shall not be liable for any action taken or suffered by it in good faith in accordance with instructions of any such Authorized Officer or for any delay in acting while waiting for those instructions. Any application by the Rights Agent for written instructions from the Company may, at the option of the Rights Agent, set forth in writing any action proposed to be taken or omitted by the Rights Agent under this Agreement and the date on or after which such action shall be taken or such omission shall be effective. The Rights Agent shall not be liable for any action taken by, or omission of, the Rights Agent in accordance with a proposal included in any such application on or after the date specified in such application (which date shall not be less than five (5) Business Days after the date any Authorized Officer of the Company actually receives such application, unless any such Authorized Officer shall have consented in writing to an earlier date) unless, prior to taking any such action (or the effective date in the case of an omission), the Rights Agent shall have received written instructions in response to such application specifying the action to be taken or omitted.

(h) The Rights Agent and any stockholder, director, officer or employee of the Rights Agent may buy, sell or deal in any of the Rights or other securities of the Company or become pecuniarily interested in any transaction in which the Company may be interested, or contract with or lend money to the Company or otherwise act as fully and freely as though it were not the Rights Agent under this Agreement. Nothing herein shall preclude the Rights Agent from acting in any other capacity for the Company or for any other Person.

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(i) The Rights Agent may execute and exercise any of the rights or powers hereby vested in it or perform any duty hereunder either itself (through its directors, officers or employees) or by or through its attorneys or agents, and the Rights Agent shall not be answerable or accountable for any act, omission, default, neglect or misconduct of any such attorneys or agents or for any loss to the Company or any other Person resulting from any such act, default, neglect or misconduct, provided reasonable care was exercised in the selection and continued employment thereof.

(j) If, with respect to any Rights Certificate surrendered to the Rights Agent for exercise or transfer, the certificate contained in the form of assignment or the form of election to purchase set forth on the reverse thereof, as the case may be, has not been completed or indicates an affirmative response to clause 1 or 2 thereof, the Rights Agent shall not take any further action with respect to such requested exercise or transfer without first consulting with the Company.

(k) No provision of this Agreement shall require the Rights Agent to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of its rights if there shall be reasonable grounds for believing that repayment of such funds or adequate indemnification against such risk or liability is not reasonably assured to it.

(l) The Rights Agent will not be required to take notice or be deemed to have notice of any fact, event or determination (including, without

limitation, any dates and any other terms defined in this Agreement or as an Acquiring Person, Affiliate or Associate) under this Agreement unless and until the Rights Agent is specifically notified in writing by the Company of such fact, event or determination.

(m) The provisions of this Section 19 shall survive the exercise, exchange, redemption or expiration of the Rights, the resignation, replacement or removal of the Rights Agent and the termination of this Agreement.

Section 20. Change of the Rights Agent. The Rights Agent or any successor Rights Agent may resign and be discharged from its duties under this Agreement upon thirty (30) calendar days' written notice given to the Company in accordance with Section 25 hereof, and to each transfer agent, in the event that the Rights Agent or one of its Affiliates is not also the transfer agent for the Company, of the shares of Common Stock and Preferred Stock known to the Rights Agent, respectively, by registered or certified mail. In the event the transfer agency relationship in effect between the Company and the Rights Agent terminates, the Rights Agent will be deemed to have resigned automatically and be discharged from its duties under this Agreement as of the effective date of such termination, and the Company shall be responsible for sending any required notice. The Company may remove the Rights Agent or any successor Rights Agent upon thirty (30) calendar days' written notice, given to the Rights Agent or successor Rights Agent, as the case may be, in accordance with Section 25 hereof, and to each transfer agent of the shares of Common Stock and the Preferred Stock, by registered or certified mail, and, if such removal occurs after the Distribution Date, to the holders of the Rights Certificates in accordance with Section 25 hereof if the Rights Agent shall resign or be removed or shall otherwise become incapable of acting, the Company shall, in its sole discretion, appoint a successor to the Rights Agent. If the Company shall fail to make such appointment within a period of thirty (30) calendar days after giving notice of such removal or after it has been notified in writing of such resignation or incapacity by the resigning or incapacitated Rights Agent or by the holder of a Rights Certificate (who shall, with such notice, submit such holder's Rights Certificate for inspection by the Company), then any registered holder of any Rights Certificate may apply to any court of competent jurisdiction for the appointment of a new Rights Agent. Any successor Rights Agent, whether appointed by the Company or by such a court, shall be (a) a legal business entity organized and doing business under the laws of the United States or of the State of New York or of any other state of the United States, in good standing, which is authorized under such laws to exercise corporate trust, stock transfer or shareholder services powers and which has at the time of its appointment as Rights Agent a combined capital and surplus of at least \$50,000,000 or (b) an affiliate of a legal business entity described in clause (a) of this sentence. After appointment, the successor Rights Agent shall be vested with the same powers, rights, duties and responsibilities as if it had been originally named as Rights Agent without further act or deed; but the predecessor Rights Agent shall deliver and transfer to the successor Rights Agent any property at the time held by it hereunder, and execute and deliver any further assurance, conveyance, act or deed necessary for the purpose. Not later than the effective date of any such appointment, the Company shall file notice thereof in writing with the predecessor Rights Agent and each transfer agent of the shares of Common Stock and the Preferred Stock, and, if such appointment occurs after the Distribution Date, give a notice thereof in writing to the registered holders of the Rights Certificates in accordance with Section 25 hereof. Failure to give any notice provided for in this Section 20, however, or any defect therein, shall not affect the legality or validity of the resignation or removal of the Rights Agent or the appointment of the successor Rights Agent, as the case may be.

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Section 21. Issuance of New Rights Certificates. Notwithstanding any of the provisions of this Agreement or of the Rights to the contrary, the Company may, at its option, issue new Rights Certificates evidencing Rights in such form as may be approved by the Board to reflect any adjustment or change in the Purchase Price and the number or kind or class of shares or other securities or property purchasable under the Rights Certificates made in accordance with the provisions of this Agreement. In addition, in connection with the issuance or sale by the Company of shares of Common Stock following the Distribution Date and prior to the Expiration Date, the Company (a) shall, with respect to shares of Common Stock so issued or sold pursuant to the exercise of stock options or under any employee plan or arrangement, granted or awarded as of the Distribution Date, or upon the exercise, exchange or conversion of securities hereinafter issued by the Company and (b) may, in any other case, if deemed necessary or appropriate by the Board, issue Rights Certificates representing the appropriate number of Rights in connection with such issuance or sale; provided, however, that (i) no such Rights Certificate shall be issued if, and to the extent that, in its good faith judgment the Board determines that the issuance of such Rights Certificate could have a material adverse tax consequence to the Company or to the Person to whom or which such Rights Certificate otherwise would be issued, and (ii) no such Rights Certificate shall be issued if, and to the extent that, appropriate adjustment shall otherwise have been made in lieu of the issuance thereof.

Section 22. Redemption.

(a) The Board may, at its option, at any time prior to the earlier of (1) the Close of Business on the tenth (10<sup>th</sup>) calendar day following the Stock Acquisition Date, or (ii) the Final Expiration Date, redeem all but not less than all of the then outstanding Rights at the Redemption Price. The redemption of the Rights may be made effective at such time, on such basis and with such conditions as the Board in its sole discretion may establish. The Company may, at its option, pay the Redemption Price in cash, securities or any other form of consideration deemed appropriate by the Board.

(b) Immediately upon the effectiveness of the action of the Board ordering the redemption of the Rights, and without any further action and without any notice, the right to exercise the Rights shall terminate and the only right thereafter of the holders of Rights shall be to receive the Redemption Price for each Right so held without interest thereon. Promptly after the action of the Board ordering the redemption of the Rights, the Company shall give notice of such redemption to the Rights Agent and the holders of the then outstanding Rights in accordance with Section 25 hereof; provided, however, that the failure to give, or any defect in, any such notice will not affect the validity of the redemption of the Rights. Any notice given in accordance with Section 25 hereof shall be deemed given, whether or not the holder receives the notice. Each such notice of redemption shall state the method by which the payment of the Redemption Price shall be made.

Section 23. Exchange.

(a) The Board may, at its option, at any time after a Section 11(a)(ii) Event, exchange all or part of the then-outstanding and exercisable Rights (which shall not include Rights that have become void pursuant to the provisions of Section 11(a)(ii) hereof) for shares of Common Stock at an exchange ratio of one share of Common Stock per Right, appropriately adjusted to reflect any stock split, stock dividend or similar transaction occurring after the date hereof (such amount per Right being hereinafter referred to as the "Exchange Ratio"). The exchange of the Rights by the Board may be made effective at such time, on such basis and with such conditions as the Board in its sole discretion may establish.

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(b) Immediately upon the effectiveness of the action of the Board ordering the exchange of any Rights and without any further action and without any notice, the right to exercise such Rights shall terminate and the only right thereafter of a holder of such Rights shall be to receive that number of shares of Common Stock equal to the number of such Rights held by such holder multiplied by the Exchange Ratio. The Company shall promptly give public notice of any such exchange; provided, however, that the failure to give, or any defect in, such notice shall not affect the validity of such exchange. The Company shall promptly give a notice of any such exchange to all of the holders of the Rights so exchanged in accordance with Section 25 hereof. Any notice given in accordance with Section 25 hereof shall be deemed given, whether or not the holder receives the notice. Each such notice of exchange will state the method by which the exchange of the shares of Common Stock, for Rights shall be effected and, in the event of any partial exchange, the number of Rights which will be exchanged. Any partial exchange shall be effected pro rata based on the number of Rights (other than Rights which have become void pursuant to the provisions of Section 11(a)(ii) hereof) held by each holder of Rights.

(c) The Company may at its option substitute and, in the event that there shall not be sufficient shares of Common Stock issued but not outstanding or authorized but unissued (and unreserved) to permit an exchange of Rights as contemplated in accordance with this Section 23, the Company shall substitute to the extent of such insufficiency, for each share of Common Stock that would otherwise be issuable upon exchange of a Right, a number of shares of

Preferred Stock or fraction thereof (or Equivalent Preferred Stock) such that the Current Per Share Market Price of one share of Preferred Stock (or Equivalent Preferred Stock) multiplied by such number or fraction is equal to the Current Per Share Market Price of the Common Stock that would otherwise be issuable as of the date of such exchange.

(d) Prior to effecting an exchange pursuant to this Section 23, the Board may direct the Company to enter into a trust agreement in such form and with such terms as the Board shall then approve (the "Trust Agreement"). If the Board so directs, the Company shall enter into the Trust Agreement and shall issue to the trust created by such agreement (the "Trust") all of the shares of Common Stock, Preferred Stock or other securities, if any, issuable pursuant to the exchange, and all Persons entitled to receive such shares or other securities (and any dividends or distributions made thereon after the date on which such shares or other securities are deposited in the Trust) shall be entitled to receive such only from the Trust and solely upon compliance with the relevant terms and provisions of the Trust Agreement.

#### Section 24. Notice of Certain Events.

(a) If the Company, at any time after the Distribution Date, proposes to (i) pay any dividend payable in stock of any class to the holders of shares of Preferred Stock or to make any other distribution to the holders of shares of Preferred Stock (other than a regular periodic cash dividend), (ii) offer to the holders of shares of Preferred Stock rights, options, warrants or any similar instrument to subscribe for or to purchase any additional shares of Preferred Stock or shares of stock of any class or any other securities, rights or options, (iii) effect any reclassification of its Preferred Stock (other than a reclassification involving only the subdivision of outstanding shares of Preferred Stock), (iv) effect any consolidation, merger or statutory share exchange into or with any other Person, or (v) to effect the liquidation, dissolution or winding up of the Company, then, in each such case, the Company shall give to the Rights Agent and, to the extent possible, to each holder of a Rights Certificate, in accordance with Section 25 hereof, a notice of such proposed action, which shall specify the record date for the purposes of such stock dividend, distribution or offering of rights, warrants, options or any similar instrument or the date on which such reclassification, consolidation, merger, share exchange, sale, transfer, liquidation, dissolution, or winding up is to take place and the date of participation therein by the holders of the shares of Preferred Stock, if any such date is to be fixed, and such notice shall be so given in the case of any action covered by clause (i) or (ii) above at least ten (10) calendar days prior to the record date for determining holders of the shares of Common Stock or Preferred Stock for purposes of such action, and in the case of any such other action at least ten (10) calendar days prior to the date of such proposed action or the date of participation therein by the holders of the shares of Preferred Stock, whichever is the earlier.

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(b) If a Section 11(a)(ii) Event occurs, then the Company shall as soon as practicable thereafter give to the Rights Agent and each holder of a Rights Certificate, to the extent feasible and in accordance with Section 25 hereof, a notice of the occurrence of such event, which shall specify the event and the consequences of the event to holders of Rights.

#### Section 25. Notices.

(a) Notices or demands authorized by this Agreement to be given or made by the Rights Agent or by the holder of any Rights Certificate to or on the Company shall be sufficiently given or made (a) immediately, if made by personal delivery, (b) on the fifth (5<sup>th</sup>) calendar day if sent by first-class mail, postage prepaid, (c) the next Business Day if by nationally recognized overnight courier, or (d) upon confirmation, if transmission by facsimile is combined with a phone call to the Company notifying it of such transmission, all addressed (until another address is filed in writing by the Company with the Rights Agent) as follows:

Rubicon Technology, Inc.  
900 East Green Street  
Bensenville, IL 60106  
Attention: Chief Executive Officer

with a copy (which will not constitute notice) to:

Robinson & Cole LLP  
1055 Washington Boulevard  
Stamford, CT 06901  
Attention: Eric M. Kogan, Esq.  
Fax: (203) 462-7599

(b) Subject to the provisions of Section 20 hereof, any notice or demand authorized by this Agreement to be given or made by the Company or by the holder of any Rights Certificate to or on the Rights Agent shall be sufficiently given or made (a) immediately, if made by personal delivery, (b) on the fifth (5<sup>th</sup>) calendar day if sent by first-class mail, postage prepaid, (c) the next Business Day if by nationally recognized overnight courier or (d) upon confirmation, if transmission by facsimile is combined with a phone call to the Rights Agent notifying it of such transmission, all addressed (until another address is filed in writing by the Rights Agent with the Company) as follows:

American Stock Transfer & Trust Company, LLC  
6201 15th Avenue  
Brooklyn, NY 11219  
Attention: Corporate Trust Department

with a copy (which will not constitute notice) to:

American Stock Transfer & Trust Company, LLC  
48 Wall Street, 22nd Floor  
New York, NY 10005  
Attention: Legal Department  
Email: legalteamAST@astfinancial.com

(c) Notices or demands authorized by this Agreement to be given or made by the Company or the Rights Agent to the holder of any Rights Certificate (or, if prior to the Distribution Date, to the holder of certificates representing shares of Common Stock or an Ownership Statement) shall be sufficiently given or made if sent by first-class mail, postage prepaid, addressed to such holder at the address of such holder as shown on the registry books of the Rights Agent (or, if prior to the Distribution Date, of the transfer agent for the shares of Common Stock). Notwithstanding anything in this Agreement to the contrary, prior to the Distribution Date, a filing by the Company with the Securities and Exchange Commission shall constitute sufficient notice to the holders of any Rights or of any Common Shares for purposes of this Agreement.

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Section 26. Supplements and Amendments. Except as otherwise provided in this Section 26, for so long as the Rights are redeemable pursuant to Section 22 hereof, the Company may in its sole and absolute discretion, and the Rights Agent shall, if the Company so directs, supplement or amend any provision of this Agreement in any respect without the approval of any holders of Rights. From and after the time at which the Rights cease to be redeemable pursuant to Section 22 hereof, the Company may and the Rights Agent shall, if the Company so directs, supplement or amend this Agreement without the approval of any holders of Rights in order (i) to cure any ambiguity, (ii) to correct or supplement any provision contained herein which may be defective or inconsistent with any other provisions herein, (iii) to shorten or lengthen any time period hereunder, or (iv) to amend or supplement the provisions hereunder in any manner which the Company may deem necessary or desirable; provided, however, that no such supplement or amendment shall adversely affect the interests of the holders of Rights (other than an Acquiring Person or any Affiliate or Associate of an Acquiring Person or certain of their transferees), and no such amendment may cause the Rights again to become redeemable or cause this Agreement again to become amendable other than in accordance with this sentence. Upon the delivery of a certificate from an Authorized Officer of the Company which states that the proposed supplement or amendment is in compliance with the terms of this Section 26, the Rights Agent shall execute such supplement or amendment. Notwithstanding anything herein to the contrary, the Rights Agent shall not be obligated to enter into any supplement or amendment that affects the Rights Agent's own right, duties, obligations or immunities under this Agreement.

Section 27. Successors. All the covenants and provisions of this Agreement by or for the benefit of the Company or the Rights Agent shall bind and inure to the benefit of their respective successors and assigns hereunder.

Section 28. Determinations and Actions by the Board.

(a) For all purposes of this Agreement, any calculation of the number of shares of Common Stock or any other class of capital stock outstanding at any particular time, including for purposes of determining the particular percentage of such outstanding shares of Common Stock of which any Person is the Beneficial Owner, shall be made in accordance with, as the Board of Directors deems to be applicable, the last sentence of Rule 13d-3(d)(1)(i) of the General Rules and Regulations under the Exchange Act or the provisions of Section 382 of the Code, or any successor provision or replacement provision.

(b) The Board shall have the exclusive power and authority to administer this Agreement and to exercise all rights and powers specifically granted to the Board or to the Company, or as may be necessary or advisable in the administration of this Agreement, including, without limitation, the right and power to (i) interpret the provisions of this Agreement, and (ii) make all determinations and calculations deemed necessary or advisable for the administration of this Agreement (including, without limitation, a determination to redeem or not redeem the Rights or amend this Agreement).

(c) All such actions, calculations, interpretations and determinations which are done or made by the Board in good faith shall be final, conclusive and binding on the Company, the Rights Agent, the holders of the Rights and all other parties. Unless otherwise notified, the Rights Agent shall always be entitled to assume that the Board acted in good faith and the Rights Agent shall be fully protected and shall incur no liability in reliance thereon.

Section 29. Benefits of this Agreement. Nothing in this Agreement shall be construed to give to any Person other than the Company, the Rights Agent and the registered holders of the Rights Certificates (and, prior to the Distribution Date, registered holders of shares of Common Stock) any legal or equitable right, remedy or claim under this Agreement; but this Agreement shall be for the sole and exclusive benefit of the Company, the Rights Agent and the registered holders of the Rights Certificates (and, prior to the Distribution Date, registered holders of shares of Common Stock).

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Section 30. Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction or other authority to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions of this Agreement shall remain in full force and effect and shall in no way be affected, impaired or invalidated; provided, however, that notwithstanding anything in this Agreement to the contrary, if any such term, provision, covenant or restriction is held by such court or authority to be invalid, void, or unenforceable and the Board determines in its good faith judgment that severing the invalid language from this Agreement would adversely affect the purpose or effect of this Agreement, the right of redemption set forth in Section 22 hereof shall be reinstated and shall not expire until the Close of Business on the tenth (10<sup>th</sup>) Business Day following the date of such determination by the Board.

Section 31. Governing Law. This Agreement, each Right and each Rights Certificate issued hereunder shall be deemed to be a contract made under the laws of the State of Delaware and for all purposes shall be governed by and construed in accordance with the laws of such State applicable to contracts made and to be performed entirely within such State.

Section 32. Counterparts; Facsimiles and PDFs. This Agreement may be executed in any number of counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument. A facsimile or pdf signature delivered electronically shall constitute an original signature for all purposes.

Section 33. Descriptive Headings. Descriptive headings of the several sections of this Agreement are inserted for convenience only and shall not control or affect the meaning or construction of any of the provisions hereof.

Section 34. Force Majeure. Notwithstanding anything to the contrary contained herein, the Rights Agent shall not be liable for any delays or failures in performance resulting from acts beyond its reasonable control including, without limitation, acts of God, terrorist acts, shortage of supply, breakdowns or malfunctions, interruptions or malfunction of computer facilities, or loss of data due to power failures or mechanical difficulties with information storage or retrieval systems, labor difficulties, war, or civil unrest.

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IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed, all as of the day and year first above written.

**RUBICON TECHNOLOGY, INC.**

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

Name: Timothy E. Brog  
Title: Chief Executive Officer

**AMERICAN STOCK TRANSFER & TRUST COMPANY, LLC**

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

Name: Michael A. Nespoli  
Title: Executive Director

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**RUBICON TECHNOLOGY INC**  
**900 EAST GREEN STREET**  
**UNIT A**  
**BENSENVILLE, IL 60106**

**VOTE BY INTERNET - [www.proxyvote.com](http://www.proxyvote.com)**

Use the Internet to transmit your voting instructions and for electronic delivery of information. Vote by 11:59 P.M. ET on 07/15/2020. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

**ELECTRONIC DELIVERY OF FUTURE PROXY MATERIALS**

If you would like to reduce the costs incurred by our company in mailing proxy materials, you can consent to receiving all future proxy statements, proxy cards and annual reports electronically via e-mail or the Internet. To sign up for electronic delivery, please follow the instructions above to vote using the Internet and, when prompted, indicate that you agree to receive or access proxy materials electronically in future years.

**VOTE BY PHONE - 1-800-690-6903**

Use any touch-tone telephone to transmit your voting instructions. Vote by 11:59 P.M. ET on 07/15/2020. Have your proxy card in hand when you call and then follow the instructions.

**VOTE BY MAIL**

Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

KEEP THIS PORTION FOR YOUR RECORDS

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 THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.  
 DETACH AND RETURN THIS PORTION ONLY

The Board of Directors recommends you vote FOR proposals 1 through 5.

	For	Against	Abstain
1. Approval of an amendment to our Certificate of Incorporation to declassify the Board of Directors and provide for the annual election of directors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Ratification of the Company's Section 382 Rights Agreement and approval of a three year extension thereof	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Election of one director to serve a one-year term (or if Proposal 1 is not approved, Election of one Class I director to serve a three-year term)  Nominee is Susan Westphal  <input type="checkbox"/> For Nominee <input type="checkbox"/> Withhold Vote			
4. Ratification of the selection of Marcum LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2020	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. A non-binding advisory vote to approve the compensation of our named executive officers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**NOTE:** Such other business as may properly come before the meeting or any adjournment thereof.

Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name by authorized officer.

Signature [PLEASE SIGN WITHIN BOX]	Date

Signature (Joint Owners)	Date

**Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting:** The Notice & Proxy Statement and Form 10-K are available at [www.proxyvote.com](http://www.proxyvote.com)

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**RUBICON TECHNOLOGY, INC.**  
**THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF**  
**DIRECTORS**

The undersigned, revoking all prior proxies, hereby appoints Timothy E. Brog and Mathew Rich, as proxy, with full power of substitution, to vote the undersigned's shares of common stock of Rubicon Technology, Inc. at the annual meeting of stockholders to be held at 900 East Green Street Bensenville Illinois 60106, on July 16, 2020, at 8:30 a.m. local time, and at any adjournment, postponement or rescheduling thereof, on all matters

coming before the annual meeting.

**The proxy will vote your shares: (1) as you specify on the back of this proxy card, (2) as the Board of Directors recommends where you do not specify your voting instructions on Proposals 1, 2, 3 and 4.**

**Continued and to be signed on reverse side**

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