Netintelligence
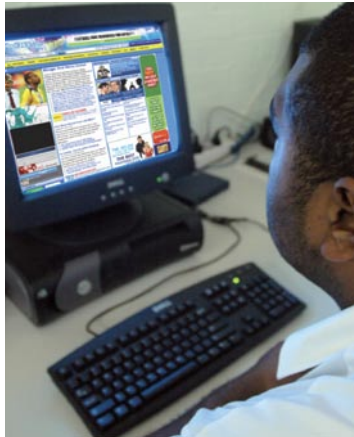## Cloud Clean

Netintelligence Controlled Content Network Filter
An Overview

As the use of the Internet continues to grow unabated, and with growing concern about the availability of illegal content on the Internet, the issue of content filtering has become increasingly important. The vast majority of Internet content is for purposes of information for totally legitimate business or private usage. However, like any other communication technologies, the Internet can carry potentially harmful or illegal content or be misused as a vehicle for criminal activities. Although, statistically a limited phenomenon, these aspects are too important to be ignored. One of the biggest issues facing the Industry at the moment is how can we prevent people from reaching illegal content, and whose responsibility is it? Is it the responsibility of individuals, companies, ISPs or the National Government? Whilst Netintelligence can only add to the debate over responsibility it can provide a solution for the How can we prevent access?

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Cloud Clean

Ni Cloud Clean is a network based service, for ISPs, MSPs, Content Providers and corporations, which is designed to focus the content filtering on a very small proportion of traffic that could be visiting potentially illegal urls - such as sites hosting paedophilic material - whilst leaving the majority of data traffic unfiltered. And importantly the filtering is applied without the end user experiencing any degradation in their usual surfing experience.

The Solution

Ni Cloud Clean solution is a server based solution. The server has three key components; a database to store URL's, a Router to broadcast suspicious IP's a filter to process suspicious traffic. The Filter Server is based on standard hardware and should be deployed in a configuration that provides load balancing and an acceptable degree of redundancy, the details of this configuration will vary according to local infrastructure requirements.

Ni Cloud Clean is designed to minimise the impact on existing infrastructure. The percentage of traffic going to servers that potentially have illegal material is very small. The system identifies the potentially illegal traffic and filters only traffic that is destined for servers that host dangerous or illegal material. The system operates by informing routers in its local group of the IP addresses of the servers which may contain illegal material. All traffic to these addresses is then routed through the Filter Server and each URL is then checked against the database. If an attempt is made to access an illegal site is made the system returns a 404 message to the end user.

Ni Cloud Clean will manage the raw URL feeds provided by the Controlled Content Provider(s).

The Controlled Content Provider(s) might be recognised law enforcement agency, a media rights/copyright owner or another licensed provider of illegal URL data e.g. The Internet Watch Foundation.

The controlled content feed supplied to Ni Cloud Clean customers will be enhanced with IP data and encrypted ensuring no third parties will have access to underlying URL's. To ensure maximum availability the content feed is available from a number of mirrored servers. The Filter Servers will periodically connect to the servers and download the latest updates. The update period is configurable.

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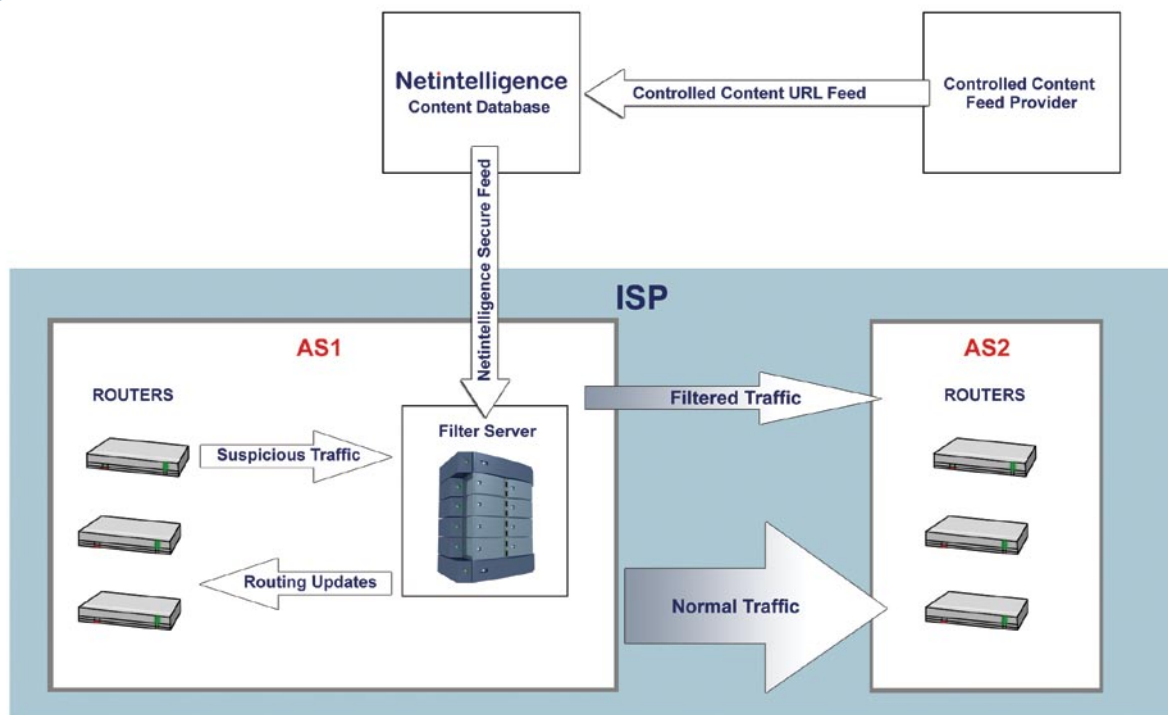
The Ni Cloud Clean Update Processes

• Central Update Process

1) URL updates are added to the Controlled Content databases

2) Ni Cloud Clean receives the latest updates from the Controlled Content databases

3) Ni Cloud Clean obtains the IP address of the server hosting the URL.

4) Ni Cloud Clean encrypts the URL using a one-way algorithm.

5) The IP address is checked against a central 'white list' to ensure it doesn't point to an existing third party site.

6) The IP and encrypted URL are then added to the Ni Cloud Clean central databases.

7) The updates are sent from the Ni Cloud Clean central databases to the local Filter Servers using a secure connection.

• Local Update Process

1) The Filter Server receives the latest controlled data updates

2) Updates are written into local database

3) Ni Cloud Clean then 'broadcasts' the updates to the network router group

4) The network routing tables are then updated.

5) Routers direct all traffic going to IP's on the list to the Filter Server proxy server.

6) All HTTP traffic directed to the server is checked against the encrypted list.

7) If a match is found a '404' web page is returned to the end user

8) If no match is found the web page is served to the end user

Internet Watch Foundation
Controlled Content

Ni Cloud Clean offers ISPs & MSPs, the controlled content that is currently provided by the Internet Watch Foundation (IWF). The IWF is uniquely placed in that it is the only authorised organisation in the UK that provides an internet 'Hotline' for the public to report their exposure to potentially illegal images online e.g. child abuse images originating anywhere in the world but also criminally racist and obscene content hosted in the UK. The IWF works in partnership to minimise the availability of illegal images online and is strongly supported by and works closely with, the government and industry. The IWF is an independent organisation but is usually recognised as a co-regulator of illegal content, alongside the police. Any URL added to the database would contain potentially illegal child abuse content that would amount to an offence to download (make) in the UK. This includes pay-to-view websites as well as sites where potentially illegal images are swapped and traded.

"The UK has perhaps the world's best regime for tackling child pornography, the Internet Watch Foundation, and we continue to work closely with the industry, law enforcement agencies and children's charities to seek ways of protecting children from abuse. The internet obviously bestows enormous opportunities and benefits, but it also creates the dangers to which she draws attention, so it is important that we make sure that we do everything possible to protect our children, who may be gaining access to unsuitable material."

Rt Hon Tony Blair MP Prime Minister United Kingdom

The Benefits of Ni Cloud Clean

o **Filters and prevents end user access to illegal material at network level**

o **End user does not need to know that network filtering is operating**

o **No end user reduction in Quality of Service**

o **Scaleable for any size network**

o **Constant and live updates**

o **'Plug & Play' Solution**

o **Simple and inexpensive per subscriber pricing**

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Email Filtering PREMIUM

Web Filtering PREMIUM

Anti-Virus Level1

Anti-Spyware DESKTOP