

[SCA] 网络诊断库2.0介绍

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1. 背景

为了进一步满足业务定制化需求，将原来的诊断SDK做了优化。设计文档：[\[SCA\] 网络质量模块优化设计](#)

2. 功能

新的SDK下沉了基础功能，到一个核心库core，其余涉及UI的默认诊断功能放在ui库。

库	功能点	功能描述
UI	网络诊断操作页	操作页可以选择诊断的具体项目，填写需要诊断的Host，与原来一致
	默认诊断流程	开启默认的诊断流程
Core	诊断task	诊断task细分所有的诊断项
	上报信息	上报诊断信息至QMS，与原来一致

设计文档：[\[SCA\] 网络质量模块优化设计](#)

3. 使用说明

3.1 依赖引入

```
// uicore
implementation "com.shopee.sc:net-diagnosis-ui:lastestVersion"
// core
implementation "com.shopee.sc:net-diagnosis-core:lastestVersion"
```

版本从2.x.x开始。

3.2 初始化

UI库跟1.x的用法一致，可以参考原来的说明文档：[\[SCA\] 网络诊断库介绍](#)

其中DiagnosisConfigInfo改名为DiagnosisConfig。

Core库有类似的一套初始化，对应的入口类是DiagnosisCore，对应的配置信息类是CoreConfigInfo。

3.3 网络诊断操作页

通过调用NetDiagnosis的goToSelect()可以进入操作页面。

NetDiagnosis的start方法可以开启全选项诊断，start方法区分手动触发和后台自动触发，后台自动触发需要记录触发超时的url请求，会触发前端的预警功能。

3.4 后台触发控制

通常情况下，若项目使用OkHttp，则可以通过NetDiagnosis的getTimeoutInterceptor()方法获取拦截器，加入到OkHttp中。

也可以调用NetDiagnosis的dealWithNetTimeOut方法，传入请求耗时和请求网址，框架自行判断是否需要触发后台诊断。

3.5 支持多进程

支持将网络诊断运行在子进程中。

在3.2的初始化之前，需要先初始化WorkManager，使其支持多进程。调用的是NetDiagnosis的initWorkManager方法，传入context，进程名，和是否为Debug。然后将3.2的初始化移到子进程中运行。

在Manifest中指定相关组件的进程名：

```
<provider
    android:name="androidx.work.impl.WorkManagerInitializer"
    android:authorities="${applicationId}.workmanager-init"
    tools:node="remove" />

<service
    android:name="androidx.work.multiprocess.RemoteWorkManagerService"
    android:process=":${NET_MONITOR_PROCESS}"
    tools:replace="android:process" />

<service
    android:name="androidx.work.impl.background.systemjob.SystemJobService"
    android:process=":${NET_MONITOR_PROCESS}"
    tools:replace="android:process" />

<activity
    android:name="com.shopee.sc.netdiagnosis.ui.DiagnosisSelectActivity"
    android:process=":${NET_MONITOR_PROCESS}"
    tools:replace="android:process" />

<activity
    android:name="com.shopee.sc.netdiagnosis.ui.DiagnosisDialogActivity"
    android:process=":${NET_MONITOR_PROCESS}"
    tools:replace="android:process" />

<activity
    android:name="com.shopee.sc.netdiagnosis.ui.DiagnosisResultActivity"
    android:process=":${NET_MONITOR_PROCESS}"
    tools:replace="android:process" />

<activity
    android:name="com.shopee.sc.netdiagnosis.ui.DiagnosisHistoryActivity"
    android:process=":${NET_MONITOR_PROCESS}"
    tools:replace="android:process" />
```

后台控制需要注意，子进程无法通过传递拦截器来实现，必须将请求耗时和请求url传到子进程，在子进程调用dealWithNetTimeOut方法自行实现。

4. 上传数据说明

使用前端接口上报，数据查询可以在Kibana：

[http://10.143.138.93:5601/app/kibana#/discover?_g=\(filters:!\(\),refreshInterval:\(pause:!t,value:0\),time:\(from:now-30d,to:now\)\)&_a=\(columns:!\(d.delay\),filters:!\(\('\\$state':\(store:appState\),meta:\(alias:!n,disabled:!f,index:'980f4d70-ea13-11eb-b049-3b6436676388',key:bt,negate:!f,params:\(query:WMS\),type:phrase\),query:\(match_phrase:\(bt:WMS\)\)\),\('\\$state':\(store:appState\),meta:\(alias:!n,disabled:!f,index:'980f4d70-ea13-11eb-b049-3b6436676388',key:pf,negate:!f,params:\(query:android\),type:phrase\),query:\(match_phrase:\(pf:android\)\)\)\),index:'980f4d70-ea13-11eb-b049-3b6436676388',interval:auto,query:\(language:kuery,query:'\)\),sort:!\(\(\)"\)\)](http://10.143.138.93:5601/app/kibana#/discover?_g=(filters:!(),refreshInterval:(pause:!t,value:0),time:(from:now-30d,to:now))&_a=(columns:!(d.delay),filters:!(('$state':(store:appState),meta:(alias:!n,disabled:!f,index:'980f4d70-ea13-11eb-b049-3b6436676388',key:bt,negate:!f,params:(query:WMS),type:phrase),query:(match_phrase:(bt:WMS))),('$state':(store:appState),meta:(alias:!n,disabled:!f,index:'980f4d70-ea13-11eb-b049-3b6436676388',key:pf,negate:!f,params:(query:android),type:phrase),query:(match_phrase:(pf:android)))),index:'980f4d70-ea13-11eb-b049-3b6436676388',interval:auto,query:(language:kuery,query:')),sort:!(())

数据选择data-code_log-*, 过滤条件为pf=android 且 bt=WMS。

诊断结果数据示例：

```
{
  // MTU
  "MtuScan": {
    "totalTime": 2200,
    "mtu": 604
  },
  //
  "Device": {
```

```
"mCpuName": "ARMv7 Processor rev 4 (v7l)",
"mAvailableMem": "1.94 GB",
"mTotalRootStorage": "2.60 GB",
"mFreeExternalStorage": "24.14 GB",
"mBatteryLevel": 90,
"mTotalMem": "3.04 GB",
"mFreeRootStorage": "761 MB",
"mTotalExternalStorage": "26.42 GB"
},
// Ping
"ping": {
  "mRttAvg": 34.543,
  "mRttMin": 11.772,
  "mRttMax": 147.951,
  "mIp": "143.92.81.64",
  "mAddress": "http://wms.ssc.shopee.com.my",
  "mReceived": 10,
  "mLossRate": 9,
  "mError": 0,
  "mRttMDev": 41.186,
  "mTransmitted": 11,
  "mAllTime": 10020,
  "mTtl": 55
},
// Host
"host": {
  "mParam": [
    "127.0.0.1 localhost",
    "::1 ip6-localhost"
  ],
  "mTotalTime": 13
},
// Http
"http": {
  "mHeaderServer": "SGW",
  "mIsJump": true,
  "mAddress": "http://wms.ssc.shopee.com.my",
  "mSize": 7.287109375,
  "mTotalTime": 498,
  "mHeader": [
    {
      "X-Android-Selected-Protocol": "http/1.1",
      "null": "HTTP/1.1 307 Temporary Redirect",
      "Server": "SGW",
      "Connection": "keep-alive",
      "X-Android-Response-Source": "NETWORK 307",
      "X-Android-Sent-Millis": "1637742956071",
      "Content-Length": "164",
      "X-Android-Received-Millis": "1637742956086",
      "Date": "Wed, 24 Nov 2021 08:35:56 GMT",
      "Content-Type": "text/html",
      "Location": "https://wms.ssc.shopee.com.my/"
    },
    {
      "Transfer-Encoding": "chunked",
      "Server": "SGW",
      "vary": "Accept-Encoding",
      "Connection": "keep-alive",
      "X-Android-Received-Millis": "1637742956210",
      "Date": "Wed, 24 Nov 2021 08:35:56 GMT",
      "last-modified": "Wed, 17 Nov 2021 09:46:13 GMT",
      "X-Android-Selected-Protocol": "http/1.1",
      "null": "HTTP/1.1 200 OK",
      "X-Android-Response-Source": "NETWORK 200",
      "etag": "W/\"6194cf65-1d26\"",
      "X-Android-Sent-Millis": "1637742956176",
      "Content-Type": "text/html"
    }
  ],
  "mSpeed": 39,
  "mResponseCode": 200,
  "mTime": 497
},
// Trace Route
"traceRoute": {
  "mTotalTime": 11976,
  "mList": [
    {
      "mIp": "172.16.110.254",
      "mTime": "**",
      "mHop": 1
    },
    {
      "mIp": "172.16.210.3",
```

```
"mTime": "*",
"mHop": 2
},
{
"mIp": "1.9.55.254",
"mTime": "*",
"mHop": 3
},
{
"mIp": "10.55.49.253",
"mTime": "*",
"mHop": 4
},
{
"mIp": "*",
"mTime": "*",
"mHop": 5
},
{
"mIp": "10.55.209.34",
"mTime": "*",
"mHop": 6
},
{
"mIp": "27.111.229.145",
"mTime": "*",
"mHop": 7
},
{
"mIp": "143.92.108.196",
"mTime": "*",
"mHop": 8
},
{
"mIp": "143.92.108.154",
"mTime": "*",
"mHop": 9
},
{
"mIp": "143.92.108.155",
"mTime": "*",
"mHop": 10
},
{
"mIp": "10.100.168.63",
"mTime": "*",
"mHop": 11
},
{
"mIp": "*",
"mTime": "*",
"mHop": 12
},
{
"mIp": "*",
"mTime": "*",
"mHop": 13
},
{
"mIp": "*",
"mTime": "*",
"mHop": 14
},
{
"mIp": "*",
"mTime": "*",
"mHop": 15
},
{
"mIp": "*",
"mTime": "*",
"mHop": 16
},
{
"mIp": "*",
"mTime": "*",
"mHop": 17
},
{
"mIp": "*",
"mTime": "*",
"mHop": 18
},
}
```

```
"mIp": "*",
"mTime": "*",
"mHop": 19
},
{
  "mIp": "*",
  "mTime": "*",
  "mHop": 20
},
{
  "mIp": "*",
  "mTime": "*",
  "mHop": 21
},
{
  "mIp": "*",
  "mTime": "*",
  "mHop": 22
},
{
  "mIp": "*",
  "mTime": "*",
  "mHop": 23
},
{
  "mIp": "*",
  "mTime": "*",
  "mHop": 24
},
{
  "mIp": "*",
  "mTime": "*",
  "mHop": 25
},
{
  "mIp": "*",
  "mTime": "*",
  "mHop": 26
},
{
  "mIp": "*",
  "mTime": "*",
  "mHop": 27
},
{
  "mIp": "*",
  "mTime": "*",
  "mHop": 28
},
{
  "mIp": "*",
  "mTime": "*",
  "mHop": 29
},
},
//
"PortScan": {
  "mPortNetBeans": [
    {
      "mIsConnected": true,
      "mDelay": 193,
      "mPort": 80
    },
    {
      "mIsConnected": true,
      "mDelay": 25,
      "mPort": 443
    }
  ],
  "mAddress": "http://wms.ssc.shopee.com.my",
  "mTotalTime": 30367
},
//
"Net": {
  "mOutputIpCountry": "*",
  "mMobileDbm": 0,
  "mWifiRssi": -87,
  "mDnsServer": "10.36.6.91 / 10.36.6.92",
  "mOutputDnsCountry": "*",
  "mMobileAsu": 0,
  "mMobileLevel": 0,
  "mOutputIp": "115.134.221.169",
  "mIsWifi": true,
```

```
"mNetworkType": "Other",
"mNetworkTypeValue": 0,
"mClientIP": "10.36.26.54",
"mOutputDns": "172.69.19.71",
"mWifiName": "<unknown ssid>"
},
// DNS
"NSLookup": {
  "mDnsServerIPs": [
    "10.36.6.91",
    "10.36.6.92"
  ],
  "mTotalTime": 168,
  "mDnsMethodBeans": [
    {
      "mDnsIps": [
        "143.92.81.64"
      ],
      "mDnsMethod": "Default Strategy",
      "mAddress": "wms.ssc.shopee.com.my",
      "mTime": 0
    },
    {
      "mDnsIps": [
        "143.92.81.64"
      ],
      "mDnsMethod": "DNS 10.36.6.91",
      "mAddress": "wms.ssc.shopee.com.my",
      "mTime": 160
    },
    {
      "mDnsIps": [
        "143.92.81.64"
      ],
      "mDnsMethod": "DNS 10.36.6.92",
      "mAddress": "wms.ssc.shopee.com.my",
      "mTime": 1
    }
  ],
  //
  "Base": {
    "timeoutUrl": "https://wms.ssc.shopee.com.my/api/v2/pda/config/pdanotification/get_notification_sound_list",
    "modifyTimeString": "2021-11-24 16:36:26",
    "modifyTime": 1637742986092,
    "isManual": 0,
    "host": "http://wms.ssc.shopee.com.my",
    "wareHouse": "MYL"
  }
}
```