Descriptors (L, c_U, c_I, c_N)

A process descriptor records the GLL algorithm configuration at a particular point in its execution. A descriptor has the form (L, u, i, w) where L is an algorithm line label, u is a GSS node, i is an integer and w is an SPPF node.

When a descriptor is created it is created with the values (L, c_U, c_I, c_N) or $(L, c_U, c_I, \$)$, where c_U is the current stack top, c_I is the current input pointer position, c_N is the current SPPF node and L is the label of the next line of the algorithm to be executed in some continuation of the algorithm. The dummy SPPF node $\$$ is used when the traversal is about to move to the start of a new nontermial, in which case c_N will have been 'stored' as the label of a GSS edge from c_U.

The GLL algorithm has an outer loop which selects a descriptor (L, u, i, w) from the set $\mathcal{R}$ of pending descriptors and continues execution from line L with $c_U = u$, $c_I = i$ and $c_N = w$.