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## Motivation:

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To overcome **native switch** limitations:

- one parameter per **switch**
- the parameter restricted to only **integral** types( int, char, enum ... ).

**eswitch** supports any number of parameters and almost without restriction on their *type*, as long as the *type* is comparable( i.e. has **operator==** ).

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## Why it is important?

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Here is the most viewed questions on the **stackoverflow**:

FEATURE	VIEWS
Multiple conditions in switch case <sup>[7]</sup>	850k
Switch for string <sup>[1]</sup>	693k
Case match in range <sup>[9]</sup>	133k

Over a million views indicate how many people out there are disappointed with limited functionality of **switch**. Building parallels with such operators as **if/while...** it is expected by default that **switch** should have the same possibilities:

- be able to work with **non-integral** types as well
- be able to compose complex conditions like we do in other operators **if/while...**

Unfortunately it is not the case up till now, despite of the fact that there were attempts to extend **switch** functionality before.

There was a proposal in 2013 "**Relaxed switch statement**"<sup>[12]</sup>, and committee agreed about importance of this topic<sup>[13]</sup>. There also was "**StringSwitch**"<sup>[11]</sup> implementation by **LLVM** and "**Case ranges**"<sup>[10]</sup> non-standard extension which is supported by **gcc**, **intel C/C++** and **clang**. Nevertheless, we still don't have common and universal solution. People want to overcome current **switch** limitation either by implementing their own solution, non-standard extension or even trying to standardize it.

Making proposed **eswitch** functionality part of the **Boost-Library** will provide millions of developers useful, universal and agile functionality in order to finally fulfill their needs.

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## Repository:

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[https://github.com/rabdumalikov/eswitch\\_v4](https://github.com/rabdumalikov/eswitch_v4)

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## References:

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### "switch for string" on stackoverflow

1. <https://stackoverflow.com/questions/650162/why-the-switch-statement-cannot-be-applied-on-strings>
2. <https://stackoverflow.com/questions/16388510/evaluate-a-string-with-a-switch-in-c>
3. <https://stackoverflow.com/questions/5452188/switch-case-statement-in-c-with-a-qstring-type>
4. <https://stackoverflow.com/questions/19273092/character-in-switch-statement-c>
5. <https://stackoverflow.com/questions/4165131/c-c-switch-for-non-integers>
6. <https://stackoverflow.com/questions/27536575/switch-case-on-char>

### "Multiple conditions" on stackoverflow

7. <https://stackoverflow.com/questions/8644096/multiple-conditions-in-switch-case>
8. <https://stackoverflow.com/questions/68578/multiple-cases-in-switch-statement>

### "Ranges in case" on stackoverflow

9. <https://stackoverflow.com/questions/9432226/how-do-i-select-a-range-of-values-in-a-switch-statement/24133078#24133078>

### "Case ranges" - non-standard extension

10. <https://gcc.gnu.org/onlinedocs/gcc/Case-Ranges.html>

## **LLVM "StringSwitch"**

11. [http://llvm.org/doxygen/classllvm\\_1\\_1StringSwitch.html](http://llvm.org/doxygen/classllvm_1_1StringSwitch.html)

## **"Relaxed switch statement" proposal**

12. <http://www.open-std.org/jtc1/sc22/wg21/docs/papers/2013/n3627.html>

## **"N3627 Relaxed switch statement" c++ committee status**

13. <https://cplusplus.github.io/EWG/ewg-active.html>