Source Languages — **ASTs** — **Core Compiler** — **Distributed Compiler** — **Target Languages**

Source Languages: λNRA, SQL, SQL++, OQL, TechRule, DesignerRule

ASTs: λNRA, SQL, SQL++, OQL, CAMPRule

Core Compiler: NRA^e, NNRC, cNRA^e, cNNRC, CAMP, NRA

Distributed Compiler: DNNRC, tDNNRC, NNRCMR, CldMR

Target Languages: JavaScript, Java, Spark *(Dataframes)*, Spark *(Map/Reduce)*, Cloudant *(Map/Reduce)*

λ**NRA:** NRA with Lambdas
SQL: Structured Query Language
SQL++: SQL extended for JSON
OQL: Object Query Language
TechRule: ODM technical rules
DesignerRule: ODM designer rules
CAMPRule: Rule Macros for CAMP

NRA: Nested Relational Algebra
NRA^e: NRA with Environments
cNRA^e: Core NRA^e
NNRC: Named Nested Relational Calculus
cNNRC: Core NNRC
CAMP: Calculus of Aggregating Matching Patterns

DNNRC: Distributed NNRC
tDNNRC: Typed DNNRC
NNRCMR: NNRC + Map/Reduce
CldMR: NNRC + Cloudant Map/Reduce

Coq with proof — *OCaml*
Coq without proof — *Java*