SignalTight™ Trial #314

SignalTight™ connectors prevent service calls caused by loose connections

700 Subscriber Node w/ 2 Return Path TX's and 1 Forward Reciever.
The Node consisted of 8 MDUs

- **High DOCSIS service call rates**
- **Poor MOS (mean Opinion Survey) Scores**
- **Poor CES (Codeword Error Rate) Performance**

Overview:

The SignalTight™ connector was designed to prevent service issues related to loose F connections. Loose connectors cause ground continuity to become lost or intermittent. Failure of ground continuity results in excessively high levels of ingress and egress for both Upstream and Downstream impairing digital services.

An MDU was selected by the customer because of the current performance, service call rate, and ease of access to all external F connectors. Historical data was recorded from the element management system; specifically the return path upstream monitoring system.

Trial set-up:

1. Historical MOS and CER readings were recorded

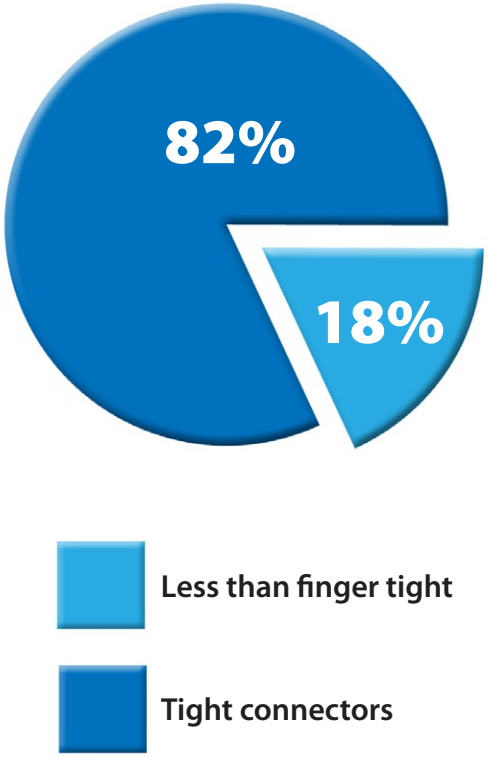
2. At each floor of the MDU complex all F connectors were inspected and the number of connectors found to be less than finger tight were replaced using PPC EXPLUS connectors.

3. 18% of the external connectors were found to be less than finger tight and were replaced with the EXPLUS connectors. The EXPLUS connectors were left loose (between 1 and 2 full revolutions from finger tight).

4. MOS and CER readings were graphed for the following two weeks exhibiting a period of time before the trial and a period after the connectors were changed.

Identify and change loose connectors:

A total of 163 connectors were replaced of the 887 total.. During the process of replacing all the connections it was found that 18% (163) of the connectors were loose at least half a turn.



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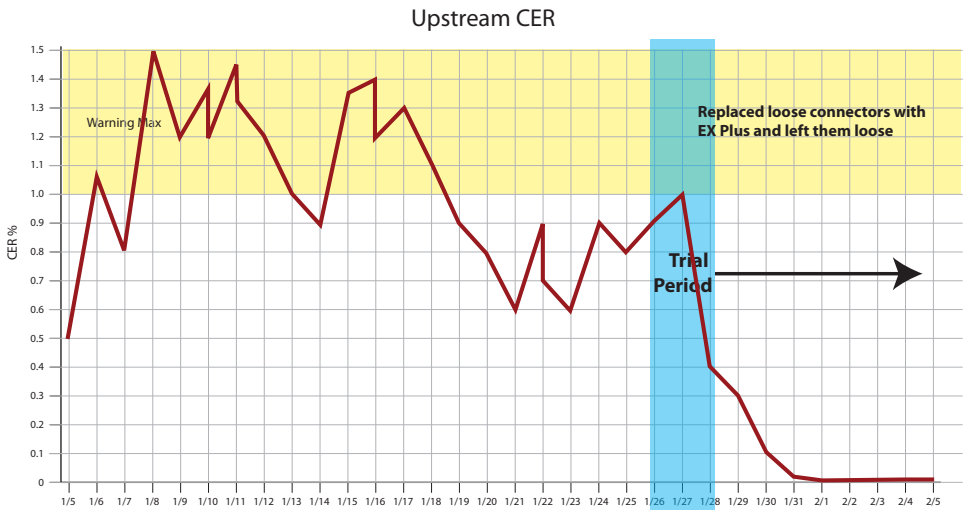
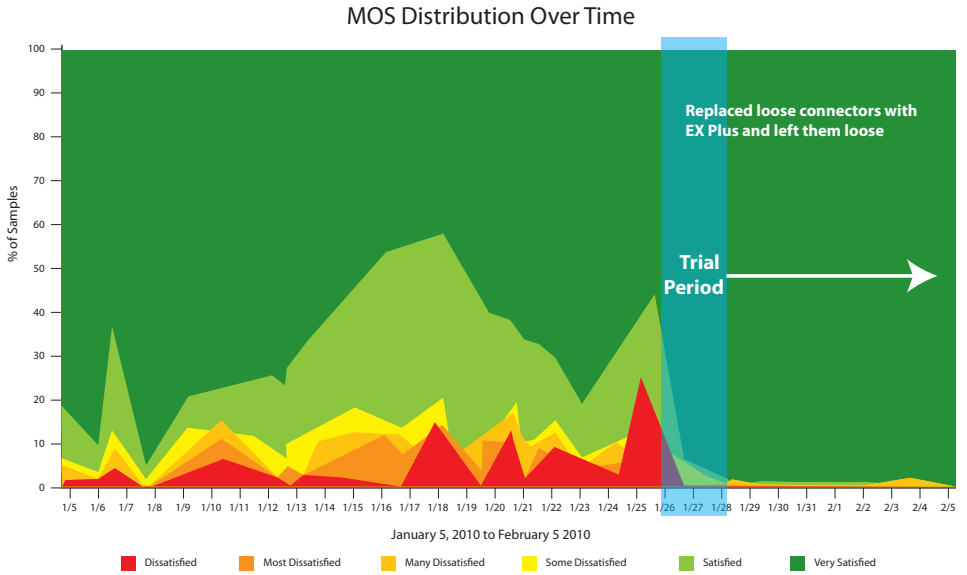
Performance Improvements:

The following diagrams prove the performance enhancements with the use of the PPC EXPLUS connectors. The improvements noted are a result of significantly reduces reflections and impulse noise previously caused by intermittent ground contact.

Topology: Logical Upstream Channel 61007
Timeframe: 1/05/10 to 2/05/10



Topology: Logical Upstream Channel 61009
Timeframe: 1/05/10 to 2/05/10



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