

# SPoD System Architecture

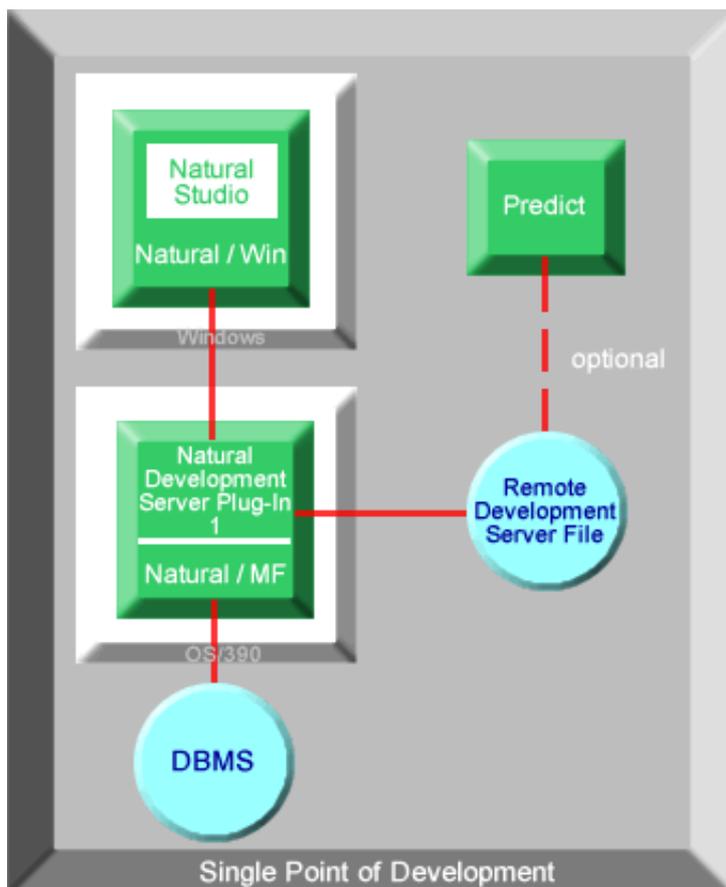
This document describes the Natural Single Point of Development (SPoD) system architecture. The example shown below refers to a remote development server that runs on a mainframe under the operating system OS/390.

The following topics are covered:

- Typical Scenario
  - Natural for Windows as Remote Development Client
  - Natural Development Server(s)
  - Development Server File
  - Database Management System
  - Predict for Mainframes
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## Typical Scenario

A typical Natural SPoD scenario on a mainframe system running under OS/390 is made up of the components shown in the following block diagram:



The details of the block diagram are described below.

## Natural for Windows as Remote Development Client

As of Version 5.1, Natural for Windows with its graphical user interface can be used as a remote development client. In this case, Natural Studio is the central development workstation for all platforms.

All the Natural-related steps in the application development cycle including the configuration steps can be done from within Natural Studio, independent of the platform where the specific development environment resides. Remote communication with the platform-specific Natural environment takes place via a Development Server located on the different platforms, involving the use of a protocol and using TCP/IP as physical transport layer.

Most of the functionality needed for remote development (administration, application workspace, remote editing, compiling, debugging, etc.) has been integrated in Natural Studio. For storing cross-reference information, you can use a cross-reference GUI client which is available as an optional plug-in unit (not shown in the above figure) for Natural Studio. Additional plug-in units for other purposes are planned.

## Natural Development Server

To enable remote development on a specific platform, e.g. on a mainframe system, a Natural Development Server has to be installed. The development server is basically a Natural running in the Natural server environment in conjunction with the add-on product Natural Development Server (NDV) installed.

A Natural Development Server for OS/390 is currently provided. Base requirement is Natural Version 3.1.5 or higher for Mainframes installed. Servers for other platforms are planned. For details, refer to the Natural Development Server documentation.

The remote development server covers the following functions:

- provide access to the system files,
- access the application data,
- use the remote development server file to guarantee the consistency of application modifications by object locking, independent of the workspaces used,
- execute the remote commands issued from the development client (Natural Studio).

## Development Server File

A Development Server File stores application data and holds object locking information. This file is structured like the Natural FDIC system file and may coexist with an already existing FDIC file. It cannot be modified dynamically or via user exits. It is addressed using the Natural parameter FDIC.

## Database Management System

The Natural remote development environment can be used with any Natural-supported database management system that is available for the specific platform and that runs under the existing operating system.

## Predict for Mainframes

Predict can be used in conjunction with Natural SPoD, but it is not required. You can use the XRef GUI Client plug-in for Natural Studio instead. However, if you intend to use your existing Predict installation, it will be necessary that you migrate to Predict Version 4.2 or higher.