CLAIMS

1. A method performed by a processor configured to execute instructions stored in memory, the method for selecting for a data stream dividing point to break a large amount of data into a plurality of blocks of data according to a rule, wherein the rule comprising: for a potential dividing point k, determining M points p_x, a window $W_x[\ p_x - A_x,\ p_x + B_x\ ]$ corresponding to the point p_x, and a preset condition C_x corresponding to the window $W_x[\ p_x - A_x,\ p_x + B_x\ ]$, wherein x indicates consecutive natural numbers from 1 to M, M≥2, and A_x and B_x are integers, the method comprising:

(a) determining a point p_{iz} and a window $W_{iz}[\ p_{iz} - A_z,\ p_{iz} + B_z\ ]$ corresponding to the point p_{iz} for a current potential dividing point k_i according to the rule, wherein i and z are integers, and 1≤z≤M;

(b) determining whether at least a part of data in the window $W_{iz}[\ p_{iz} - A_z,\ p_{iz} + B_z\ ]$ meets a preset condition C_z; and

when the at least a part of data in the window $W_{iz}[\ p_{iz} - A_z,\ p_{iz} + B_z\ ]$ does not meet the preset condition C_z, skipping N minimum units U for searching for a data stream dividing point from the point p_{iz} along a direction of searching for a data stream dividing point, wherein N*U is not greater than $\| B_z \| + \max_x(\| A_x \| + \| (k_i - p_{ix}) \|)$, so as to obtain a new potential dividing point, and performing step (a); and

(c) when at least a part of data in each window $W_{ix}[\ p_{ix} - A_x,\ p_{ix} + B_x\ ]$ of M windows of the current potential dividing point k_i meets the preset condition C_x, selecting the current potential dividing point k_i as a data stream dividing point.

2. The method according to claim 1, wherein the rule further comprises that at least two points p_e and p_f meet conditions $A_e = A_f$, $B_e = B_f$, and $C_e = C_f$.

3. The method according to claim 2, wherein the rule further comprises: relative to the potential dividing point k, the at least two points p_e and p_f are in a direction opposite to the direction of searching for a data stream dividing point.

4. The method according to claim 2, wherein the rule further comprises that a distance between

the at least two points p_e and p_f is 1 U.

5. The method according to claim 1, wherein determining, by using a random function, whether the at least a part of data in the window W_{iz} [p_{iz} - A_z , p_{iz} + B_z] meets the preset condition C_z.

6. The method according to claim 5, wherein determining, by using a hash function, whether the at least a part of data in the window W_{iz} [p_{iz} - A_z , p_{iz} + B_z] meets the preset condition C_z.

7. The method according to claim 1, wherein when the at least a part of data in the window W_{iz} [p_{iz} - A_z , p_{iz} + B_z] does not meet the preset condition C_z, the N minimum units U for searching for a data stream dividing point are skipped from the point p_{iz} along the direction of searching for a data stream dividing point, so as to obtain the new potential dividing point, and according to the rule, a left boundary of a window W_{ic} [p_{ic} - A_c , p_{ic} + B_c] corresponding to a point p_{ic} that is determined for the new potential dividing point coincides with a right boundary of the window W_{iz} [p_{iz} - A_z , p_{iz} + B_z] or a left boundary of a window W_{ic} [p_{ic} - A_c , p_{ic} + B_c] corresponding to a point p_{ic} that is determined for the new potential dividing point falls within a range of the window W_{iz} [p_{iz} - A_z , p_{iz} + B_z], wherein the point p_{ic} determined for the new potential dividing point is a point ranking the first in a sequence, which is obtained according to the direction of searching for a data stream dividing point, of M points that are determined for the new potential dividing point according to the rule.

8. The method according to claim 5, wherein selecting F bytes in the window W_{iz} [p_{iz} - A_z , p_{iz} + B_z], and using the F bytes repeatedly H times to obtain F*H bytes in total, wherein F≥1, each byte is formed by 8 bits, which are denoted as $a_{m,1}$, ..., and $a_{m,8}$, representing the 1st bit to the 8th bit of an mth byte in the F*H bytes, bits corresponding to the F*H bytes can be represented as: $\begin{pmatrix} a_{1,1} & a_{1,2} & \dots & a_{1,8} \\ a_{2,1} & a_{2,2} & \dots & a_{2,8} \\ \vdots & \vdots & \vdots & \vdots \\ a_{F*H,1} & a_{F*H,2} & \dots & a_{F*H,8} \end{pmatrix}$, wherein when $a_{m,n}$=1, $V_{am,n}$=1, and when $a_{m,n}$=0, $V_{am,n}$=-1, wherein $a_{m,n}$ represents any one of $a_{m,1}$, ..., and $a_{m,8}$, a matrix V_a is obtained according to a conversion relationship between $a_{m,n}$ and $V_{am,n}$ from the bits corresponding to the F*H bytes, the matrix V_a is

represented as: $\begin{pmatrix} V_{a1,1} & V_{a1,2} & \cdots & V_{a1,8} \\ V_{a2,1} & V_{a2,2} & \cdots & V_{a2,8} \\ \vdots & \vdots & \vdots & \vdots \\ V_{aF*H,1} & V_{aF*H,2} & \cdots & V_{aF*H,8} \end{pmatrix}$, F*H*8 random numbers are selected from random numbers following normal distribution to form a matrix R, the matrix R is represented as: $\begin{pmatrix} h_{1,1} & h_{1,2} & ... & h_{1,8} \\ h_{2,1} & h_{2,2} & ... & h_{2,8} \\ \vdots & \vdots & \vdots & \vdots \\ h_{F*H,1} & h_{F*H,2} & ... & h_{F*H,8} \end{pmatrix}$, random numbers in an mth row of the matrix V_a and an mth row of the matrix R are multiplied and products are added to obtain a value, which is specifically represented as $S_{am} = V_{am,1} * h_{m,1} + V_{am,2} * h_{m,2} + ... + V_{am,8} * h_{m,8}$, S_{a1}, S_{a2}, ..., and S_{aF*H} are obtained in a same way, a quantity K of values greater than 0 among S_{a1}, S_{a2}, ..., and S_{aF*H} is counted, and when K is an even number, the at least a part of data in the window W_{iz} [$p_{iz} - A_z$, $p_{iz} + B_z$] meets the preset condition C_z.

9. A server for searching for a data stream dividing point according to a rule, wherein the rule comprising: for a potential dividing point k, determining M points p_x, a window W_x[$p_x - A_x$, $p_x + B_x$] corresponding to the point p_x, and a preset condition C_x corresponding to the window W_x [$p_x - A_x$, $p_x + B_x$], wherein x indicates consecutive natural numbers from 1 to M, M≥2, and A_x and B_x are integers, the server comprises a central processing unit and a memory for storing computer instructions, wherein the central processing unit communicates with the memory to retrieve and execute the computer instructions to perform the steps of:

(a) determining a point p_{iz} and a window W_{iz}[$p_{iz} - A_z$, $p_{iz} + B_z$] corresponding to the point p_{iz} for a current potential dividing point k_i according to the rule, wherein i and z are integers, and 1≤z≤M;

(b) determining whether at least a part of data in the window W_{iz}[$p_{iz} - A_z$, $p_{iz} + B_z$] meets a preset condition C_z; and

when the at least a part of data in the window W_{iz}[$p_{iz} - A_z$, $p_{iz} + B_z$] does not meet the preset condition C_z, skipping N minimum units U for searching for a data stream dividing point from the point p_{iz} along a direction of searching for a data stream dividing point, wherein N*U is not greater than $\| B_z \| + \max_x(\| A_x \| + \| (k_i - p_{ix}) \|)$, so as to obtain a new potential dividing point, and

performing step (a); and

(c) when at least a part of data in each window $W_{ix}[\ p_{ix} - A_x,\ p_{ix} + B_x\ ]$ of M windows of the current potential dividing point k_i meets the preset condition C_x, selecting the current potential dividing point k_i as a data stream dividing point.

10. The server according to claim 9, wherein the rule further comprises that at least two points p_e and p_f meet conditions $A_e = A_f$, $B_e = B_f$, and $C_e = C_f$.

11. The server according to claim 10, wherein the rule further comprises: relative to the potential dividing point k, the at least two points p_e and p_f are in a direction opposite to the direction of searching for a data stream dividing point.

12. The server according to claim 10, wherein the rule further comprises that a distance between the at least two points p_e and p_f is 1 U.

13. The server according to claims 9, wherein the central processing unit is specifically configured to determine, by using a random function, whether the at least a part of data in the window $W_{iz}[\ p_{iz} - A_z,\ p_{iz} + B_z\ ]$ meets the preset condition C_z.

14. The server according to claim 13, wherein the central processing unit is specifically configured to determine, by using a hash function, whether the at least a part of data in the window $W_{iz}[\ p_{iz} - A_z,\ p_{iz} + B_z\ ]$ meets the preset condition C_z.

15. The server according to claim 9, wherein when the at least a part of data in the window $W_{iz}[\ p_{iz} - A_z,\ p_{iz} + B_z\ ]$ does not meet the preset condition C_z, the N minimum units U for searching for a data stream dividing point are skipped from the point p_{iz} along the direction of searching for a data stream dividing point, so as to obtain the new potential dividing point, and according to the rule, a left boundary of a window $W_{ic}[\ p_{ic} - A_c,\ p_{ic} + B_c\ ]$ corresponding to a point p_{ic} that is determined for the new potential dividing point coincides with a right boundary of the window $W_{iz}[\ p_{iz} - A_z,\ p_{iz} + B_z\ ]$ or a left boundary of a window $W_{ic}[\ p_{ic} - A_c,\ p_{ic} + B_c\ ]$ corresponding to a point p_{ic} that is determined for the new potential dividing point falls within a range of the window $W_{iz}[\ p_{iz} - A_z,\ p_{iz} + B_z\ ]$, wherein the point p_{ic} determined for the new potential dividing point is a point ranking the first in a sequence, which is obtained according to the direction of searching for a data stream dividing point, of M points that are determined for the new potential dividing point according to the rule.

16. The server according to claim 13, wherein the determining, by the central processing unit by using a random function, whether the at least a part of data in the window $W_{iz}[\ p_{iz}-A_z,\ p_{iz}+B_z\ ]$ meets the preset condition C_z specifically comprises:

selecting F bytes in the window $W_{iz}[\ p_{iz}-A_z,\ p_{iz}+B_z\ ]$, and using the F bytes repeatedly H times to obtain F*H bytes in total, wherein F≥1, each byte is formed by 8 bits, which are denoted as $a_{m,1}$, ..., and $a_{m,8}$, representing the 1st bit to the 8th bit of an mth byte in the F*H bytes, bits corresponding to the F*H bytes can be represented as: $\begin{pmatrix} a_{1,1} & a_{1,2} & ... & a_{1,8} \\ a_{2,1} & a_{2,2} & ... & a_{2,8} \\ \vdots & \vdots & \vdots & \vdots \\ a_{\mathrm{F}*H,1} & a_{F*H,2} & ... & a_{F*H,8} \end{pmatrix}$, wherein when $a_{m,n}$=1, $V_{am,n}$=1, and when $a_{m,n}$=0, $V_{am,n}$=-1, wherein $a_{m,n}$ represents any one of $a_{m,1}$, ..., and $a_{m,8}$, a matrix V_a is obtained according to a conversion relationship between $a_{m,n}$ and $V_{am,n}$ from the bits corresponding to the F*H bytes, the matrix V_a is represented as: $\begin{pmatrix} V_{a1,1} & V_{a1,2} & \cdots & V_{a1,8} \\ V_{a2,1} & V_{a2,2} & \cdots & V_{a2,8} \\ \vdots & \vdots & \vdots & \vdots \\ V_{a\mathrm{F}*H,1} & V_{aF*H,2} & \cdots & V_{aF*H,8} \end{pmatrix}$,

F*H*8 random numbers are selected from random numbers following normal distribution to form a matrix R, the matrix R is represented as: $\begin{pmatrix} \mathrm{h}_{1,1} & h_{1,2} & ... & h_{1,8} \\ h_{2,1} & h_{2,2} & ... & h_{2,8} \\ \vdots & \vdots & \vdots & \vdots \\ h_{\mathrm{F}*H,1} & h_{F*H,2} & ... & h_{F*H,8} \end{pmatrix}$, random numbers in an mth row of the matrix V_a and an mth row of the matrix R are multiplied and products are added to obtain a value, which is specifically represented as $S_{am}=V_{am,1}*h_{m,1}+V_{am,2}*h_{m,2}+...+V_{am,8}*h_{m,8}$, S_{a1}, S_{a2}, ..., and S_{aF*H} are obtained in a same way, a quantity K of values greater than 0 among S_{a1}, S_{a2}, ..., and S_{aF*H} is counted, and when K is an even number, the at least a part of data in the window $W_{iz}[\ p_{iz}-A_z,\ p_{iz}+B_z\ ]$ meets the preset condition C_z.

17. A non-transitory computer-readable storage medium, wherein the computer-readable storage medium is configured to store executable instructions that, when executed by a processors, prompts the processor to search for a data stream dividing point according to a rule, wherein the rule comprising: for a potential dividing point k, determining M points p_x, a window $W_x[\ p_x-A_x,\ p_x+B_x\ ]$ corresponding to the point p_x, and a preset condition C_x corresponding to the window

$W_x[\ p_x - A_x,\ p_x + B_x]$, wherein x indicates consecutive natural numbers from 1 to M, M≥2, and A_x and B_x are integers, and,:

(a) determining p_{iz} and a window $W_{iz}[\ p_{iz} - A_z,\ p_{iz} + B_z]$ corresponding to p_{iz} for a current potential dividing point k_i according to the rule, wherein i and z are integers, and 1≤z≤M;

(b) determining whether at least a part of data in the window $W_{iz}[\ p_{iz} - A_z,\ p_{iz} + B_z]$ meets a preset condition C_z; and

when the at least a part of data in the window $W_{iz}[\ p_{iz} - A_z,\ p_{iz} + B_z]$ does not meet the preset condition C_z, skipping N minimum units U for searching for a data stream dividing point from the point p_{iz} along a direction of searching for a data stream dividing point, wherein N*U is not greater than $\| B_z \| + \max_x(\| A_x \| + \| (k_i - p_{ix}) \|)$, so as to obtain a new potential dividing point, and performing step (a); and

(c) when at least a part of data in each window $W_{ix}[\ p_{ix} - A_x,\ p_{ix} + B_x]$ of M windows of the current potential dividing point k_i meets the preset condition C_x, selecting the current potential dividing point k_i as a data stream dividing point.

18. The non-transitory computer-readable storage medium according to claim 17, wherein the rule further comprises that at least two points p_e and p_f meet conditions $A_e = A_f$, $B_e = B_f$, and $C_e = C_f$.

19. The non-transitory computer-readable storage medium according to claim 18, wherein the rule further comprises: relative to the potential dividing point k, the at least two points p_e and p_f are in a direction opposite to the direction of searching for a data stream dividing point.

20. The non-transitory computer-readable storage medium according to claim 18, wherein the rule further comprises that a distance between the at least two points p_e and p_f is 1 U.

21. The non-transitory computer-readable storage medium according to claim 17, wherein determining, by the server by using a random function, whether the at least a part of data in the window $W_{iz}[\ p_{iz} - A_z,\ p_{iz} + B_z]$ meets the preset condition C_z.

22. The non-transitory computer-readable storage medium according to claim 21, wherein determining, by the server by using a hash function, whether the at least a part of data in the window $W_{iz}[\ p_{iz} - A_z,\ p_{iz} + B_z]$ meets the preset condition C_z.

23. The non-transitory computer-readable storage medium according to claim 17, wherein

when the at least a part of data in the window W_{iz} [p_{iz} - A_z , p_{iz} + B_z] does not meet the preset condition C_z, the N minimum units U for searching for a data stream dividing point are skipped from the point p_{iz} along the direction of searching for a data stream dividing point, so as to obtain the new potential dividing point, and according to the rule, a left boundary of a window W_{ic} [p_{ic} - A_c , p_{ic} + B_c] corresponding to a point p_{ic} that is determined for the new potential dividing point coincides with a right boundary of the window W_{iz} [p_{iz} - A_z , p_{iz} + B_z] or a left boundary of a window W_{ic} [p_{ic} - A_c , p_{ic} + B_c] corresponding to a point p_{ic} that is determined for the new potential dividing point falls within a range of the window W_{iz} [p_{iz} - A_z , p_{iz} + B_z], wherein the point p_{ic} determined for the new potential dividing point is a point ranking the first in a sequence, which is obtained according to the direction of searching for a data stream dividing point, of M points that are determined for the new potential dividing point according to the rule.

24. The non-transitory computer-readable storage medium according to claim 21, wherein selecting F bytes in the window W_{iz} [p_{iz} - A_z , p_{iz} + B_z], and using the F bytes repeatedly H times to obtain F*H bytes in total, wherein F≥1, each byte is formed by 8 bits, which are denoted as $a_{m,1}$, ..., and $a_{m,8}$, representing the 1st bit to the 8th bit of an mth byte in the F*H bytes, bits corresponding to the F*H bytes can be represented as: $\begin{pmatrix} a_{1,1} & a_{1,2} & ... & a_{1,8} \\ a_{2,1} & a_{2,2} & ... & a_{2,8} \\ \vdots & \vdots & \vdots & \vdots \\ a_{F*H,1} & a_{F*H,2} & ... & a_{F*H,8} \end{pmatrix}$, wherein when $a_{m,n}$=1, $V_{am,n}$ =1, and when $a_{m,n}$=0, $V_{am,n}$ =-1, wherein $a_{m,n}$ represents any one of $a_{m,1}$, ..., and $a_{m,8}$, a matrix V_a is obtained according to a conversion relationship between $a_{m,n}$ and $V_{am,n}$ from the bits corresponding to the F*H bytes, the matrix V_a is represented as: $\begin{pmatrix} V_{a1,1} & V_{a1,2} & \cdots & V_{a1,8} \\ V_{a2,1} & V_{a2,2} & \cdots & V_{a2,8} \\ \vdots & \vdots & \vdots & \vdots \\ V_{aF*H,1} & V_{aF*H,2} & \cdots & V_{aF*H,8} \end{pmatrix}$, F*H*8 random numbers are selected from random numbers following normal distribution to form a matrix R, the matrix R is represented as: $\begin{pmatrix} h_{1,1} & h_{1,2} & ... & h_{1,8} \\ h_{2,1} & h_{2,2} & ... & h_{2,8} \\ \vdots & \vdots & \vdots & \vdots \\ h_{F*H,1} & h_{F*H,2} & ... & h_{F*H,8} \end{pmatrix}$, random numbers in an mth row of the matrix V_a and an mth row of the matrix R are multiplied and products are added to

obtain a value, which is specifically represented as $S_{am} = V_{am,1} * h_{m,1} + V_{am,2} * h_{m,2} + ... + V_{am,8} * h_{m,8}$, S_{a1}, S_{a2}, ..., and S_{aF*H} are obtained in a same way, a quantity K of values greater than 0 among S_{a1}, S_{a2}, ..., and S_{aF*H} is counted, and when K is an even number, the at least a part of data in the window W_{iz} [$p_{iz} - A_z$, $p_{iz} + B_z$] meets the preset condition C_z.