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## IPA Injection Proxy Appliance

IPA (Injection proxy appliance) is a offensive security device developed by HT for performing remote installation of Remote Control System, by using man in the middle attack techniques and by using proprietary streamline injection mechanism.

This device is very flexible, it can be operated on different network scenarios, either on LAN or intra-switch segment, depending on the location of the target computers under attack.

Two network links are necessary for placing the device on the network properly.

One link is used for intercepting the traffic of the target computers, either by using a mirror port of the switch (span port) or by using a network TAP interface (transparent inline connection). See below network diagrams of two possible network scenario.



By using dedicated hi-speed network interfaces, IPA is compatible with many physical network links at various speeds (copper, optical fiber, Gigabit).

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Second link is used for packet forging and it requires a valid IP address on the network, possibly on the same network on the sniffing interface.

This link is used for both packet forging and for transparent proxying of HTTP connections.

Since this interface is also used for generating forged packets, policy on the network should allow such traffic on the specific switch and routers.

A typical scenario for using IPA on a Internet Service Provider is described below:



Injection Proxy is placed on a network segment between DSLAM ADSL concentrator and ISP core network.

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In this case, every ADSL end-user connected to the same DSLAM could be easily infected by Remote Control System.

Important feature of the system includes the capability of centrally managing multiple IPA installations over the network by using a single GUI interface (RCS Console).

Target identification is performed by different mechanisms:

- Radius parameters
- Username
- Calling station ID
- Session ID
- NAS IP Address and NAS Physical Port
- Static IP Address
- String matching (i.e. HTTP cookies or email address)
- DHCP information

Installation and deployment of Injection Proxy Appliance on a target ISP network is subject to validation by HT engineers.