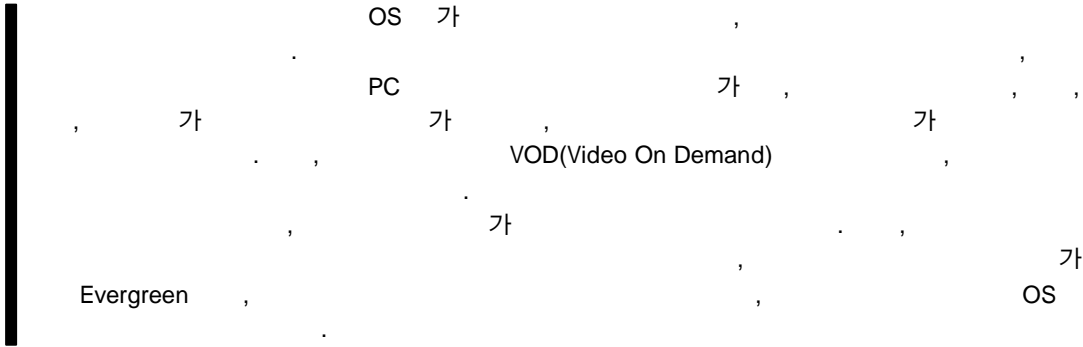




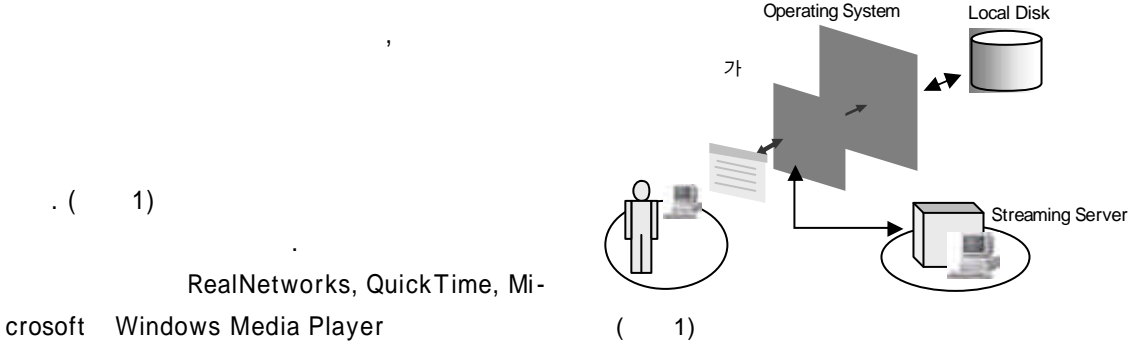
Technical Trends and Development Direction of On-Demand Software Streaming

(W. Choi)
(S.J. Heo)
(W.Y. Kim)
(J. Kim)
(K.H. Nam)
(M.J. Kim)
(D.H. Song)
(S.Y. Park)



I.

(on -demand soft - ware streaming) [1]-[3],







[13]-[15].

. IBM  
PC IBM  
(rich client) 가  
MS WBT(Web-Based 가  
Terminal), Citrix Metaframe (page fault)가  
(NC) [16].  
(thin client)

WBT 가

Z!Stream , OS

[17],[18].

가

3.

[19]

가.

. Roman[20]

가

. Mezini[21]

가 가

1999

, 3 가

[10]-[12].

. AppStream

[22]

AppStream

가

가





ServiceOnNet , Ser-  
viceOnNet  
ServiceOnNet

가  
( 2) ServiceOnNet  
, ( 3) ServiceOnNet

ServiceOnNet , 가  
ServiceOnNet

1. ServiceOnNet

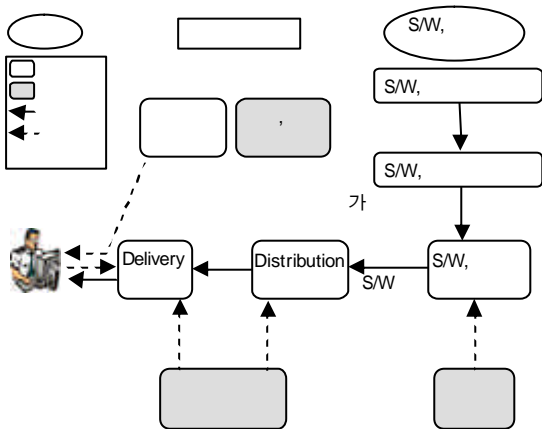
ServiceOnNet

Bandy

가

, SoD  
(Software on Demand) VoD(Video on Demand)  
가

가 Evergreen ,

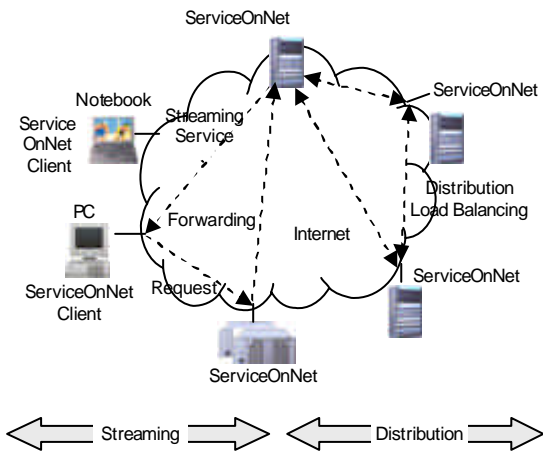


( 2) ServiceOnNet

2. Bandy

ServiceOnNet

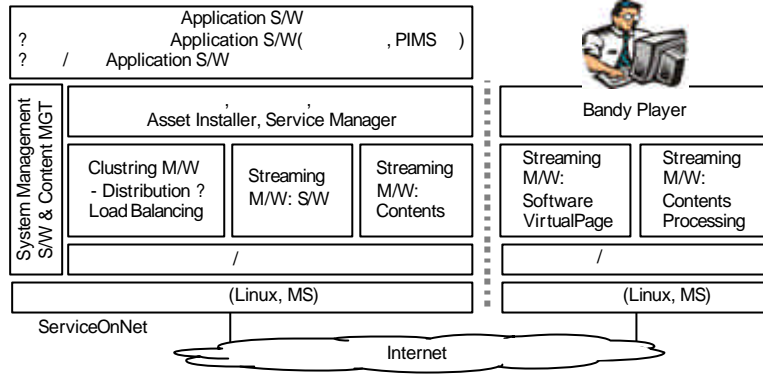
가 , MS ,  
OS , PC  
PDA



( 3) ServiceOnNet



( 4) Bandy GUI

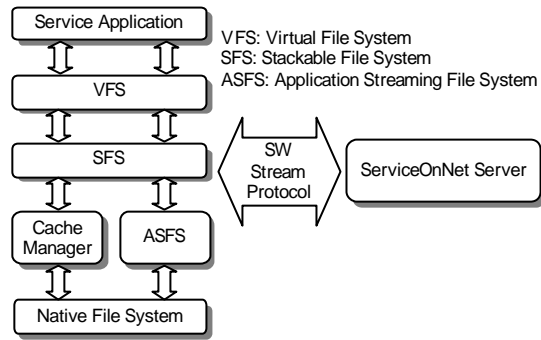


( 5) Bandy

Bandy  
Bandy

(( 4) ).  
ServiceOnNet

. ( 5) , Bandy



( 6)

가  
ServiceOnNet , Bandy  
가 가 ,

DTV  
ServiceOnNet

VFS

SFS

SFS

3.

, ASFS(Application Stream-  
ing File System)

ASFS

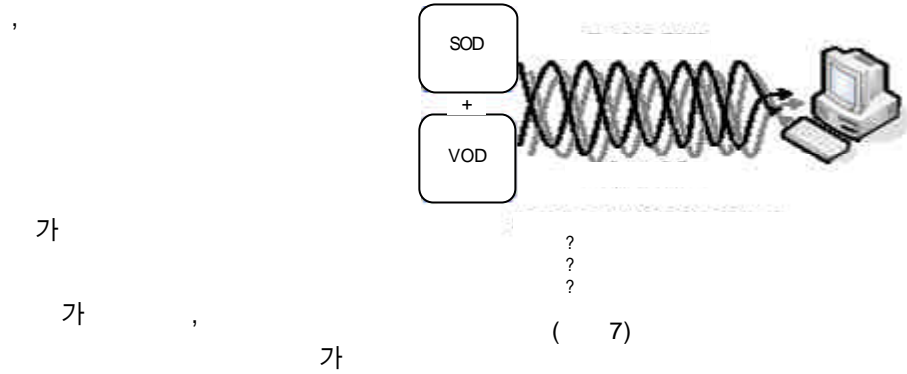
MS

가  
native file system

, ( 6)

( 6)





#### 4. SoD/VoD

( 7) , SoD/VoD

가

가

가

#### 5. Evergreen

가

가

가

가

Evergreen  
. Evergreen

가  
GUI

( 8) Evergreen

Evergreen 가

가

가

Evergreen

가  
MS

가

MS

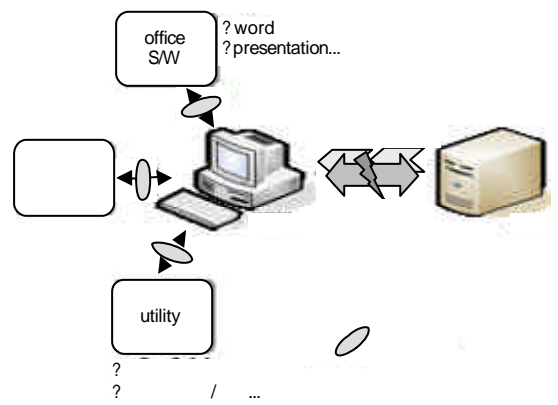
, Adobe Photoshop

, Evergreen

, Evergreen  
가 가

GUI , GUI

SI



6.

가

(Component Based Develop-

ment: CBD)

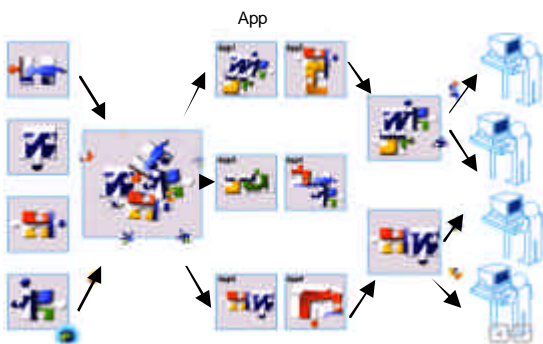
( 8) Evergreen

( 9)  
CBD  
가  
가

7.

가  
가  
500  
SI  
가  
가

VI.



( 9)

3~4 가 100Mbps  
가  
VOD

- 9  
PC,  
,  
,  
가
- [1] Apple QuickTime, <http://www.apple.com/quicktime>
- [2] RealNetworks, RealNetworks Document Library, <http://service.real.com/help/library/index.html>
- [3] Microsoft Windows Media Player, <http://www.microsoft.com/windows/windowsmedia/windowsmedia/default.aspx>
- [4] AppStream, <http://www.appstream.com>
- [5] Softricity, Inc., <http://www.softricity.com>
- [6] Stream Theory, <http://www.streamtheory>
- [7] Exent Technologies, <http://www.exent.com>.
- [8] , <http://www.softonnet.com>
- [9] [http://www3.ca.com/Files/SupportingPieces/uni\\_vision\\_wp.pdf](http://www3.ca.com/Files/SupportingPieces/uni_vision_wp.pdf)
- [10] , , “  
,”  
2000-0057127, 2000. 9.
- [11] , , , , “ 가  
,”  
2002-0040535, 2002. 5.
- [12] Dong -Ho Song and Jai -Wan Ahn, “Software Rental System In Distributed Networks,” EP Patent 1163599, 2001. 12.
- [13] D. Eylon, A. Ramon, Y. Volk, U. Raz, and S. Melamed, “Method and System for Executing Network Streamed Application,” U.S. Patent 6,574,618, June 3, 2003.
- [14] D. Eylon, A. Ramon, Y. Volk, U. Raz, and S. Melamed, “Streaming Modules,” U.S. Patent 6,311,221, Oct. 30, 2001.
- [15] D. Eylon, A. Ramon, Y. Volk, U. Raz, and S. Melamed, “Method and System for Streaming Software Applications to a Client,” U.S. Patent Application Publication US 2001/0037399, Nov. 1, 2001.
- [16] F.C. Breslau, RG. Greenstein, and JT. Rodell, “Method and System for On-Demand Software Distribution,” U.S. Patent 5,765,205, June 9, 1998.
- [17] D.E. Jewett, “Multiprocessor System with Each Processor Executing the Same Instruction Sequence and Hierarchical Memory Providing on Demand Page Swapping,” U.S. Patent 5,388,242, Feb. 7, 1995.
- [18] D.S. Domenikos and C.G. Domenikos, “Systems and Methods for Executing Application Programs from a Memory Device Linked to a Server at an Internet Site,” U.S. Patent 6,240,442, May 29, 2001.
- [19] G.E. Silveira, “Spontaneous Software: A Webbased, Object Computing Paradigm,” ACM ICSE 2000, Limerick, Ireland, 2000, pp.719-721.
- [20] G.C. Roman, G.P. Picco, and A. Murphy, “Software Engineering for Mobility: A Road Map,” ACM Future of Software Engineering, Limerick, Ireland, 2000, pp.243-258.
- [21] M. Mezini, and K. Ostermann, “Integrating Independent Components with On-Demand Remodularization,” ACM OOPSLA 02, Seattle, WA, USA, Nov. 4-8, 2002, pp.52-67.
- [22] P. Kuacharoen, V.J. Monney, and V.K. Madiseti, “Software Streaming via Block Streaming,” DATE 03 Conference, Munich, Germany, IEEE and ACM SIGDA, pp.912-917.