

**PROSPECTUS SUPPLEMENT NO. 6
(TO PROSPECTUS DATED March 31, 2008)**



**2.125% Junior Subordinated Convertible Debentures due 2037
and the Shares of Common Stock Issuable upon Conversion of the Debentures**

This Prospectus Supplement No. 6 supplements the prospectus, dated March 31, 2008, as supplemented by those prospectus supplements, dated April 15, 2008, April 17, 2008, May 15, 2008, June 11, 2008 and June 25, 2008 relating to the resale by selling securityholders of up to \$1,150,000,000 aggregate principal amount of our 2.125% Junior Subordinated Convertible Debentures due 2037 and the shares of common stock issuable upon conversion of the debentures.

This prospectus supplement should be read in conjunction with the prospectus and previous prospectus supplements, and is qualified by reference to the prospectus and previous prospectus supplements, except to the extent that the information presented herein supersedes the information contained in the prospectus or previous prospectus supplements. This Prospectus Supplement No. 6 is not complete without, and may not be delivered or utilized except in connection with, the prospectus, including any amendments or supplements thereto.

Our common stock is quoted on the Nasdaq Global Select Market under the symbol "MCHP." On July 28, 2008, the last quoted sale price of our common stock was \$30.55 per share.

Investing in the debentures or our common stock involves risks. See "Risk Factors" beginning on page 7 of the prospectus dated March 31, 2008.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement, previous prospectus supplements or the prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is July 29, 2008.

SELLING SECURITYHOLDERS

We originally issued the debentures to JP Morgan Securities Inc. and Morgan Stanley & Co. Incorporated, referred to as the initial purchasers, in transactions exempt from the registration requirements of the Securities Act. The debentures were immediately resold by the initial purchasers to persons reasonably believed by the initial purchasers to be “qualified institutional buyers” within the meaning of Rule 144A under the Securities Act in transactions exempt from registration under the Securities Act. Selling securityholders, including their transferees, pledgees or donees or their successors, may from time to time offer and sell the debentures and the common stock into which the debentures are convertible. Our registration of the debentures and the shares of common stock issuable upon conversion of the debentures does not necessarily mean that the selling securityholders will sell all or any of the debentures or the common stock. Except as set forth below, none of the selling securityholders has, or within the past three years has had, any position, office or other material relationship with us or any of our predecessors or affiliates.

The information in the table appearing under the caption “Selling Securityholders” in the prospectus dated March 31, 2008, is updated and supplemented by adding the information below with respect to persons not previously listed in the prospectus or previous prospectus supplements and by superseding the information with respect to persons previously listed in the prospectus or previous prospectus supplements with the information set forth below. The information is based on information provided by or on behalf of the selling securityholders, and we have not independently verified this information. We have assumed for purposes of the table below that the selling securityholders will sell all of the debentures and all of the common stock issuable upon conversion of the debentures pursuant to the prospectus and this prospectus supplement, and that any other shares of our common stock beneficially owned by the selling securityholders will continue to be beneficially owned.

Information about the selling securityholders may change over time. In particular, the selling securityholders identified below may have sold, transferred or otherwise disposed of all or a portion of their debentures since the date on which they provided to us information regarding their debentures. Any changed or new information given to us by the selling securityholders will be set forth in additional supplements to the prospectus or amendments to the registration statement of which the prospectus is a part, if and when necessary.

The percentage of debentures outstanding beneficially owned by each selling securityholder is based on \$1,150,000,000 aggregate principal amount of 2.125% Junior Subordinated Debentures due 2037.

2.125% Junior Subordinated Convertible Debentures Due 2037 Selling Securityholder Table – Updated July 29, 2008

Name of Selling Securityholder	Principal Amount of Debentures Beneficially Owned and Offered (USD)	Percentage of Debentures Outstanding (%)	Number of Shares of Common Stock Beneficially Owned (1)(2)	Number of Shares of Common Stock Offered (1)	Number of Shares of Common Stock Beneficially Owned after the Offering (2)(5)	Natural Person(s) with Voting or Investment Power
Acropole AM	3,000,000	*	89,509	89,509	0	Emmanuel Martin

* Less than one percent (1%).

The selling securityholder is a registered broker-dealer

+ The selling securityholder is an affiliate of a registered broker-dealer

(1) Assumes conversion of all of the holder’s debentures at a conversion rate of 29.8366 shares of common stock per \$1,000 principal amount at maturity of the debentures. This conversion rate is subject to adjustment as described under “Description of Debentures—Conversion Rights.” As a result, the number of shares of common stock issuable upon conversion of the debentures may increase or decrease in the future. Further, pursuant to the terms of the debentures, upon conversion, we will deliver shares of our common stock, cash or a combination thereof, at our option. Accordingly, the number of shares of our common stock we actually deliver upon conversion of any debentures could be lower than the numbers shown for any holder of debentures in this table above. Excludes shares of common stock that may be issued by us upon the repurchase of the debentures as described under “Description of Debentures—Repurchase of the Debentures by Us at the Option of Holders Upon a Fundamental Change” and fractional shares. Holders will receive a cash adjustment for any fractional share amount resulting from conversion of the debentures, as described under “Description of Debentures—Conversion Rights.”

(2) The number of shares of common stock beneficially owned by each holder named above is less than 1% of our outstanding common stock, calculated based on 188,804,070 shares of common stock outstanding as of February 1, 2008. In calculating this amount for each holder, we treated as outstanding the number of shares of common stock issuable upon conversion of all of that holder’s debentures, but we did not assume conversion of any other holder’s debentures.

- (3) The selling securityholder has informed us that there are no natural persons with voting or investment power over the debentures and common stock issuable upon conversion of the debentures.
- (4) Information concerning named selling securityholders or future transferees, pledgees or donees of or from any such securityholder will be set forth in supplements to the prospectus, absent circumstances indicating the change is material. In addition, post-effective amendments to the registration statement, of which the prospectus is a part, will be filed to disclose any material changes to the plan of distribution from the description in the final prospectus, or additions or changes with respect to unnamed selling securityholders or future transferees, pledgees or donees from such unnamed holders.
- (5) For the purposes of computing the number and percentage of debentures and shares to be held by the selling shareholders after the conclusion of the offering, we have assumed for purposes of the table above that the selling securityholders named above will sell all of the debentures and all of the common stock issuable upon conversion of the debentures offered by the prospectus, and that any other shares of our common stock beneficially owned by these selling securityholders will continue to be beneficially owned. We also assume that unnamed holders of debentures, or any future transferees, pledges, donees or successors of or from any such holder, do not beneficially own any common stock other than that issuable upon conversion of the debentures.

Information about other selling securityholders will be set forth in additional prospectus supplements or post-effective amendments, if required. Information about the selling securityholders may change from time to time, and we may not be made aware of all changes in the ownership of our debentures.

Beneficial ownership is determined under the rules of the SEC, and generally includes voting or investment power with respect to securities.

None of the selling securityholders who are affiliates of broker-dealers purchased the securities outside of the ordinary course of business or, at the time of the purchase of the securities, had any agreements or understandings, directly or indirectly, with any person to distribute the securities.

