Note: Regarding T. Goff and D. S. Phatak, "Unified transport layer support for data striping and host mobility," *IEEE Journal on Selected Areas in Communications*, vol. 22, no. 4, pp. 737–746, May 2004.

The analysis in section C., *Comparison of Network and Transport Layer Striping*, assumes small path loss probabilities. In particular, (3) is an approximation to the exact loss probability of the overall aggregated path:

$$\begin{aligned} L_{\text{ns}} &= 1 - \prod_{i=1}^{n}(1 - l_i) \\ &= \sum_{i=1}^{n} l_i - \sum_{i=1}^{n}\sum_{j=i+1}^{n} l_i \cdot l_j + \sum_{i=1}^{n}\sum_{j=i+1}^{n}\sum_{k=j+1}^{n} l_i \cdot l_j \cdot l_k - \cdots + \cdots \ . \end{aligned}$$

For small path loss probabilities, the product of two or more l_i terms quickly becomes insignificant and can be approximated by the first summation from the expression above as simply

$$L_{\text{ns}} \approx \sum_{i=1}^{n} l_i \ .$$

An alternate approach to finding a lower bound on the aggregate loss probability is to consider the expected number of packets successfully sent before a loss occurs on each path. The expected number of successfully sent packets is $1/l_i$ for packet loss probability l_i. This limits the overall expected number of packets sent before a loss is experienced to at most $\sum_{i=1}^{n} 1/l_i$. The aggregate average loss probability can then be expressed as

$$L'_{\text{ns}} = \frac{1}{\sum_{i=1}^{n} 1/l_i} \leq L_{\text{ns}} \ .$$

The end result remains the same in this case since

$$\sqrt{\sum_{i=1}^{n} \frac{1}{l_i}} < \sum_{i=1}^{n} \sqrt{\frac{1}{l_i}}$$

for $0 < l_i < 1$.