Exhibit 4.6

Form of Amendment No. 1 to Rights Agreement between Mattson Technology Inc. and Mellon Investor Services, LLC as Rights Agent.

AMENDMENT No. 1 TO RIGHTS AGREEMENT

This AMENDMENT No. 1 TO RIGHTS AGREEMENT (the "Amendment") is entered into as of the __ day of January, 2007, between Mattson Technology, Inc., a Delaware corporation (the "Company"), and Mellon Investor Services, LLC, a New Jersey limited liability company, as rights agent (the "Rights Agent"). Capitalized terms not defined herein shall have the meanings given them in the Rights Agreements (as defined below).

RECITALS

A. Pursuant to that certain Rights Agreement dated as of July 28, 2005, (the "Rights Agreement"), the Board of Directors of the Company (i) authorized the issuance and declared a dividend of one right (a "Right") for each share of the common stock, par value $0.001 per share, of the Company outstanding as of the close of business on August 15, 2005 (the "Record Date"), each Right representing the right to purchase one one-thousandth of a share of Series A Preferred Stock of the Company, having the rights, powers and preferences as set forth in a Certificate of Designation filed with the Delaware Secretary of State and made a part of the Company's Certificate of Incorporation, upon the terms and subject to the conditions set forth in the Rights Agreement, and (ii) further authorized the issuance of one Right with respect to each share of common stock of the Company that shall become outstanding between the Record Date, and the Distribution Date.

B. Pursuant to Section 27 of the Rights Agreement, the Company and the Rights Agent may, so long as the Rights are then redeemable, amend any provision of the Rights Agreement, as determined by the Company in its sole discretion.

C. To the knowledge of the Board of Directors of the Company, there has been no occurrence of a Flip-In Event, nor has the Expiration Date occurred, and accordingly the Rights are currently redeemable pursuant to Section 23 of the Rights Agreement.

D. The Board of Directors of the Company has determined that it is in the best interest of the Company and its stockholders to amend the Rights Agreement as set forth herein.

E. The Company has requested that the Rights Agreement be amended in accordance with Section 27 of the Rights Agreement, as set forth herein, and the Rights Agent is willing to amend the Rights Agreement as set forth herein.

AGREEMENT

NOW, THEREFORE, the parties, intending to be legally bound, hereby agree as follows:

1. Section 1(a) of the Rights Agreement is hereby amended to read in its entirety as follows:

"Acquiring Person" shall mean any Person (as such term is hereinafter defined) who or which, together with all Affiliates (as such term is hereinafter defined) and Associates (as such term is hereinafter defined) of such Person shall be the Beneficial Owner (as such term is hereinafter defined) of fifteen percent (15%) or more of the outstanding Common Stock of the Company, without the prior approval of the Company's Board of Directors; provided, however, that in no event shall a Person who or which, together with all Affiliates and Associates of such Person, is the Beneficial Owner of less than 15% of the Company's outstanding Common Stock, become an Acquiring Person solely as a result of a reduction of the number of shares of outstanding Common Stock, including repurchases of outstanding shares of Common Stock by the Company, which reduction increases the percentage of outstanding shares of Common Stock beneficially owned by such Person, provided, further, that if a Person shall become the Beneficial Owner of 15% or more of the Company's outstanding Common Stock then outstanding solely by reason of a reduction of the number of shares of outstanding Common Stock, and shall thereafter become the Beneficial Owner of any additional shares of Common Stock of the Company, then such Person shall be deemed to be an Acquiring Person unless upon the consummation of the acquisition of such additional shares of Common Stock such person does not own 15% or more of the shares of Common Stock then outstanding. An Acquiring Person shall not include an Exempt Person (as such term is hereinafter defined) or a Grandfathered Person (as such term is hereinafter defined); provided further that a Grandfathered Person shall become an Acquiring Person if, (i) without the prior approval of the Board of Directors, the Grandfathered Person becomes the Beneficial Owner of more than 18% of the Company's Common Stock;

but (ii) the Grandfathered Person shall not become an Acquiring Person solely by reason of a reduction of the number of shares of outstanding Common Stock. Notwithstanding the foregoing, if (i) either (X) the Board of Directors of the Company determines in good faith that a Person who would otherwise be an Acquiring Person, as defined pursuant to the foregoing provisions of this paragraph (a), has become such inadvertently (including, without limitation, because (A) such Person was unaware that it beneficially owned a percentage of Common Stock that would otherwise cause such Person to be an Acquiring Person or (B) such Person was aware of the extent of its Beneficial Ownership but had no actual knowledge of the consequences of such Beneficial Ownership under this Rights Agreement) and without any intention of changing or influencing control of the Company, or (Y) within two Business Days of being requested by the Company to advise the Company regarding same, such Person certifies in writing that such Person acquired Beneficial Ownership of 15% or more of the Company's outstanding Common Stock inadvertently or without knowledge of the terms of the Rights, and (ii) 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," as defined pursuant to the foregoing provisions of this paragraph (a), then such Person shall not be deemed to be or to have become an "Acquiring Person" for any purposes of this Rights Agreement.

2. Section 1(v) of the Rights Agreement is hereby amended to read in its entirety as follows:

"Grandfathered Person" shall mean NWQ Investment Management Company, LLC, which shall be and remain a Grandfathered Person whether or not it ceases to Beneficially Own in excess of 15% of the Company's Common Stock.

This Amendment shall be deemed effective as of June 21, 2006, the date of approval by the Board of Directors of the Company, as if executed by both parties on such date. Except as amended hereby, the Rights Agreement shall remain unchanged and shall remain in full force and effect.

This Amendment may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one instrument.

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

MATTSON TECHNOLOGY, INC.

By:_____
Name:
Title:

MELLON INVESTOR SERVICES, LLC
As Rights Agent

By:_____
Name:
Title: