Endonucleolytic cleavage and polyadenylation shape the 3’-end of most eukaryotic mRNAs. The pre-mRNA 3’ processing machinery is a macromolecular assembly consisting of more than 20 proteins that define the efficiency and the site of cleavage and polyadenylation. The key component of this machinery is the Cleavage and Polyadenylation Specificity Factor (CPSF), a six-protein complex responsible for the recognition of the polyadenylation sequence (PAS), the cleavage of the pre-mRNA and the recruitment of the polyA-polymerase for polyadenylation. I will present structural and biochemical data that elucidate how the single CPSF subunits assemble in the complex and what is their specific contribution to 3’ mRNA processing.