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## Deep Linguistic Processing With Hpsg

### Systems & Grammars

DELPH-IN members share a commitment to re-usable, multi-purpose resources and active exchange. Based on contributions from several members and joint development over many years, an [open-source](#) repository of software and linguistic resources has been created that has wide usage in education, research, and application building.

At the core of the DELPH-IN repository is agreement among partners on a shared set of linguistic assumptions (grounded in [HPSG](#) and Minimal Recursion Semantics) and on a common formalism (i.e. logic) for linguistic description in typed feature structures. The formalism is implemented in several development and processing environments (that can serve differing purposes) and enables the exchange of grammars and lexicons across platforms. Formalism continuity, on the other hand, has allowed DELPH-IN researchers to develop several comprehensive, wide-coverage grammars of diverse languages that can be processed by a variety of software tools.

Over time, the following configuration of core components has emerged as a typical grammar engineering configuration that is commonly used both by DELPH-IN members and other research initiatives.

### The Linguistic Knowledge Builder (LKB)

provides an interactive grammar development environment for typed feature structure grammars. The LKB includes a parser and generator, visualization tools for all relevant data structures (including trees, feature structures, MRSs, hierarchies, parse and generation charts), and a set of specialized debugging facilities (like 'interactive unification') and well-formedness tests for grammar and lexicon.

The LKB is implemented in ANSI Common-Lisp and available in full source code or as precompiled binaries for common platforms, including Linux, Solaris, and MS Windows.

### The PET System for the high-efficiency processing of typed feature structure grammars

complements the LKB as a run-time and application delivery component. PET interprets the same logical formalism (in fact reads the exact same grammar source files) and provides a parser that is (much) less resource-demanding than the LKB, more robust, portable, and available as a library that can be embedded into NLP applications. Unlike the LKB, PET includes only very limited debugging facilities.

### Quick Links

The Linguistic Knowledge Builder

The PET System

Competence and Performance Profiler

LinGO English Resource Grammar

La Grenouille French Grammar

JaCY Japanese Grammar

