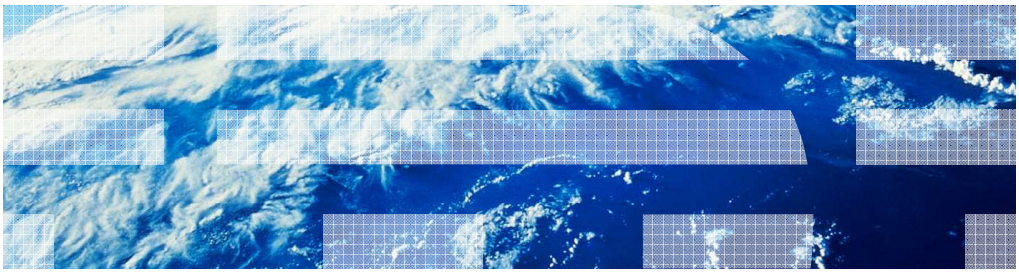
z/OS Communications Server – SNA/EE Overview



This presentation provides an overview of the new functions in z/OS V1R13 Communications Server for SNA and Enterprise Extender.

Enterprise Extender firewall-friendly connectivity test

- DISPLAY EEDIAG,TEST=YES provides information about an EE partner and all routers in between
  - Firewalls blocking ICMP messages can cause long delays for results
- LIST=SUMMARY will now provide quick test of partner reach-ability
  - Hop count determination omitted
- LIST=DETAIL is unchanged

```
D NET,EEDIAG,TEST=YES,IPADDR=(9.67.1.1,9.67.1.5),LIST=SUMMARY
IST097I DISPLAY ACCEPTED
IST350I DISPLAY TYPE = EEDIAG
IST2119I ENTERPRISE EXTENDER DISPLAY CORRELATOR: EE000001
IST2067I EEDIAG DISPLAY ISSUED ON 08/29/05 AT 15:41:22
""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""
IST1680I LOCAL IP ADDRESS 9.67.1.1
IST1680I REMOTE IP ADDRESS 9.67.1.5
IST924I -------------------------------------------------------------
IST2133I INTFNAME: LTRLE1A                 INTFTYPE: MPCPTP
IST2134I   CONNECTIVITY SUCCESSFUL                          PORT: 12000
IST2137I    *NA 9.67.1.5                    RTT:     6
IST2134I   CONNECTIVITY SUCCESSFUL                          PORT: 12001
IST2137I    *NA 9.67.1.5                    RTT:     6
IST2134I   CONNECTIVITY SUCCESSFUL                          PORT: 12002
IST2137I    *NA 9.67.1.5                    RTT:     6
IST2134I   CONNECTIVITY SUCCESSFUL                          PORT: 12003
IST2137I    *NA 9.67.1.5                    RTT:     6
IST2134I   CONNECTIVITY SUCCESSFUL                          PORT: 12004
IST2137I    *NA 9.67.1.5                    RTT:     7
IST924I -------------------------------------------------------------
IST2139I CONNECTIVITY TEST RESULTS DISPLAYED FOR 1 OF 1 ROUTES
IST314I END
```

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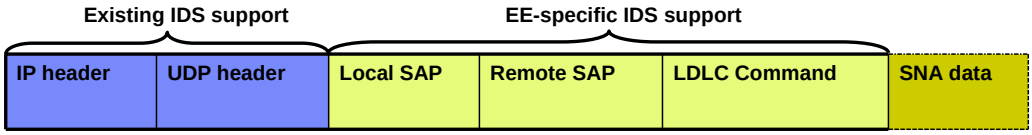
The DISPLAY EE DIAG TEST=YES command provides information about an Enterprise Extender partner and all of the routers in between. If a firewall in between is blocking ICMP messages, there can be a long delay before getting results. The delay is because of timeouts waiting for ICMP messages that never come. The delay is the number of router hops past the firewall times nine seconds. The existing LIST=SUMMARY option now provides a quick test of partner reach-ability. The probe is sent to the partner with TTL=255 so it does not probe any intermediate hops. The output no longer includes the hop count determination. The LIST=DETAIL output is unchanged and includes intermediate hop information and the hop count determination.

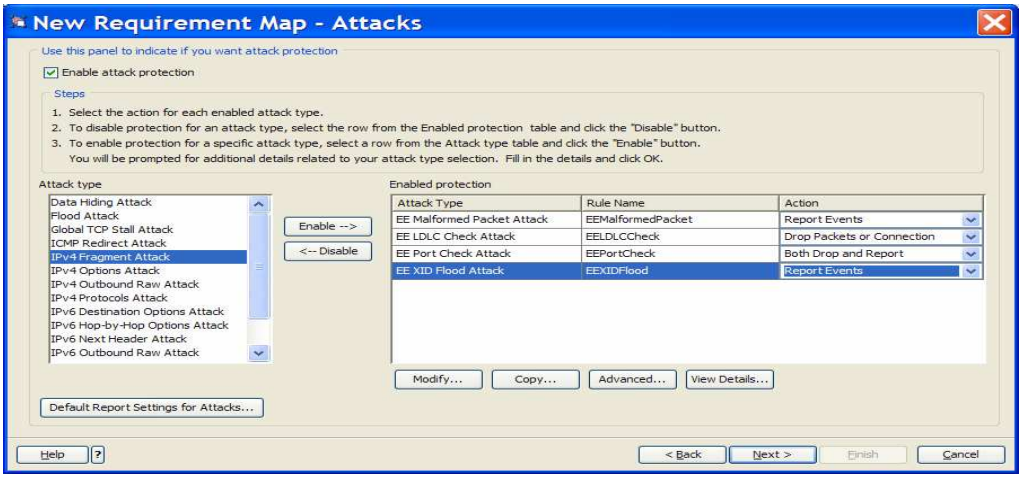
Intrusion detection services for Enterprise Extender traffic

- Implement new EE-specific IDS attack types
  - EE Malformed Packet
  - EE LDLC Check
  - EE Port Check
  - EE XID Flood
- Exclusion list allowed for each attack type
- Actions are discard and notify
- IDS policy - z/OS CS Configuration Assistant
- IPv4 and IPv6



Intrusion detection services (IDS) is enhanced to implement four new IDS attack types for Enterprise Extender (EE). These attack types are supported for IPv4 and IPv6 EE traffic. The EE Malformed Packet attack type checks inbound EE packets for incorrect lengths. The EE LDLC Check attack type checks that inbound LDLC control commands are only received on the signaling port (12000). The EE Port Check attack type checks that inbound EE packets contain matching source and destination ports. The EE XID Flood attack type checks if a threshold is met for inbound XIDs within one minute. The actions allowed are to discard the packet and to provide a notification. The EE XID Flood attack only supports the notify action. An exclusion list can be created to exclude specific hosts from attack checking. Events notifications can be sent to syslogd, to the console, to IDS packet trace and to Tivoli Security Operations Manager (TSOM). IDS is configured using policies and is supported by the Configuration Assistant.

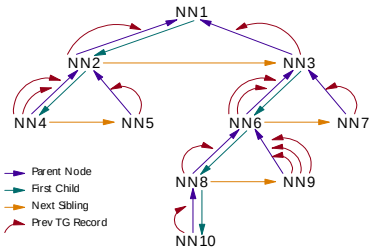
Configuration Assistant support for the new intrusion detection services for Enterprise Extender



The IBM Configuration Assistant for z/OS Communications Server was updated to support the four new EE attack types. The slide shows a new requirement map with the four EE attack types listed. You can disable an attack type by selecting it and clicking the disable button.

Improved APPN routing resilience

- APPN session routes are selected by APPN Topology and Routing Services (TRS)
- Optimal route determined by specified criteria
- TRS builds routing trees to determine best route
- Recursive abends can occur if the routing tree is compromised
- Recovery routine for route selection abends is improved to prevent recursive abends
  - Routing tree is deleted
  - Dynamically rebuilt
- New FUNCTION=CLRTREES operand on MODIFY TOPO command



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APPN session routes are selected by APPN Topology and Routing Services (TRS). These routes are used to locate resources (directed search routes) and for LU-LU sessions. The optimal route is determined by specified criteria such as line speed, cost of data transmitted, security, and user-defined values. TRS builds complex routing trees to determine the best path. The tree records represent nodes along preferred routes.

Recursive abends can occur if a pointer in a routing tree is compromised. Every time a session route is requested using that tree, abends occur and the session fails. VTAM must be restarted to recover. The recovery routine for route selection abends is improved in z/OS V1R13 to prevent recursive abends – by removing the entire storage area that contains the routing tree and dynamically rebuilding it. Existing sessions are not affected. It can temporarily impact VTAM performance in large APPN networks as the routing tree is being rebuilt. For the rare case where the routing tree is corrupted, but no abends occur, a new command can be used to perform the same process as described above.

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