

使用IOS转换规则-创建VoIP网络的可扩展拨号计划

目录

[简介](#)

[先决条件](#)

[要求](#)

[使用的组件](#)

[规则](#)

[背景信息](#)

[配置](#)

[网络图](#)

[配置](#)

[验证](#)

[故障排除](#)

[相关信息](#)

简介

本文提供了使用IOS转换规则，创建VoIP网络的可扩展拨号计划的配置示例。由于您安装了集成语音和数据网络，所以经常遇到的一个问题是如何在不同位置管理indial范围的编号方案。根据交换、信令协议标准甚至位置的类型，服务提供商能将相似的号码范围发送到每个远程站点的订户设备上。如果这些路由正被路由回中心站点，源于每个远程站点的被叫号码都可能有重叠。由于PBX是根据唯一的被叫号码做出路由决策，这可能在程控交换机(PBX)系统引发与自动呼叫分发(ACD)队列相关的问题。例如，来自每个站点的呼叫可能需要定向到使用本地语言发起呼叫的特殊操作员。如果被叫号码来自每个站点交迭，而此处又没有其他识别呼叫始发地的方法，那么PBX不能将呼叫路由到正确的ACD队列。

部分远程站点的拨入号码可以用 2 位数表示，而其他站点的拨入号码可以用 3 位数或 4 位数表示，因此被叫号码可能是 [00 - 99] 到 [0000 - 9999] 之间的数字。使用这些号码范围，主要站点路由器将需要相应的配置，以处理 2 位数、3 位数和 4 位数的编号方案。这可能会增加路由器配置的整体复杂程度。

这些问题的解决方案是在每个远程站点使用IOS数字转换规则，以便预先将位数设置在来自电话网络的号码范围内。这然后通过客户网络创建标准的编号方案，并在不对网络其余部分进行重大更改的前提下，逐渐添加新的站点。

注意： Cisco IOS数字转换规则允许用户处理呼叫的自动号码标识(ANI)数字，该数字是呼叫的主叫号码或被叫号码标识服务(DNIS)数字，该呼叫是被叫号码。或者，还可以使用转换规则修改这些字段的编号类型。

在本文的案例分析中，目标是标准化编号方案。建议如下：

- 使用中继访问代码。
- 使用站点 (区域) 代码。这是一种简单的方法，可以创建唯一站点代码，使用远程站点的本地公共交换电话网 (PSTN) 区域代码。
- 使用前导零扩展 (填充) 原始被叫号码会产生 4 位分机号。

[先决条件](#)

[要求](#)

读者应该熟悉以下知识：

- 配置语音和 POTS 拨号对等体

[使用的组件](#)

本文档中的信息基于以下软件和硬件版本：

- 运行 IOS 版本 12.3(4) 的 Cisco 3660 和 7206VXR 路由器
- 在IOS版本12.07XK1引入IOS转换规则，支持语音端口的所有Cisco平台都可以提供。

本文档中的信息都是基于特定实验室环境中的设备创建的。本文档中使用的所有设备最初均采用原始 (默认) 配置。如果您是在真实网络上操作，请确保您在使用任何命令前已经了解其潜在影响。

[规则](#)

有关文件规则的更多信息请参见“ Cisco技术提示规则”。

[背景信息](#)

本部分使用案例分析：“加尔各答 (远程站点) ”示例，用于说明转换规则的实施。有关详情，请参阅[网络图](#)。

在我们的示例中，远程站点 (加尔各答) 有一个E1中继，该中继传递一个介于000到999之间的3位拨号字符串。主站点路由器接受来自多个远程站点的呼叫，这些远程站点也可能覆盖000到999。

我们在加尔各答路由器中使用转换规则附加唯一标识加尔各答 (基于被叫号码) 到主站点 PBX 的呼叫的站点代码。例如，将区域代码拨号字符串“033”用作站点代码。此外，我们添加了一位中继访问代码数字，以允许在目标主站点路由器上选择特定中继。以下语句对加尔各答路由器中的转换步骤进行说明：

- 原始被叫号码 (介于 000 和 999 之间的任意 3 位数) —“...”
- 转换的被叫号码—“1033...”数字“1”：中继访问代码，数字“033”：站点代码从加尔各答站点发出呼叫时，加尔各答路由器将应用其 POTS 语音端口应用的转换规则。您可以在加尔各答路由器的语音端口 1/0:1 配置中对此进行验证。转换规则应用于语音端口，呼叫从此语音端口进入路由器。当呼叫从电话网络进入路由器时，被叫号码先进行转换，然后才与拨号对等体匹配。转换规则按照如下方式应用于从加尔各答站点发往主要站点的被叫号码——987。在被叫的 3 位号码 987 中，我们取 LHS (左侧) 中第一位数字 9 并在替换数字的转换规则中进行比较。在转换规则中，9 的替换数字是 103309，此数字替换第一位数字 9。用 103309 替换第一位数字 9 之后，剩余两位数字 87 附加到替换的数字 103309 中成为 10330987，呼叫被路由至 VoIP 拨

号对等体，因为目标模式 10330... 与之匹配。

还有两个远程站点需要集成到网络中。新德里站点使用 2 位拨入号码，而钦奈站点使用 4 位拨入号码。通过针对被叫号码附加中继访问代码和站点代码，现在您获得了如下拨号方案：

此中继访问/站点代码...	...表示此拨号方案
" 1011.. "	区域代码为 011 的 2 位拨入号码
" 1033... "	区域代码为 033 的 3 位拨入号码
" 1044.... "	区域代码为 044 的 4 位拨入号码

此拨号方案包括 6 位数、7 位数和 8 位数，因此可以通过使用前导零填充原始号码对其进行标准化处理，以产生 1 位访问代码、3 位站点代码和 4 位分机号。

此中继访问/站点代码.....	...转换为
" 1011.. "	" 101100.. "
" 1033... "	" 10330... "
" 1044.... "	" 1044.... "

现在，主站点网关/路由器的号码方案始终是 8 位数：（1 位中继访问代码、3 位站点代码以及填充了前导零的 4 位被叫号码）。一旦呼叫到达主站点网关/路由器，访问代码便会被去除，后面的七位数则发送到 PBX。

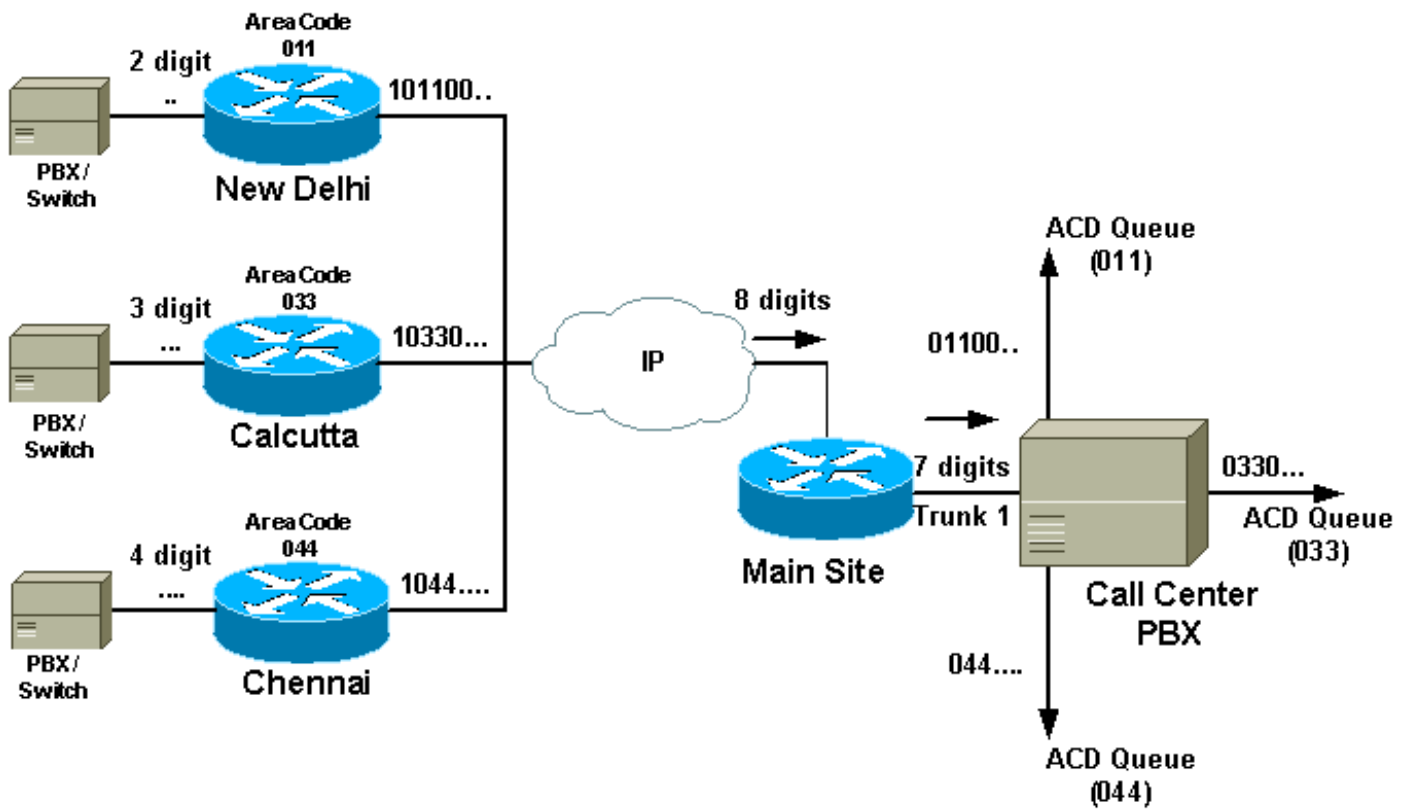
配置

在此案例分析中，有三个将 VoIP 呼叫定向到主站点呼叫中心的远程站点（新德里、加尔各答和钦奈）。客户对系统的需求是只把来自远程站点的呼叫指引到主要站点上。不提供从主站点到远程站点的回呼。主站点网关/路由器有 4 个连接到呼叫中心 PBX 的中继。

注：要查找有关本文档中使用的命令的其他信息，请使用[命令查找工具](#)([仅注册客户](#))。

网络图

本文使用此图中的网络设置：



Remote Router	Trunk Code	Site (area) Code	Indial Range	Zero Padding
New Delhi	1	011	2 digit ..	00
Calcutta	1	033	3 digit ...	0
Chennai	1	044	4 digit	N/A

配置

本文档使用此处所示的配置：

新德里 (2 位拨入号码)

```

!--- Only relevant "IOS translation rule" output is
presented
!
translation-rule 1
!-- The "1" above is the tag for the set. rule 0 ^0.
1011000 rule 1 ^1. 1011001 rule 2 ^2. 1011002 rule 3 ^3.
1011003 rule 4 ^4. 1011004 rule 5 ^5. 1011005 rule 6 ^6.
1011006 rule 7 ^7. 1011007 rule 8 ^8. 1011008 rule 9 ^9.
1011009 !!-- These rules replace the first digit of a
2-digit number with the corresponding !-- translation.
The router looks for a 2-digit number starting with a
leading [0-9]. !-- The caret, "^" ensures the match only
happens at the start of the digit string !-- rather than
any occurrence in a digit string. This ensures the
router makes the !-- translation only for the leading
digits. By default, if an explicit match is made !-- on
a digit (in this case the first digit) the router
replaces it with the new !-- digits. Therefore, to keep
the original numbering, the matched digit needs to be !-

```

- replaced with the same digit at the end of the modified string. Once the call !-- comes in, the called number prepended with 101100 followed by the !-- original 2 digits. ! voice-port 1/0:1 translate called 1 cptone IN compand-type a-law ! !-- The translation rule is applied to the voice port where the !-- call comes in to the router. When a call comes in from the !-- telephone network towards the router, the called number !-- is translated before it is matched on any dial peers. ! dial-peer voice 100 voip destination-pattern 101100.. session target ipv4:main site IP address ip precedence 5 dtmf-relay h245-alphanumeric ! !-- The VoIP dial peer needs to be configured to match on the new numbering plan

加尔各答 (3 位拨入号码)

!--- Only relevant output is presented
!
translation-rule 1
rule 0 ^0.. 103300
rule 1 ^1.. 103301
rule 2 ^2.. 103302
rule 3 ^3.. 103303
rule 4 ^4.. 103304
rule 5 ^5.. 103305
rule 6 ^6.. 103306
rule 7 ^7.. 103307
rule 8 ^8.. 103308
rule 9 ^9.. 103309
!
!-- The router looks for a 3-digit called number in the range 000 - 999. It !-- then prepends 10330 to this number before making a match on any other dial peers. !-
- Note: rules are executed before incoming POTS dial peer matching takes place. ! voice-port 1/0:1 translate called 1 !-- The translation rule is applied to the voice port: cptone IN compand-type a-law ! dial-peer voice 100 voip destination-pattern 10330... session target ipv4:main site IP address ip precedence 5 dtmf-relay h245-alphanumeric ! !-- The VoIP dial peer needs to be configured to match on the new numbering plan.

钦奈 (4 位拨入号码)

!
translation-rule 11 rule 0 ^0... 10440 rule 1 ^1...
10441 rule 2 ^2... 10442 rule 3 ^3... 10443 rule 4 ^4...
10444 rule 5 ^5... 10445 rule 6 ^6... 10446 rule 7 ^7...
10447 rule 8 ^8... 10448 rule 9 ^9... 10449 ! !-- The router looks for a 4-digit called !-- number in the range 0000 - 9999. !-- It then prepends 1044 to this number !-- before making a match on any other dial peers. ! voice-port 1/0:1 translate called 1 cptone IN compand-type a-law ! !-- The translation rule is applied to the voice port: dial-peer voice 100 voip destination-pattern 1044... session target ipv4:main site IP address

```
ip precedence 5 dtmf-relay h245-alphanumeric ! !-- The VoIP dial peer needs to be configured to match on the new numbering plan
```

主站点

```
!-- By default, in POTS dial peers, matched digits get stripped off after a dial !-- peer is matched. Then, the remaining digits are outputted to the PSTN/PBX. dial-peer voice 20 pots description - Call Center voice port 2/0 destination-pattern 1..... port 2/0:1 ! dial-peer voice 21 pots description - Call Center voice port 2/1 destination-pattern 1..... port 2/1:1 ! dial-peer voice 30 pots description - Call Center voice port 3/0 destination-pattern 1..... port 3/0:1 ! dial-peer voice 31 pots description - Call Center voice port 3/1 destination-pattern 1..... port 3/1:1 ! !-- The trunk access code (leading 1) can be used to route the call out the Main Site !-- router towards the Call-Center PBX. This digit is stripped off and the following !-- 7 digits are sent to the external PBX. A single dial peer for each active voice !-- port on the main site gateway router directs calls from the remote sites to !-- the PBX.
```

注意：由于主站点PBX不需要中继访问代码，因此主站点路由器会将其删除。因此，根据3位站点代码和4位分机号，此呼叫被标识为到达主要站点PBX的呼叫。为了与此编号方案匹配，PBX需要对配置做部分更改。但优点是它可以识别被叫号码的站点代码，并将呼叫路由到为每个位置设置的特殊ACD队列。当呼叫从特定的国家区域进入时，该呼叫会定向到使用本地语言的代理处。

注意：有关命令的详情，请参阅[命令查找工具 \(仅限注册用户\)](#)。

验证

本部分所提供的信息可用于确认您的配置是否正常工作。

[命令输出解释程序工具 \(仅限注册用户\)](#) 支持某些 **show** 命令，使用此工具可以查看对 **show** 命令输出的分析。

- **测试转换规则名字标记输入编号**——用于测试在特定名称标记上的转换规则的执行。此命令的语法如下表所示：
- **show translation-rule [name-tag]**用来显示为特定转换名配置的规则内容。此命令的语法如下表所示：

以下输出从新德里路由器捕获而来，显示从新德里站点拨号时应用的转换规则。

新德里 — 输出

```
!-- It is possible to confirm the translation rules are working: ! ! NewDelhi#  
test translation-rule 1 99  
!-- Original called number is "99" The replaced number: 10110099 !-- Translated to 8 digits NewDelhi#  
show translation-rule 1  
Translation rule address: 0x64ADC2A8
```

```
Tag name: 1
Translation rule in_used 1
**** Xrule rule table ****
    Rule : 0
    in_used state: 1
    Match pattern: ^0.
    Sub pattern: 1011000
**** Xrule rule table ****
    Rule : 1
    in_used state: 1
    Match pattern: ^1.
    Sub pattern: 1011001
**** Xrule rule table ****
    Rule : 2
    in_used state: 1
    Match pattern: ^2.
    Sub pattern: 1011002
**** Xrule rule table ****
    Rule : 3
    in_used state: 1
    Match pattern: ^3.
    Sub pattern: 1011003
**** Xrule rule table ****
    Rule : 4
    in_used state: 1
    Match pattern: ^4.
    Sub pattern: 1011004
**** Xrule rule table ****
    Rule : 5
    in_used state: 1
    Match pattern: ^5.
    Sub pattern: 1011005
**** Xrule rule table ****
    Rule : 6
    in_used state: 1
    Match pattern: ^6.
    Sub pattern: 1011006
**** Xrule rule table ****
    Rule : 7
    in_used state: 1
    Match pattern: ^7.
    Sub pattern: 1011007
**** Xrule rule table ****
    Rule : 8
    in_used state: 1
    Match pattern: ^8.
    Sub pattern: 1011008
**** Xrule rule table ****
    Rule : 9
    in_used state: 1
    Match pattern: ^9.
    Sub pattern: 1011009
NewDelhi#
```

故障排除

本部分提供的信息可用于对配置进行故障排除。

注意：在发出debug命令之前，请参阅[有关Debug命令的重要信息](#)。

- [debug translation {detail | min}](#) — 用于使用下表中所述的选项调试号码转换跟踪：

新德里 — 输出

```
NewDelhi#debug translation detail
xrule detail tracing is enabled
*Apr  4 04:52:57.124: xrule_checking
*Apr  4 04:52:57.124: xrule_checking calling , called
*Apr  4 04:52:57.124: xrule_checking peer_tag 0,
direction 1, protocol 6
*Apr  4 04:52:57.124: xrule_translation
*Apr  4 04:52:57.124: xrule_translation callednumber ,
strlen 0
*Apr  4 04:52:57.124: xrule_translation callednumber
null xruleCalledTag=1
*Apr  4 04:52:57.124: xrule_translation called Callparms
Numpertype 0x81,
                                match_type 0x0
*Apr  4 04:52:57.124: xrule_translation Xrule index 0,
Numpertype 0x9
*Apr  4 04:52:57.124: dpMatchString, target_number null,
match_number ^0.
*Apr  4 04:52:57.124: dpMatchString match_tmp 0,
match_len 1
*Apr  4 04:52:57.124: dpMatchString beginning_replace 1,
match_tmp 0,target null
*Apr  4 04:52:57.124: dpMatchString: len 4
*Apr  4 04:52:57.124: xrule_translation there was no
match index 0
*Apr  4 04:52:57.124: xrule_translation called Callparms
Numpertype 0x81,
                                match_type 0x0
*Apr  4 04:52:57.124: xrule_translation Xrule index 1,
Numpertype 0x9
*Apr  4 04:52:57.124: dpMatchString, target_number null,
match_number ^1.
*Apr  4 04:52:57.124: dpMatchString match_tmp 1,
match_len 1
*Apr  4 04:52:57.124: dpMatchString beginning_replace 1,
match_tmp 1,target null
*Apr  4 04:52:57.124: dpMatchString: len 4
*Apr  4 04:52:57.124: xrule_translation there was no
match index 1
*Apr  4 04:52:57.124: xrule_translation called Callparms
Numpertype 0x81,
                                match_type 0x0
*Apr  4 04:52:57.124: xrule_translation Xrule index 2,
Numpertype 0x9
*Apr  4 04:52:57.124: dpMatchString, target_number null,
match_number ^2.
*Apr  4 04:52:57.124: dpMatchString match_tmp 2,
match_len 1
*Apr  4 04:52:57.124: dpMatchString beginning_replace 1,
match_tmp 2,target null
*Apr  4 04:52:57.124: dpMatchString: len 4
*Apr  4 04:52:57.124: xrule_translation there was no
match index 2
*Apr  4 04:52:57.124: xrule_translation called Callparms
Numpertype 0x81,
                                match_type 0x0
*Apr  4 04:52:57.124: xrule_translation Xrule index 3,
```



```
Numpertype 0x9
*Apr  4 04:52:57.124: dpMatchString, target_number null,
match_number ^3.
*Apr  4 04:52:57.124: dpMatchString match_tmp 3,
match_len 1
*Apr  4 04:52:57.124: dpMatchString beginning_replace 1,
match_tmp 3,target null
*Apr  4 04:52:57.124: dpMatchString: len 4
*Apr  4 04:52:57.124: xrule_translation there was no
match index 3
*Apr  4 04:52:57.124: xrule_translation called Callparms
Numpertype 0x81,
                                match_type 0x0
*Apr  4 04:52:57.124: xrule_translation Xrule index 4,
Numpertype 0x9
*Apr  4 04:52:57.124: dpMatchString, target_number null,
match_number ^4.
*Apr  4 04:52:57.124: dpMatchString match_tmp 4,
match_len 1
*Apr  4 04:52:57.124: dpMatchString beginning_replace 1,
match_tmp 4,target null
*Apr  4 04:52:57.124: dpMatchString: len 4
*Apr  4 04:52:57.124: xrule_translation there was no
match index 4
*Apr  4 04:52:57.124: xrule_translation called Callparms
Numpertype 0x81,
                                match_type 0x0
*Apr  4 04:52:57.124: xrule_translation Xrule index 5,
Numpertype 0x9
*Apr  4 04:52:57.124: dpMatchString, target_number null,
match_number ^5.
*Apr  4 04:52:57.124: dpMatchString match_tmp 5,
match_len 1
*Apr  4 04:52:57.124: dpMatchString beginning_replace 1,
match_tmp 5,target null
*Apr  4 04:52:57.124: dpMatchString: len 4
*Apr  4 04:52:57.124: xrule_translation there was no
match index 5
*Apr  4 04:52:57.124: xrule_translation called Callparms
Numpertype 0x81,
                                match_type 0x0
*Apr  4 04:52:57.124: xrule_translation Xrule index 6,
Numpertype 0x9
*Apr  4 04:52:57.124: dpMatchString, target_number null,
match_number ^6.
*Apr  4 04:52:57.124: dpMatchString match_tmp 6,
match_len 1
*Apr  4 04:52:57.124: dpMatchString beginning_replace 1,
match_tmp 6,target null
*Apr  4 04:52:57.124: dpMatchString: len 4
*Apr  4 04:52:57.124: xrule_translation there was no
match index 6
*Apr  4 04:52:57.124: xrule_translation called Callparms
Numpertype 0x81,
                                match_type 0x0
*Apr  4 04:52:57.124: xrule_translation Xrule index 7,
Numpertype 0x9
*Apr  4 04:52:57.124: dpMatchString, target_number null,
match_number ^7.
*Apr  4 04:52:57.124: dpMatchString match_tmp 7,
match_len 1
*Apr  4 04:52:57.124: dpMatchString beginning_replace 1,
match_tmp 7,target null
*Apr  4 04:52:57.124: dpMatchString: len 4
```

```
*Apr 4 04:52:57.124: xrule_translation there was no
match index 7
*Apr 4 04:52:57.124: xrule_translation called Callparms
Numpertype 0x81,
                                match_type 0x0
*Apr 4 04:52:57.124: xrule_translation Xrule index 8,
Numpertype 0x9
*Apr 4 04:52:57.124: dpMatchString, target_number null,
match_number ^8.
*Apr 4 04:52:57.124: dpMatchString match_tmp 8,
match_len 1
*Apr 4 04:52:57.124: dpMatchString beginning_replace 1,
match_tmp 8,target null
*Apr 4 04:52:57.124: dpMatchString: len 4
*Apr 4 04:52:57.124: xrule_translation there was no
match index 8
*Apr 4 04:52:57.124: xrule_translation called Callparms
Numpertype 0x81,
                                match_type 0x0
*Apr 4 04:52:57.124: xrule_translation Xrule index 9,
Numpertype 0x9
*Apr 4 04:52:57.124: dpMatchString, target_number null,
match_number ^9.
*Apr 4 04:52:57.124: dpMatchString match_tmp 9,
match_len 1
*Apr 4 04:52:57.124: dpMatchString beginning_replace 1,
match_tmp 9,target null
*Apr 4 04:52:57.124: dpMatchString: len 4
*Apr 4 04:52:57.124: xrule_translation there was no
match index 9
*Apr 4 04:52:57.124: xrule_translation Return rc = -4
any_match 0
*Apr 4 04:52:57.124: xrule_checking Return rc = -4
*Apr 4 04:52:59.396: xrule_checking
*Apr 4 04:52:59.396: xrule_checking calling , called 9
*Apr 4 04:52:59.396: xrule_checking peer_tag 0,
direction 1, protocol 6
*Apr 4 04:52:59.396: xrule_translation
*Apr 4 04:52:59.396: xrule_translation callednumber 9,
strlen 1
*Apr 4 04:52:59.396: xrule_translation callednumber 9
xruleCalledTag=1
*Apr 4 04:52:59.396: xrule_translation called Callparms
Numpertype 0x0,
                                match_type 0x0
*Apr 4 04:52:59.396: xrule_translation Xrule index 0,
Numpertype 0x9
*Apr 4 04:52:59.396: dpMatchString, target_number 9,
match_number ^0.
*Apr 4 04:52:59.396: dpMatchString match_tmp 0,
match_len 1
*Apr 4 04:52:59.396: dpMatchString beginning_replace 1,
match_tmp 0,target 9
*Apr 4 04:52:59.396: dpMatchString: len 1
*Apr 4 04:52:59.396: xrule_translation there was no
match index 0
*Apr 4 04:52:59.396: xrule_translation called Callparms
Numpertype 0x0,
                                match_type 0x0
*Apr 4 04:52:59.396: xrule_translation Xrule index 1,
Numpertype 0x9
*Apr 4 04:52:59.396: dpMatchString, target_number 9,
match_number ^1.
*Apr 4 04:52:59.396: dpMatchString match_tmp 1,
```

```
match_len 1
*Apr  4 04:52:59.396: dpMatchString beginning_replace 1,
match_tmp 1,target 9
*Apr  4 04:52:59.396: dpMatchString: len 1
*Apr  4 04:52:59.396: xrule_translation there was no
match index 1
*Apr  4 04:52:59.396: xrule_translation called Callparms
Numpertype 0x0,
                                match_type 0x0
*Apr  4 04:52:59.396: xrule_translation Xrule index 2,
Numpertype 0x9
*Apr  4 04:52:59.396: dpMatchString, target_number 9,
match_number ^2.
*Apr  4 04:52:59.396: dpMatchString match_tmp 2,
match_len 1
*Apr  4 04:52:59.396: dpMatchString beginning_replace 1,
match_tmp 2,target 9
*Apr  4 04:52:59.396: dpMatchString: len 1
*Apr  4 04:52:59.396: xrule_translation there was no
match index 2
*Apr  4 04:52:59.396: xrule_translation called Callparms
Numpertype 0x0,
                                match_type 0x0
*Apr  4 04:52:59.396: xrule_translation Xrule index 3,
Numpertype 0x9
*Apr  4 04:52:59.396: dpMatchString, target_number 9,
match_number ^3.
*Apr  4 04:52:59.396: dpMatchString match_tmp 3,
match_len 1
*Apr  4 04:52:59.396: dpMatchString beginning_replace 1,
match_tmp 3,target 9
*Apr  4 04:52:59.396: dpMatchString: len 1
*Apr  4 04:52:59.396: xrule_translation there was no
match index 3
*Apr  4 04:52:59.396: xrule_translation called Callparms
Numpertype 0x0,
                                match_type 0x0
*Apr  4 04:52:59.396: xrule_translation Xrule index 4,
Numpertype 0x9
*Apr  4 04:52:59.396: dpMatchString, target_number 9,
match_number ^4.
*Apr  4 04:52:59.396: dpMatchString match_tmp 4,
match_len 1
*Apr  4 04:52:59.396: dpMatchString beginning_replace 1,
match_tmp 4,target 9
*Apr  4 04:52:59.396: dpMatchString: len 1
*Apr  4 04:52:59.396: xrule_translation there was no
match index 4
*Apr  4 04:52:59.396: xrule_translation called Callparms
Numpertype 0x0,
                                match_type 0x0
*Apr  4 04:52:59.396: xrule_translation Xrule index 5,
Numpertype 0x9
*Apr  4 04:52:59.396: dpMatchString, target_number 9,
match_number ^5.
*Apr  4 04:52:59.396: dpMatchString match_tmp 5,
match_len 1
*Apr  4 04:52:59.396: dpMatchString beginning_replace 1,
match_tmp 5,target 9
*Apr  4 04:52:59.396: dpMatchString: len 1
*Apr  4 04:52:59.396: xrule_translation there was no
match index 5
*Apr  4 04:52:59.400: xrule_translation called Callparms
Numpertype 0x0,
```

```
match_type 0x0
*Apr 4 04:52:59.400: xrule_translation Xrule index 6,
Numpertype 0x9
*Apr 4 04:52:59.400: dpMatchString, target_number 9,
match_number ^6.
*Apr 4 04:52:59.400: dpMatchString match_tmp 6,
match_len 1
*Apr 4 04:52:59.400: dpMatchString beginning_replace 1,
match_tmp 6,target 9
*Apr 4 04:52:59.400: dpMatchString: len 1
*Apr 4 04:52:59.400: xrule_translation there was no
match index 6
*Apr 4 04:52:59.400: xrule_translation called Callparms
Numpertype 0x0,
match_type 0x0
*Apr 4 04:52:59.400: xrule_translation Xrule index 7,
Numpertype 0x9
*Apr 4 04:52:59.400: dpMatchString, target_number 9,
match_number ^7.
*Apr 4 04:52:59.400: dpMatchString match_tmp 7,
match_len 1
*Apr 4 04:52:59.400: dpMatchString beginning_replace 1,
match_tmp 7,target 9
*Apr 4 04:52:59.400: dpMatchString: len 1
*Apr 4 04:52:59.400: xrule_translation there was no
match index 7
*Apr 4 04:52:59.400: xrule_translation called Callparms
Numpertype 0x0,
match_type 0x0
*Apr 4 04:52:59.400: xrule_translation Xrule index 8,
Numpertype 0x9
*Apr 4 04:52:59.400: dpMatchString, target_number 9,
match_number ^8.
*Apr 4 04:52:59.400: dpMatchString match_tmp 8,
match_len 1
*Apr 4 04:52:59.400: dpMatchString beginning_replace 1,
match_tmp 8,target 9
*Apr 4 04:52:59.400: dpMatchString: len 1
*Apr 4 04:52:59.400: xrule_translation there was no
match index 8
*Apr 4 04:52:59.400: xrule_translation called Callparms
Numpertype 0x0,
match_type 0x0
*Apr 4 04:52:59.400: xrule_translation Xrule index 9,
Numpertype 0x9
*Apr 4 04:52:59.400: dpMatchString, target_number 9,
match_number ^9.
*Apr 4 04:52:59.400: dpMatchString match_tmp 9,
match_len 1
*Apr 4 04:52:59.400: dpMatchString beginning_replace 1,
match_tmp 9,target 9
*Apr 4 04:52:59.400: dpMatchString 0. target
9,match_tmp 9,match_len 1
*Apr 4 04:52:59.400: replace_string
*Apr 4 04:52:59.400: replace_string match ^9., replace
1011009
*Apr 4 04:52:59.400: translation_format replace_rule
^9., strip_proceeding 0
*Apr 4 04:52:59.400: replace_string match_tmp ^9.,
strip_proceeding 0
*Apr 4 04:52:59.400: replace_string match_tmp 9
*Apr 4 04:52:59.400: replace_string direction 1,
callparty 2
*Apr 4 04:52:59.400: replace_string direction 1,
```

callparty 2, target 9

***Apr 4 04:52:59.400: replace_string match_tmp 9,replace 1011009**

*Apr 4 04:52:59.400:
replace_string0.replace19,target,current,match_tmp
*Apr 4 04:52:59.400: replace_string0.1 compare_len
1,match_len 1
*Apr 4 04:52:59.400: replace_string 3. replace1 9,
compare_len 1
*Apr 4 04:52:59.400: replace_string 4. replace1
1,compare_len 0,replace 011009
*Apr 4 04:52:59.400: replace_string 4. replace1
10,compare_len -1,replace 11009
*Apr 4 04:52:59.400: replace_string 4. replace1
101,compare_len -2,replace 1009
*Apr 4 04:52:59.400: replace_string 4. replace1
1011,compare_len -3,replace 009
*Apr 4 04:52:59.400: replace_string 4. replace1
10110,compare_len -4,replace 09
*Apr 4 04:52:59.400: replace_string 4. replace1
101100,compare_len -5,replace 9
*Apr 4 04:52:59.400: replace_string 4. replace1
1011009,compare_len -6,replace
*Apr 4 04:52:59.400: replace_string 5. replace1
1011009, compare_len -6,match_l
en 1
*Apr 4 04:52:59.400: replace_string 6. replace1
1011009,compare_len -6,current
*Apr 4 04:52:59.400: replace_string buffer 1011009
*Apr 4 04:52:59.400: xrule_translation index
9,xrule_number 1011009, callparty
2
*Apr 4 04:52:59.400: xrule_translation Return rc = 0
any_match 0
*Apr 4 04:52:59.400: xrule_checking Return rc = 0
*Apr 4 04:53:00.156: xrule_checking
*Apr 4 04:53:00.156: xrule_checking calling 4444,
called 10110099
*Apr 4 04:53:00.156: xrule_checking peer_tag 100,
direction 2, protocol 0
*Apr 4 04:53:00.156: xrule_checking Return rc = -5

NewDelhi#debug translation min

*Apr 4 02:37:17.045: xrule_checking
*Apr 4 02:37:17.045: xrule_translation
*Apr 4 02:37:17.045: xrule_translation callednumber ,
strlen 0
*Apr 4 02:37:17.045: xrule_translation callednumber
null xruleCalledTag=1
*Apr 4 02:37:19.457: xrule_checking
*Apr 4 02:37:19.457: xrule_translation
*Apr 4 02:37:19.457: xrule_translation callednumber 9,
strlen 1
*Apr 4 02:37:19.457: xrule_translation callednumber 9
xruleCalledTag=1
*Apr 4 02:37:19.457: dpMatchString 0. target
9,match_tmp 9,match_len 1
*Apr 4 02:37:19.457: replace_string
*Apr 4 02:37:19.461:
replace_string0.replace19,target,current,match_tmp
*Apr 4 02:37:19.461: replace_string0.1 compare_len
1,match_len 1
*Apr 4 02:37:19.461: replace_string 3. replace1 9,

```
compare_len 1
*Apr  4 02:37:19.461: replace_string 4. replace1
1,compare_len 0,replace 011009
*Apr  4 02:37:19.461: replace_string 4. replace1
10,compare_len -1,replace 11009
*Apr  4 02:37:19.461: replace_string 4. replace1
101,compare_len -2,replace 1009
*Apr  4 02:37:19.461: replace_string 4. replace1
1011,compare_len -3,replace 009
*Apr  4 02:37:19.461: replace_string 4. replace1
10110,compare_len -4,replace 09
*Apr  4 02:37:19.461: replace_string 4. replace1
101100,compare_len -5,replace 9
*Apr  4 02:37:19.461: replace_string 4. replace1
1011009,compare_len -6,replace
*Apr  4 02:37:19.461: replace_string 5. replace1
1011009, compare_len -6,match_l
en 1
*Apr  4 02:37:19.461: replace_string 6. replace1
1011009,compare_len -6,current
*Apr  4 02:37:19.461: replace_string buffer 1011009
*Apr  4 02:37:19.461: xrule_translation index
9,xrule_number 1011009, callparty
2
*Apr  4 02:37:19.841: xrule_checking
```

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