DUCK CREEK POLICY UPGRADE FACTORY

Cognizant's Duck Creek Policy Upgrade Factory helps insurers transition to the latest version of Duck Creek Policy.

INTRODUCTION

Insurance carriers are driven by the need to support ever-changing business requirements and to enable their firms to enter new markets and launch new products. To serve customers at speed and scale, many property and casualty (P&C) insurers have implemented Duck Creek Policy to underpin their operations. Duck Creek Policy was built specifically to respond to market changes—enabling carriers to develop new revenue opportunities, accelerate speed to market and reduce product development and maintenance costs. Duck Creek Policy handles the entire customer lifecycle and responds nimbly to new product demands.

P&C insurers that choose an on-premises installation of Duck Creek Policy will have to factor in regular software upgrades to avail themselves of the latest features and improvements that come with each new release of the software. Regular upgrades improve customer satisfaction, reduce operating costs and improve efficiency. They also aid in meeting regulatory compliance requirements like ISO/NCCI policy forms.

P&C insurers need to plan Duck Creek Policy upgrades to keep their instance of the software current with both revisions and maintenance releases. Maintenance releases contain Duck Creek Platform production bug fixes, while revision releases contain major and/or minor enhancements, providing better functionality and more advanced features.
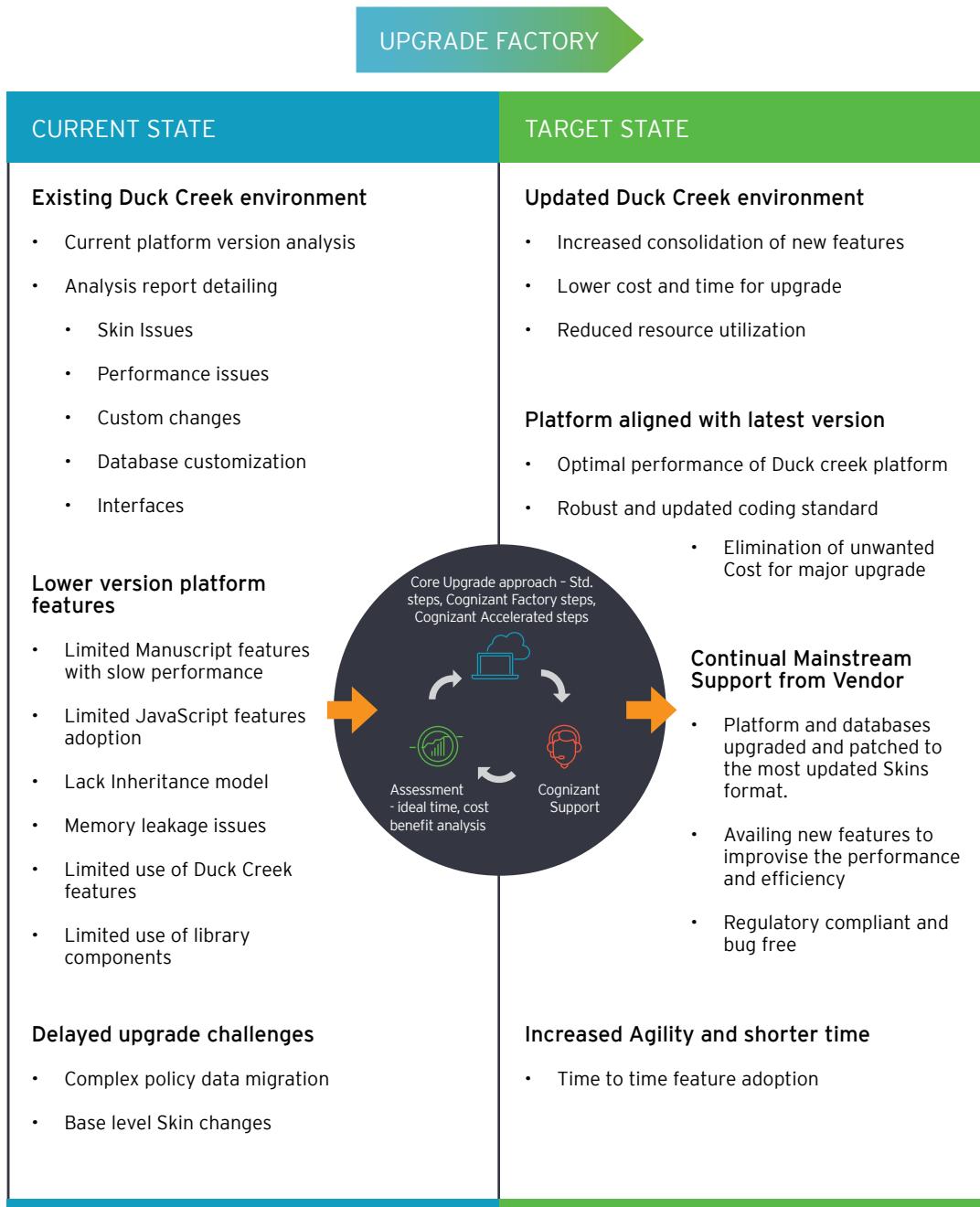
Duck Creek Policy upgrades are a predictable addition to the operational cost of doing business for carriers with on-premises installs. Upgrades impact overall operational models, as these may become large capital projects depending on the type of upgrade in question. Major upgrades (e.g., 3.x to 6.x) tend to span from six to nine months, while minor upgrades (e.g., 6.0 to 6.1) tend to take three to six months. Duck Creek upgrades can become very complex processes if carriers' approaches to the projects are not well-defined.

To overcome all such industrywide challenges in on-premises Duck Creek upgrades, Cognizant provides a Duck Creek Policy Upgrade Factory approach—a proven methodology for accelerated upgrades of Duck Creek Policy.

EXECUTIVE SUMMARY

Cognizant offers P&C insurers our continuous Duck Creek Policy Upgrade Factory methodology, a cyclic approach to the upgrade process. The four major phases of this cyclic upgrade process are:

I. Assessment Phase: The core Upgrade Factory lifecycle starts with Assessment. Cognizant's core team of upgrade professionals perform a thorough assessment of the client's existing Duck Creek implementation and provide an extensive analysis report. This report contains complex skin issues, carrier custom changes, third-party integrations and data customizations. Cognizant also provides the client with regular assessments of the latest changes provided by Duck Creek release versions.

UPGRADE FACTORY

CURRENT STATE	TARGET STATE
Existing Duck Creek environment	**Updated Duck Creek environment**
• Current platform version analysis	• Increased consolidation of new features
• Analysis report detailing	• Lower cost and time for upgrade
• Skin Issues	• Reduced resource utilization
• Performance issues	
• Custom changes	**Platform aligned with latest version**
• Database customization	• Optimal performance of Duck creek platform
• Interfaces	• Robust and updated coding standard
	• Elimination of unwanted Cost for major upgrade
Lower version platform features	
• Limited Manuscript features with slow performance	**Continual Mainstream Support from Vendor**
• Limited JavaScript features adoption	• Platform and databases upgraded and patched to the most updated Skins format.
• Lack Inheritance model	• Availing new features to improvise the performance and efficiency
• Memory leakage issues	
• Limited use of Duck Creek features	• Regulatory compliant and bug free
• Limited use of library components	
Delayed upgrade challenges	**Increased Agility and shorter time**
• Complex policy data migration	• Time to time feature adoption
• Base level Skin changes	

Core Upgrade approach – Std. steps, Cognizant Factory steps, Cognizant Accelerated steps

Assessment - ideal time, cost benefit analysis

Cognizant Support

II. Implementation Phase: Cognizant follows an upgrade process that consists of predefined, streamlined steps categorized into three types—standard Duck Creek steps, Cognizant Factory steps and Cognizant Accelerated steps.

Standard Duck Creek steps are typical actions that Duck Creek would recommend as part of any upgrade process.

Cognizant Factory steps are repetitive measures that Cognizant has added to the overall upgrade process. These provide gap analysis, prepare inventory and define additional tasks for custom code changes.

Cognizant Accelerated steps involve the use of Cognizant's proprietary tools and accelerators. This accelerated approach details our upgrade process for Database, Manuscripts, Skins, TransACT, User Admin and Integrations (custom business objects, or CBOs). Any upgrade to carrier-specific custom code has inherent challenges, due to proprietary base code changes and complex carrier-specific functionality. Our approach also covers detailed steps taken to upgrade such carrier-specific custom code.

III. Testing Phase: This primarily consists of Functional, Regression and Performance testing.

IV. Support Phase: Cognizant provides support for upgrade-related issues and regulatory compliance.

ASSESSMENT PHASE:

Cognizant recommends that insurers consider two major factors in Duck Creek Policy upgrade assessments.

IDEAL TIMES FOR UPGRADES

Duck Creek does not recommend upgrading to a new major or minor release during testing cycles for projects currently in progress. Carriers should therefore plan carefully based on Duck Creek's published release calendar. Fixes for the Platform are included in revision or maintenance releases, which occur monthly. To efficiently process and release fixes, reported issues are addressed in the latest maintenance release of the revision in which they are reported, as well as the latest release of the current version. This ensures that carriers' upgrade paths will always include any previous fixes they may have implemented.

As progress continues on an upgrade where, for example, existing Commercial Lines content must continue to function, it is recommended that upgrades are restricted to revision and maintenance releases. The ideal time to plan for major or minor upgrades is just prior to starting new projects, or at a time when there are no planned upgrades to Commercial Lines content.

COST VS. BENEFITS

MAJOR VERSION UPGRADE

Cost:

- Infrastructure setup - Windows servers, database servers

- Duck Creek licenses

- Vendor costs for all resources needed for upgrade

- Operational costs due to freeze window during upgrade

Benefits:

- Product features available with major version upgrade

- Better UI through skins

- Additional transactions and data model support

- Advanced features like Product Studio, Duck Creek Anywhere API, Insights

- Performance improvements and bug fixes

- Platform security improvements and bug fixes

MINOR VERSION UPGRADE

Cost:

- Vendor costs for all resources needed for upgrade

- Operational costs due to freeze window during upgrade

Cost:

- Product features available with minor version upgrade

- Skins bug fixes

- Additional transactions support

- Bug fixes for Product Studio, Duck Creek Anywhere API, Insights and reporting

- Performance improvements and bug fixes

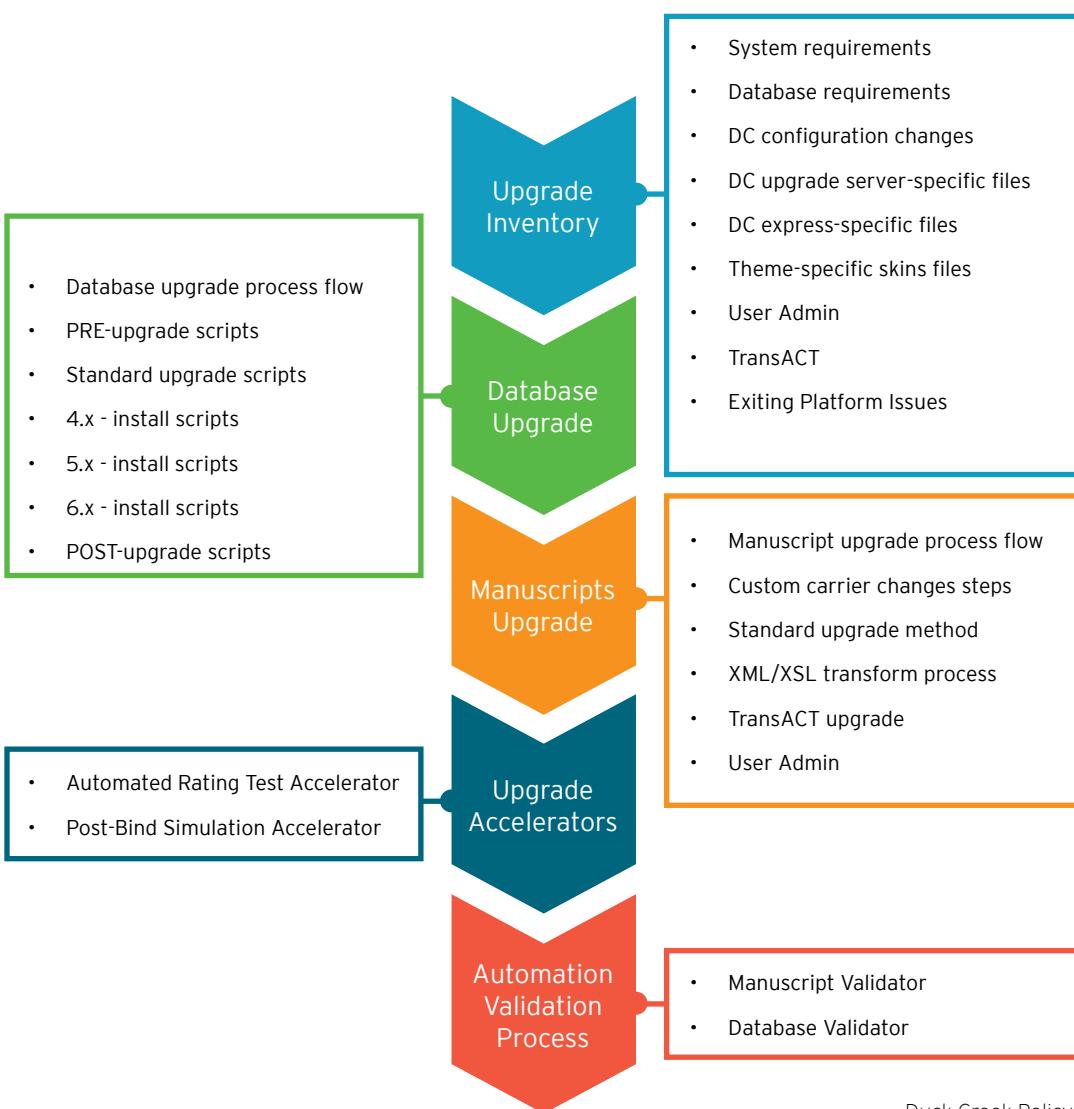- Platform security improvements and bug fixes

IMPLEMENTATION PHASE:

In this phase, our upgrade team evaluates the current state of an insurer's on-premises instance of the Duck Creek Platform. We provide a detailed analysis report documenting complex skin issues, performance issues, custom changes, third-party integrations and data customizations.

UPGRADE STRATEGY

During upgrades, our team applies the predefined steps outlined above (Standard Duck Creek steps, Cognizant Factory steps and Cognizant Accelerated steps) to a carrier's Upgrade Roadmap.

The Cognizant Upgrade Roadmap shows high-level components and the planned steps required to complete a carrier's Duck Creek Policy upgrade. The roadmap's ultimate goal is to provide a guiding document for the execution of our Duck Creek Policy upgrade. This approach helps to provide clear communication and better transparency throughout the upgrade process.

Upgrade Inventory
- System requirements
- Database requirements
- DC configuration changes
- DC upgrade server-specific files
- DC express-specific files
- Theme-specific skins files
- User Admin
- TransACT
- Exiting Platform Issues

Database Upgrade
- Database upgrade process flow
- PRE-upgrade scripts
- Standard upgrade scripts
- 4.x - install scripts
- 5.x - install scripts
- 6.x - install scripts
- POST-upgrade scripts

Manuscripts Upgrade
- Manuscript upgrade process flow
- Custom carrier changes steps
- Standard upgrade method
- XML/XSL transform process
- TransACT upgrade
- User Admin

Upgrade Accelerators
- Automated Rating Test Accelerator
- Post-Bind Simulation Accelerator

Automation Validation Process
- Manuscript Validator
- Database Validator

Additional deliverables for some major components are:

Upgrade Inventory – Cognizant's reusable inventory of gap analysis templates, change lists, deliverables, test cases, checklists, risks and lessons learned

Database Upgrade – Schema changes

Manuscript Upgrade – ISO template upgrade process

Cognizant's Support for Lower Version Upgrades - Upgrade complexity increases as the difference between a carrier's current version of Duck Creek Policy and the latest version increases (e.g., upgrades from 3.x to 6.x will be more complex than those from 5.x to 6.x).

Duck Creek supports Platform releases for two years following the release of the next major or minor version. For example, 4.1.x will be supported for two years following the first release of 4.2.x. Recently, Duck Creek stopped providing support for versions lower than 4.0.

Cognizant's Upgrade Factory approach caters to carriers in need of upgrades to such lower versions. We have a standard accelerated approach to upgrade Duck Creek Policy version 3.x to higher versions. We also have proven accelerators that assist our Upgrade Factory approach.
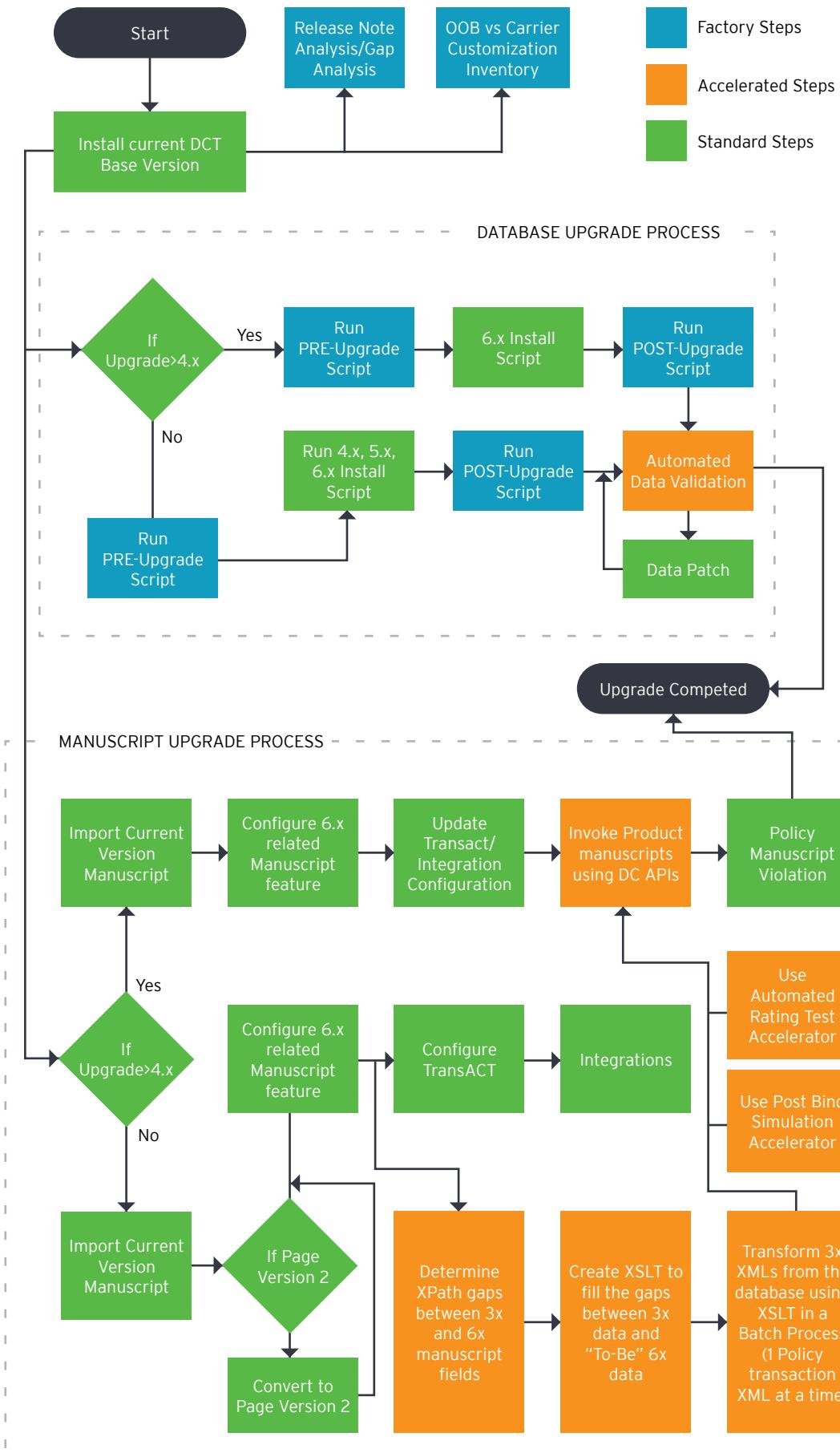
UPGRADE DETAIL FLOW CHART

Carriers should consider the following Duck Creek components for a successful upgrade:

- Out-of-the-box manuscripts (Duck Creek manuscripts)

- Carrier (CBOs)

- Skins customization files (css, js, xsl, etc.)

- Databases (tables, stored procedures, functions, triggers, etc.)

- TransACT (TransACT manuscripts)

- Manuscript page version

- Integrations (third-party web services, CBOs, etc.)

- Accelerators (Manuscript, Database)

The flow chart below provides a detailed view of Cognizant's Accelerated Duck Creek Policy Upgrade Factory. The entire process comprises three types of activities:

1. Standard steps - These are fundamental steps followed for all Duck Creek Policy upgrades.

2. Factory steps – These Cognizant-identified steps enable our factory-based approach.

3. Accelerated steps - These are Cognizant steps that provide acceleration to our overall upgrade process. These include the use of accelerators that automate processes to help improve gap analysis and efficiency.

Legend:
- Factory Steps
- Accelerated Steps
- Standard Steps

Start

Install current DCT Base Version → Release Note Analysis/Gap Analysis, OOB vs Carrier Customization Inventory

DATABASE UPGRADE PROCESS

If Upgrade>4.x
- Yes → Run PRE-Upgrade Script → 6.x Install Script → Run POST-Upgrade Script → Automated Data Validation
- No → Run PRE-Upgrade Script → Run 4.x, 5.x, 6.x Install Script → Run POST-Upgrade Script → Automated Data Validation → Data Patch

Upgrade Competed

MANUSCRIPT UPGRADE PROCESS

Import Current Version Manuscript → Configure 6.x related Manuscript feature → Update Transact/Integration Configuration → Invoke Product manuscripts using DC APIs → Policy Manuscript Violation

If Upgrade>4.x
- Yes → Import Current Version Manuscript
- No → Import Current Version Manuscript → If Page Version 2 → Convert to Page Version 2

Configure 6.x related Manuscript feature → Configure TransACT → Integrations

Use Automated Rating Test Accelerator

Use Post Bind Simulation Accelerator

Determine XPath gaps between 3x and 6x manuscript fields → Create XSLT to fill the gaps between 3x data and "To-Be" 6x data → Transform 3x XMLs from the database using XSLT in a Batch Process (1 Policy transaction XML at a time)

OUT-OF-THE-BOX (DUCK CREEK MANUSCRIPTS)

Manuscripts Framework is at the core of the Duck Creek Platform. Manuscripts contain almost all of the business processing logic for the policy lifecycle. Duck Creek Templates are a stack of out-of-the-box (OOB) XMLs that provide the complete structure of an insurance product. Carriers can add customizations in addition to inheriting these Duck Creek Templates (manuscripts). To upgrade OOB manuscripts, insurers should follow these five steps for both minor and major versions:

1. Take a backup of all existing manuscripts.

2. Install new Duck Creek release with new manuscript templates.

3. Compare changes to base manuscripts.

4. Configure features specific to carrier.

5. Migrate carrier-level changes from Duck-Creek-level manuscripts to carrier-level manuscripts, maintaining hierarchy and inheritance.

CARRIER CUSTOM OBJECTS (CBOs)

CBOs are the custom .NET codes specific to each carrier; these recompile projects with new supported .NET framework.

SKIN CUSTOMIZATION (.CSS, .XSL, .JS FILES)

Duck Creek provides a default look and feel for policies on the Duck Creek Product Administration system as Express skins. XSL, JavaScript and CSS files can be customized to provide a unique look and feel for Express skins.

Insurers should follow these six steps to upgrade skins:

1. Back up existing skins directory.

2. Create an existing base version of the Duck Creek instance.

3. Compare and create inventory of customizations done to carrier version.

4. Apply changes to the new desired Duck Creek version.

5. Fix any alignment issues, if applicable.

6. Unit-test skins.

DATABASE (TABLES, STORED PROCEDURES, FUNCTIONS, TRIGGERS, ETC.)

1. Take a backup of existing databases:

   a. Example database

   b. Logging database

   c. Data Mart database

2. Compare and create inventory of carrier database to Duck Creek base version database.

3. Prepare Pre-Upgrade and Post-Upgrade scripts:

   a. Custom schemas for carrier

   b. Extended column data

   c. Create extended/updated Store Procedures

   d. Create extended/updated Triggers

   e. Create extended/updated Functions

4. Run Pre-upgrade scripts.

5. Run Duck Creek Server Setup to upgrade to new version.

6. Run Post-upgrade scripts.

TRANSACT (TRANSACT MANUSCRIPTS)

TransACT is a key component that performs certain actions that require setting or retrieving values from an individual product, such as the data models for individual products. TransACT works closely with individual products to carry out its policy administration processes, as certain components of TransACT and individual products must share an identical structure. Specifically, TransACT and any connected products must:

• Use an identical data model.

• Match the names and locations of product fields called externally by TransACT with the names and locations identified in the external calls.

To evaluate current field mappings and to document which mappings must change to comply with the version of TransACT being upgraded, Release Note analysis is required.

MANUSCRIPT PAGE VERSION

Verify and certify the manuscripts of existing products with current versions of Templates for Commercial Lines. Evaluate each interview page for a Page Version 2 upgrade for carrier products.

INTEGRATIONS (THIRD-PARTY WEB SERVICES, CBOs ETC.)

Carriers may need to upgrade their integrations with third-party systems. Before initiating these upgrades, review Platform Release Documentation for version-specific enhancements that may affect third-party integrations. Also review Full-Solution Hardware and Software Requirements for the specific version of the upgrade.

ACCELERATORS

Automated Rating Test Accelerator takes policy XML as input, processes the policy XML to validate the policy with the upgraded platform and generates a report. This ensures efficient detection with no risk of production issues.

Post-Bind Simulation Accelerator transactions are applied to migrated policies to validate proper processing.

HTML Accelerator validates the Screen/Page break.

TESTING PHASE:

Functional Testing - Existing functional test cases can be reused for upgraded product functional testing.

Regression Testing - Plan to execute existing regression tests before and after migrating data. When developing regression testing strategies and scripts, consider the following:

Pages - As you work through the interview in Express, check that the navigation and display function as intended in various web browsers.

Calculations and results in Data Tester (Author) - Verify that your rates calculate after testing identically as before.

Forms generation - Check that the same forms are generated and that the data on the forms is the same as before.

Transaction types - Check that your transactions are executing as expected.

Performance Testing - Two types of performance testing are recommended: manual performance testing and automated performance testing. Existing performance test cases can be reused for upgraded product performance testing. NFRs will need to be revisited based on performance enhancements delivered by upgrading to a newer release.

RISKS AND ISSUES

Some critical risks and issues we have encountered with 3.x to 6.0 upgrades:

- Data challenges have required complex data patches, as a 3.x data schema is different from a 6.x data schema

- Many unused fields, which impact performance of the application

- Migration of historical data is complex due to data schema structural changes

- New TransACT implementation in 6.x is not present in 3.x, so this functionality has to be applied to 3.x policies

- New skins implementation for 6.x, as 3.x skins cannot be used

CASE STUDY:

Company Profile: A global insurance company serving clients in more than 130 countries.

Project Highlights: Duck Creek Platform upgrade from version 5.x to 6.x, considering all client-specific changes and moving them to the upgraded environment.

Situation: Client wanted to upgrade all its Duck Creek instances from version 5.x to 6.x. Needed a partner with strong Duck Creek knowledge to work hand-in-hand with Duck Creek through the upgrade. Also needed the partner to own non-core changes and fix any issues faced during this upgrade.
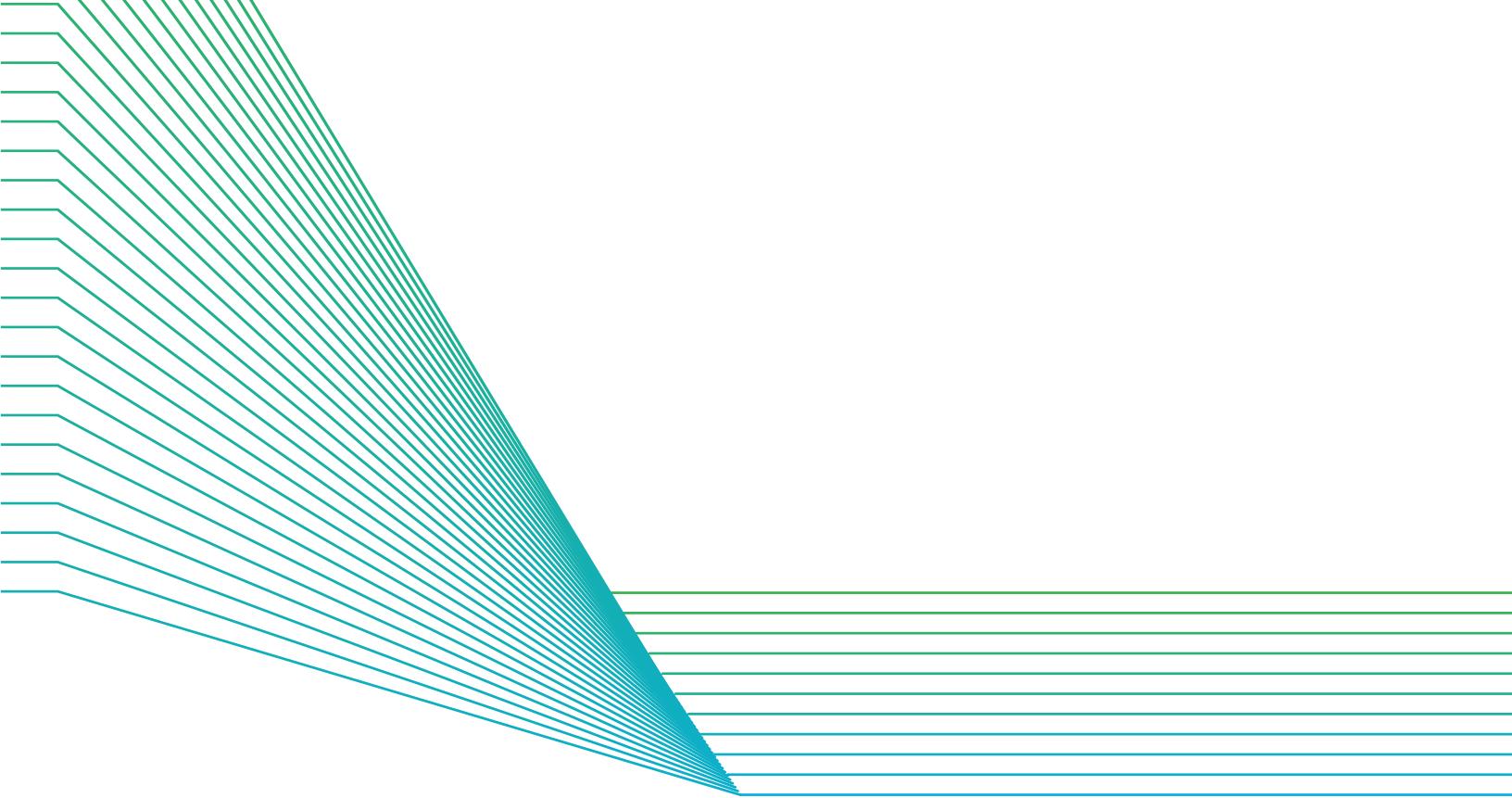
Solution:

- Cognizant provided a dedicated team of Duck Creek professionals.

- Our team worked collaboratively with Duck Creek in order to reduce the overall timeline to complete all pending items:

  - Our team informed one data type change to the Duck Creek team and received recompiled DLL.

  - Analysis revealed that a Duck Creek core DLL method was removed from 5.x DLL to 6.x DLL. This root cause analysis was shared with Duck Creek.

  - Our team determined a workaround and the customer agreed to accept this solution temporarily.

- Apart from fixing issues in non-core areas, our team also ensured that Duck Creek deliveries worked in the client environment.

Value-Adds:

- Team proactively did all analysis and shared root causes/solutions with Duck Creek, reducing time to resolve all issues.

  - Good communication between vendors expedited work and helped resolve all dependencies.

  - Teams found out the root cause of each issue (irrespective of ownership) and proposed solutions proactively.

  - Effective collaboration led directly to increased customer satisfaction.

- Documentation for all steps was prepared, along with the order installers/scripts should be run/executed. This document was shared with the client, providing a good learning exercise that can be referenced by any upgrade team.

REFERENCES

https://solutioncenter.duckcreek.com

Cognizant | Duck Creek Technologies

ABOUT COGNIZANT

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 205 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us @Cognizant.

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