

# 2021x Version News

## Magic Collaboration Studio

Released on: February 12, 2021

Magic Collaboration Studio 2021x takes a huge leap towards its enterprise readiness. It comes with major improvements in the ability to better handle and manage large amounts of data. Efficient collaboration is now ensured even under extremely high server load while keeping the disk footprint at a very minimum.

Enhancements to Teamwork Cloud RBAC mechanism now allows managing access rights in bulk via category-level permissions or at a fine-grained level via branch-level permissions.

A brand new Resource Usage Map web application can help you quickly analyze large amounts of inter-linked server projects and investigate potentially problematic usage areas.

Cameo Collaborator web application brings not only a number of new functionalities but also multiple improvements to the features that you already know. With a new version of the product, you can save Cameo Collaborator comments as UML elements in your project, export documents to PDF and HTML formats, add new values to a project right from a Cameo Collaborator document, and more.

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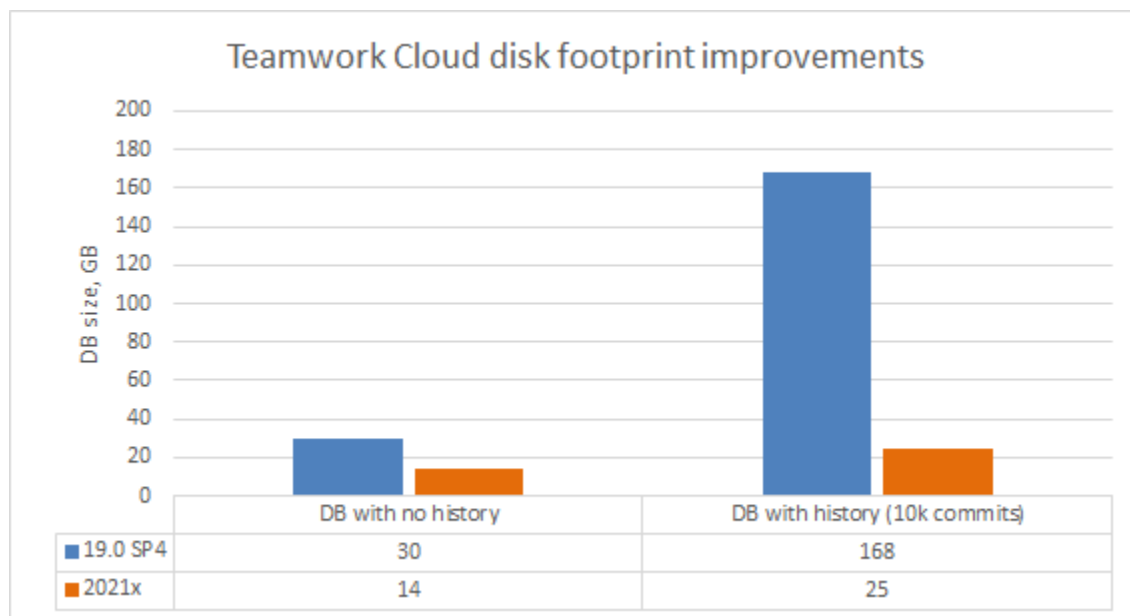
#### [Other Enhancements](#)

#### [Key Issues Fixed](#)

### [Performance Improvements in TWC Core](#)

## TWC Disk Footprint Improvements

Major TWC disk footprint-related changes are presented in this release. TWC 2021x requires twice as less disk space for the same amount of projects with no history and up to 7 times less memory for projects with existing history compared to TWC 19.0 SP4. In addition to this achievement, the disk size growth is cut nearly 5 times in TWC 2021x compared to TWC 19.0 SP4 for those projects users work actively on.

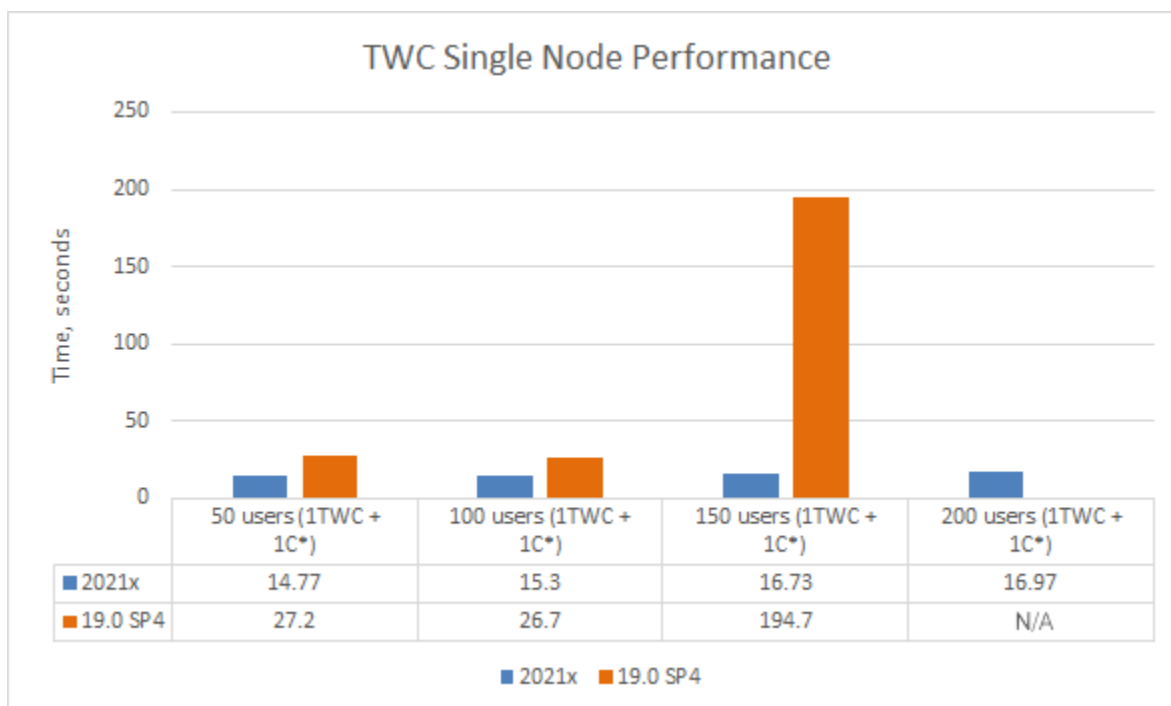


A chart comparing TWC disk footprint between different modeling tool versions.

- A database of 50 projects with 200 commits each was used to run the tests.
- Project sizes ranged between 400k and 2.2M elements (average project size being 700k elements).

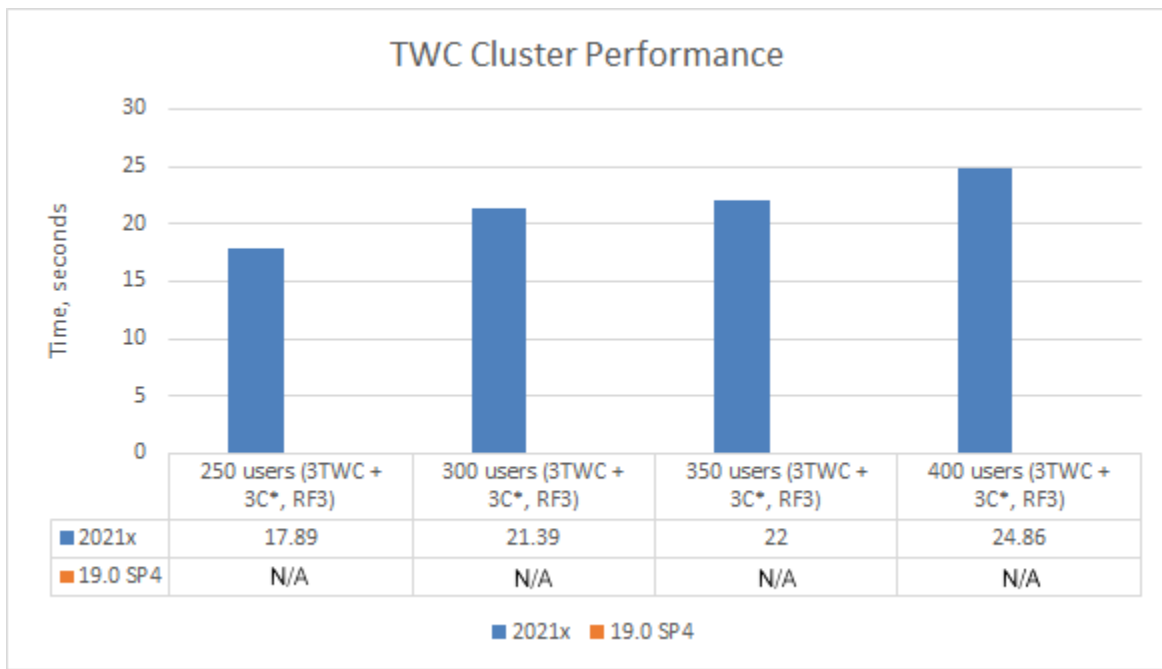
## TWC Scalability Improvements

TWC 2021x delivers significant improvements in scalability when handling a large amount of concurrent users actively working with server projects. In particular, project commit and update operation performance under high load remains stable even with 200 simultaneous users on a single node setup. The following charts depict combined commit and update times from a single user's perspective going up to 200 concurrent users repository-wise.



Combined commit and update times on a single node setup.

Additionally, TWC's internal load balancer has been tweaked to achieve higher effectiveness when under extremely large loads of up to 400 concurrent users.



Combined commit and update times on a 3 node TWC and Cassandra cluster.

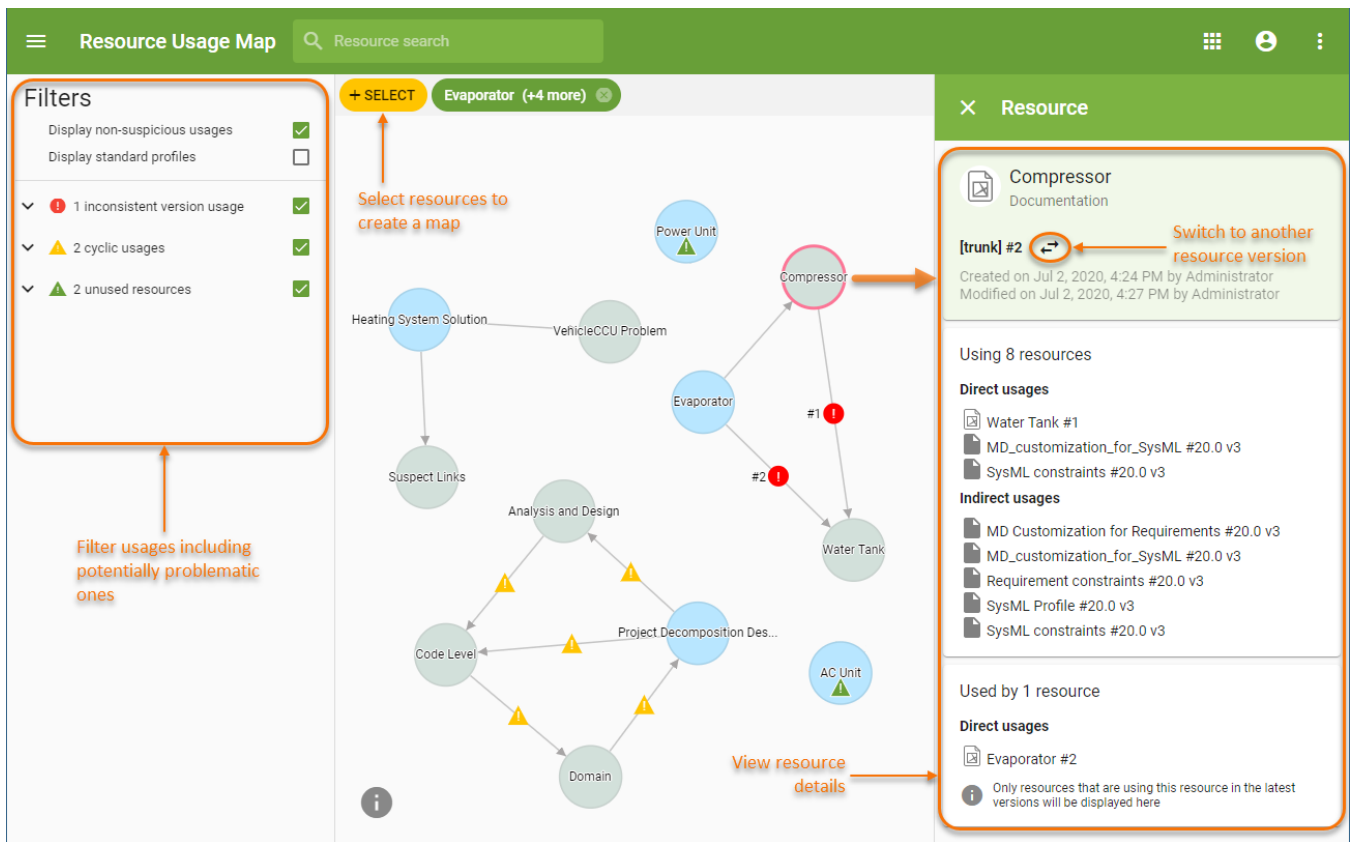
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## Resource Usage Map

We are proud to present Resource Usage Map - a new web application that comes with Teamwork Cloud 2021x. Resource Usage Map allows you to create graphical representations of Teamwork Cloud project usages, analyze dependencies among projects in the Teamwork Cloud repository, and identify potentially problematic usage areas.

In Resource Usage Map you can:

- Create usage maps for one or multiple resources.
- Quickly access the resource usage map of an open project right from a modeling tool.
- Identify three types of suspicious usages: inconsistent version usages, cyclic usages, and unused resources.
- Use filters to choose what types of usages you want to see in a usage map.
- Search for resources in a large usage map and view their details in the Resource pane.



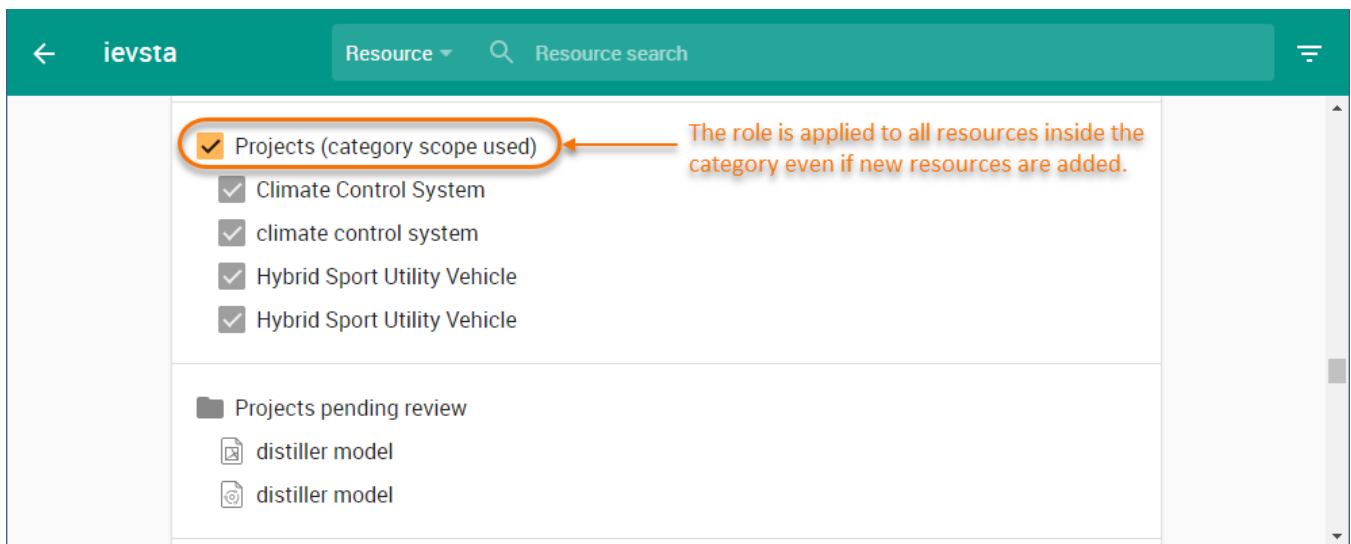
The Resource Usage Map application displaying the usage map of five selected resources.

[Learn more about configuring Resource Usage Map URL>>](#)

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## Category-Level Permissions

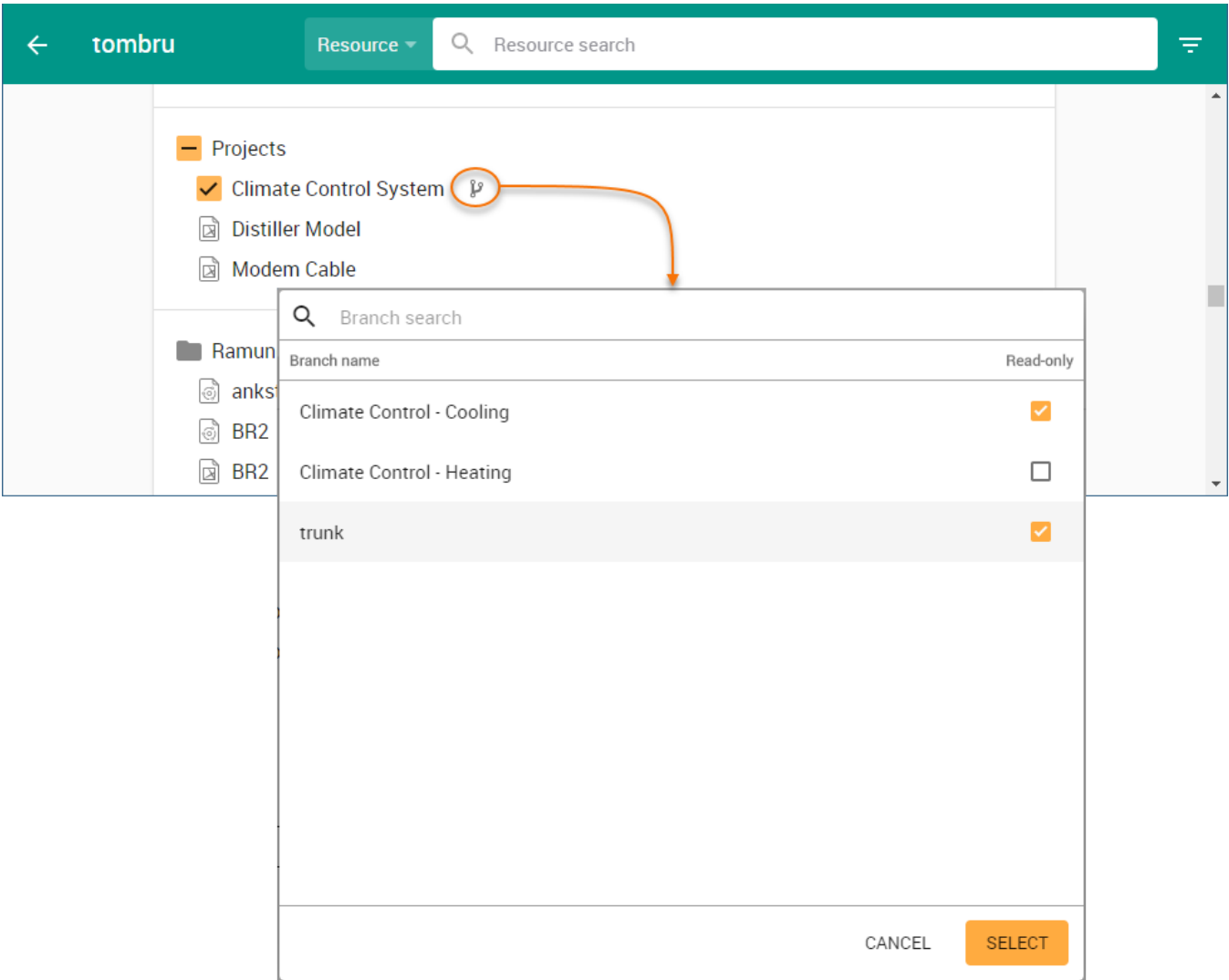
Now you can manage Teamwork Cloud access rights more effectively by using category-level permissions. When role scope is category-specific, the role permissions apply to all resources stored in the selected category. This means that new resources added to the category automatically inherit the role with all its assignments. This can save a lot of your time because you no longer have to assign new resources inside the category manually.



You can assign a category to a specific role the same way you assign resources.

Branch-Level Permissions

Teamwork Cloud 2021x allows you to limit the scope of a role assigned to a user or user group not only to specific resources but to specific branches of a resource as well. For example, you can allow an engineer to work only on a specific branch while prohibiting access to any other resource branches he is not supposed to edit. This enables a strict branch-per-feature methodology resulting in better work discipline among different team members.



Specifying branch-level permissions.

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LDAP Server Configuration Changes

An LDAP server query for searching, retrieving, and importing users has been split into Users query and User groups query for more accurate search results when querying an LDAP server. It is important that you update User and User groups queries after upgrading your Teamwork Cloud instance to version 20.0.

**Authentication**

Search base

Q cn=Users,dc=nomagic,dc=com

Authenticate using

Q LDAP query

Users query

(&(cn={0})(objectClass=user))

User groups query

(&(cn={0})(objectClass=group))

**Encryption**

Encryption protocol

Q None

An example of the LDAP server configuration page.

## REST API Change Log

The [REST API change log](#) concerns the following areas:

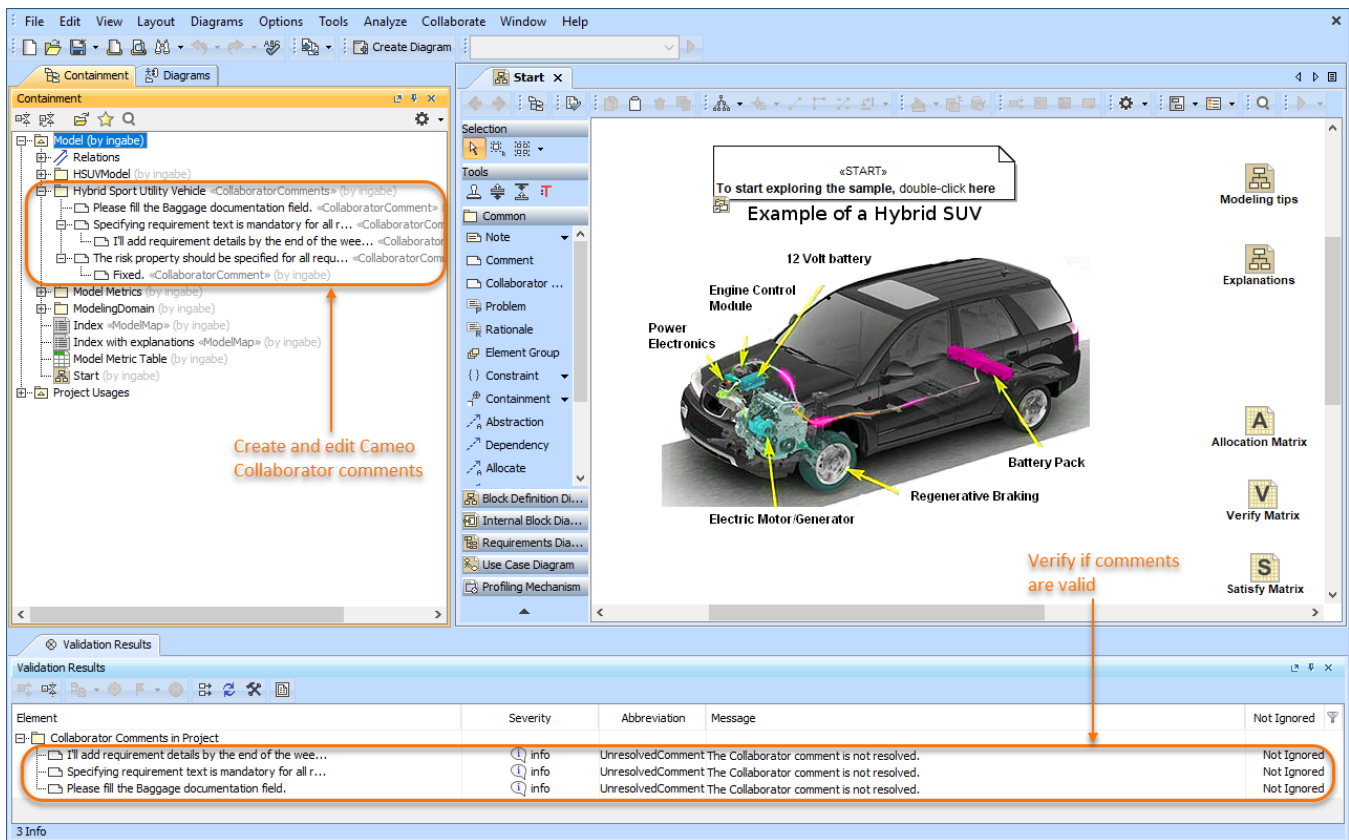
- Changes in data types.
- URLs relocated.
- New URLs.
- API documentation (for more clarified information).

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## Collaborator

### Saving Comments as Model Elements

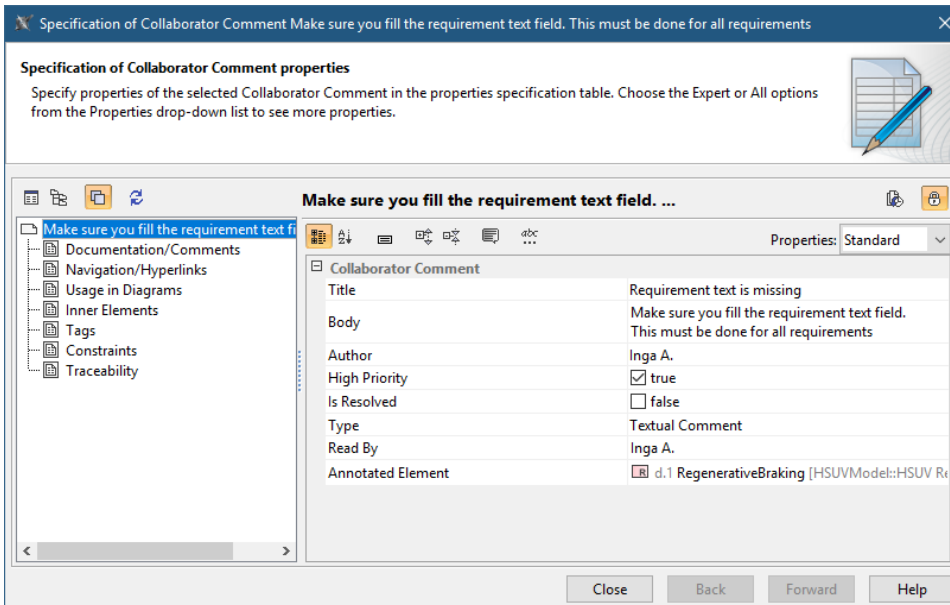
In the previous version of Cameo Collaborator for Teamwork Cloud, you could work with Collaborator comments in a modeling tool by using the comments panel. However, comments were stored in a Cameo Collaborator document, so you could not use all the benefits of your modeling tool capabilities. In this version of the product, it is possible to save Cameo Collaborator comments as model elements in a project and work with them as you would with any other UML elements. In addition, comments are automatically synchronized between your project and a Cameo Collaborator document every time you commit changes to the server or update the project.



This example shows how you can create comments as model elements and work with them in a modeling tool.

This new functionality opens endless possibilities allowing you to:

- Create new textual Cameo Collaborator comments and reply to existing ones right in a modeling tool.
- Modify comments, e.g., change comment status, priority, and even the commented element in the comment Specification window.



- Validate if all comments have been created correctly and have all the required metadata by using the *Collaborator Comments in Project* validation suite.
- Create comment reports displaying Cameo Collaborator comments and their detailed information, such as an author, status, priority, etc.

Hybrid Sport Utility Vehicle											
	Title	Author	Body	Created	Priority	Type	Status	Annotated Element			
								Name	Type	Owner	Qualified Name
1	Fill the documentation field!	johsmi	The documentation field is mandatory. All requirements must have documentation with a detailed	15-Jun-20	High	Textual Comment	Resolved	Range	Requirement	HSUV Requirements	HSUVModel:HSUV Requirements:Range
2		ingabe	I'm still waiting for more information from my manager. All requirements should be fully documented by the	15-Jun-20	Normal	Textual Comment	Resolved	NA	NA	NA	NA
3		ingabe	Fixed.	17-Jun-20	High	Textual Comment	Resolved	Range	Requirement	HSUV Requirements	HSUVModel:HSUV Requirements:Range
4	Specify the standards	johsmi	Please add the standards to the requirement text. We need to see the numbers	15-Jun-20	Normal	Textual Comment	Unresolved	Emissions	Requirement	Eco-Friendliness	HSUVModel:HSUV Requirements:HSUV Specification:Eco
5	Requirement text is missing	johsmi	Make sure you fill the requirement text field. This must be done for all requirements	15-Jun-20	Normal	Textual Comment	Unresolved	PowerSource Management	Requirement	HSUV Requirements	HSUVModel:HSUV Requirements:Power SourceManagement
6	Graphical comment for Figure B.38	johsmi	The property names should be consistent in the whole project.	15-Jun-20	Normal	Graphical Comment	Unresolved	SUV_EPA_F uel_Economy Test	Block	HSUV Instance Values	HSUVModel:HSUV Instance Values:SUV_EPA_F
7		ingabe	Can we discuss this in the meeting tomorrow?	16-Jun-20	Normal	Textual Comment	Unresolved	NA	NA	NA	NA
8		johsmi	OK	16-Jun-20	Normal	Textual Comment	Unresolved	SUV_EPA_F uel_Economy Test	Block	HSUV Instance Values	HSUVModel:HSUV Instance Values:SUV_EPA_F

- Calculate metrics allowing you to see how many comments are created and resolved or create your own metrics.

Model Metric Table									
Criteria									
Metric Suite: Collaborator Coverage Filter:									
#	Date	Scope	High Priority	Collaborator Comments	Resolved Comments	Resolved Comments Percentage	Unresolved Comments	Unresolved Comments Percentage	
1	2020.07.01 19.41	HSUV Structure	<input type="checkbox"/>	5	2	40	3	60	
2	2020.07.01 19.44	HSUV Structure	<input checked="" type="checkbox"/>	2	2	100	0	0	
3	2020.07.01 19.56	HSUV Requirements	<input type="checkbox"/>	6	2	33.33	4	66.67	
4	2020.07.01 19.56	HSUV Requirements	<input checked="" type="checkbox"/>	3	2	66.67	1	33.33	
Show Description									
Filter is not applied. 4 rows are displayed in the table.									

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## Exporting Documents to PDF and HTML

In this release of Cameo Collaborator for Teamwork Cloud, we are happy to present a new functionality allowing you to export documents to PDF and HTML formats. This makes information exchange a lot easier because you can save a Cameo Collaborator document as a file and share it via email or any file sharing system. Also, customize a document file by adding a cover page and the table of contents, or choosing what information should be exported. You can export the whole document or just a part of it, such as selected tables, paragraphs, or a specific view.



Author: ingabe  
Date: Jun 5, 2020

Latest published version  
#1  
Last published at 10:35 AM on Jun 5, 2020  
by ingabe

hybrid sport utility vehicle  
[trunk] #2

Created at 10:23 AM on Jun 5, 2020  
by ingabe

Name	EconomyContext
Documentation	
Open in Model Editor	EconomyContext

#	Name	Type	Multiplicity	Default Value	Documentation
1	delta-t	Time	1		

Open in Model Editor  Figure B.29 Establishing Mathematical Relationships for Fuel Economy Calculations

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The model editing in Cameo Collaborator functionality has been extended even further. Now you can create values for stereotype tags, the Documentation property, and other textual properties (except for slot values) right in a Cameo Collaborator document. This will simplify your workflow because you will no longer need a modeling tool to add new values to your model.

Requirements Hybrid Sport Utility Vehicle

Model

- HSUVModel
  - HSUV Requirements
    - HSUV Specification
      - d.1 RegenerativeBraking**
      - d.2 Range
      - d.3 PowerSourceManagement
      - d.4 Power
    - HSUV UseCases
    - HSUV Views
      - Department Of Motor Vehicle
      - Driver
      - InsuranceCompany
      - Maintainer
      - Passenger
      - RegisteredOwner

### d.1 RegenerativeBraking

Characteristics	
ID	d.1
Name	RegenerativeBraking
Text	Regenerative braking is an energy recovery mechanism that slows down a moving vehicle or object by converting its kinetic energy into a form that can be either used immediately or stored until needed.
Source	Alternatives to the internal combustion engine: impacts on environmental quality · Johns Hopkins University Press
Risk	Low
Verify Method	Inspection
Master	
Documentation	In this mechanism, the electric traction motor uses the vehicle's momentum to recover energy that would otherwise be lost to the brake discs as heat. This contrasts with conventional braking systems, where the excess kinetic energy is converted to unwanted and wasted heat due to friction in the brakes, or with dynamic brakes, where the energy is recovered by using electric motors as generators but is immediately dissipated as heat in resistors.
Open in Model Editor	d.1 RegenerativeBraking

2. Type the value

3. Save the value

1. Click to add a new value

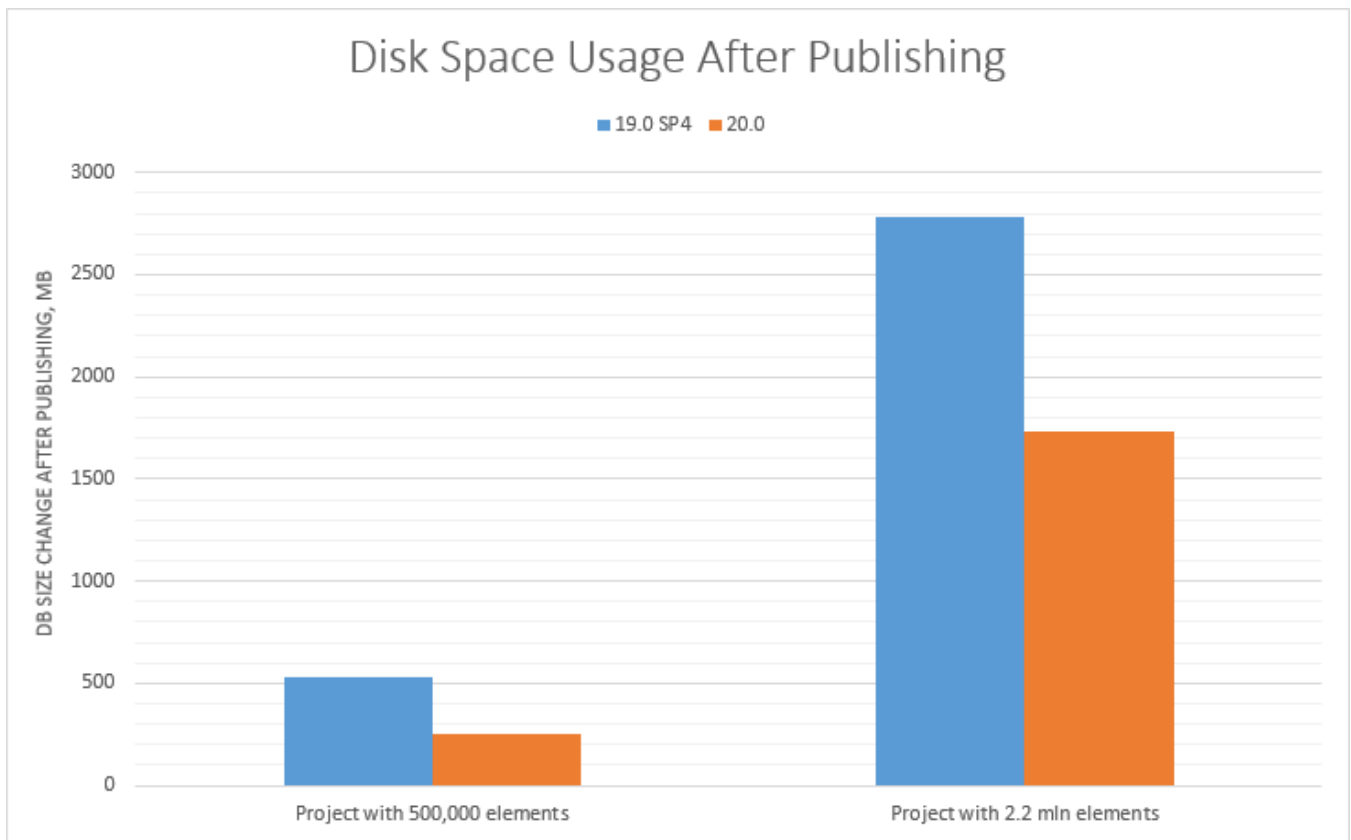
+ ADD NEW VALUE

This example shows how to create a new stereotype tag value right in a Cameo Collaborator document.

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## Disk Space Usage Improvements

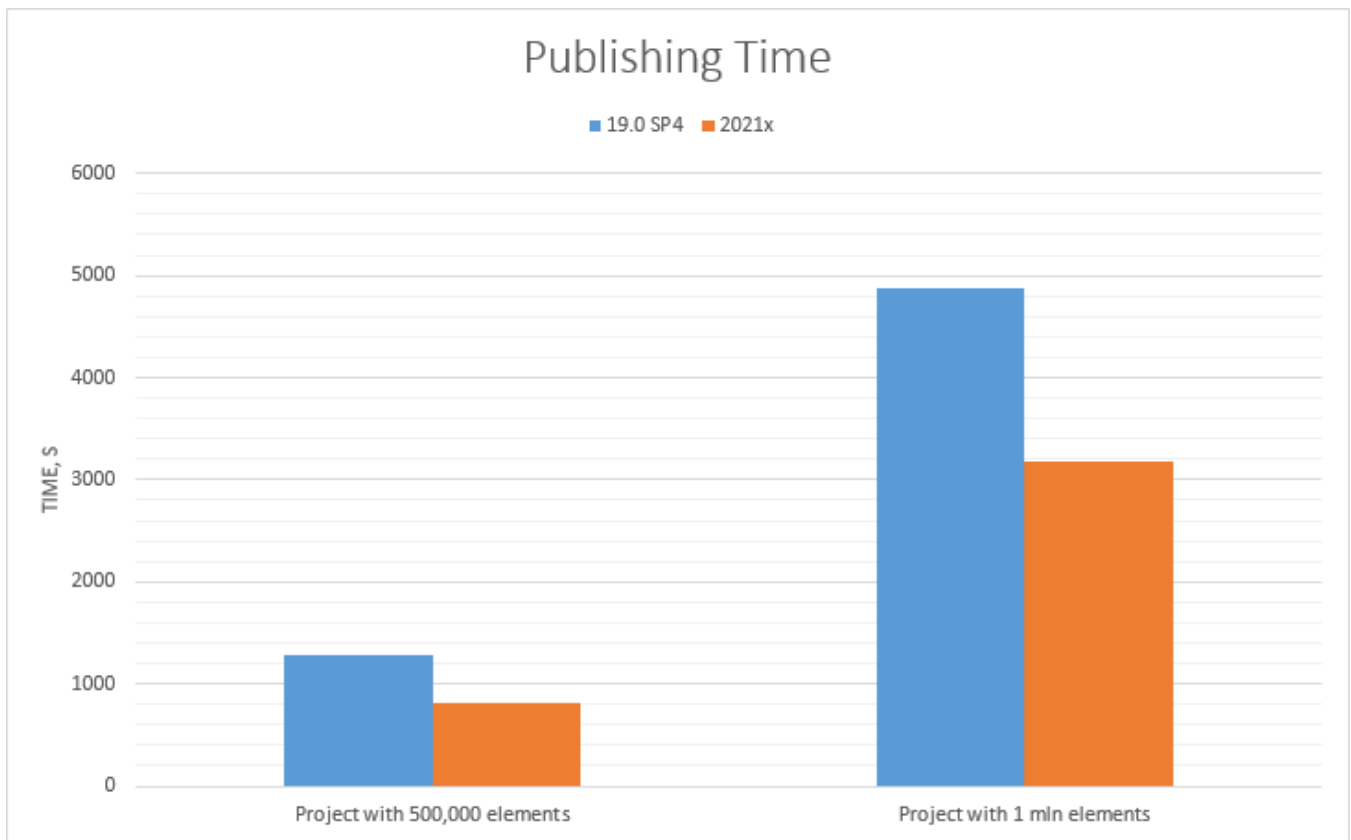
In this release of Cameo Collaborator for Teamwork Cloud, the number of elements in documents has been significantly reduced and now Cameo Collaborator documents take 40-50% less space in the Teamwork Cloud server.



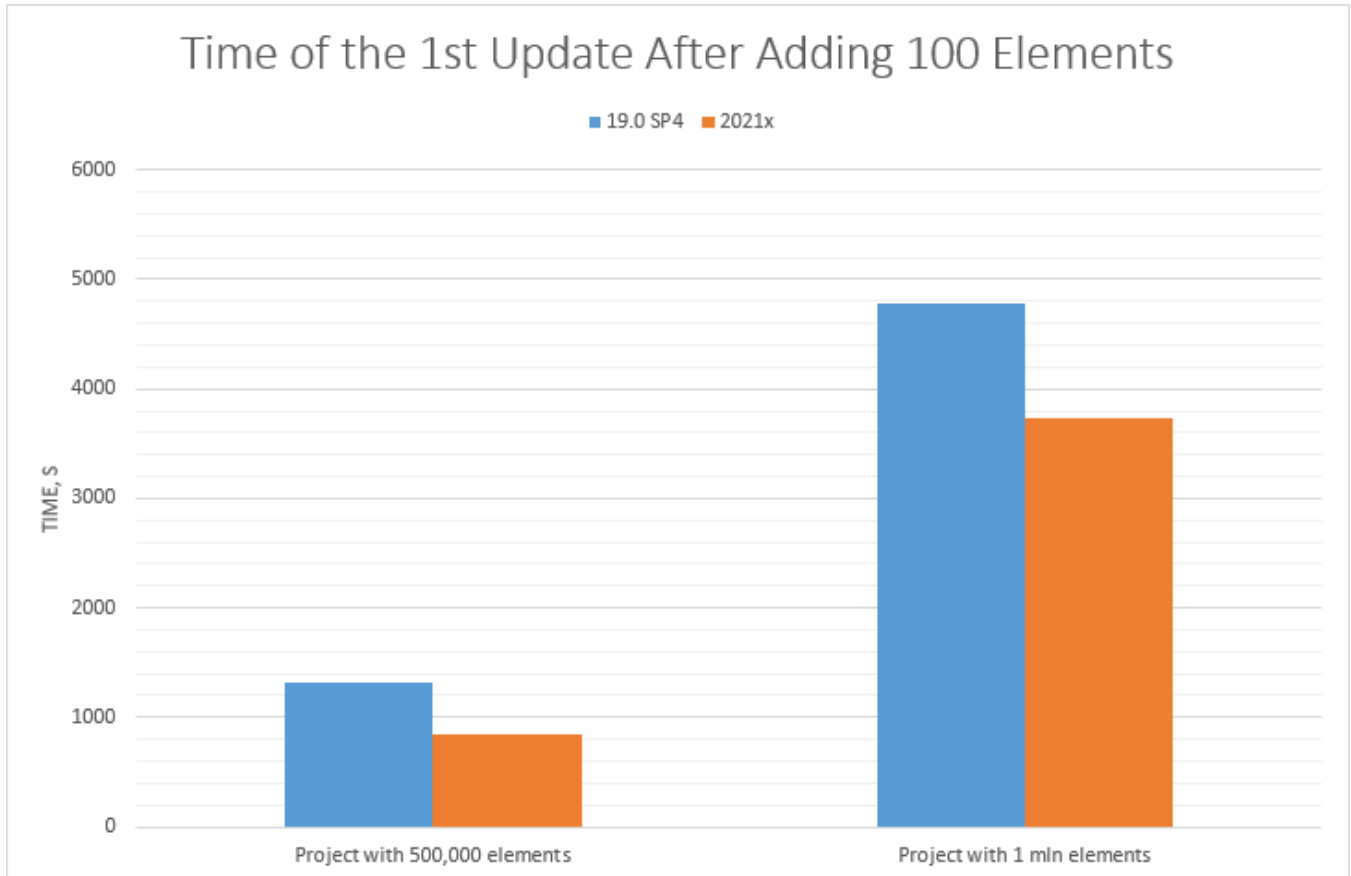
This chart demonstrates significantly decreased disk space usage in Cameo Collaborator for Teamwork Cloud 20.0 after publishing projects of different sizes.

## Improved Publishing Performance

In Cameo Collaborator for Teamwork Cloud 2021x, the publishing performance has been significantly improved and now takes less time as shown in the charts below. In addition, the amount of memory you need to allocate to your modeling tool for publishing has decreased.



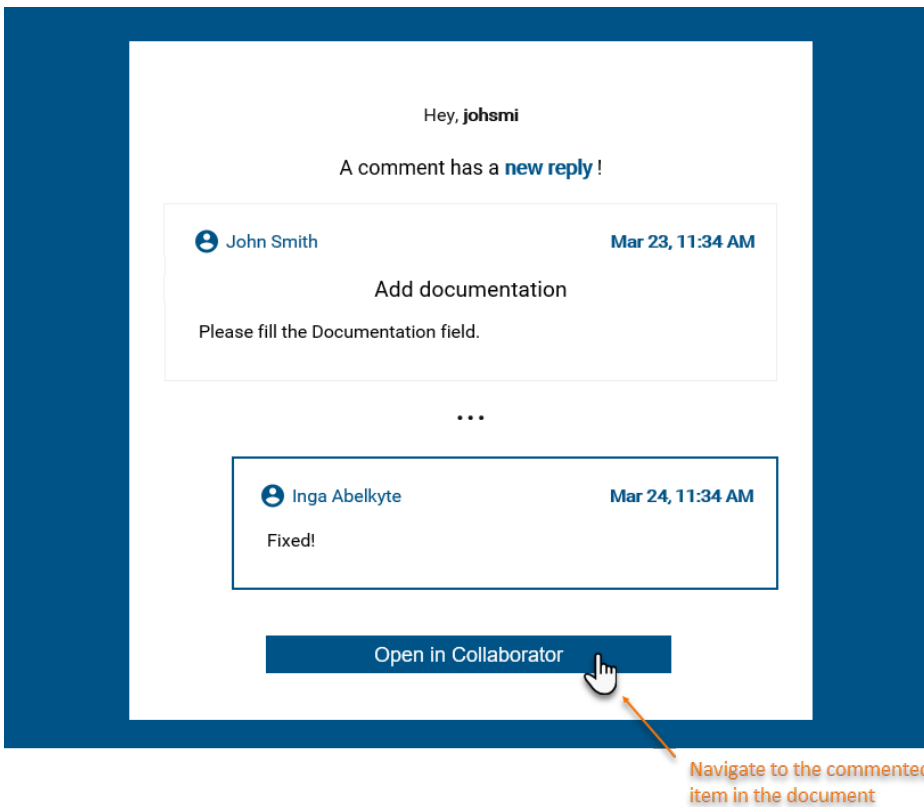
This chart compares the publishing time between product versions 19.0 SP4 and 2021x.



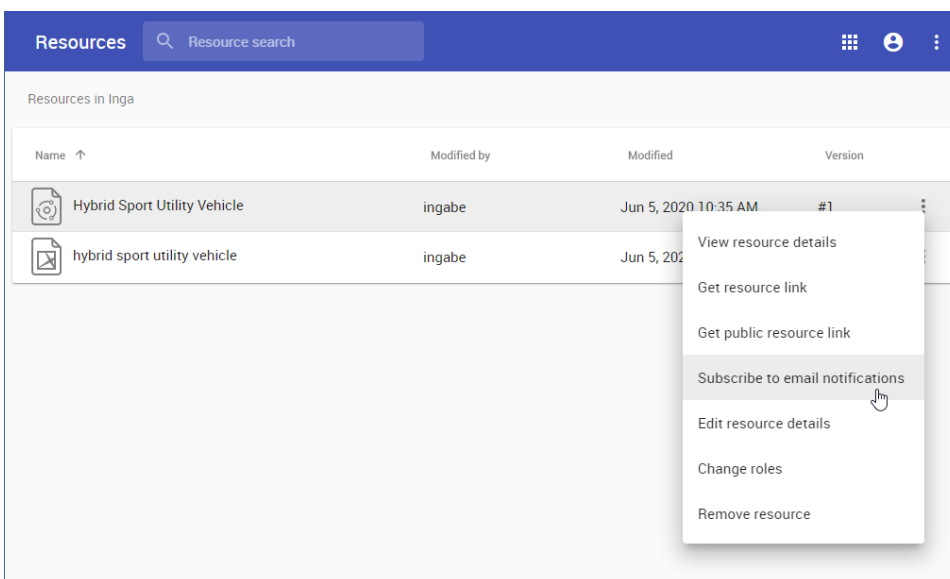
In this chart, you can see that updating Collaborator documents takes less time compared to the earlier versions of the product.

## Other

- Email notification templates have been redesigned and now have a completely new modern look. In addition, you can edit these templates to customize email notification appearance.



- If you are new to working with custom document templates, check our new *Cameo Collaborator Template Samples* project which you can find in your modeling tool installation directory. It provides different document template samples and gives step by step instructions on how to create them.
- Now subscribing to email notifications is more convenient because you can do it right from the Resources application.



## Other Enhancements

- Secure SSL communication can now be set up between Teamwork Cloud and Cassandra. [Learn how to configure secure SSL communication >>](#)

- The search capability in the Resources application has been improved and now works much faster.
- Empty categories are no longer displayed in the user interface.

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## **Documentation**

- [Magic Collaboration Studio 2021x](#)

## **News of earlier versions**

- [Magic Collaboration Studio 19.0 SP4](#)
- [Magic Collaboration Studio 19.0 SP3](#)