CLAIMS

1. A scheduling scheme configuration method, comprising steps of:

performing state verification on each operational dimension involved in the generation of a scheduling scheme; and

when one or more operational dimensions are abnormal, removing the abnormal operational dimension to generate a new scheduling scheme;

further comprising a step of:

configuring multiple operational modes, operational dimensions included in each operational mode being different, the multiple operational modes comprising a standard operational mode including all operational dimensions and at least one degraded operational mode including some of the operational dimensions;

wherein operational dimensions in each operational mode are sorted in a certain order; an output of the operational dimension sorted at the previous position is used as an input of the current operational dimension, an output of the current operational dimension is used as an input of the operational dimension sorted at the next position, and an initial scheduling scheme is used as an input of the operational dimension sorted at the first position; and, the data format of the input scheduling scheme of each operational dimension is consistent with the data format of the output scheduling scheme.

2. The scheduling scheme configuration method according to claim 1, wherein the step of, when one or more operational dimensions are abnormal, removing the abnormal operational dimension to generate a new scheduling scheme comprises:

removing, from the standard operational mode, the abnormal operational dimension to obtain a new operational mode; or,

selecting, from the multiple operational modes, a degraded operational mode not including the abnormal operational dimension as an operational mode for further use in the calculation of a scheduling scheme.

3. The scheduling scheme configuration method according to claim 2,

wherein the multiple operational modes have different weigh values, and a degraded operational mode with a higher weight value is preferentially selected when a degraded operational mode not including the abnormal operational dimension is selected from the multiple operational modes.

4. The scheduling scheme configuration method according to claim 1, wherein the step of performing state verification on each operational dimension involved in the generation of a scheduling scheme comprises:

verifying whether the scheduling scheme output after the operation of each operational dimension is abnormal; and

verifying the timeliness of basic data of each operational dimension, and determining the corresponding operational dimension is abnormal when the timeliness of the basic data exceeds a corresponding failure threshold.

5. The scheduling scheme configuration method according to claim 4, wherein the step of verifying whether the scheduling scheme output after the operation of each operational dimension is abnormal comprises:

by using the initial scheduling scheme as the input of the operational dimension sorted at the first position and according to the sorting of operational dimensions in the currently used operational mode, sequentially operating the input scheduling scheme to obtain an output scheduling scheme;

comparing the output scheduling scheme with the input scheduling scheme of the same operational dimension; and

when the rate of change of the output scheduling scheme relative to the input scheduling scheme of the same operational dimension exceeds a preset abnormality threshold, determining that the operational dimension is abnormal.

6. The scheduling scheme configuration method according to claim 5, wherein, after it is determined that an operational dimension is abnormal, the input scheduling scheme of the operational dimension is directly transparently transmitted to an operational dimension sorted at a position next to the operational dimension, as an input scheduling scheme of the operational dimension at the next position.

7. The scheduling scheme configuration method according to claim 5, wherein, when the currently used operational mode is a degraded operational mode, the method further comprises steps of:

performing state verification on each operational dimension in the standard operational mode; and

switching back to the standard operational mode when each operational dimension in the standard operational mode is normal.

8. A scheduling scheme configuration apparatus, comprising:

an abnormality detection module configured to perform state verification on each operational dimension involved in the generation of a scheduling scheme; and

a scheme configuration module configured to, when one or more operational dimensions are abnormal, remove the abnormal operational dimension to generate a new scheduling scheme;

the apparatus further comprising:

an operational mode management module configured to configure multiple operational modes, operational dimensions included in each operational mode being different, the multiple operational modes comprising a standard operational mode including all operational dimensions and at least one degraded operational mode including some of the operational dimensions;

wherein operational dimensions in each operational mode are sorted in a certain order; an output of the operational dimension sorted at the previous position is used as an input of the current operational dimension, an output of the current operational dimension is used as an input of the operational dimension sorted at the next position, and an initial scheduling scheme is used as an input of the operational dimension sorted at the first position; the data format of the input scheduling scheme of each operational dimension is consistent with the data format of the output scheduling scheme.

9. The scheduling scheme configuration apparatus according to claim 8,

wherein the scheme configuration module comprises:

a first configuration unit configured to remove, from the standard operational mode, the abnormal operational dimension to obtain a new operational mode; and

a second configuration unit configured to select, from the multiple operational modes, a degraded operational mode not including the abnormal operational dimension as an operational mode for further use in the calculation of a scheduling scheme.

10. The scheduling scheme configuration apparatus according to claim 9, wherein the multiple operational modes have different weight values, and

the second configuration unit is specifically configured to preferentially select a degraded operational mode with a higher weight value when a degraded operational mode not including the abnormal operational dimension is selected from the multiple operational modes.

11. The scheduling scheme configuration apparatus according to claim 8,the abnormality detection module comprises:

a logic verification unit configured to verify whether a scheduling scheme output after the operation of each operational dimension is abnormal; and

a data verification unit configured to verify the timeliness of basic data of each operational dimension, and determine the corresponding operational dimension is abnormal when the timeliness of the basic data exceeds a corresponding failure threshold.

12. The scheduling scheme configuration apparatus according to claim 11, wherein the logic verification unit comprises:

an operation subunit configured to, by using the initial scheduling scheme as the input of the operational dimension sorted at the first position and according to the sorting of operational dimensions in the currently used operational mode, sequentially operate the input scheduling scheme to obtain an output scheduling scheme;

a comparison subunit configured to compare the output scheduling

scheme with the input scheduling scheme of the same operational dimension; and

a logic abnormality detection subunit configured to determine that the operational dimension is abnormal, when the rate of change of the output scheduling scheme relative to the input scheduling scheme of the same operational dimension exceeds a preset abnormality threshold.

13. The scheduling scheme configuration apparatus according to claim 12, wherein,

the operation subunit is further configured to, after it is determined that an operational dimension is abnormal, directly transparently transmit the input scheduling scheme of the operational dimension to an operational dimension sorted at a position next to the operational dimension, as an input scheduling scheme of the operational dimension at the next position.

14. The scheduling scheme configuration apparatus according to claim 13, wherein the abnormality detection module further comprises a standard mode detection unit, and the scheme configuration module further comprises a third configuration unit;

the standard mode detection unit is configured to perform state verification on each operational dimension in the standard operational mode when the currently used operational mode is a degraded operational mode; and

the third configuration unit is configured to switch back to the standard operational mode when each operational dimension in the standard operational mode is normal.

15. A computer readable storage medium storing computer programs that, when executed by a processor, implement the steps of the method according to any one of claims 1 to 7.

16. A computer device, comprising a memory, a processor and computer programs that are stored on the memory and runnable on the processor, the processor implementing the steps of the method according to any one of claims 1 to 7 when executing the programs.