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Infrastructure Legacy Systems Engineering Addendum

Contents

Summary

Senior Architect and Infrastructure Strategist with proven success stabilizing and modernizing **COBOL** and **FORTRAN 77** platforms across **SCADA**, **ICS**, and compliance-heavy industrial environments. Adept at translating vintage logic into maintainable, interoperable systems while mentoring teams and guiding resilient modernization trajectories. Specialized in integrating legacy components into automated stacks and preserving mission-critical reliability through pragmatic engineering.

Tools, Technologies & Applied Skills

Category	Technologies / Platforms
Languages	COBOL (Wang VS), FORTRAN 77, VBScript, Win32 API, MAPI, MFC, VB6, OCX, C/C++, PowerShell
Systems	Wang VS COBOL, TDACS (Texaco Data Acquisition and Control System), Honeywell Hiway Gateway (HG) using **DDTs**, Texaco's **ScreenPack** & **GraphPack** UI Libraries
Architectural Skills	Legacy system integration, data acquisition workflows, control logic stabilization, telemetry support
Operational Impact	Diagnosing persistent logic errors, refactoring for maintainability, restoring designed performance across industrial gateways
Interfacing	Custom UI scaffolding, input validation logic, real-time shared memory management
Modernization Strategy	Registry hive edits in WinPE, automation workflows, hybrid architecture alignment with Azure/AWS
System Management Tools	IT Works (Builder, Servicer, Manager, Architecter), Smart Packaging, Persona-based automation

Language-Specific Contributions

COBOL – Wang VS Environment – Union Carbide | *1988‑1989*

- Created structured data files using a proprietary file layout utility, integrated with UI scaffolding tools to build **character-based, menu-driven interfaces**
- Developed **multi-screen logic and screen-flow orchestration** with validation rules and application flow enhancements
- Produced standardized reports using layout-driven reporting utilities to support operational analysis in **compliance-heavy environments**
- Worked part-time during academic semesters and full-time during fall break, contributing consistently to core business systems

FORTRAN 77 – TDACS (Texaco Data Acquisition and Control System) Industrial Systems – Texaco |1990‑1996

- Developed and maintained **character and graphical user interfaces** — including **menu-based screen navigation** — using proprietary systems (**ScreenPack**, **GraphPack**), interfacing with SCADA/ICS platforms
- Refactored legacy modules, fixed unresolved bugs, and addressed long-standing issues in control logic and continuous processes
- Diagnosed and eliminated memory leaks and faulty data transform usage, impacting high-availability systems via **Honeywell Highway/Gateway** (**DDT** integration)
- Enabled mission-critical processes to operate uninterrupted, **eliminating restart cycles** and stabilizing real-time shared memory usage (TDACS "**Commons"**)

Modernization Impact

- Migrated fragile physical platforms to virtual environments using customized WinPE workflows, recovering from boot failures by re-enabling device drivers via Registry hive edits in WinPE
- Created intelligent patch/config systems that proactively resolve legacy faults
- Transitioned monolithic utilities into modular components for maintainable hybrid environments

Case Study: IT Works – Modular System Management Platform

Designed and deployed across business and industrial networks, IT Works exemplifies how thoughtful infrastructure can reduce downtime, improve user satisfaction, and scale with purpose. As the lead architect, I developed and integrated modular components—including Builder (installation engine), Servicer (remote control service), Manager (help desk platform), and Architecter (directory-style editor)—to support persona-based automation and lifecycle refresh strategies.

Key achievements:

- Implemented a 3-year lease model with annual refresh of one-third of user systems
- Developed Smart Packaging logic for dynamic, variable-driven software deployment
- Centralized printing infrastructure using high-end shared devices, reducing cost and support overhead
- Enforced least-privilege security across all user systems, minimizing help desk calls
- Delivered consistent, high-uptime user experiences across diverse environments

IT Works wasn't just a tool—it was a mindset. We built systems that worked, day in and day out. The platform's architecture and principles remain relevant today and could be modernized for cross-platform environments including Linux and UNIX.

Access

This addendum accompanies my resume and reflects my legacy domain depth across engineering, recovery, and modernization in high-stakes environments.