

EBOOK

CRAFTING A MAINFRAME MODERNIZATION ROADMAP

Design your ideal AppDev
modernization journey based
on key business needs and
target use cases

Ensuring Long-Term Application Vitality

Today's mainframe teams are challenging themselves to deliver even higher levels of value to the business while onboarding the next generation of talent.

Modernization addresses these fundamental challenges, ensuring the long-term vitality of the platform and the mission-critical applications it runs.

As you work toward choosing your modernization approach, closely examine the following considerations:

- **Capacity:** How much change is the team able to undertake at any one time, while continuing to meet commitments?
- **Maturity:** Are internal DevOps standards well-established and stable?
- **Staffing:** What are the biggest skills gaps/risks?

Addressing these three areas will ensure that your modernization roadmap is realistically built for your business' capacity and fully equipped to solve your key business challenges without disrupting existing processes.

Why Modernize? Understanding Key Value Drivers

With the broad range of modernization options available, deciding where and how to modernize can be challenging. Here is a thoughtful, pragmatic way to assess the opportunities through the lens of outcomes:

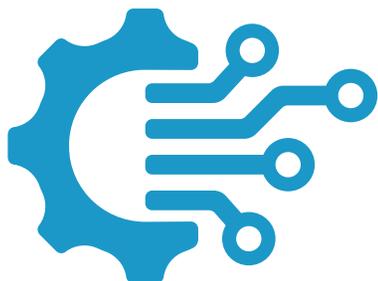


Step 1: Start Your Modernization Checklist

The first step to modernization is to create a checklist that clearly lays out steps in your strategy so that all teams across organizational silos fully understand. Here's a list you can start with:

CHECKLIST

- ✓ Assign AppDev modernization owner along with named stakeholders
- ✓ Engage IT standards team and DevOps CoE; review portfolio and roadmap
- ✓ Conduct a modernization roadmap working session
- ✓ Evaluate adoption potential with next-gens
- ✓ Document short-list opportunities; assess and rank
- ✓ Publish modernization plan with timelines



Step 2: Prioritize Your Use Cases

As you develop your modernization roadmap, you should identify which use cases would deliver meaningful ROI along one or more of these dimensions in the short- to medium-term. They also open the door to more strategic options like infrastructure automation, engineering, GitOps, and site reliability engineering (SRE).

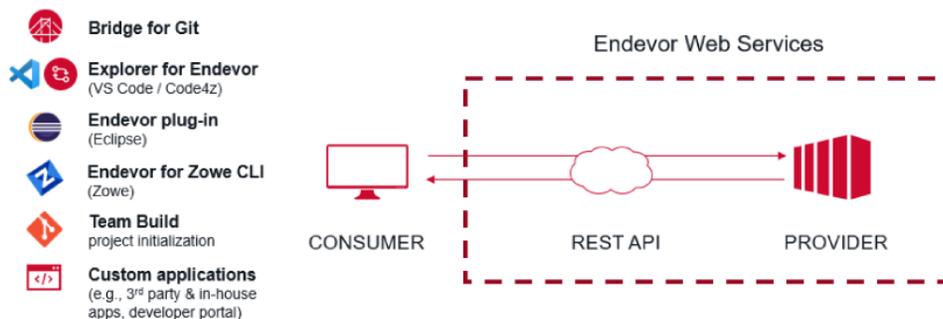
Some top emerging use cases you should assess and prioritize include:

- **Adopt Modern Dev Experience (DevX):**
Provide access to the tool developers love, Visual StudioCode, and in-the-cloud equivalents like Codespaces, with full remote access to z/OS and mainframe SCM
- **Automate Code Promotion:**
Automatically generate, cast, and/or execute packages to promote code through Endeavor lifecycle based on tagged code/identifier in Endeavor
- **Automate Deployment:**
Automate deployment of binaries to live environments with Endeavor (Package Ship) or other release automation scripts
- **Automate Functional Testing:**
Automate the execution of higher-level tests as part of CI/CD
- **Automate Unit Testing:**
Automate the execution of unit tests as part of continuous integration builds in Endeavor
- **Change Approvals:**
Approve Endeavor packages based on approval of CR in service management (ITSM) tool
- **Change Sync:**
Generate or update related Change Requests for Endeavor code promotions or deployments to production in ITSM tool
- **Change Traceability:**
Trace changes made to mainframe code back to upstream Agile artifacts (user stories, defects, etc.)
- **Code Scanning:**
Scan code changes automatically to find security vulnerabilities using pipeline integrated static analysis tooling and other techniques (e.g., SAST, DAST, SCA)
- **Developer Builds:**
Allow developers to perform developer builds of local work (through Bridge for Git working directories or Zowe-enabled workspaces)
- **Hybrid Git:**
For a single repo, allow developers to use Git for day-to-day development without forcing traditional developers to change their workflows or migrating code from Endeavor
- **Off-host Workspaces:**
Allow Git-like experience of managed working directories with automatic change integration directly with Endeavor via Zowe CLI
- **On-host Workspaces:**
Allow developers to create isolated work spaces natively in Endeavor for projects/changes via self-service
- **Native Git:**
Use Git version control directly as a main repo for specified applications (rather than via interface to traditional SCM). Leverage mainframe-specific functions like build and deploy delegated to point solutions.
- **Pull/Merge Requests (aka Code Reviews):**
Formalize code review via Pull/Merge Request mechanisms in enterprise Git server

Step 3: Explore Key Enabling Tools

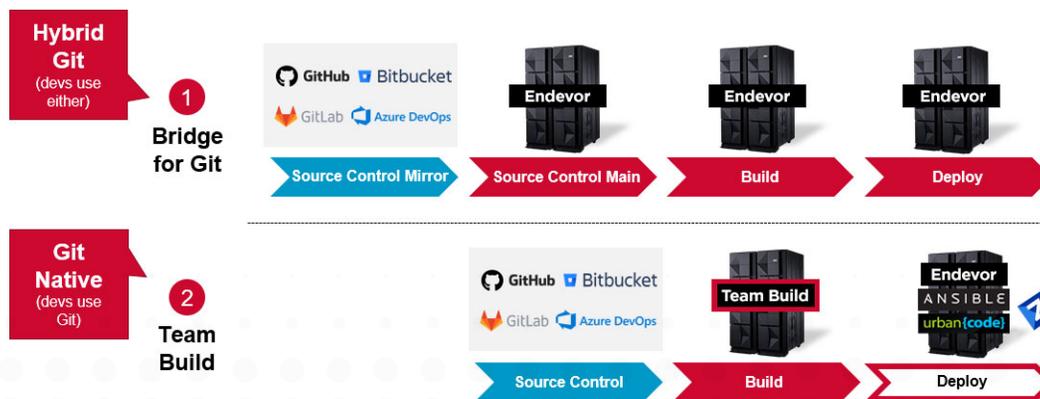
As you determine the key use cases your organization would benefit from addressing, our team will work with you to select some key enabling tools to specifically help you prioritize your use cases. These tools include:

- Endevor Web Services:** Adoption of Endevor Web Services should be the first step in a modernization journey. In-place modernization requires a new level of openness to non-mainframe-native tooling like enterprise Git servers, IDE extensions, and the Zowe CLI. The way to achieve this level of openness in a controlled and secure way is through Endevor Web Services, a web-based API that exposes core operations in Endevor.

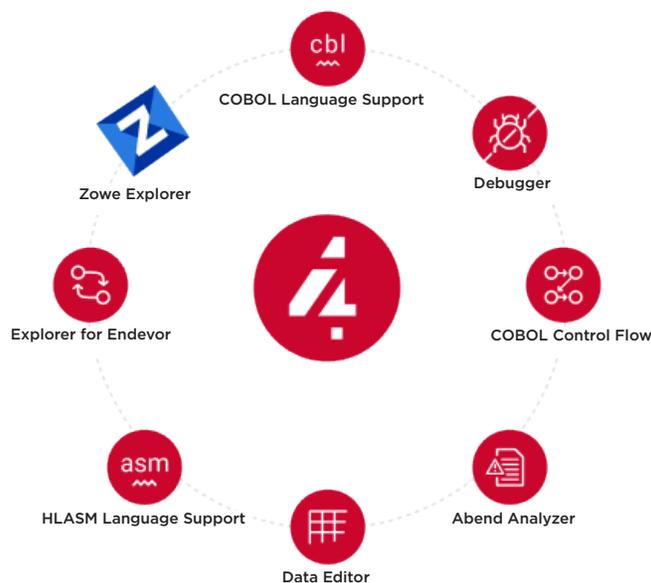


- Endevor Bridge for Git (B4G) and Team Build:** The award-winning Endevor Bridge for Git and Team Build are important modernization enablers, supporting a range of use cases.

Risk-managed Git adoption



- **Code4z:** Code4z, the VS Code extension pack developers use to edit, compile, and debug mainframe code with ease, is available on the marketplace. It includes the following extensions:



- **Zowe:** Zowe is the modern, open source interface for the mainframe. Most environments are heterogeneous with tools from many vendors, so we recommend open-first automation using the Zowe CLI and API Mediation Layer. Check out the wide-ranging portfolio of [Zowe conformant tools](#) here.



You can learn more about these tools on the [Modern Mainframe](#) site.



Reduce Your Risk Profile With Broadcom

Regardless of which journey aligns best with your business objectives and targeted use cases, you should consider an in-place modernization strategy that leverages key mainframe strengths. That's where Broadcom comes in.

Mainframe applications, the bedrock of many businesses, have a risk profile like few others. Here at Broadcom, we advocate a “risk-managed” approach to modernization that respects their mission-critical role. Our modernization priorities include:

- Ensuring business continuity with in-place modernization
- Mitigating disruption of those with deep application understanding
- Making mainframe an exciting career choice by opening the platform to cloud-native options
- Turbocharging the process by incorporating accepted Agile and DevOps practices

Modernize to Meet Evolving Business Needs

Modernization has become critical for today's business needs and long-term vitality, but each journey is unique. The key to success is building consensus among the stakeholders around specific initiatives and timelines.

Ask the tough questions up front so the resulting roadmap is pragmatic, well-reasoned, and achievable. Creating a modernization roadmap will inspire teams to invest their energy and creativity to build the modern mainframe for the next generation.

Here at Broadcom, our expertise as well as the Broadcom DevOps Suite can help you develop a risk-managed modernization approach fit for your organization's business needs.

[LEARN MORE ABOUT MODERNIZATION](#)

mainframe.broadcom.com/modernization-roadmap

Questions?

Broadcom is here to help.

[TALK TO A MAINFRAME EXPERT](#)



About Broadcom Mainframe Software

Broadcom Mainframe Software empowers customers to amplify the value of their mainframe investments. Our commitment to partnership is grounded in delivering to customers greater success with the platform. It starts with embracing open technologies in ways that unite the mainframe and hybrid cloud environments. Our leading DevOps, AIOps, Security, Data Management, and Core Infrastructure software solutions and innovative value programs go beyond code to unlock the platform's full potential.

For more information, please visit our website at: mainframe.broadcom.com

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