IBM eServer™

IBM Configuration Assistant for z/OS® Communications Server - Example of use

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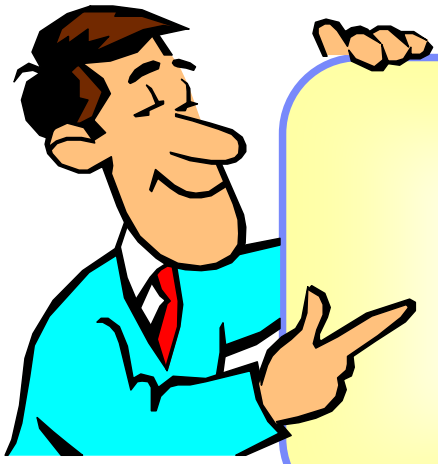
Agenda - IBM Configuration Assistant for z/OS Communications Server



1 **Example use of the Configuration Assistant - TN3270 Server using AT-TLS**

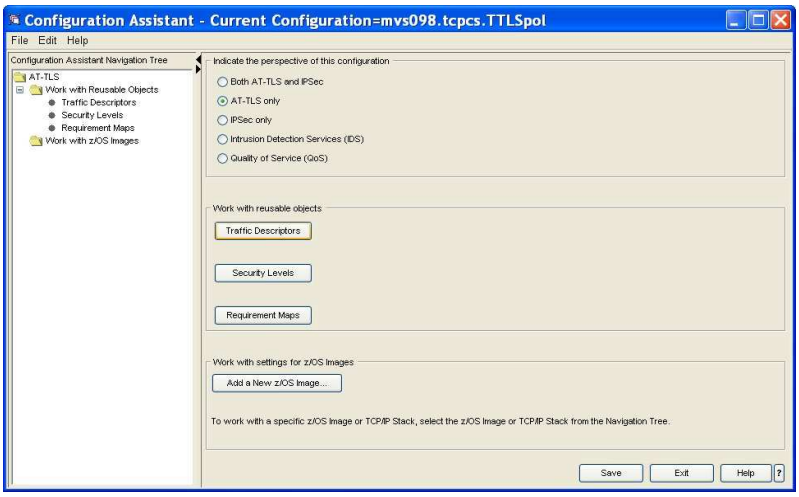
The z/OS Communications Server Configuration Assistant

This is the consolidated policy configuration tool for CS z/OS V1R8.

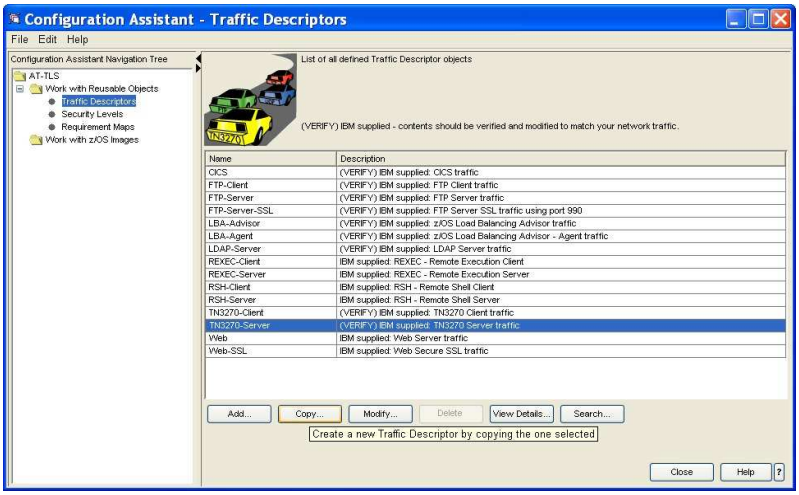
In z/OS V1R8, this tool can be used to manage policies for:

- AT-TLS
- IPsecurity
- Intrusion Detection Services (IDS)
- Quality of Service (QoS)

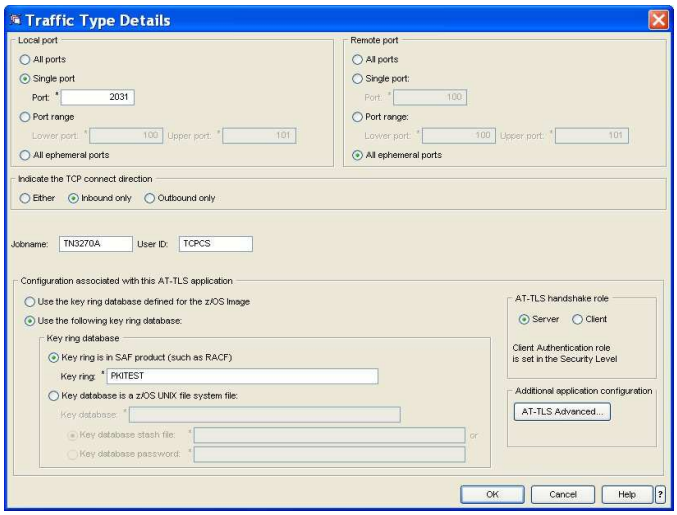
Start creating a traffic descriptor



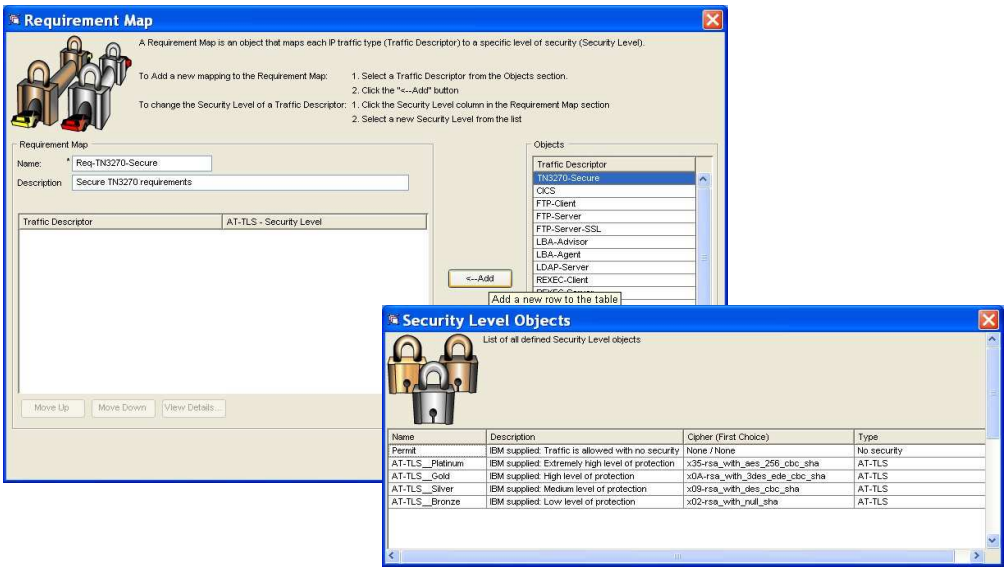
Create a new TN3270 server port traffic descriptor by copying and modifying the sample TN3270 server descriptor



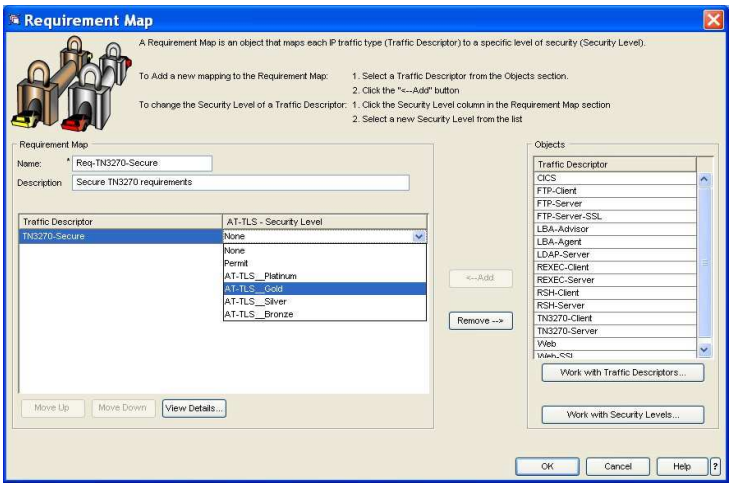
Enter the details identifying traffic to a secure TN3270 server on port 2031



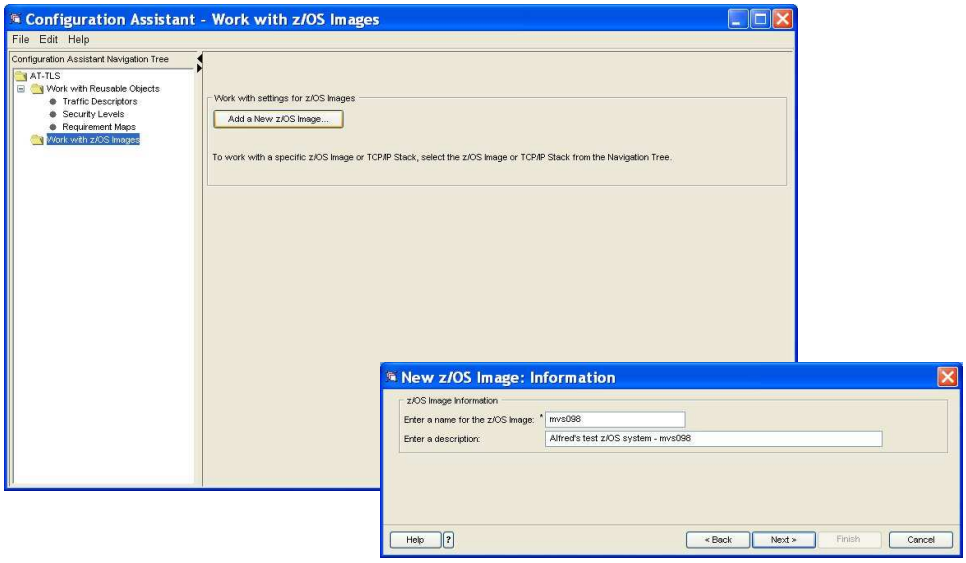
Map the traffic descriptor to security requirements



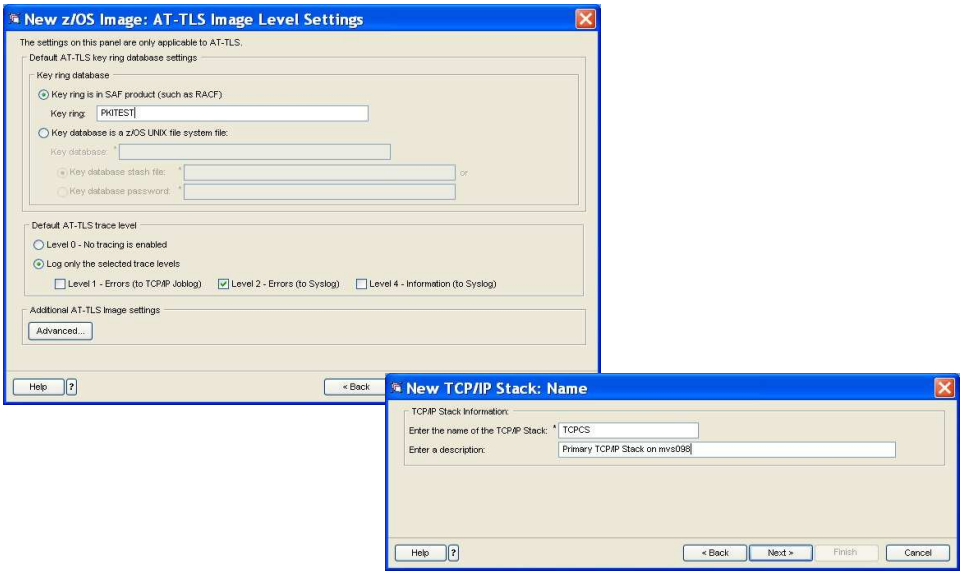
Use AT-TLS gold services for a TN3270 server



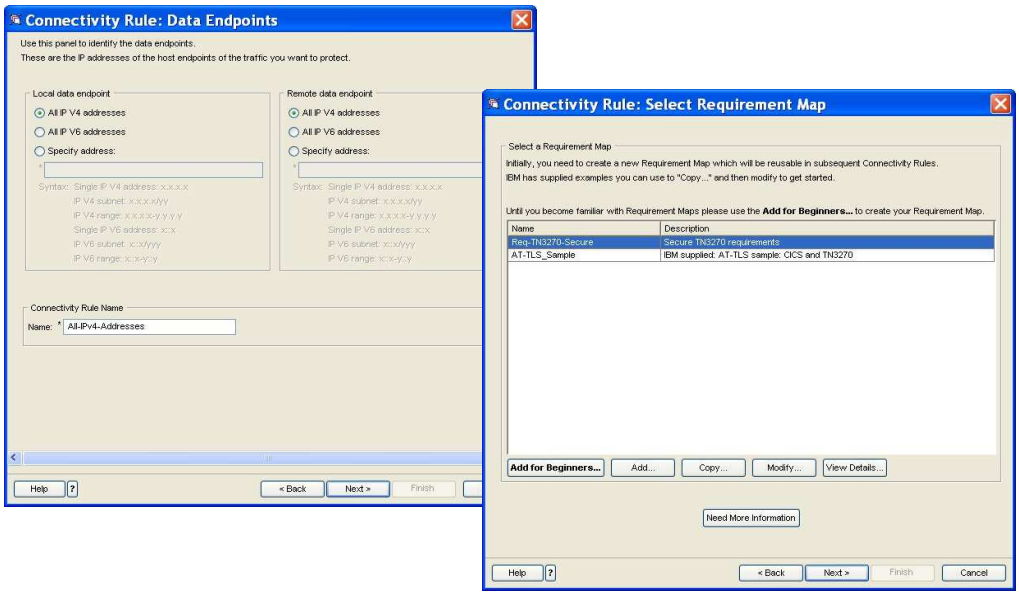
Specify which z/OS system these policies are intended for



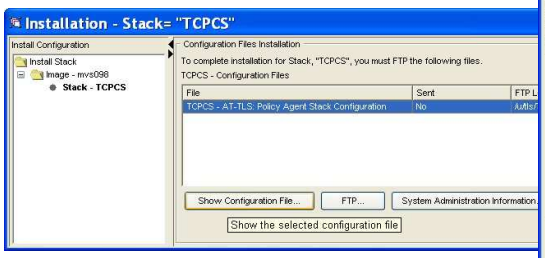
Specify system-wide defaults for AT-TLS - and add stack information

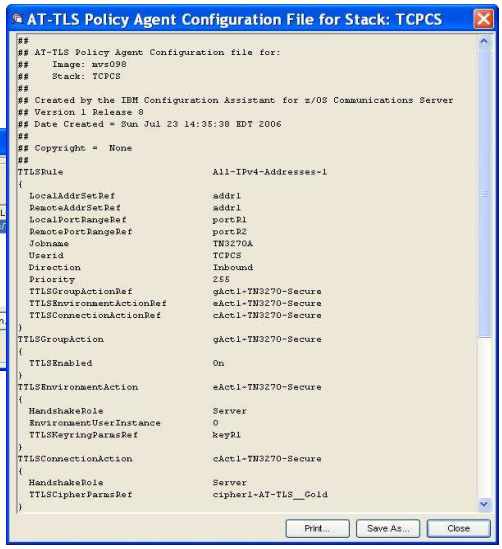


Identify the IP addresses (or ranges) that must use this requirement map

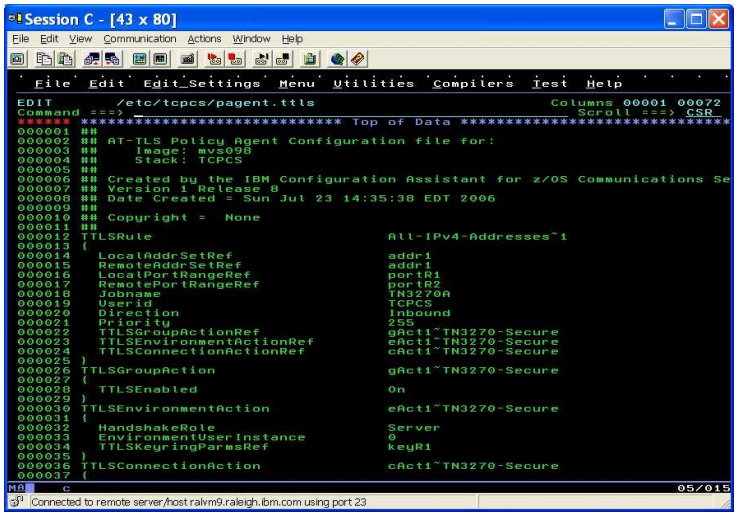


View and save (or FTP) the final AT-TLS policies





The generated AT-TLS policies in text format



Policy agent (PAGENT) setup

```
//PAGENT   PROC P='-d 0 -c /etc/pagent.conf'
//PAGENT   EXEC PGM=PAGENT,REGION=0K,TIME=NOLIMIT,
//       PARM='POSIX(ON) ALL31(ON)
ENVAR("_CEE_ENVFILE=DD:STDENV")/&P'
//STDENV   DD PATH='/etc/pagent.env',PATHOPTS=(ORDONLY)
//*
//STDOUT   DD SYSOUT=*
//STDERR   DD SYSOUT=*
//CEEDUMP  DD SYSOUT=*,DCB=(RECFM=FB,LRECL=132,BLKSIZE=132)
//SYSOUT   DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
```

Policy agent start-up JCL procedure.

```
##
## pagent.conf file
##    Image: mvs098
##
TcpImage TCPCS  FLUSH 600     #Check every 10 minutes for updates
TTLSConfig /etc/tcpcs/pagent.ttls FLUSH PURGE
```

Policy agent start-up configuration file, which identifies the TCP/IP stack and the file name where the AT-TLS policies for that stack are stored.

Remember the EZB.INITSTACK SERVAUTH profile before enabling TTLS on TCPConfig!

```
CLASS      NAME
-----      ----
SERVAUTH   EZB.INITSTACK.*.* (G)

LEVEL  OWNER      UNIVERSAL ACCESS  YOUR ACCESS  WARNING
-----  --------   ----------------  -----------  -------
 00    USER1           NONE              ALTER    NO

.....

USER       ACCESS
----       ------
USER1      ALTER
TCPCS      READ
```

- **When TCP/IP starts with TCPCONFIG TTLS specified, it will issue the following message**
  - EZZ4248E TCPCS WAITING FOR PAGENT TTLS POLICY
- **From then on and until PAGENT has been started and installed the TTLS policies into the TCP/IP stack, the TCP/IP stack will only allow users permitted to the EZB.INITSTACK.system.stack SERVAUTH profile to establish connections.**
  - Make sure all your pertinent server address spaces (including PAGENT and OMPROUTE) run under user IDs that are permitted to this profile.

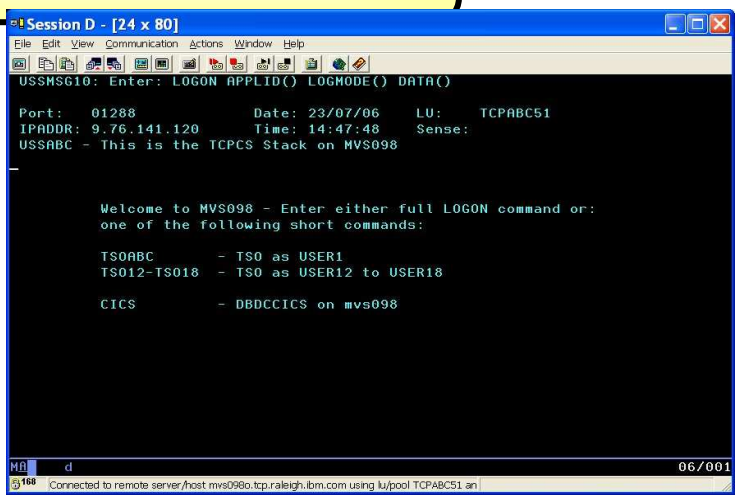
TN3270 server setup when using AT-TLS

```
TelnetParms
    Port 2031                   ; Port number 2031 (security via TTLS)
    Conntype Basic              ; Non-secure port (from TN's view)
    CodePage ISO8859-1 IBM-1047 ; Linemode ASCII, EBCDIC code pages
    Debug detail console
EndTelnetParms
```

When using AT-TLS, the TN3270 server does not know that connections are secured. From a TN3270 server perspective, the port is a basic non-secure port.

For scenarios where only server authentication is needed (in addition to encrypted connections), this is normally perfectly fine.

For express-logon and for scenarios where the TN3270 server maps TN3270 resources, such as LU names, based on user ID - you need to use the TN3270-specific security functions for now (z/OS V1R7 and V1R8).



Netstat reports include lots of good details when using AT-TLS

```
NETSTAT ALL TCP TCPCS ( CLI  TN3270A

Client Name: TN3270A                 Client Id: 000000DD
  Local Socket: ::ffff:9.42.105.45..2031
  Foreign Socket: ::ffff:9.76.141.120..1288
    BytesIn:            0000000000000000032
    BytesOut:           0000000000000000631
    SegmentsIn:         0000000000000000015
    SegmentsOut:        0000000000000000015
    Last Touched:       18:47:49          State:               Establsh
    RcvNxt:             3791287052        SndNxt:              0996954608
    ClientRcvNxt:       3791286711        ClientSndNxt:        0996952341
    InitRcvSeqNum:      3791286678        InitSndSeqNum:       0996951709
    CongestionWindow:   0000006968        SlowStartThreshold:  0000065535
    IncomingWindowNum:  3791418087        OutgoingWindowNum:   0997020143
    SndWl1:             3791287052        SndWl2:              0996954608
    SndWnd:             0000065535        MaxSndWnd:           0000065535
    SndUna:             0996954608        rtt_seq:             0996953929
    MaximumSegmentSize: 0000000536        DSField:             00
    Round-trip information:
      Smooth trip time: 63.000            SmoothTripVariance:  211.000
    ReXmt:              0000000000        ReXmtCount:          0000000000
    DupACKs:            0000000000
    SockOpt:            C000              TcpTimer:            00
    TcpSig:             01                TcpSel:              00
    TcpDet:             E0                TcpPol:              00
    QOSPolicyRuleName:
    TTLSPolicy:         Yes
      TTLSRule:         All-IPv4-Addresses~1
      TTLSGrpAction:    gAct1~TN3270-Secure
      TTLSEnvAction:    eAct1~TN3270-Secure
      TTLSConnAction:   cAct1~TN3270-Secure
    ReceiveBufferSize:  0000065536        SendBufferSize:      0000065536
```

The netstat all report includes a section of AT-TLS information if the connection is secured by AT-TLS.

Netstat TTLS report shows security details per connection

```
NETSTAT TTLS CO 00000DD DETAIL TCP TCPCS

MVS TCP/IP NETSTAT CS V1R7       TCPIP Name: TCPCS          18:55:29
ConnID: 000000DD
JobName:      TN3270A
  LocalSocket:  ::ffff:9.42.105.45..2031
  RemoteSocket: ::ffff:9.76.141.120..1288
  SecLevel:     TLS Version 1
  Cipher:       0A TLS_RSA_WITH_3DES_EDE_CBC_SHA
  CertUserID:   N/A
  MapType:      Primary
TTLSRule: All-IPv4-Addresses~1
  Priority:       4278190080
  LocalAddr:      0.0.0.0/0
  LocalPort:      2031
  RemoteAddr:     0.0.0.0/0
  RemotePortFrom: 1024              RemotePortTo: 65535
  JobName:        TN3270A
  UserID:         TCPCS
  Direction:      Inbound
  TTLSGrpAction:  gAct1~TN3270-Secure
    GroupID:                  00000002
    TTLSEnabled:              On
    CtraceClearText:          Off
    Trace:                    2
    SyslogFacility:           Daemon
    SecondaryMap:             Off
```

If you need detailed AT-TLS information for a specific connection, the netstat TTLS report can be used to provide insight into lots of the details around SSL/TLS for that connection.

```
TTLSEnvAction:  eAct1~TN3270-Secure
  EnvironmentUserInstance:    0
  HandshakeRole:              Server
  Keyring:                    PKITEST
  SSLV2:                      Off
  SSLV3:                      On
  TLSV1:                      On
  ResetCipherTimer:           0
  ApplicationControlled:      Off
  HandshakeTimeout:           10
  ClientAuthType:             Required
TTLSConnAction: cAct1~TN3270-Secure
  HandshakeRole:              Server
  V3CipherSuites:             0A TLS_RSA_WITH_3DES_EDE_CBC_SHA
                              2F TLS_RSA_WITH_AES_128_CBC_SHA
```

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IBM MVS z/OS

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