

Deltek Maconomy SaaS SDLC

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Contents

Overview 1

 Document Control 1

 Additional Documentation for SaaS Developers 2

Maconomy SaaS Solutions 3

Environments and Databases 4

 Deltek Maconomy Enterprise and Flex Environments 4

 Available Development Tools..... 5

Gaining Access to Development Environments 7

 Access Environments..... 7

 Install Citrix Plug-in..... 7

Maconomy SaaS SDLC..... 8

 Overview 8

 Customization Capabilities 8

 Integrations..... 9

 SDLC Artifacts 10

 SDLC for Enterprise and Flex Development Projects..... 11

 SDLC Security Assessment 13

Service Requests..... 15

 Overview 15

Appendix 16

 SDLC for Essentials Development Projects..... 16

Overview

The Software Development Life Cycle is a Deltek process for deployment of Customer-specific Features in the Cloud infrastructure. This process covers the development of extensions, custom reports, custom universes, and integrations.

The customer-specific features developed within the SDLC process are the customer's responsibility.

Custom code must be written in a secure manner, in order to not introduce a security vulnerability into the Cloud environment.

Deltek has the right to mitigate this risk by providing periodic code scanning of custom extensions after they are deployed. If vulnerabilities are identified by Deltek, they will be reported back to the customer who is responsible for making the appropriate code corrections.

The Maconomy SaaS SDLC is intended to provide developers with an understanding of the Maconomy SaaS Software Development Life Cycle (SDLC). Understanding the SDLC will enable developers to successfully create and modify customizations to Maconomy that can be deployed to Maconomy SaaS customers.

Developers should read this guide before they begin a development project. All changes to Maconomy SaaS should follow the process outlined in this document.

The following information is included:

- SDLC process description
- Information on required artifacts
- Information on environments
- Information on development tools
- List of allowed customizations
- Security Review information

You should ensure that you have the latest version of the document when you start a new development effort. You can find the latest version on the Customer Care Connect Portal.

Document Control

This document is regularly maintained and updates can be expected as the Deltek Maconomy SaaS offering evolves. Minor and major Maconomy releases also prompt updates to this document. Feedback and input from clients is welcome and should be communicated through to the Deltek project manager or account manager for consideration.

Version History

Version	Status	Date	Change
1.0	Draft	May 17, 2017	First draft of the document
1.1	Published	Aug. 4, 2017	First published version of the Maconomy Cloud SDLC
1.2	Editing	Sept. 6, 2017	Security review information and process updated
1.3	Editing	Mar. 16, 2018	Minor edits
1.4	Editing	Feb. 8, 2019	Diagram and code standards edits

Additional Documentation for SaaS Developers

Document
Enterprise Cloud – 2.x SaaS Administrator Guide
Deltek First Maconomy Essentials – 2.x SaaS Administrator Guide

Maconomy SaaS Solutions

The Deltek Maconomy SaaS offering includes three solutions. Below you can find information on these solutions, what customizations capabilities are offered in each solution, and what environments are available.

Solution	Customization capabilities	Environments*
Deltek Maconomy Enterprise	<ul style="list-style-type: none">▪ Custom Reports▪ Custom Universes▪ Custom ETL (Populate data warehouse)▪ Customer Specific Integrations▪ Basic Layout Changes▪ Advanced Extensions▪ Analyzer Special▪ Customer Specific Language▪ Custom Database Extensions▪ Customer Specific Translation Files	<ul style="list-style-type: none">▪ Production Environment▪ Production Support Environment▪ Test Environment▪ Always On Development Environment▪ Upgrade Preview Environment
Deltek Maconomy Flex	<ul style="list-style-type: none">▪ Custom Reports▪ Custom Universes▪ Customer Specific Integrations▪ Intermediate Layout Changes▪ Basic Layout Changes	<ul style="list-style-type: none">▪ Production Environment▪ Test Environment▪ Always On Development Environment▪ Upgrade Preview Environment
Deltek Maconomy Essentials	<ul style="list-style-type: none">▪ Custom Reports▪ Customer Specific Integrations	<ul style="list-style-type: none">▪ Production Environment▪ Test Environment

Customization capabilities not listed here are not supported in the Deltek Maconomy SaaS offering.

This document focuses on the Deltek Maconomy Enterprise solution as that is where most customizations are allowed. The information provided in this document is also applicable for Deltek Maconomy Flex and Essentials for the customizations that are allowed in those solutions.

More details on the different environments are found in next section.



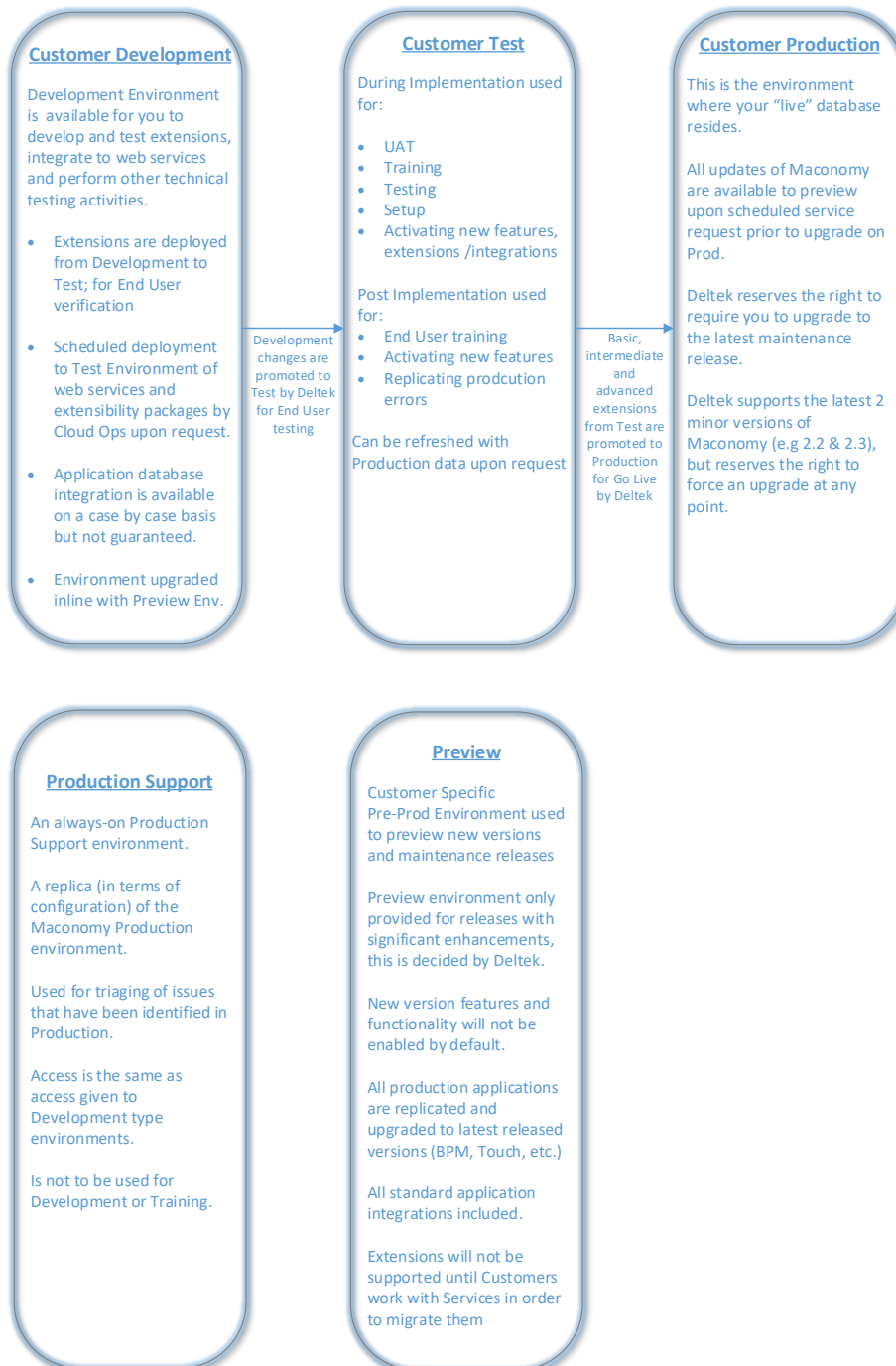
Please refer to the [Enterprise Cloud – 2.x SaaS Administrator Guide](#) or [Deltek First Maconomy Essentials – 2.x SaaS Administrator Guide](#) and your contract for additional details.

Environments and Databases

Deltek Maconomy Enterprise and Flex Environments

All Deltek Maconomy Enterprise and Deltek Maconomy Flex customers are provided with the following environments. Deltek Maconomy Enterprise Customers also have a Production Support Environment,

Deltek Maconomy Essentials customers have Test and Production Environments.





More information on environments can be found in the Enterprise Cloud – 2.x SaaS Administrator Guide or Deltek First Maconomy Essentials – 2.x SaaS Administrator Guide.

Available Development Tools

The table below lists the development tools available in the Deltek Maconomy Enterprise Development. These development tools are not available in the Production, Test, or Preview Environments.

Development Tool	Target audience	Purpose	Access	Comments
Maconomy Extender**	Extension/ Business Consultant	Used for Workspace Client (WSC), iAccess, and Touch layout modifications. BPM reports linking from within WSC and iAccess customization. All Java Extensions.	Maconomy Extender installed locally and connects through SSL.	This can also be the client Super User or client developer educated as an Extension developer.
SAP BO Information Design Tool*	BPM consultants	Use for customizing existing universes or creating new.	Located on a development server accessible through Citrix.	Clients can have their own SAP Business Objects (BO) developers.
SAP BO Web Intelligence	BPM consultants	Use for creating and modifying Web Intelligence documents (Reports). These can be shared in the BO server and viewed from the BO Launch Pad.	Access through Web Intelligence web interface.	Clients can have their own BO developers or elect for having Super Users do development in WebI.
SAP BO Lumira*	BPM consultants	Tool for creating Lumira storyboards. These can be shared in the BO server and viewed from the BO Launch Pad.	Located on a development server accessible through Citrix.	Clients can have their own BO developers.
Pentaho Data Integration*	Sys. Admin/Implementer	Use for editing the ETL process that controls load of data to the customers data warehouse.	Located on a development server accessible through Citrix.	

Development Tool	Target audience	Purpose	Access	Comments
MS SQL Management Studio	Extension/ Technical consultant	To view database schema and content. To execute scripts for modifying the database schema	Located on a development server accessible through Citrix.	All schema changes have to be done with scripts so that these can be executed also in Test and Production.
PP Admin Tool*	Business/ Technical consultant	Used to install PP and modify PP settings.	Located on a development server accessible through Citrix.	

* Development tool available via Citrix.

** Only the Sys Admin and Implementer are able to access the Development server and restart the coupling service.

Gaining Access to Development Environments

The SaaS Customer Administrator can request access to the Development Environment. A description of the steps necessary for this are found in the Enterprise Cloud – 2.x SaaS Administrator Guide or the Deltek First Maconomy Essentials – 2.x SaaS Administrator Guide.

Developers only receive access to the Customer's Development environment. Cloud Ops promotes changes to test and production. Developers are not granted access to those environments.

Access is granted to those development tools that the SaaS Administrator has requested.

As Citrix is needed for some of the development tools, information on how to install a Citrix Plug-in is described below.

Access Environments

The information needed to access the Development Environments can be requested from the SaaS Customer Administrator. Each developer receives their initial password for login to the requested Development tools. The initial password must be changed upon first login. Developer passwords are maintained through the Citrix login screen. Citrix passwords expire every 90 days.

The process for granting development access is documented in the Enterprise Cloud – 2.x SaaS Administrator Guide and the Deltek First Maconomy Essentials – 2.x SaaS Administrator Guide.

Install Citrix Plug-in

Citrix is required to access a number of development tools in the development environment.

To install the Citrix Receiver plug-in, complete the following steps:

1. Go to <https://ctx3.deltekenterprise.com>
2. Enter your DCOFLEXPLUS user account (just the username) and password (provided by Deltek in two separate emails).
3. If prompted, click **Detect Receiver**. If the receiver isn't detected, review the license agreement. If you agree, mark the checkbox to accept the license agreement and click **Download**.

Note: 'CitrixReceiverWeb.exe' should be downloaded to your PC. Run it once downloaded. If you agree, accept the license agreement and install.

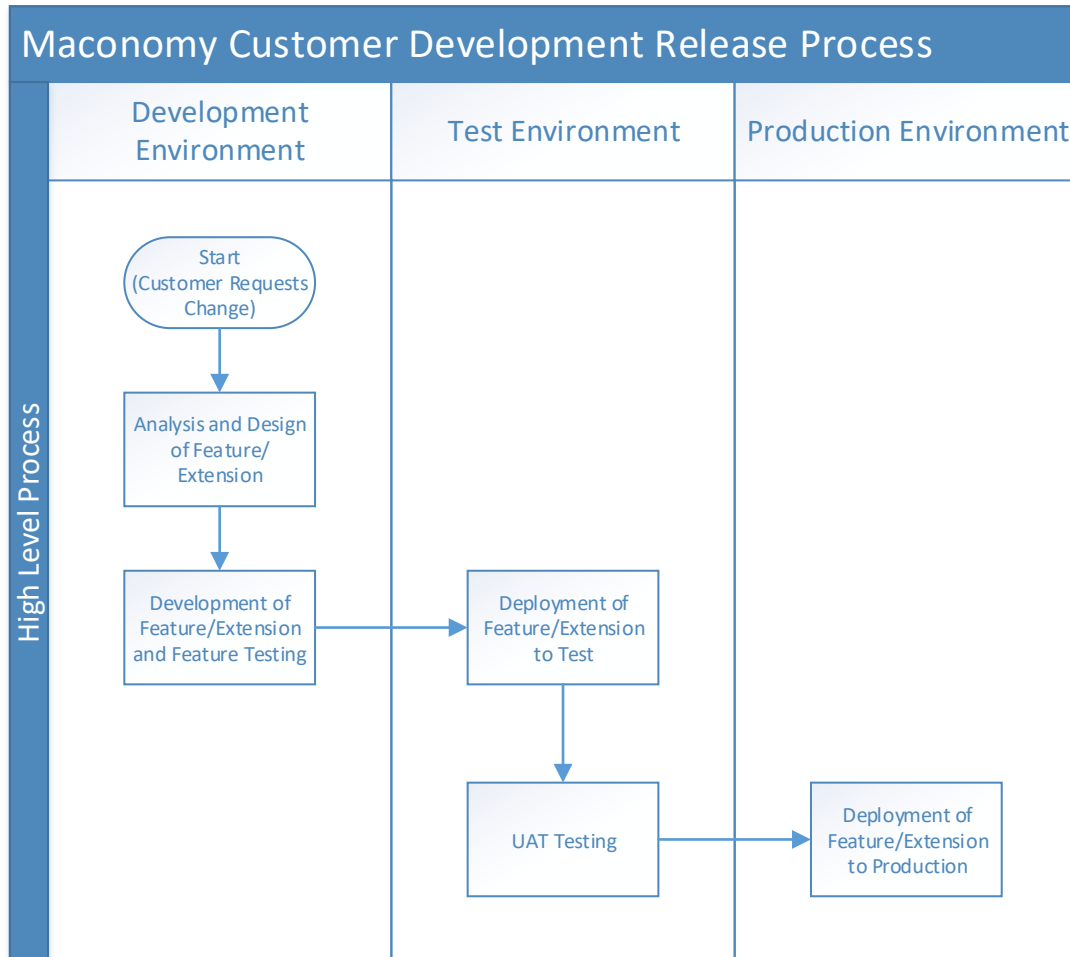
4. Once installed, click on the **Continue** on the original web page and **Launch Application** if prompted. The Citrix StoreFront should be presented.
5. Click **APPS** at the top of the page. The applications available to you should be shown. Click on an application to launch it.

Maconomy SaaS SDLC

Overview

This SDLC describes the process for development, test, and deployment for all types of customizations that are possible in **Deltek Maconomy Enterprise**. The overall process is illustrated in the process diagram below.

The detailed SDLC process is found in the SDLC for Enterprise and Flex Development Projects section.



Customization Capabilities

The following can be customized in Deltek Maconomy Enterprise. Items not covered here are not available for customization.

- **Java Extensions** – via Maconomy Extender
- **Screen Layouts WSC, iAccess and Touch** – via Maconomy Extender
- **Notifications** – via Maconomy Extender
- **Integrations** – via Maconomy Extender, see details in next section

- **Universes – Reports** – via SAP BO Web Intelligence and SAP BO Web Intelligence Rich Client
- **Cascading Style Sheet for Reports** – via SAP BO Web Intelligence and SAP BO Web Intelligence Rich Client
- **Branding for Reports** – via SAP BO Web Intelligence and SAP BO Web Intelligence Rich Client
- **Translation for Report and Universes** – via SAP BO Translation Management Tool
- **Dashboards** – via SAP BO Design Studio and Web Intelligence
- **Storyboards** – via SAP BO Lumira
- **Scheduling of BPM content** – via SAP BO Enterprise
- **Integration to SAP BO** - via SAP BO Query As a Web Service Designer
- **ETL** – via Pentaho Data Integration
- **Data Warehouse database objects** – via SQL Management Studio
- **Configuration** – Parameters, Popups, Core setup via the Maconomy Workspace Client
- **MPL/Print layouts** – via Maconomy Workspace Client
- **Bank Formats** – via Maconomy Workspace Client
- **Schedule Tasks** – via Maconomy Workspace Client
- **Translation Files** – via Maconomy server as dictionary files are place on the server
- **Audit Logs** – via the Maconomy server and two configuration files are utilized to setup audit logs

Note: Maconomy does not support deployment of universe changes without a Server restart and resulting outage. Thus, if a deployment contains a deployment of .mul or .mol files, Maconomy's Coupling Service has to be shut down before deployment takes place. If you are not sure whether a deployment contains such files you can reference the deployment logs related to your Development or Test environment deployment.

Integrations

The Enterprise Cloud – 2.x SaaS Administrator Guide contains information on what Integrations are supported as part of the Deltek Maconomy Enterprise offering.

The preferred integration method for all Deltek Cloud Solutions is through the application API. In cases where the API cannot handle the volume or scenario, each solution has standard file-based integrations or the capability for customers or Deltek Global Consulting to build a file-based integration. In those scenarios, the following protocols are supported for transport of files to a place that the application can operate:

- **Primary Method:** The customer provides Deltek with access to an Amazon Web Services S3 location where the customer places files for Deltek to pull into the Deltek AWS infrastructure.
- **Secondary Method:** The customer provides Deltek with access to a customer maintained secure FTP (S-FTP) site where Deltek pulls files from the customer into the Deltek AWS infrastructure.

In order to maintain the highest level of security, Deltek does not support customers pushing files into the Deltek AWS infrastructure. In order to ensure customers are protected, data is pulled into a secured location where it can be scanned and assessed from a security perspective before importing into the customer's environments.

Deltek currently does not support a direct connection for pulling or pushing files to a 3rd party vendor that Deltek does not have a direct contract with. The supported method in this scenario is to have the customer interface with third parties and then provide a secure location, as mentioned above.

The following integration capabilities are available with the Enterprise Cloud standard offering:

- RESTful API *recommended approach
- SOAP
- Standard Maconomy Import Programs

Other integration capabilities may be available, based on Deltek review and approval of detailed technical requirements. Examples include:

- File-based integrations
- Secure FTP, Deltek push/pull; direct from the customer
- S3 Bucket (customer-owned); Deltek push/pull

Examples of integration types NOT supported:

- ODBC read, write or update
- Direct SQL bulk data loads
- Secure FTP from 3rd party; Deltek push/pull

SDLC Artifacts

The following information and documents are mandatory for the Maconomy SaaS SDLC process. As customizations available for Deltek Maconomy Essentials are limited, not all artifacts are relevant for that solution. These are marked with * in the list below.

Artifact	Responsible	Comments
Customer Change Request	Client	Document provided by customer to PM or CSM outlining new requested functionality.
Design Doc.	Business Consultant/ Developer	Contains detailed functional design, testing scenarios, and technical design. Provided to client for sign-off at various stages and updated throughout the development process. Final document to be store in JIRA.
Security Questionnaire	Business Consultant / Developer	Contains a list of questions to be answered during the design process. Provided to the DCO security team through an email to DCOMacEntSecurityReview@deltek.com prior to the security review meeting. To access the Security Questionnaire document please click here
Work Order	Project Manager/Sales	Contains an estimate of the customization. Provided to the client along with the design document for sign off before development can begin.
Deployment guide doc.	Business Consultant/ Developer	Contains detailed deployment instructions, rollback instructions and confirmation that both these have been tested.

Artifact	Responsible	Comments
		To access the Deployment Guide document please click here Document attached to Service Request.

* Not relevant for Deltek Maconomy Essentials.

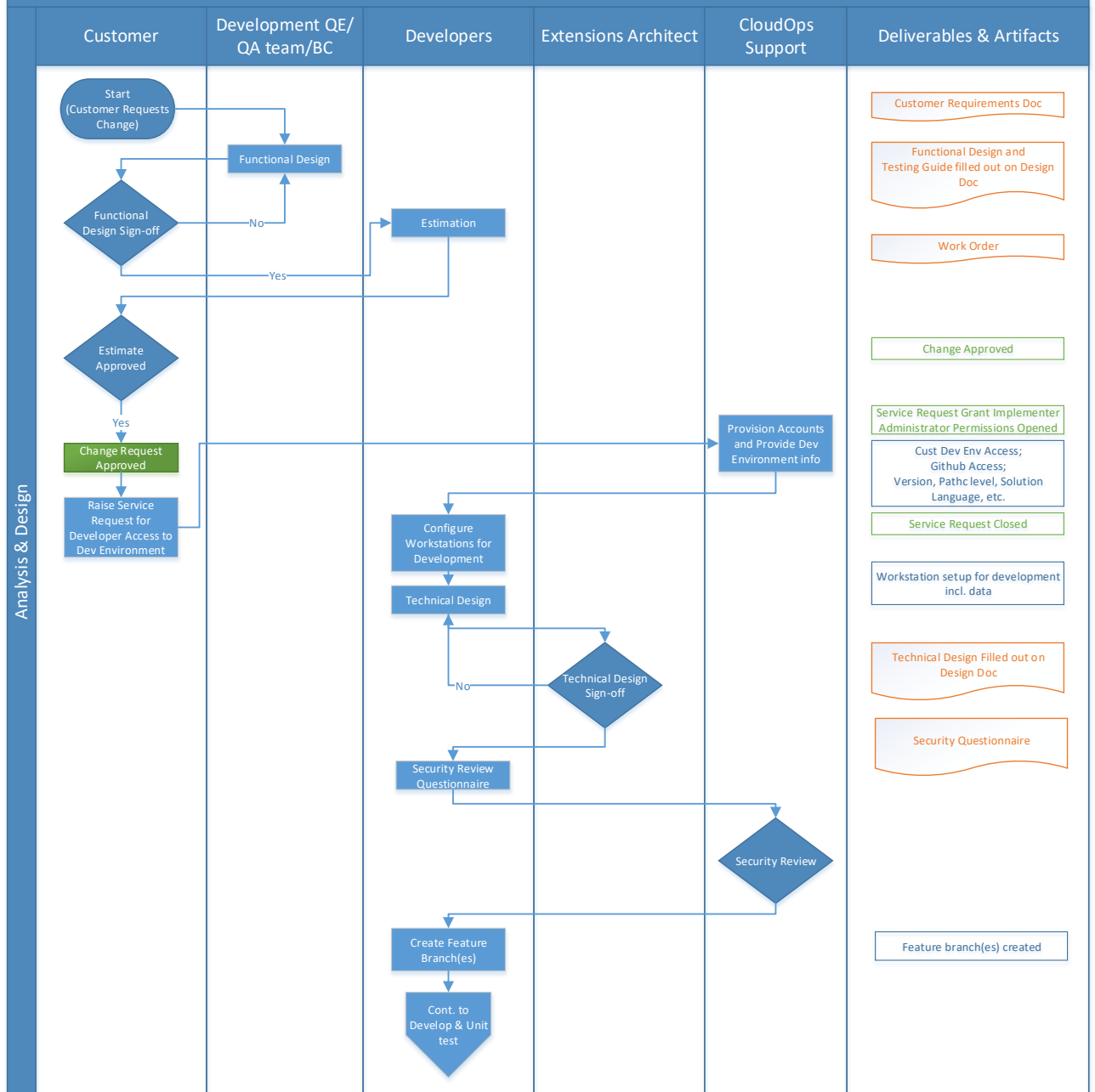
SDLC for Enterprise and Flex Development Projects

The following flowchart outlines the development process for custom development projects for Maconomy SaaS.

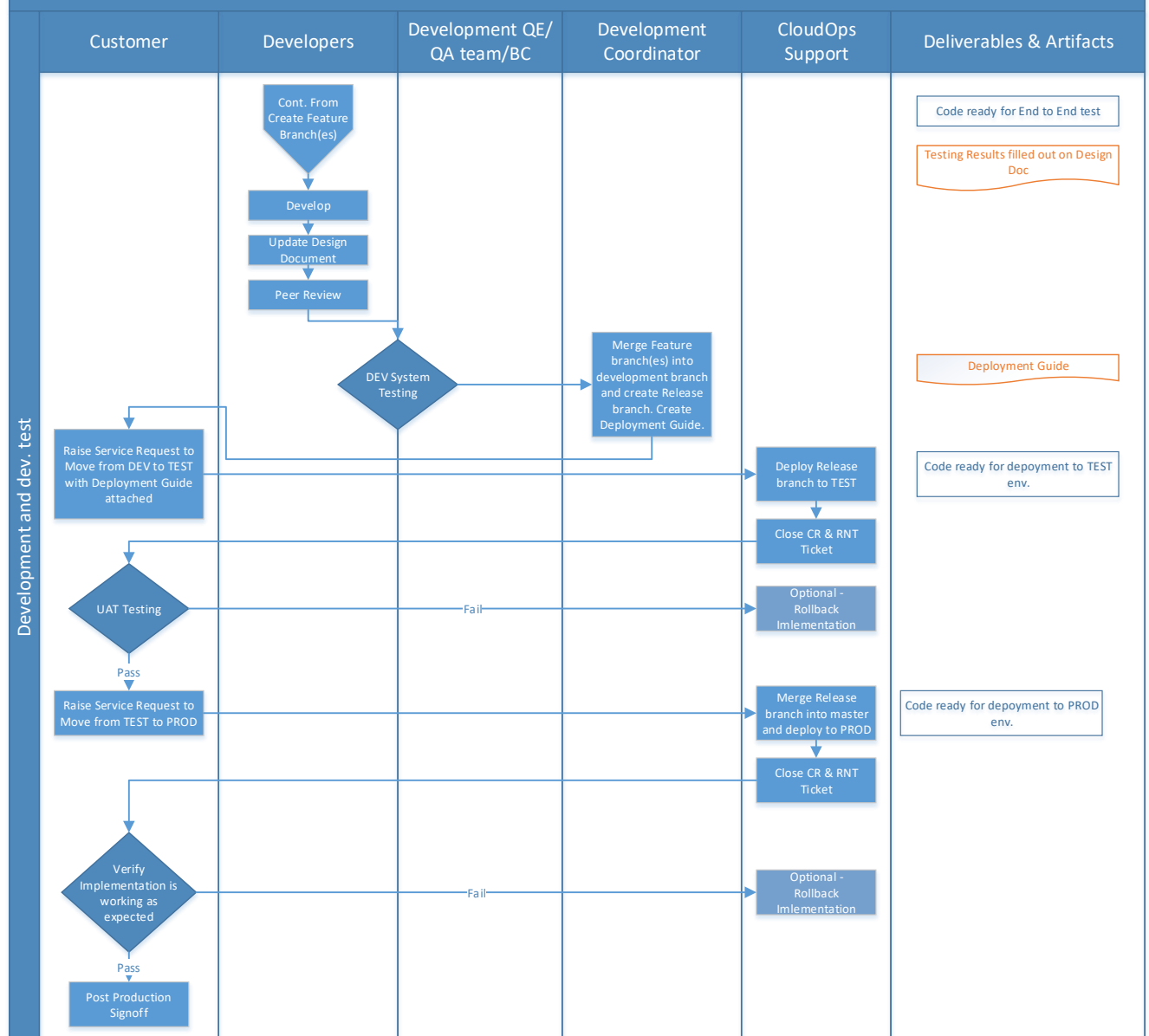
A scaled-down version of this process for Deltek Maconomy Essentials can be found in the appendix.

Important Note: In order to be DMARC compliant, any extensions that send an automated email from Maconomy must use the email address noreply@deltekenterprise.com in their From email field. If this is not done, emails that are sent will potentially fail.

Maconomy Customer Development Release Process



Maconomy Customer Development Release Process



SDLC Security Assessment

Overview

In order to avoid introducing a security vulnerability into the Cloud environment, code must be written in a secure manner. Ensuring that customer-specific content is developed in a secure manner is the Customer's responsibility.

In an attempt to mitigate custom code which is not written in a secure manner, all extensions and integrations must go through a security review process. The [Security Questionnaire](#) should be

filled out by the developer(s) and submitted via email to DCOMacEntSecurityReview@deltek.com for DCO to review. Once the questionnaire has been received, the security team will reach out to the developer(s) within 3 business days to schedule a review meeting.

Deltek has the right to mitigate this risk at Deltek's discretion, by providing periodic code scanning of custom extensions after they have been deployed. If vulnerabilities are identified by Deltek, they will be reported back to the Customer who is responsible for making the appropriate code corrections.



Extensions should be written as Java Extensions. Although extensions written in MScript are allowed in the Enterprise Cloud, any MScript extensions will not be subjected to Security scanning and are therefore allowed at the Customer's own risk. The responsibility of ensuring that MScript does not introduce any security vulnerabilities sits with the Customer and is not the responsibility of Deltek.

Service Requests

Overview

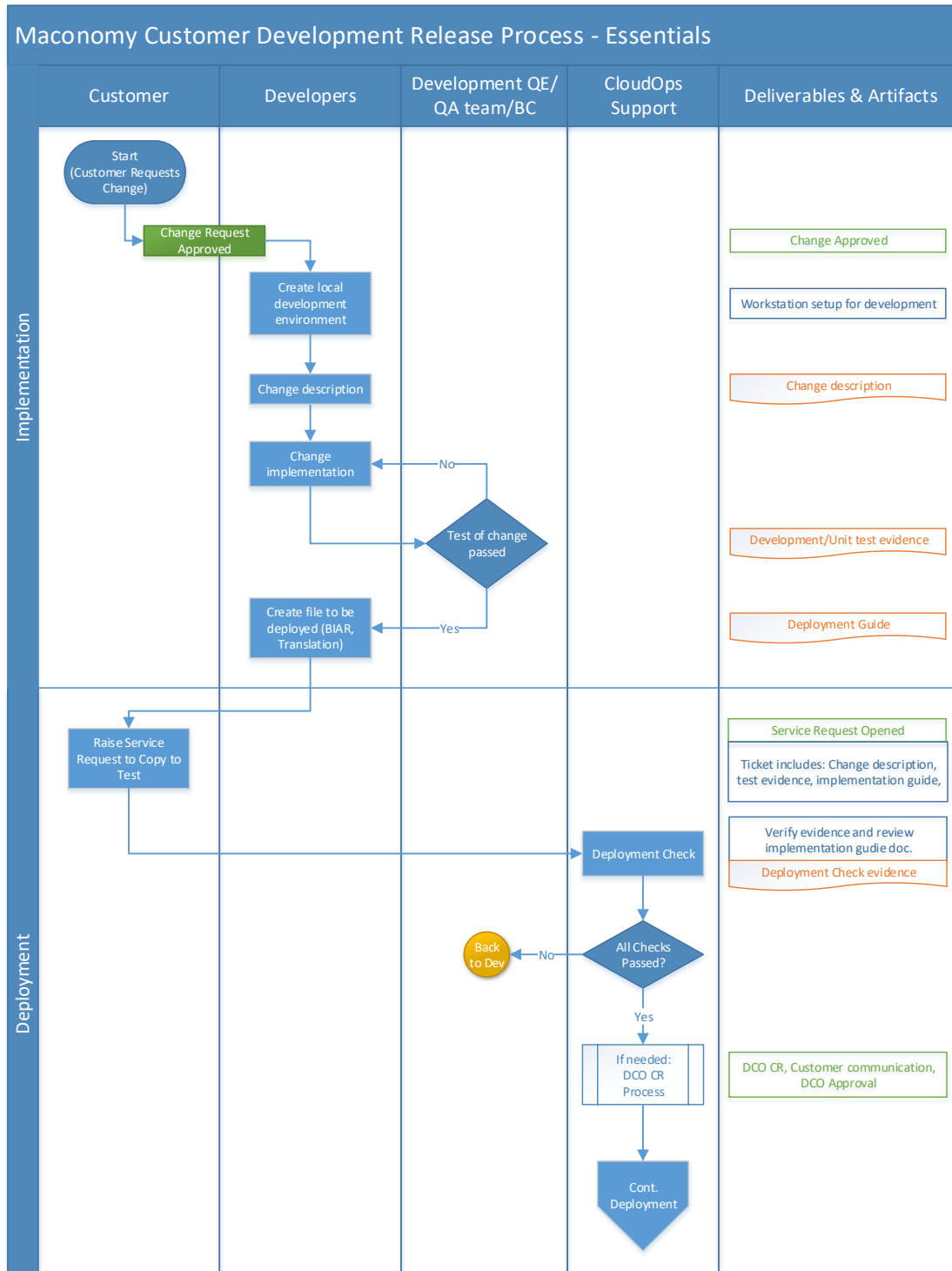
Service Requests allow the SaaS Customer Administrator to direct Deltek Cloud Operations to perform various types of processes or actions to their company's cloud environment. Service Requests are required to perform many of the steps in the Maconomy SaaS SDLC. Deltek suggests that the SaaS Customer Administrator and stakeholders in the development and implementation project discuss and agree on who is responsible for creating service requests for the development process. This ensures that service requests are submitted in a timely manner to support development project timelines.

The SaaS Customer Administrator should make themselves familiar with the available service requests, the specific instructions for submitting a service request, and the Service Level Objective (SLO) assigned to each service request. This information is available in the Enterprise Cloud – 2.x SaaS Administrator Guide.

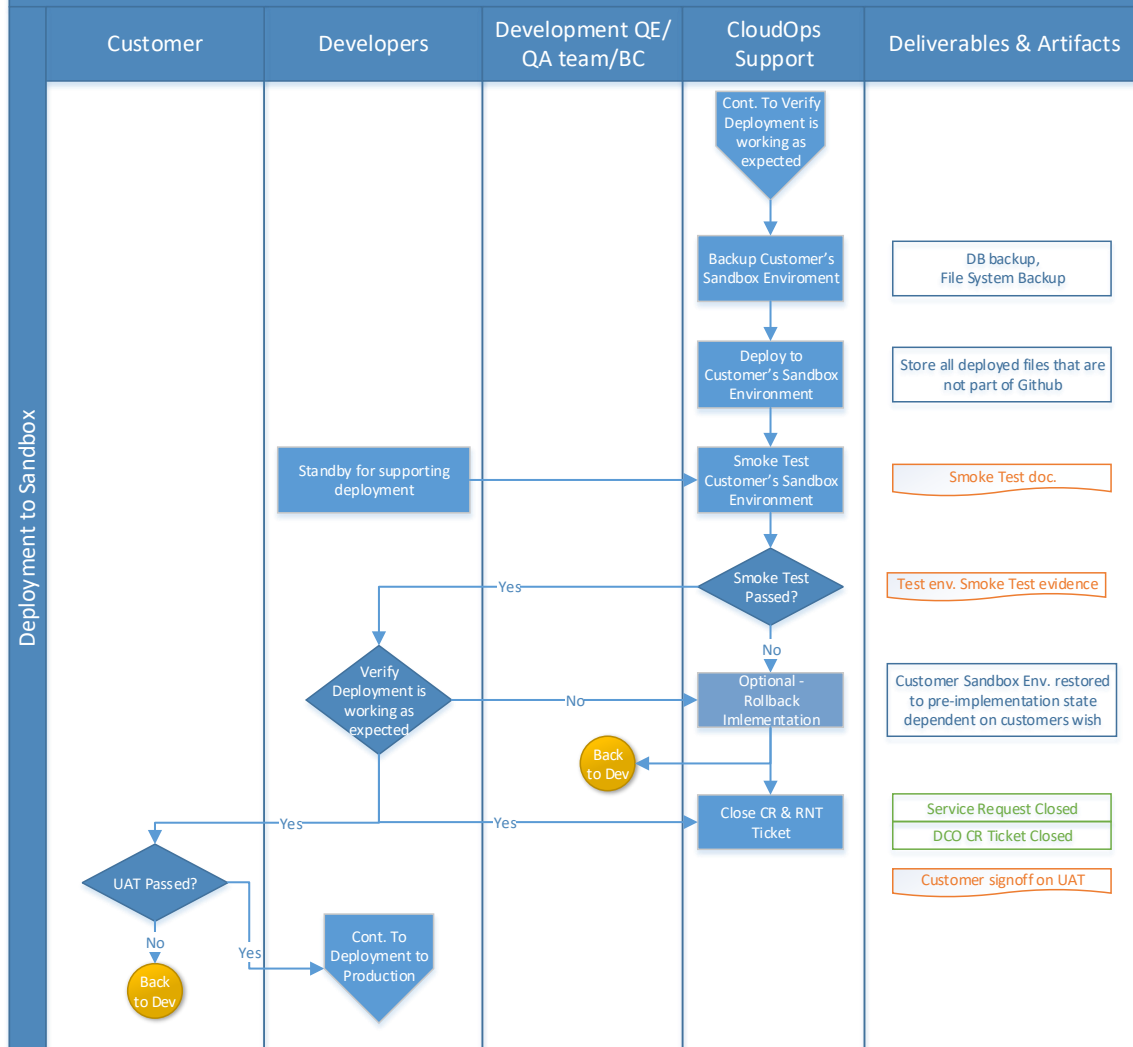
Appendix

SDLC for Essentials Development Projects

The process below is for Custom Reports and Custom Universe development in Essentials. No other development, including layout changes, is required.



Maconomy Customer Development Release Process - Essentials



Maconomy Customer Development Release Process - Essentials

