

Detecting Implementation of CDR's in Common Lisp Runtimes

Marco Antoniotti
Università degli Studi di Milano Bicocca, Milan, Italy
<marco.antoniotti@unimib.it>

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1 Introduction

The *Common Lisp Document Repository* (CDR) [2] was created as a very light-weight infrastructure for the Common Lisp community, where a number of “documents” and “specifications” are collected and *fixed* for the benefit of programmers and implementors. Each document is given a unique *CDR identifier* (essentially a number), which is retained over the years; each of these documents can then be referred simply as *CDR number N* (or, more simply, *a CDR*, when not referring to a particular document in the repository).

At the time of this writing, there is yet no agreed upon way to check whether a Common Lisp implementation provides a particular CDR or not (i.e., whether a particular CDR is present “out of the box”, or whether a library implementing a specific CDR is loaded in the Common Lisp environment). The goal of this document is to provide a specification for this behavior.

1.1 Rationale

Each CDR is assigned a unique number/identifier. It therefore appears natural to resort to the Common Lisp **features** machinery to provide a minimal infrastructure to check for the presence of a given CDR in a Common Lisp environment. To do so, a few definitions are necessary and will be listed in the next section.

2 Specification

The specification contained in this document consists of the following items:

1. As per CDR n. 0 and CDR n. 4, each document submitted to the CDR editors is assigned a unique number; from now on it will also be assigned a *keyword* of the form `:cdr-n` (where *n* is the unique CDR number assigned by the editors).

2. An *implementation* of a given CDR (say, CDR 42) should provide the appropriate keyword (say, `:cdr-42`) in the `*features*` list.
3. If a given `:cdr-n` is present in the `*features*` list of a given Common Lisp environment, that means only that
that specific instance of a Common Lisp environment *purports to implement* CDR *i* at a “satisfactory” level of compliance.

Users and programmers can thus check whether a give CDR is “present” in a Common Lisp environment, using the usual `*features*` checking machinery.

2.1 Guarantees, Non-guarantees etc. etc.

It must be noted that there are possible pitfalls that the “CDR process and infrastructure” cannot avoid. In the following they are listed in no particular order.

2.1.1 “Purports to implement”

The “CDR process and infrastructure” cannot either guarantee that the presence of a *CDR keyword* in a Common Lisp environment `*features*` list corresponds to a “correct” and “complete” implementation of a given CDR. “Correctness”, “completeness” and “testing” are left to the “provider” of a given CDR.

It is understood that a provider of a given CDR (a provider who *purports to implement...*) will make a best effort to fully implement a specification.

2.1.2 Multiple Implementations of a Given CDR

It may be possible for *multiple* implementations of a given CDR to co-exist in a given Common Lisp environment. All of them will rely on a single `:cdr-n` in the `*feature*` list. Which particular implementation is then actually used and where, is left to the programmer and her/his use of the package system.

2.1.3 Recursion base case

This document will¹ receive a CDR number. Let’s say it will be `:cdr-i`. It will be then possible to check for CDR 10 by writing:

```
#+(and cdr-i cdr-10) (abi-version)
```

Of course, that is rather long-winded, and it is assumed that the obvious way to test for the presence of CDR 10 will be the following:

```
#+cdr-10 (abi-version)
```

¹Hopefully!

3 Acknowledgements

The CDR editors, and the participants to the CDR “side”-meeting at the European Lisp Symposium in Madrid, June 4, 2013 (ELS 2013).

References

- [1] *The Common Lisp Hyperspec*, published online at <http://www.lisp.org/HyperSpec/FrontMatter/index.html>, 1994.
- [2] *The CDR site*, at <http://cdr.eurolisp.org>.

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The current maintainer of this work is Marco Antoniotti <marco.antoniotti@unimib.it>.