Deploying Integrated POTS Splitter Blocks for xDSL Networks.

Business White Paper

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Introduction

The ability to provide reliable xDSL service quickly is both a business necessity and a key competitive strategy. But keeping up with an ever-growing need for network capacity while keeping costs down and revenues on a path of growth demands a lot from service providers, especially given today's economic realities.

Service providers around the globe have made the 3M™ Integrated Splitter Block BRCP-SP the core of their preferred deployment architecture to help reduce complexity and the overall cost of deploying xDSL with DSLAMs and MSANs/BBDLCs equipment in central offices and remote terminals alike.

This white paper presents the significant cost and installation savings that may be realized by service providers that deploy the 3M Integrated Splitter Block BRCP-SP. Designed for xDSL deployment from the central office to the end customer, the 3M Integrated Splitter Block BRCP-SP is helping companies seize market share in an environment where rapid deployment is both a financial imperative and risk.

BRCP-SP: Potential Cost Savings and Operational Efficiencies

- 50% fewer blocks, connectors and cables required
- Reduced installation costs
- Space savings at the CO-MDU/MDF and within the RT cross-connect field
Conventional Deployment Practices

Many service providers currently deploy broadband equipment:

- External POTS splitter shelves
- POTS splitters on board dedicated splitter boards that are installed adjacent to the xDSL service cards housed in the equipment
- POTS splitters integrated within the xDSL service cards

xDSL equipment deployment involves a complex and costly process. A large volume of materials and considerable installation costs are involved to equip central office infrastructures not originally designed to accommodate additional and extensive cabling and equipment needed to bring xDSL services to a fast growing customer base.

The typical DSLAM / MSAN equipment interconnection with the main distribution frame (MDF) typically requires “round trip” cabling (DSLAM IN / DSLAM OUT) and ancillary accessories. The effort can include double count of terminal blocks, connectors, patch cables, raceways, and other installations between the equipment and the MDF (See diagram below.) The associated installation costs can be significant.
The 3M™ Integrated Splitter Block BRCP-SP is the latest generation of MDF terminal blocks developed by 3M.

Advancing the current state-of-the-art deployment, 3M has integrated the POTS splitters into the BRCP-SP splitter block at the MDF or cross-connect field of remote terminals to help drive down deployment complexity and reduce the overall cost of deploying xDSL.

The BRCP-SP block locates the POTS splitters inside the terminal block, rather than in or next to the DSLAM or, MSAN/BBDLC. This configuration can provide significant cost savings in materials as well as installation expenses. (See example diagram below)

Capital cost savings as well as operational efficiencies are anticipated in several key areas:

- Reduced need for certain accessory components, such as equipment racks, splitter shelves, patch cables, and MDF blocks
- Reduced installation costs because there are typically 50% less cables to install between the DSLAM MSAN equipment and MDF
- Service providers may also avoid the costs and/or necessity of expanding the MDF, resulting in potential increased density at the MDF and in overhead cableways

Depending on the brand or model number of the DSLAM MSAN equipment, removing integrated splitters from the new equipment to install can often free up slots for additional service cards. This effort can increase port density at the equipment itself, and can be critical especially for remote terminal applications.
Excellent Design to Ease Line Operations

The 3M™ Integrated Splitter Block BRCP-SP can also provide:

- Individual, customer-centric service line management at the MDF or the cross-connect field for pay-as-you-grow new xDSL customer hook-up
- Service migration (to VDSL2 or naked DSL or VoIP)
- Faulty splitter replacement (without rewiring at the MDF or equipment port reconfiguration)

Removing a single line BRCP-SP splitter module only disconnects xDSL service for a single customer (unlike the removal of a 24- to 48-port xDSL service card) while maintaining POTS service at all times (life-line capability).

BRCP-SP splitter modules are located at the rear side of the BRCP-SP splitter block. This feature provides physical protection against accidental disconnection or shock. If required, the BRCP-SP splitter block can accommodate single line overvoltage protector to protect the DSLAM or PSTN switch input and the xDSL line output against overvoltage spikes.

The Business Case for BRCP-SP Splitter Block

The hypothetical example below illustrates the level of capital expenditure savings that may be realized by using the BRCP-SP splitter block versus a typical xDSL deployment in a Central Office DSLAM deployment for 100,000 subscribers with an hourly installation rate of $60.00 in the US market. (This example is for illustrative purposes only. Actual costs and savings figures may vary.)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Typical xDSL deployment /number of subscribers</th>
<th>100,000</th>
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<tr>
<th>Materials &amp; Installation</th>
<th>Typical DSLAM deployment</th>
<th>3M Solution</th>
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<tr>
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<td>Total for 100,000</td>
<td>Total for 100,000</td>
</tr>
<tr>
<td>Estimated material cost</td>
<td>$1,875,000</td>
<td>$1,291,256 (31.1%)</td>
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<tr>
<td>Estimated installation cost</td>
<td>$945,429</td>
<td>$464,266 (50.9%)</td>
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<tr>
<td>Estimated total CAPEX cost</td>
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<td>$1,755,580 (37.8%)</td>
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<tr>
<td>Estimated total CAPEX cost per subscriber</td>
<td>$28</td>
<td>$18 (37.8%)</td>
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<tr>
<th>Estimated CAPEX Savings (in $) per 100,000 subscribers</th>
<th>&gt; $1MM</th>
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<tbody>
<tr>
<td>Estimated CAPEX Savings (in %)</td>
<td>&gt;35%</td>
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The new wiring deployment practices with the 3M™ Integrated Splitter Block BRCP-SP makes for fast, easy, and comparatively inexpensive deployment. Field tested by 3M customers in more than 25 countries, the business case for 3M™ Integrated Splitter Block BRCP-SP is built on a strong foundation of trust and proven reliability. Right now, millions of integrated splitter block ports are in operation around the world, serving our customers’ subscribers and contributing to the success of leading service providers.

Learn more about the 3M Network of Networks. Visit www.3M.com/Telecom.

The Network of Networks

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