

einj.txt  
APEI Error INJection  
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EINJ provides a hardware error injection mechanism  
It is very useful for debugging and testing of other APEI and RAS features.

To use EINJ, make sure the following are enabled in your kernel configuration:

CONFIG\_DEBUG\_FS  
CONFIG\_ACPI\_APEI  
CONFIG\_ACPI\_APEI\_EINJ

The user interface of EINJ is debug file system, under the directory `apei/einj`. The following files are provided.

- `available_error_type`

Reading this file returns the error injection capability of the platform, that is, which error types are supported. The error type definition is as follow, the left field is the error type value, the right field is error description.

|            |                                     |
|------------|-------------------------------------|
| 0x00000001 | Processor Correctable               |
| 0x00000002 | Processor Uncorrectable non-fatal   |
| 0x00000004 | Processor Uncorrectable fatal       |
| 0x00000008 | Memory Correctable                  |
| 0x00000010 | Memory Uncorrectable non-fatal      |
| 0x00000020 | Memory Uncorrectable fatal          |
| 0x00000040 | PCI Express Correctable             |
| 0x00000080 | PCI Express Uncorrectable fatal     |
| 0x00000100 | PCI Express Uncorrectable non-fatal |
| 0x00000200 | Platform Correctable                |
| 0x00000400 | Platform Uncorrectable non-fatal    |
| 0x00000800 | Platform Uncorrectable fatal        |

The format of file contents are as above, except there are only the available error type lines.

- `error_type`

This file is used to set the error type value. The error type value is defined in "available\_error\_type" description.

- `error_inject`

Write any integer to this file to trigger the error injection. Before this, please specify all necessary error parameters.

- `param1`

This file is used to set the first error parameter value. Effect of parameter depends on error\_type specified. For memory error, this is physical memory address.

- `param2`

This file is used to set the second error parameter value. Effect of parameter depends on error\_type specified. For memory error, this is physical memory address mask.

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For more information about EINJ, please refer to ACPI specification version 4.0, section 17.5.