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A Domain-specific Language for The Control of Self-adaptive
Component-based Architecture

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Highlights

- Ctrl-F: a high-level language for describing adaptive behaviours and policies of componentbased architecture.
- Formal definition of Ctrl-F's semantics with finite state automata models.
- Automatic translation from Ctrl-F to the FSA-based reactive language Heptagon/BZR.
- Correct-by-construct controllers, resulting from Heptagon/BZR compilation involving verification and controller synthesis.
- Implementation and integration with a Service Component Architecture middleware.

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