

SEVERANCE AND EXECUTIVE CHANGE OF CONTROL AGREEMENT

THIS SEVERANCE AND EXECUTIVE CHANGE OF CONTROL AGREEMENT (this "Agreement") is dated as of January 4, 2012 (the "Effective Date"), by and between Mattson Technology, Inc., (the "Company"), and J. Michael Dodson (the "Executive").

RECITALS

WHEREAS, the Company desires to create a greater incentive for the Executive to remain in the employ of the Company, particularly in the event of any possible change or threatened change of control of the Company; and

WHEREAS, the parties desire to memorialize their agreement with respect thereto in the manner set forth herein,

NOW, THEREFORE, in consideration of the Executive's past and future services to the Company and the mutual covenants contained herein, the receipt and adequacy of which is hereby acknowledged, the parties hereto hereby agree as follows:

AGREEMENT

1. Termination by Company Without Cause. If the Executive's employment with the Company is terminated by the Company for any reason other than for "Good Cause" as defined in Section 8 herein, and such termination is not within a "Change of Control Period" as defined in Section 8 herein, Executive shall be entitled to the following benefits:

(a) Final Paycheck. Payment, in a lump sum, of any and all base salary due and owing through the date of termination, plus an amount equal to all earned but unused PTO hours through the date of termination and reimbursement for all reasonable expenses, less any deductions required by applicable law; and

(b) Severance Payment. A cash payment in an amount equal to the Executive's then-current annual base salary plus fifty percent (50%) of the Executive's prior year's bonus award; and

(c) Medical and Dental Benefits. For a period of twelve (12) months beginning on the first day of the calendar month beginning after the date of termination of employment, provided that Executive completes and returns the appropriate enrollment forms to the respective provider in a timely manner, the Company shall reimburse Executive for the cost of Executive's and his or her dependent's (to the extent such dependents were covered under the Company's group plans) medical and dental benefit coverage under the Consolidated Omnibus Budget Reconciliation Act of 1985 ("COBRA") to the same extent provided for by the Company's group plans at the time of termination. In the event Executive becomes covered under another employer's group health plan that provides Executive and his or her dependents with comparable benefits and levels of coverage during this 12-month period, Executive shall notify Company and Company's obligation to

reimburse Executive for continued medical and dental benefits coverage shall end. The period of such Company-reimbursed COBRA coverage shall be considered part of Executive's COBRA coverage entitlement period, and may, for tax purposes, be considered income to Executive. In addition, and notwithstanding anything to the contrary in this clause (c), if the Company determines in its sole and reasonable discretion that it cannot reimburse Executive the COBRA premiums without potentially violating applicable law (including, without limitation, Section 2716 of the Public Health Service Act), the Company will in lieu thereof provide to Executive a taxable monthly payment in an amount equal to the monthly COBRA premium that Executive would be required to pay to continue his or her (and to the extent applicable, his or her dependents) medical and dental benefit coverage in effect on the date of such termination, which payments will be made regardless of whether the Executive elects COBRA continuation coverage.

2. Termination Following a Change of Control. If the Executive's employment with the Company is terminated (i) by the Company for any reason other than for "Good Cause" as defined in Section 8 herein, or (ii) by Executive for "Good Reason" as defined in Section 8 herein, with thirty (30) days written notice to the Company, and either such termination is within the "Change of Control Period" as defined in Section 8 herein, Executive shall be entitled to the following benefits:

(a) Final Paycheck. Payment, in a lump sum, of any and all base salary due and owing through the date of termination, plus an amount equal to all earned but unused PTO hours through the date of termination and reimbursement for all reasonable expenses, less any deductions required by applicable law; and

(b) Severance Payment. A cash payment in an amount equal to (i) the greater of (A) the Executive's base salary for the twelve (12) months preceding the Change of Control or (B) the Executive's then-current annual base salary, plus (ii) one hundred percent (100%) of the Executive's annual target bonus award; and

(c) Accelerated Vesting. All unvested Awards (as defined in the 2005 Equity Incentive Plan, which shall be referred to as the "Stock Plan") outstanding as of the date of termination of employment shall fully vest; and

(d) Medical and Dental Benefits. For a period of twelve (12) months beginning on the first day of the calendar month beginning after the date of termination of employment, provided that Executive completes and returns the appropriate enrollment forms to the respective provider in a timely manner, the Company shall reimburse Executive for the cost of Executive's and his or her dependent's (to the extent such dependents were covered under the Company's group plans) medical and dental benefit coverage under the Consolidated Omnibus Budget Reconciliation Act of 1985 ("COBRA") to the same extent provided for by the Company's group plans at the time of termination. In the event Executive becomes covered under another employer's group health plan that provides Executive and his or her dependents with comparable benefits and levels of coverage during this 12-month period, Executive shall notify Company and Company's obligation to reimburse Executive for continued medical and dental benefits coverage shall end. The period of such Company-reimbursed COBRA coverage shall be considered part of Executive's COBRA coverage entitlement period, and may, for tax purposes, be considered income to Executive. In addition, and notwithstanding anything to the contrary in this clause (d), if the Company determines

in its sole and reasonable discretion that it cannot reimburse Executive the COBRA premiums without potentially violating applicable law (including, without limitation, Section 2716 of the Public Health Service Act), the Company will in lieu thereof provide to Executive a taxable monthly payment in an amount equal to the monthly COBRA premium that Executive would be required to pay to continue his or her (and to the extent applicable, his or her dependents) medical and dental benefit coverage in effect on the date of such termination, which payments will be made regardless of whether the Executive elects COBRA continuation coverage.

3. Timing of Payments.

(a) The payments provided for in Sections 1(a) and 2(a) herein, as applicable, shall be payable immediately upon Executive's termination.

(b) The receipt of any benefits pursuant to Sections 1(b) and (c) and 2(b), (c), and (d) will be subject to Executive signing and not revoking a standard release of claims with the Company (in a form acceptable to the Company (the "Release")) and the Release becoming effective and irrevocable no later than sixty (60) days following the termination date. The benefits provided for in Sections 1(b) and (c) and 2(b), (c), and (d) herein, as applicable, shall be made within ten (10) days of the date that the Release is effective and irrevocable, subject to the provisions of Section 7. All such payments will be subject to applicable payroll or other taxes required to be withheld by the Company. Benefits provided for in Section 2(c) shall be made in accordance with the Stock Plan, subject to any delay required by Section 7.

4. Subsequent Employment. The compensation and benefits payable hereunder with the exception of those benefits provided for under Sections 1(c) and 2(d), shall not be reduced or offset by any amounts that the Executive earns or could earn from any subsequent employment.

5. Section 280G Matters. If the benefits described in Sections 1 and 2 herein, as applicable, (the "Severance Payment") would otherwise constitute a parachute payment under Section 280G of the Internal Revenue Code of 1986, as amended (the "Code"), and but for this Section would be subject to the excise tax imposed by Section 4999 of the Code (the "Excise Tax"), Executive shall either: (i) pay the Excise Tax, or (ii) have the benefits reduced to such lesser extent as would result in no portion of such benefits being subject to the Excise Tax, whichever of the foregoing amounts, taking into account the applicable federal, state and local income taxes and the Excise Tax, results in the receipt by Executive on an after-tax basis, of the greatest amount of benefits, notwithstanding that all or some portion of such benefits may be taxable under Section 4999 of the Code. Unless the Company and Executive otherwise agree in writing, any determination required under this Section 5 will be made in writing by a national "Big Four" accounting firm selected by the Company or such other person or entity to which the parties mutually agree (the "Accountants"), whose determination will be conclusive and binding upon Executive and the Company for all purposes. For purposes of making the calculations required by this Section 5, the Accountants may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code. The Company and the Executive shall furnish to the Accountants such information and documents as the Accountants may reasonably request in order to make a determination under this Section. The Company shall bear all costs the Accountants may

reasonably incur in connection with any calculations contemplated by this Section 5. Any reduction in payments and/or benefits required by this Section 5 shall occur in the following order: (1) reduction of cash payments; (2) reduction of vesting acceleration of equity awards; and (3) reduction of other benefits paid to Executive. In the event that acceleration of vesting of equity awards is to be reduced, such acceleration of vesting shall be cancelled in the reverse order of the date of grant for Executive's equity awards.

6. Employment Status. Nothing in this Agreement shall be deemed to constitute a contract for employment for any specific period of time. The parties expressly acknowledge and agree that the Executive's employment with the Company shall continue to be "at will."

7. Section 409A.

(a) Notwithstanding anything to the contrary in this Agreement, no Deferred Compensation Separation Benefits (as defined below) will be paid or otherwise provided until Executive has a "separation from service".

(b) Any severance or benefits under this Agreement that would be considered Deferred Compensation Separation Benefits will be paid on, or, in the case of installments, will not commence until, the sixtieth (60th) day following Executive's separation from service, or if later, such time as required by Section 7(c). Any installment payments that would have been made to Executive during the sixty (60) day period immediately following Executive's separation from service but for the preceding sentence will be paid to Executive on the sixtieth (60th) day following Executive's separation from service and the remaining payments will be made as provided in this Agreement.

(c) Notwithstanding anything to the contrary in this Agreement, if Executive is a "specified employee" within the meaning of Section 409A of the Internal Revenue Code of 1986, as amended (the "Code") and the final regulations and any guidance promulgated thereunder ("Section 409A") at the time of Executive's termination (other than due to death) or resignation, then the severance payable to Executive, if any, pursuant to this Agreement, when considered together with any other severance payments or separation benefits that are considered deferred compensation under Section 409A (together, the "Deferred Compensation Separation Benefits") that are payable within the first six (6) months following Executive's separation from service, will become payable on the first payroll date that occurs on or after the date six (6) months and one (1) day following the date of Executive's separation from service. All subsequent Deferred Compensation Separation Benefits, if any, will be payable in accordance with the payment schedule applicable to each payment or benefit. Notwithstanding anything herein to the contrary, if Executive dies following his separation from service but prior to the six (6) month anniversary of his separation from service, then any payments delayed in accordance with this paragraph will be payable in a lump sum as soon as administratively practicable after the date of Executive's death and all other Deferred Compensation Separation Benefits will be payable in accordance with the payment schedule applicable to each payment or benefit. Each payment and benefit payable under this Agreement is intended to constitute separate payments for purposes of Section 1.409A-2(b)(2) of the Treasury Regulations.

(d) Any amount paid under this Agreement that satisfies the requirements of the "short-term deferral" rule set forth in Section 1.409A-1(b)(4) of the Treasury Regulations shall not constitute Deferred Compensation Separation Benefits for purposes of clause (c) above.

(e) Any amount paid under this Agreement that qualifies as a payment made as a result of an involuntary separation from service pursuant to Section 1.409A-1(b)(9)(iii) of the Treasury Regulations that do not exceed the Section 409A Limit shall not constitute Deferred Compensation Separation Benefits for purposes of clause (c) above. "Section 409A Limit" will mean the lesser of two (2) times: (i) Executive's annualized compensation based upon the annual rate of pay paid to Executive during the Executive's taxable year preceding the Executive's taxable year of Executive's termination of employment as determined under, and with such adjustments as are set forth in, Treasury Regulation 1.409A-1(b)(9)(iii)(A)(1) and any Internal Revenue Service guidance issued with respect thereto; or (ii) the maximum amount that may be taken into account under a qualified plan pursuant to Section 401(a)(17) of the Code for the year in which Executive's employment is terminated.

(f) The foregoing provisions are intended to comply with the requirements of Section 409A so that none of the severance payments and benefits to be provided hereunder will be subject to the additional tax imposed under Section 409A, and any ambiguities herein will be interpreted to so comply. The Company and Executive agree to work together in good faith to consider amendments to this Agreement and to take such reasonable actions which are necessary, appropriate or desirable to avoid imposition of any additional tax or income recognition prior to actual payment to Executive under Section 409A.

8. Definitions.

(a) Good Cause. For purposes of this Agreement, "Good Cause" means: (i) performance of any act or failure to perform any act in bad faith and to the detriment of the Company, (ii) dishonesty, material breach of any agreement with the Company, or intentional misconduct, or (iii) commission of a crime involving dishonesty, breach of trust, or physical or emotional harm to any person.

(b) Good Reason. For purposes of this Agreement, "Good Reason" means any of the following, without Executive's written consent: (i) a significant reduction by the Company in Executive's annual base salary; (ii) the failure of the Company to obtain an agreement from any successor to the Company, or purchaser of all or substantially all of the Company's assets, to assume this Agreement; (iii) the assignment of Executive to duties which reflect a material adverse change in authority, responsibility or status with the Company or any successor; or (iv) the Company requiring Executive to reside or be based at a location 50 miles or more from the location where Executive was based immediately prior to the Change of Control.

Executive will not resign for Good Reason without first providing the Company with (x) written notice within sixty (60) days of the event that Executive believes constitutes "Good Reason" specifically identifying the acts or omissions constituting the grounds for Good Reason and (y) a reasonable cure period of not less than thirty (30) days following the date of such notice.

(c) Ownership Change Event. For purposes of the definition of "Change of Control" below, an "Ownership Change Event" shall be deemed to have occurred if any of the following occurs with respect to the Company:

(i) the direct or indirect sale or exchange in a single or series of related transactions by the shareholders of the Company of more than fifty percent (50%) of the voting stock of the Company;

(ii) a merger or consolidation in which the Company is a party; or

(iii) the sale, exchange, or transfer of all or substantially all of the assets of the Company.

(d) Change of Control. A "Change of Control" shall mean (i) an Ownership Change Event or a series of related Ownership Change Events (collectively, the "Transaction") wherein the shareholders of the Company immediately before the Transaction do not retain immediately after the Transaction, direct or indirect beneficial ownership of more than fifty percent (50%) of the total combined voting power of the outstanding voting stock of the Company or the surviving corporation or the surviving corporation's parent (the "Transferee Corporation(s)"), as the case may be; or (ii) a liquidation or dissolution of the Company. For purposes of the preceding sentence, indirect beneficial ownership shall include, without limitation, an interest resulting from ownership of the voting stock of one or more corporations which, as a result of the Transaction, own the Company or the Transferee Corporation(s), as the case may be, either directly or through one or more subsidiary corporations. The Board shall have the right to determine whether multiple sales or exchanges of the voting stock of the Company or multiple Ownership Change Events are related, and its determination shall be final, binding and conclusive.

(e) Change of Control Period. "Change of Control Period" means the period commencing on the Company's public announcement of a proposed Change of Control and ending on the earlier of (A) the twelve (12) month period following the consummation of the proposed Change of Control, or (B) the Company's public announcement that the proposed Change of Control will not occur.

9. Termination. This Agreement will have an initial term of two (2) years commencing on the Effective Date. On the second anniversary of the Effective Date, this Agreement will renew automatically for additional one (1) year terms, unless either party provides the other party with written notice of non-renewal at least sixty (60) days prior to the date of automatic renewal. Notwithstanding the foregoing provisions of this paragraph, upon commencement of the Change of Control Period, the term of this Agreement will extend automatically through the date that is twelve (12) months following the effective date of the Change of Control. If Executive becomes entitled to benefits under Section 2 during the term of this Agreement, the Agreement will not terminate until all of the obligations of the parties hereto with respect to this Agreement have been satisfied.

10. Miscellaneous Provisions.

(a) Entire Agreement. This Agreement, together with the Company's Stock Plan, stock option agreements, restricted stock units agreements and/or stock repurchase agreements and any Confidentiality, Proprietary Information and Assignment of Inventions Agreement, contains the entire agreement of the parties with respect to the subject matter herein and supersedes and replaces all prior or contemporaneous agreements or understandings between the parties. This Agreement may not be amended or modified in any manner, except by an instrument in writing signed by the Executive and Chief Executive Officer of the Company. Failure of either party to enforce any of the provisions of this Agreement or any rights with respect thereto or failure to exercise any election provided for herein shall in no way be considered to be a waiver of such provisions, rights or elections or in any way effect the validity of this Agreement. The failure of either party to exercise any of said provisions, rights or elections shall not preclude or prejudice such party from later enforcing or exercising the same or other provisions, rights or elections which it may have under this Agreement.

(b) Successors and Beneficiaries. This Agreement shall be binding on and inure to the benefit of the successors, assigns, heirs, devisees and personal representatives of the parties, including any successor to the Company by merger or combination and any purchaser of all or substantially all of the assets of the Company. In the event that the Executive dies before receipt of all benefits to which the Executive becomes entitled under this Agreement, the payment of such benefits will be made, on the due date or dates hereunder had the Executive survived, to the executors or administrators of the Executive's estate.

(c) Governing Law. This Agreement is made in, and shall be governed by and construed in accordance with the laws of, the State of California.

(d) Severability. If any term, provision, covenant or condition of this Agreement is held to be invalid, void, or unenforceable, the remainder of the provisions of this Agreement shall remain in full force and effect and shall in no way be affected, impaired or invalidated thereby.

[Remainder of page intentionally left blank]

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

"Company"

"Executive"

MATTSON TECHNOLOGY, INC.

J. MICHAEL DODSON

By: _____

Name: David Dutton

Title: Chief Executive Officer, President

Address: _____
