

VNA-SB-006 | Application Stack X to Application Stack Y | Legacy .NET Framework to Oracle APEX & Cloud | Sage Canyon

Legacy .NET WinForms & ASP.NET WebForms (.aspx) Migration to Oracle APEX 24.2

Microsoft ASP.NET WebForms (.aspx ViewState), Windows Forms (WinForms), and WCF services tied to aging Windows Server IIS hosts create massive maintenance drag. When those .NET applications sit on top of Oracle or SQL Server databases, refactoring them into Oracle APEX 24.2 and ORDS eliminates 80% of boilerplate C#/VB.NET data-access code.

Search Queries & Scope Covered: migrate ASP.NET WebForms ASPX to Oracle APEX | WinForms thick client to web modernization | replace WCF SOAP services with ORDS REST APIs | .NET Framework 4.8 end of life database app migration | Telerik RadGrid DevExpress to APEX Interactive Grid

SOURCE LEGACY STACK (STACK X)		MODERNIZED TARGET ARCHITECTURE (STACK Y)	
.NET Framework 2.0-4.8 (WinForms, WebForms .aspx, WCF, C# / VB.NET)		Oracle APEX 24.2, ORDS REST APIs, PL/SQL & OCI Cloud Native	
BOILERPLATE CODE REMOVED	WINDOWS IIS / RDS SERVERS	API MODERNIZATION	SSO INTEGRATION
80% Reduction	Retired	WCF SOAP to ORDS REST	Native Entra ID / OIDC

1. Problem Space & Architectural Bottlenecks

- Legacy .NET Framework 2.0-4.8 applications rely on ASP.NET WebForms (.aspx with bloated ViewState payloads and Telerik/DevExpress third-party controls) or WinForms thick clients distributed via ClickOnce.
- Microsoft's modern .NET 8/9 core runtime does not support ASP.NET WebForms or WCF Server natively, forcing IT leaders into an expensive full-stack rewrite just to get off end-of-life Windows Server hosts.
- In data-driven enterprise apps, 75% of the C# or VB.NET codebase consists of repetitive ADO.NET / Entity Framework plumbing, DTO mapping, and grid binding.

2. Technical Solution & Reference Architecture

- 2.1 Roslyn AST & SQL Dependency Extraction:** We analyze your Visual Studio .sln / .csproj / .vbproj repositories, mapping every WinForms screen, .aspx page, WCF contract, and Oracle.ManagedDataAccess / SqlConnection query.
- 2.2 Data-Tier Pushdown to PL/SQL & Views:** Multi-tier C#/VB.NET data orchestration loops that pull thousands of rows over the network are rewritten as high-performance, set-based Oracle SQL views and PL/SQL packages executing at zero network latency.
- 2.3 WebForms / WinForms to APEX 24.2 Universal Theme:** Third-party Telerik, Infragistics, and DevExpress grids are replaced with native APEX 24.2 Interactive Grids, Faceted Search, and Smart Filters.
- 2.4 WCF SOAP to ORDS OpenAPI 3.1:** Legacy WCF .svc endpoints and Windows Services are replaced by stateless Oracle REST Data Services (ORDS) handlers and DBMS_SCHEDULER background jobs.

2.5 Query Fan-Out Rationalization & Runtime/Inference Filtering: Instead of migrating cloned reports and DataWindows 1-for-1, our AST SQL parser clusters queries by their canonical core JOIN graph, builds governed Oracle 23ai views only for those core queries, and generates dynamic WHERE clauses, faceted filters, and ad-hoc report variations at runtime and via AI inference (APEX 24.2 Smart Filters & Select AI).

3. Artifact-by-Artifact Conversion & Modernization Matrix

Legacy Artifact / Baseline Workload	Modernized Oracle / Cloud Target	Engineering Method & Outcome
ASP.NET WebForms (.aspx + .aspx.cs ViewState)	APEX 24.2 Pages + Stateless AJAX Dynamic Actions	Declarative Region & Page Item Synthesis
WinForms `DataGridView` / Telerik `RadGrid`	APEX 24.2 Interactive Grid & Interactive Report	Native Grid Configuration & Saved Report Views
ADO.NET / Entity Framework / Dapper DAL	Direct In-Database SQL & PL/SQL Package APIs	Elimination of Middle-Tier ORM Serialization
WCF Services (.svc) & ASMX Web Services	Oracle REST Data Services (ORDS) OAuth2 APIs	AutoREST & PL/SQL REST Handler Migration
SSRS Reports (.rdl) / Crystal Reports (.rpt)	APEX Interactive Reports + APEX Office Print (AOP)	SQL Query Migration & Native Export Templates
Cloned Reports / Queries Differing Only by WHERE Clause or Group-By (Query Fan-Out)	Canonical Core SQL View + APEX 24.2 Runtime / AI Inference Filters	AST Join-Graph Clustering (75-90% Report Count Reduction)

4. Oracle APEX & Ancillary Engineering Toolchain

- Oracle APEX 24.2 & Universal Theme 42
- Oracle REST Data Services (ORDS) for high-throughput JSON REST APIs
- Viscosity AMP for Active Directory / Microsoft Entra ID OIDC single sign-on
- Oracle SQLcl Liquibase & Azure DevOps / GitHub Actions CI/CD integration

Anonymized Production Proof: For multiple enterprise and public-sector clients running aging C#/.NET WebForms and WinForms applications over Oracle and SQL Server, we consolidated scattered IIS application servers into governed Oracle APEX 24.2 environments with native Microsoft Entra ID authentication, reducing annual maintenance hours by over 60%.

5. Principal Architect Q&A

Q: Can we keep our existing Azure DevOps or GitHub Actions CI/CD pipelines when moving from .NET to APEX?

A: Yes. Using Oracle SQLcl Projects and Liquibase, every APEX page, shared component, and PL/SQL package is exported as readable YAML/SQL files into Git and deployed automatically via Azure DevOps or GitHub Actions.

Q: How do you integrate APEX with Microsoft Entra ID (Azure AD) and Office 365?

A: Oracle APEX 24.2 supports native OpenID Connect (OIDC) authentication with Microsoft Entra ID out of the box, and our AMP framework integrates directly with Microsoft Graph REST APIs for SharePoint, Outlook, and Teams automation.

Q: What is included in the downloadable PDF Solution Brief?

A: The PDF Solution Brief includes the .NET WinForms/WebForms-to-APEX architectural comparison, ORM-to-PL/SQL latency benchmarks, and an Azure DevOps SQLcl Liquibase pipeline blueprint.