



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/426,853	06/27/2006	Michael G. Hinchey	GSC 15.038-1	1560
21872	7590	01/13/2009	EXAMINER	
NASA GODDARD SPACE FLIGHT CENTER 8800 GREENBELT ROAD, MAIL CODE 140.1 GREENBELT, MD 20771			COUGHLAN, PETER D	
			ART UNIT	PAPER NUMBER
			2129	
			NOTIFICATION DATE	DELIVERY MODE
			01/13/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Milelene.Gunyon-1@nasa.gov  
Lucy.A.Stefanelli@nasa.gov  
Bryan.A.Geurts@nasa.gov



## Detailed Action

1. Claims 1-21 are pending in this application.

### ***Specification Objections***

2. Paragraph 0140 states the method may be implemented as a computer data signal embodied in a carrier wave that represents a sequence of instructions, which when executed by a processor causes the processor to perform the respected method.' Using carrier waves as a form of storage is non-statutory under 35 U.S.C. §101. Please emend the specification.

### ***35 USC § 101***

3. 35 U.S.C. 101 reads as follows:  
Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-22 are rejected under 35 U.S.C. 101 for nonstatutory subject matter.

The computer system must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77. The invention is ineligible because it has not been limited to a substantial practical application and a tangible result. Instructions to transmit data does not result in a practical application and lacks a tangible result. The result has to be a practical application and a tangible result.

Art Unit: 2129

In determining whether the claim is for a “practical application,” the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is “useful, tangible and concrete.” If the claim is directed to a practical application of the § 101 judicial exception producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S.C. § 101. Instructions to ‘transmit self health data and transmit environment health data lacks a practical application and a tangible result.

The claims must provide a tangible result, and there must be a practical application, by either

- 1) transforming (physical thing) or
- 2) by having the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/non-unpredictable), AND tangible (real world/non-abstract) result.

A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended. A claim that recites a computer that solely calculates a mathematical formula is not statutory.

However, the portions of the opinions in State Street and AT&T relying solely on a “useful, concrete and tangible” result analysis *should no longer be relied on*. Ex parte Bilski, Appeal No. 2007-1130 (Fed. Cir. October 30, 2008).

The court has said that there's a two-pronged test to determine whether a software of business method process patent is valid: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing. In other words, pure software or business method patents that are neither tied to a specific machine nor change something into a different state are not patentable. Ex parte Bilski, Appeal No. 2007-1130 (Fed. Cir. October 30, 2008).

Art Unit: 2129

Instructions to transmit data does not result in a practical application and a tangible result. The result has to be a practical application and a tangible result.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7-19, 22 are rejected under 35 U.S.C. 102(b) (hereinafter referred to as **Sterritt**) being anticipated by Sterritt, 'Pulse monitoring: Extending the health check for the autonomic GRID.'

Claim 1

Sterritt teaches transmitting self health/urgency data (**Sterritt**, p434, C1:14 through C2:32; 'Self health/urgency' of applicant is information compiled by the 'internal monitor' of Sterritt. 'Transmitting' of applicant is disclosed by the use of the 'pulse monitor' of Sterritt.); and transmitting environment health/urgency data. (**Sterritt**, p434, C1:14 through C2:32; 'Environment health/urgency' of applicant is information compiled by the 'external monitor' of Sterritt. 'Transmitting' of applicant is disclosed by the use of the 'pulse monitor' of Sterritt.)

Claim 2

Sterritt teaches wherein transmitting self health/urgency data is performed before transmitting environment health/urgency data. (**Sterritt**, p434, C1:14 through C2:32; 'Transmitting self health/urgency data is performed before transmitting environment health/urgency data' of applicant is disclosed by 'communication occurs asynchronously between the autonomic elements within a system and the artifacts within an autonomic element' of Sterritt.)

Claim 3

Sterritt teaches wherein transmitting environment health/urgency data is performed before transmitting self health/urgency data. (**Sterritt**, p434, C1:14 through C2:32; 'Transmitting environment health/urgency data is performed before transmitting self health/urgency data' of applicant is disclosed by 'communication occurs asynchronously between the autonomic elements within a system and the artifacts within an autonomic element' of Sterritt.)

Claim 7

Sterritt teaches transmitting event messages. (**Sterritt**, p436, C1:1-7; 'Transmitting event messages' of applicant is disclosed by 'event messages' of Sterritt.)

Claim 8

Art Unit: 2129

Sterritt teaches receiving the self health/urgency data from a self control loop component of the autonomic element. (**Sterritt**, p434 C1:14 through C2:32; 'Receiving the self health/urgency data from a self control loop component' of applicant is illustrated by 'If an action is necessary, it is then executed by utilizing the effectors, thus creating a control loop' of Sterritt.)

#### Claim 9

Sterritt teaches receiving the environment health/urgency data from an environment control loop component of the autonomic element. (**Sterritt**, p434 C1:14 through C2:32; 'Receiving the environment health/urgency data from an environment control loop' of applicant is inherent with the statement 'Similarly, an external monitor observes the state of the environment via an autonomic signal channel and this also may trigger changes.' Thereby creating a control loop for the environment.)

#### Claim 10

Sterritt teaches uncompressed self health/urgency data. (**Sterritt**, p434, C1:14 through C2:32; 'Uncompressed self health/urgency' of applicant is information compiled by the 'internal monitor' of Sterritt.)

#### Claim 11

Sterritt teaches uncompressed environment health/urgency data. (**Sterritt**, p434, C1:14 through C2:32; 'Uncompressed environment health/urgency' of applicant is information compiled by the 'external monitor' of Sterritt.)

#### Claim 12

Sterritt teaches processing received signals from the system indicative of the functioning state and the operating status to obtain an analysis of the condition of the system (**Sterritt**, p434, C1:14 through C2:32; 'Processing received signals' of applicant is accomplished by the 'effectors [which] are used to facilitate any actions' of Sterritt.); generating at least one stay alive signal based on the condition of the system (**Sterritt**, p436 C2:8-29; 'Stay alive signal' of applicant is equivalent to 'I am alive' of Sterritt.); transmitting the at least one stay-alive signal (**Sterritt**, p434, C1:14 through C2:32; 'Transmitting' of applicant is disclosed by the use of the 'pulse monitor' of Sterritt.); transmitting self health/urgency data (**Sterritt**, p434, C1:14 through C2:32; 'Self health/urgency' of applicant is information compiled by the 'internal monitor' of Sterritt. 'Transmitting' of applicant is disclosed by the use of the 'pulse monitor' of Sterritt.); and transmitting environment health/urgency data. (**Sterritt**, p434, C1:14 through C2:32; 'Environment health/urgency' of applicant is information compiled by the 'external monitor' of Sterritt. 'Transmitting' of applicant is disclosed by the use of the 'pulse monitor' of Sterritt.)

#### Claim 13



Art Unit: 2129

Sterritt teaches wherein the operating state of the system is at least one of an urgency signal, an environmental condition, and an event condition. (**Sterritt**, abstract, p434, C1:14 through C2:32, p436 C1:22-29; 'Urgency signal' of applicant is illustrated by the ability to 'monitor with urgency or anxiety levels' of Sterritt. 'Environmental condition' of applicant generated by the external monitor' of Sterritt. 'Event condition' of applicant equivalent to 'event' of Sterritt.)

#### Claim 14

Sterritt teaches wherein a stay alive signal is at least one of withdraw a stay alive signal, initiate a self-destruct sequence, and continue to stay alive. (**Sterritt**, p436 C2:8-29; 'Stay alive signal' of applicant is equivalent to 'I am alive' of Sterritt.)

#### Claim 15

Sterritt teaches wherein an event condition is at least one of incorrect operation, emergent behavior, failure to perform self healing, and likelihood of jeopardizing primary objectives. (**Sterritt**, p437, C1:17-46; 'Failure to perform self healing' of applicant is equivalent to 'cannot recover autonomously' of Sterritt.)

#### Claim 16

Sterritt teaches receiving the self health/urgency data from a self control loop component of the autonomic element (**Sterritt**, p434 C1:14 through C2:32; 'Receiving the self health/urgency data from a self control loop component' of applicant is

Art Unit: 2129

illustrated by 'If an action is necessary, it is then executed by utilizing the effectors, thus creating a control loop' of Sterritt.); and receiving the environment health/urgency data from a environment control loop component of the autonomic element. (**Sterritt**, p434 C1:14 through C2:32; 'Receiving the environment health/urgency data from an environment control loop' of applicant is inherent with the statement 'Similarly, an external monitor observes the state of the environment via an autonomic signal channel and this also may trigger changes.' Thereby creating a control loop for the environment.)

#### Claim 17

Sterritt teaches wherein the self health/urgency data further comprises uncompressed self health/urgency data (**Sterritt**, p434, C1:14 through C2:32; 'Uncompressed self health/urgency' of applicant is information compiled by the 'internal monitor' of Sterritt.), and wherein the environment health/urgency data further comprises uncompressed environment health/urgency data. (**Sterritt**, p434, C1:14 through C2:32; 'Uncompressed environment health/urgency' of applicant is information compiled by the 'external monitor' of Sterritt.)

#### Claim 18

Sterritt teaches a self monitor that is operable to receive information from sensors and operable to monitor and analyze the sensor information and access a knowledge repository (**Sterritt**, p434, C1:14 through C2:32; 'Self monitor' of applicant is

Art Unit: 2129

disclosed by the 'autonomic elements' of Sterritt.); a self adjuster operably coupled to the self monitor in a self control loop, the self adjuster operable to access the knowledge repository, the self adjuster also operable to transmit data to effectors, and the self adjuster further operable to plan and execute (**Sterritt**, p434, C1:14 through C2:32; 'Self adjuster' of applicant is disclosed by the actions of the 'effectors' of Sterritt. 'Control loop' of applicant is equivalent to 'control loop' of Sterritt. 'Knowledge repository' of applicant is equivalent to 'system knowledge base' of Sterritt. 'Transmit data' of applicant is disclosed by the use of the 'pulse monitor' of Sterritt.); an environment monitor that is operable to receive information from sensors and operable to monitor and analyze the sensor information and access the knowledge repository(**Sterritt**, p434, C1:14 through C2:32; 'Environment monitor' of applicant is equivalent to the 'external monitor' of Sterritt.); and an autonomic manager communications component operably coupled to the environment monitor in an environment control loop, the autonomic manager communications component operable to access the knowledge repository, the autonomic manager communications component operable to produce and transmit a pulse monitor signal; the pulse monitor signal including a heart beat monitor signal and a reflex signal, the reflex signal including self health/urgency data and environment health/urgency data. (**Sterritt**, p434, C1:14 through C2:32; 'Autonomic manager communications component' of applicant is information compiled by the 'autonomic elements' of Sterritt.)

Claim 19

Art Unit: 2129

Sterritt teaches wherein the self health/urgency data further comprises uncompressed self health/urgency data (**Sterritt**, p434, C1:14 through C2:32; 'Uncompressed self health/urgency' of applicant is information compiled by the 'internal monitor' of Sterritt.), and wherein the environment health/urgency data further comprises uncompressed environment health/urgency data. (**Sterritt**, p434, C1:14 through C2:32; 'Uncompressed environment health/urgency' of applicant is information compiled by the 'external monitor' of Sterritt.)

#### Claim 22

Sterritt teaches at least one of an urgency signal, an environmental condition, and an event condition. (**Sterritt**, abstract, p434, C1:14 through C2:32, p436 C1:22-29; 'Urgency signal' of applicant is illustrated by the ability to 'monitor with urgency or anxiety levels' of Sterritt. 'Environmental condition' of applicant generated by the external monitor' of Sterritt. 'Event condition' of applicant equivalent to 'event' of Sterritt.)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made

Art Unit: 2129

to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-6, 20, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sterritt as set forth above, in view of Foster. ('The Grid: Blueprint for a new computing infrastructure', referred to as **Foster**)

Claim 4

Sterritt does not teach wherein transmitting environment health/urgency data is performed simultaneously with transmitting self health/urgency data.

Foster teaches wherein transmitting environment health/urgency data is performed simultaneously with transmitting self health/urgency data. (**Foster**, p61; 'Transmitting environment health/urgency data is performed simultaneously with transmitting self health/urgency data' of applicant is disclosed by 'the ability to obtain simultaneous access to a sufficient collection of resources' of Foster.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Sterritt by disclosing simultaneously transmissions as taught by Foster to have wherein transmitting environment health/urgency data is performed simultaneously with transmitting self health/urgency data.

For the purpose of faster collecting of information of the grid.

Claim 5

Art Unit: 2129

Sterritt does not teach transmitting the environment health/urgency data and the self health/urgency data together.

Foster teaches transmitting the environment health/urgency data and the self health/urgency data together. (**Foster**, p61; 'Transmitting the environment health/urgency data and the self health/urgency data together' of applicant is disclosed by 'the ability to obtain simultaneous access to a sufficient collection of resources' of Foster.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Sterritt by disclosing simultaneously transmissions as taught by Foster to have transmitting the environment health/urgency data and the self health/urgency data together.

For the purpose of faster collecting of information of the grid.

#### Claim 6

Sterritt does not teach encapsulating the environment health/urgency data and the self health/urgency data in a packet.

Foster teaches encapsulating the environment health/urgency data and the self health/urgency data in a packet. (**Foster**, p68; 'Packet' of applicant is equivalent to 'packets' of Foster.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Sterritt by using packets as taught by Foster to have encapsulating the environment health/urgency data and the self health/urgency data in a packet.

Art Unit: 2129

For the purpose of using the established reliability of the TCP/IP model for data transmission.

Claim 20

Sterritt does not teach wherein the autonomic manager communications component is further operable to transmit the environment health/urgency data and the self health/urgency data together.

Foster teaches wherein the autonomic manager communications component is further operable to transmit the environment health/urgency data and the self health/urgency data together. (**Foster**, p61; 'Transmit the environment health/urgency data and the self health/urgency data together' of applicant is disclosed by 'the ability to obtain simultaneous access to a sufficient collection of resources' of Foster.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Sterritt by disclosing simultaneously transmissions as taught by Foster to have wherein the autonomic manager communications component is further operable to transmit the environment health/urgency data and the self health/urgency data together.

For the purpose of faster collecting of information of the grid.

Claim 21

Sterritt does not teach wherein the autonomic manager communications component is further operable to encapsulate the environment health/urgency data and the self health/urgency data in a packet.

Foster teaches wherein the autonomic manager communications component is further operable to encapsulate the environment health/urgency data and the self health/urgency data in a packet. (**Foster**, p68; 'Packet' of applicant is equivalent to 'packets' of Foster.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Sterritt by using packets of information as taught by Foster to have wherein the autonomic manager communications component is further operable to encapsulate the environment health/urgency data and the self health/urgency data in a packet.

For the purpose of using the established reliability of the TCP/IP model for data transmission.

### ***Conclusion***

4. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure.

-'Essence of distributed systems, Vol 1': Crichlow

-'Introduction to distributed and parallel computing': Crichlow

-'Scalable parallel computing': Hwang



5. Claims 1-21 are rejected.

***Correspondence Information***

6. Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor David Vincent can be reached at (571) 272-3080. Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,  
Washington, D. C. 20231;

Hand delivered to:

Receptionist,  
Customer Service Window,  
Randolph Building,  
401 Dulany Street,  
Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

Art Unit: 2129

(571) 272-3150 (for formal communications intended for entry.)

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/P. C./

Examiner, Art Unit 2129

Peter Coughlan

1/5/2009

/David R Vincent/

Supervisory Patent Examiner, Art Unit 2129