Mainframe Modernization to Cloud – The business drivers
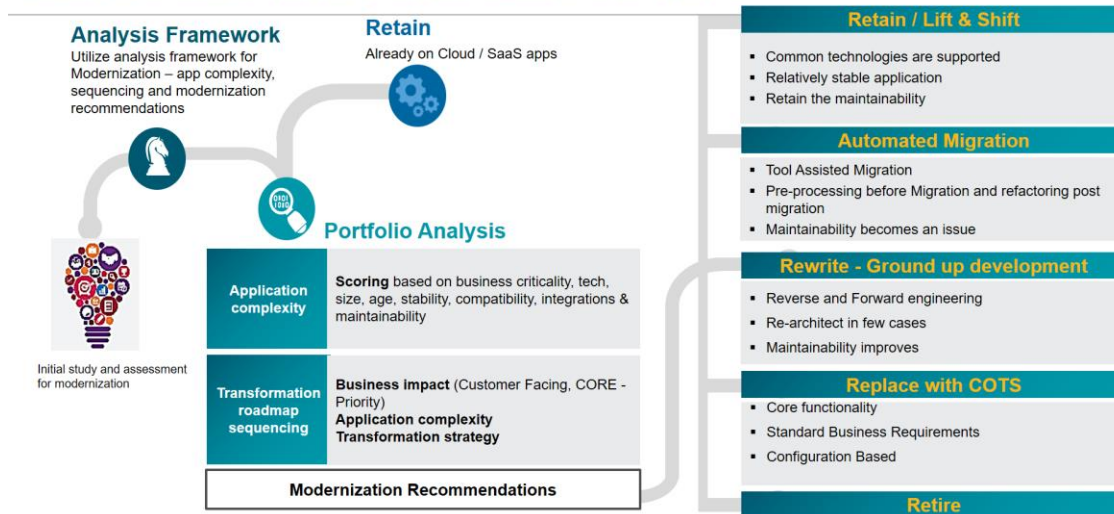
Legacy applications, written decades ago, continue to be the backbone of several mission-critical business applications. Over the course of time, they have become unwieldly to maintain and hence, present numerous bottlenecks in terms of lack of agility, huge incremental maintenance costs, unacceptable time to market, shrinking skillset etc., and hence the need of legacy transformation. Modernization of these systems, which are mission-critical for businesses like banking, insurance, retail, manufacturing etc., will help deliver a unique competitive advantage.

Mainframe Migration to Cloud – Our approach for Assessment

Approach

Identification of the right modernization strategy is crucial for the success of modernization engagements & for this, Mindtree uses its scoring based proven assessment framework(shown below) , which has continuously evolved out of learnings from past and ongoing modernization engagements , to come out with necessary recommendations.

Mindtree's cloud focused Modernization framework

Considerations

Mindtree's guiding modernization principles, intertwined with our solution accelerators, thoroughly consider the mitigation of the below key challenges encountered during any typical legacy modernization journey. Mindtree has proven solutions for all of the below mentioned considerations.

Risks	Mitigation Approach
Inadequate planning related to time , effort and cost to modernize	**Automation First Approach**
Incomplete Coverage of migration scope	Exhaustive **business rules extraction** with end-to-end traceability with system test cases to ensure 100% **coverage of migration**
Inadequate Handling of critical interfaces	Comprehensive **parallel run** & **interim state solutions** to ensure zero business disruption
Poor assessment of risk due to performance impact	**Comprehensive performance testing plan** addressing applicable NFRs.
Lack of proper documentation with knowledge in silos	Tool based, semi-automated documentation & robust transition plan.

Deliverables
- ✓ Modernization related roadmap
- ✓ Program Plan with estimates

Migration to Cloud in Factory Mode – Our Execution Approach
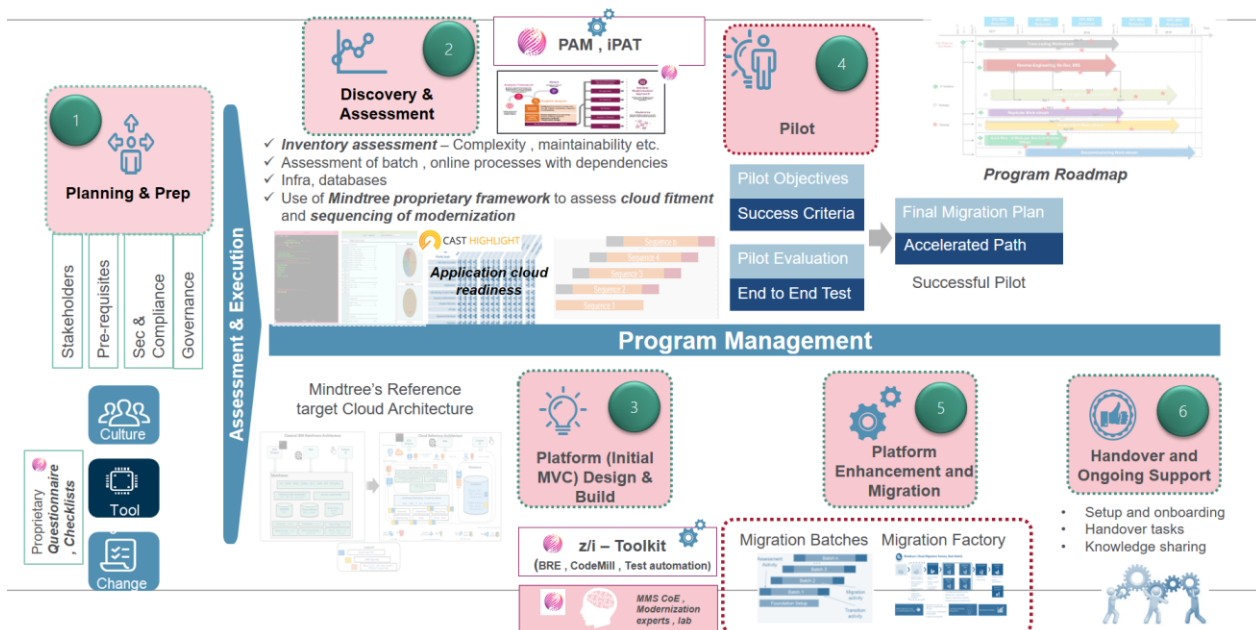
Execution Approach

For migration of Mainframe workloads to Cloud, Mindtree's proprietary assessment framework would help arrive at one of the following solution approaches:
- ✓ **Re-host** – Lift and Shift approach using industry leading products e.g. Micro Focus Enterprise Server, TMaxSoft Openframe, NTT Data UniKix.

- ✓ **Automated transformation** – Powered by CodeMill (COBOL to Java, Assembler to Java etc.) a Mindtree IP, as well partner tools and products.
- ✓ **Ground up transformation –** Re-architect and rewrite with a reverse engineering approach followed by a forward engineering approach to move Mainframe workloads to a modern technology based platform.

Mindtree's execution approach has the following key highlights: (Please refer the below snapshot)
- ✓ **Automation First** approach to expedite the migration process
- ✓ **Execution as per CALL TRACE** for different services
- ✓ **Exploration led implementation** involving the following steps –
  - o Conceptualize and brain storm the proof of Concept(PoC)
  - o Integrate the results of PoC with the factory model framework
  - o Build and deploy
- ✓ **Factory model approach** , with a pre-designed approach , having multiple tracks running in parallel
  - o **Reverse Engineering Team** – Engaged with analysis of existing Mainframe portfolio , un-earth business rules
  - o **Data migration team** – Understand the existing data model and architect a target platform data model with a plan for data migration
  - o **Forward engineering Team** – Understand the rules un-earthed by the reverse engineering teams and carve the best suited approach for the identified target platform
  - o **Modernization lab** - This is lean team with responsibility of finding all possible automation candidates during various phases of project execution.
- ✓ **Partnerships and Alliances** - Mindtree established modernization solutions, partnerships with industry leaders in "Mainframe to cloud" migration vendors makes Mindtree very well positioned to address all the challenges faced during migration & modernization.
- ✓ **Prior experience** out of such modernization engagements

Key Benefits
1. Tool aided approach is faster as well as more accurate with ~60-70% automation powered by use of our IP's , frameworks and partner products.
2. Hybrid-approach (Technical + Functional) approach followed for extraction of business rules. The technical rules extracted by our tools are combined with the functional rules extracted from SMEs and BA's to ensure complete inventory coverage and no loss of functionality , during modernization
3. Our tools are highly configurable and help in understanding of system functionality , generating documentation , speeding up knowledge transition with little help from customer SMEs
4. Self-funded modernization approach wherein the benefits realized from modernization of a particular sequence of Mainframe applications is used to fund the next sequence of modernization
5. Extensive experience in helping customers in their modernization and transformation journeys.