Smart Seat

Test Cases

**Group members：**Hanyu Zhang, Tinghui Zhang, Huiying Han, Yikang Tao

# 1 Results

## Test tools and performance

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| **Tool name** | **Tool use** | **Tool version** |
| Jmeter | Used to test monitoring platform performance | V2.13 |
| FireBug | Used to troubleshoot web performance | V2.0.8 |

This monitoring platform test uses the open source performance testing tool Jmeter to simulate the user to send a request to access the platform, control the number of virtual users through the Jmeter thread group control, and load test the system under test. If you find that some pages have a slow load time for a single visit during the test web application, use the FireBug tool to troubleshoot.

## Test procedure and function definitions

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| **Program name** | **Program main implementation function** | **Instructions for use** |
| Feinno\_onenet\_emulator | Analog DTU device like device cloud upload monitoring data | Send 46,000 messages to the terminal program every 5 minutes after startup |

## Platform overall load test

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| --- | --- | --- | --- | --- | --- |
| **Monitoring platform overall load test** | | | | | |
| Testing purposes | The maximum access peak that the test platform can withstand | | | | |
| Number of concurrent users | Average response time | Throughput | Error rate | System resource occupation | Test Results |
| 100 | 960ms | 50 | 0 | Cpu:10% RAM:30% | Pass |
| 200 | 2157ms | 62 | 0 | Cpu:35% RAM:30% | Pass |
| 500 | 6828ms | 59 | 0 | Cpu:20% RAM:35% | Pass |
| 600 | 8569ms | 59 | 0 | Cpu:20% RAM:35% | Pass |
| 700 | 8662ms | 52 | 0.37% | Cpu:20% RAM:35% | Failure |
| 800 | 9715ms | 68 | 3.7% | Cpu:10% RAM:40% | Failure |
| Test conclusion | (1) In a stand-alone environment, the platform can support up to 600 concurrent users.  (2) The maximum throughput of the platform is 62 requests per second. | | | | |

## 1.4 Platform overall stability test

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| **Monitoring platform overall stability test** | | | | | |
| Testing purposes | Test platform can run stably with maximum access peak | | | | |
| Number of concurrent users | Average response time | Throughput | Error rate | System resource occupation | Test Results |
| 600-1h | 7716ms | 56 | 0 | Cpu:10% RAM:30% | Pass |
| 600-2h | 14302ms | 35 | 0 | Cpu:10% RAM:30% | Pass |
| Test conclusion | The platform can continue to run for at least 2 hours with continuous access by 600 concurrent users. | | | | |

## 1.5 Data uploading test

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| **Data uploading test** | | | | | |
| Testing purposes | The test program handles the speed at which data is sent. | | | | |
| Upload/send | Processing total message | Total time | Error rate | System resource occupation | Test Results |
| Upload | 29459 | 5s | 0 | Cpu:10% RAM:30% | Pass |
| 46363 | 8s | 0 | Cpu:10% RAM:30% | Pass |
| 171626 | 58s | 0 | Cpu:10% RAM:30% | Pass |
| Send | 35101 | 80s | 0 | Cpu:10% RAM:30% | Pass |
| 310000 | 9min | 0 | Cpu:10% RAM:30% | Pass |
| Test conclusion | The ability of the Terminal program to receive upload data is: 5892 pieces/s  The ability of the Terminal program to process the data is: 439/s | | | | |

# 2. Partial Result Screenshot







