



## **IBM Statement of Non-Assertion of Named Patents Against OSS**

IBM is committed to promoting innovation for the benefit of our customers and for the overall growth and advancement of the information technology field. IBM takes many actions to promote innovation. Today, we are announcing a new innovation initiative. We are pledging the free use of 500 of our U.S. patents, as well as all counterparts of these patents issued in other countries, in the development, distribution, and use of open source software. We believe that the open source community has been at the forefront of innovation and we are taking this action to encourage additional innovation for open platforms.

The following is the text of our pledge. It is our intent that this pledge be legally binding and enforceable by any open source software developer, distributor, or user who uses one or more of the 500 listed U.S. patents and/or the counterparts of these patents issued in other countries.

### **IBM's Legally Binding Commitment Not To Assert the 500 Named Patents Against OSS**

The pledge will benefit any Open Source Software. Open Source Software is any computer software program whose source code is published and available for inspection and use by anyone, and is made available under a license agreement that permits recipients to copy, modify and distribute the program's source code without payment of fees or royalties. All licenses certified by opensource.org and listed on their website as of 01/11/2005 are Open Source Software licenses for the purpose of this pledge..

**IBM hereby commits not to assert any of the 500 U.S. patents listed below, as well as all counterparts of these patents issued in other countries, against the development, use or distribution of Open Source Software.**

In order to foster innovation and avoid the possibility that a party will take advantage of this pledge and then assert patents or other intellectual property rights of its own against Open Source Software, thereby limiting the freedom of IBM or any other Open Source Software developer to create innovative software programs, the commitment not to assert any of these 500 U.S. patents and all counterparts of these patents issued in other countries is irrevocable except that IBM reserves the right to terminate this patent pledge and commitment only with regard to any party who files a lawsuit asserting patents or other intellectual property rights against Open Source Software.

Please click [here](#) for IBM's legally binding commitment that you may print for your records.

Publication	Title
US6317811	Method and system for reissuing load requests in a multi-stream prefetch

design

- US6298435 Methods and apparatus for exploiting virtual buffers to increase instruction parallelism in a pipelined processor
- US6298417 Pipelined cache memory deallocation and storeback
- US6286094 Method and system for optimizing the fetching of dispatch groups in a superscalar processor
- US6279105 Pipelined two-cycle branch target address cache
- US6266767 Apparatus and method for facilitating out-of-order execution of load instructions
- US6240474 Pipelined read transfers
- US6237081 Queuing method and apparatus for facilitating the rejection of sequential instructions in a processor
- US6219743 Apparatus for dynamic resource mapping for isolating interrupt sources and method therefore
- US6202128 Method and system for pre-fetch cache interrogation using snoop port
- US6189065 Method and apparatus for interrupt load balancing for powerPC processors
- US5659722 Multiple condition code branching system in a multi-processor environment
- US5655141 Method and system for storing information in a processing system
- US5644779 Processing system and method of operation for concurrent processing of branch instructions with canceling of processing of a branch instruction
- US5619408 Method and system for recoding noneffective instructions within a data processing system
- US5615360 Method for interfacing applications with a content addressable memory
- US5253349 Decreasing processing time for type 1 dyadic instructions
- US5224215 Message queue processing among cooperative processors having significant speed differences

## Interfacing

- | Publication | Title  |
|-------------|--|
| US6237067   | System and method for handling storage consistency conflict  |
| US6230219   | High performance multichannel DMA controller for a PCI host bridge with a built-in cache   |
| US6219737   | Read request performance of a multiple set buffer pool bus bridge  |
| US5671370   | Alternating data valid control signals for high performance data transfer  |
| US5659696   | Method and apparatus for determining address location and taking one of two actions depending on the type of read/write data transfer required |
| US5634007   | Independent computer storage addressing in input/output transfers  |
| US5613163   | Method and system for predefined suspension and resumption control over I/O programs   |
| US5224213   | Ping-pong data buffer for transferring data from one data bus to another data bus  |
| US5195185   | Dynamic bus arbitration with concurrent same bus granting every cycle  |

## Storage Management

Publication	Title
US6334172	Cache coherency protocol with tagged state for modified values
US6311253	Methods for caching cache tags
US6304939	Token mechanism for cache-line replacement within a cache memory having redundant cache lines
US6275908	Cache coherency protocol including an HR state
US6272603	Cache coherency protocol having hovering (H), recent (R), and tagged (T) states
US6272601	Critical word forwarding in a multiprocessor system
US6263407	Cache coherency protocol including a hovering (H) state having a precise mode and an imprecise mode
US6240489	Method for implementing a pseudo least recent used (LRU) mechanism in a four-way cache memory within a data processing system
US6226725	Method and system in a data processing system for the dedication of memory storage locations
US6222752	Dynamic word line driver for cache
US6212616	Even/odd cache directory mechanism
US6202132	Flexible cache-coherency mechanism
US6182201	Demand-based issuance of cache operations to a system bus
US5694573	Shared L2 support for inclusion property in split L1 data and instruction caches
US5692151	High performance/low cost access hazard detection in pipelined cache controller using comparators with a width shorter than and independent of total width of memory address
US5687350	Protocol and system for performing line-fill address during copy-back operation
US5684976	Method and system for reduced address tags storage within a directory having a tree-like data structure
US5668972	Method and system for efficient miss sequence cache line allocation utilizing an allocation control cell state to enable a selected match line
US5664150	Computer system with a device for selectively blocking writebacks of data from a writeback cache to memory
US5664147	System and method that progressively prefetches additional lines to a distributed stream buffer as the sequentiality of the memory accessing is demonstrated
US5659710	Cache coherency method and system employing serially encoded snoop responses
US5659699	Method and system for managing cache memory utilizing multiple hash functions
US5651136	System and method for increasing cache efficiency through optimized data allocation
US5642491	Method for expanding addressable memory range in real-mode processing to facilitate loading of large programs into high memory
US5640534	Method and system for concurrent access in a data cache array utilizing multiple match line selection paths
US5640526	Superscaler instruction pipeline having boundary identification logic for variable length instructions

US5627993	Methods and systems for merging data during cache checking and write-back cycles for memory reads and writes
US5625793	Automatic cache bypass for instructions exhibiting poor cache hit ratio
US5625787	Superscalar instruction pipeline using alignment logic responsive to boundary identification logic for aligning and appending variable length instructions to instructions stored in cache
US5623632	System and method for improving multilevel cache performance in a multiprocessing system
US5615168	Method and apparatus for synchronized pipeline data access of a memory system
US5613086	Method and system for locking a page of real storage using a virtual address
US5603011	Selective shadowing and paging in computer memory systems
US5594876	Arbitration protocol for a bidirectional bus for handling access requests to a logically divided memory in a multiprocessor system
US5247647	Detection of deletion of stored data by concurrently executing processes in a multiprocessing data processing system
US5228136	Method and apparatus to maintain cache coherency in a multiprocessor system with each processor's private cache updating or invalidating its contents based upon set activity
US5220669	Linkage mechanism for program isolation

#### Multi-Processing

Publication	Title
US6253372	Determining a communication schedule between processors
US6247091	Method and system for communicating interrupts between nodes of a multinode computer system
US6230206	System for internode deadlock avoidance in parallel database system using as overflow buffer a temporary table storage allocated to the parallel database application program being executed
US6226695	Information handling system including non-disruptive command and data movement between storage and one or more auxiliary processors
US5682491	Selective processing and routing of results among processors controlled by decoding instructions using mask value derived from instruction tag and processor identifier
US5680402	Priority broadcast and multi-cast for unbuffered multi-stage networks
US5659757	Method and system for lock instrumentation in a data processing system
US5655103	System and method for handling stale data in a multiprocessor system
US5652864	Concurrent storage allocations or returns without need to lock free storage chain
US5649135	Parallel processing system and method using surrogate instructions
US5274782	Method and apparatus for dynamic detection and routing of non-uniform traffic in parallel buffered multistage interconnection networks
US5247616	Computer system having different communications facilities and data transfer processes between different computers
US5204954	Remote storage management mechanism and method

US5185861 Cache affinity scheduler

## Data Processing Programming

Publication	Title
US6324631	Method and system for detecting and coalescing free areas during garbage collection
US6305014	Lifetime-sensitive instruction scheduling mechanism and method
US6301652	Instruction cache alignment mechanism for branch targets based on predicted execution frequencies
US6292843	Quick loading of run time dynamic link library for OS/2
US6292795	Indexed file system and a method and a mechanism for accessing data records from such a system
US6275986	Compile-time data dependency verification
US6266808	Computer program product for enabling the construction of dialogs for commands and templates
US6263498	Method and apparatus for enabling server side distributed object modification
US6260075	System and method for providing shared global offset table for common shared library in a computer system
US6249911	Optimizing compiler for generating store instructions having memory hierarchy control bits
US6249906	Adaptive method and system to minimize the effect of long table walks
US6249852	Method for heap management of fixed sized objects using pages
US6223341	Computer-program compilers comprising a program augmentation capability
US6223200	System and method for reducing research time through a lock wait matrix
US6216143	Apparatus and method for generating animated color coded software traces
US6199160	Computer system and method for performing multiple tasks
US6195710	Operating system having shared personality neutral resources
US6173444	Optimizing compilation of pointer variables in the presence of indirect function calls
US5701486	Tracing technique for application programs using protect mode addressing
US5692156	Computer program product for overflow queue processing
US5687327	System and method for allocating bus resources in a data processing system
US5684992	User console and computer operating system asynchronous interaction interface
US5675795	Boot architecture for microkernel-based systems
US5675767	Method for verification and restoration of directories in CPU system managed store
US5671441	Method and apparatus for automatic generation of I/O configuration descriptions
US5669001	Object code compatible representation of very long instruction word programs
US5668958	Heterogeneous filing system with common API and reconciled file management rules
US5664190	System and method for enabling an event driven interface to a procedural program

US5664186	Computer file management and backup system
US5659752	System and method for improving branch prediction in compiled program code
US5655101	Accessing remote data objects in a distributed memory environment using parallel address locations at each local memory to reference a same data object
US5651139	Protected system partition read/write access on a SCSI controlled DASD
US5642506	Method and apparatus for initializing a multiprocessor system
US5640568	Inline expansion method for programming languages having array functions
US5628023	Virtual storage computer system having methods and apparatus for providing token-controlled access to protected pages of memory via a token-accessible view
US5625832	Distributed processing control method and distributed processing system
US5623618	Installation and use of plural expanded memory managers
US5617568	System and method for supporting file attributes on a distributed file system without native support therefor
US5615354	Method and system for controlling references to system storage by overriding values
US5613121	Method and system of generating combined storage references
US5613118	Profile-based preprocessor for optimizing programs
US5606696	Exception handling method and apparatus for a microkernel data processing system
US5249291	Method and apparatus for consensual delegation of software command operations in a data processing system
US5247681	Dynamic link libraries system and method
US5237668	Process using virtual addressing in a non-privileged instruction to control the copying of a page of data in or between multiple media
US5220653	Scheduling input/output operations in multitasking systems
US5202995	Method for removing invariant branches from instruction loops of a computer program
US5193190	Partitioning optimizations in an optimizing compiler
US5179703	Dynamically adaptive environment for computer programs

## Human Interfacing

Publication	Title
US6311198	Method and system for threading documents
US6286025	Method and system of process identification by user defined process variables
US6286000	Light weight document matcher
US6279002	System and procedure for measuring the performance of applications by means of messages
US6271846	Method for reanchoring branches within a directory tree
US6262725	Method for displaying holidays in a locale-sensitive manner across distributed computer enterprise locales
US6260083	System for Java data block transfers of unknown length for applets and applications by determining length of data in local buffer and passing length of

data combined with data out of program

US6259453 Meshing method and apparatus

US6226405 Method and apparatus for updating node position

US6219066 Method and system for graphical display of probability relationships

US6199043 Conversation management in speech recognition interfaces

US6195736 Method for paging software wavetable synthesis samples

US6195096 Graphical interface method, apparatus and application for creating and modifying a multiple-value text list

US5701456 System and method for interactively formulating database queries using graphical representations

US5699534 Multiple display pointers for computer graphical user interfaces

US5696918 Method of managing marker entities within a document data stream

US5692143 Method and system for recalling desktop states in a data processing system

US5689723 Method for allowing single-byte character set and double-byte character set fonts in a double-byte character set code page

US5689668 Dynamic hierarchical selection menu

US5686937 User interface system and method for creating and removing a scrolling icon from a display based upon user past and present interaction with the icon

US5682488 Variable computer icon for single control of complex software functions executed on a data processing system

US5680605 Method and apparatus for searching a large volume of data with a pointer-based device in a data processing system

US5680560 Method and device for graphically setting multiple parameter ranges

US5678052 Methods and system for converting a text-based grammar to a compressed syntax diagram

US5668966 System and method for direct manipulation of search predicates using a graphical user interface

US5668959 Creating multiple versions of panels from a single panel definition file

US5664210 Method and system of providing multiple selections in text on a computer display

US5664097 System for delaying the activation of inactivity security mechanisms by allowing an alternate input of a multimedia data processing system

US5663517 Interactive system for compositional morphing of music in real-time

US5659772 Method for customizing kana-kanji conversion system and kana-kanji conversion system

US5652899 Software understanding aid for generating and displaying simplified code flow paths with respect to target code statements

US5649080 Apparatus and method for converting line segment data to three-dimensional data

US5649060 Automatic indexing and aligning of audio and text using speech recognition

US5646651 Block mode, multiple access multi-media/graphics memory

US5644715 System for scheduling multimedia sessions among a plurality of endpoint systems wherein endpoint systems negotiate connection requests with modification parameters

US5644687 Methods and system for thermal analysis of electronic packages

US5640540 Method and apparatus for translating key codes between servers over a

conference networking system

US5638539 Tool for defining complex systems

US5636325 Speech synthesis and analysis of dialects

US5634095 Method of connecting objects on different notebook pages

US5621905 Tree form menu display for a data processing system

US5614925 Method and apparatus for creating and displaying faithful color images on a computer display

US5613057 Method for creating a multimedia application using multimedia files stored in directories that are characteristics of display surface areas

US5604861 Method and apparatus for improved notebook control in a data processing system

US5604858 Method and system for apparent direct editing of fixed display elements within a data processing system

US5600778 Graphical resource editor for software customization

US5600773 Logical partitioning of gamma ramp frame buffer for overlay or animation

US5600565 Method and apparatus for error reduction in item packaging

US5596700 System for annotating software windows

US5596345 Method for managing non-rectangular windows in a raster display

US5594857 Conceptual map showing the windows of a complex task

US5592604 Method and system for indicating boundaries of connected data subsets

US5592195 Information displaying device

US5271097 Method and system for controlling the presentation of nested overlays utilizing image area mixing attributes

US5261079 Interface for keyboard emulation provided by an operating system

US5255358 Action bar processing on non-programmable workstations

US5251291 Method of selectively transferring video displayed information

US5251130 Method and apparatus for facilitating contextual language translation within an interactive software application

US5249263 Color palette display interface for a computer-based image editor

US5247614 Method and apparatus for distributed processing of display panel information

US5245322 Bus architecture for a multimedia system

US5220646 Single pass hidden line removal using Z-buffers

US5208910 Menu driven and method system for informing which past selections have caused disabled actions

US5206818 Fugitive emissions monitoring system including integrated fugitive emissions analyzer and source identifier

US5201033 Method for controlling cursor movements on certain computer workstations

US5179700 User interface customization apparatus

#### Database and Data Handling

Publication	Title
US6334134	Insert performance on a multi-system transaction environment
US6314430	System and method for accessing a database from a task written in an object-oriented programming language
US6311184	Sort and merge functions with input and output procedures



US6308245 Adaptive, time-based synchronization mechanism for an integrated posix file system

US6304888 High speed numerical integration method and system

US6298340 System and method and computer program for filtering using tree structure

US6295538 Method and apparatus for creating metadata streams with embedded device information

US6286007 Method and system for efficiently storing and viewing data in a database

US6282545 Mechanism for information extraction and traversal from an object base including a plurality of object classes

US6282541 Efficient group by aggregation in tournament tree sort

US6275785 Hardware simulator for a transaction processing system

US6272489 Visually oriented, easily navigable search facility

US6269376 Method and system for clustering data in parallel in a distributed-memory multiprocessor system

US6269375 Rebalancing partitioned data

US6260038 Clustering mixed attribute patterns

US6260037 Method and computer program product for implementing skip key processing for database grouping queries involving aggregate operations by using one or more indices

US6256628 Data charting

US6253213 Method and system for automatically maintaining data consistency across various databases

US6253197 System and method for hash loops join of data using outer join and early-out join

US6243703 Method of accessing and displaying subsystem parameters including graphical plan table data

US6233584 Technique for providing a universal query for multiple different databases

US6226651 Database disaster remote site recovery

US6226639 System and method for hybrid hash join using over-partitioning to respond to database query

US6223176 Method and computer program product for implementing highly concurrent record insertion in an ordinal number dependent database

US6216211 Method and apparatus for accessing mirrored logical volumes

US6208989 Facility for the intelligent selection of information objects

US6199070 Using a database for program logs

US6192373 Managing directory listings in a relational database

US6185699 Method and apparatus providing system availability during DBMS restart recovery

US6182115 Method and system for interactive sharing of text in a networked environment

US6182061 Method for executing aggregate queries, and computer system

US6173292 Data recovery in a transactional database using write-ahead logging and file caching

US5696973 Index-based method for supporting multimethod function overloading with compile-time type checking and run-time dispatch

US5696960 Computer program product for enabling a computer to generate uniqueness information for optimizing an SQL query

US5694597 Method and system for optimizing access to a datastore

US5689697 System and method for asynchronous database command processing

US5687365 System and method for creating a data dictionary for encoding, storing, and retrieving hierarchical data processing information for a computer system

US5687362 Enumerating projections in SQL queries containing outer and full outer joins in the presence of inner joins

US5680621 System and method for domained incremental changes storage and retrieval

US5680603 Method and apparatus for reordering complex SQL queries containing inner and outer join operations

US5680577 Method and system for processing multiple requests for data residing at the same memory address

US5668986 Method and apparatus for handling data storage requests in a distributed data base environment

US5664181 Computer program product and program storage device for a data transmission dictionary for encoding, storing, and retrieving hierarchical data processing information for a computer system

US5664176 Moving write lock for replicated objects

US5664175 Method and system for reprioritizing calendar items on a data processing system

US5664155 Dynamically assigning a dump space in a shared data facility to receive dumping information to be captured

US5659730 Computerized index file interrogation and comparison

US5659728 System and method for generating uniqueness information for optimizing an SQL query

US5649168 Computer program product for a query pass through in a heterogeneous distributed data base environment

US5632031 Method and means for encoding storing and retrieving hierarchical data processing information for a computer system

US5632015 Computer program product to efficiently process diverse result sets returned by a stored procedure

US5630124 System and method for assuring atomicity of distributed update requests in a parallel database

US5623659 Parent/child subset locking scheme for versioned objects

US5619692 Semantic optimization of query order requirements using order detection by normalization in a query compiler system

US5615337 System and method for efficiently processing diverse result sets returned by a stored procedures

US5613113 Consistent recreation of events from activity logs

US5604901 Interrogation index file comparison

US5596748 Functional compensation in a heterogeneous, distributed database environment

US5594881 System for updating modified pages of data object represented in concatenated multiple virtual address spaces

US5263159 Information retrieval based on rank-ordered cumulative query scores calculated from weights of all keywords in an inverted index file for minimizing access to a main database

US5261102 System for determining direct and indirect user access privileges to data base

objects

US5255387 Method and apparatus for concurrency control of shared data updates and queries

US5247672 Transaction processing system and method with reduced locking

US5237679 Method and system for automatic deletion of a folder having temporary document relationships within a data processing system

US5235654 Advanced data capture architecture data processing system and method for scanned images of document forms

US5201047 Attribute-based classification and retrieval system

### Image Processing and Video Technology

Publication	Title
US6307559	Method and apparatus for color space conversion, clipping, and scaling of an image during blitting
US6304274	Method and system for slope correcting line stipples/styles
US6285375	Algorithm to transform generalized polygons to trapezoids
US6246478	Reticle for an object measurement system
US6243097	Bounding volume for 3D graphic primitives
US6222554	Navigation in three-dimensional workspace interactive displays having virtual force fields associated with selected objects
US6191800	Dynamic balancing of graphics workloads using a tiling strategy
US6184889	Method and apparatus for supporting non-power-two texture sizes for volume rendering
US6181812	Two-pass document image processing method and system
US5692065	Apparatus and method for determining image quality
US5687376	System for monitoring performance of advanced graphics driver including filter modules for passing supported commands associated with function calls and recording task execution time for graphic operation
US5687250	Image quality analysis method and apparatus
US5686957	Teleconferencing imaging system with automatic camera steering
US5669006	Method for automatically obtaining spatial layout for multimedia presentations
US5668979	Storage of clipping plane data in successive bit planes of residual frame buffer memory
US5668939	Method and apparatus for rendering a solid three dimensional model from two dimensional input information including closed region recognizing and three dimensional rendering
US5664080	System and method for generating a universal palette and mapping an original color space to the universal palette
US5659790	System and method for globally scheduling multimedia stories
US5659671	Method and apparatus for shading graphical images in a data processing system
US5649085	Method and system for storing and displaying system operation traces with asynchronous event-pairs
US5642477	Method and apparatus for selectably retrieving and outputting digitally stored multimedia presentations with real-time non-interrupting, dynamically

selectable introduction of output processing

US5631982 System using parallel coordinates for automated line detection in noisy images

US5630039 Tessellating complex in polygons in modeling coordinates

US5627906 Image processing system for producing an attenuation map of a scanned image

US5608538 Scan line queuing for high performance image correction

US5592236 Method and apparatus for overlaying two video signals using an input-lock

US5267047 Apparatus and method of operation for a facsimile subsystem in an image archiving system

US5265198 Method and processor for drawing `polygon with edge`-type primitives in a computer graphics display system

US5257346 Wire-mesh generation from image data

US5249265 Structure storage management in a graphics display device

US5245700 Adjustment of Z-buffer values for lines on the surface of a polygon

US5214752 Point placement method for use in a three-dimensional automatic mesh generation system

US5210602 Coupled-color error diffusion

US5202936 Method for generating a gray-scale pattern

#### Human Language Processing

Publication	Title
US6253177	Method and system for automatically determining whether to update a language model based upon user amendments to dictated text
US6249605	Key character extraction and lexicon reduction for cursive text recognition
US6236958	Method and system for extracting pairs of multilingual terminology from an aligned multilingual text
US6216102	Natural language determination using partial words
US6185529	Speech recognition aided by lateral profile image
US6182044	System and methods for analyzing and critiquing a vocal performance
US5696879	Method and apparatus for improved voice transmission
US5680509	Method and apparatus for estimating phone class probabilities a-posteriori using a decision tree
US5671328	Method and apparatus for automatic creation of a voice recognition template entry
US5664061	Interactive computer system recognizing spoken commands
US5657425	Location dependent verbal command execution in a computer based control system
US5644775	Method and system for facilitating language translation using string-formatting libraries
US5640575	Method and apparatus of translation based on patterns
US5640487	Building scalable n-gram language models using maximum likelihood maximum entropy n-gram models
US5636291	Continuous parameter hidden Markov model approach to automatic handwriting recognition
US5615299	Speech recognition using dynamic features
US5615296	Continuous speech recognition and voice response system and method to

	enable conversational dialogues with microprocessors
US5267156	Method for constructing a knowledge base, knowledge base system, machine translation method and system therefor
US5263117	Method and apparatus for finding the best splits in a decision tree for a language model for a speech recognizer
US5249289	System and method for rebuilding edited digital audio files
US5222146	Speech recognition apparatus having a speech coder outputting acoustic prototype ranks
US5220621	Character recognition system using the generalized hough transformation and method

### Compression, Encryption, and Access Control

Publication	Title
US6307938	Method, system and apparatus for generating self-validating prime numbers
US6230311	Apparatus and method for disabling methods called on an object
US6219788	Watchdog for trusted electronic content distributions
US6209575	Tamper proof set screw
US6189095	Symmetric block cipher using multiple stages with modified type-1 and type-3 feistel networks
US6189036	User access to objects in group based access control based on result of greatest common divisor of assigned unique prime numbers of user and object
US6181742	Single pass target allocation for video encoding
US5701468	System for performing data compression based on a Liu-Zempel algorithm
US5694595	Remote user profile management administration in a computer network
US5682475	Method and system for variable password access
US5680455	Digital signature generator /verifier/ recorder (DS-GVR) for analog transmissions
US5673209	Apparatus and associated method for compressing and decompressing digital data
US5659755	Method and system in a data processing system for efficiently compressing data using a sorting network
US5657091	Video display controller, user interface and programming structure for such interface
US5652878	Method and apparatus for compressing data
US5642430	Visual presentation system which determines length of time to present each slide or transparency
US5640159	Quantization method for image data compression employing context modeling algorithm
US5613002	Generic disinfection of programs infected with a computer virus
US5604490	Method and system for providing a user access to multiple secured subsystems
US5265163	Computer system security device

### Software Development & Object Technology

Publication	Title
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US6332219 Cross-platform program, system, and method having a global registry object for mapping registry functions in a windows operating system environment

US6330711 Method and apparatus for dynamic application and maintenance of programs

US6330518 Method and apparatus for assembling custom compliance tests for configurable specifications

US6321378 Automated code replication during application development

US6298476 Object oriented software build framework mechanism

US6295642 Method and apparatus for partial just in time compiling in a data processing system

US6295641 Method and apparatus for dynamically selecting bytecodes for just in time compiling in a user's environment

US6295613 Debug watch mechanism and method for debugging a computer program

US6269480 Cross platform installer-with the ability to create platform independent variables of specific operating system variables from a scripting language

US6269407 Method and system for data filtering within an object-oriented data

US6266625 Calibrating high resolution measurements

US6263493 Method and system for controlling the generation of program statements

US6259447 Controlling an information processing apparatus

US6249789 Method of calculating time-sensitive work algorithms using inputs with different variable effective intervals

US6240498 Object oriented storage pool apparatus and method

US6237140 Compiler-assisted or interpreter-assisted windowing solution to the year 2000 problem for computer programs

US6230315 Data processing method and apparatus

US6230314 Method and device for program transformation using class hierarchy transformation based upon type constraint analysis

US6219663 Method and computer program product for implementing pushdown query in a distributed object management system

US6216149 Method and system for efficient control of the execution of actions in an object oriented program

US6212675 Presentation of visual program test coverage information

US6202098 Method and system for object oriented notification

US6199199 Presentation of visual program performance data

US6199198 Computer system, method, and article of manufacture for visualizing differences between design artifacts and object-oriented code

US6195793 Method and computer program product for adaptive inlining in a computer system

US6192511 Technique for test coverage of visual programs

US6189142 Visual program runtime performance analysis

US6185730 Method and apparatus for creating dippable beans in a java environment

US6182282 Method and system for constructing hybrid virtual function tables

US6182278 Program development support system and support method and storage medium for storing program components which are used for program development support

US6182154 Universal object request broker encapsulater

US6179491 Method and apparatus for slicing class hierarchies

US6175956 Method and computer program product for implementing method calls in a computer system

US5701489 System for partial in-line expansion of procedure calls during program compilation

US5696974 Methods to support multimethod function overloading with compile-time type checking

US5675805 Programming system for generating client and server programs from an undistributed application program

US5675802 Version control system for geographically distributed software development

US5649070 Learning system with prototype replacement

US5644771 Efficient method router that supports multiple simultaneous object versions

US5642511 System and method for providing a visual application builder framework

US5632034 Controlling method invocation sequence through virtual functions in an object-oriented class library

US5630126 Systems and methods for integrating computations into compound documents

US5630109 Apparatus for processing of a series of timing signals

US5627979 System and method for providing a graphical user interface for mapping and accessing objects in data stores

US5623695 System for communicating concurrently with multiple system facilitates through a single application programming interface utilizing look-up table specifying entry point information into an implementation

US5606699 Storing and querying execution information for object-oriented programs

US5604907 Computer system for executing action slots including multiple action object classes

US6237138 Buffered screen capturing software tool for usability testing of computer applications

US5202981 Process and apparatus for manipulating a boundless data stream in an object oriented programming system

US5193180 System for modifying relocatable object code files to monitor accesses to dynamically allocated memory

US5179672 Apparatus and method for modeling parallel processing of instructions using sequential execution hardware

#### Internet, eCommerce, and Industry Specific

Publication	Title
US6334215	Methodology for migration of legacy applications to new product architectures
US6334154	Article of manufacture for communications of multiple partitions employing host-network interface, and address resolution protocol for constructing data frame format according to client format
US6330607	Method and system for recovering system resources used by an inactive Telnet client
US6321132	Efficient method for designing slabs for production from an order book
US6314432	System and method for retrieval, saving and printing of using hyperlinks
US6311177	Accessing databases when viewing text on the web
US6310630	Data processing system and method for internet browser history generation

US6295559	Rating hypermedia for objectionable content
US6285777	Internet assisted mail
US6282486	Distributed system and method for detecting traffic patterns
US6249811	Method of establishing a session between terminals on a network, remote terminal and recording medium
US6240330	Method for feedforward corrections for off-specification conditions
US6238337	Medical non-intrusive prevention based on network of embedded systems
US6236968	Sleep prevention dialog based car system
US6232967	Web browser column control
US6209027	Recirculating network address list with single button sequencer/selector
US6205454	Web browser row control
US6192383	Method and system in a computer network for automatically adding synchronization points to network documents
US6178449	Apparatus and method for measuring transaction time in a computer system
US6175862	Hot objects with sequenced links in web browsers
US5691895	Mechanism and architecture for manufacturing control and optimization
US5634017	Computer system and method for processing atomic data to calculate and exhibit the properties and structure of matter based on relativistic models
US5621665	Selecting levels for factors for industrial process experiments
US5609744	Assembly suitable for identifying a code sequence of a biomolecule in a gel embodiment
US5218539	Forms processor with controlled remote revision

#### Networking and Network Management

Publication	Title
US6334162	Efficient data transfer mechanism for input/out devices having a device driver generating a descriptor queue and monitoring a status queue
US6321350	Method and apparatus for error detection using a queued direct Input-Output device
US6314531	Method and system for testing and debugging distributed software systems by using network emulation
US6288790	Mobility support for printing
US6275867	Operation-partitioned off-loading of operations in a distributed environment
US6272564	Efficient data transfer mechanism for input/output devices
US6266336	Apparatus and method for setting A/C bits in token ring frames for switches
US6260065	Test engine and method for verifying conformance for server applications
US6243378	Method and apparatus for minimizing contention losses in networks
US6237111	Method for logical connection resynchronization
US6226761	Post dump garbage collection
US6226297	Method and system for providing redundancy to asynchronous transfer mode emulated local-area networks
US6222850	Dynamic transmit tuning for ethernet device drivers
US6212191	Method and system for providing security to asynchronous transfer mode emulated local-area networks
US6209035	System and method for establishing communication links and transferring data



among a plurality of communication nodes

US6208661 Variable resolution scheduler for virtual channel communication devices

US6208622 Traffic flow cutover to virtual connection transport

US6198747 Method and system for enhancing communications efficiency in data communications networks wherein broadcast occurs

US6189041 Next hop resolution protocol cut-through to LANs

US5704041 Object independent scoping in an open system interconnection system

US5694548 System and method for providing multimedia quality of service sessions in a communications network

US5689699 Dynamic verification of authorization in retention management schemes for data processing systems

US5687373 Communications system for exchanging data between computers in a network and a method of operating such a system in which communications services are defined within a common object class

US5684967 System and method for generalized network topology representation

US5673318 Method and apparatus for data authentication in a data communication environment

US5671356 Method and apparatus for microcode loading in a multi-nodal network exhibiting distributed control

US5668952 Method for resolving network address by sending reresolve request to nodes at selected time period after establishing address table, and updating the table with received reply thereto

US5649195 Systems and methods for synchronizing databases in a receive-only network

US5644577 Preserving data frame continuity across full-duplex LAN interface with disparate data capacities

US5642421 Encryption of low data content ATM cells

US5640513 Notification of disconnected service machines that have stopped running

US5634006 System and method for ensuring QOS in a token ring network utilizing an access regulator at each node for allocating frame size for plural transmitting applications based upon negotiated information and priority in the network

US5630184 Method of deleting and adding nodes in a spanning tree network by collating replies from other nodes

US5630127 Program storage device and computer program product for managing an event driven management information system with rule-based application structure stored in a relational database

US5630061 System for enabling first computer to communicate over switched network with second computer located within LAN by using media access control driver in different modes

US5629933 Method and system for enhanced communication in a multisession packet based communication system

US5627766 Performance and status monitoring in a computer network

US5614901 Method and apparatus for providing data stream for cost effective transmission links

US5613155 Bundling client write requests in a server

US5611048 Remote password administration for a computer network among a plurality of nodes sending a password update message to all nodes and updating on

authorized nodes

US5606669 System for managing topology of a network in spanning tree data structure by maintaining link table and parent table in each network node

US5603029 System of assigning work requests based on classifying into an eligible class where the criteria is goal oriented and capacity information is available

US5600798 System and method for controlling LAN data flow control through a frame relay network by end point station transmitting notification to LAN stations based on congestion notification from the frame relay network

US5274625 Traffic measurements in packet communications networks

US5261094 Asynchronous replication of data changes by distributed update requests

US5260942 Method and apparatus for batching the receipt of data packets

US5257366 Query language execution on heterogeneous database servers using a bind-file bridge between application and database languages

US5245608 Logical grouping of layer entities in a layered communication architecture

US5226079 Non-repudiation in computer networks

US5224098 Compensation for mismatched transport protocols in a data communications network

US5223827 Process and apparatus for managing network event counters

US5210750 Method and apparatus for distributed queue multiple access in a communication system

#### Miscellaneous

Publication	Title
US6304983	Checkpoint logging without checkpoint display device availability
US6289085	Voice mail system, voice synthesizing device and method therefore
US6269360	Optimization of ordered stores on a pipelined bus via self-initiated retry
US6263326	Method product `apparatus for modulations`
US6249768	Strategic capability networks
US6236936	Maintaining a desired separation or distribution in a moving cluster of machines using a time multiplexed global positioning system
US6219828	Method for using two copies of open firmware for self debug capability
US6195700	Application protocol data unit management facility
US6182243	Selective data capture for software exception conditions
US6178467	Microprocessor system requests burstable access to noncacheable memory areas and transfers noncacheable address on a bus at burst mode
US5701408	Method for testing computer operating or application programming interfaces
US5692207	Digital signal processing system with dual memory structures for performing simplex operations in parallel
US5687375	Debugging of High Performance Fortran programs with backup breakpoints
US5684954	Method and apparatus for providing connection identifier by concatenating CAM's addresses at which containing matched protocol information extracted from multiple protocol header
US5680448	Call routing selection method
US5675797	Goal-oriented resource allocation manager and performance index technique for servers

US5673369 Authoring knowledge-based systems using interactive directed graphs  
 US5671419 Interprocedural data-flow analysis that supports recursion while only performing one flow-sensitive analysis of each procedure  
 US5671417 Method and system for inserting floating code hooks into multiple versions of code  
 US5652749 Apparatus and method for segmentation and time synchronization of the transmission of a multiple program multimedia data stream  
 US5640557 Method and system for processing logic blocks in a data processing system  
 US5636218 Gateway system that relays data via a PBX to a computer connected to a pots and a computer connected to an extension telephone and a LAN and a method for controlling same  
 US5630067 System for the management of multiple time-critical data streams  
 US5619684 Method and apparatus for consistent user interface in a multiple application personal communications device  
 US5619618 Neural network shell for application programs  
 US5617511 Neural network shell for application programs  
 US5615306 Neural network shell for application programs  
 US5613110 Indexing method and apparatus facilitating a binary search of digital data  
 US5613073 Apparatus and method for a buffer reservation system  
 US5613043 Neural network shell for application programs  
 US5613040 Neural network shell for application programs  
 US5604863 Method for coordinating executing programs in a data processing system  
 US5598570 Efficient data allocation management in multiprocessor computer system  
 US5274820 Method and system for eliminating operation codes from intermediate prolog instructions  
 US5237684 Customized and versatile event monitor within event management services of a computer system  
 US5212662 Floating point arithmetic two cycle data flow  
 US5177482 RLL encoder and decoder with pipelined plural byte processing

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