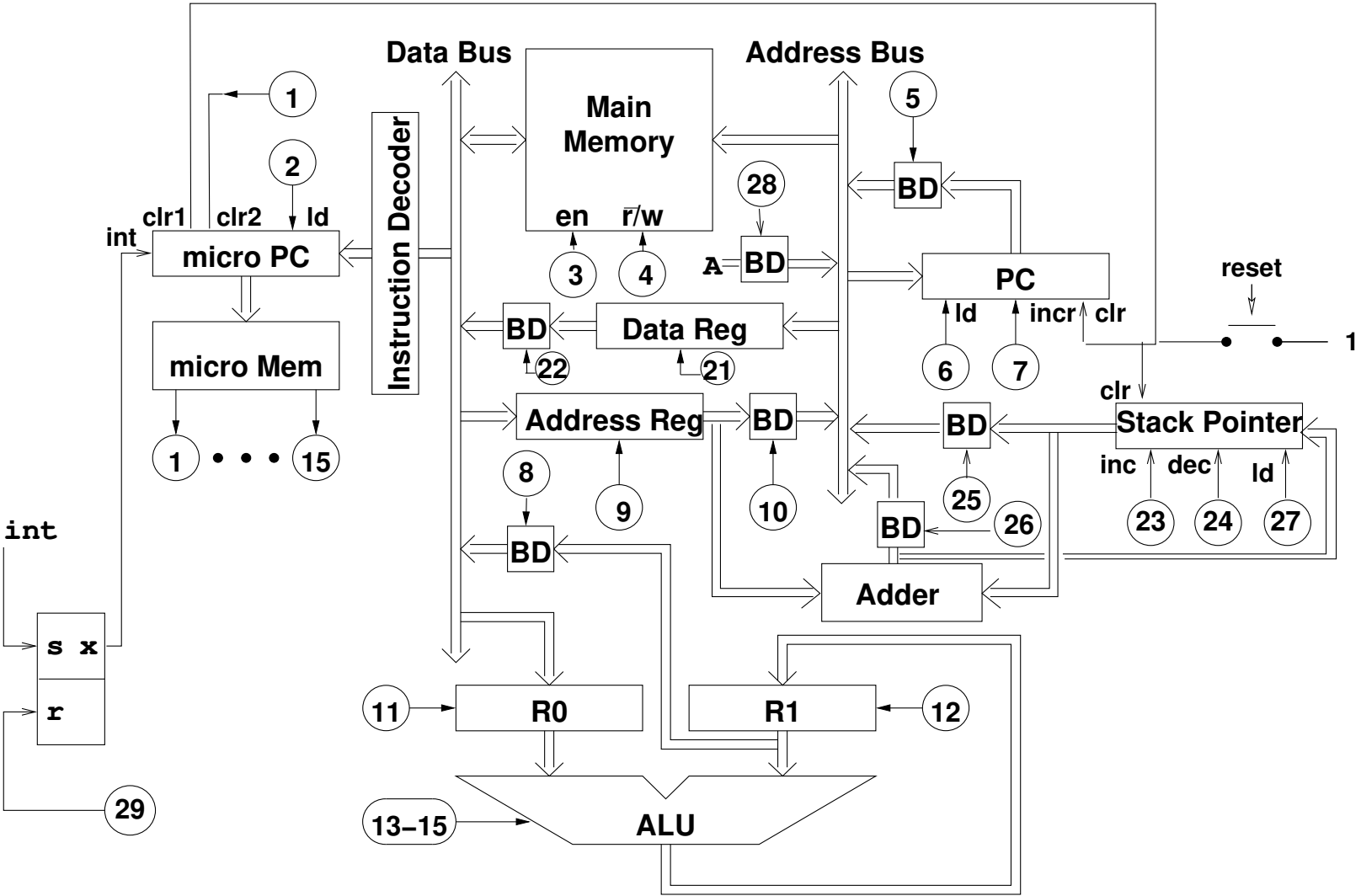Modifications pour les interruptions