

EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 525

DATE: FEBRUARY 1, 2019

PROJECT: MP0393

The following classification changes will be effected by this Notice of Changes:

<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
SCHEME:		
Titles Changed:	G06F	3/16
	G06F	8/35
	G06F	21/16
DEFINITIONS:		
Definitions Modified:	G06F	3/16
	G06F	8/00
	G06F	8/10
	G06F	8/20
	G06F	8/22
	G06F	8/24
	G06F	8/30
	G06F	8/31
	G06F	8/315
	G06F	8/33
	G06F	8/37
	G06F	8/38
	G06F	8/40
	G06F	8/41
	G06F	8/427
	G06F	8/443
	G06F	8/4432
	G06F	8/4434
	G06F	8/4436
	G06F	8/4443
	G06F	8/45
	G06F	8/452
	G06F	8/456
	G06F	8/47
	G06F	8/49
	G06F	8/51
	G06F	8/52
	G06F	8/53
	G06F	8/60
	G06F	8/62

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<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
	G06F	8/70
	G06F	8/74
	G06F	8/75
	G06F	8/751
	G06F	8/77
	G06F	9/00
	G06F	9/04
	G06F	9/06
	G06F	9/22
	G06F	9/26
	G06F	9/30
	G06F	9/32
	G06F	9/44
	G06F	9/4401
	G06F	9/4405
	G06F	9/441
	G06F	9/4411
	G06F	9/4416
	G06F	9/4418
	G06F	9/445
	G06F	9/44505
	G06F	9/44589
	G06F	9/46
	G06F	9/48
	G06F	9/52
	G06F	9/54
	G06F	12/14
	G06F	15/02
	G06F	15/16
	G06F	15/76
	G06F	21/57
Definitions New:	G06F	8/654
	G06F	8/656
	G06F	8/658
	G06F	9/448
	G06F	9/4484
	G06F	9/4486
	G06F	9/4488
	G06F	9/449
	G06F	9/4491

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<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
	G06F	9/4492
	G06F	9/4493
	G06F	9/4494
	G06F	9/451
	G06F	9/452
	G06F	9/453
	G06F	9/454
	G06F	21/16

No other subclasses/groups are impacted by this Notice of Changes.

This Notice of Changes includes the following *[Check the ones included]:*

1. CLASSIFICATION SCHEME CHANGES

- A. New, Modified or Deleted Group(s)
- B. New, Modified or Deleted Warning(s)
- C. New, Modified or Deleted Note(s)
- D. New, Modified or Deleted Guidance Heading(s)

2. DEFINITIONS

- A. New or Modified Definitions (Full definition template)
- B. Modified or Deleted Definitions (Definitions Quick Fix)

- 3. REVISION CONCORDANCE LIST (RCL)
- 4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)
- 5. CHANGES TO THE CROSS-REFERENCE LIST (CRL)

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1. CLASSIFICATION SCHEME CHANGES

A. New, Modified or Deleted Group(s)

SUBCLASS G06F - ELECTRICAL DIGITAL DATA PROCESSING

<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title (new or modified)</u> <u>“CPC only” text should normally be enclosed in {curly brackets}**</u>	<u>Transferred to#</u>
M	G06F3/16	1	Sound input; Sound output (speech processing G10L)	
M	G06F 8/35	2	model driven	
M	G06F21/16	2	Program or content traceability, e.g. by watermarking	

*N = new entries where reclassification into entries is involved; C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; E= existing entries with enlarged file scope, which receive documents from C or D entries, e.g. when a limiting reference is removed from the entry title; M = entries with no change to the file scope (no reclassification); D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed; U = entries that are unchanged.

NOTES:

- **No {curly brackets} are used for titles in CPC only subclasses, e.g. C12Y, A23Y; 2000 series symbol titles of groups found at the end of schemes (orthogonal codes); or the Y section titles. The {curly brackets} are used for 2000 series symbol titles found interspersed throughout the main trunk schemes (breakdown codes).
- For U groups, the minimum requirement is to include the U group located immediately prior to the N group or N group array, in order to show the N group hierarchy and improve the readability and understanding of the scheme. Always include the symbol, indent level and title of the U group in the table above.
- All entry types should be included in the scheme changes table above for better understanding of the overall scheme change picture. Symbol, indent level, and title are required for all types except “D” which requires only a symbol.
- #“Transferred to” column must be completed for all C, D, F, and Q type entries. F groups will be deleted once reclassification is completed.
- When multiple symbols are included in the “Transferred to” column, avoid using ranges of symbols in order to be as precise as possible.
- For administrative transfer of documents, the following text should be used: “< administrative transfer to XX>” or “<administrative transfer to XX and YY simultaneously>” when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be “invention information”, unless otherwise indicated, and to 2000 series groups is assumed to be “additional information”.

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2. A. DEFINITIONS

G06F 3/16(modified)

DELETE: Existing Limiting references bulleted list

ADD: Limiting references table as shown below.

References

Limiting references

This group does not cover:

Speech processing	G10L
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ADD: Informative references section

Informative references

Attention is drawn to the following places, which may be of interest for search:

Devices for the storage of speech signals	G11B 27/00
Spatial sound recording	H04R 5/00
Spatial sound reproduction	H04S
Encoding of compressed speech signals for transmission or storage	H04L
Coding of audio signals in musical instruments	G10H
Amplifiers	H03F
Gain or frequency control	H03G 3/00
Broadcasting	H04H
Handling natural language data	G06F 17/20

G06F 8/00(modified)

REPLACE: Existing Definition statement with the one below

Definition statement

This place covers:

- The engineering discipline of creating software and the assistance of computer tools (CASE tools) in exercising the task of software engineering.
- The phases, covered by [G06F 8/00](#), range from the initial requirements collection up to and including the delivery of software to the end user, its maintenance and management but exclude the phase of testing and debugging.

ADD: Relationships with other classification places section

Relationships with other classification places

Aspects of the particular application of the software being designed, e.g. commercial or financial software, are classified in the appropriate place.

References

REPLACE: Existing Limiting references table with the one below

Limiting references

This place does not cover:

Testing or debugging	G06F11/36
Administrative, planning or organisation aspects of software project management	G06Q10/06

ADD: The following Informative references table

Informative references

Attention is drawn to the following places, which may be of interest for search:

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Execution of a stored program	G06F9/06
Hardware/software co-design	G06F17/50

G06F8/10

Definition statement

REPLACE: First sentence of the Definition statement with the one below

This place covers:

Capturing and formalising user requirements:

References

DELETE: Limiting references section

ADD: Informative references section below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Circuit design	G06F 17/5045
Specification of network protocols	H04L69/03

G06F 8/20(modified)

Definition statement

REPLACE: Existing Definition statement with the one below

This place covers:

- Software design, including the determination of the main structure, the modules that will be created and the relationships between them.
- The use of design patterns for object-oriented development.

References

DELETE: Limiting references table

ADD: Informative references table

Informative references

Attention is drawn to the following places, which may be of interest for search:

Computer-aided design in general

G06F 17/50

G06F8/22(modified)

References

DELETE: Limiting references section

G06F8/24(modified)

References

Informative references

DELETE: Row containing “Object oriented systems G06F9/4492”

G06F8/30(modified)

References

DELETE: Application oriented references section

REPLACE: Existing Informative references table with the one below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Specification techniques for generating programs	G06F 8/10
Compilation, i.e. the process of converting source code into binary code during the task of software engineering	G06F 8/41

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Reverse engineering; Extracting design information from a source code	G06F 8/74
Porting source code to a different environment	G06F 8/76
Query generation in information retrieval	G06F16/33 , G06F16/24

G06F8/31(modified)

References

REPLACE: Limiting references section with the Informative references section below

Informative references

This place does not cover:

Processing or translating of natural language	G06F17/28
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G06F8/315(modified)

References

REPLACE: Limiting references section with the Informative references section below

Informative references

This place does not cover:

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Object-oriented design paradigms	G06F8/24
Object-oriented systems	G06F9/4488
Method invocation	G06F9/449
Distributed object-oriented systems	G06F9/465
Object-oriented databases	G06F16/289

G06F8/33(modified)

References

REPLACE: Limiting references section with Informative references section below

Informative references

This place does not cover:

Text processing	G06F17/21
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G06F8/37(modified)

Definition statement

ADD: Bullets to Definition statement

REPLACE: Last sentence in the Definition statement with the one below

This place covers:

- Automatically generating a compiler or parser based on a specification of a grammar/syntax, e.g. Lex and Yacc.
- Generation of lexical analyzers.

References

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

Informative references:

Attention is drawn to the following places, which may be of interest for search:

Compilation per se	G06F8/41
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G06F8/38(modified)

Definition statement

REPLACE: Definition statement with the new one below

This place covers:

The development and generation of source code for user interfaces, in particular GUIs.

References

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

Informative references

Attention is drawn to the following places, which may be of interest for search:

User interaction with graphical user interfaces	G06F 3/048
Details relating to the actual functioning of (graphical) user interfaces	G06F 9/451

G06F8/40(modified)

Definition statement

DELETE: Second sentence and the image in the Definition statement

Limiting references

DELETE: Limiting references section and table

G06F8/41(modified)

Definition statement

REPLACE: The entire Definition statement with the one below

This place covers:

The process of converting source code into binary code.

References

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

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Informative references*Attention is drawn to the following places, which may be of interest for search:*

Compiler generators	G06F 8/30
Runtime code conversion	G06F 9/455

G06F8/427(modified)**References**

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

Informative references*Attention is drawn to the following places, which may be of interest for search:*

Parser generators	G06F8/37
Parsing of XML code	G06F17/20

G06F8/443(modified)**References**

DELETE: Limiting references section and table

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ADD: Informative references section and table shown below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Code refactoring	G06F8/72
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G06F8/4432(modified)

References

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Means for Saving Power, Power Management strategies	G06F1/3203
---	----------------------------

G06F8/4434(modified)

References

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Data compression (e.g. PKZIP)	H03M7/30
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Special rules of classification

REPLACE: All text in the Special rules of classification section with the text below

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Note that this group does not cover the compression of program code, which requires a decompression before it can be executed. Compression of program code in this sense does not result in the actual program being smaller; there is only a saving in the secondary storage or transmission via the network.

In contrast, the size-reduced code covered by this group is directly executable, so no decompression is needed before execution.

G06F8/4436(modified)

References

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Reuse, i.e. identifying recurring pieces of code for purposes of reuse	G06F8/36
Inlining	G06F8/4443
Code clone detection, i.e. detection of identical pieces of code for the purpose of maintenance	G06F8/751
Plagiarism detection in a source code	G06F21/10

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G06F8/4443(modified)

References

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Exlining	G06F8/4436
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G06F8/45(modified)

References

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

Informative references

Attention is drawn to the following places, which may be of interest for search

Exploiting fine grain parallelism	G06F8/445
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G06F8/452(modified)

References

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Software pipelining	G06F8/4452
Allocation of resources to service a request	G06F9/5005
Techniques for rebalancing the load in a distributed system at run-time	G06F9/5083

G06F8/456(modified)

Definition statement

REPLACE: In the second paragraph, first sentence, replace the word “class” with “group”

This place covers:

In this group the burden to detect and extract parallelism is put on the compiler or another software tool.

References

DELETE: Limiting references section and table

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ADD: Informative references section and table shown below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Techniques and language constructs to create parallel programs	G06F8/314
Data flow analysis, control flow analysis	G06F8/433

G06F8/47(modified)

References

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Generating code for just one computing platform	G06F8/447
---	---------------------------

G06F8/49(modified)

References

DELETE: Limiting references section and table

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ADD: Informative references section and table shown below

Informative references*Attention is drawn to the following places, which may be of interest for search:*

Optimizing a method invocation based on the type of the receiving object	G06F9/4491
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G06F8/51(modified)**References**

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

Informative references*Attention is drawn to the following places, which may be of interest for search:*

Source to binary translation	G06F8/41
Preprocessors	G06F8/423
Optimisation of source code	G06F8/443
Binary to binary translation	G06F8/52
Porting; modifying the source code of the application in order to adapt it to new / changed requirements	G06F8/76
Porting source code to a different environment	G06F8/76

G06F8/52(modified)

Definition statement

ADD: Bullets to the lines beginning “Binary” and “Intermediate”

REPLACE: Second sentence beginning with “This class” with the sentence below

This group covers the following forms of static binary code translation:

References

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Source to source translation	G06F8/51
Binary to source translation	G06F8/53

G06F8/53(modified)

References

DELETE: Limiting references section and table

ADD: New row to Informative references table shown below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Reverse engineering	G06F8/74
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G06F8/60(modified)

Definition statement

REPLACE: Existing Definition statement with the one below

This place covers:

- Installation and updating of computer software
- Methods that make the installation/update of software program transparent, automatic and user-friendly, both to the end-user and the network administrator. Methods that automatically select which programs should be updated, when and how this should happen, and where old and new programs should be located

Updating or installing software based on physical location of the target device.

References

DELETE: Limiting references and Application oriented sections and tables

REPLACE: Informative references section and table with the one shown below

Informative references:

Attention is drawn to the following places, which may be of interest for search:

Installation and upgrade of device drivers	G06F 9/4411
Network booting	G06F9/4416

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Program loading or initiating	G06F 9/445
Fault tolerant update or installation. For example when an error occurs during software upgrade, the system is rebooted and restored to the state before installation.	G06F11/1433
Secure aspects of licensing; Try and buy software	G06F21/10
Arrangements in connection with the implantation of stimulators; Changing the program; Upgrading firmware	A61N1/37264
Downloading information (also software) into vehicles	G07C5/008
Personalization of smart card applications	G07F7/10
Download/install/upgrade software in mobile communication devices	H04M1/72525
Multimedia set-top boxes under program control	H04N5/4403

DELETE: Special rules of classification

G06F8/62(modified)

References

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Unloading program code from executable memory	G06F9/445
Garbage collection	G06F12/0253

G06F8/654(new)

Definition statement

This place covers:

- Updating software stored in non-volatile, alterable, solid-state storage, e.g. flash or EEPROM.
- In place updating

References:

Informative references:

Attention is drawn to the following places, which may be of interest for search:

Update program code stored in non-alterable ROM	G06F8/66
Changing the capability of a processor by loading new microcode, e.g. representing a different instruction set	G06F9/24
Low level details of writing to solid-state storage	G11C16/10

G06F8/656(new)

Definition statement

This place covers:

- Updating software while it is executing or running

Specific topics included:

- Hot-plugging of new software into a running system
- Run-time adaptation of the functionality of executable code by relinking to new code modules

References:

Informative references:

Attention is drawn to the following places, which may be of interest for search:

Power plants, Industrial process controllers	G05B19/042
Telecommunication systems	H04Q3/545

G06F8/658(new)

Definition statement

This place covers:

Update methods explicitly demonstrating how a new version of software is created from an old version and update instructions and/or differential data. The simplest way to update a piece of software from a first version to a second version is to remove the first version in its entirety and replace it by the entire second version. This method, although conceptually simple, is highly inefficient, especially in the case where the second version differs only slightly from the first version:

- It is always necessary to provide the target with the entire second version; if a network is involved, this puts a high burden on the network.
- It might take a long time to perform the update because the entire first version has to be deleted and the entire second version has to be written.

This group tackles this problem in that the update is performed by using the existing instance of the first version as a basis and to generate the instance of the second version therefrom. The scope of the group can thus be described as dealing with the details of how to modify an existing instance of the first version in order to arrive at the second version.

Typically, the second version is created by only changing those parts of the first version that actually change. This can be accomplished by creating a difference file (delta) that describes the differences of the second version with regards to the first version. The delta is provided to the target and applied to the first version thus yielding the second version. This delta can be passive - the delta is applied by an updater - or active -the delta contains instructions to actually perform the update.

Incremental update more generally refers to details of the steps involved to convert one piece of software into another. Differential update is more specific and explicitly uses differences between the two pieces of software.

References:

Informative references:

Attention is drawn to the following places, which may be of interest for search:

Updating remote displays by only transmitting differences	G06F3/1454
Comparing a list of software actually installed on a device and a list of software that should be installed on a device; identify software not installed that should be installed on install this software on the device	G06F8/61
Delta for version control systems	G06F8/71

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Delta for text documents	G06F17/2211
Delta in the context of file systems	G06F16/1767
Compression in general	H03M7/30

G06F8/70(modified)

Definition statement

REPLACE: Existing Definition statement with the one below

This place covers:

- Adapting the code of a program in response to new requirements, changes to the environment, detection of bugs, etc.
- When new functionality is required, analysing the code in order to find the points to edit; generating new code, and incorporating it into the application

DELETE: Limiting references section and table

DELETE: the Special rules of classification section

G06F8/74(modified)

References

DELETE: Limiting references section and table

ADD: The following new rows to the Informative references table

Informative references

Attention is drawn to the following places, which may be of interest for search:

When the reverse engineering is performed in the context of binary to binary translation	G06F8/52
--	--------------------------

Decompilation and disassembly	G06F8/53
-------------------------------	--------------------------

G06F8/75(modified)

References

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Analysing program code in order to identify reusable program parts	G06F8/36
Monitoring program code execution	G06F11/34

G06F8/751(modified)

References

DELETE: Limiting references section and table

ADD: The following new rows to the Informative references table

Informative references

Attention is drawn to the following places, which may be of interest for search:

Reuse, i.e. identifying recurring pieces of code for purposes of reuse	G06F8/36
Exlining, i.e. finding similar sequences of code to replace them with a procedure invocation	G06F8/4436

G06F8/77(modified)

References

DELETE: Limiting references section and table

ADD: Informative references section and table shown below

Informative references

Attention is drawn to the following places, which may be of interest for search

Measuring certain characteristics of a program in view of debugging	G06F11/362
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G06F9/00(modified)

References

Limiting references

DELETE: Table row beginning “Arrangements” in the Limiting references table

INSERT: The following row in the Limiting references table.

Program control for peripheral devices	G06F 13/10
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Informative references

DELETE: Table row “Program control for peripheral devices”

INSERT: The following row in the Informative references table.

Arrangements for development of programs; Software engineering	G06F8/00
Program control in regulating or control systems	G05B

G06F9/04(modified)

ADD: Limiting references section shown below

Limiting references

This place does not cover:

Arrangements for program control using stored programs	G06F 9/06
--	-----------

G06F9/06(modified)

DELETE: Limiting references section

G06F9/22(modified)

REPLACE: Existing Special rules of classification with the paragraphs below

Special rules of classification

Precedence and classification rules:

The classification rules for subgroups [G06F9/22](#) - [G06F9/28](#) is different from those used in [G06F 9/30](#) and subgroups.

All aspects disclosed in a document which are deemed useful for search receive a class, not just the subject matter of the invention. Hence multiple subgroups are to be used.

There is no distinction made between invention and additional subject matter, and the classes for additional subject matter are not used.

A single lower level group is given if appropriate. A higher level group is given for documents having features belonging to multiple subgroups.

G06F9/26(modified)

ADD: Limiting references section shown below

References

Limiting references

This place does not cover:

Enhancement of operational speed, e.g. by using several microcontrol devices operating in parallel	G06F9/28
--	--------------------------

DELETE: Special rules of classification

G06F9/30(modified)

DELETE: The following two bullet points

Relationships with other classification places

- Arrangements for executing microinstructions [G06F9/22](#);
- arrangements for executing subprograms [G06F9/40](#);

References

ADD: Limiting references section shown below

DELETE: Informative references section

Limiting reference

This place does not cover:

Arrangements for executing microinstructions	G06F9/22
--	--------------------------

REPLACE: Existing Special rules of classification with the paragraphs below

Special rules of classification

These rules of classification apply to the group [G06F9/30](#) and subgroups:

All aspects disclosed in a document which are deemed useful for search are classified.

There is no distinction made between invention and additional subject matter.

Note that combinations of subgroups are possible from different hierarchy levels, or from the same level within the hierarchy.

The following IPC subgroups are not used in this classification scheme, but are covered by the subgroups listed here:

IPC group [G06F9/302](#) covered by CPC group [G06F9/3001](#);

IPC group [G06F9/305](#) covered by CPC group [G06F9/30029](#);

IPC group [G06F9/308](#) covered by CPC group [G06F9/30018](#);

IPC group [G06F9/312](#) covered by CPC group [G06F9/30043](#);

IPC group [G06F9/315](#) covered by CPC group [G06F9/30032](#);

IPC group [G06F9/318](#) covered by CPC group [G06F9/30181](#).

G06F9/32(modified)

References

ADD: Limiting references section below

Limiting references

This place does not cover:

Concurrent instruction execution, e.g. pipeline, look ahead	G06F9/38
---	--------------------------

Informative references

REPLACE: Informative references section and table with the one shown below

Attention is drawn to the following places, which may be of interest for search:

Subprogram jump	G06F9/4486
-----------------	----------------------------

G06F9/44(modified)

REPLACE: Limiting references section with the Informative references section below

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Program initiating or program switching in the context of multiprogramming	G06F9/48
--	--------------------------

G06F9/4401(modified)

Definition statement

REPLACE: Existing Definition statement with the one below

This place covers:

Starting up or shutting down a computer system and loading of the operating system.

References

Limiting references

DELETE: All 5 existing rows from Limiting references

INSERT: The following new row in the Limiting references table

This place does not cover:

Security arrangements for bootstrapping	G06F21/57
---	---------------------------

Informative references

ADD: Informative references section and the table below

Attention is drawn to the following places, which may be of interest for search:

Low level details of resetting means	G06F1/24
Compiler bootstrapping	G06F8/37
Installation of computer software	G06F 8/61
Fault tolerant booting	G06F11/1417
Details of Power-On Self Test (POST)	G06F11/2284

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Glossary of terms

REPLACE: All text associated with the term “Bootstrap” with the text in the table row shown below

In this place, the following terms or expressions are used with the meaning indicated:

Bootstrap	a simple program that begins initialisation of the computer's operating system
-----------	--

G06F9/4405(modified)

References

DELETE: Limiting references section

ADD: Informative references as shown below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Configuring of multiprocessors	G06F15/177
--------------------------------	----------------------------

G06F9/441(modified)

DELETE: Limiting references section

ADD: Informative references as shown below

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Emulating one OS using another	G06F9/45504
Two active OSs, where one OS (the guest OS) is running as an application in the other OS (the host OS)	G06F9/45545
When one of this plurality of OSs serves as a backup OS in case of failure, recovery OS	G06F11/00
Multiple OSs running simultaneously in the context of a VMM	G06F9/45558

G06F9/4411(modified)

DELETE: Limiting references section

INSERT: The following 4 new rows in the existing Informative references table

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Configuration of printer parameters	G06F3/1297
Updating of firmware in peripheral devices	G06F8/65

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Configuring software or OS when this configuration is not related to interacting with the peripheral device	G06F9/44505
Management of devices over a network	H04L67/125 , H04L67/025

G06F9/4416(modified)

DELETE: Limiting references section

REPLACE: Informative references as shown below

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Booting of multiprocessor systems, e.g. where one processor (the master) sends the boot or initialisation code to the other processors (slaves)	G06F15/177
Wake-on-LAN (WoL)	H04L12/12
BOOTP, DHCP protocol	H04L61/2023 , H04L61/2015
Network protocols involving booting	H04L67/34

Special rules of classification

DELETE: The following text in the Special rules of classification section.

Examples: US5758165, US5717930, US6151674.

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G06F9/4418(modified)**Definition statement****DELETE:** In the 3rd bulleted statement, the following text.

(see e.g. US5680540, EP0498374, XP13105759)

REPLACE: The 4th bulleted statement, with the following text.

Quickly bringing a computer into an operational state by copying a memory image from persistent storage to RAM, thereby bypassing the lengthy conventional boot process

DELETE: Limiting references section**REPLACE:** Informative references as shown below**References*****Informative references****Attention is drawn to the following places, which may be of interest for search:*

Low-level, electrical details of suspend and resume	G06F1/32
Power Management	G06F1/3203
Normal Shutdown (without saving state information - the next boot starts from scratch)	G06F9/4401
Suspending a running process and resuming its execution later in the context of process scheduling	G06F9/461 , G06F9/4881
Booting a computer system when an error/ fault is involved. Includes Dealing with errors that occur during the boot process itself (e.g. when encountering a corrupt BIOS); * Rebooting the system after a previous irregular shutdown (e.g. due to a power failure), thereby	G06F11/1417

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<p>restoring as much as possible the system state that existed before the irregular shutdown occurred. In absence of an emergency power supply, a power failure will cause the computer system to be simply powered down, inevitably resulting in the loss of system state. The next time the computer is booted, the system state will be restored as much as possible.</p>	
<p>Graceful shutdown: When a power failure is detected, an emergency power supply (e.g. UPS) is activated giving the system enough time to do a proper shutdown (when shutting down a computer system, no state information is saved). Graceful hibernation: When a power failure is detected, an emergency power supply (e.g. UPS) is activated giving the system enough time to do a proper hibernation (thereby saving the system state) before eventually powering down. Dealing with power failures that occur when the system is in suspend mode, i.e. when the RAM is still powered; In battery-powered systems, suspending or hibernating the system when the battery level drops below a predetermined level</p>	<p>G06F11/1441</p>
<p>Wake-on-LAN</p>	<p>H04L12/12</p>

Special rules of classification

REPLACE: All existing text in the 3rd paragraph with the text below

In the [G06F9/4418](#) we only deal with situations where the reason or the system to suspend or hibernate is controlled/intentional e.g. after user presses power off button, after a preset period of inactivity for power saving purposes. When the reason to suspend or hibernate is the occurrence of a power failure, low battery voltage or another anomaly (e.g. system hang), then the document should be classified in [G06F11/1441](#) (see Related Fields). The subsequent restart of the system is classified in [G06F11/1417](#).

G06F9/445(modified)

Definition statement

DELETE: All existing text in the Definition statement EXCEPT the text below

This place covers:

Preparing a program for execution including the actual launching of the program.

References

REPLACE: Limiting references section as shown below

REPLACE: Informative references section as shown below

Limiting references

This place does not cover:

Bootstrapping	G06F9/4401
Security arrangements for program loading or initiating	G06F 21/57

Informative references

Attention is drawn to the following places, which may be of interest for search:

Updating of computer software	G06F 8/65
Loading of microcode	G06F9/24
Process Migration	G06F9/4856, G06F9/5088
Protocols for network applications involving the movement of software and/or configuration parameters, e.g. applets	H04L67/34

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G06F9/44505(modified)

DELETE: Limiting references section

REPLACE: Informative references as shown below

References:***Informative references:****Attention is drawn to the following places, which may be of interest for search:*

Configuration management in the context of software development	G06F8/71
Configuration of peripheral devices	G06F9/4411
Configuration of FPGA, PLA	G06F17/50
Gaming configure	G07F
Personalization of smart cards	G07F7/10
Configuration of parameters specifically aimed at networking/communication	H04L41/08
Protocols for network applications involving terminal/user profiles	H04L67/306
Differentially changing configuration parameters	H04L67/34

G06F9/44589(modified)

DELETE: Informative references section

REPLACE: Symbol for entry “High-level” with the one in the table below

References:

Limiting references:

This place does not cover:

High-level semantic checks	G06F8/43
----------------------------	----------

REPLACE: Special rules of classification text as shown below

Special rules of classification

- In G06F11/36 group, the question is: does the program do what it is expected to do? In other words, for a given input, does the program produce the expected output? The program is considered as a black box, only the external behaviour is studied. The tests that are performed do not take into account the implementation or the language that is used to write the program. We are here on the level of users/developers/specifications.
- In G06F9/44589, a test is performed to see whether the (compiled) program code does not do anything that is not allowed by the rules of the target machine. In other words, the question is: does the program comply with code specific requirements?

The two groups are on a different level. It is possible for a program to respect all code specific requirements and thus to pass G06F9/44589 tests, but not to produce the expected output and thus not to pass the G06F11/36 test.

- In G06F8/43 (Compile-time checking), source code is checked. In most cases, this is done by the compiler but it can also be performed by a separate program. In contrast, G06F9/44589 tests already compiled code. In G06F8/43, the verification is performed based on source code specific aspects, whereas in G06F9/44589 this is done on the basis of target machine related aspects

G06F9/448(new)

Definition statement

This place covers:

Implementations of specific programming paradigms to execute computer programs, the programming paradigms being e.g. object-orientated, procedural, data driven or finite state machine

Glossary of terms

In this place, the following abbreviations are often used:

OO	Object-oriented
----	-----------------

G06F9/4484(new)

Definition statement

This place covers:

Invocation and execution of subroutines, for example:

- Implementation of a call stack: creating and deleting activation records, reserving space on the stack to store local variables and to pass the arguments
- Argument passing
- Locating variables at higher level in the invocation chain
- Co-routines
- Re-entrant functions
- Function or method overloading: considering the type of all actual arguments/return type of a function to select a proper function instance to execute Calling functions in another programming language

Also covered are other combinations of several instructions, for example combinations of instructions to perform (counted) loops.

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Informative references:*Attention is drawn to the following places, which may be of interest for search:*

Hardware implementation of instructions that change the program flow to another address (jumps, branches, goto)	G06F9/30
Remote procedure calls (RPC)	G06F9/547
Stack caching	G06F12/0875

Synonyms and Keywords*In patent documents, the following words/expressions are often used as synonyms:*

- Subprograms, subroutines, functions, procedures, object oriented methods

G06F9/4486(new)**Definition statement***This place covers:*

- Finding the entry address of a subroutine and how to preserve the return address

References:**Informative references:***Attention is drawn to the following places, which may be of interest for search:*

Static linking, i.e. before load-time	G06F8/54
Hardware implementation of instructions specifically designed to keep the return address (e.g. branch-and-link, jsr)	G06F9/30
Branch prediction in a pipelined system	G06F9/3844, G06F9/3846
Dynamic linking, i.e. at or after load-time	G06F9/44521

G06F9/4488(new)

Definition statement

This place covers:

- Execution aspects of object-oriented programs

Glossary of terms

In this place, the following abbreviations are often used:

OO	Object-oriented
----	-----------------

G06F9/449(new)

Definition statement

This place covers:

- Object-oriented method resolution, i.e. given a method invocation on a reference (pointer) to an object, how to locate the correct code that implements this method. Typically this is done using virtual function tables.
- Only deals with the resolution of an object-oriented method.

References:

Informative references:

Attention is drawn to the following places, which may be of interest for search:

Remote method invocation (RMI)	G06F9/548
--------------------------------	-----------

G06F9/4491(new)

Definition statement

This place covers:

- Speeding up the run-time object-oriented method resolution by predicting the type of the referenced object

Synonyms and Keywords

In patent documents, the following abbreviations are often used:

PIC	Polymorphic inline cache
-----	--------------------------

G06F9/4492(new)

Definition statement

This place covers:

Object oriented class hierarchies including run-time addition of classes to a hierarchy and/or virtual inheritance polymorphism

References:

Informative references:

Attention is drawn to the following places, which may be of interest for search:

Object-oriented method resolution	G06F9/449
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Special rules of classification

Documents in G06F9/449 deal with Object-oriented method invocation and will inevitably talk about class hierarchies, which is the subject of G06F9/4492. However, this alone does not justify classification in G06F9/4492: only when the document discloses specific details about class hierarchies, the symbol G06F9/4492 should be given.

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

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Method overriding	subclass provides a specific implementation of a method that is already provided by one of its superclasses
Polymorphism	creating a variable, a method or an object that has more than one form

G06F9/4493(new)

Definition statement

This place covers:

- Making objects persistent and restoring objects from persisted form.

Includes:

- Pointer swizzling
- Flattening objects

References:

Informative references:

Attention is drawn to the following places, which may be of interest for search:

Serialization in the context of RPC, RMI	G06F9/547, G06F9/548
OO databases	G06F16/30

G06F9/4494(new)

Definition statement

This place covers:

- Software aspects of data driven systems, i.e. systems where the action is dictated by the presence or availability of data at the inputs of the logical circuits, rather than by sequential instruction execution under supervision of a central clock

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References:**Informative references:***Attention is drawn to the following places, which may be of interest for search:*

Specification techniques, e.g. Petri nets	G06F8/10
Data flow analysis during compilation	G06F8/433
Architectures for data or demand driven systems	G06F15/82

G06F9/451(new)**Definition statement***This place covers:*

The inner working of user interfaces, in particular graphical user interfaces (GUIs), including:

- interaction of the GUI with applications and OSs
- the structure and interaction of software components of GUIs
- implementation of GUI concepts typically used in operating systems, e.g. desktop metaphors, widgets or windowing mechanisms
- implementation of GUI automation mechanisms, e.g. record/replay of user interactions on the GUI

References**Informative references***Attention is drawn to the following places, which may be of interest for search:*

Methods for a user to interact with the GUI, e.g. scrolling, drag and drop, menus	G06F 3/048
Digital output to a display device	G06F 3/14
Development and generation of source code for user interfaces	G06F 8/38

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Application-oriented references:

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

User interfaces for testing or debugging software	G06F11/36
User interface for databases, visualization of query results	G06F16/248, G06F16/338, G06F16/34
User interfaces to web services	G06F16/954, G06F16/9577
User interfaces for the field of automation	G05B19/00

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

User interface	is the space where interaction between humans and machine occurs
----------------	--

Synonyms and Keywords

In patent documents the following abbreviations are often used:

HCI	Human-computer interaction
MMI	Man-machine interaction
CHI	Computer-human interaction
GUI	Graphical user interface

G06F9/452(new)

Definition statement

This place covers:

- Methods to execute and interact with an application, whereby the application's program code runs on the server, and the GUI runs on the client (terminal). The user interacts with the remotely running application through the local GUI. GUI events/commands run back and forth between client and server. All processing is done at the server.

References:

Limiting references:

This place does not cover:

Protocols for telewriting	H04L67/38
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Informative references:

Attention is drawn to the following places, which may be of interest for search:

Communication between two running processes	G06F9/54
Terminal emulation	G06F13/107

G06F9/453(new)

Definition statement

This place covers:

- Customizing the help according to the user's previous actions
- Getting help by pressing f1
- Wizards, application assistants, visual cues
- Online tutorials

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References:**Informative references:***Attention is drawn to the following places, which may be of interest for search:*

Intelligent code editors	G06F8/33
Teaching appliances; GUIs specially adapted for deaf, mute or blind persons	G09B

G06F9/454(new)**Definition statement***This place covers:*

- User interfaces in multiple human languages, adapting user interfaces to suit a foreign culture
- Game localisation

References:**Informative references:***Attention is drawn to the following places, which may be of interest for search:*

Pseudo-localisation	G06F11/00
Natural language translation	G06F17/28

Glossary of terms*In this place, the following terms or expressions are used with the meaning indicated:*

Language localisation	internationalisation (i18n), globalisation
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G06F9/46(modified)

DELETE: Limiting references section

REPLACE: Informative references table as shown below

References**Informative references***Attention is drawn to the following places, which may be of interest for search:*

Multi-threading at the hardware level	G06F9/3851
Object-oriented software design	G06F8/24
Saving and restoring the state of a system, i.e. hibernation	G06F9/4418
Batch processing	G06F9/4843
Suspend and resume task / process / thread execution without details on context saving and restoring	G06F9/485
Saving and restoring the state of a mobile agent together with additional details on the mobile agent itself	G06F9/4862
Saving and restoring program state during debugging	G06F11/3636
Access rights for memory resources, e.g. access to memory according to privilege rings	G06F12/14
Access rights associated to human beings or documents where the final aim is to enforce protection at the user level without giving technically relevant details on the multiprocessing implementation	G06F21/30
Documents just mentioning a multiprocessing / distributed object-oriented systems and which focus on a specific use / application (e.g. e-commerce, monitoring, information retrieval, security)	G06Q30/00 , G06F11/00, G06F16/00, G06F21/00
Documents mentioning a transaction but dealing, in fact, with nothing more than techniques involving a request for a service,	G06Q30/00

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without any detail on the ACID (Atomicity, Consistency, Isolation, Durability) properties; e.g. e-commerce transactions	
Network- and protocol-specific aspects	H04L29/06
Aspects already covered by G06F9/48 , G06F9/50 , G06F9/52 , G06F9/54	See special rules of classification of the corresponding classes

Special rules of classification

REPLACE: Special rules of classification text and table as shown below

Rule 1

When a document qualifies for one of the groups in the table of rule 2 below, the group [G06F9/46](#) should not be assigned.

Rule 2

The following table specifies the group to be assigned:

Technical details on	Group to be assigned
Saving or restoring of program or task context	G06F9/461
Saving or restoring of program or task context with multiple register sets. This group takes precedence over G06F9/461	G06F9/462
Program control block organisation. This group takes precedence over G06F9/461	G06F9/463
Structure and arrangements for distributed object oriented systems, e.g. CORBA, Jini, DCOM	G06F9/465
Transaction processing, namely transactions involving the ACID (Atomicity, Consistency, Isolation, Durability) properties	G06F9/466
Transactional memory, i.e. transparent support for the definition of regions of code that are considered a transaction, the support being provided either in hardware, software or with hybrid-solutions. This group takes	G06F9/467

precedence over G06F9/466 . For speculative lock acquisition, G06F9/528 takes precedence	
Specific access rights for resources, e.g. using capability register	G06F9/468

Rule 3

The following text specifies the groups which could be assigned in addition to the groups of rule 2 above, to cover further technical details; the group(s) identified as context information should also be checked and assigned, if relevant:

Further technical details on:

The structure of bridges between different distributed object-oriented systems

- Context information: [G06F9/465](#)

The lookup of interfaces and/or the structure of lookup servers / repositories

- Context information: [G06F9/465](#)

The handling of references to remote objects / namespace implementation details within the context of distributed object-oriented systems

- Context information: [G06F9/465](#)

[G06F9/48\(modified\)](#)

DELETE: Limiting references section

REPLACE: Informative references table as shown below

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Specific details on power distribution and power saving	G06F1/3203
Scheduling of printer jobs	G06F3/1296

Instruction streams within a processor (e.g. hardware threads) and instruction level details	G06F9/3836
Suspension and resumption at system level (i.e. involving the bootstrapping)	G06F9/4418
Mere loading of code linked to the initiation	G06F9/445
Details on the task context structure as well as on its saving and restoring	G06F9/461
Scheduling in terms of space	See special rules of classification for G06F9/50
Process migration in the context of load (re-)balancing, without any technically relevant detail on the migration itself	G06F9/5088
Mere starting of a backup application at a certain date/time	G06F11/1461
Low level (bus-related) details of interrupt handling and interrupt controllers	G06F13/24
Mere starting of an antivirus application at a certain date/time	G06F21/56
Scheduling of human resources	G06Q10/00

Special rules of classification

REPLACE: Special rules of classification text and table as shown below

Rule 1

When a document qualifies for one of the groups in the table of rule 2 below, the group [G06F9/48](#) should not be assigned.

Rule 2

The following table specifies the group to be assigned:

Technical details on	group to be assigned
Initiation of a task by means of an interrupt, i.e. the aspects of handling/servicing an interrupt	G06F9/4812

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Interrupt priority mechanisms. This group takes precedence over G06F9/4812	G06F9/4818
Initiation of a task by means of an timer related interrupt. This group takes precedence over G06F9/4812	G06F9/4825
Initiation of a task by means of an interrupt with variable priority. This group takes precedence over G06F9/4812	G06F9/4831
Initiation of a task by means of an interrupt with variable priority, said priority being time dependent. This group takes precedence over G06F9/4812 and G06F9/4831	G06F9/4837
Initiation, transfer and dispatch of a task, i.e. a program in execution, by another program; creation, e.g. fork() system call, and initiation, e.g. exec() system call, of a task / process / thread, virtual machine in the same or different machine	G06F9/4843
Task life-cycle, e.g. stopping, restarting, resuming execution. This group takes precedence over G06F9/4843 . For scheduling algorithms and internal operation of a scheduler, G06F9/4881 takes precedence	G06F9/485
Resuming the execution of a task on a different machine, i.e. migration. This group takes precedence over G06F9/4843 . This group takes precedence over G06F9/485 . For migration for load balancing purposes, G06F9/5088 takes precedence	G06F9/4856
Mobile agents, i.e. tasks specifically designed to migrate. This group takes precedence over G06F9/4843 . This group takes precedence over G06F9/485 . This group takes precedence over G06F9/4856 . For cloning and replication of mobile agents, only G06F9/4868 should be assigned. For migration policy, e.g. auction, contract negotiation, of mobile agents, only G06F9/4875 should be assigned.	G06F9/4862
Scheduling strategies for dispatcher, e.g. round robin, multilevel priority queues; internal operation of a scheduler	G06F9/4881
Algorithms for real-time scheduling of processes, i.e. scheduling taking into account the deadlines of the applications being executed. This group takes precedence over G06F9/4843 . This group takes precedence over G06F9/4881 .	G06F9/4887

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Power and heat aware scheduling of tasks. This group takes precedence over G06F9/4843 . This group takes precedence over G06F9/4881	G06F9/4893
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Rule 3

The following text specifies the groups which could be assigned in addition to the groups of rule 2 above, to cover further technical details; the group(s) identified as context information should also be checked and assigned, if relevant:

Further technical details on:

Exception handling

- Context information: [G06F9/4812](#)

Application starting, stopping, resuming

- Context information: [G06F9/485](#)

Scheduling of tasks on multiprocessor systems

- Context information: [G06F9/4881](#), [G06F9/4887](#), [G06F9/4893](#)

Scheduling of a set of tasks by taking into account precedence and dependency constraints, or time and/or occurrence of events

- Context information: [G06F9/4881](#), [G06F9/4887](#), [G06F9/4893](#)

Scheduling of a set of tasks by taking into account constraints on resources, resource based scheduling of tasks

- Context information: [G06F9/4881](#), [G06F9/4887](#), [G06F9/4893](#)

Internals of a task scheduler

- Context information: [G06F9/4881](#), [G06F9/4887](#), [G06F9/4893](#)

Synonyms and Keywords

DELETE: All existing text

ADD: The table and text following the table as shown below

In patent and non-patent documents, the following words/expressions are often used with the meaning indicated:

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[scheduling in terms of time]	[with the acceptance of task scheduling, i.e. when to assign a task to a computing unit]
[scheduling in terms of space]	[with the acceptance of resource scheduling, i.e. which resource(s) to allocate and how to partition them]

It is the first interpretation, the one which can be found in the context of the G06F9/48.

G06F9/52(modified)

DELETE: Limiting references section

References

Informative references

Delete: The following row from the Informative references table.

Generation of synchronisation instructions at compile time	G06F9/45
--	----------

Special rules of classification

REPLACE: All text and table as shown below

Rule 1

When a document qualifies for one of the groups in the table of rule 2 below, the group [G06F9/52](#) should not be assigned

Rule 2

The following table specifies the group to be assigned:

Technical details on	Group to be assigned
Barrier synchronisation	G06F9/522

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Algorithms to detect and / or avoid deadlocks when tasks interact with each other	G06F9/524
Mutual exclusion algorithms, specific implementations of locks and other means to ensure a “correct” (from the concurrency point of view) access to a shared resource	G06F9/526
Speculative execution beyond synchronisation primitives (e.g. busy lock). This group takes precedence over G06F9/526 ; e.g. if a document discloses a mutual exclusion algorithm involving speculative execution beyond busy locks, then it should be classified only in the G06F9/528 and not also in the G06F9/526	G06F9/528

Rule 3

The following text specifies the groups which could be assigned in addition to the groups of rule 2 above, to cover further technical details:

Further technical details on:

Low level features of atomic instructions (e.g. test & set) used to implement locks / mutual exclusion primitives

- Context information: [G06F9/526](#), [G06F9/528](#)

Tokens (e.g. cooperative locking), token managers and lock managers

- Context information: [G06F9/526](#), [G06F9/528](#)

Multi-mode locks, i.e. with locks specifying also a mode (e.g. read-write)

- Context information: [G06F9/526](#), [G06F9/528](#)

G06F9/54(modified)

DELETE: Limiting references section

ADD: Informative references table as shown below

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Communication between a device and a CPU without any technically relevant detail on multiprogramming concepts or with device specific details	G06F3/00 , G06F13/00 , G06F13/102 (for device drivers)
Interaction of the user with the system, i.e. the GUI, and not between the Processes / applications subsequent to the user interaction	G06F3/048
Communication which does not involve multiprogramming concepts, e.g. invocation of a subroutine	G06F9/44
Pattern-adapters	G06F9/44
Non-remote method invocation between objects	G06F9/449
Architectural details, e.g. interface repositories, object adapters, on distributed object-oriented systems, e.g. CORBA, DCOM Communication-specific details of the remote method invocation should (also) be classified in G06F9/548	G06F9/465
Allocation of a remote service to a client	G06F9/50
Communication between tasks but predominant aspect peculiar of another field, e.g. monitoring, information retrieval on the web, software download and installation	G06F11/30 , G06F16/95 , G06F8/65
Addressing memory	G06F12/02

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Hardware mechanisms for inter-CPU communication	G06F15/163
Collaborative editing on a file without any technically relevant details on the event handling aspect	G06F17/22, G06Q10/10
Network- and protocol-specific details	H04L29/06
Event management relating to network management, e.g. alarms produced by network devices, and no technically relevant details on the multiprocessing aspect is present	H04L41/06
Messages being distributed over a network, i.e. e-mails, instant messaging	H04L51/00, G06Q10/107

ADD: Special rules of classification

Special rules of classification

Rule 1

When a document qualifies for one of the groups in the table of rule 2 below, the group [G06F9/54](#) should not be assigned.

Rule 2

The following table specifies the group to be assigned:

Technical details on:	Group to be assigned
Adapter mechanisms e.g. between incompatible applications	G06F9/541
Communication between tasks, either on the same machine or on different ones, by subscribing to events and issuing event notifications when certain events happen, e.g. Event Management Systems, Unix alarms; communication aspects related to the broadcasting of the notifications	G06F9/542
User-generated data transfer from the process / application point of view, e.g. clipboards, dynamic data exchange (DDE), object linking and embedding (OLE)	G06F9/543
Communication of processes via buffers, shared memory, pipes, sockets and the like	G06F9/544

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Communication between tasks residing in different layers e.g. user- and kernel-space	G06F9/545
Communication of processes via a message passing system, i.e. messaging middleware, and the inherent technicalities, e.g. message structure or queue handling; delivery of messages according to preferences of the recipients (which have to be processes)	G06F9/546
Implementation of Remote Procedure Calls, e.g. stubs, (un-)marshalling of parameters, namely invocation of a procedure at a remote location; lightweight RPC, i.e. procedure call between protection domains / different address spaces on a single machine	G06F9/547
Implementation of Remote Method Invocations, i.e. details which are peculiar to RPC between (mainly Java and COM) objects, e.g. object serialization, stub / proxy download. This group takes precedence over G06F9/547 .	G06F9/548

Rule 3

The following text specifies the groups which could be assigned in addition to the groups of rule 2 above, to cover further technical details:

Further technical details on:

Communication aspects related to task execution in a client-server system

- Context information: All groups belonging to [G06F9/54](#)

Interception of communications between tasks / layers

- Context information: All groups belonging to [G06F9/54](#)

Handling of events within a single system, e.g. Unix alarms

- Context information: [G06F9/542](#)

Distributed event management systems or handling of events produced in a distributed system

- Context information: [G06F9/542](#)

Event handling related to the execution of a GUI and as long as the event handling aspect is technically relevant

- Context information: [G06F9/542](#)

Broadcasting / multicasting and sequence related problems of event related messages and as long as the network aspect, if any, is not predominant

- Context information: [G06F9/542](#)

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Exchange of messages between processes by using a Message Oriented Middleware, e.g. Java Messaging Services

- Context information: [G06F9/546](#)

Particular techniques for handling message queues (or similar structures)

- Context information: [G06F9/546](#)

Remote execution techniques whereby program code is executed remotely from the client that initiated the execution and the client provides the code to the remote machine

- Context information: All groups belonging to [G06F9/54](#)

G06F12/14(modified)

References

DELETE: Limiting references section

INSERT: The following row to the Informative references table as shown below.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Program synchronization, e.g. using locks; mutual exclusion	G06F9/52
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G06F15/02(modified)

References

DELETE: Limiting references section

ADD: Informative references table as shown below

Informative references

Attention is drawn to the following places, which may be of interest for search:

Constructional details or arrangements for portable computers	G06F1/1613
Input arrangements or combined input and output arrangements for interaction between user and computer	G06F3/01

Special rules of classification

REPLACE: First sentence of Special rules of classification with the one shown below

When a document qualifies for one of the groups below, [G06F15/02](#) should not be assigned:

G06F15/16(modified)

References

REPLACE: Limiting references section as shown below

Limiting references

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This place does not cover:

Coordinating program control therefor	G06F9/52
In regulating and control system	G05B

REPLACE: Informative references table as shown below

Informative references*Attention is drawn to the following places, which may be of interest for search:*

Constructional details on portable computers, PDAs	G06F1/1613
Initialization of multiprocessor systems.	G06F9/4405
Partitioning or combining resources in a multiprogramming arrangement.	G06F9/5061
Intertask communication	G06F9/54
Fault-tolerance	G06F11/20
Memory protection	G06F12/00
Memory access priority	G06F13/00
Coupling between busses	G06F13/4022
Multicore processors	G06F15/7807
Network on chip	G06F15/7825
Digital computing or data processing equipment or methods, specially adapted for data retrieval.	G06F16/00
Control area networks (CAN)	B60R16/023
Multiprocessor for program-control systems	G05B19/0421
Data processing systems or methods, specially adapted for administrative, commercial, financial, managerial, supervisory or forecasting purposes; systems or methods specially adapted for	G06Q

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administrative, commercial, financial, managerial, supervisory or forecasting purposes.	
Computer aided management of electronic mail	G06Q10/107
Stored and forward switching systems	H04L12/54
Communication control characterized by a protocol.	H04L29/06
Routing of packets in a LAN/WAN	H04L45/00
Flow Control in a LAN/WAN	H04L47/10
Queue Scheduling in a LAN/WAN	H04L49/00
Packet switches for a LAN/WAN	H04L49/00
Electronic mail systems	H04L51/00
Casings, cabinets, racks, chassis, drawers for data centers	H05K5/00

Special rules of classification

REPLACE: First sentence of Special rules of classification with sentence shown below.

When a document qualifies for one of the groups below, none of the groups above should be assigned:

REPLACE: The word “pyramides” with “pyramids” in the sentence beginning with “Hierarchal e.g. trees”, as shown in sentence below.

Hierarchical e.g. trees, pyramids: [G06F15/17362](#)

DELETE: Last sentence in the existing Special rules of classification section.

Here are specified the classes which could be assigned in addition to the classes above to cover further technical details:

G06F 21/16(new)

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Digital watermarking on images

H04N 1/32

G06F21/57(modified)

Definition statement

DELETE: Only the word “Examples:” from the text shown below

Examples:

- Validate trusted platform configuration.
- Defeat computer security by installing software into RAM using peripheral DMA.
- Receive vulnerability alert, retrieve and install patch.

References

DELETE: Limiting references section

ADD: Informative references table as shown below

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Informative references

Attention is drawn to the following places, which may be of interest for search:

Non secure initialization, program loading or initiating without any security aspects	G06F9/4401, G06F9/445
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