
Token Licensing Concepts and Management

April 2020



<u>INTRODUCTION TO TOKEN LICENSING</u>	<u>3</u>
<u>ADVANTAGES OF TOKEN LICENSING</u>	<u>4</u>
<u>FLEXIBILITY</u>	<u>4</u>
<u>IMPROVED LICENSING STRATEGY</u>	<u>4</u>
<u>GENERATING TOKEN LICENSES IN IBM LICENSE KEY CENTER</u>	<u>5</u>
<u>UNDERSTANDING THE TOKEN LICENSE KEY FILE</u>	<u>6</u>
<u>ITEMS OF NOTE WITH THE LICENSE FILE</u>	<u>6</u>
<u>JAZZ TOKEN LICENSING</u>	<u>7</u>
<u>LICENSE KEY SERVER</u>	<u>8</u>
<u>UNDERSTANDING A TOKEN BASED LICENSE LOG</u>	<u>8</u>
<u>GENERAL INFORMATION AND BEST PRACTICES</u>	<u>10</u>
<u>REFERENCES</u>	<u>11</u>

Introduction to Token Licensing

Token based enforced licensing is an option, along with floating and authorized user. Technically, the basis of token licensing is on the traditional floating license mechanism and process. However, when it comes to how the license check out (consumption) works, it has a different behavior.

The Token licensing model allows you to buy a certain number of tokens for defined products available with the token-based licensing model.

In a token environment, each product consumes a predefined token value, not a predefined quantity as it does in a traditional floating licensing environment. The license key has a pool of tokens from which the license server automatically calculates the tokens being checked in and out across users and products. Tokens are consumed and released when a product checks the licenses in or out from the license server using the same policy as floating licensing. The token solution is available for select products and available as fixed term only.

Token licensing allow you to "reuse" the same licenses for different products and when the need arises.

Advantages of Token Licensing

Flexibility

Tokens are the most flexible method of licensing. It is a floating license key where each license has a predefined token value replacing the static license quantity. Tokens allow you to maintain a “token pool” of licenses usable across users, using the right product at the right time throughout your development cycle.

The IBM License Key Server automatically calculates the tokens being checked in and out by different products. Tokens are consumed and released when a product checks in or out licenses from the license server.

The users are able to obtain a license as long as there are sufficient, unused tokens available for the entitled token products. When someone stops using a product, the tokens return to the token pool and are available for someone else to use.

For example: You have 720 total tokens to be used for IBM DOORS and IBM ClearCase; All 720 installed on the same license server. DOORS requires 10 tokens per user and ClearCase requires 5 tokens per user. In this example, your entitlement enables you to have any combination of users using DOORS and ClearCase at one time. This capability exists as long as you do not exceed 720 tokens.

Improved licensing strategy

Investment in a flexible licensing strategy provides optimal use of solutions based on your development life cycle. Licensing options might include authorized user, floating, fixed term, or perpetual (OTC – One Time Charge) licenses. Most organizations use an effective mix of multiple schemes to drive the optimal productivity of their software delivery teams.

Practitioners can use the right tool at the right time during the development life cycle. The tokens allow for current product use as well as factoring additional tools that are potentially required later in the life cycle.

Generating Token Licenses in IBM License key Center (LKC)

IBM Token in the IBM License Key Center

The **Items** ordered list shows the specific products purchased under this specific token agreement

Items ordered:

Part Number	Item Ordered
D0W1NLL	IBM ENGINEERING REQUIREMENTS MANAGEMENT DOORS FAMILY TOKEN 3 YEAR
D0VSPLL	IBM ENGINEERING WORKFLOW MANAGEMENT DEVELOPER TOKEN 3 YEAR
D0VTRLL	IBM ENGINEERING TEST MANAGEMENT QUALITY PROFESSIONAL TOKEN 3 YEAR
D0C8CLL	IBM RATIONAL CLEARCASE INITIAL TOKEN TERM

Sales Order Number	Purchase Order Number	License Key Expiration	Original Maintenance End Date	Order Quantity
Test Token Order 0...		Apr 30, 2021	Apr 30, 2021	770
Total number of licenses purchased				770

LICENSE KEYS FOR THIS ORDER
 Select the checkbox next to the key you would like to generate or view. [Help](#)

770 Available

	Number of keys available	Number of keys to generate
IBM ENGINEERING REQUIREMENTS MANAGEMENT DOORS FAMILY TOKEN 3 YEAR IBM ENGINEERING WORKFLOW MANAGEMENT DEVELOPER TOKEN 3 YEAR IBM ENGINEERING TEST MANAGEMENT QUALITY PROFESSIONAL TOKEN 3 YEAR IBM RATIONAL CLEARCASE INITIAL TOKEN TERM IBM ENGINEERING LIFECYCLE OPTIMIZATION PUBLISHING TOKEN 3 YEAR	770	<input style="width: 50px;" type="text" value="200"/>

Select an existing host from the list or enter a new one

- [Existing hosts](#)
- [Server Configuration *](#)
- [Host ID Type *](#)
- [Host ID *](#)
- [Hostname *](#)
- [Port](#)
- [Description](#)

* Indicates Required Field

Use existing host	
Single License Server	
Disk Serial Number (Windows only)	
00A6C951	
TOKENS	

The decision on the number of tokens for each server is based on the number of users and the token value of each product

Understanding the token license key

```
SERVER TOKENS DISK_SERIAL_NUM=00A6C951 27000
VENDOR ibmratl
VENDOR telelogic
VENDOR rational
INCREMENT TLSTOK ibmratl 2.0 14-sep-2013 200 vendor info="0|IBM \
Rational Main Token Feature|0" ISSUER=IBM ISSUED=28-Sep-2012 \
AUTH={ rational=( LK=6FFEE3DC4473) ibmratl=( SIGN="0008 CBAC \
C3E1 9D4B CB83 1DF2 B805 7C00 E634 5216 AA08 C2DB 95A9 6D6D \
F6AE") telelogic=( LK=7254B6B89E11E9B8B4A8 SIGN2="1545 8F83 \
8C75 8007 9506 EB45 CFB9 443D 88A6 D279 D16C 4F46 594B 57FD \
E2BA 06B7 BB67 856E 8A35 538E A9B7 0C92 83E7 2BF1 A13E 4262 \
12FF FC55 7443 786B") }
INCREMENT DOORS telelogic 2012.08112 11-aug-2012 1 E030F000E68CF6D9C892
VENDOR_STRING=IBM:t.TLSTOK.1.0.DOORS.10:DOORS sort=150 \
ISSUED=16-May-2012 SIGN2="1449 DD8A B058 2EE3 9629 356A C2D2 \
D9D1 79E7 C9CA BDF0 0FE7 0C5A 295F D741 0563 7B9B ED0B 0F80 \
EE29 DF64 494D 4D55 FB2B 2BAF DEAD C388 E66E D538 0EB8"
INCREMENT ClearQuest rational 1.100002 14-oct-2013 1 06F12D08103C \
VENDOR_STRING="0|Floating|0|0:t.TLSTOK.2.0.ClearQuest.5:CLEARQUEST \
" OVERDRAFT=0 sort=150 DUP_GROUP=UH ISSUED=16-May-2012
INCREMENT ibmptsoa ibmratl 7.00002 14-sep-2013 1 \
VENDOR_STRING="0|Floating|0|IBM:t.TLSTOK.2.0.ibmptsoa.10:SERVICE \
TESTER FOR SOA QUALITY" OVERDRAFT=0 sort=150 DUP_GROUP=UH \
ISSUED=28-Sep-2012 SIGN="0092 24BD 8242 15C4 FCC8 C0A8 4062 \
9500 C523 B595 6E10 42FB AF98 521B BB2A"
INCREMENT JazzToken ibmratl 3.02 14-sep-2013 1 \
VENDOR_STRING=IBM:t.TLSTOK.2.0.JazzToken.1:AZZ
sort=150 ISSUED=28-Sep-2012 SIGN="0092 24BD 8242 \
15C4 FCC8 C0A8 4062 9500 C523 B595 6E10 42FB AF98 521B BB2A"
```

TLSTOK Token master feature indicating the total number of tokens generated for this server, in this case 200

Each license increment has a pre-defined token value
DOORS, 10
ClearQuest, 5
ibmptsoa, 10
JazzToken, 1

Items of note with the license file

The **INCREMENT** line in a token license key is the same listed features as a traditional floating key. However, the quantity is always "1" on each line. The vendor string then holds the token value of each feature, which is the actual number of tokens that will be checked out when in use.

For example: When a DOORS session begins, the token pool of 200 will decrease by 10 to 190. When the session ends, the token pool returns to 200.

This is automatically performed by the IBM License Key Server. With all tokens in use, it is not possible to use more products unless a feature checks in. At that point, the program releases the tokens to the pool.

The **sort** attribute is 150 by default. This default allows the correct order of token licensing usage if mixed with non-token licenses. Traditional floating licenses are consumed before any tokens when sharing the same license server.

Jazz Token Licensing

The IBM Jazz token license increment is different, since it represents the complete set of Jazz based products used in a token environment. Each Jazz based product checks out the number of tokens directly from the token pool (TLSTOK) via the Jazz Team Server.

For example: When an IBM Team Concert contributor session starts, the Jazz Team Server requests 5 tokens from the IBM License Server. This request occurs because the token value for that product is 5.

To ensure the Token licensing works properly for any Jazz based products there is a requirement to install the FLEXNet based IBM License Key Server in addition to the Jazz Team Server, from which the Jazz product installations acquire their licenses. The servers can operate independently or as part of a Team Concert installation.

The IBM License Key Server take care of the check in and out focus as long as there is a correct installation of both keys. The Jazz server communicates with the IBM License Key Server, and the check in or out of tokens occurs automatically.

If you have both Jazz products and non-Jazz products available as tokens, then there are two sets of available keys when generating licenses in IBM License Key Center: One is for the FLEXNet based IBM License Key Server, the other one is the Jazz ".jar" file.

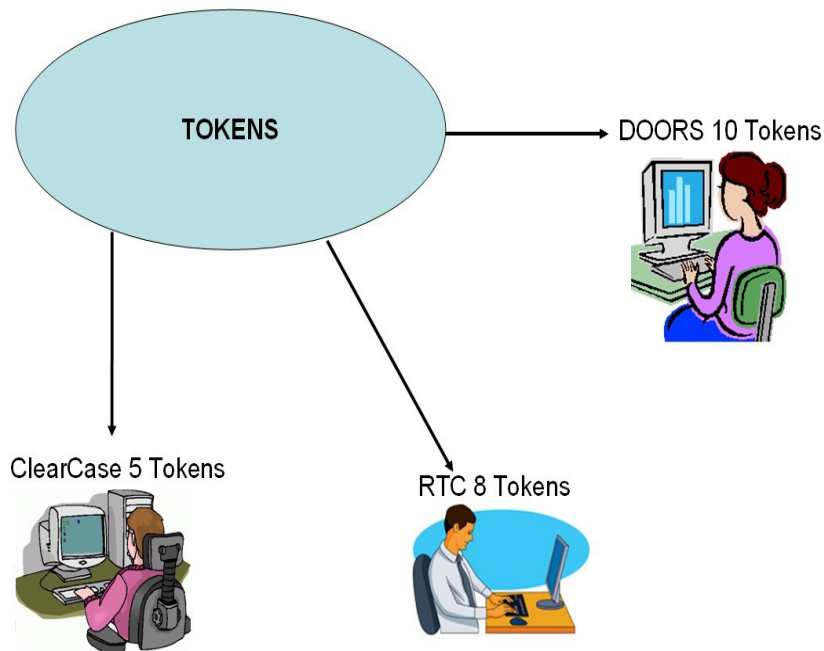


Figure 4

IBM License Key Server

IBM License Key Server V8.1 incorporates all vendor daemons (Telelogic, Rational& ibmratl) into one server. As long as a product is available within the token environment, it is supported by the license server.

Understanding a Token based license log

Perform a status enquiry using the license management tools after the rereading the license file. The enquiry lists all the features, included in the license file and the total number of tokens available. For example:

```
-----  
Status  
-----  
  
Flexible License Manager status on Thu 8/11/2011 18:46  
ibmratl: UP v11.8Feature usage info  
Users of DCCC: (Total of 1 license issued; Total of 0 licenses in use)  
Users of DCCQ: (Total of 1 license issued; Total of 0 licenses in use)  
Users of DOORS: (Total of 1 license issued; Total of 0 licenses in use)  
Users of DRL: (Total of 1 license issued; Total of 0 licenses in use)  
Users of SYNERGY-DistributedSupport: (Total of 1 license issued; Total of 0 licenses in use)  
Users of SYNERGY-InfomixSupport: (Total of 1 license issued; Total of 0 licenses in use)  
Users of SYNERGY-ObjectMake: (Total of 1 license issued; Total of 0 licenses in use)  
Users of SYNERGY-OracleSupport: (Total of 1 license issued; Total of 0 licenses in use)  
Users of TLSTOK: (Total of 200 licenses issued; Total of 0 licenses in use)  
Users of dev_ed: (Total of 1 license issued; Total of 0 licenses in use)  
Users of Rhapsody_C: (Total of 1 license issued; Total of 0 licenses in use)  
Users of Rhapsody_Java: (Total of 1 license issued; Total of 0 licenses in use)
```


License Server log displays after the check out of a DOORS license. In this example, a DOORS license consumes ten tokens.

```
C:\Program Files\IBM\Rational\RLKS\common\lmgd.log
18:46:00 (ibmratl) Updating feature SYNERGY-ActiveCM
18:46:00 (ibmratl) Updating feature SYNERGY-AsianSupport
18:46:00 (ibmratl) Updating feature SYNERGY-ChangeBase
18:46:00 (ibmratl) Updating feature SYNERGY-DistributedChangeBase
18:46:00 (ibmratl) Updating feature SYNERGY-DistributedSupport
18:46:00 (ibmratl) Updating feature SYNERGY-InformixSupport
18:46:00 (ibmratl) Updating feature SYNERGY-ObjectMake
18:46:00 (ibmratl) Updating feature SYNERGY-OracleSupport
18:46:00 (ibmratl) Updating feature TLSTOK
18:46:00 (ibmratl) Updating feature dev_ed
18:46:00 (ibmratl) Updating feature Rhapsody_C
18:46:00 (ibmratl) Updating feature Rhapsody_Java
18:46:00 (ibmratl) Rereading options file...
18:46:00 (ibmratl) ... Finished rereading
18:47:55 (ibmratl) OUT: "DOORS" Administrator@lmohanty
18:47:55 (ibmratl) IN: "DOORS" Administrator@lmohanty
18:47:55 (ibmratl) OUT: "TLSTOK" Administrator@lmohanty (10 licenses)
```

When all tokens are in use, a client machine attempting to checkout a DOORS license receives the error as per below message



General information and best practices

- Make sure you have the latest version of the IBM required License Key Server
- Authorized user licenses cannot be mixed with token licenses
- Tokens do not allow borrowing capability. However, you can use disconnected functionality where applicable
- Product specific linger time or time out follows the same policy for tokens as with a traditional floating license
- Product license increment name for tokens is the same as for traditional floating licenses
- Managing tokens across multiple servers means that you can split the token quantity across different license servers. However, you cannot split out products within the token order
- Token licensed products support the same platforms as traditional floating licenses. You are essentially using the same product, but the licensing model is different.
- Make sure that all software is on token supported product versions. If any users require older versions of the products, you must plan accordingly. If you migrate to token licensing, all versions of the software in use must be on versions that support the tokens license scheme. There is no option to run software versions from before the release where there is an implementation of token support. For example, ClearCase V7.1.2 is the first release that can use token licensing. You cannot use token licensing for ClearQuest versions before V7.1.2.
- Mixing floating and token licenses on the same license works fine and the order of usage is following:
 1. The first consumed licenses are the floating licenses.
 2. The token license increment has the attribute **sort=150** that controls the order of usage if mixed with floating licenses.
- For Jazz based products in version V4.0.3 and up the time out has changed for **tokens only**, it can be set at 30 minutes. In version V4.0.2 and earlier versions tokens time out is 2h, which is equal to traditional usage of Jazz based products.

References

Licensing Support page: <http://www.ibm.com/software/rational/support/licensing/>

Common Licensing Information Center:

<http://publib.boulder.ibm.com/infocenter/rational/v0r0m0/index.jsp>

Using the License Key Center:

http://publib.boulder.ibm.com/infocenter/rational/v0r0m0/topic/com.ibm.rational.license.doc/topics/t_access_license_key_center.html

Copyrights, trademarks, and disclaimers

IBM, the IBM logo, ibm.com, and Rational are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies.

THE INFORMATION CONTAINED IN THIS DOCUMENT IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. WHILE EFFORTS WERE MADE TO VERIFY THE COMPLETENESS AND ACCURACY OF THE INFORMATION CONTAINED IN THIS DOCUMENT, IT IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. IN ADDITION, THIS INFORMATION IS BASED ON IBM'S CURRENT PRODUCT PLANS AND STRATEGY, WHICH ARE SUBJECT TO CHANGE BY IBM WITHOUT NOTICE. IBM SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES ARISING OUT OF THE USE OF, OR OTHERWISE RELATED TO, THIS DOCUMENT OR ANY OTHER DOCUMENTATION. NOTHING CONTAINED IN THIS DOCUMENT IS INTENDED TO, NOR SHALL HAVE THE EFFECT OF, CREATING ANY WARRANTIES OR REDOCUMENTS FROM IBM (OR ITS SUPPLIERS OR LICENSORS), OR ALTERING THE TERMS AND CONDITIONS OF ANY AGREEMENT OR LICENSE GOVERNING THE USE OF IBM PRODUCTS OR SOFTWARE.

© Copyright International Business Machines Corporation 2012. All rights reserved.

