In this Talk

? Basic structure of an agent

? Agent creation anl 7dnagement

? What happens when " Run " an agent

? RHS functions

? What information is accessible outside kernel?

       ? Data

       ? Events

? High - level roadmap of kernel functionality

(satellite view)

? The gSKI Agent Scheduler

Agent Creation

? Check that name is unique within kernel

? ?

Loading Productions

? Productions added to Rete as they are parsed: condition by condition and then action by action

? Not scanned for errors and then stored

? Rete may reorder conditions internally for better match efficiency

? "Documentation string" stored, but comments from file are not

? Multi-valued attributes must be declared *before* loading productions to have any impact on Rete organization

What happens during *Run*

- ? Agent parameters for *type of ru1 (go_type)* and *n* (go_number) configured by scheduler (gSKI).
- ? A scheduler invokes appropriate kernel wrapper function, which tests agent parameters `stop_soar` and `system_halted`, starts timers, and then calls do_one_top_level_phase until the requisite number of loops have been completed, or agents halts or is interrupted.
- ? Wrapper functions operate on one agent at a time, so if calling ru1_for_n_decision_cycles(5), the first agent ru1s for 5 decision cycles, then the next agent, then the next, til all agents have been ru1.
- ? The gSKI scheduler supports a finer grain of "interleaving" among agents when executing Ru1_for_n_decision_cycles or Ru1_for_n_modifications_of_output
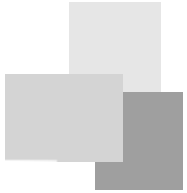
<u>When</u> is information accessible outside kernel: Events

- ? Extensive callback system thru gSKI and SML supports executing application code at almost any point in Run cycle.
- ? Kernel-based (once for *all* agents) and agent-based (once for *each* agent) events
  - ? Be0.1c3 ,Ter runnecutill and avents

Soar's Memory Management

? "Memory pools" malloc'd from operating system in (32K) blocks

? Soar frequently allocates and deallocates within pools, but only when exceeds current pool size does Soar malloc more blocks for pool

?

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The gSKI Agent Scheduler

- ? Supports agent creation while ke
- ? Many events available for notific
- ? Supports "interleave" at finer grain tha
  parameter "Run"
- ? Have to trace thru severa7 C++
  understand source implementati
  than old Soar Scheduler)
- ? Can make modifications to kerne

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