



Solid Foundations, Comprehensive Capability

The PopUp Mainframe Advantage

What differentiates PopUp Mainframe from IBM Test Accelerator for Z (TAZ) or IBM Z Developer and Test (ZD&T)?

Executive Summary

We are sometimes asked about the differences between PopUp Mainframe and the TAZ or ZD&T products which are included as part of our solution.

What differentiates PopUp Mainframe from a self-installed and configured TAZ or ZD&T instance is the speed and ease of setup, the ability to run on any platform in minutes, and the extra capabilities and utilities which comes with PopUp Mainframe. From day one, our focus has been on revolutionizing mainframe delivery by enabling our customers to make mainframe change faster and more cheaply using disposable on-demand z/OS environments for dev, test, training and other non-production activities.

This focus, and the resulting PopUp Mainframe product, elevates capabilities offered by the licensed TAZ and ZD&T components, so that PopUp Mainframe offers a robust, ready-to-go, instantly available z/OS environment with no startup effort and a highly efficient management process. The following sections summarise the foundational technology that PopUp Mainframe licenses from the IBM TAZ product, plus the unique, important additional capabilities provided within the PopUp Mainframe solution.

Built on an IBM foundation

Fundamental to the PopUp Mainframe objective of providing a genuine z/OS environment in an instantly available, flexible incarnation, is that we wanted to adopt the unique hardware emulation support provided exclusively within the IBM ZD&T and later TAZ environment. TAZ and ZD&T provide hardware emulation (as opposed to software emulation) which ensures that a PopUp z/OS is exactly the same as an LPAR running z/OS on a physical mainframe, and all IBM and third-party subsystems and tools which run on z/OS are supported on PopUp Mainframe.

PopUp Mainframe holds a long-standing ESA ISV agreement with IBM to re-use the core hardware emulation and other components from TAZ as part of the PopUp Mainframe solution.

A fully configured z/OS environment

A vital aspect of product functionality was to ensure the z/OS environment we offer contained the familiar, popular IBM sub-systems users would expect to see. Again, based on the licensed IBM technology, the standard PopUp Mainframe product image contains the pre-configured, 100% compatible IBM sub-system capabilities, ready to run, including:

- CICS, IMS, Db2, JCL, MQ
- COBOL, PL/I, and Java
- (plus debugging, monitoring, build and deploy tools)

PopUp Mainframe Specific capabilities

Offering a compatible, functionally comprehensive z/OS environment is not the whole story for us, however. For PopUp Mainframe to be as useful and valuable to customers as possible, we provide additional capabilities, integrations, support, short setup time, ease of use, and a variety of other vital considerations, to provide a complete z/OS solution for development, test, training, DBA, sysprog, and other non-production activities.

Aiming to go beyond purely compatibility towards comprehensive capability, the design objectives for PopUp Mainframe included the following characteristics:

- Quick and easy installation
- Easy management and configuration
- Rapid ingest of mainframe images
- Flexible sharing and restoring of z/OS instances
- Efficient and simple administration
- Inclusive of modern, hybrid environments
- Inclusive of compliant data management facilities

Each of these additional solution elements are outlined below.

Simple, Quick (and Automatable) Installation

PopUp Mainframe is available across multiple platforms and can be installed in under 10 minutes. The installation process is straightforward and does not require sysprog

expertise. PopUp Mainframe can also be provisioned and configured in a fully automated way using Terraform and Ansible. Learn more [here](#).

Self-service provisioning and config management

PopUp provisioning can be fully automated using industry-leading infrastructure-as-code platform [Terraform](#). This enables instances of PopUp Mainframe to be provisioned and removed on-demand, providing agile mainframe environments which adapt to project needs on a continual basis, enabling mainframe change projects to align with organizational delivery models.

PopUp Mainframe also comes with many prebuilt automation playbooks developed with industry-leading automation solution [Ansible](#). These playbooks help users automate many maintenance, config, user management and installation tasks with minimal mainframe skills and no reliance on sysprogs.

PopUp Mainframe used with both Ansible and Terraform together provides an end-to-end infrastructure and configuration management solution for z/OS environments with minimal Ansible/Terraform skills required. This provides the foundation for everything-as-code in z/OS. It also enables true self-service for z/OS users, who can stand up a new z/OS environment, configure it appropriately for their needs, then remove it when it is no longer needed – all without relying on support from a sysprog.

Simple to stand up chosen application and data

Transferring relevant artifacts from a physical mainframe LPAR to PopUp Mainframe is straightforward. We provide different options to assist customers with setting up application and data on the PopUp Mainframe. Our [custom migration utility](#) is designed to transfer large volumes of data efficiently, providing comprehensive reporting.

Instant z/OS Flexibility with FastTrack

PopUp Mainframe comes with the [FastTrack facility](#) – which allows users to take a snapshot of their entire z/OS environment at any time (including config, data and subsystems) and use the snapshots as multiple working copies of their z/OS simultaneously. Snapshots are cheap from the storage perspective and can be taken as needed before, during and after tasks. Once snapshots are taken, users can switch between them at will, giving z/OS users tremendous power and freedom to develop and test with no risk of losing work, jump back to previous points in time on demand, and innovate.

Snapshots can also be shared to other environments in seconds (including between x86 and IFL platforms), enabling users to send a verified snapshot to another team and enable truly parallel independent work streams. Learn more [here](#).

Efficient Administration

PopUp Mainframe provides extensive capabilities to accelerate an efficient administrative process that is simple to use.

- An intuitive “[Dashboard](#)” to manage, start, and stop all PopUp z/OS environments from a central point.
- Additional dashboard tooling for the full [FastTrack](#) capability – including a snapshot of any z/OS environment, and then sharing, reverting, and branching of those across the team.
- [Observability](#) of key information is provided through prebuilt dashboards based on industry-leading open-source Prometheus and Grafana tools.
- [Ansible playbooks](#) to automate a wide range of activities (see self-service section)
- Automated allocation of storage volumes
- Ability to import code from source config management tools into git, while retaining history
- Handy monitoring and alerting utilities
- Master console message interaction and automated action trigger routines

For full details on the different styles of architecture and integrations supported with PopUp, see [PopUp Architecture and Integrations](#).

Hybrid Support

Modern mainframe systems no longer exist in isolation and just integrate and support hybrid systems, whether that’s cloud, open source, or other technologies. PopUp Mainframe recognizes and has acted upon that to support the modern needs of today’s mainframe customer.

Open-Source Tool Support

The rise of popularity of open-source technology on the mainframe means most z/OS environments rely on it in some shape or form. Based on customer need, [various open-source utilities](#) are included within each PopUp installation, including -

- Ansible – The Ansible automation framework, including a range of pre-written Ansible playbooks for use with PopUp Mainframe, are [included](#).
- Galasa - Testing Framework
- ZTI – Terminal Emulation Software
- IBM Open Enterprise Foundation for z/OS, which provides a comprehensive suite of open source tools and libraries that are designed to enhance and simplify the experience on the z/OS platform for z/OS 2.5 and above. [Note: OEF is shipped with TAZ, not ZD&T]

- IMON - a real-time system monitoring tool for z/OS allowing users to quickly locate information of interest.
- Showzos – which makes MVS control information displayable, providing a wealth of information about a z/OS system, everything from Operating System Information to Software levels and Storage Configuration is provided in a single call.
- COBOL Check – COBOL Unit Testing Tool

Cloud

The PopUp Mainframe product runs on LinuxONE or Linux IFL on the mainframe, or on x86 servers in the data centre or in the cloud. PopUp installation packages are available via both Azure and AWS. Learn more [here](#).

Mainframe Development and Data Management Integration and Support

Most mainframe environments will contain specific 3rd party utilities to support specific requirements. One such area is for data masking, subsetting, and management. PopUp Mainframe provides a variety of connectors and support for popular [3rd party data management tools](#), including

- BMC AMI DevX toolset option ([learn more](#))
- Delphix Continuous Compliance and Continuous Data options (data masking, and data virtualization and provisioning) ([learn more](#))
- DataVantage DMX Data Masking option ([learn more](#))

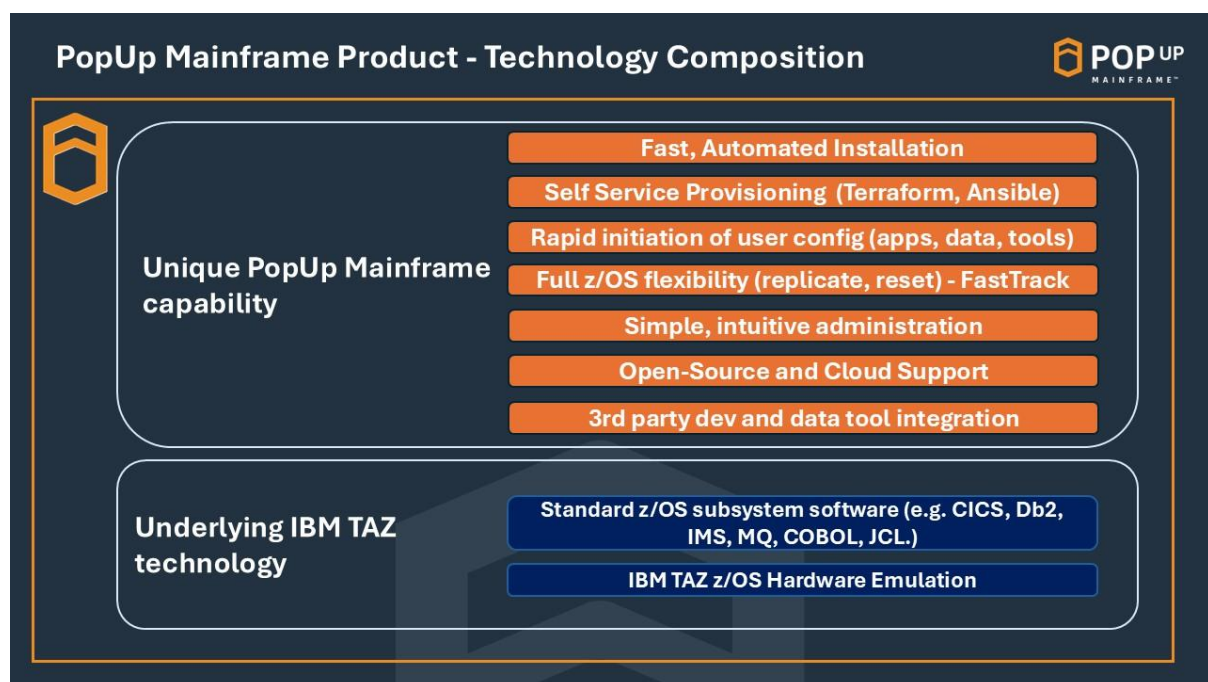


Figure 1 - PopUp Mainframe product composition

Best Practice guidance

PopUp Mainframe also provides [best practice guidance](#) to help customers get the most out of the product, and we also offer a full product [certification program](#) for all users to undertake product training.

Full details of the component parts of PopUp Mainframe, supported versions, and available options, are provided in our Release Notes page of our documentation site. See [here](#).