



K2 Component Architecture

K2 Component Integration

PRESENTED BY: KOOS DU PREEZ

WWW.K2.NET



K2 CONFIDENTIAL

AGENDA

- > High Level K2 Components Integration Architecture
- > Installed Components & Architecture
- > Authoring Components & Architecture
- > Deployment Components & Architecture
- > Client / Forms Components & Architecture
- > Runtime Components & Architecture

Installation

Authoring

Deployment

Forms & Clients

Runtime Execution

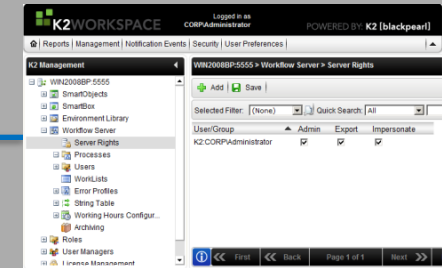
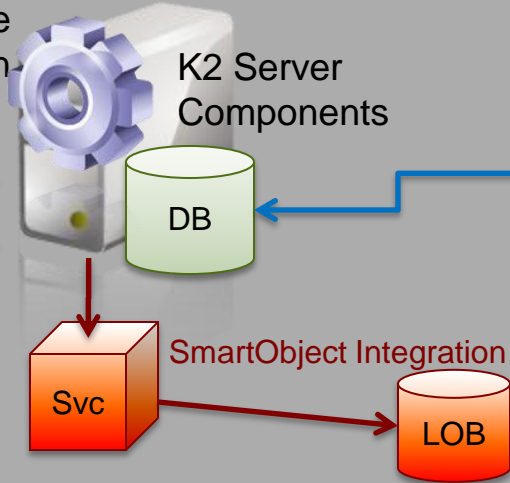
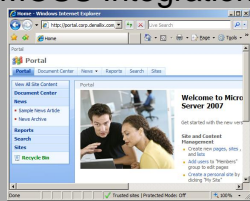
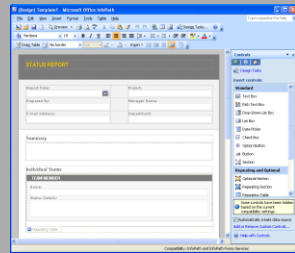
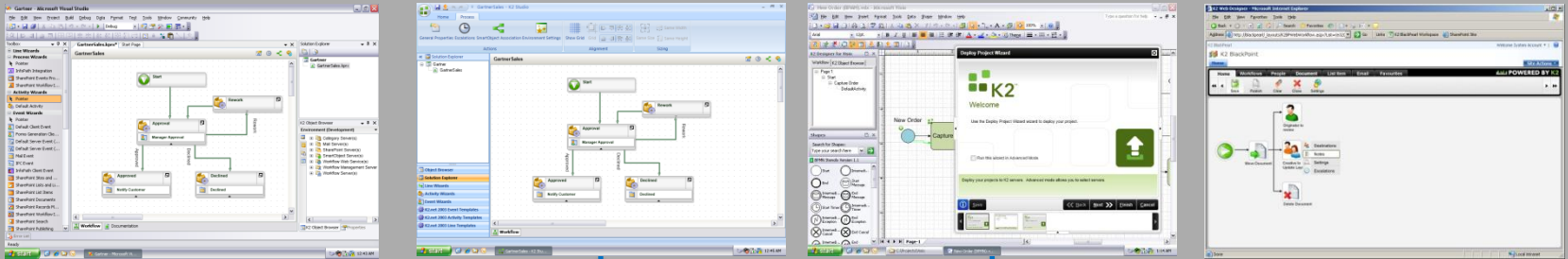
Client API

MOSS Integration

K2 Server Components

Workspace

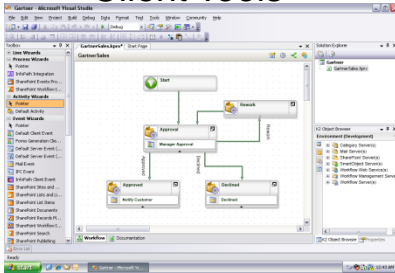
SmartObject Integration Stack



Install – Components overview

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Client Tools



- Visual Studio
- K2Studio
- Visio

SQL Components



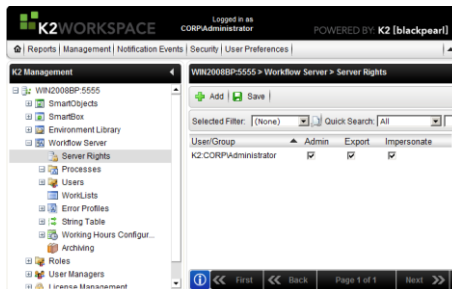
- K2 Runtime DB
- K2 Metabase DB
- SQL Reporting Services

Server Components



- K2 HostServer
 - Client Endpoints
 - Deployment
 - Workflow Engine
 - Workflow Log
 - Workflow Mng
 - Environment Lib
 - EventBus
 - EventBus Scheduler
 - EventBus Mng
 - SmartFunction
 - SmartObjects
 - Dependency
 - Category
 - User/Roles
 - Logging
 - Discovery
 - Clustering
 - SSO

K2 Workspace



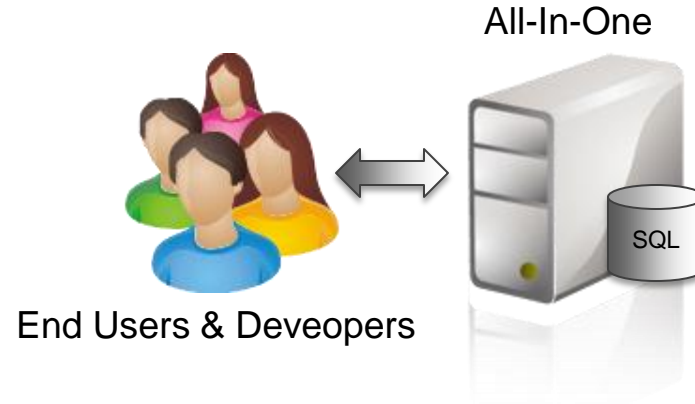
- Management Console
- Task Management
- Report Designer
- Notification Designer
- Sharepoint/Infopath Runtime Services

WSS/MOSS

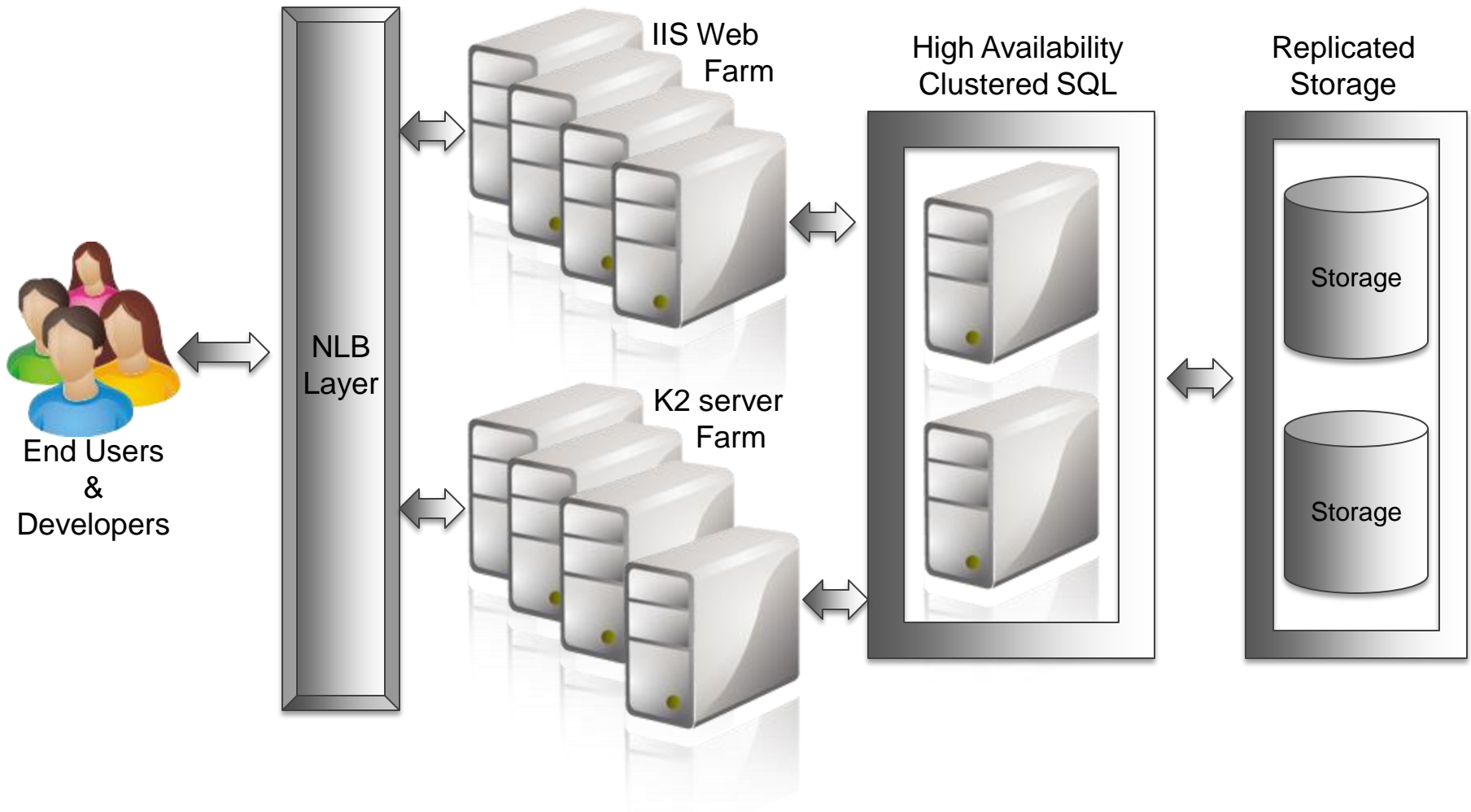


- K2 Silverlight Designer
- K2 Features & Sites
- K2 Sharepoint/Infopath Runtime Services

Single Box Deployment



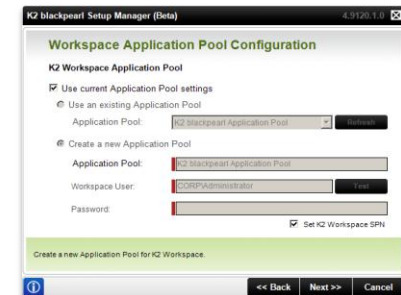
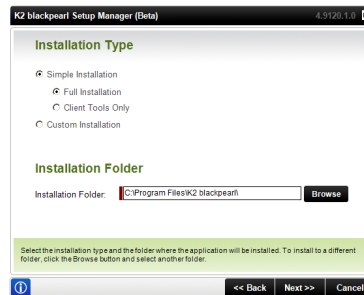
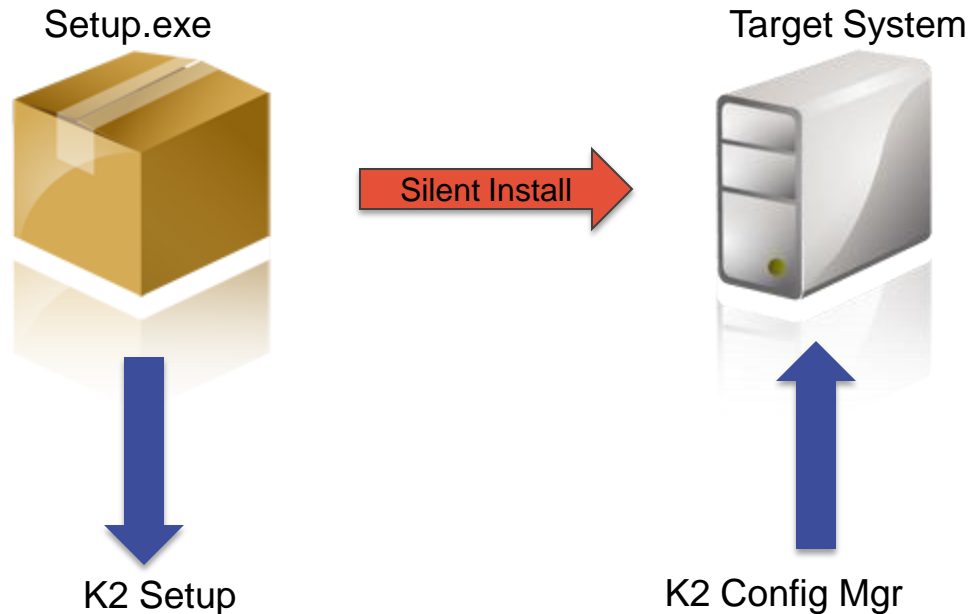
Complex Distributed Deployment



PHYSICAL INSTALL

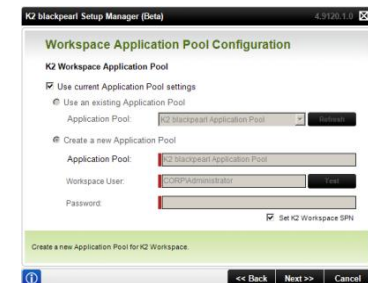
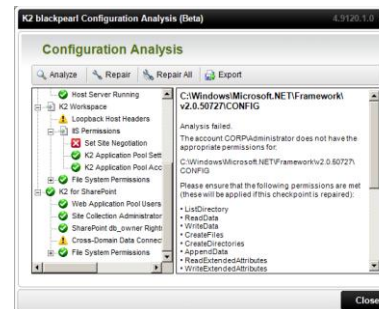
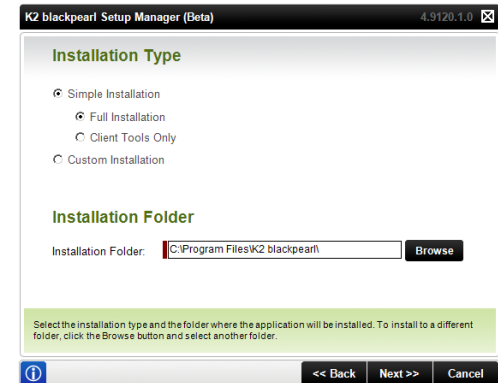
- > Manual Install
 - > Run Setup
 - > Step through all screens
 - > Run Configuration
 - > Step through all screens
 - > Done

- > Silent Install
 - > Run Setup using config file
 - > Done

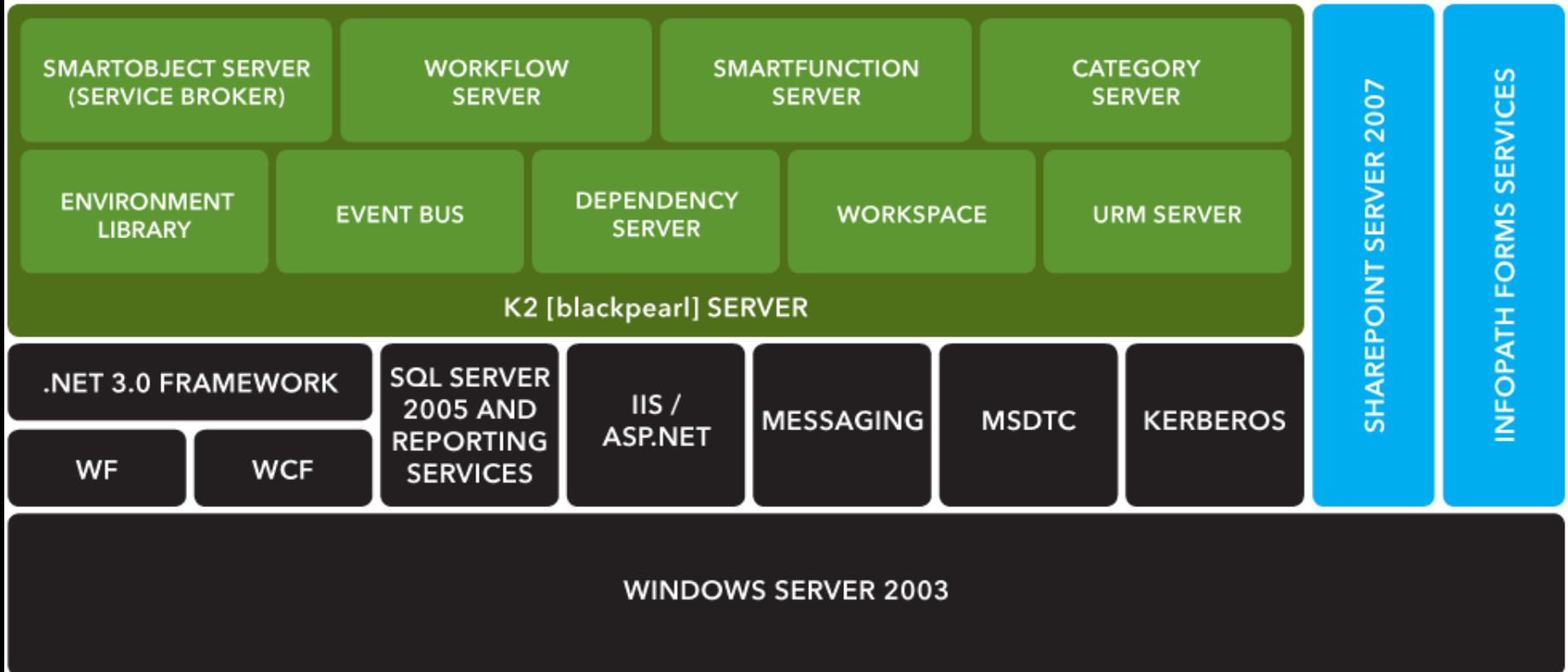


SETUP & CONFIG

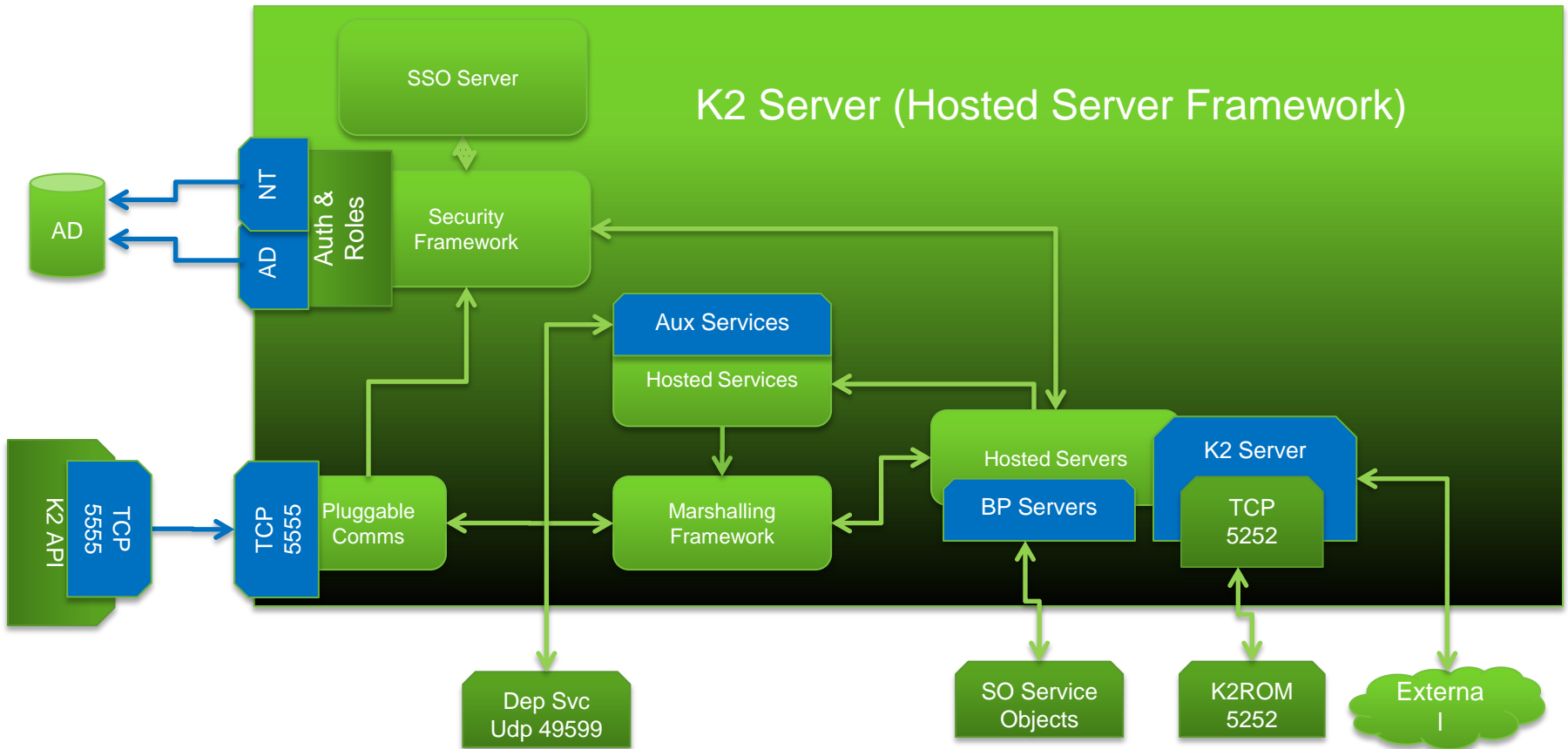
- > Setup.exe
 - > Installation & Registration of K2 Components
 - > Clients, Server, DB, SSRS, Workspace, MOSS,
 - > “Tokenized” config files & settings
 - > Commandline options for silent install, update, remove
 - > Generate System Keys & XML silent config generation
- > Config Manager
 - > Update/repair of all configuration settings
 - > Can use silent xml config file
- > Gather config Info through Simple Screens
- > Configuration Analysis & Verification (NEW)
 - > Post Install Configuration Analysis



K2Server Runtime Architecture

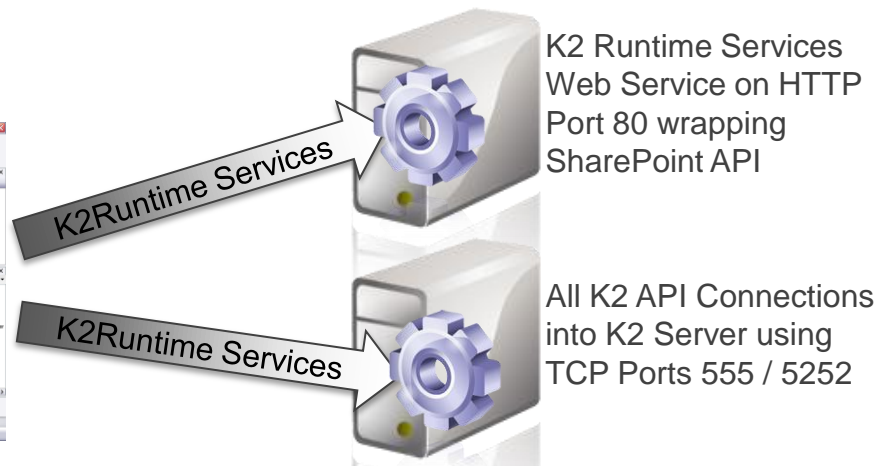
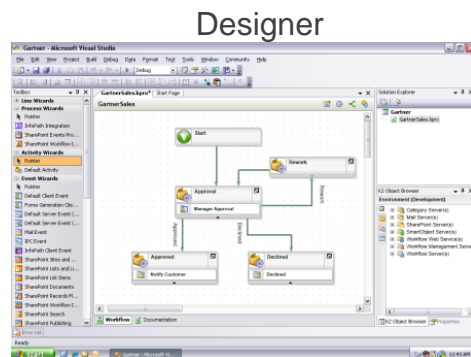


High Level Layered Architecture



AUTHORING

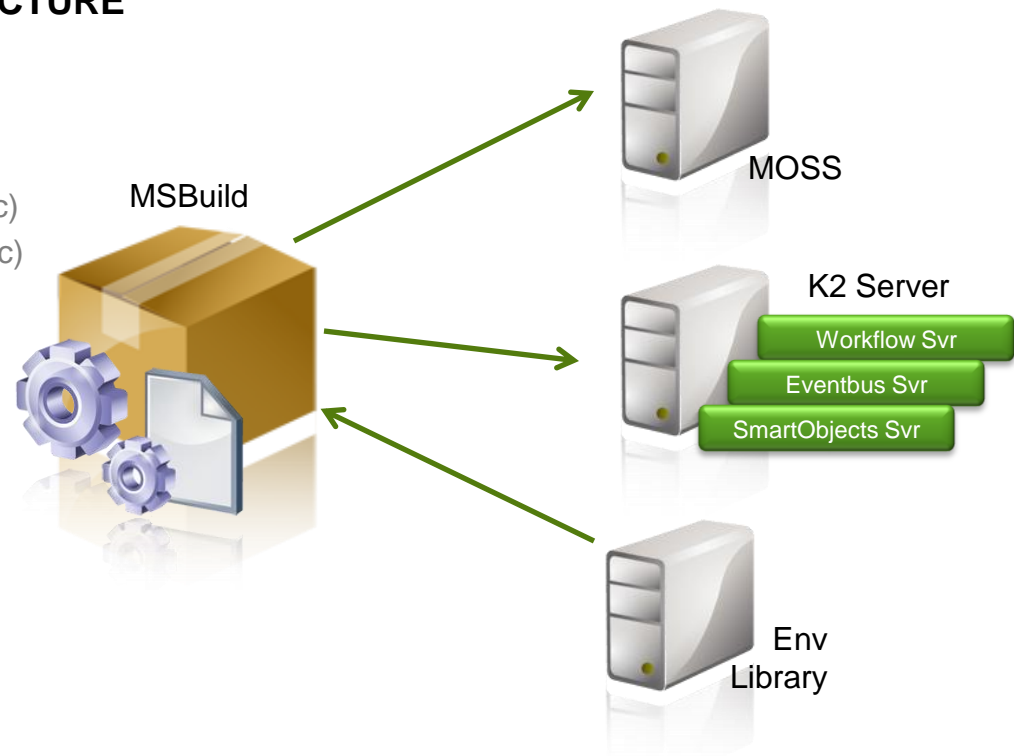
- Environment Library Connection using K2 API on TCP 5555
- Object Browsers using K2 API on TCP 5252 and 5555
- Wizards Specific (Depending on Wizards, eg. Sharepoint Web Services)



MSBUILD DEPLOYMENT ARCHITECTURE

Execute MSBuild Package

- > Obtains Environment Settings
- > Deploys artifacts via build tasks
 - Creates MOSS Artifacts (K2Runtime Svc)
 - Uploads MOSS Artifacts (K2Runtime Svc)
 - Deploy Workflow (K2 API)
 - Deploy Events (K2 API)
 - Deploy SmartObjects (K2 API)



FORMS & CLIENT OPTIONS

- > ASP.NET with ADO.NET Databound controls (No Code)
 - > Custom ASP.NET Pages with ADO.NET databound controls

- > ASP.NET & Winforms Custom K2 API (Custom Code)
 - > Advanced Custom ASP.NET Pages using K2 Client API

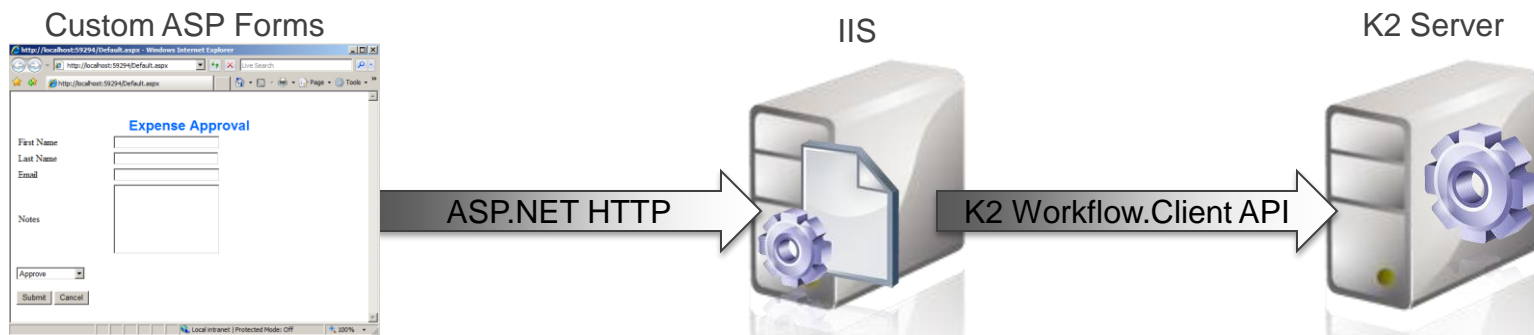
- > Forms Generation Client (No Code)
 - > Generated Basic Forms with some extensibility

- > SharePoint Workflow Integration Client (No Code)
 - > Generated Basic Basic ASP.NET Forms with some extensibility

- > Infopath Forms Support
 - > Thick Client (Standalone & Sharepoint Integrate)d & Form Services Support (No Code)
 - > Codebehind Infopath Forms & Form Services Support (Custom Code & Manual Deployment)

ASP.NET FORM INTEGRATION ARCHITECTURE (ADO & CUSTOM)


- > No-Code with standard .NET ASP using ADO Data bound controls
 - > Custom page layouts & control over entire site
 - > Custom Deployment
- > Custom ASP.NET Pages using K2 API
 - > Infinite flexibility building custom Task Lists, Forms, etc.
 - > Added complexity of custom code
 - > Custom Deployment



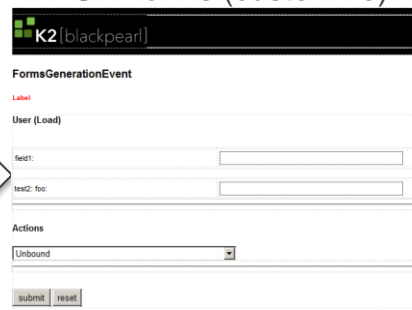
FORMS GENERATION & WORKFLOW INTEGRATION CLIENT

- > Automatically Generate basic ASP.NET Forms
- > Can Customize Form Templates for use in Form Generation events
 - > [BlackPearlInstall]\BiDesignTemplates\Layouts
- > ASP.NET Project created after wizard “finish”
- > Will deploy website on Solution deployment (workspace or Sharepoint)

Forms Gen Template



ASP Forms (customize)



msbuild



ASP App

ASP App

Sharepoint



K2API

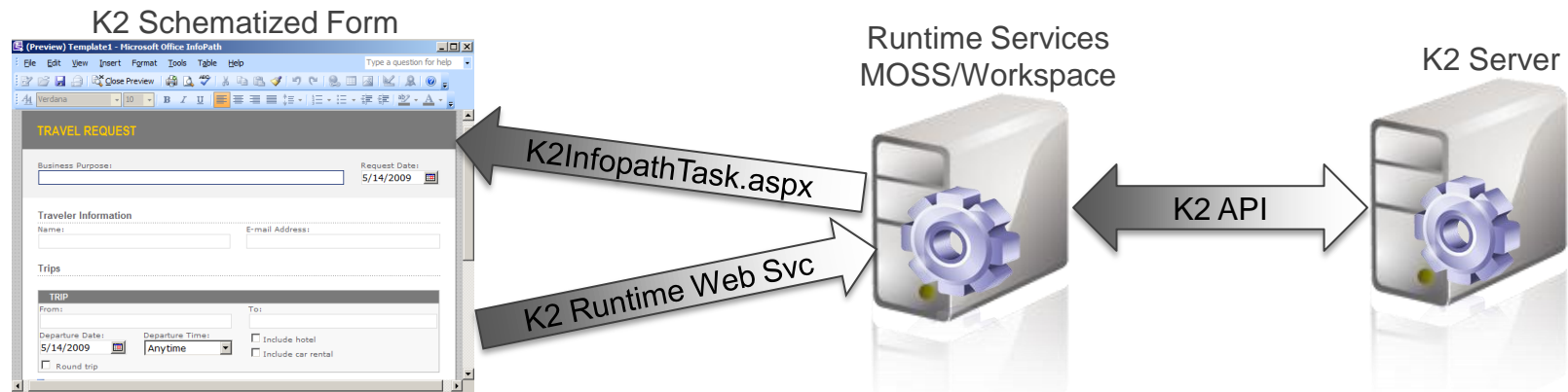
K2 Server



K2API

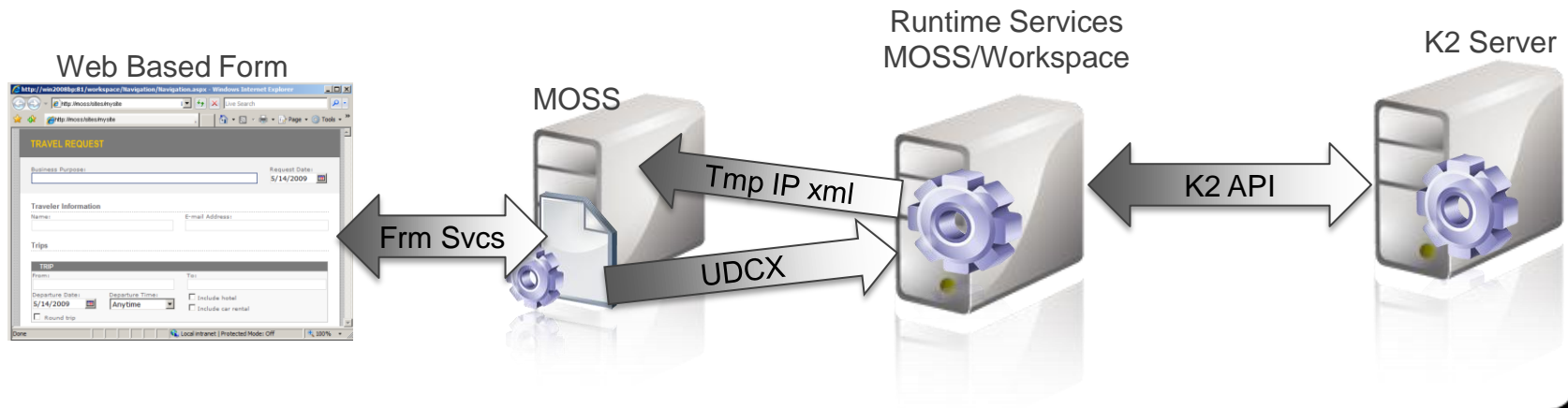
INFOPATH INTEGRATION ARCHITECTURE (THICK CLIENT)

- > InfoPath Template is customized by K2 Wizards (K2 Schematized)
- > InfoPath Form Template remain in workflow Solution & “Edited” via K2 wizard.
- > Infopath XML Instance opened via K2InfopathTask.aspx page directly
- > InfoPath Form Instance running on local machine
- > Connecting via “K2 Runtime” Web Service as custom Data Source back into K2 Server



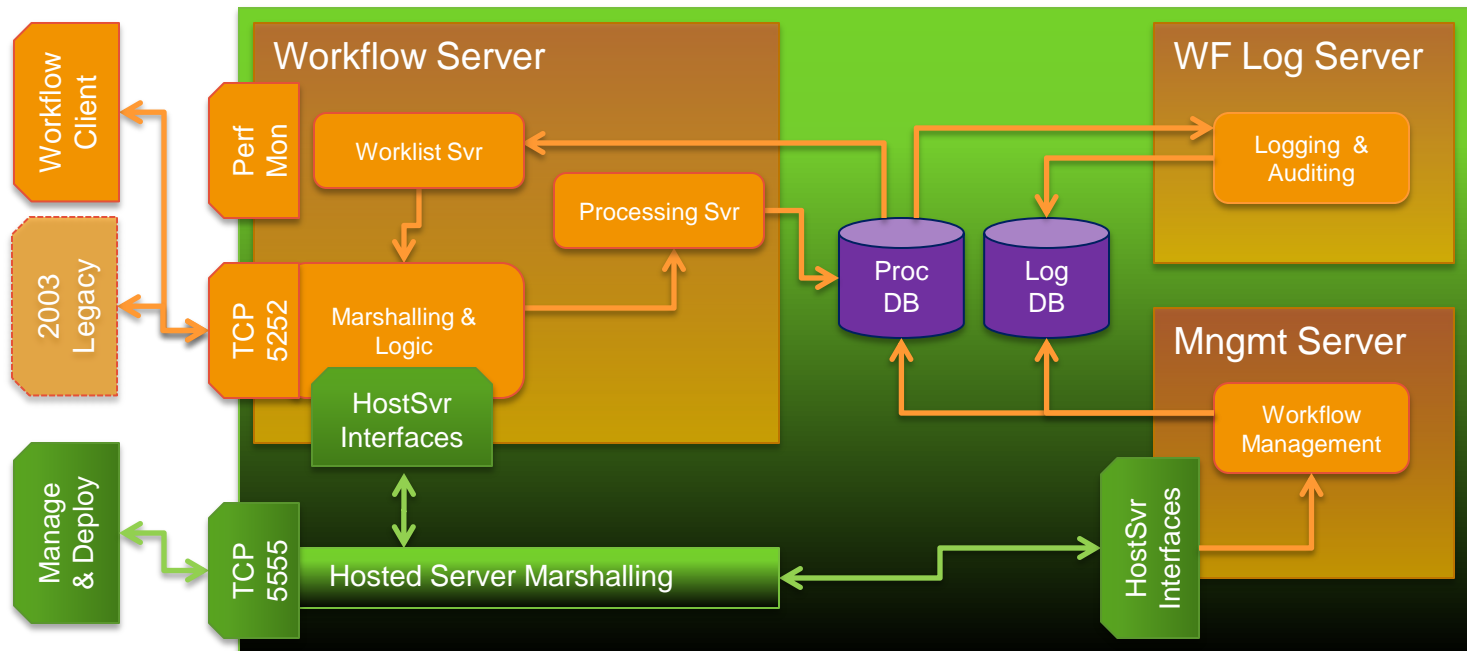
INFOPATH FORM SERVICES INTEGRATION ARCHITECTURE

- > InfoPath Form Integrated & Schematized as normal, except with “web forms” option
- > InfoPath Form Template remain in workflow Solution & “Edited” via K2 wizard.
- > InfoPath Form XML Uploaded into temp location, Form Services renders form in browser
- > K2 Data Source exposed as server side UDCX, Moss calls K2 Runtime Services on behalf of IP
- > K2 Runtime Services Web Service directly Integrates into K2 Server



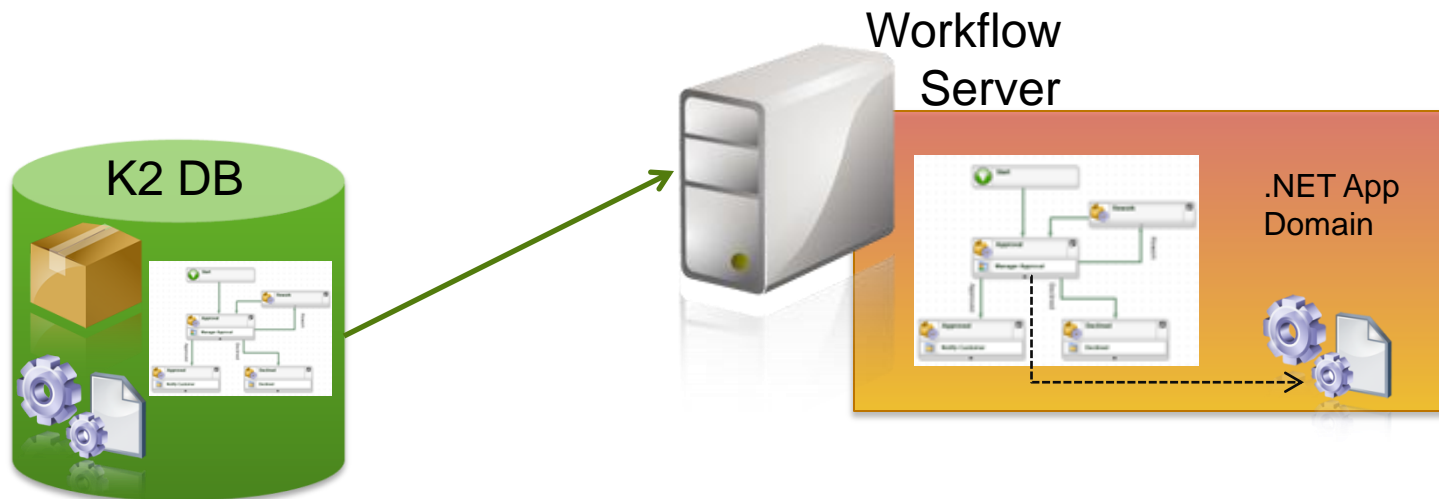
WORKFLOW RUNTIME ARCHITECTURE

- Hosted in K2 Hosted Server Framework, excluding legacy API models



WORKFLOW EXECUTE DEEP DIVE

- .NET AppDomain Created
- Process Definition & Behavior Loaded from DB
- Isolated & Versioned Execution Starts





Q & A