Astadia THE MAINFRAME TO CLOUD EXPERTS

FASTTRACK: THE PROCESS

FACT SHEET

AT A GLANCE

The FastTrack Methodology is an innovative process that highly reduces risk from software transformation projects. Because FastTrack does not introduce any business disruption, it enables complex cross-platform transformation concurrently with regular application maintenance.

PROCESS HIGHLIGHTS

Many of today's mainframe applications that run on mainframes are still mission-critical and continue to deliver significant benefits to the organizations that use and rely upon them. Nevertheless, the Total Cost of Ownership and the technological risk associated with these applications have now escalated to unsustainable levels.

FastTrack builds on the combination of powerful, flexible tools to automate various processes: CodeTurn for source-to-source translation and DataTurn for data migration. Furthermore, two tools that automate the testing are utilized to verify and prove the correctness of the performed code transformation and data conversion: TestMatch for on-line applications and message-based application interfaces such as MQ, and DataMatch for batch applications.

Fast Tools

The CodeTurn source-to-source transformation tool uses fast(est) parser generators, is programmed with highly optimized generic programming languages and has powerful command-line interfaces.

These core benefits translate into the reassurance that any application updates that may occur during the migration project can be easily integrated into the migrated system in a matter of hours or days instead of weeks or months.

Armed with such a capability, organizations benefit from the shortest "code freeze" periods possible and maximum flexibility for their business applications.

Consistent Tools

Automation also ensures consistency for both code transformation (CodeTurn) and data conversion (DataTurn). Additionally, advanced tools to compare the generated source code with the previous generation ensure that the previously transformed code or manually tuned code doesn't create conflicts between consecutive transformation iterations.

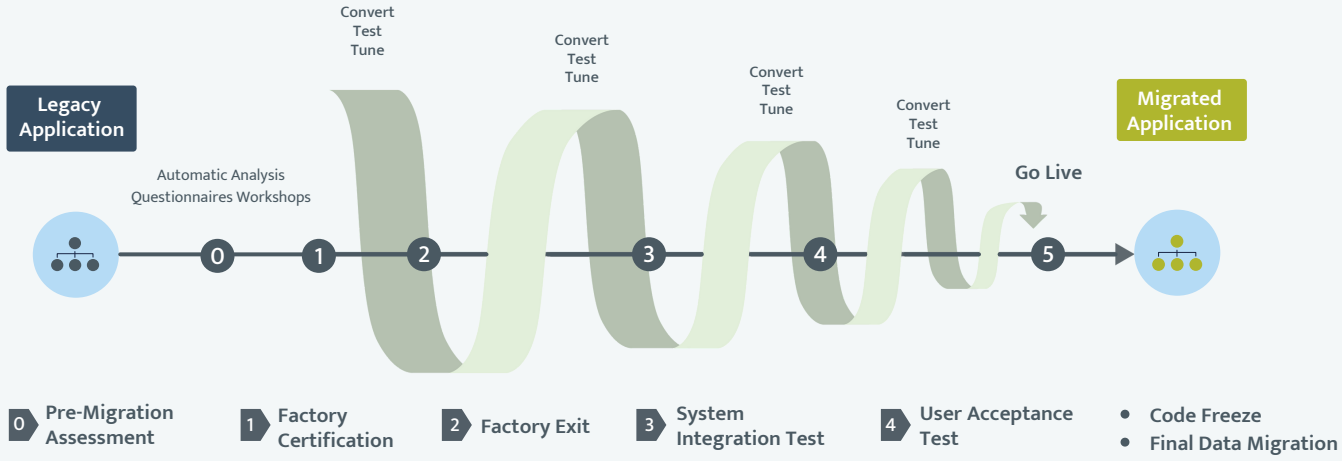
Consistency to this level of precision unlocks the benefit of working in cycles, eliminating the onerous tasks of identifying, extracting, or transforming deltas.

With such a capability, organizations are provided with a predictable, repeatable process that furthermore gets easier each time it is executed. Consequently, while designed for your target infrastructure, CodeTurn and DataTurnare are also customized to fit your individual migration project.

Customized Tools

All Astadia migration projects involve systems that have been in production for decades and have seen multiple changes and upgrades in the underlying infrastructure (hardware and/or software) and sometimes even suppliers.

This combination results in an environment that is, by now, quite unique. The same goes for the chosen target technology stack, where the combination of infrastructure and product versions creates a one-of-a-kind system.



NO INTERRUPTION TO YOUR ONGOING RELEASE SCHEDULE

A key concept of FastTrack is the migration staging area: an environment dedicated solely to the migration project. In this staging area, a coherent version of the application is installed, which is called "snapshot" and includes all the programs, data structures, and data. The usage of the staging area ensures that the artefacts in development, testing, and production are left undisturbed while the migration is in progress.

By working with snapshots, it is possible for the regular maintenance release cycles and the migration release cycles to happen independently of each other. This separation assures maximum efficiency of both the maintenance and the migration processes.

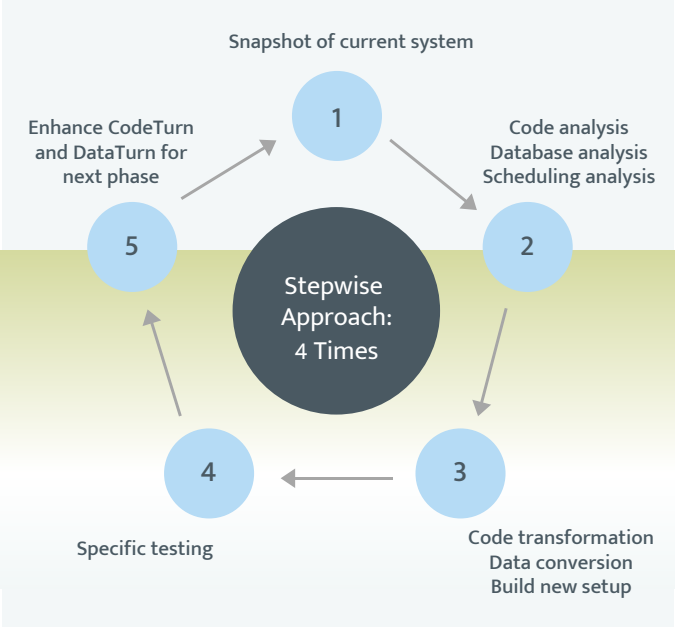
The migration always aims to achieve functional equivalence with the latest snapshot installed in the staging area, and not with the live production system. As time progresses and CodeTurn advances, the snapshot migration involves less work, which makes each iteration naturally go faster than the one before it.

AN ITERATIVE PROCESS

What happens during an iteration? Each iteration involves the consistent ordering of an identical number of steps. The first step in any iteration is to take a snapshot of the development artefacts currently in production. A copy is made to the migration staging area, followed by a second step to verify the completeness and correctness of this snapshot by the Astadia CodeTurn analysis tools.

The third step is to transform code and data structures using CodeTurn to the level at which they have been customized at that moment and to convert the application data. During data conversion, DataTurn creates a new database, and populates it with either (anonymized) data from the production environment or a specific set of test data.

In the next step, Astadia's TestMatch and DataMatch tools measure the correctness of the migrated application. A difference may result in adjusting transformation parameters, the tuning or customization of CodeTurn, or perhaps the addition of source artefacts that were missing from the snapshot.



This may start a new "transform-test-tune" mini-iteration until functional equivalence between this iteration's snapshot and the resulting migrated application is proven. At that point, a new major iteration can start.

A COMMONSENSE APPROACH TO ORGANIZATIONAL RISK

The combination of speed, consistency, and customization means that any potential update to the original programs' functionality can be added to the target platform and regression testing started without the functionality ever being manually identified or analyzed.