

The Interaction of Forward Error Correction and Active Queue Management

Annex

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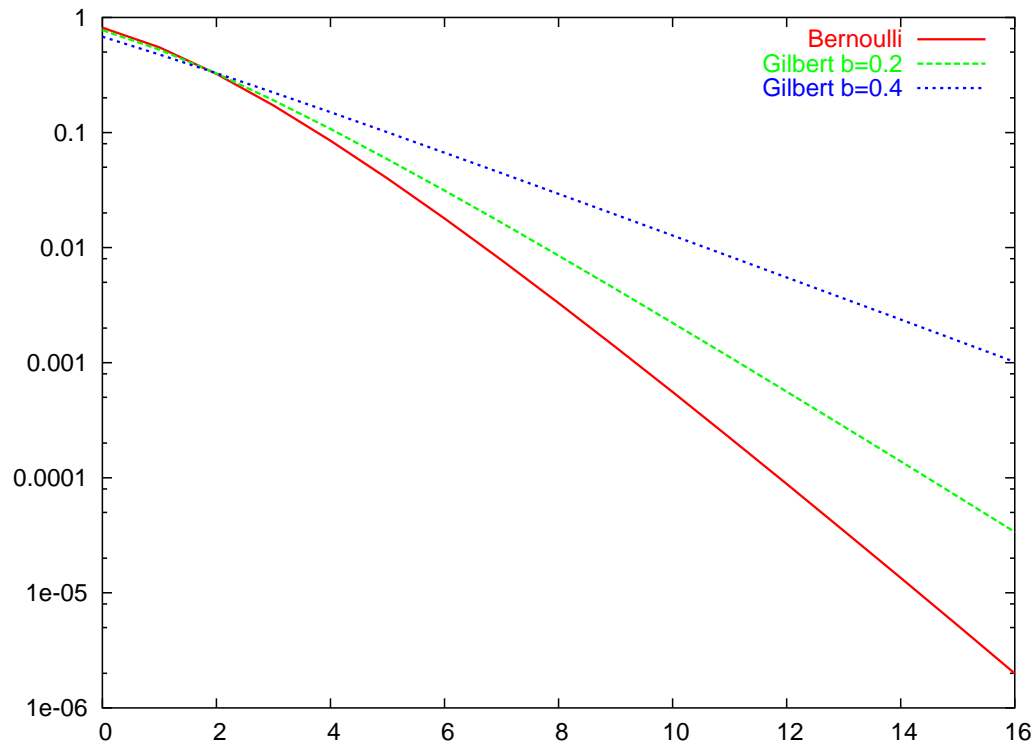
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Contents

This annex presents material which did not fit in the main presentation, concerning:

- preliminary considerations on the efficiency of FEC
- experimental results on the block size, and their analysis
- experimental results on the loss run length, and their analysis.

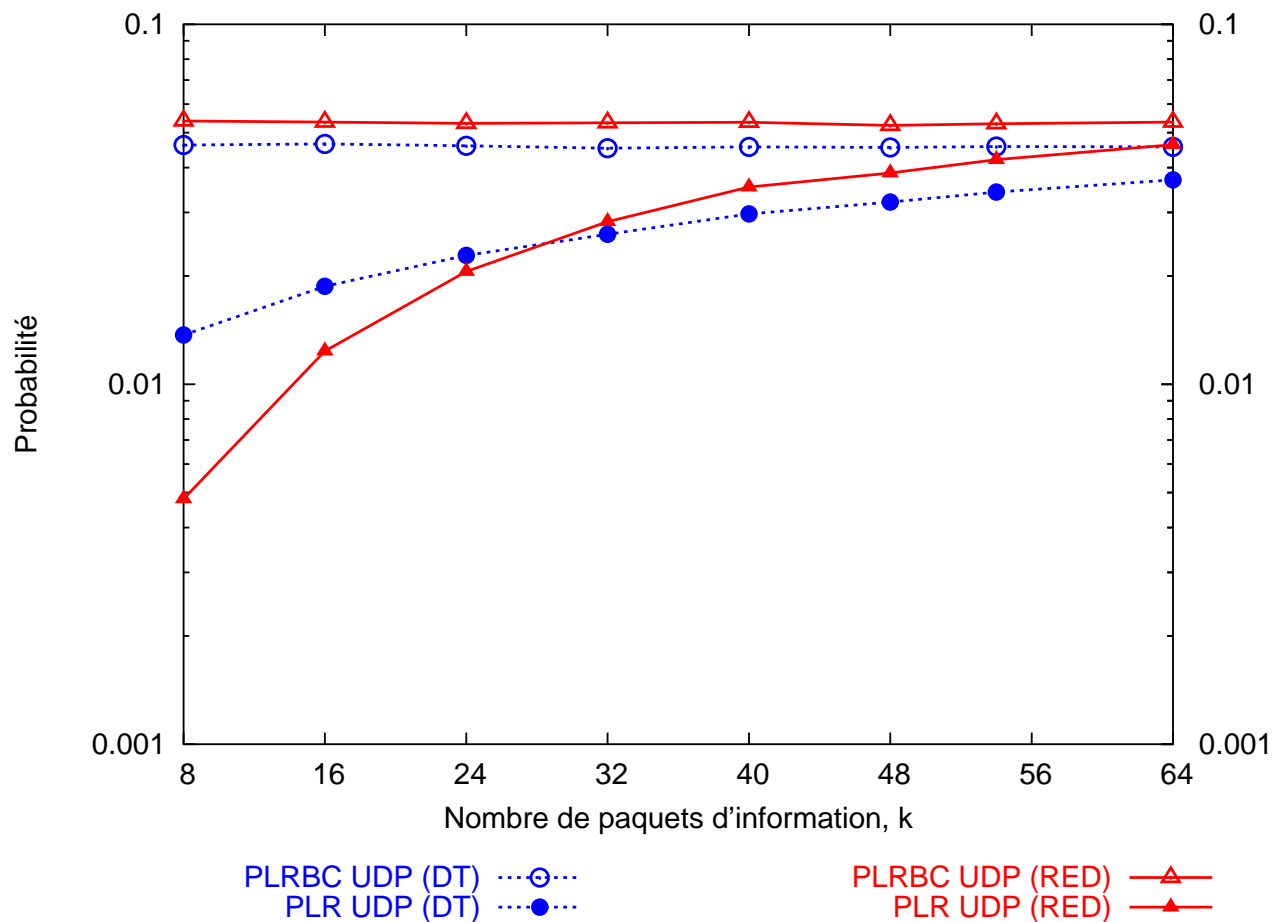
Burstiness of losses and efficiency of the protection



Probability to loose a block of size $k = 16$, as a function of h and the autocorrelation of losses (Gilbert model).

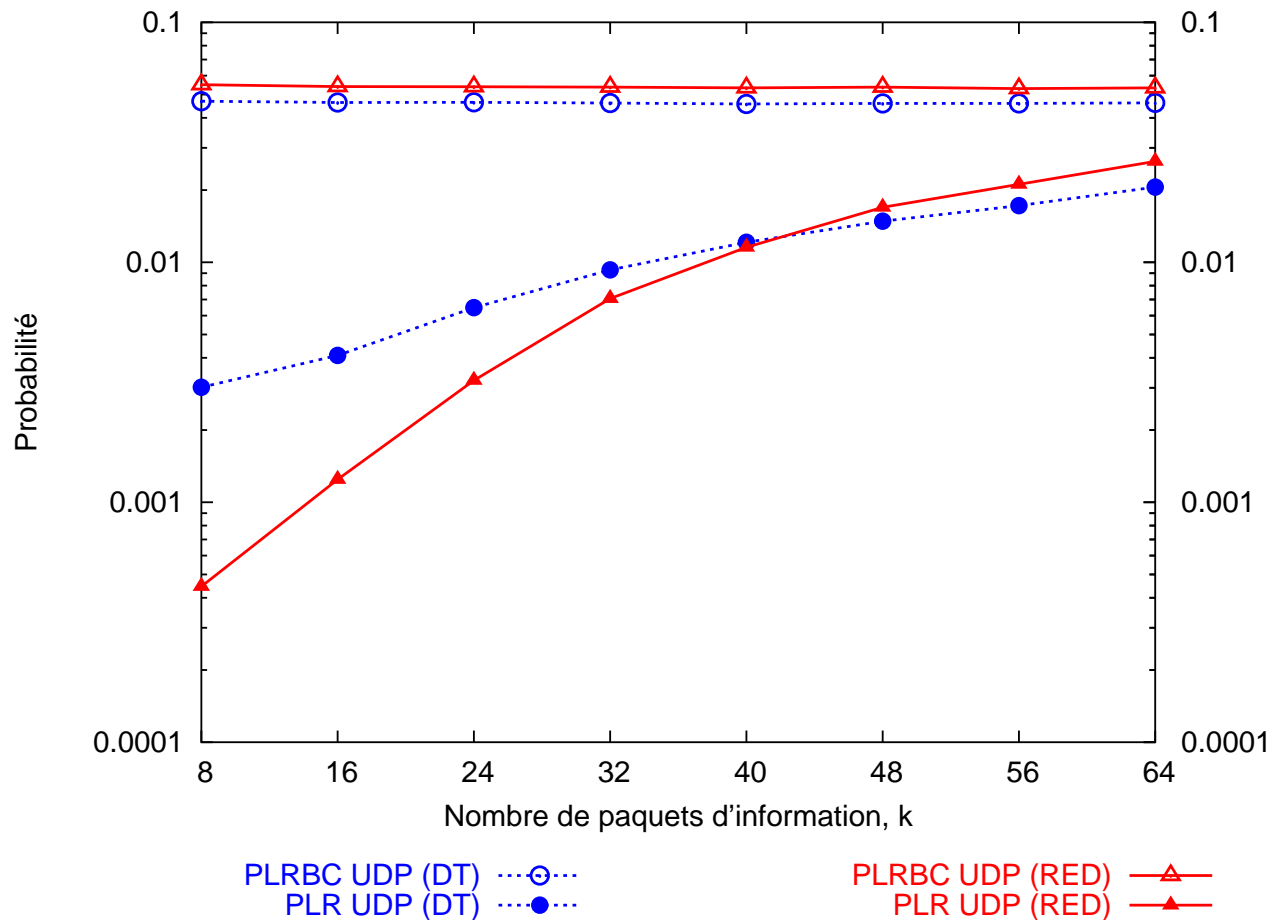
Influence of the block size (1)

Redondance $h = 2$, Nb sources TCP = 50



Influence of the block size (2)

Redondance $h = 4$, Nb sources TCP = 50

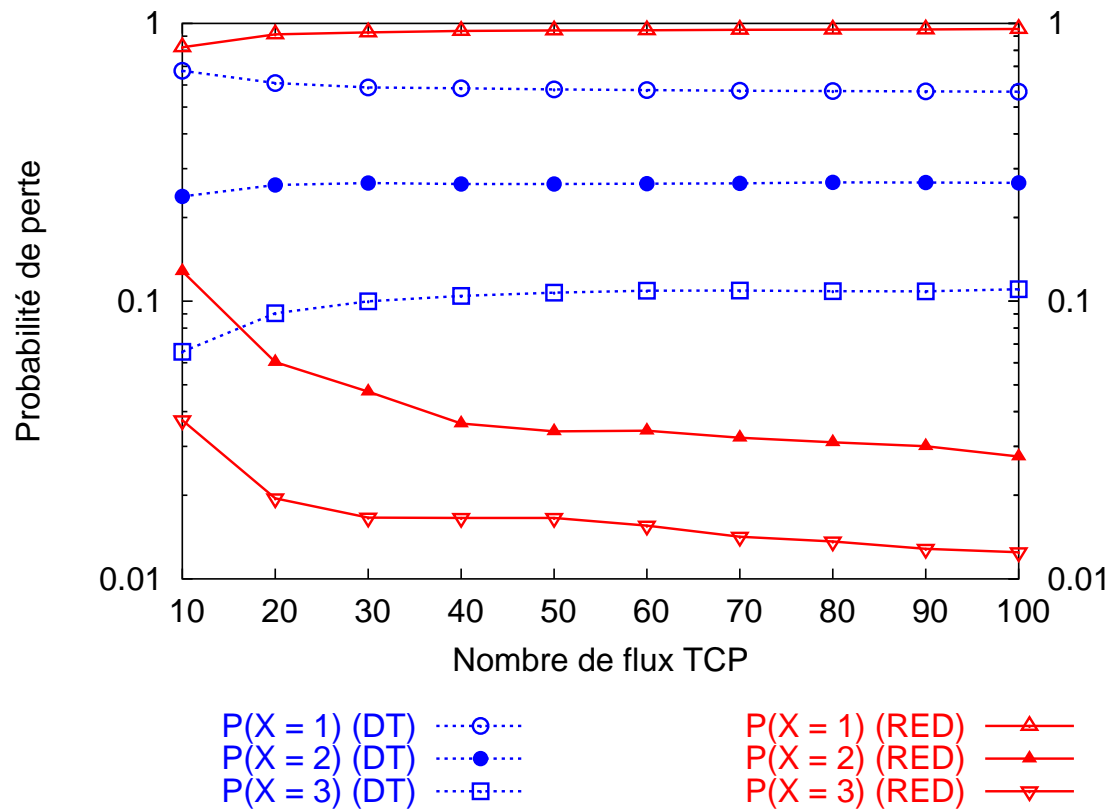


Analysis

- $PLR_{RED} < PLR_{DT}$ up to a point, then the situation is reversed.
- This threshold depends
 - on the redundancy number h
 - on the cross traffic

Loss Run Length

$k = 16$ information packets + $h = 1$ redundancy



Analysis a posteriori

- Statistics on the loss run length confirm that losses of RED are mostly isolated.

#	RED	TD
1	95%	60%
2	3%	20%
3+	2%	20%

- Losses under RED are marginally $>$ to that of TD
- The distribution does not depend much on the traffic burstiness
- Nevertheless, RED is not always superior to TD.