

WinterGreen Research, INC.

**Digital Crosspoint Switches and Mux / DeMux: Market Shares,
Strategies, and Forecasts, Worldwide, 2012 to 2018**

**Digital Crosspoint Switches and Mux / DeMux: Transport Efficiency Needed
to Carry Broadband Signals**



Torrie The Cat in the Tulips

Picture by Susan Eustis

WinterGreen Research, Inc.

Lexington, Massachusetts

www.wintergreenresearch.com

REPORT # SH25349991

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166 TABLES AND FIGURES

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CHECK OUT THESE KEY TOPICS

Crosspoint Switch
Muxbuffer
Portable Consumer Devices
Wireless Handsets
Converged Data And Video
Automotive Crosspoint
Switch
Security Crosspoint Switch
Video Crosspoint Switch
Multimedia Crosspoint
Switch
Carrier Crosspoint Switch
Crosspoint Switch Power
Conservation
Multistage Crosspoint
Switching
High Speed Networks Drive
Crosspoint Switch Adoption
Backplane Efficiency
Ethernet Adoption at Desktop
Storage Industry Adoption of
Crosspoint Switches

Crosspoint Switch Matrix
With Input And Output
Crosspoint Switch on
Internet
Network Access
Enterprise Networks
Metropolitan Area Networks
Crosspoint Switch
Architecture
Transport Networks
Optical Transport
Digital Optical Networks
Core Networks
Metro Networks
TransNet / TransConnect
Ethernet Mobile Backhaul
Mobile Backhaul
Digital Optical Network
Photonic Integrated Circuits
Digital Line Module

OTN
ROADM
Tunable optics
Pluggable optics
ASON/GMPLS
Data switching
ODB capability
Optimized optical transport
infrastructure
100 Gigabit Ethernet
40 Gigabit Ethernet
High-Bandwidth
Fiber Transmission
Spectral Efficiency
Network Construction
Internet Protocol Traffic
Mobile Backhaul

MuxBuffer
Portable Consumer Devices
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Automotive Crosspoint Switch
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Crosspoint Switch Power
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Ethernet Adoption at Desktop
Storage Industry Adoption of
Crosspoint Switches

Crosspoint Switch Matrix With
Input And Output
Crosspoint Switch on Internet
Network Access
Enterprise Networks
Metropolitan Area Networks

Digital Crosspoint Switches and Buffers: Addressing Device Proliferation, Broadband, and Backhaul Network Growth



**Digital Crosspoint Switches and Muxes: Market Shares, Strategies, and
Forecasts, Worldwide, 2012-2018**

LEXINGTON, Massachusetts (October 10, 2012) – WinterGreen Research announces that it has published a new study **Digital Crosspoint Switches and Buffers: Market Shares, Strategy, and Forecasts, Worldwide, 2012 to 2018**. The 2012 study has 541 pages, 166 tables and figures. Market growth is related to the explosion of digital information and video that needs to be transported over public and private networks.

Worldwide digital communication and data center communication markets include digital signals for video as well. Digital information may represent data or voice traffic. A large number of protocols particularly those specific to the data center are supported by digital crosspoint switches. Markets are poised to achieve significant growth as equipment manufacturers find ways to design crosspoint switches and buffers into products, giving significant new functionality.

Digital crosspoint switches are used in high rate data transfer situations to support integration of information in data centers and by carriers. Broadcast quality video transport of data on the Internet is evolving new applications including those at every level of the supply chain, creating demand at the high end for crosspoint switches.

High quality, high speed data and video transport is part of the evolution of broadband networks. Data within the data center is being moved to storage devices and through networks. Data is moving across regional and international locations at a more rapid pace.

According to Susan Eustis, lead author of the WinterGreen Research team that prepared the **Digital Crosspoint Switches and Buffers** market research study, “With breakthrough 10 Gbps port capacity, the next generation digital crosspoint switch devices enable a next generation level of performance and architectural options for higher density system designs. These 10 Gbps devices are used to implement the 40 Gbps and 100 Gbps port capacity. High speed data infrastructure for 40 Gbps and 100 Gbps port capacity is being built almost exclusively from 10 Gbps crosspoint switches. The ability to achieve 40 Gbps data transport and routing devices by stringing together 4 10Gbps devices is less expensive than going to a 40 Gbps device.”

Any technology has an adoption curve. Components that start at market prices are subject to economies of scale. They are priced accordingly. Customers have shipments in 1 gig. These devices are getting mature. The price is dropping substantially. The same is happening for 10 Gbps devices.

Companies seem to feel that there is a little life left in the 10 Gbps crosspoint devices due to the recent technology breakthroughs giving some market life to these devices before 25 Gbps and 28 Gbps devices roll into full product release. Full product release is sure to drive prices down for the new units, making it attractive to use smaller crosspoint switches linked together to gain capacity.

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Communications semiconductors demand is increasing. Evolving technology for broadband access is increasing data rates. The increase in network traffic is in part because of the Internet and voice over IP. High speed video transport has become more feasible and is being used more.

A quantum increase in the quantity of data that is being transmitted has occurred. Broadband communications networks are supported in part by advanced digital crosspoint switch devices that permit interconnect functioning to be efficient. They are part of an overall market for network infrastructure equipment and communications semiconductors that offer attractive long-term growth prospects.

Networks are moving to embrace a universal Ethernet protocol. As network bandwidth requirements continue to accelerate, more systems require solutions for high-speed signal integrity problems. Crosspoint switch connectivity product lines sell into carrier and enterprise networking applications.

Products address an increasing need to transport signals at ever increasing speed. Units go across fiber, cable, and copper backplane applications. Incumbent telecommunications carriers, integrated communication service providers, cable multiple service operators, and data center managers are among those worldwide who continue to upgrade and expand legacy portions of their networks. The aim is to accommodate new service offerings. A further aim is to reduce operating costs.

The upgrade and expansion cycle requires the development of a variety of new equipment created from advanced semiconductor solutions. The development of new, next-generation networks is an ongoing effort for both service providers and enterprise data centers.

This study illustrates the digital crosspoint switch market driving forces. It describes the principal competitive factors that impact the success of digital crosspoint switches as they are used to provide chips for high speed data integration management solutions. Market opportunities are addressed in the comprehensive market study that lays out strategy considerations in considerable detail: Markets at \$260.7 million in 2011 are anticipated to reach \$901.1 billion by 2018.

WinterGreen Research is an independent research organization funded by the sale of market research studies all over the world and by the implementation of ROI models that are used to calculate the total cost of ownership of equipment, services, and software. The company has 35 distributors worldwide, including Global Information Info Shop, Market Research.com, Research and Markets, Bloomberg, and Thompson Financial.

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Companies Profiled

Market Leaders

**Texas Instruments / National Semiconductor
MindSpeed**

**Analog Devices
Vitesse**

Market Participants

**Hittite
Intersil
Lattice
LSI**

**Maxim Integrated Technologies
Maxim Revenue
Micrel
Semtech**

Thinklogical

Digital Crosspoint Switches and Mux / DeMux: Market Shares, Strategies, and Forecasts, Worldwide, 2012 to 2018

Report Methodology

This is the 534th report in a series of primary market research reports that provide forecasts in communications, telecommunications, the Internet, computer, software, telephone equipment, health equipment, and energy. Automated process and significant growth potential are priorities in topic selection. The project leaders take direct responsibility for writing and preparing each report. They have significant experience preparing industry studies. Forecasts are based on primary research and proprietary data bases.

Product booking trends, backlog levels and estimated turns levels are tracked to develop accurate forecasts. This information comes from distributors, vendors, and industry observers. The primary research is conducted by talking to customers, distributors and companies. The survey data is not enough to make accurate assessment of market size, so WinterGreen Research looks at the value of shipments and the average price to achieve market assessments. Our track record in achieving accuracy is unsurpassed in the industry. We are known for being able to develop accurate market shares and projections. This is our specialty.

The analyst process is concentrated on getting good market numbers. This process involves looking at the markets from several different perspectives, including vendor shipments. The interview process is an essential aspect as well. We do have a lot of granular analysis of the different shipments by vendor in the study and addenda prepared after the study was published if that is appropriate.

Forecasts reflect analysis of the market trends in the segment and related segments. Unit and dollar shipments are analyzed through consideration of dollar volume of each market participant in the segment. Installed base analysis and unit analysis is based on interviews and an information search. Market share analysis includes conversations with key customers of products, industry segment leaders, marketing directors, distributors, leading market participants, opinion leaders, and companies seeking to develop measurable market share.

Over 200 in depth interviews are conducted for each report with a broad range of key participants and industry leaders in the market segment.

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We establish accurate market forecasts based on economic and market conditions as a base. Use input/output ratios, flow charts, and other economic methods to quantify data. Use in-house analysts who meet stringent quality standards.

Interviewing key industry participants, experts and end-users is a central part of the study. Our research includes access to large proprietary databases. Literature search includes analysis of trade publications, government reports, and corporate literature.

Findings and conclusions of this report are based on information gathered from industry sources, including manufacturers, distributors, partners, opinion leaders, and users. Interview data was combined with information gathered through an extensive review of internet and printed sources such as trade publications, trade associations, company literature, and online databases. The projections contained in this report are checked from top down and bottom up analysis to be sure there is congruence from that perspective.

The base year for analysis and projection is 2010. With 2010 and several years prior to that as a baseline, market projections were developed for 2011 through 2017. These projections are based on a combination of a consensus among the opinion leader contacts interviewed combined with understanding of the key market drivers and their impact from a historical and analytical perspective.

The analytical methodologies used to generate the market estimates are based on penetration analyses, similar market analyses, and delta calculations to supplement independent and dependent variable analysis. All analyses are displaying selected descriptions of products and services.

This research includes reference to an ROI model that is part of a series that provides IT systems financial planners access to information that supports analysis of all the numbers that impact management of a product launch or large and complex data center. The methodology used in the models relates to having a sophisticated analytical technique for understanding the impact of workload on processor consumption and cost.

WinterGreen Research has looked at the metrics and independent research to develop assumptions that reflect the actual anticipated usage and cost of systems. Comparative analyses reflect the input of these values into models.

The variables and assumptions provided in the market research study and the ROI models are based on extensive experience in providing research to large enterprise organizations and data centers. The ROI models have lists of servers from different manufacturers, Systems z models from IBM, and labor costs by category around the world. This information has been developed from WinterGreen research proprietary data bases constructed as a result of preparing market research studies that address the software, energy, healthcare, telecommunications, and hardware businesses.

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YOU MUST HAVE THIS STUDY

Crosspoint Switch and Muxes: Market Shares, Strategies, and Forecasts, Worldwide, 2012-2018

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Digital Crosspoint Switch Executive Summary

The study is designed to give a comprehensive overview of the Digital Crosspoint Switch equipment market segment. Research represents a selection from the mountains of data available of the most relevant and cogent market materials, with selections made by the most senior analysts. Commentary on every aspect of the market from independent analysts creates an independent perspective in the evaluation of the market. In this manner the study presents a comprehensive overview of what is going on in this market, assisting managers with designing market strategies likely to succeed.

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Digital Crosspoint Switch Market Shares and Market Forecasts

This section selectively describes market shares, forecasts, segments, and regional revenue. Numbers are the result of primary research in all cases. Selected companies are described from an independent analyst perspective with a thumbnail sketch or analysis of their market numbers or commentary on their strengths and weaknesses. Some of the analysis is focused on looking at the topic segment by segment, including company descriptive analyses by segment and subsegment.

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Digital Crosspoint Switch Product Description

This section describes selected companies and selected products. Products for this market segment are described with attention to the most significant aspect of features and functions in this category of product. The juxtaposition of a range of different product descriptions from a single market category provides a really good way to access market directions and achieve market competitive analysis. This section is

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arranged in three pieces: immersive products, conference room products, and end point products. Company products are described in the appropriate sections, meaning a company is mentioned several times in the chapter in different places.

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Digital Crosspoint Switch Company Profiles

This section selectively describes company strategies, partners, acquisitions, and revenue by segment and regional revenue when available. Companies are described by looking at what is most interesting about that company. The descriptions collectively give a sense of market directions within the industry segment. The alphabetical listing of company thumbnail sketches provides an accessible way to find out what is going on in any particular company.

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GENNUM GX4002 CROSSPOINT SWITCH APPLICATIONS

Next-generation networking

Next-generation data center

Next-generation storage

Next-generation telecommunications applications

Next-generation video formats

Address broadcast equipment manufacturer requirements

Broadcasters

Networks

Play out centers

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ABOUT THE COMPANY

WinterGreen Research, research strategy relates to identifying market trends and growth through a deep understanding of change in markets and innovation. Innovation trends are understood by reading about and interviewing opinion leaders. Proprietary information is developed by interviewing companies and opinion leaders. By using analysis of SEC published materials, interview material, private research, detailed research, social network materials, blogs, and electronic analytics, the market size, shares, and trends are identified. Analysis of the published materials and interviews permits WinterGreen Research senior analysts to learn a lot more about markets. Discovering, tracking, and thinking about market trends is a high priority at WinterGreen Research. As with all research, the value proposition for competitive analysis comes from intellectual input.

WinterGreen Research, founded in 1985, provides strategic market assessments in telecommunications, communications equipment, health care, Software, Internet, Energy Generation, Energy Storage, Renewable energy, Nanotechnology, and advanced computer technology.

Industry reports focus on opportunities that expand existing markets or develop major new markets. The reports access new product and service positioning strategies, new and evolving technologies, and technological impact on products, services, and markets. Innovation that drives markets is explored. Market shares are provided. Leading market participants are profiled, and their marketing strategies, acquisitions, and strategic alliances are discussed. The principals of WinterGreen Research have been involved in analysis and forecasting of international business opportunities in telecommunications and advanced computer technology markets for over 30 years.

The studies provide primary analytical insight about the market participants. By publishing material relevant to the positioning of each company, readers can look at the basis for analysis. By providing descriptions of each major participant in the market, the reader is not dependent on analyst assumptions, the information backing the assumptions is provided, permitting readers to examine the basis for the conclusions.

About The Principal Authors

Ellen T. Curtiss, Technical Director, co-founder of WinterGreen Research, conducts strategic and market assessments in technology-based industries. Previously she was a member of the staff of Arthur D. Little, Inc., for 23 years, most recently as Vice President of Arthur D. Little Decision Resources, specializing in strategic planning and market development services. She is a graduate of Boston University and the Program for Management Development at Harvard Graduate School of Business Administration. She is the author of recent studies on worldwide telecommunications markets, the top ten internet equipment companies, the top ten contract manufacturing companies, and the Top Ten Telecommunications market analysis and forecasts.

Susan Eustis, President, co-founder of WinterGreen Research, is a senior analyst. She has done research in communications, healthcare equipment, and computer markets and applications. She holds several patents in microcomputing and parallel processing. She has the original patents in electronic voting machines. She has new patent applications in format varying, multiprocessing, and electronic voting. She is the author of recent studies of the Regional Bell Operating Companies' marketing strategies, Internet equipment, biometrics, a study of Internet Equipment, Worldwide Telecommunications Equipment, Top Ten Telecommunications, Digital Loop Carrier, Web Hosting, Web Services, and Application Integration markets. Ms. Eustis is a graduate of Barnard College.

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