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**The Ballot Theorem Strikes Again:  
Packet Loss Process Distribution**

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**Abstract**

The probability distribution of the number of lost packets within a block of consecutive packet arrivals into a finite buffer is an important quantity in various networking problems. In a recent paper, Cidon, Khamisy and Sidi introduced a recursive scheme to derive this distribution. In this paper we derive explicit expressions for this distribution using various versions of the powerful *Ballot Theorem*.