

**ANALYSIS OF AGREEMENT CONTAINING CONSENT ORDER  
TO AID PUBLIC COMMENT  
*In the Matter of Broadcom Limited and  
Brocade Communications Systems, Inc., File Number 171-0027***

**INTRODUCTION**

The Federal Trade Commission (“Commission”) has accepted, subject to final approval, an Agreement Containing Consent Order (“Consent Agreement”) from Broadcom Limited (“Broadcom”) and Brocade Communications Systems, Inc. (“Brocade”), designed to remedy the anticompetitive effects resulting from Broadcom’s proposed acquisition of Brocade.

Pursuant to an Agreement and Plan of Merger dated November 1, 2016, the parties agreed that Broadcom would acquire Brocade for \$5.9 billion, including assuming \$400 million in debt (“the Acquisition”). The Commission’s Complaint alleges that the proposed Acquisition, if consummated, would violate Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18, and Section 5 of the FTC Act, as amended, 15 U.S.C. § 45, by substantially lessening competition in the worldwide market for fibre channel switches. The Complaint alleges that Broadcom’s access to Cisco’s competitively sensitive confidential information, provided in furtherance of its ongoing supply relationship for application specific integrated circuits (“ASICs”) with Broadcom, may substantially lessen competition by increasing the likelihood that Broadcom may unilaterally exercise market power or by increasing the likelihood of coordinated interaction between the two competitors in the fibre channel switch market.

Under the terms of the proposed Decision and Order (“Order”) contained in the Consent Agreement, Broadcom is required to implement firewalls preventing the flow of Cisco’s confidential business information outside of an identified group of relevant Broadcom employees, and requires a monitor to oversee compliance with the firewall provisions. The proposed remedy effectively addresses the potential for competitive harm resulting from Broadcom misusing Cisco’s competitively sensitive confidential information.

The Consent Agreement has been placed on the public record for 30 days to solicit comments from interested persons. Comments received during this period will become part of the public record. After 30 days, the Commission will again review the Consent Agreement and the comments received, and decide whether it should withdraw from the Consent Agreement, modify it, or make it final.

**THE PARTIES**

Headquartered in both Singapore and San Jose, California, Broadcom is a publically traded global developer and supplier of semiconductor products. Broadcom’s enterprise storage group specializes in designing, producing, and selling a broad array of integrated circuits used in fibre channel and Ethernet network environments, including ASICs for fibre channel switches.

Headquartered in San Jose, California, Brocade is a data storage and networking company. Brocade is the leading manufacturer of fibre channel switches, and also sells wireless networking equipment, Ethernet switches, and software solutions for networks.

## **THE RELEVANT MARKET AND MARKET STRUCTURE**

The relevant line of commerce in which to analyze the effects of the Acquisition is fibre channel switches. The fibre channel switch is part of a fibre channel storage area network, which employs the fibre channel interconnect protocol to enable stable, high-throughput data transfers between servers and storage arrays in data centers. Fibre channel switches provide quick and secure access to large amounts of data and are often used for mission-critical applications. Fibre channel switch customers would not turn to alternative switching technologies in response to a small but significant price increase because doing so would involve significant business risk and expense.

Each fibre channel switch contains an ASIC, which is an integrated circuit that is custom-tailored to carry out the functions of the fibre channel switch. It is the most costly and technically complex component of the switch. The ASIC is designed through a collaboration between the switch manufacturer and an ASIC provider. Switch manufacturers typically develop proprietary intellectual property, and ASIC providers, add intellectual property libraries, design oversight capabilities, and oversee the production of the ASICs at a third-party foundry in order to create a commercial ASIC for a switch manufacturer.

The relevant geographic market in which to analyze the effects of the Acquisition on the fibre channel switch market is worldwide. Fibre channel switches are produced in facilities worldwide. The size and weight of fibre channel switches generally allow for economical shipping to downstream customers located throughout the world.

The worldwide market for fibre channel switches is highly concentrated, consisting of a duopoly between Brocade and Cisco. The fibre channel market has been flat to slowly declining over the past several years.

## **EFFECTS OF THE ACQUISITION**

The Complaint alleges that as a result of its ongoing ASIC supply relationship with Cisco, Broadcom will continue to have extensive access to Cisco's competitively sensitive confidential information. Without proper safeguards, Broadcom could misuse that information, leading to anticompetitive conduct that could make Cisco a less effective competitor, or increase the likelihood of coordinated interaction between the two remaining fibre channel switch competitors, in turn increasing the probability that customers would pay higher prices for fibre channel switches and that innovation would be lessened.

## **ENTRY**

Entry into the worldwide fibre channel switch market is not likely to occur in a timely, likely, or sufficient magnitude, character and scope to deter or counteract any anticompetitive effects created by the proposed Acquisition. Entry is unlikely in light of slowly declining demand for fibre channel switches in a mature market, customers that tend to stay with one fibre channel switch manufacturer for extended periods of time, and the significant capital costs required for entry.

## **THE CONSENT AGREEMENT**

To remedy the alleged competitive concern stemming from Broadcom's access to Cisco's competitively sensitive confidential information, the consent decree prevents the Cisco information from being shared among Broadcom employees who could use such information to raise prices or lessen innovation.

Pursuant to the proposed Order, only authorized individuals will have access to Cisco's competitively sensitive confidential information that is given to the firewalled entity, which is defined as Broadcom's business group responsible for the development, production, sale, and marketing of fibre channel ASICs for Cisco. The firewalled entity will have separate facilities and a separate information technology system with security protocols assuring access only to the authorized individuals. Furthermore, Broadcom shall require all authorized individuals to sign a non-disclosure agreement, requiring compliance with the terms of the proposed Order. Additionally, the proposed Order provides for a cooling off period whereby any authorized individual who leaves his or her position at the firewalled entity will not work in the development, production, sale, or marketing of fibre channel ASICs for Brocade's business unit or in the development, production, sales, and marketing of fibre channel switches for twelve months.

The proposed Order also requires Broadcom to use Cisco's competitively sensitive confidential information only in furtherance of the design, manufacturing, and sale of fibre channel ASICs for Cisco. Moreover, Broadcom will be required to take all actions necessary to prevent access to, or the disclosure or use of Cisco's competitively sensitive confidential information by or to anyone who is not an authorized individual. The proposed Order also incorporates by reference non-disclosure provisions contained in four prior private Confidentiality Agreements that Broadcom, or its predecessor, signed with Cisco.

To ensure compliance with the proposed Order, the Commission will appoint a Monitor to oversee Broadcom's and Brocade's performance of their obligations pursuant to the Consent Agreement. The Monitor will be appointed to a five-year term, but the Commission may extend or modify the term as appropriate up to a ten-year period. Further, the Consent Agreement contains appropriate reporting requirements.

## **OPPORTUNITY FOR PUBLIC COMMENT**

The purpose of this analysis is to facilitate public comment on the proposed Consent Agreement to aid the Commission in determining whether it should make the proposed Consent Agreement final. This analysis is not an official interpretation of the proposed Consent Agreement and does not modify its terms in any way.