Study on Mobile Database Copy Method Based on Relevance Theory

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ABSTRACT: A hypothesis owns certain relevance in assumption context, when and only when it has a context effect in the context. This indicates relevance can be judged through contextual effect. Stronger contextual effect means larger relevance, while weaker contextual effect means smaller relevance. This paper introduces two principles of relevance theory and discusses mobile database copy method based on relevance theory.

KEYWORDS: Relevance theory; Mobile database; Copy

1 TWO PRINCIPLES OF RELEVANCE THEORY

Relevance theory is expounded from cognition and communication, respectively. In terms of cognition, RT holds that human cognition develops with biological evolution proposed by Darwin. Human cognitive mechanism is also the result of conformity and selection. Thus, human cognition tends to gain the maximum relevance so as to gain maximum cognitive effect. The principle of communication is established on the basis of cognitive principle. However, the optimal relevance here is not the maximum relevance, because such degree of relevance not just considers listener’s benefit, but also takes into account of speakers’ benefit. The maximum relevance may be defined from cognitive effects and processing effort.

Relevance = Cognitive Effects/ Processing Effort

Optimal Relevance, the first edition defines it as follows: Presumption of Optimal Relevance:
(a). The set of assumptions which the communicators intends to make manifest to addressee is relevant enough to make it worth the addressee's while to process the ostensive similus;
(b). The ostensive stimulus is the most relevant one compatible with the communicator's abilities and preferences.

In the two editions, the speaker creates the expectation of optimal relevance through the communication behavior, while the listener’s comprehension goal is to discover utterance interpretation which meets such optimal relevance expectation. (a) A low standard id set for relevance degree conveyed by the speaker, i.e. the conveyed utterance at least deserves the listener to make efforts to infer the significance; in the new edition (b), different cognitive competence and preference of diverse speakers are considered.

2 MOBILE DATABASE COPY METHOD BASED ON RELEVANCE THEORY

2.1 Main operations of Copy Database Wizard

The database and its object can be conveniently shifted or copied to another server from a server through Copy Database Wizard, and the server need not stop. Besides, the database can be upgraded to SQL Server 2014 from previous SQL Server version. The following operations may be executed by Copy Database Wizard: 1) select source server and target server; 2) select the database to be shifted, copied or upgraded; 3) assign file position for database; 4) create login name on target server; 5) copy other supported object, assignment, storage process defined by users and wrong message; 6) plan
when the database is shifted or copied. Except copying database, associated metadata can be copied. For instance, login name and object of master database are required by copied database. There must be restrictions, limitations, essential conditions, suggestions and security etc.

2.2 Application of Copy Database Wizard

Copy, shift or upgrade database; after follow-up and upgrade; after SQL Server database is upgrade; before commencement, application restrictions and limitations. Copy Database Wizard is not offered in Express version. Copy Database Wizard cannot be used to copy or shift the following database: database marked by copy operation; the database marked with “access unavailable”, “loading”, “offline”, “restoring”, “suspicious” or “emergency mode”. But after the database is upgrade, it cannot degrade to previous version. If “shift” option is chosen, Copy Database Wizard will automatically delete source database after the database is shifted. If “copy” option is chosen, Copy Database Wizard will not delete source database. If SQL Server management object method is used to shift the catalogue, it is required to fill in the index again after the shift. Separation and addition method can separate database, shift or copy database, .mdf, .ndf and .ldf files as well as add the database again in the new position. For separation and addition method, to avoid data loss or inconformity, activity dialogue cannot be added to the database which is being shifted or copied. If activity dialogue exists, Copy Database Wizard will not execute shift or copy operation. For SQL Server management object method, since the database will be never off-line, activity dialogue is allowed.

2.3 Essential conditions of application

2.3.1 Metadata

It is required to make sure SQL Server agency is launched on target server. To make sure the upgraded database own the optimal performance, upgraded database should operate to update statistical information. When the database is coped to another server example, you’d better establish part or all metadata (such as login name and assignment) of the database again on the another server example in order to offer consistent experience for users and application program. For detailed information, please refer to metadata management when the database is available on other server example.

2.3.2 Permission

You must be the member of sysadmin fixed server role on source serve and target server. The database is copied, shifted or upgraded again. The database is expanded in object resource manager of SQL Server Management Studio. Right click a database and direct “task”. Then click “copy database”. From the page “select source server”, appoint the server where the database to be shifted or copied is located and input login information. After identity verification method is chosen and login information is inputted, click “next” to establish connection with source server. This connection will keep open state in the whole dialogue.

2.3.3 Source server

Chose the name of server where the database to be shifted or copied is located, or click browse button to seek the required server. This server must be SQL Server 2005 at least. When Windows identity authentication is used, users should be allowed to connect user account through Microsoft Windows. When SQL Server identity authentication is used, users should be allowed to connect through offering SQL Server identity authentication of user name and password. Input user name used for connection. This option is available only when SQL Server identity authentication is chosen for connection. Input password of login name. This option is available only when SQL Server identity authentication is chosen for connection. Connect to the server and verify the user. This process will check whether the user is the member of sysadmin fixed server role on the selected computer. From the page “select target server”, appoint the target server where the database to be shifted or copied is located. If the source server and target server are set to the same server example, the copy of a database will be created. In such case, it is required to rename the database in Wizard. Only when there is no name conflict on target server can the name of source database be used as the database to be copied or shifted. If there is name conflict, the conflict problem must be solved manually on target server and then the name of source database can be used here.

2.3.4 Target server

Select the name of the server where the database is shifted or copied, or click browse button to seek target server. Cluster server can be used as the target. Copy Database Wizard will make sure you only choose shared drive on cluster target server.

When Windows identity authentication is used, the user should be allowed to connect through Microsoft Windows user account.

When SQL Server identity authentication is used, the user should be allowed to connect through offering SQL Server identity authentication of user name and password. Input user name used for connection. This option is available only when SQL Server identity authentication is chosen. Input password of login name. This option is available only when SQL Server identity authentication is chosen. Connect to server and verify the user. This
process checks whether the user owns the above permission for the selected computer. Select transmission method from the page “select transmission method”. The database is separated from source server. Database file (.mdf, .ndf and .ldf) is copied to target server, and then database is added to target server. This method is usually characterized by fast speed, because its main task is to read source disk and write in target disk. It is unnecessary to use SQL Server logic to create object in database or create database storage structure. But, if the database contains a vast amount of space which has been distributed, but is not used, this method will be slow. For instance, for an almost empty and new database for which 100 MB space is distributed, even if only 5 MB space is used, all 100 MB space will be copied. If this method is used, the user will be unable to use the database in the transmission process. If it fails, source database will be added again. After the database is copied, original database file will be always added to source server all the time. If the database shift cannot be completed, please use the box to re-add the original file to source database.

2.4 Application of SQL object management method

This method reads the definition of each database object on source database and creates each object on target database. Then, it transmits data to target list from source list and re-creates index and metadata. Database users can continue to access database in transmission process. From the page “select database”, select the database which will be shifted or copied to target server from source server. Please read the section “restrictions and limitations”. Shift means the database is shifted to target server. Copy means the database is copied to target server. Source means to display the database on source server. If the database can be shifted, “OK” will be displayed, or else the reason why the database cannot be shifted will be displayed. Refresh means to refresh database list. Next means verification process starts and then the next screen will be turned to. From the page “configure target database”, change database name (if applicable) and assign the position and name of database file. This page will appear when each database is shifted or copied. From the page “select database object”, select the object included in shift or copy operation. This page is available only when source and target are different servers. To include an object, please click object name in the box of “relevant objects available”. Then, click >> button and shift the object to the box of “selected relevant objects”. To exclude an object, please click object name in the box of “selected relevant objects”. Then, click << button and shift the object to the box of “relevant objects available”. In default conditions, all objects of each selected type will be transmitted. To select single object in a type, please click apostrophe button beside the object type in the box of “relevant objects available”. A dialogue box will be opened, you may select each object from the box.

Login name

3 BRIEF SUMMARY

After Copy Database Wizard is used to upgrade SQL Server to SQL Server 2014, the database will be immediately become usable and will automatically upgrade. If the database owns full-text retrieval, the upgrading process will be import, reset or regenerate them, which depends on the setting of attribute of “full-text upgrade option” server. If upgrade option is set to “import” or “regenerate”, full-text retrieval is not available in the upgrading process. It may take several hours to import, while it may take ten times of the time to regenerate at most. This depends on the data size of establishing index. It is necessary to notice that when upgrade option is set to “import”, if full-text catalogue is not available, associated full-text retrieval will be regenerated.

REFERENCES