Building Social Content Secure Delivery Based on Real World Networks[*]

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Abstract - To secure the social content delivery, we study the frame on real world networks of future Internet. The current Internet content distribution infrastructure becomes the bottleneck because it is closed to end-to-end applications. The delivered data are clustered and standard enveloped according to the direction, the usage, the size and the secure levels. The destinations and the signpost are building with different layers. This paper states the content secure delivery at a single social web the same as the content secure information based on delivery destination. The special channel for a register web and the trash channel for the out-time buffers are our approach. There are the structures for the content delivery at future Internet based on real world, such as trash clear, private channel for a very important web. The secure issues which include signature, channel secure, file data are mixed at the each delivery step by different administrators.

Index Terms - Social content, Secure delivery, Future internet, Real world networks.

1. Introduction

The study of content delivery network (CDN) is deployed rapidly at future Internet. The content network includes the genres, educate, inform and entertain. So, the social content delivery is a part of CDN, which is floating at application layer of future Internet. According to Wiki, a content delivery network is a large distributed system of servers deployed in multiple data centers in the Internet. The goal of a CDN is to serve content to end-users with high availability and high performance. CDN serves a large fraction of Internet content today, including web objects including text, graphics, URLs and scripts meanwhile the downloadable objects including media files, software, documents and applications including e-commerce, live streaming media, on-demand streaming media, portals and social networks. But there are some different study topics at future internet, such as Web content, tools for producing and handling social content, animation or cinematography, medical image producing, 3D Graphics, voice producing, audio producing, coding, Speech producing, data transmission and management, etc.

The current Internet content distribution infrastructure is mostly closed to end-to-end applications. Though there is TCP/IP protocol manage the distribution of the address of computer route, the content delivery network has to exist the different regular to optimize the addressing modes. Though the secure of wireless networks and Internet content delivery are studied[1][2][3] , the secure factor of the social content does not fused in content delivery process of future Internet, as well as precisely deal with kinds of data not only limited at end to end and big data. The related studies about CND, for example, the Information-Centric Network, Networking Named Content are discussed at [4][5][6][7], meanwhile the cross research with intelligence is done[8][9][10]. At the social network layer, Facebook platform severs play an important role to access into Internet [11][12]. The paper is focused secure on both delivery routes and delivery data packages at the social networks. The rest of the paper is organized as follows. Section 2 contains the two sorts of real world networks machinery which based on mailed-goods and destination address. The content secure delivery is described in section 3. Section 4 includes the conclusion of the simple secure factor at CDN of future Internet.

2. Real World Networks Machinery

A. The Information Based on Mailed-goods

The real world network is a part of future internet. The real world networks' machinery of content includes the content of mailed-goods and destination address. The content of real world is only related to the geographic information on the external packing because we care about the goal of goods and their integrities. Here, we call both letter and articles to deliver are mailed-goods. The information based on mailed-goods is similar to the RFID information of the goods. There are weight, cluster and price of goods. Then one specification is pasted at the goods and one specification belongs to the sender. The receiver must signature for the goods to ensure the ending of delivery process. The cluster of goods can be used to decrease the risk at traffic of goods. So, the different cluster means the different store and delivery methods. The weight and price of goods partly decide the value of delivery. The public and secret delivery routes are available, such as

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ordinary mail and registered letter. The express of goods is simple because the standard is increased to a high level.

B.   The Information Based on Destination

The post information of destination at China, the largest population country, includes the pin-code, street or road name, the number of house, the city, the province. There are mail-boxes in real world generally located at the first floor of a building. The two-layer door is a kind of design at America and there is a slot at the inner-layer door (Fig. 1). The out-layer door can be opened by anyone. So, the letter can be delivered into the house through the slot or mail-box and the big goods are located between the two-layer doors. The mailed-goods are delivered without any receipt. So, the two-layer door's delivery method is suitable to the very believable environment.

Fig. 1   The mail-boxes and double doors.

3.   Content Secure Delivery Based On The Real World Network

There are some kinds of data at content delivery network, including web objects, text, graphics, URLs, scripts as well as downloadable objects, such as the media files, the software, the documents, including applications, e-commerce, portals, and also including social networks, live streaming media, on demand streaming media. So, the content secure delivery is a precisely optimized project.

A.   The Content Secure Information On Data-packages

The mailed-goods are packaged by boxes at the real world. The information about destination address generally includes the number of house, the road name, the city, the province, the country as well as the post code. Sure, the number of house is exclusive at some city. But the road name is requested because there are some same numbers of houses at different road at the large population cities. So, there are at lest 5 items to tell the post destination of goods delivery. And there are various encapsulations for the different sizes of goods. The ordinary envelops are prepared to the articles of small sizes and light weight. The Three-dimensional boxes are available according to the large sizes and heavy weight. The lists of related information are pasted on the surface of encapsulations. The information receipts are distributed to the sender, the poster, the delivery companies. The data are simulated to the goods at the real world. Thus, the kinds of boxes are the secure methods for the content delivery. The types of data are standard for the scales of the data. Until now the pure text files, graphics, URLs which are operated by the micro soft office can be delivered through the slot. And the others are delivered to the buffer zones of the receivers, such as the media files, software which are secure enveloped. The special trash zones including standard packing boxes are necessary. The content secure information is a simple and quick cover on the standard data, which contains the data type, the size, the serial number, the secure grade for the standard usages. The size of data decides whether it can be delivery through slot. Meanwhile the size of standard enveloped data is an important factor to decide the delivery route.

B.   The Social Content Delivery Secure Concept Map

There are a lot of social content networks at Internet, such as Facebook, twitter at US and sciencenet, weibo at China. The data are enveloped according to their types then are distributed to the different social webs. Furthermore, there is a secure wide-pathway for the data delivered to the same social web. For a single social web user, the content delivery is the same as the real world. If there is the private content channel based on wide-design, the data exchange among the several social webs or named date networking is better than only using public channel to transform.

B.1 Content Secure Delivery At Several Social Webs

The content secure delivery networks keep the channel among social webs as well as the trash channel of themselves. The social web is a wide usage for application layers. There are a lot of users at different webs. The signpost and the satellite Global Position System are the assistants for the delivery destinations at the real world. The secure content delivery network does not only keep the commercial services store and distribute pages to users, also capsule any kind of data on the origin standard protocols. So, the content secure delivery among several social webs is at table 1 where H stands for HASH function, B stands for Block cipher and S stands for stream cipher (table 1).

TABLE I   The private note of content secure delivery

	Type of mail	The channel for the single web		The channel of webs
		Slot mail	Buff zone mail	Any kinds of mail
Private note	Secure type	Slot mail	Buff zone mail	Any kinds of mail
signature	H or B	Y	Y	N
Channel secure	S or B	N	N	Y
File secure	B	Y	Y	N

Y stands for 'yes', N stands for 'no'

B.2 Content Secure Delivery of A Single Social Web

If a single social web typically registers at the content delivery network, both the high speed channel and the secure level are considered firstly. It means that the content delivery networks pay the single social web the special management. For example, the facebook page, which is consist with user information, tracking logs, electrical substation, 'like' button, news feed, web servers and caches, photographs, security, facebook palteform. The content secure delivery can open a static space to secure store and secure trash buff of a single social web by dynamic requirement.

C. The Content Secure Information On Delivery Destination

At the real world situation, the destinations include the locations or receivers. The receiver must signature for the list of poster, if the sender requested. Otherwise, the goods are delivered through the slot at the inner-doors or between the two doors just according the geographic destinations. At most occasions, the signature is necessary. There are the other physical protect, such as electrical door mirrors or bells which are just at the public garden. So, the personal mail boxes which are same as the slots also are located at the public area at the large population countries. The building managers sometimes can reserve the goods from the poster after the agreement of the receivers. So, the cluster of personal mail-boxes and building managers are interested issues. The large user numbers make the destination information complexity and the secure methods are different with the small number users'. At the large number situation, there needs a data center to distribute and manage the several levels content delivery. Meanwhile, the peer to peer content is at small number delivery. We have told the social content concept map at A and B precisely. (fig. 2)
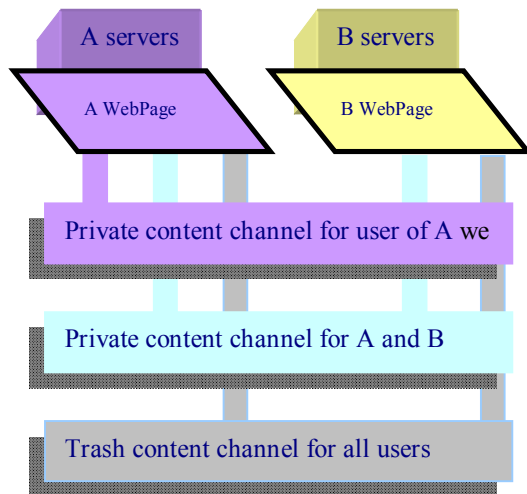

Fig. 2 The example of content concept map

D. The notes to the content concept map

According to the content concept map of figure 2, the content secure delivery machinery might prepare the special material trash content channel and trash temp buffer, which is made of material available to the multi-cluster and multi-clear. At the private content channel for user A, there can be the GPS to quickly find the delivery route meanwhile the data delivery relays which are similar with satellites are located. If the secure layer just covers on the content delivery, the conversion centre between the CDN and secure layer is necessary.

4. Conclusion

Though the wide track preparation is for the rapidly increased data, the content delivery is an important step of future Internet. The cleaning private channel included buff

area is totally similar as real world at the paper. The software and hardware of trash channel are suitable the large size, multiple clean up and re-useable frequently. So, the secure of trash channel is trivial. There is a private channel for the very important user. The secure of such a private channel as well as a special wide-track distribution is operated at the secure content delivery process. The signature confirms the integrity of delivery. The channel secure provides the special content path among the different web pages. The files' secure ensures the sensitive content information with high level exchanged. The static study of building our content secure delivery is for application layer. Though the signpost and Global Position System are as same as important to dynamically situation to enhance the content delivery quality, they are not deeply considered. Sure, there are more and more precisely diverse function web sites, such as YouTuBe mostly delivering video, Facebook delivering kinds of social communication files. The special study about different data including audio, video, 3D is not so typically discussed at the paper. The secure content delivery at the paper is based on real world and how to avoid the problems existed latest is another study direction for us.

Acknowledgment

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