Specialized, compute intensive applications used for media & entertainment, manufacturing and design, oil & gas, game development, imaging or healthcare require workstations outfitted with powerful graphics, processors and memory. High performance, low latency connectivity to storage is also a must have. When external all-flash arrays are used, the low latency benefits of the Fibre Channel protocol is the preferred solution to take advantage of the benefits of solid state drives (SSDs).

ATTO has been developing high performance, low latency storage connectivity solutions for the workstation market for over 30 years. ATTO 32Gb and 16Gb Celerity™ line of Fibre Channel host bus adapters (HBAs) were designed to meet the ever growing performance needs of a scalable storage area network (SAN).

• ATTO is the only HBA manufacturer that develops Fibre Channel drivers for workstation operating systems as well as servers, allowing both to share Fibre Channel storage.

• ATTO MultiPath Director™ technology is the only solution connecting workstations to enterprise storage allowing you to load balance and aggregate the performance across multiple Fibre Channel links, as well as provides automatic path failover and failback for higher availability in Windows® and Linux® environments.

Dell Technologies is committed to transforming businesses, shaping the future of innovation and developing technologies to drive human progress.

Discover who we are, our family of brands, the leadership team and our strategic sponsorships to understand how Dell Technologies is powering the next technological revolution.

All trademarks, trade names, service marks and logos referenced herein belong to their respective companies.

Connecting Dell® Precision Workstations to a Fibre Channel SAN using ATTO Celerity™ HBAs
Expand Opportunities and Sell Into New Markets

Specialized, compute intensive applications used for media & entertainment, manufacturing and design, oil & gas, game development, imaging or healthcare require workstations outfitted with powerful graphics, processors and memory. High performance, low latency connectivity to storage is also a must have. When external all-flash arrays are used, the low latency benefits of the Fibre Channel protocol is the preferred solution to take advantage of the benefits of solid state drives (SSDs).

ATTO has been developing high performance, low latency storage connectivity solutions for the workstation market for over 30 years. ATTO 32Gb and 16Gb Celerity™ line of Fibre Channel host bus adapters (HBAs) were designed to meet the ever growing performance needs of a scalable storage area network (SAN).

• ATTO is the only HBA manufacturer that develops Fibre Channel drivers for workstation operating systems as well as servers, allowing both to share Fibre Channel storage.

• ATTO MultiPath Director™ technology is the only solution connecting workstations to enterprise storage allowing you to load balance and aggregate the performance across multiple Fibre Channel links, as well as provides automatic path failover and failback for higher availability in Windows® and Linux® environments.

MultiPath Director Technology
• ATTO Advanced Data Streaming (ADS™) Technology provides controlled latency and acceleration of data for consistently high performance

• Celerity™ HBAs have an advantage over the leading competitor in that it uses a dual core controller chip, providing full IOPS performance to a single port if the second port is in standby mode of the link has failed. Other solutions that use a single core are limited to half performance

• ATTO ConfigTool™ - GUI-based utility to locally or remotely manage and monitor the multiple data paths between the workstations and the storage. Helps customize the settings of your ATTO host bus adapter (HBA) to maximize the performance of your storage connections. Easily identify problem areas to expedite troubleshooting efforts

• Up to 1.6 Million IOPS and 6400 MB/s throughput

• Certified with dozens of Fibre Channel storage products. Visit the interoperability page on atto.com for details.

Dell Tower Workstations
- Precision™ 7910, 7920
- Precision 7810, 7820
- Precision 5810, 5820

Dell Workstations
- Precision™ 7910
- Precision™ 7920

ATTO Celerity™ Host Bus Adapters
- FC-324E Quad Port 32Gb
- FC-322E Dual Port 32Gb
- FC-321E Single Port 32Gb
- FC-164P Quad Port 16Gb
- FC-162P Dual Port 16Gb
- FC-161P Single Port 16Gb

Supported Operating Systems
- Windows® 10, 7
- RedHat® Linux® 7.2/7.0
- Ubuntu 14.04 SP1

How To Buy
Available through Dell S&P

<table>
<thead>
<tr>
<th>ATTO SKU</th>
<th>DELL SKU</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTFC-324E-000</td>
<td>AA129915</td>
</tr>
<tr>
<td>CTFC-322E-000</td>
<td>A9768576</td>
</tr>
<tr>
<td>CTFC-321E-000</td>
<td>A9768575</td>
</tr>
<tr>
<td>CTFC-164P-000</td>
<td>A9497644</td>
</tr>
<tr>
<td>CTFC-162P-000</td>
<td>A9735135</td>
</tr>
<tr>
<td>CTFC-161P-000</td>
<td>A9768582</td>
</tr>
</tbody>
</table>

Dell Sales +1.800.456.3355

ATTO Sales +1.716.691.1999

ATTO Celerity FC-322E
ATTO Celerity FC-164P
ATTO Celerity FC-162P

IOPS: Sequential Reads

<table>
<thead>
<tr>
<th>Transfer Size</th>
<th>CTFC-322E 1p 32GFC</th>
<th>CTFC-322E 2p 32GFC</th>
<th>QLE2742 1p 32GFC</th>
<th>QLE2742 2p 32GFC</th>
</tr>
</thead>
<tbody>
<tr>
<td>512B</td>
<td>200,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1K</td>
<td>400,000</td>
<td>200,000</td>
<td>400,000</td>
<td>400,000</td>
</tr>
<tr>
<td>2K</td>
<td>600,000</td>
<td>600,000</td>
<td>600,000</td>
<td>600,000</td>
</tr>
<tr>
<td>4K</td>
<td>800,000</td>
<td>800,000</td>
<td>800,000</td>
<td>800,000</td>
</tr>
<tr>
<td>8K</td>
<td>1,000,000</td>
<td>1,000,000</td>
<td>1,000,000</td>
<td>1,000,000</td>
</tr>
<tr>
<td>16K</td>
<td>1,200,000</td>
<td>1,200,000</td>
<td>1,200,000</td>
<td>1,200,000</td>
</tr>
<tr>
<td>32K</td>
<td>1,400,000</td>
<td>1,400,000</td>
<td>1,400,000</td>
<td>1,400,000</td>
</tr>
<tr>
<td>64K</td>
<td>1,600,000</td>
<td>1,600,000</td>
<td>1,600,000</td>
<td>1,600,000</td>
</tr>
<tr>
<td>128K</td>
<td>1,800,000</td>
<td>1,800,000</td>
<td>1,800,000</td>
<td>1,800,000</td>
</tr>
</tbody>
</table>