Asterisk 录音记录(SQLServer)

一、数据库操作

1、创建数据库：

```
create table monitorDitailRecord (
                        [Id]                    [bigint]        NULL,
                        [Src]                   [varchar](80)   NULL,
                        [Dst]                   [varchar](80)   NULL,
                        [Channel]       [varchar] (80)          NULL,
                        [StartTime]     [datetime]              NULL,
                        [EndTime]       [datetime]              NULL ,
                        [RecordFileName]                [varchar] (80)                  NULL
)
```

2、创建存储过程：

```
create proc addMonitorDitailRecord (
        @Src varchar(80),
        @Dst varchar(80),
        @Channel varchar(80),
        @StartTime datetime,
        @EndTime datetime,
        @RecordFileName varchar(80))
as
        declare @count bigint;
        declare @Id bigint;
        select @count=count(id) from monitorDitailRecord;
        if @count=0
                begin
                        set     @Id=0
                end
        else
                begin
                        select @Id = MAX(Id) from monitorDitailRecord;
                end
        set @Id=@Id+1
        --select @Id
        insert into monitorDitailRecord
        (Id,Src,Dst,Channel,StartTime,EndTime,RecordFileName)
        values
        (@Id,@Src,@Dst,@Channel,@StartTime,@EndTime,@RecordFileName)
go
```

3、测试存储过程：

```
exec addMonitorDitailRecord 1003,1100,'SIP/1003-000001','2012-04-13 11:45:50','2012-04-13 11:45:55','1.gsm'
```

二、修改 Asterisk 源代码

涉及文件：apps/app_mixmonitor.c

1、添加头文件：

```
#include <sqlfront.h> /*Add by Mike */
#include <sybdb.h> /*Add by Mike */
```

2、添加数据库测试代码：

```
static int testSqlServerDatabase(char *src,
        char *dst,char *monitorChannel,time_t tStart,
        time_t tEnd,char *MonitorFileName,char *ext)
{
        char szUsername[32] = "sa";
        char szPassword[32] = "123456";
```

```
	char szDBName[32] = "testDB";
	char szServer[32] = "192.168.18.113:1433";
	char sqlBuf[sqlBufLen]={0};
	char timeStr1[128] = {0};
	char timeStr2[128] = {0};

	dbinit();

	LOGINREC *loginrec = dblogin();
	DBSETLUSER(loginrec, szUsername);
	DBSETLPWD(loginrec, szPassword);
	DBPROCESS *dbprocess = dbopen(loginrec, szServer);
	if(FAIL == dbprocess)
	{
		ast_verb(2,"Conect to MS SQL SERVER fail, exit!\n");
		return -1;
	}

	if(FAIL == dbuse(dbprocess, szDBName))
	{
		ast_verb(2,"Open database failed!\n");
		return -1;
	}

	ast_verb(2,"setting hostname : %s \n",settings->hostname);

	strftime(timeStr1,sizeof(timeStr1),"%Y-%m-%d %H:%M:%S",localtime(&tStart));
	strftime(timeStr2,sizeof(timeStr2),"%Y-%m-%d %H:%M:%S",localtime(&tEnd));

	//exec addMonitorDitailRecord 1003,1100,'SIP/1003-000001','2012-04-13 11:45:50','2012-
04-13 11:45:55','1.gsm'
	sprintf(sqlBuf,"exec addMonitorDitailRecord '%s','%s','%s','%s','%s','%s.%s'",
	src,dst,monitorChannel,timeStr1,timeStr2,MonitorFileName,ext);

	ast_verb(2,"%s\n",sqlBuf);

	dbcmd(dbprocess,sqlBuf);
	if(FAIL == dbsqlexec(dbprocess))
	{
		ast_verb(2,"Insert fail!\n");
	}
	dbclose(dbprocess);
	return 0;
}
```

3、在 mixmonitor_thread 函数里面添加调用代码
位置：mixmonitor_ds_close_fs(mixmonitor->mixmonitor_ds)的下一行
添加变量：

```
	time_t tStart = 0,tEnd = 0; //Add by Mike
	struct ast_channel tChan = *(mixmonitor->autochan->chan); //Add by Mike
	tStart = time(NULL);//Add by Mike
```

调用代码：

testSqlServerDatabase(mixmonitor->name,tChan.exten,
mixmonitor->name,tStart,tEnd,mixmonitor->filename,ext);

```
00681:     /* Datastore cleanup.  close the filestream and wait for ds destruction */
00682:     ast_mutex_lock(&mixmonitor->mixmonitor_ds->lock);
00683:     mixmonitor_ds_close_fs(mixmonitor->mixmonitor_ds);
00684:     /************** Add by Mike  begin **********************************/
00685:     tEnd = time(NULL);
00686:
00687:     if(m_SetDebugOn)
00688:     {
00689:         ast_verb(2, "****************Test Database begin******************\n"); /*Add by Mike*/
00690:
00691:         ast_verb(2, "channel : %s \n", mixmonitor->name);
00692:         ast_verb(2, "exten : %s \n", tChan.exten);
00693:         ast_verb(2, "context : %s \n", tChan.context);
00694:         ast_verb(2, "macroexten : %s \n", tChan.macroexten);
00695:         ast_verb(2, "macrocontext : %s \n", tChan.macrocontext);
00696:         ast_verb(2, "file name : %s.%s \n", mixmonitor->filename,ext); /*Add by Mike*/
00697:
00698:         ast_verb(2, "start time : %ld \n", tStart);
00699:         ast_verb(2, "end time : %ld \n", tEnd);
00700:         ast_verb(2, "duration : %ld \n", tEnd - tStart);
00701:
00702:         ast_verb(2, "****************Test Database end******************\n"); /*Add by Mike*/
00703:     }
00704:
00705:     testSqlServerDatabase(mixmonitor->name,tChan.exten,
00706:         mixmonitor->name,tStart,tEnd,mixmonitor->filename,ext);
00707:     /************** Add by Mike end **********************************/
00708:     if (!mixmonitor->mixmonitor_ds->destruction_ok) {
00709:         ast_cond_wait(&mixmonitor->mixmonitor_ds->destruction_condition, &mixmonitor->mixmonitor_
00710:     }
00711:     ast_mutex_unlock(&mixmonitor->mixmonitor_ds->lock);
00712:
00713:     /* kill the audiohook */
```

三、修改编译选项：

文件位置：apps/Makefile

vi apps/Makefile

添加：

LIBS+= -lsybdb

四、编译链接

asterisk -rx "core stop now" && make && make install && asterisk && asterisk -rvvvvvvvvvvvvvv

五、测试代码

调用 mixmonitor 命令时候会自动录音

下面是 python 分号码分时间段的监控代码：

```
'''
        File      : astMonitor_table.py
        Author    : Mike
        E-Mail    : Mike_Zhang@live.com
'''
import socket
import time

tbl={
"1001":{
        "1002":[(1334310425,1334310825),(1334312425,1334313425)],
        "1003":[(1334310425,1334310825),(1334312425,1334313425)]},
"1002":{
        "1001":[(1334310425,1334310825),(1334312425,1334313425)],
```

```
        "1003":[(1334310425,1334310825),(1334312425,1334313425)]},
"1003":{
        "1100":[(1334310425,1335310825),(1335319825,1434313425)],
        "1006":[(1334310425,1334310825),(1334312425,1334313425)]}
}

bufLen = 1024 * 10
def strLogin(userName,passwd):
        msg = 'Action: login\r\n'
        msg += 'UserName: '+userName+'\r\n'
        msg += 'Secret: '+passwd+'\r\n'
        msg += '\r\n'
        return msg

def strMonitor(strChannel,fileName):
        msg = "Action: Command\r\n"
        #  mixmonitor start SIP/1005-00000006 1005006.gsm
        msg += "Command: mixmonitor start "+strChannel+" "+fileName+"\r\n"
        msg += "\r\n"
        #print msg
        return msg

def splitEvent(strContent):
        eventMap = {}
        tmpArr = strContent.split("\r\n")
        lable = ": "
        for cnt in tmpArr:
                #print "line => ",cnt
                pos = cnt.find(lable)
                if pos > -1 :
                        tmpKey = cnt[pos+len(lable):]
                        #print 'tmp key : ',tmpKey
                        eventMap[cnt[0:pos]] = tmpKey
        return eventMap

def chkDialAndMonitor1(pNum,pos,cnt,lable,s):
        tmpKey = cnt[pos+len(lable):cnt.find('\r\n')]
        #print tmpKey
        if 'Dial' == tmpKey :
                #print cnt
                eventMap = splitEvent(cnt)
                print "Subevent : ",eventMap['SubEvent']
                if 'Begin' == eventMap['SubEvent']:
                        srcChnl = eventMap['Channel']
                        srcNum = srcChnl[srcChnl.find('/')+1:srcChnl.find('-')]
                        dstChnl = eventMap['Destination']
                        dstNum = dstChnl[dstChnl.find('/')+1:dstChnl.find('-')]

                        fileName = srcNum + "_" + dstNum +'_'+str(int(time.time()))
+'.gsm'
                        if pNum == srcNum or pNum == dstNum :
                                #fileName = phoneNumber1+'_'+str(int(time.time()))
+'.gsm'
                                #fileName = pNum+'_'+str(int(time.time()))+'.gsm'
```

```
                        print 'Begin record ',srcChnl
                        print 'file name : ',fileName
                        s.send(strMonitor(srcChnl,fileName))

def chkDialAndMonitor(pSrcNum,pDstNum,pTimeStart,pTimeEnd,pos,cnt,lable,s):
        tmpKey = cnt[pos+len(lable):cnt.find('\r\n')]
        #print tmpKey
        if 'Dial' == tmpKey :
                #print cnt
                eventMap = splitEvent(cnt)
                #print "Subevent : ",eventMap['SubEvent']
                if 'Begin' == eventMap['SubEvent']:
                        srcChnl = eventMap['Channel']
                        srcNum = srcChnl[srcChnl.find('/')+1:srcChnl.find('-')]
                        dstChnl = eventMap['Destination']
                        dstNum = dstChnl[dstChnl.find('/')+1:dstChnl.find('-')]

                        fileName = srcNum + "_" + dstNum +'_'+str(int(time.time()))
+'.gsm'
                        curTime = time.time()
                        if (pSrcNum == srcNum and pDstNum == dstNum) and
(curTime>pTimeStart and curTime < pTimeEnd) :
                                #fileName = phoneNumber1+'_'+str(int(time.time()))
+'.gsm'
                                #fileName = pNum+'_'+str(int(time.time()))+'.gsm'
                                print 'Begin record ',srcChnl
                                print 'file name : ',fileName
                                s.send(strMonitor(srcChnl,fileName))

def MonitorTable(mTbl,pos,cnt,lable,s):
        for k1,v1 in mTbl.items():
                #print k1
                for k2,v2 in v1.items():
                        #print '\t',k2#,v2
                        for t in v2:
                                #print '\t\t',t[0],t[1]
                                chkDialAndMonitor(k1,k2,t[0],t[1],pos,cnt,lable,s)

def main():
        s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
        #s.connect((raw_input("Input ip : "), 5038))
        s.connect(("192.168.18.142", 5038))

        if not s :
                print "Connect fail!"
                return
        #s.send(strLogin(raw_input("Input user name :"),raw_input("Input password
:")))
        s.send(strLogin("admin9","123456"))
        strContent = ""
        #pNum = raw_input("Input phone number : ")

        print 'Asterisk Monitor table ... '
```

```
        lable = "Event: "
        while True:
                data = s.recv(bufLen)
                if len(data) > 0 : strContent += data
                tmpArr = strContent.split("\r\n\r\n")
                for cnt in tmpArr:
                        pos = cnt.find(lable)
                        if pos > -1 :
                                #chkDialAndMonitor(pNum,pos,cnt,lable,s)
                                #print "MonitorTable"
                                MonitorTable(tbl,pos,cnt,lable,s)
                strContent = ""

def tblPrint():
        for k1,v1 in tbl.items():
                print k1
                for k2,v2 in v1.items():
                        print '\t',k2#,v2
                        for t in v2:
                                print '\t\t',t[0],t[1]

if __name__ == '__main__':
        ret = main()
        tblPrint()
```