

WebService 性能测试简单分析案例

一大傻

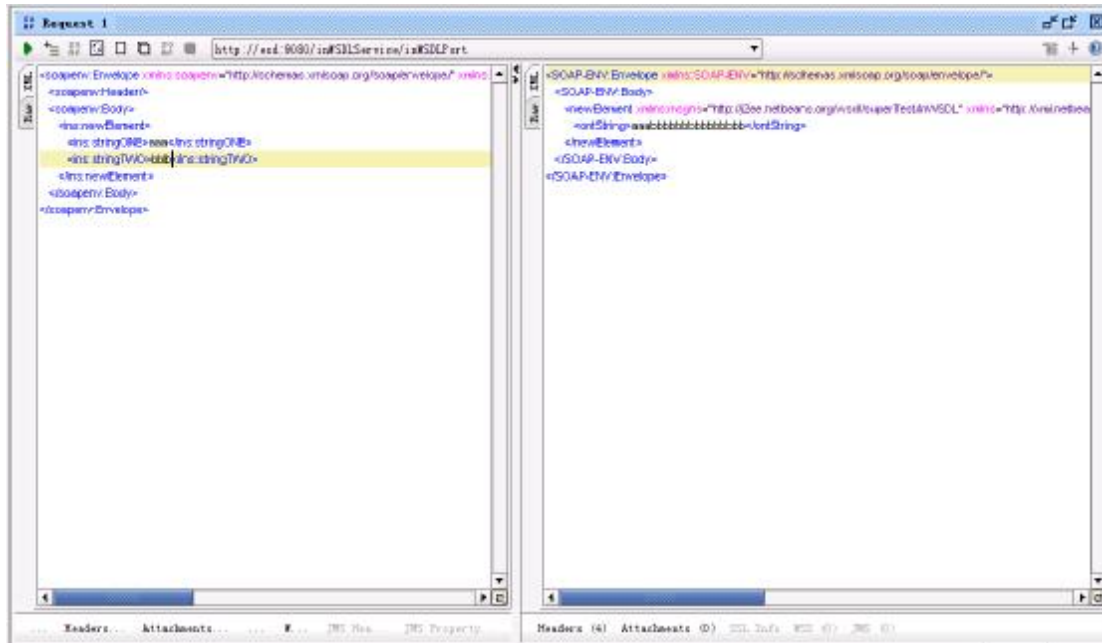
文档历史

日期	版本号	作者	修订历史
2010-12-7	1.0	大傻	编写



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1 测试项说明



I 输入说明

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ins="http://xml.netbeans.org/schema/inString">
  <soapenv:Header/>
  <soapenv:Body>
    <ins:newElement>
      <ins:stringONE>aaa</ins:stringONE>
      <ins:stringTWO>bbb</ins:stringTWO>
    </ins:newElement>
  </soapenv:Body>
</soapenv:Envelope>
```

I 输出说明

```
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Body>
    <newElement xmlns:msgns="http://j2ee.netbeans.org/wsdl/superTest/inWSDL"
xmlns="http://xml.netbeans.org/schema/outString">
      <ontString>aaabbbbbbbbbbbbbbb</ontString>
    </newElement>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

2 测试过程说明

参见《LoadRunner8.0 下 Webservice 测试总结.doc》

3 测试结果 (默认)

3.1 100*10

3.1.1 事物执行情况

Transaction Summary

Transactions: Total Passed: 2,200 Total Failed: 0 Total Stopped: 0 [Average Response Time](#)

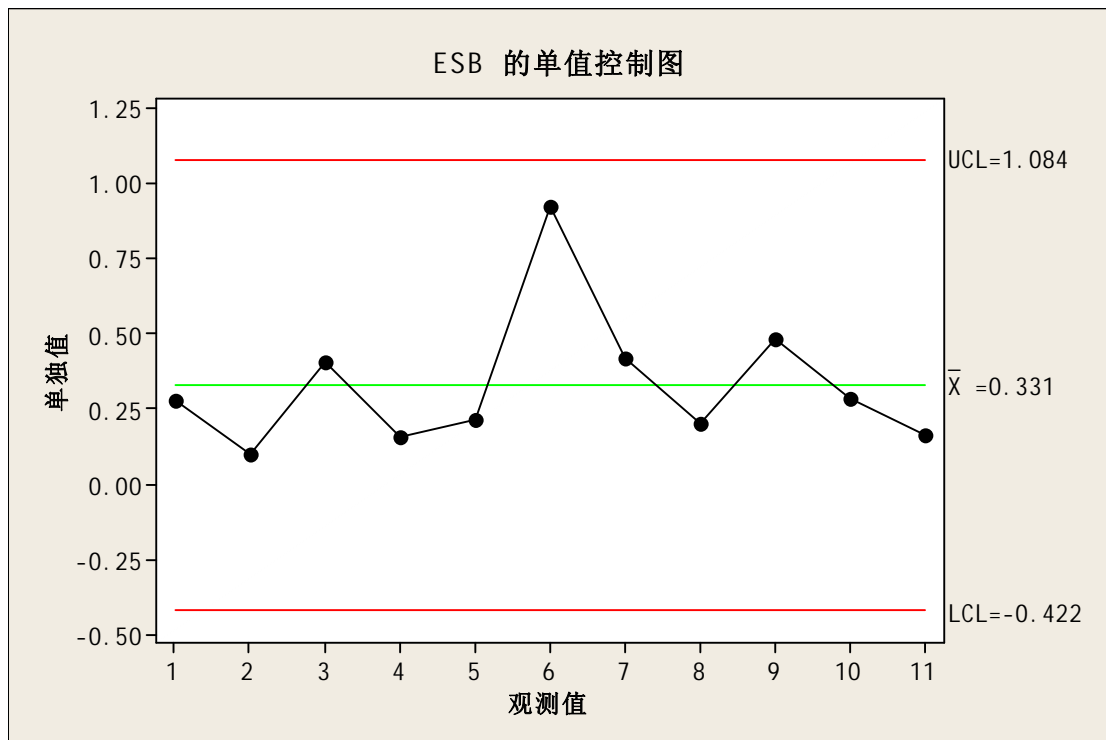
Transaction Name	SLA Status	Minimum	Average	Maximum	Std. Deviation	90 Percent	Pass	Fail	Stop
Action Transaction	🕒	0.033	0.42	1.643	0.288	0.818	1,000	0	0
ESB	🕒	0.016	0.303	1.332	0.27	0.681	1,000	0	0
vuser_end Transaction	🕒	0	0	0	0	0	100	0	0
vuser_init Transaction	🕒	0	0.002	0.059	0.007	0.01	100	0	0

Service Level Agreement Legend: 🟢 Pass 🔴 Fail 🕒 No Data

HTTP Responses Summary

HTTP Responses	Total	Per second
HTTP_200	1,000	71.429

3.1.2 稳定性控制图



3.1.3 服务器资源

无

3.1.4 错误记录

无

3.2 100*30

3.2.1 事物执行情况

Transaction Summary

Transactions: Total Passed: 6,200 Total Failed: 0 Total Stopped: 0 [Average Response Time](#)

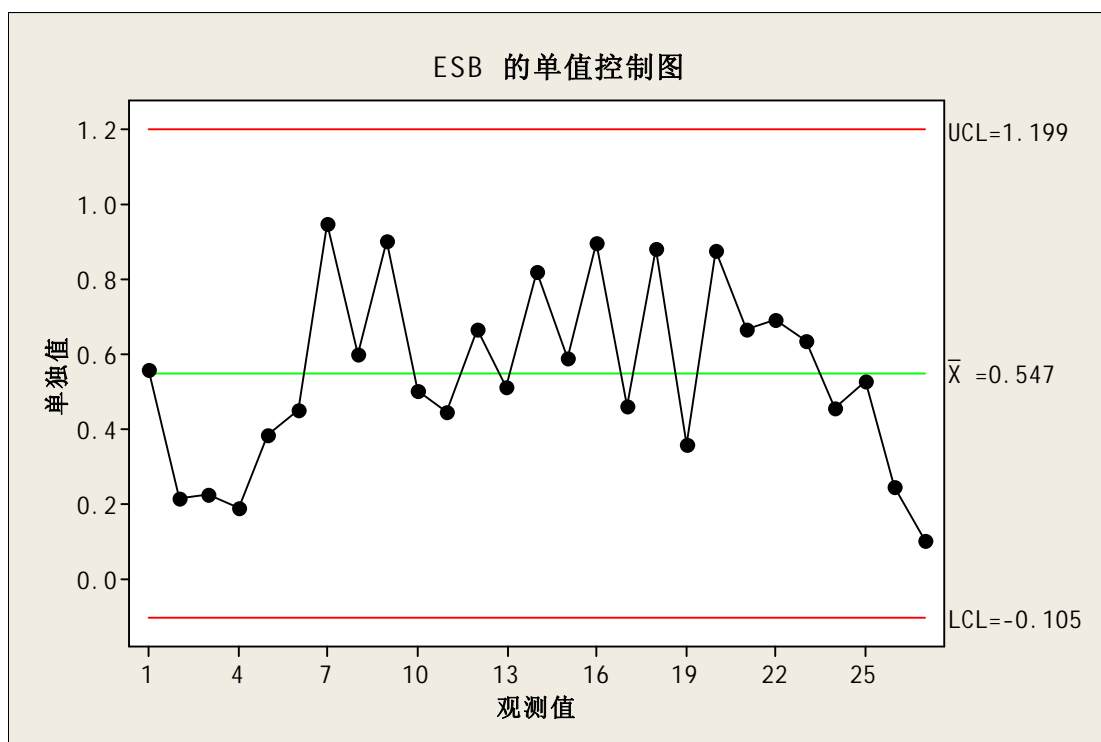
Transaction Name	SLA Status	Minimum	Average	Maximum	Std. Deviation	90 Percent	Pass	Fail	Stop
Action Transaction		0.021	0.674	1.817	0.385	1.24	3,000	0	0
ESB		0.016	0.525	1.44	0.333	1.038	3,000	0	0
vuser_end Transaction		0	0	0	0	0	100	0	0
vuser_init Transaction		0	0.003	0.033	0.006	0.009	100	0	0

Service Level Agreement Legend: Pass Fail No Data

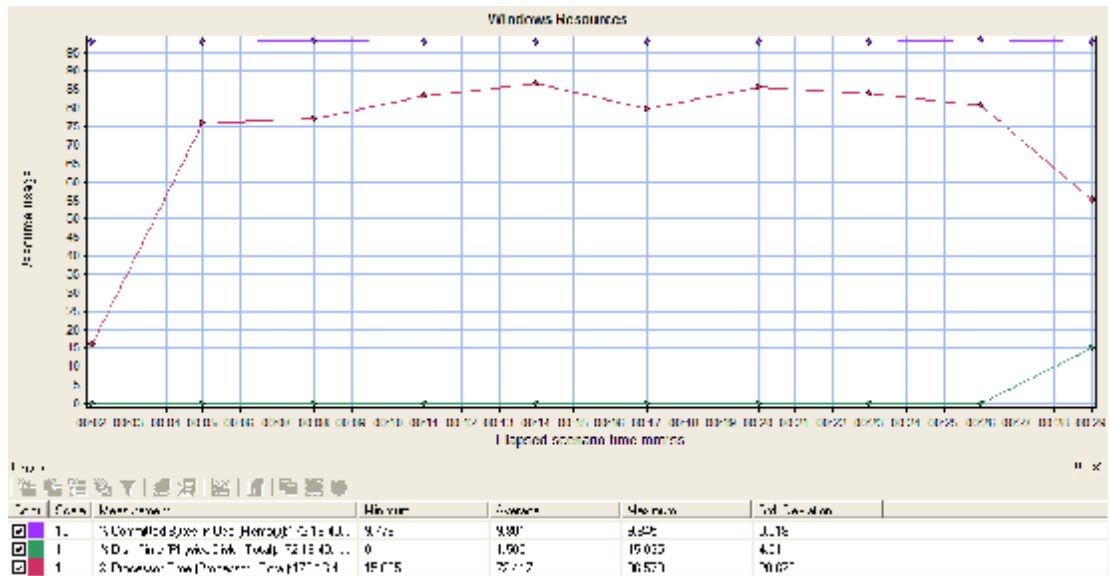
HTTP Responses Summary

HTTP Responses	Total	Per second
HTTP_200	3,000	93.75

3.2.2 稳定性控制图



3.2.3 服务器资源



3.2.4 错误记录

无

3.3 100*50

3.3.1 事物执行情况

Transaction Summary

Transactions: Total Passed: 10,200 Total Failed: 0 Total Stopped: 0 Average Response Time

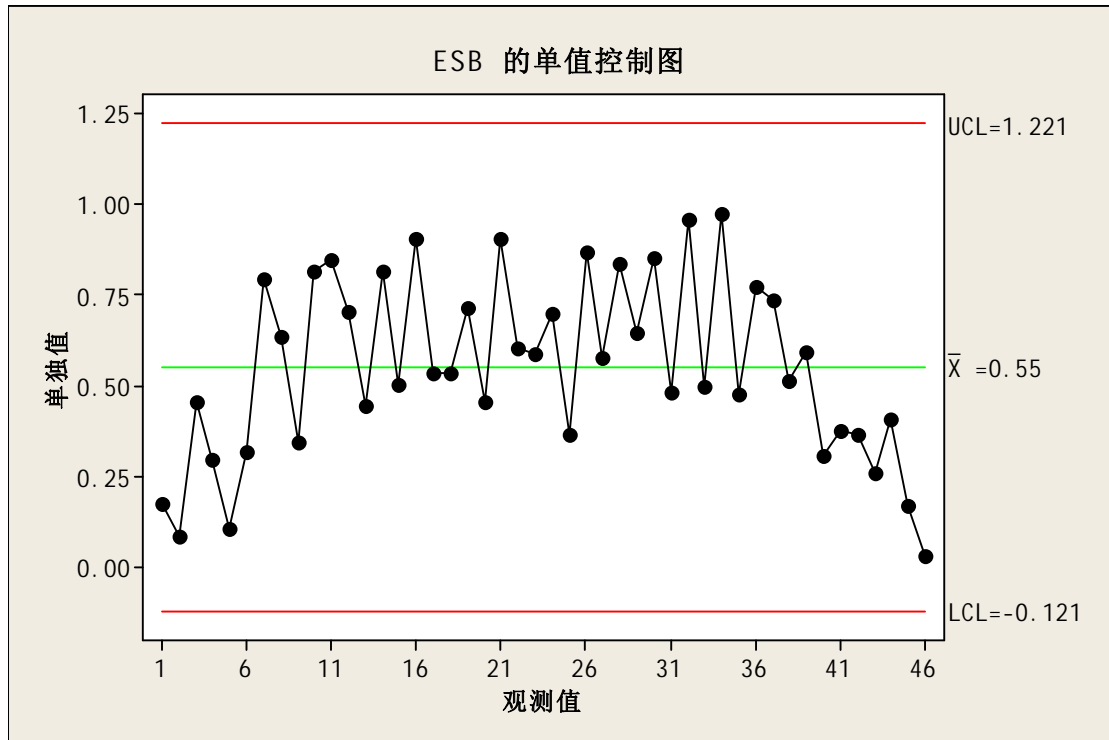
Transaction Name	SLA Status	Minimum	Average	Maximum	Std. Deviation	90 Percent	Pass	Fail	Stop
Action_Transaction	🟢	0.024	0.707	1.875	0.379	1.25	5,000	0	0
ESB	🟢	0.016	0.573	1.633	0.337	1.069	5,000	0	0
vuser_end_Transaction	🟢	0	0	0	0	0	100	0	0
vuser_init_Transaction	🟢	0	0.008	0.04	0.013	0.04	100	0	0

Service Level Agreement Legend: 🟢 Pass 🚫 Fail 🟡 No Data

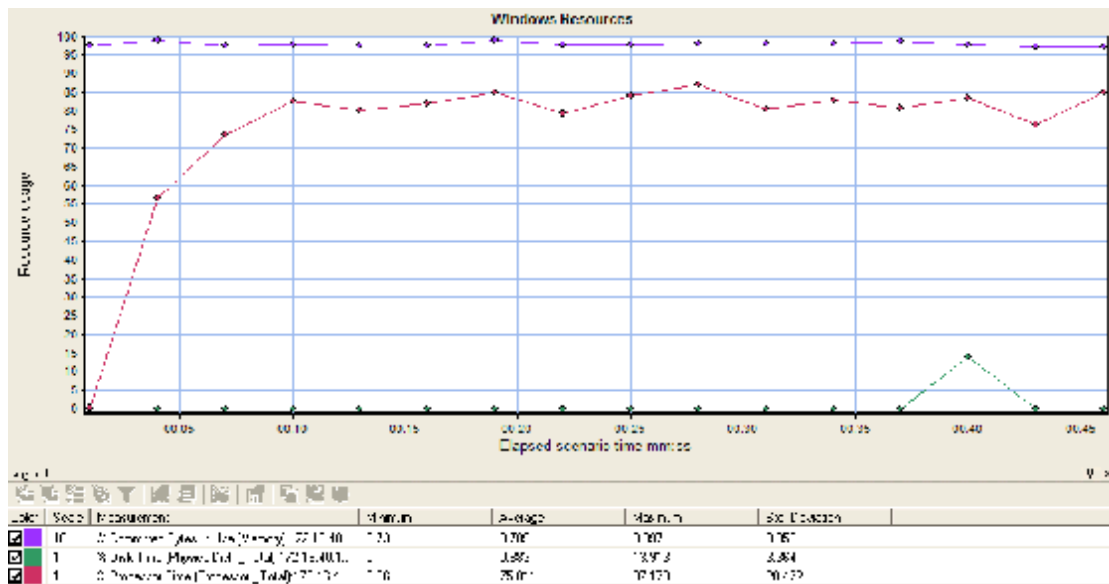
HTTP Responses Summary

HTTP Responses	Total	Per second
HTTP_200	5,000	100

3.3.2 稳定性控制图



3.3.3 服务器资源



3.3.4 错误记录

无

3.4 100*60

3.4.1 事物执行情况

Transaction Summary

Transactions: Total Passed: 10,778 Total Failed: 1,422 Total Stopped: 0 [Average Response Time](#)

Transaction Name	SLA Status	Minimum	Average	Maximum	Std. Deviation	90 Percent	Pass	Fail	Stop
Action_Transaction		0.032	0.762	2.154	0.39	1.301	5,289	711	0
ESB		0.016	0.573	1.476	0.341	1.048	5,289	711	0
vuser_end_Transaction		0	0	0	0	0	100	0	0
vuser_init_Transaction		0	0.002	0.023	0.004	0.013	100	0	0

Service Level Agreement Legend: Pass Fail No Data

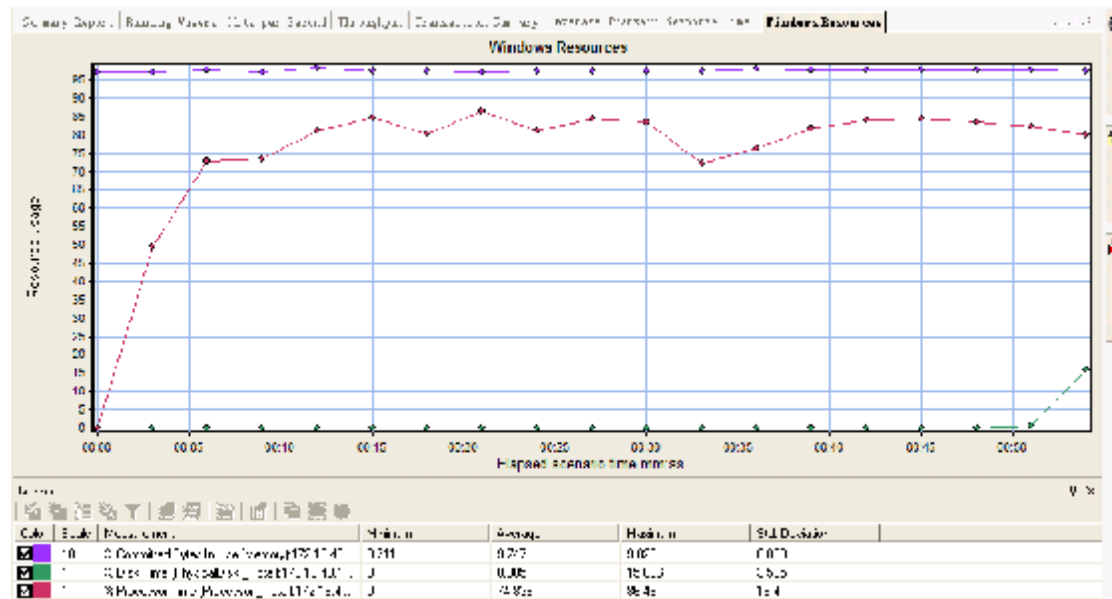
HTTP Responses Summary

HTTP Responses	Total	Per second
HTTP_200	5,289	92.789
HTTP_500	711	12.474

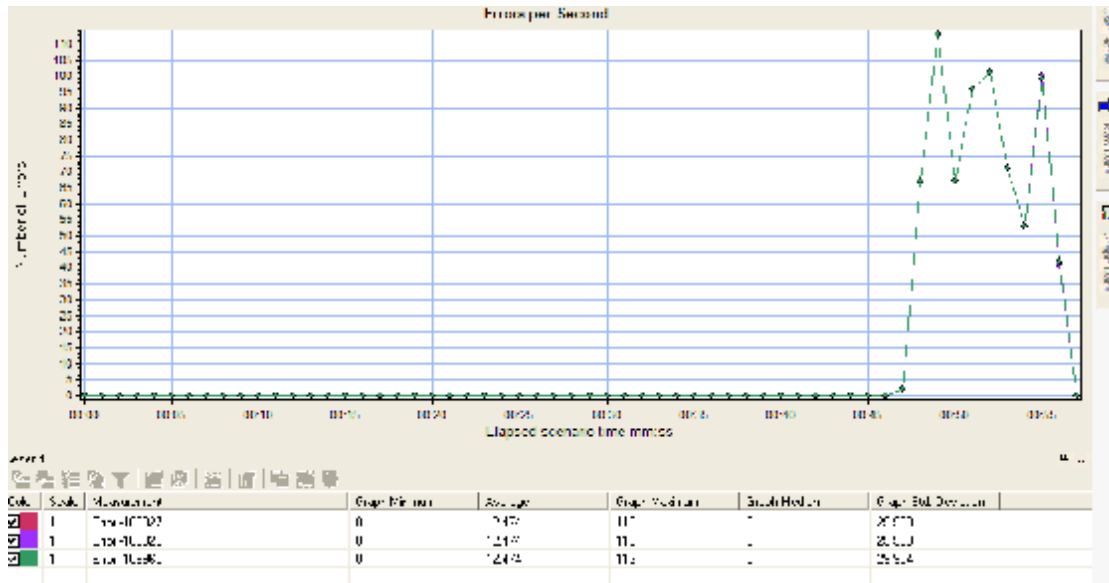
3.4.2 稳定性控制图

无

3.4.3 服务器资源



3.4.4 错误记录



1. Action.c(8): Error: Web service call "inWS...") execution failed
2. Action.c(8): Error: <CENTER>Expected SOAP result, received SOAP fault</CENTER>
3. Action.c(8): Error: <CENTER>Failed to retrieve output arguments/checkpoints - SOAP fault occurred</CENTER>

4 测试结果 (优化)

优化了 GlassFish (JDK) 中 JVM 设置

4.1 50*70

4.1.1 事物执行情况

Transaction Summary

Transactions: Total Passed: 7,100 Total Failed: 0 Total Stopped: 0 Average Response Time

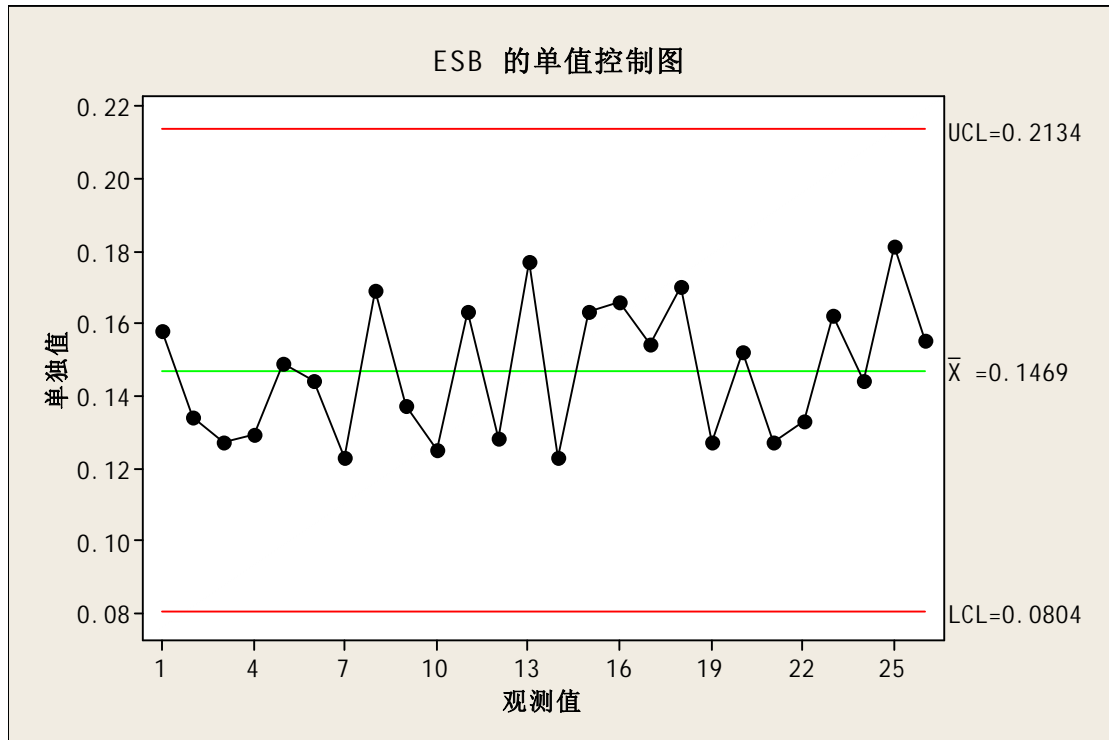
Transaction Name	SLA Status	Minimum	Average	Maximum	Std. Deviation	90 Percent	Pass	Fail	Stop
Action Transaction	🟢	0.024	0.285	1.018	0.123	0.424	3,500	0	0
ESB	🟢	0.014	0.148	0.316	0.063	0.223	3,500	0	0
user_end Transaction	🟢	0	0	0	0	0	50	0	0
user_in Transaction	🟢	0	0.003	0.018	0.004	0.011	50	0	0

Service Level Agreement Legend: 🟢 Pass 🚫 Fail 🟡 No Data

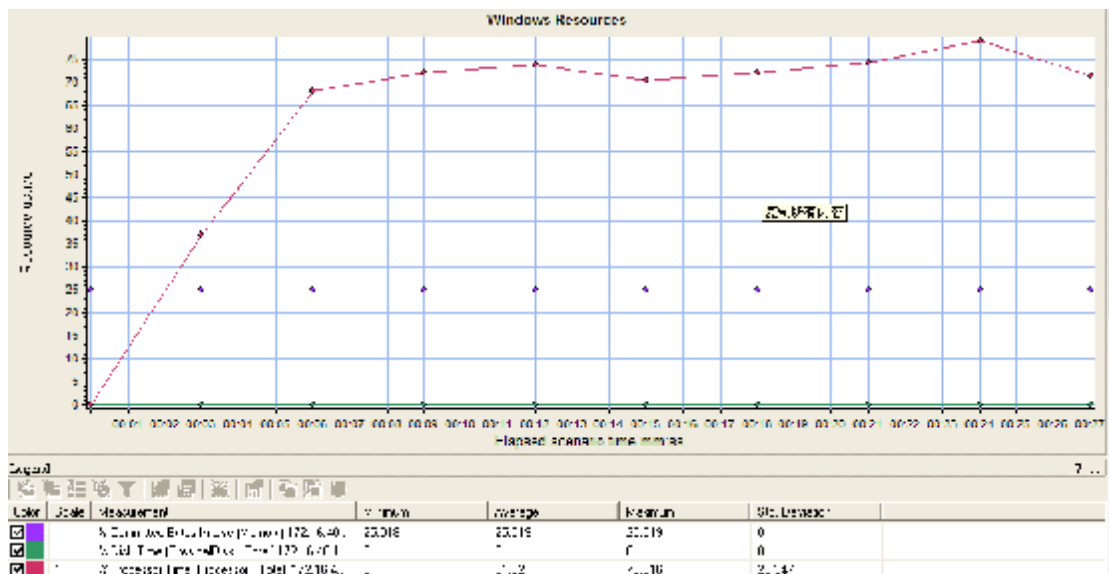
HTTP Responses Summary

HTTP Responses	Total	Per second
HTTP 200	3,500	112.903

4.1.2 稳定性控制图



4.1.3 服务器资源



4.1.4 错误记录

无

4.2 50*100

4.2.1 事物执行情况

Transaction Summary

Transactions: Total Passed: 10,100 Total Failed: 0 Total Stopped: 0

[Average Response Time](#)

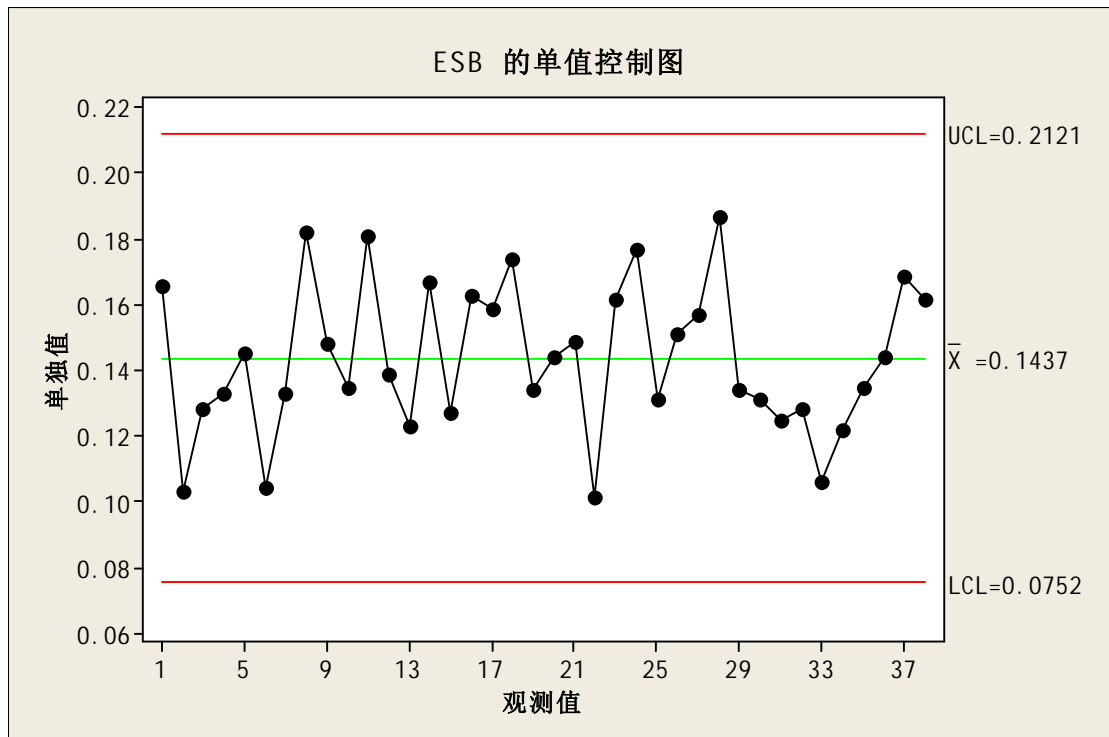
Transaction Name	SLA Status	Minimum	Average	Maximum	Std. Deviation	90 Percent	Pass	Fail	Stop
Action Transaction		0.027	0.287	1.181	0.123	0.434	5,000	0	0
ESB		0.014	0.143	0.308	0.063	0.223	5,000	0	0
vuser_end Transaction		0	0	0	0	0	50	0	0
vuser_init Transaction		0	0.001	0.004	0.001	0.003	50	0	0

Service Level Agreement Legend: Pass Fail No Data

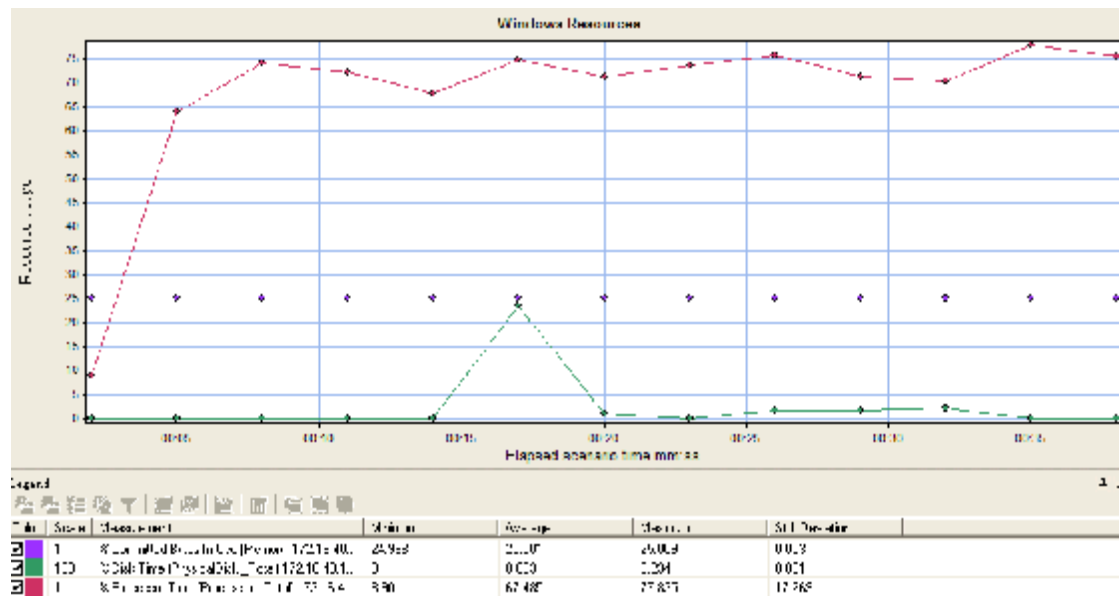
HTTP Responses Summary

HTTP Responses	Total	Per second
HTTP 200	5,000	119.048

4.2.2 稳定性控制图



4.2.3 服务器资源



4.2.4 错误记录

无

4.3 50*120

4.3.1 事物执行情况

Transaction Summary

Transactions: Total Passed: 12,100 Total Failed: 0 Total Stopped: 0 [Average Response Time](#)

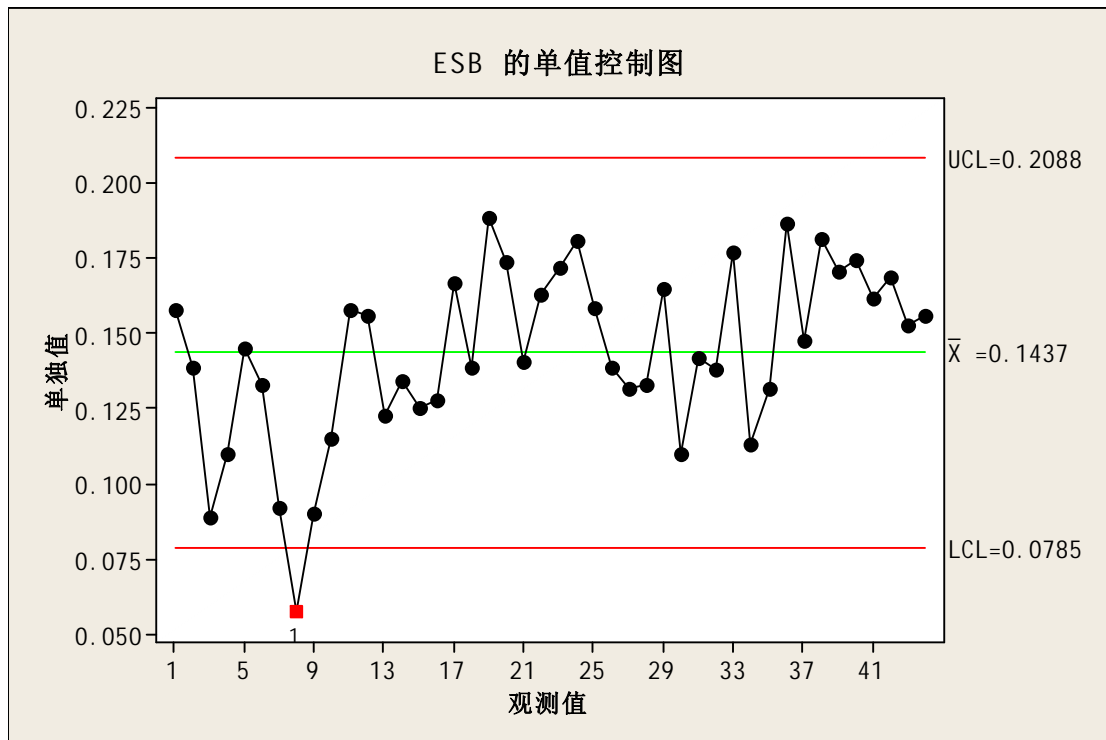
Transaction Name	SLA Status	Minimum	Average	Maximum	Std. Deviation	90 Percent	Pass	Fail	Stop
Action Transaction		0.029	0.283	1.102	0.114	0.414	6,000	0	0
ESB		0.014	0.144	0.322	0.065	0.223	6,000	0	0
vuser_end Transaction		0	0	0	0	0	50	0	0
vuser_init Transaction		0	0.001	0.007	0.001	0.007	50	0	0

Service Level Agreement Legend: Pass Fail No Data

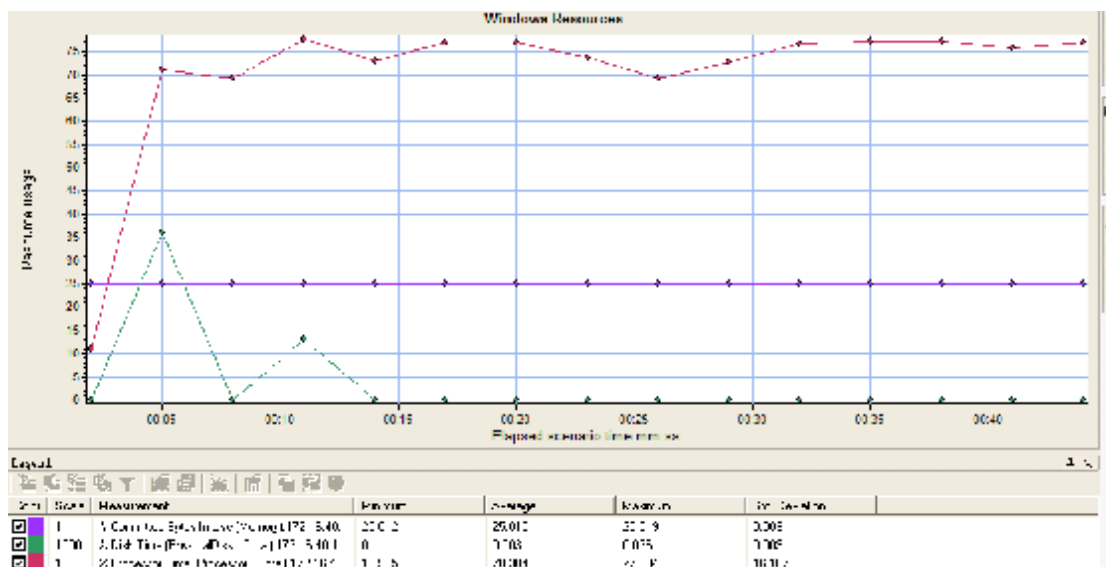
HTTP Responses Summary

HTTP Responses	Total	Per second
HTTP_200	6,000	122.449

4.3.2 稳定性控制图



4.3.3 服务器资源



4.3.4 错误记录

4.4 50*150

4.4.1 事物执行情况

Transaction Summary

Transactions: Total Passed: 15,100 Total Failed: 0 Total Stopped: 0 Average Response Time

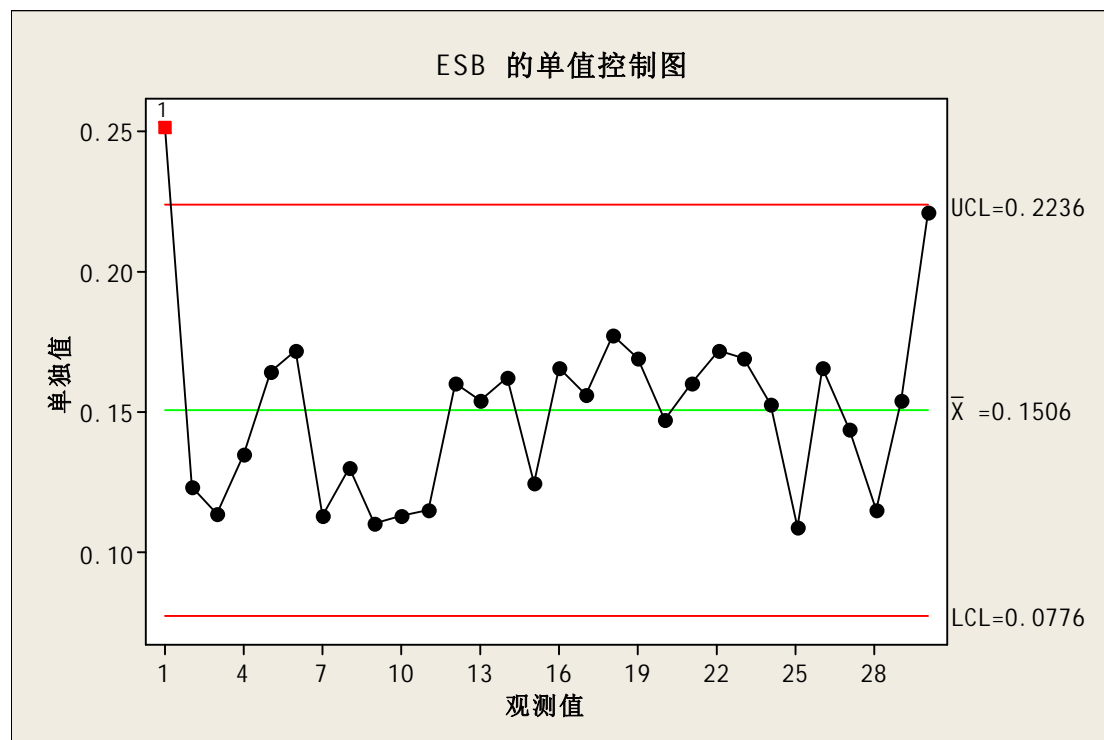
Transaction Name	SLA Status	Minimum	Average	Maximum	Std. Deviation	90 Percent	Pass	Fail	Stop
Action_Transaction	📊	0.024	0.287	1.056	0.119	0.444	7,500	0	0
ESB	📊	0.014	0.146	0.334	0.066	0.223	7,500	0	0
vuser_end_Transaction	📊	0	0	0	0	0	50	0	0
vuser_init_Transaction	📊	0	0.001	0.003	0.001	0.003	50	0	0

Service Level Agreement Legend: 🟢 Pass 🚫 Fail 📊 No Data

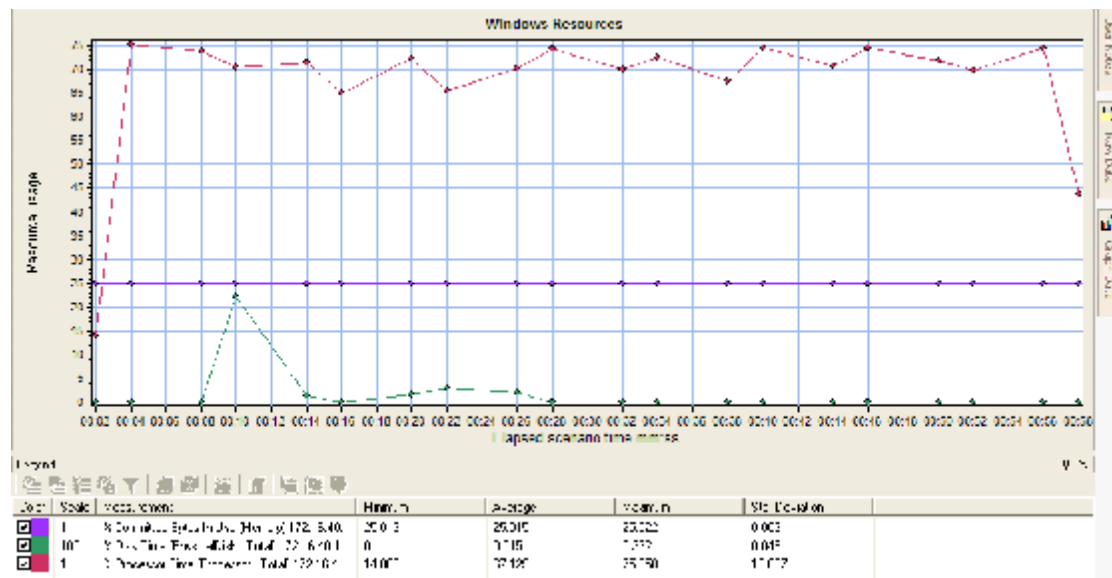
HTTP Responses Summary

HTTP Responses	Total	Per second
HTTP_200	7,500	122.951

4.4.2 稳定性控制图



4.4.3 服务器资源



4.4.4 错误记录

4.5 100*60

4.5.1 事物执行情况

Transaction Summary

Transactions: Total Passed: 12,200 Total Failed: 0 Total Stopped: 0 Average Response Time

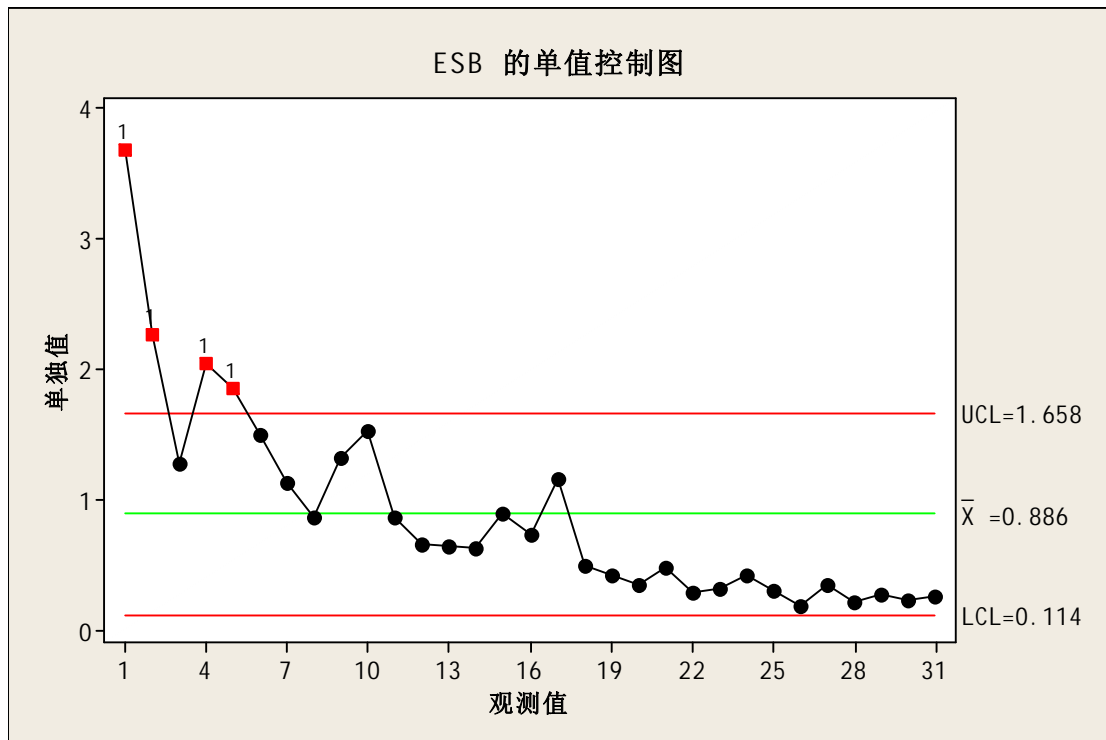
Transaction Name	SLA Status	Minimum	Average	Maximum	Std. Deviation	90 Percent	Pass	Fail	Stop
Action_Transaction	🟢	0.037	0.975	6.33	0.793	1.84	6,000	0	0
ESB	🟢	0.015	0.648	3.971	0.636	1.413	6,000	0	0
user_end_Transaction	🟢	0	0	0.001	0	0.001	100	0	0
user_init_Transaction	🟢	0	0.01	0.042	0.014	0.032	100	0	0

Service Level Agreement Legend: 🟢 Pass 🟡 Fail 🟣 No Data

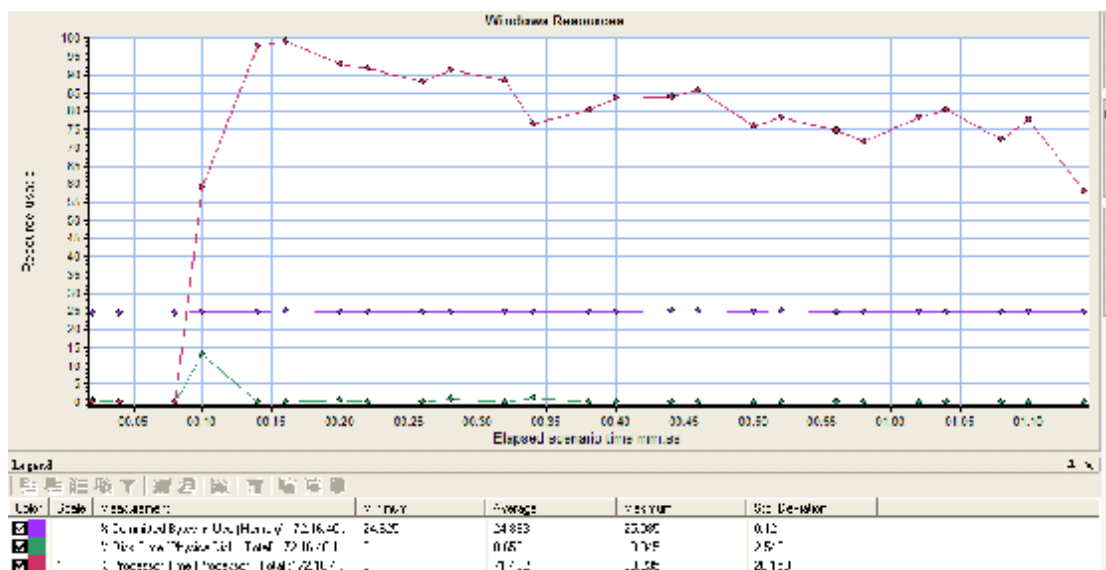
HTTP Responses Summary

HTTP Responses	Total	Per second
HTTP_200	6,000	77.922

4.5.2 稳定性控制图



4.5.3 服务器资源



4.5.4 错误记录

无

4.6 100*70

4.6.1 事物执行情况

Transaction Summary

Transactions: Total Passed: 13,420 Total Failed: 780 Total Stopped: 0 [Average Response Time](#)

Transaction Name	SLA Status	Minimum	Average	Maximum	Std. Deviation	90 Percent	Pass	Fail	Stop
Action Transaction	🟢	0.021	0.645	3.602	0.329	0.957	6,610	390	0
ESB	🟢	0.014	0.324	0.981	0.152	0.494	6,610	390	0
vuser_end Transaction	🟢	0	0	0	0	0	100	0	0
vuser_init Transaction	🟢	0	0.001	0.016	0.002	0.003	100	0	0

Service Level Agreement Legend: 🟢 Pass 🔴 Fail 🟡 No Data

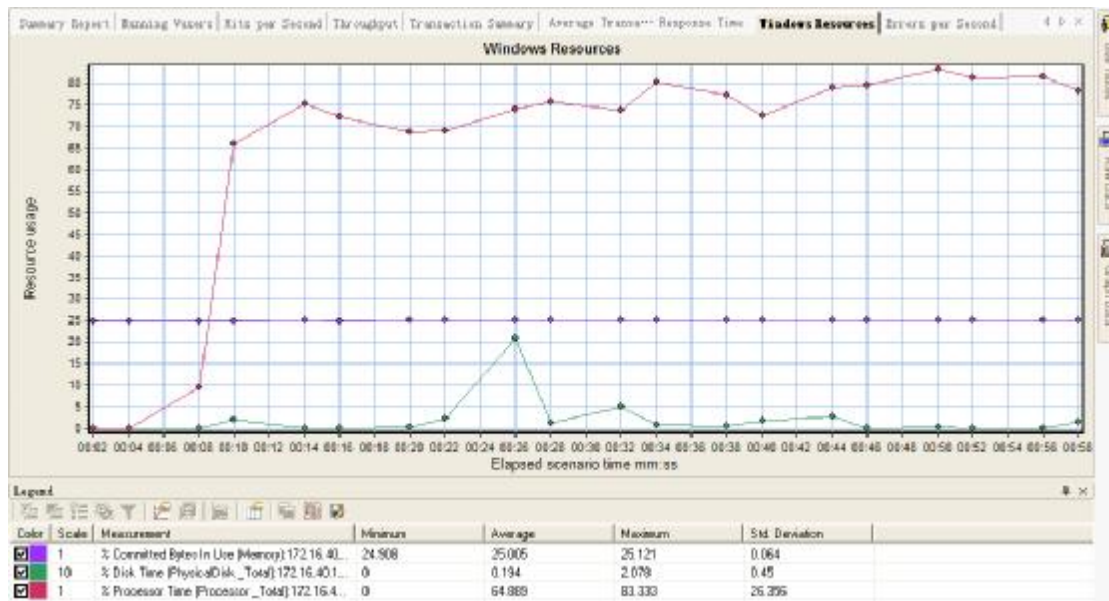
HTTP Responses Summary

HTTP Responses	Total	Per second
HTTP 200	6,610	104.921
HTTP 500	390	6.19

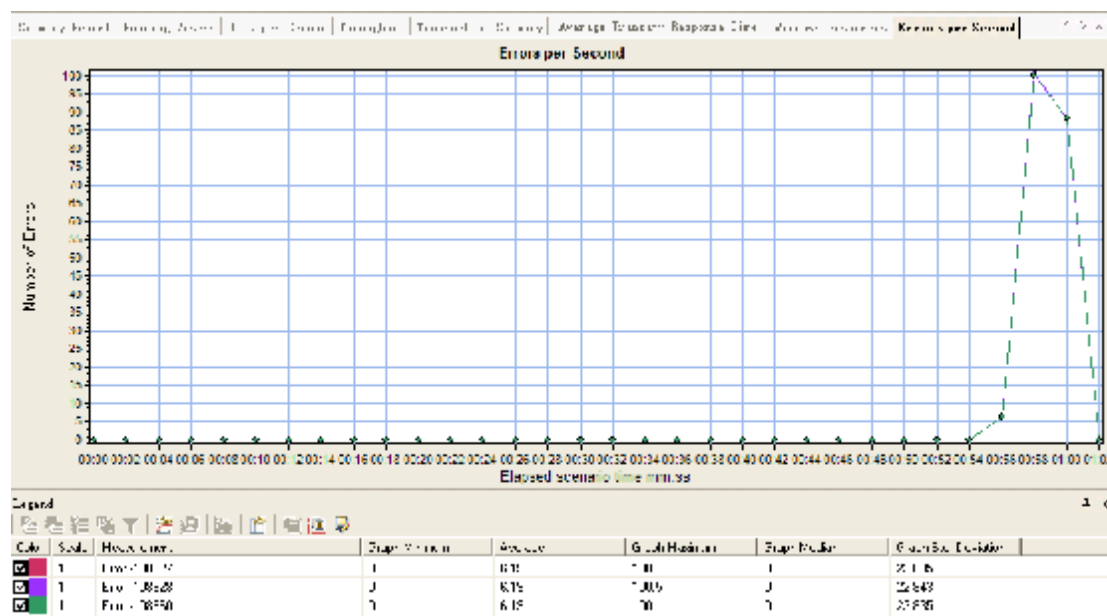
4.6.2 稳定性控制图

无

4.6.3 服务器资源



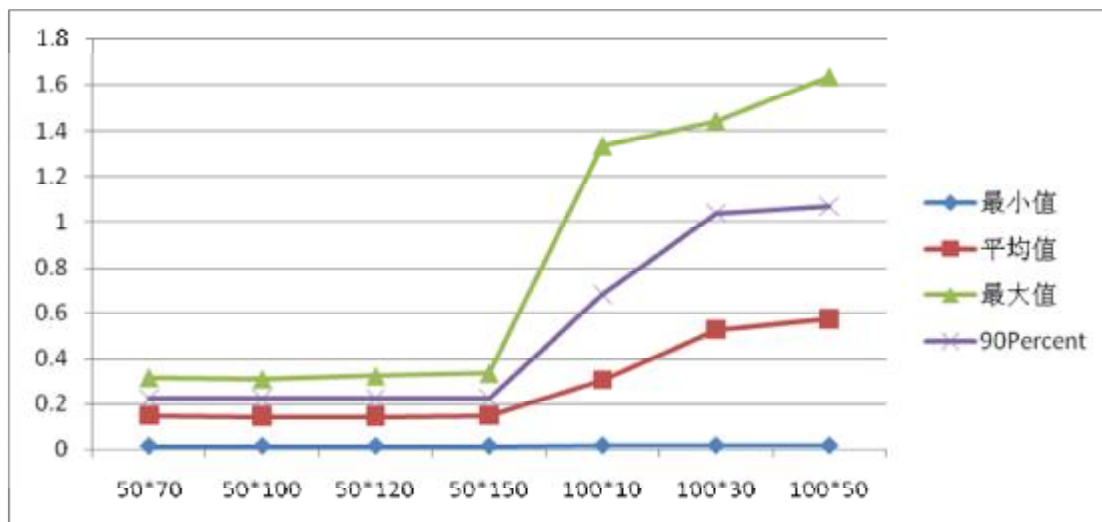
4.6.4 错误记录



1. Action.c(8): Error: Web service call "inWSDLOperation_101" execution failed
2. Action.c(8): Error: <CENTER>Expected SOAP result, received SOAP fault</CENTER>
3. Action.c(8): Error: <CENTER>Failed to retrieve output arguments/checkpoints - SOAP fault occurred</CENTER>

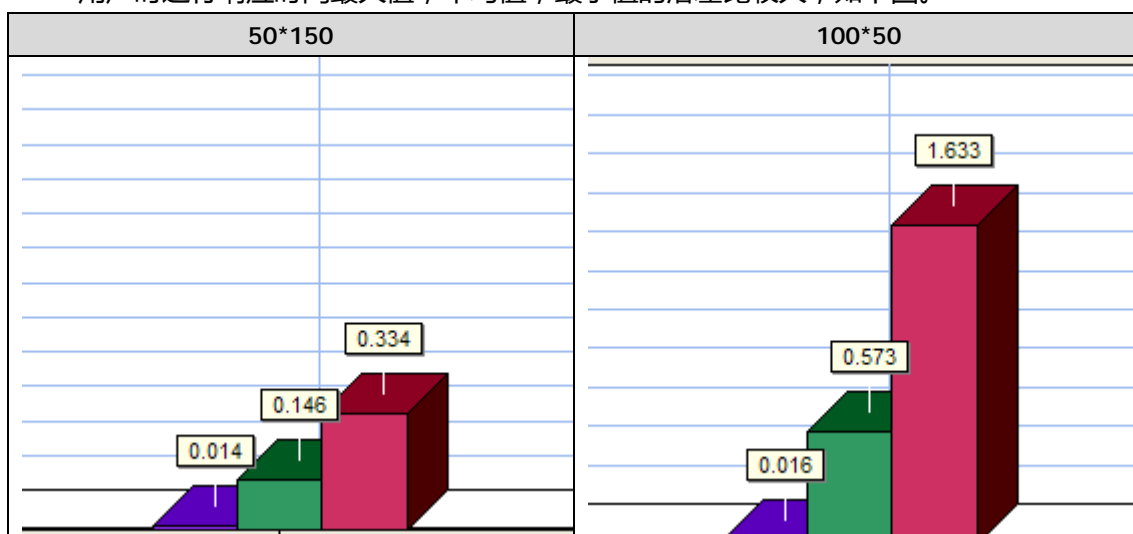
5 测试分析

场景名称	最小值	平均值	最大值	90Percent
50*70	0.014	0.148	0.316	0.223
50*100	0.014	0.143	0.308	0.223
50*120	0.014	0.144	0.322	0.223
50*150	0.014	0.146	0.334	0.223
100*10	0.016	0.303	1.332	0.681
100*30	0.016	0.525	1.440	1.038
100*50	0.016	0.573	1.633	1.069



6 测试结论

1. 当前环境下最多去 100*50 或 50*180，优化后虽然支持 100*60，但是从 4.5.2 控制图中可以看出运行已经很不稳定。
2. 从 5 测试分析中可以看出 50 用户并发时，程序执行稳定，响应时间比较快，而 100 用户时运行响应时间最大值，平均值，最小值的落差比较大，如下图。



3. 系统瓶颈应该存在应用服务器的配置上，建议更新服务器硬件配置。

7 测试碰到问题

Internal error, please call customer support. Details: class java.lang.Object :

Internal error, please call customer support. Details: Error while retrieving body -- can not parse output parameters

解决方法：脚本所在目录不能中文或目录层次不能太深

Abnormal termination, caused by mdrv process termination.

解决方法：LR 安装目录 dat\protocols 下的 CsNet.lrp 文件中[Vugen]下面新加一条 MaxThreadPerProcess=要设置的 vuser 数量