Perancangan Pengembangan Aplikasi Monitoring *Short Message Service* Sistem Otomatis Gedung (*WebCTRL*) *Automated Logic Di PT.XL Axiata TBK.* Menggunakan *SMS Gateway*

OLEH:

SUDARTA

4150412-015

PROGRAM STUDI TEKNIK INFORMATIKA

FAKULTAS ILMU KOMPUTER

MERCU BUANA

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LAPORAN TUGAS AKHIR

Diajukan untuk melengkapi salah satu syarat memperoleh gelar sarjana komputer

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HALAMAN PENGESAHAN

PERANCANGAN PENGEMBANGAN APLIKASI MONITORING *SHORT MESSAGE SERVICE* SISTEM OTOMATIS GEDUNG *(WEBCTRL) AUTOMATED LOGIC* Di PT.XL AXIATA TBK. MENGGUNAKAN *SMS GATEWAY*

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Jakarta, 15 Agustus 2011

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Dengan ini menyatakan bahwa, saya melakukan perancangan pengembangan Sistem Otomatis Gedung menggunakan aplikasi monitoring *short message service (SMS Gateway)* dengan di bantu oleh teman melakukan riset lapangan maupun membantu membuat laporan riset dan pengembangan sistem aplikasi monitoring.

Demikian surat pernyataan saya buat dengan sebenar-benarnya, agar dapat digunakan sebagai acuan atau referensi untuk melakukan sidang tugas akhir.

Jakarta, 15 Agustus 2011

(SUDARTA)

KATA PENGANTAR

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Wassalamu'alaikum wr.wb.

Jakarta, 15 Agustus 2011

Penulis

(SUDARTA)

DAFTAR ISI

Halaman

KATA PENGANTAR..... i

DAFTAR PERYATAAN..... iii

DAFTAR ISI..... iv

DAFTAR GAMBAR..... viii

BAB I : PENDAHULUAN

1.1 Latar Belakang 1

1.2 Perumusan Masalah..... 2

1.3 Tujuan Penelitian..... 2

1.4 Batasan Masalah..... 2

1.5 Metodologi Penelitian..... 3

1.6 Sistematika Penulisan..... 3

BAB II : LANDASAN TEORI

2.1 Struktur Sistem Komputer..... 6

2.2 Konsep Dasar Simulasi..... 10

2.3 Jaringan Komputer..... 12

2.4 Tipe Tipe Jaringan..... 14

2.5 Arsitektur Jaringan Komputer..... 15

2.6 Modem..... 17

2.7 GPRS (General Packet Radio Service)..... 18

2.8 Teori SMS..... 19

2.9 Struktur Jaringan SMS..... 20

2.10 Hyperterminal..... 22

2.11 Perintah AT (*AT Command*)..... 24

2.12 Metode Perangkat Lunak..... 25

BAB III : ANALISIS PERMASALAHAN DAN PENGEMBANGAN SISTEM

3.1 Analisa Permasalahan..... 26

3.1.1 Poin Pendukung Sistem Otomatis Gedung..... 28

3.1.2 Uraian Teknis Analisis..... 30

3.1.3 Analisis Sistem..... 33

3.2 Perancangan Aplikasi Monitoring..... 34

3.2.1 Metode Perancangan..... 35

3.2.2 Perancangan Proses..... 36

3.2.3 Uses Case Diagram..... 38

3.2.4 Aktivity Diagram Monitoring SMS..... 40

3.2.5 Perancagan Antar Muka..... 42

BAB IV : IMPLEMENTASI DAN PENGUJIAN

4.1 Implementasi..... 45

4.1.1 Tampilan Dialog Login..... 47

4.1.2 Tampilan Koneksi Modem..... 48

4.1.3 Tampilan Pesan Inbox..... 50

4.1.4 Tampilan Pesan Operator..... 51

4.1.5 Uraian Teknis Sistem Aplikasi..... 52

4.2 Pengujian Sistem 53

4.2.1 Lingkungan Pengujian 53

4.2.2 Hasil Pengujian..... 55

4.2.3 Analisis Hasil Pengujian..... 56

BAB V : PENUTUP

5.1 Kesimpulan..... 57

5.2 Saran..... 57

DAFTAR PUSTAKA..... 58

LAMPIRAN..... 59

DAFTAR GAMBAR

1. Skema Blok Sistem Komputer……. 10
2. Jaringan *client/server*…… 16
3. Skematik Alur Elemen Sistem Otomatis Gedung……. 17
4. Modem M 1306B……. 18
5. Struktur Jaringan SMS..... 20
6. Arsitektur GSM…… 22
7. Pengaturan Nama Koneksi..... 23
8. Pemilihan Port..... 24
9. Sistem Arsitektur Controller…… 27
10. Alur Monitoring Sistem Otomatis Gedung……..... 35
11. Diagram Monitoring SMS…… 37
12. Use Case Diagram Monitoring……. 40
13. Activity Diagram Monitoring SMS……. 42
14. Antar Muka Login…… 43
15. Antar Muka Pesan Monitoring……. 44
16. Antar Muka Pesan HP Operator…… 44
17. Mengisi Login…….. 47
18. Koneksi Modem Berhasil……. 48
19. Koneksi Modem Tidak Berhasil……..…… 48
20. Inbox Pesan……..…… 50

21. Pesan Terkirim…… 51

22. Tabel Simbul-simbul aktivity diagram……. 41

23. Tabel Uji Coba…….. 55

24. Tabel Hasil Uji Coba…… 55

DAFTAR GAMBAR

1. Skema Blok Sistem Komputer……. 10
2. Jaringan *client/server*…… 16
3. Skematik Alur Elemen Sistem Otomatis Gedung……. 17
4. Modem M 1306B……. 18
5. Struktur Jaringan SMS..... 20
6. Arsitektur GSM…… 22
7. Pengaturan Nama Koneksi..... 23
8. Pemilihan Port..... 24
9. Sistem Arsitektur Controller…… 27
10. Alur Monitoring Sistem Otomatis Gedung……..... 35
11. Diagram Monitoring SMS…… 37
12. Use Case Diagram Monitoring……. 40
13. Activity Diagram Monitoring SMS……. 42
14. Antar Muka Login…… 43
15. Antar Muka Pesan Monitoring……. 44
16. Antar Muka Pesan HP Operator…… 44
17. Mengisi Login…….. 47
18. Koneksi Modem Berhasil……. 48
19. Koneksi Modem Tidak Berhasil……..…… 48
20. Inbox Pesan……..…… 50

21. Pesan Terkirim…… 51

22. Tabel Simbul-simbul aktivity diagram……. 41

23. Tabel Uji Coba…….. 55

24. Tabel Hasil Uji Coba…… 55

1. FrmLogin

```
Private Sub btnClose_Click()
   End
End Sub


Private Sub btnDB_Click()
   With dlgLogin
      .DialogTitle = "Open"
      .CancelError = False
      .Filter = "MS Access (*.mdb)|*.mdb"
      .ShowOpen
            If Len(.FileName) = 0 Then
         Exit Sub
      End If
            pathDB = .FileName
      txtUserName.SetFocus
   End With
End Sub


Private Sub btnLogin_Click()
      If pathDB = "" Then pathDB = App.Path & "\Data\SMSServices.mdb"
   If CheckUserValidation(Trim(txtUserName.Text), Trim(txtPassword.Text)) Then
      UserID = Trim(txtUserName.Text)
      Unload frmLogin
      Load frmLoading
      frmLoading.Show
   Else
      MsgBox "User Name or Password is not Valid!!", vbCritical, "SMS Gateway"
      txtUserName.SetFocus
      txtUserName.SelStart = 0
      txtUserName.SelLength = Len(txtUserName.Text)
   End If
End Sub


Private Sub Form_Load()
   If App.PrevInstance Then Unload frmLogin
   RemoveCancelMenuItem frmLogin
   fTengah frmLogin
End Sub
```

2. FrmLoading

```
Private Sub btnSMSSetting_Click()
   If btnSMSSetting.Caption = "&SMS Menu" Then
      If mc.PortOpen = True Then mc.PortOpen = False
      frmSMS.Show
   Else
      If mc.PortOpen = True Then mc.PortOpen = False
```

```
        frmSettingModem.Show
    End If
End Sub


Private Sub Form_Load()
Dim kutip1 As String
Dim kutip2 As String
    fTengah Me
    Call SettingPort
    If checkNoPort = False Then
        MsgBox "Tidak tersambung dengan port/com.. !!", vbInformation, "SMS Gateway"
        Exit Sub
    Else
        If Cn_Modem(mc) = True Then
            lblConnect.Caption = "Berhasil tersambung ke Modem .."
            btnSMSSetting.Enabled = True
            btnSMSSetting.Caption = "&SMS Menu"
        Else
            lblConnect.Caption = "Tidak berhasil tersambung ke Modem .."
            btnSMSSetting.Enabled = True
            btnSMSSetting.Caption = "Se&tting"
        End If
    End If
End Sub
```

3. FrmSettingModem

```
Private Sub btnClose_Click()
    End
End Sub
Private Sub UbahToModemMaste(strPort As String, strRate As String)
On Error GoTo gagalubah
    Call DBConnect
    strSQL = "Select Modem_Master.Port, Modem_Master.Rate FROM Modem_Master
Where Modem_Master.Modem_Number='01'"
    rec.Open strSQL, conn, adOpenStatic, adLockOptimistic, adCmdText
    rec.MoveFirst
    rec.MoveLast
        With rec
        .Fields("Port").Value = Trim(strPort)
        .Fields("Rate").Value = Trim(strRate)
        .Update
        .Close
    End With
        MsgBox "Setting Port dan Bits berhasil, coba login kembali ", vbInformation, "SMS
Gateway"
    Unload Me
    Set rec = Nothing
    Call DBDisconnect
    Exit Sub
```

```
gagalubah:
   MsgBox Err.Description, vbExclamation + vbCritical + vbOKOnly, "SMS Gateway"
   If rec.State = 1 Then rec.Close
End Sub
Private Sub btnSave_Click()
   If cmbComNo.Text <> "" And cmbBit.Text <> "" Then
      Call UbahToModemMaste(cmbComNo.Text, cmbBit.Text)
   Else
      MsgBox "Nomor port atau bits tidak boleh kosong !!", vbInformation + vbOKOnly,
"SMS Gateway"
   End If
End Sub


Private Sub Form_Load()
   fTengah Me
   RemoveCancelMenuItem Me
   Dim indexCom As Byte
   For indexCom = 1 To 5
      cmbComNo.AddItem indexCom
   Next
   Dim indexbit As Double
   Dim i As Integer
   indexbit = 110
   Do
      cmbBit.AddItem indexbit
      i = i + 1
      If i = 1 Then
         indexbit = indexbit + 190
      ElseIf i = 2 Then
         indexbit = indexbit * 4
      ElseIf indexbit = 38400 Then
         indexbit = indexbit + 19200
      Else
         indexbit = indexbit * 2
      End If
   Loop Until indexbit = 921600
   Unload frmLoading
End Sub
```

4. FrmSMS

```
Private Sub btnConnect_Click()
   Call SettingPort
   If checkNoPort = False Then
      MsgBox "Tidak tersambung dengan port/com.. !!", vbInformation, "SMS Gateway"
      Exit Sub
   Else
      If Cn_Modem(mcsms) = True Then
         If SCA = "" Then
            mcsms.Output = "AT+CSCA?" & Chr(13)
```

```
            Sleep 300
            SCA = SCA & mcsms.Input
             kutip1 = InStr(SCA, Chr(34))
            tempProviderName = Mid(SCA, kutip1 + 1)
            kutip2 = InStr(tempProviderName, Chr(34))
            ProviderName = Mid(tempProviderName, 1, kutip2 - 1)
              If ProviderName = "+6281100000" Then
                SCA = "TELKOMSEL"
            ElseIf ProviderName = "+62816124" Then
                SCA = "SATELINDO"
            ElseIf ProviderName = "+62818445009" Then
                SCA = "EXCELCOMINDO"
            End If
          End If
          stsBar.Panels(1).Text = "Modem Tersambung .... "
          stsBar.Panels(2).Text = SCA
          tmModem.Enabled = True
          btnConnect.Enabled = False
          btnDisconnect.Enabled = True
       Else
          stsBar.Panels(1).Text = "Modem tidak tersambung .... "
          stsBar.Panels(2).Text = "Provider N/A"
          tmModem.Enabled = False
          btnConnect.Enabled = True
          btnDisconnect.Enabled = False
       End If
    End If
End Sub


Private Sub btnDisconnect_Click()
    If mcsms.PortOpen = True Then
       mcsms.PortOpen = False
       stsBar.Panels(1).Text = "Modem tidak tersambung .... "
       stsBar.Panels(2).Text = "Provider N/A"
       Call HapusSMSDB
       SCA = ""
       tmModem.Enabled = False
       indexMsg = 0
       btnConnect.Enabled = True
       btnDisconnect.Enabled = False
    End If
End Sub


Private Sub btnExit_Click()
    If mcsms.PortOpen = True Then
       mcsms.PortOpen = False
       Call HapusSMSDB
       End
    Else
```

```
      Call HapusSMSDB
      End
   End If
End Sub

Sub HapusSMSDB()
   On Error GoTo ErrHapusSMSDB
   DBConnect
   strSQL = "Delete * From Message_Incoming"
   conn.Execute strSQL
   DBDisconnect
   Exit Sub
ErrHapusSMSDB:
   MsgBox Err.Description, vbExclamation + vbCritical + vbOKOnly, "Hapus Aktif
Kembali"
   If rec.State = 1 Then rec.Close
End Sub


Private Sub cmdInbox_Click()
   grdPesan.Visible = True
   grdPesan.Caption = "Pesan Diterima"
   terkirim = False
   Call ViewInbox
End Sub


Private Sub cmdTerkirim_Click()
   Call viewSendSuccess
   terkirim = True
End Sub


Private Sub Form_Load()
   fTengah Me
   RemoveCancelMenuItem Me
   grdPesan.Visible = True
   cmdInputJdw.Visible = False
   Call btnConnect_Click
   stsBar.Panels(3).Text = Hari(Format(Now, "dddd")) & ", " & Format(Now, "dd") & " " &
Bulan(Format(Now, "mm")) & " " & Format(Now, "yyyy")
   tmModem.Enabled = True
      If Data <> "" Then Data = ""
      mcsms.Output = "AT+CMGF=1" & Chr(13)
   Sleep 300
   Data = Data & mcsms.Input
   mcsms.Output = "AT+CNMI=1,1,0,0,0" & Chr(13)
   Sleep 300
   NewSMS = NewSMS & mcsms.Input
   Unload frmLoading
   Call InboxMsg
```

```
End Sub


Private Sub tmModem_Timer()
   If Cn_Modem(mcsms) = True Then
      If terkirim = True Then
         Call viewSendSuccess
      Else
         Call InboxMsg
         Call ViewInbox
         Call CekAlarm
      End If
   Else
      MsgBox "Port atau modem tidak tersambung", vbInformation + vbOKOnly, "SMS
Gateway"
      stsBar.Panels(1).Text = "Modem tidak tersambung .... "
      stsBar.Panels(2).Text = "Provider N/A"
      Call HapusSMSDB
      SCA = ""
      indexMsg = 0
      btnConnect.Enabled = True
      btnDisconnect.Enabled = False
      tmModem.Enabled = False
   End If
End Sub

Private Sub tmStsBar_Timer()
   stsBar.Panels(4).Text = Format(Now, "hh:mm:ss")
   End Sub
Sub InboxMsg()
   If mcsms.PortOpen = True Then
      indexMsg = indexMsg + 1
      mcsms.Output = "AT+CMGR=" & indexMsg & Chr(13)
      Sleep 300
      Inbox = Inbox & mcsms.Input
      If InStr(Inbox, "ERROR") = 0 And Inbox <> "" Then
         For i = 1 To Len(Inbox)
         tChar = Mid(Inbox, i, 1)
         If tChar = """" Then lQuoteNum = lQuoteNum + 1
         If lQuoteNum = 3 And tChar <> """" Then tSender = tSender & tChar
         If lQuoteNum = 5 And tChar <> """" Then tDateTime = tDateTime & tChar
         If lQuoteNum = 6 And tChar <> """" Then tMessage = tMessage & tChar
         Next i
         tMessage = Mid(tMessage, 3)
         tMessage = Mid(tMessage, 1, InStr(tMessage, vbCr) - 1)
         Inbox = ""
         Call InsertInbox(tMessage, Left(tDateTime, 8), Mid(tDateTime, 10, 8), tSender,
indexMsg)
      Else
         indexMsg = indexMsg - 1
         Inbox = ""
```

```
        End If
    End If
End Sub

Sub InsertInbox(ByVal msg As String, ByVal tdate As String, ByVal time As String, ByVal
sender As String, ByVal no As Long)
On Error GoTo simpan
    DBConnect
    strSQL = "SELECT Message_Incoming.* FROM Message_Incoming ORDER BY
Message_Incoming.[No] DESC;"
        rec.Open strSQL, conn, adOpenStatic, adLockOptimistic, adCmdText
        If rec.RecordCount = 0 Then
        With rec
            .AddNew
            .Fields("Pesan").Value = msg
            .Fields("Tanggal").Value = tdate
            .Fields("Jam").Value = time
            .Fields("Nomor_HP").Value = sender
            .Fields("NO").Value = no
            .Update
            .Close
        End With
    Else
            With rec
            .AddNew
            .Fields("Pesan").Value = msg
            .Fields("Tanggal").Value = tdate
            .Fields("Jam").Value = time
            .Fields("Nomor_HP").Value = sender
            .Fields("NO").Value = no
            .Update
            .Close
        End With
    End If
    Set rec = Nothing
    DBDisconnect
    Exit Sub
simpan:
    MsgBox Err.Description, vbExclamation + vbCritical + vbOKOnly, "SMS Gateway"
    If rec.State = 1 Then
        rec.Close
        DBDisconnect
    End If
End Sub


Sub ViewInbox()
On Error GoTo view
    DBConnect
    'strSQL = "SELECT Message_Incoming.* FROM Message_Incoming ORDER BY
Message_Incoming.[No] DESC;"
```

```
   strSQL = "SELECT TOP 2 Message_incoming.[No], Message_incoming.Nomor_hp,
Message_incoming.Pesan, Message_incoming.Tanggal, Message_incoming.Jam " & _
            "From Message_incoming " & _
            "Union " & _
            "SELECT '', '', [Message_Send].Pesan, [Message_Send].Tanggal,
[Message_Send].Jam " & _
            "From [Message_Send] " & _
            "Order By Message_incoming.[No] DESC; "
        rec.Open strSQL, conn, adOpenStatic, adLockOptimistic, adCmdText
        rec.MoveLast
        rec.MoveFirst
        grdPesan.RemoveAll
    grdPesan.FieldDelimiter = "!"
    grdPesan.FieldSeparator = ","
        While Not rec.EOF
        grdPesan.AddItem "!" & rec.Fields("No").Value & "!,!" &
rec.Fields("Nomor_Hp").Value & "!,!" & rec.Fields("Pesan").Value & "!,!" &
rec.Fields("Tanggal").Value & "!,!" & rec.Fields("Jam").Value & "!"
        rec.MoveNext
    Wend
      rec.Close
    Set rec = Nothing
    DBDisconnect
    Exit Sub
view:
    MsgBox Err.Description, vbExclamation + vbCritical + vbOKOnly, "SMS Gateway"
        If rec.State = 1 Then
        rec.Close
        DBDisconnect
    End If
End Sub


Sub SendSMS(ByVal nomor As String, ByVal isipesan As String)
    If mcsms.PortOpen = True Then
          mcsms.Output = "AT + CSCA =" & """" & ProviderName & """" & Chr(13)
          Sleep 200
          smscenter = smscenter + mcsms.Input
          mcsms.Output = "AT+CSMP=17,167,0,16" & Chr(13)
          Sleep 200
          ValidPriod = ValidPriod & mcsms.Input
          mcsms.Output = "AT+CMGS=" & """" & nomor & """" & Chr(13)
          Sleep 200
          sendNo = sendNo & mcsms.Input
           If InStr(sendNo, ">") Then
             mcsms.Output = isipesan & Chr(26)
             Sleep 200
             Send = Send & mcsms.Input
          End If
           If InStr(Send, "ERROR") = 0 And Send <> "" Then
```

```
            MsgBox "Pesan ke Nomor " & nomor & " berhasil dikirim", vbOKOnly, "SMS
Gateway"
         Else
            MsgBox "Pesan ke Nomor " & nomor & " gagal dikirim", vbOKOnly, "SMS
Gateway"
         End If
   End If
End Sub


Sub CekAlarm()
On Error GoTo Alarm
Dim tnomor As String
Dim tisipesan As String
Dim tname As String
   DBConnect
   strSQL = "SELECT [PopUp Alarm].*, Phonebook.Name, Phonebook.ID_Member,
Phonebook.PhoneNumber " & vbCrLf & _
          "FROM Phonebook INNER JOIN [PopUp Alarm] ON Phonebook.Groups = [PopUp
Alarm].Group " & vbCrLf & _
          "WHERE [PopUp Alarm].StsMessage='0'"

      rec.Open strSQL, conn, adOpenStatic, adLockOptimistic, adCmdText
      rec.MoveLast
      rec.MoveFirst
      While Not rec.EOF
      tnomor = rec.Fields("PhoneNumber").Value
      tisipesan = rec.Fields("Alarm").Value
      tname = rec.Fields("Name").Value
      tgroup = rec.Fields("Group").Value
      tid = rec.Fields("ID_Member").Value
      ttanggal = rec.Fields("Tanggal").Value
      ttime = rec.Fields("Jam").Value
      If Format(Now, "yy/MM/dd") = rec.Fields("Tanggal").Value And Format(Now,
"hh:mm") = rec.Fields("Jam").Value Then
         Call SendSMS(tnomor, tisipesan)
         Call UpdateStsAlarm
         Call SendSuccess(tid, tname, tgroup, tisipesan, ttanggal, ttime, "Terkirim", tnomor,
Format(Now, "hh:mm:ss"), UserID)
      End If
      rec.MoveNext
   Wend
      Set rec = Nothing
   DBDisconnect
   Exit Sub
Alarm:
   MsgBox Err.Description, vbExclamation + vbCritical + vbOKOnly, "SMS Gateway"
      If rec.State = 1 Then
      rec.Close
      DBDisconnect
   End If
```

```
End Sub
Sub UpdateStsAlarm()
On Error GoTo Status
   DBConnect
      If rec.State = 1 Then
         rec.Close
         strSQL = "SELECT [PopUp Alarm].* FROM [PopUp Alarm] WHERE [PopUp
Alarm].StsMessage='0'"
        rec.Open strSQL, conn, adOpenStatic, adLockOptimistic, adCmdText
         rec.MoveLast
         rec.MoveFirst
      Else
         strSQL = "SELECT [PopUp Alarm].* FROM [PopUp Alarm] WHERE [PopUp
Alarm].StsMessage='0'"
         rec.Open strSQL, conn, adOpenStatic, adLockOptimistic, adCmdText
         rec.MoveLast
         rec.MoveFirst
      End If
      While Not rec.EOF
      If Format(Now, "yy/MM/dd") = rec.Fields("Tanggal").Value And Format(Now,
"hh:mm") = rec.Fields("Jam") Then
         rec.Fields("stsMessage").Value = "1"
         rec.Update
      End If
      rec.MoveNext
   Wend
     Exit Sub
Status:
   MsgBox Err.Description, vbExclamation + vbCritical + vbOKOnly, "SMS Gateway"
      If rec.State = 1 Then
      rec.Close
      DBDisconnect
   End If
End Sub


Sub SendSuccess(ByVal tid As String, ByVal tname As String, ByVal tgroup As String, _
ByVal tisipesan As String, ByVal ttanggal As String, ByVal ttime As String, _
ByVal treport As String, ByVal tnomor As String, _
ByVal ttimesend As String, ByVal UserID As String)
On Error GoTo simpan
   DBConnect
   If rec.State = 1 Then
      rec.Close
      strSQL = "SELECT Message_Send.* FROM Message_Send;"
      rec.Open strSQL, conn, adOpenStatic, adLockOptimistic, adCmdText
   Else
      strSQL = "SELECT Message_Send.* FROM Message_Send;"
      rec.Open strSQL, conn, adOpenStatic, adLockOptimistic, adCmdText
   End If
      If rec.RecordCount = 0 Then
```

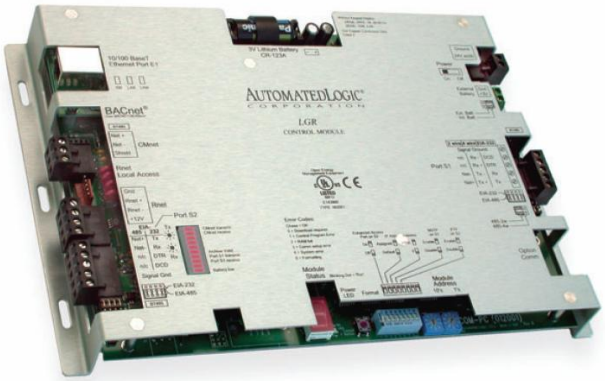
```
        With rec
            .AddNew
            .Fields("ID_Member").Value = tid
            .Fields("Alias").Value = tname
            .Fields("GroupKu").Value = tgroup
            .Fields("Pesan").Value = tisipesan
            .Fields("Tanggal").Value = ttanggal
            .Fields("Jam").Value = ttime
            .Fields("Report").Value = treport
            .Fields("Nomor_Hp").Value = tnomor
            .Fields("Time_Sent").Value = ttimesend
            .Fields("User_Id").Value = UserID
            .Update
            .Close
        End With
    Else
            With rec
            .AddNew
            .Fields("ID_Member").Value = tid
            .Fields("Alias").Value = tname
            .Fields("GroupKu").Value = tgroup
            .Fields("Pesan").Value = tisipesan
            .Fields("Tanggal").Value = ttanggal
            .Fields("Jam").Value = ttime
            .Fields("Report").Value = treport
            .Fields("Nomor_Hp").Value = tnomor
            .Fields("Time_Sent").Value = ttimesend
            .Fields("User_Id").Value = UserID
            .Update
            .Close
        End With
    End If
          strSQL = "SELECT [PopUp Alarm].*, Phonebook.Name, Phonebook.ID_Member,
Phonebook.PhoneNumber " & vbCrLf & _
     "FROM Phonebook INNER JOIN [PopUp Alarm] ON Phonebook.Groups = [PopUp
Alarm].Group " & vbCrLf & _ "WHERE [PopUp Alarm].StsMessage='0'"
    rec.Open strSQL, conn, adOpenStatic, adLockOptimistic, adCmdText
    rec.MoveLast
    rec.MoveFirst
    Exit Sub
simpan:
    MsgBox Err.Description, vbExclamation + vbCritical + vbOKOnly, "SMS Gateway"
    If rec.State = 1 Then
        rec.Close
        DBDisconnect
    End If
End Sub


Sub viewSendSuccess()
On Error GoTo view
```

```
Dim no As Integer
   DBConnect
   strSQL = "SELECT Message_Send.* FROM Message_Send;"
      rec.Open strSQL, conn, adOpenStatic, adLockOptimistic, adCmdText
      rec.MoveLast
      rec.MoveFirst
      grdPesan.RemoveAll
   grdPesan.FieldDelimiter = "!"
   grdPesan.FieldSeparator = ","
   grdPesan.Caption = "Pesan Terkirim"
   While Not rec.EOF
      no = no + 1
      If Len(no) = 1 Then
         tno = "00" + CStr(no)
      ElseIf Len(no) = 2 Then
         tno = "0" + CStr(no)
      Else
         tno = CStr(no)
      End If
      grdPesan.AddItem "!" & tno & "!,!" & rec.Fields("Nomor_Hp").Value & "!,!" &
rec.Fields("Pesan").Value & "!,!" & rec.Fields("Tanggal").Value & "!,!" &
rec.Fields("Jam").Value & "!"
      rec.MoveNext
   Wend
      rec.Close
   Set rec = Nothing
   DBDisconnect
   Exit Sub
view:
   MsgBox Err.Description, vbExclamation + vbCritical + vbOKOnly, "SMS Gateway"
      If rec.State = 1 Then
      rec.Close
      DBDisconnect
   End If
End Sub
```

LGR line

High Speed Ethernet Router



The LGR is an extremely powerful, high-speed router/gateway that can connect hundreds of control modules to a BACnet®/IP backbone. Support for BACnet/IP, BACnet-over-Ethernet, ARCNET 156 Kbps, MS/TP, and BACnet PTP communications are standard. A wide range of open and proprietary protocol translator drivers allow the LGR to also serve as a gateway to other manufacturers' equipment. Fully programmable, the LGR can also execute complex control strategies for high-level system integration.

Key Features and Benefits

- 10/100Base-T Fast Ethernet allows modules to serve as a BACnet router between BACnet/IP system backbone and field devices subnetwork.
- Native BACnet communications to field devices over a high-speed ARCNET 156 Kbps or BACnet MS/TP network.
- Can route messages from BACnet/IP to BACnet-over-Ethernet, providing compatibility with older BACnet systems.
- A wide range of open and proprietary protocol translator drivers allow the LGR to also serve as a gateway to other manufacturers' equipment.
- Designed with a high-speed true 32-bit microprocessor with cache memory, Fast Ethernet controller, high performance 32-bit serial communications co-processor, and ARCNET communications co-processor, LGR routers have the horsepower to serve the most demanding translation and communications functions.
- Can support hundreds of individual control programs written in ALC's legendary EIKON®-LogicBuilder Graphic Programming Language. LGRs can handle the toughest system integration control programs.
- 16 MByte battery-backed SDRAM (32 bit wide), with 12 MBytes available for use, stores application programs, trends and other data when power is lost.
- 8 MByte Flash memory (32 bit wide) for easy field upgrades over the network.
- Battery backed real-time clock provides true standalone capabilities. LGRs recover from power failures providing full continuity of operations, even when communications are disrupted.
- Rnet port supports Automated Logic's line of RS room sensors and BAC*view*6 local operator interface, and provides local access to the system. Enhanced local access is also available on an EIA-232 port.
- Tough construction delivers superior performance and reliability. Control modules are constructed with a rugged aluminum cover which provides optimum electrical protection and noise immunity.

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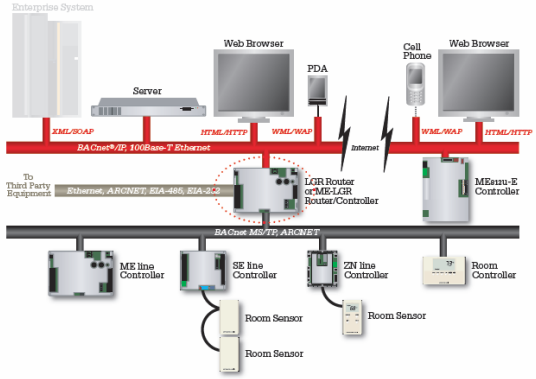
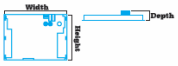
LGR line

Specifications



BACnet Support:	Conforms to the BACnet Building Controller (B-BC) Standard Device as defined in BACnet 135-2001 Annex L.
Communication:	The following ports are available on the LGR routers: Ethernet port* (10/100Mbps) for BACnet over Ethernet or BACnet/IP communications. EIA-485 port for ARCNET 156 Kbps or BACnet MS/TP (9600 baud to 76.8 Kbps). EIA-232/485*configurable port for BACnet PTP. Rnet port for RS room sensors and local BAC*view*6 operator displays. Xnet (500Kbps) port for MEX I/O expansion modules. Local access port. **Third-Party integration drivers available through Ethernet and (1) EIA-232/485 configurable port.*
Microprocessor:	32-bit Motorola Power PC microprocessor with cache memory, Fast Ethernet controller, high performance 32-bit communication co-processor, ARCNET communication co-processor and I/O expansion CAN co-processor.
Memory:	16 MByte non-volatile battery-backed SDRAM (with 12 MBytes available for use), 8 MByte Flash memory, 32-bit memory bus. (Shelf life of the battery is 10 years with 720 hours of continuous operation.)
Real-time Clock:	Battery-backed real-time clock.
Status Indicators:	LED status indicators for EIA-232/485 communication, Ethernet port communication, and low battery status. 7-segment status display for running, error, and power status.
Module Addressing:	Rotary dip switches for intuitive network addressing of modules.
Protection:	Built-in surge and transient protection circuitry for power and communications.
Listed by:	UL916 (Canadian Std C22.2 No. 205-M1983), CE, FCC Part 15 - Subpart B - Class A.
Environmental Operating Range:	-20ºF to 140ºF (-29ºC to 60ºC); 10 to 90% relative humidity, non-condensing. NOTE: Control modules should be installed within the building.
Power Requirements:	24 V-ac ± 10%, 50 to 60Hz, 24 VA, or 26 V-dc ± 10%, 10W. NOTE: Power consumption will increase when BAC*view*6 or other accessories are attached.
Physical:	Rugged aluminum cover. Removable screw terminal blocks.
Weight:	1.4 lb. (0.635 kg)
Dimensions:	 Overall Width: 11-5/16" (287mm) Height: 7-1/2" (190mm) Depth: 2-3/4" (70mm) min. panel depth Mounting Width: 10-13/16"(275mm) Height: 5" (127mm)

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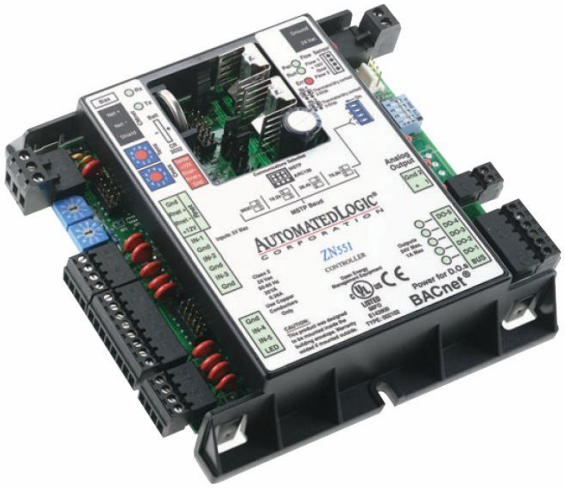
CSLGRrev6

ZN551
Zone Controller



Automated Logic's ZN551 provides unprecedented power and flexibility through fully programmable networked controllers. The ZN551 controllers connect to the Building Automation System (BAS) network using BACnet over ARCNET 156 Kbps or MS/TP. The ZN551 supports a line of RS room sensors using Rnet port.

Key Features and Benefits

- Powerful zone controller for VAV, heat pump, unit ventilator and other packaged HV-ac applications.
- Native BACnet communications to field devices over a high speed ARCNET 156 Kbps or BACnet MS/TP network.
- Uses a high speed 16-bit microprocessor with 1 MByte Flash memory and 512 KByte of RAM for unparalleled programmability. Firmware upgrades can be downloaded remotely – no chip replacement necessary.
- The ZN551 is part of a full line of ZN controllers which include a variety of Universal Inputs, Binary Outputs and 0-10V-dc Analog Outputs. Other ZN models with built-in flow sensors and/or integral damper actuators are available as well as optional single/dual air flow sensors for pressure independent VAV applications.
- Rnet port supports Automated Logic's line of RS room sensors and provides local access to the system.
- The ZN551 controller is fully graphically programmable and offers full peer-to-peer communications with other ZN line, ME line or SE line controllers. Graphical programs are universally understood and provide self-documenting control sequences.
- An extensive library of pre-engineered control routines provides proven solutions for most zone control applications. Custom programs can be easily written in EIKON®-LogicBuilder, ALC's legendary graphic programming language.
- Compact and rugged plastic enclosure for easy mounting.

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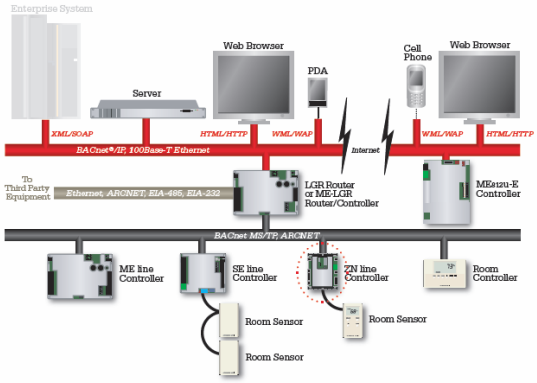
ZN551

Specifications



BIBB Support:	Supports BACnet Interoperability Building Blocks (BIBBs) from the following groups: Data Sharing, and Device and Network Management.
Communication:	The following ports are available on the ZN551 module: EIA-485 port for ARCNET 156 Kbps or MS/TP (9600 bps – 76.8 Kbps). Local access port for system start-up and troubleshooting. Rnet port for RS room sensors – the Rnet port supports up to four RS sensors and one RS Pro sensor for averaging or high/low select control. NOTE: Local operator interface (BAC*view*®) is not supported. LogiStat port for LogiStat room sensors. Two Analog Inputs are used by the LogiStat port. NOTE: The LogiStat Pro is not supported on the ZN line (use RS Pro on the Rnet port instead).
Digital Outputs:	Five digital outputs, relay contact rated at 1A max @ 24V-ac, configured normally open
Universal Inputs:	Five inputs with 10 bit A/D resolution. Two inputs are configurable for dry contact, type 2 thermistors, or 0 - 5 V-dc. Inputs 4 and 5 are taken when a LogiStat sensor is connected – these inputs are available if RS sensors are used.
Analog Outputs:	One analog output, 0-10V-dc with 8-bit resolution.
Microprocessor:	High speed 16-bit microprocessor with ARCNET communication co-processor.
Memory:	512 KByte non-volatile battery-backed RAM, 1 MByte Flash memory, 16-bit memory bus. (Shelf life of the battery is 10 years with 10,000 hours of continuous operation.)
Status Indicators:	LED status indicators for EIA-485 communication, running, error, power and all digital outputs.
Module Addressing:	Rotary dip switches for intuitive network addressing of modules.
Protection:	Built in surge and transient protection circuitry for power and communications.
Listed by:	UL916 (Canadian Std C22.2 No. 205-M1983), CE, FCC Part 15 – Subpart B – Class A
Environmental Operating Range:	0°F to 130°F (-17.8°C to 54.4°C); 10 -90% relative humidity, non-condensing. NOTE: Control modules should be installed within the building.
Power Requirements:	24V-ac ± 10%, 26V-dc (25 V min, 30 V max), 50-60Hz, 20VA
Physical:	Rugged GE C2950 Cycoloy plastic.
Weight:	0.6 lb. (0.27 kg)

Dimensions:



Mounting hole spacing 5-9/16".

Overall
Width: 5-1/16" (129mm)
Height: 5-11/16" (144mm)
Depth: 1-1/2" (38mm) min. panel depth

Mounting*
Two mounting holes center line as at left with 5-9/16" (141mm) spacing (height).

*For indoor use only.

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