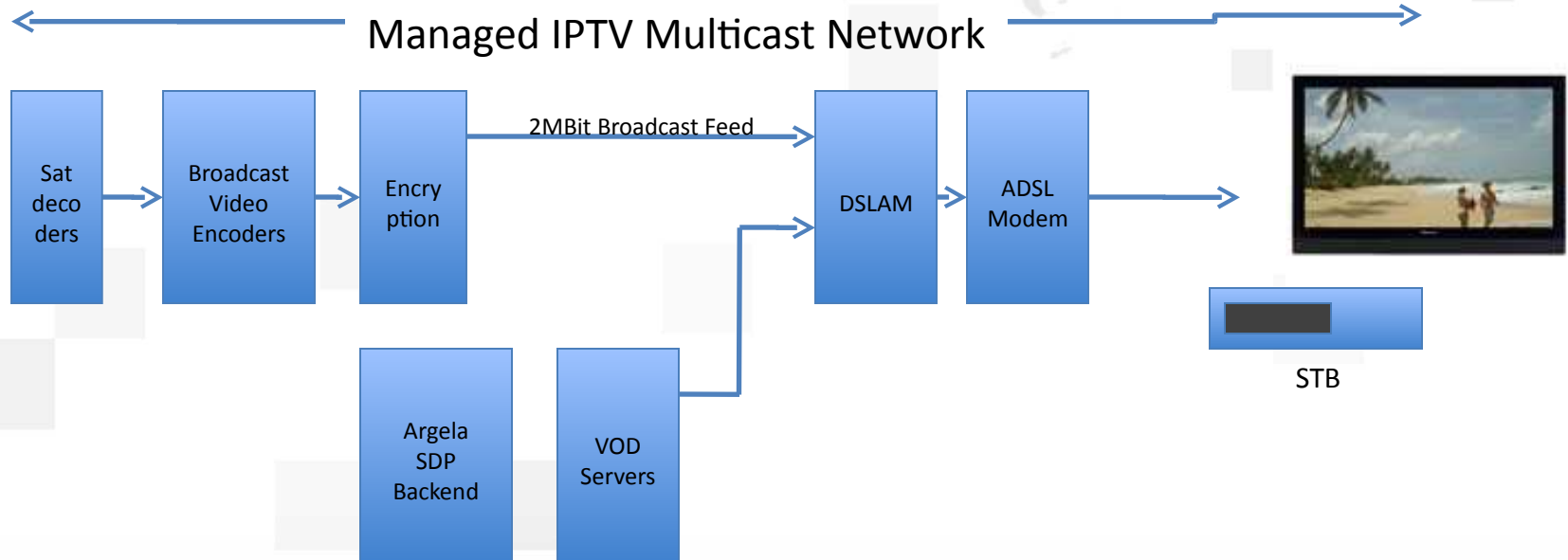




tivibu

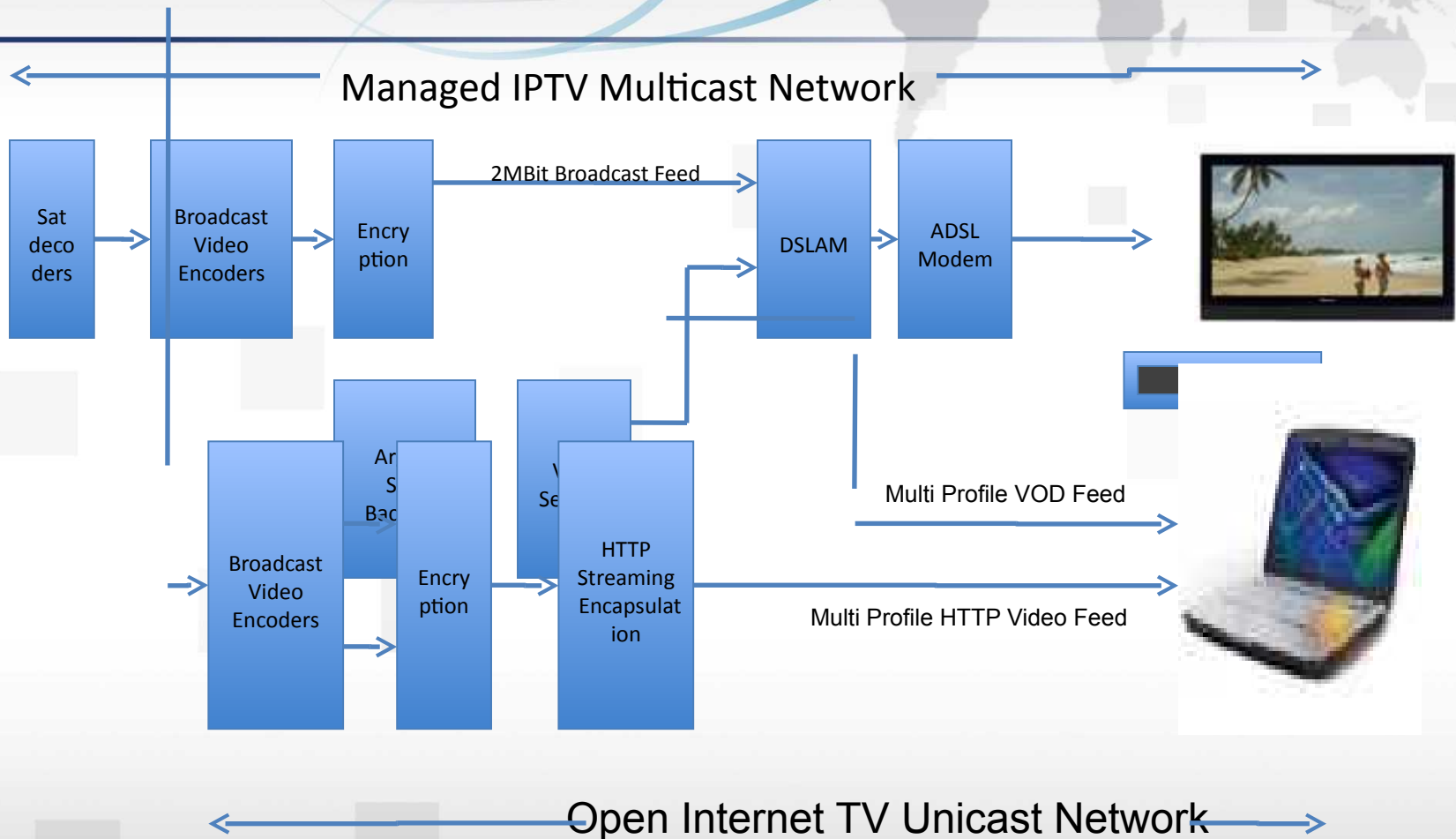
Türk Telekom View

24.02.2009



- **Multicast closed Network with 2 Mbps broadcast feed.**

Internet TV Architecture



· Extension of Existing Encoder and Encryption System

24.02.2009

WebTV vs IPTV



IPTV

- ✓ IPTV is not a TV broadcasted over Internet.
- ✓ IPTV is a carrier-led and control platform (xDSL Network, consumer directly interacts with Operator.)
- ✓ IPTV is a end-to-end system, semi closed Network, with high QoS and QoE.
- ✓ IPTV is a geographically-found approach. (Regions)
- ✓ IPTV
 - ✓ *More Reliable*
 - ✓ *Higher quality*
 - ✓ *More consistent view experience.*
 - ✓ *PVR*

WEBTV

- ✓ iTV approach is a open rights holder, anyone from anywhere can publish on a global basis.
- ✓ iTV is device independent.
- ✓ iTV can be integrated into the existing Internet User experience.
- ✓ iTV is fast and easy to deploy.
- ✓ iTV is global reach business model.
- ✓ iTV
 - ✓ *Poor Quality – SD (Content Owners are not happy for HD in PC.)*
 - ✓ *PVR – Problem with Content Owners.*

- Extension of Existing System is fast and easy
- Same Argela Middleware reused
- Open Internet , not in a Multicast VPN.
- IPTV is 2 Mbps broadcast/multicast feed
- Internet TV may be 500K, or multiprofile feeds (eventually Rate Adaptive to 300 Kbps, 600 Kbps, and 1024 Kbps).
 - means Separate Encoders



WebTV PROJECT Tender

Scaling



WebTV Platform Scaling:

- ✓ **32** Liner Channel
- ✓ **1000** VoD content
- ✓ **20** Radio channel
- ✓ **10.000** Music On Demand Content

Platform will support 1.000K customers and 300K concurrent users.

Every content will be transmitted with 3 different bitrate; 256 Kbps, 512 Kbps and 1 Mbps.

Services



TV

Add information

PLTV (Pause LiveTV)

Add Advertisement

Mosaic Channel

Targeted Advertisement

PIP (Picture in Picture)

Personal Video, Picture sharing Platform

TSTV (Catch-up TV)

Parental Control

PPV (Pay per view)

Online Voting

VoD

Video Call

MoD

Messaging

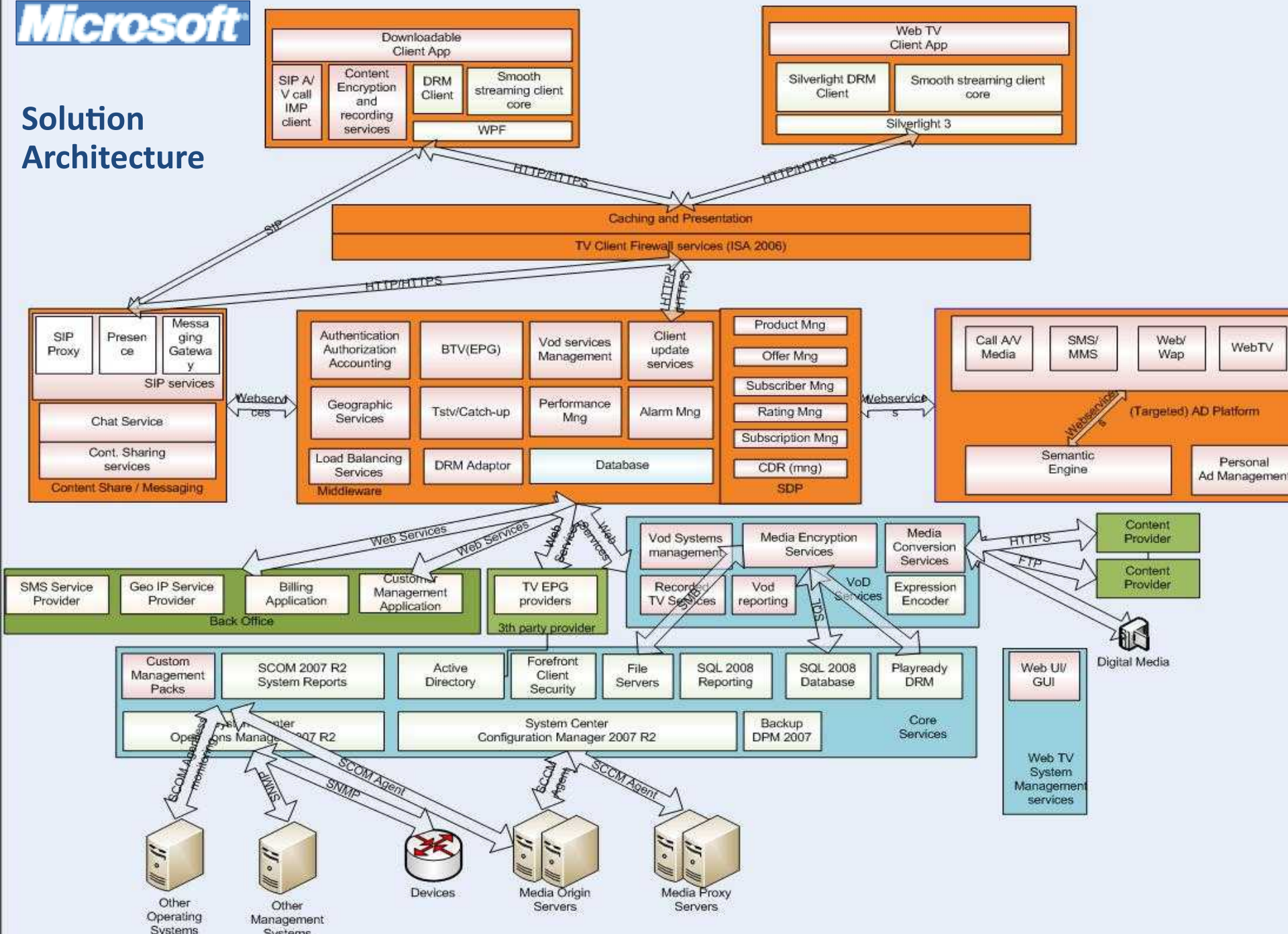
Radio Broadcasting

Chatting

Multiple Language/Subtitle

SMS

Solution Architecture



- ✓ Requested Features on WebTV RFP ,
 - **Adaptive Streaming.**
 - **Trick play for VoD Content.**
 - **Live Adaptive Bitrate functionality.**
- ✓ Middleware, GeoFilter, Recommending Engine, Ad insertion, TAP, Social Network, WebTV Client will be provided by Argela.

References



Microsoft;

- ✓ 2008 Beijing Olympic Games are broadcasted in USA as 3000 hours VoD content.
- ✓ TRT, CTV, RAI, TV2, HSN, NBC, America Online, CinemaNow, Creative, Dell, Disney, Motorola, Napster, OD2, SigmaTel, Telefónica, O2, Verizon Wireless, Bouygues Telecom, Cingular Wireless, AT&T, Netflix.
- ✓ CTV's HD Video Broadcasting in Canada is done with MS Silverlight. Akamai solution is used for streaming.

References in Turkey



MICROSOFT

TTnet Music

TTnet Video

TRT

Digiturk

Turkey Jokey Club

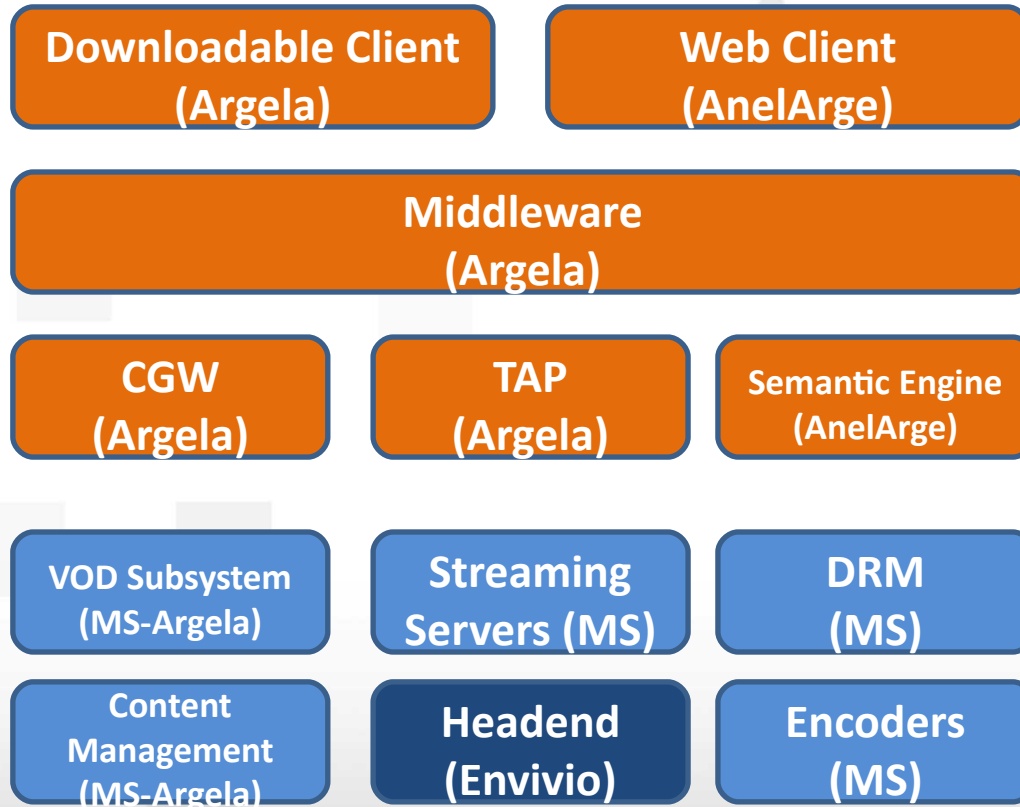
TTNET Music firstly developed by Microsoft Media Player Solution but due to Licence problem on end user's PCs for Media Player, project is switched to Flash Platform.(TTNet and MediaNova).

Solution

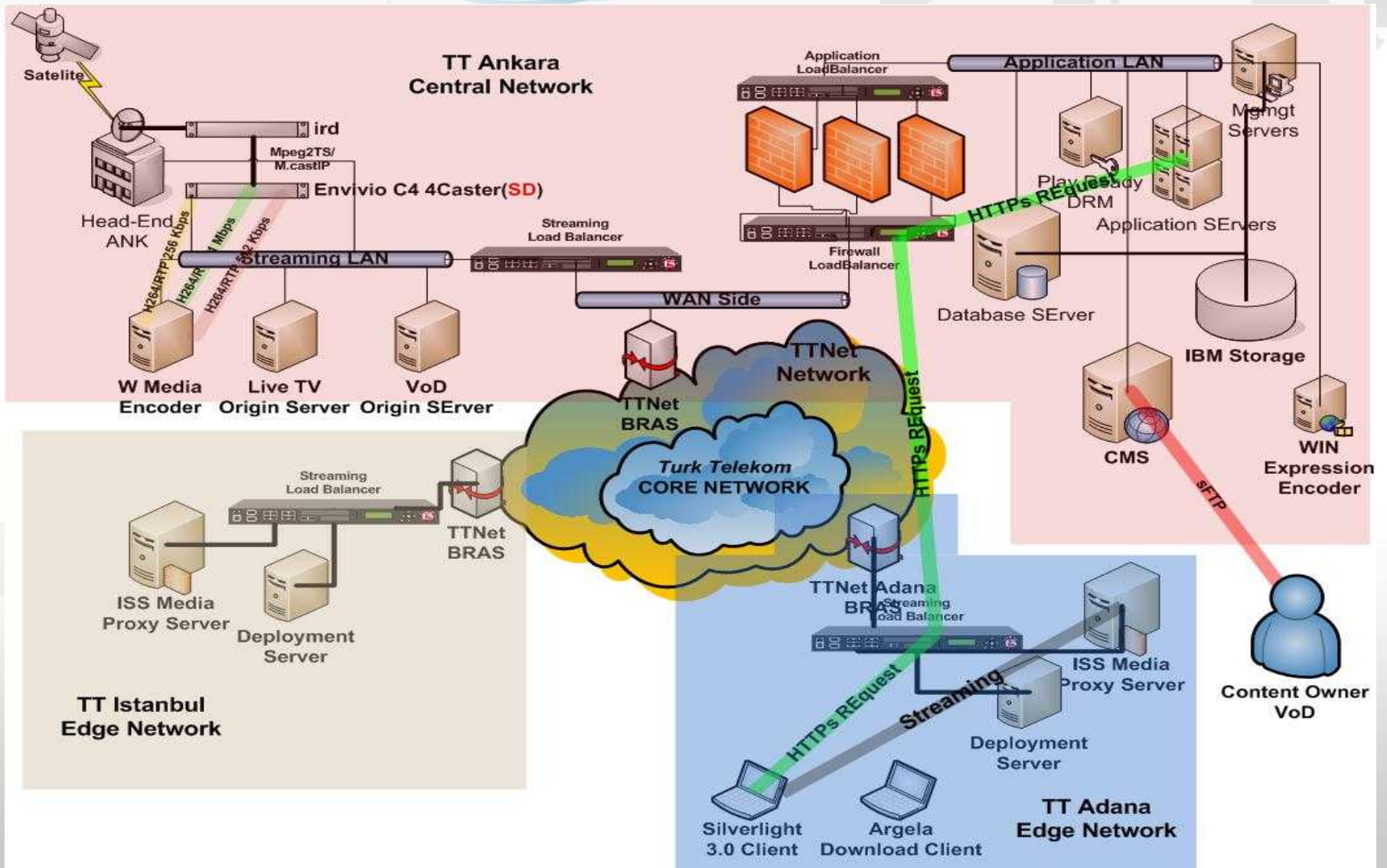


Encoder	Envivio+MS
Middleware	Argela QSDP
WebTV Client	Argela+AnelArge (MS Silverlight)
Video Streaming Server	Windows Media Streaming Server IIS Media Pack
VoD CMS	Argela+MS
VoD Storage	IBM+MS
CA/DRM	Media Licence Server & PlayReady DRM
LAN	Cisco
Load Balancer	F5 BIG IP
NMS	SCOM, SCCM, DPM

Architecture



Topology



Competition



1. SuperOnline (Tellcom)

- *HD VoD Content for FTTH customer*

2. Digiturk

- *New WebTv Platform (With Microsoft)*
- *LIGTV Content*
- *Business Knowledge*

3. Others

- *International WebTV Platforms (HULU, NetFlix etc.), KanalD and FidaFilm like content owners.*

Scaling

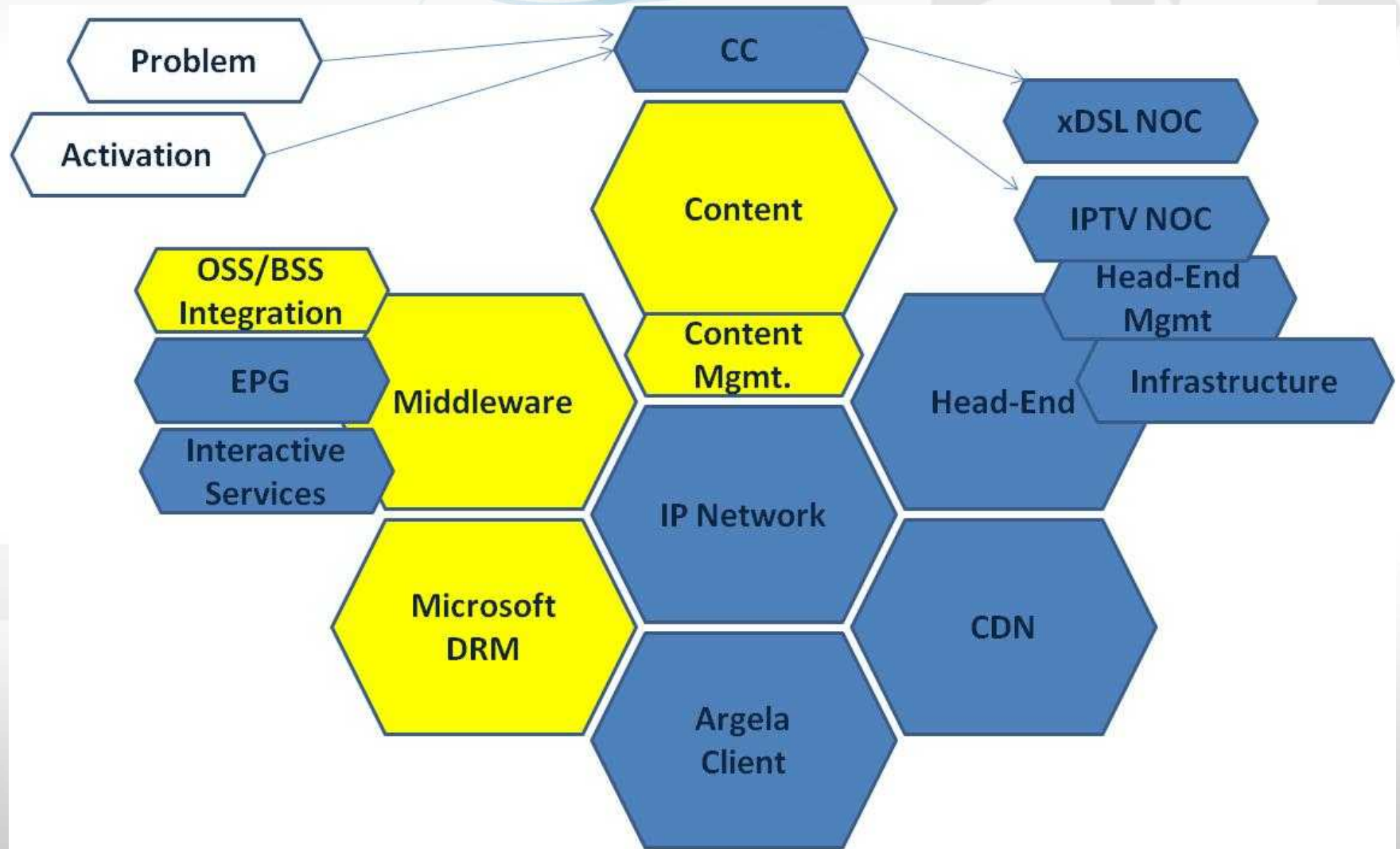


Active Subscribers	1.000.000	3.000.000
Maximum Concurrent Subscribers	200.000	600.000
Maximum Concurrent VoD Capacity	100.000	300.000
No of CDN Nodes	5	15
BTV Channels	32	32
Encrypted BTV Channels	3	3
VoD Catalogue Capacity (titles)	1000	1000
VoD Storage Capacity (GB)	3515	3515
VoD Average content size (min)	120	120
Capacity per CDN Node (titles)	400	400



WebTV PROJECT Launch

WebTV Components



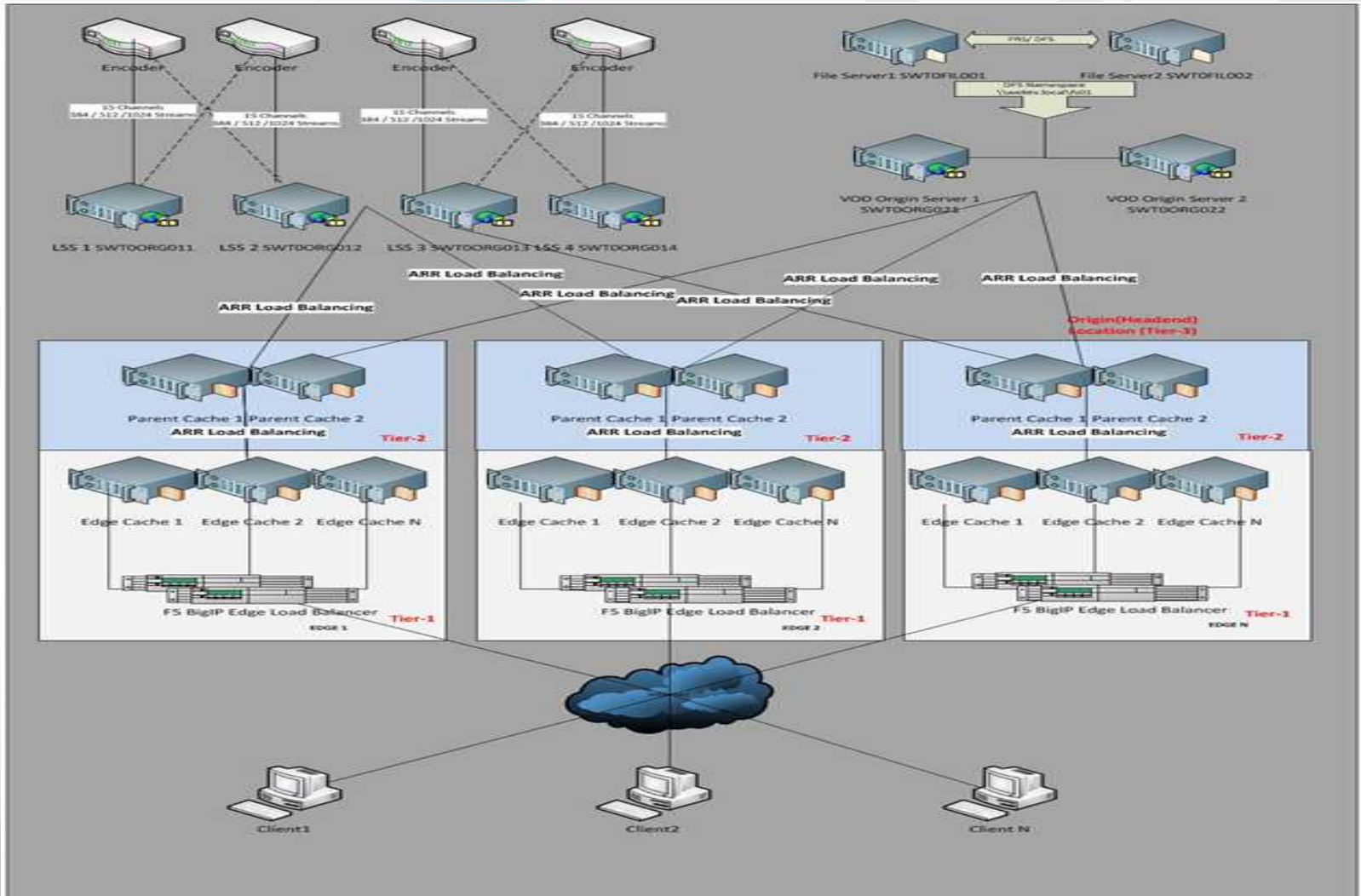
WebTV Launch



- 24.02.2010 Launch Date
- 90K subscriber in three weeks.
- 100K current subscriber, 18.03.2010.
- 4,5K Average customer gain per day

1. Over Unicast Internet.
2. CDN to ease Network traffic load. (Every traffic is **unicast not multicast**)
 - 2.1. *Approximately 240Mbps(2x2mbps x channel(60)) capacity from HE to Each CDN Node.*

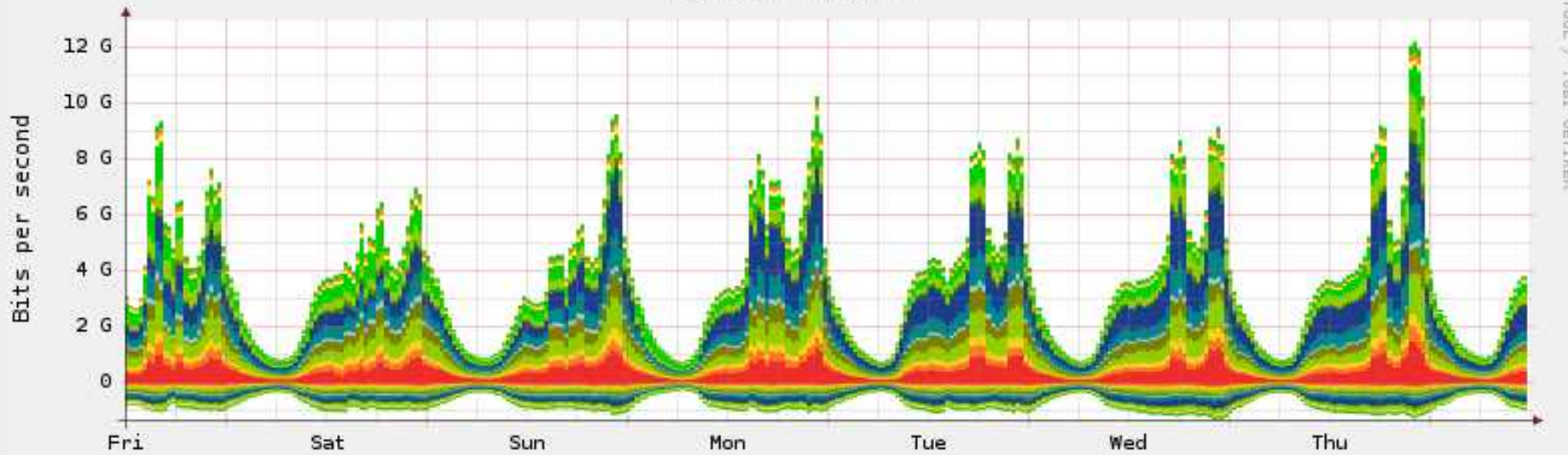
3Tier CDN Architecture



CDN Capacity



HAFTALIK GRAFIK



GIRIS TRAFIGI

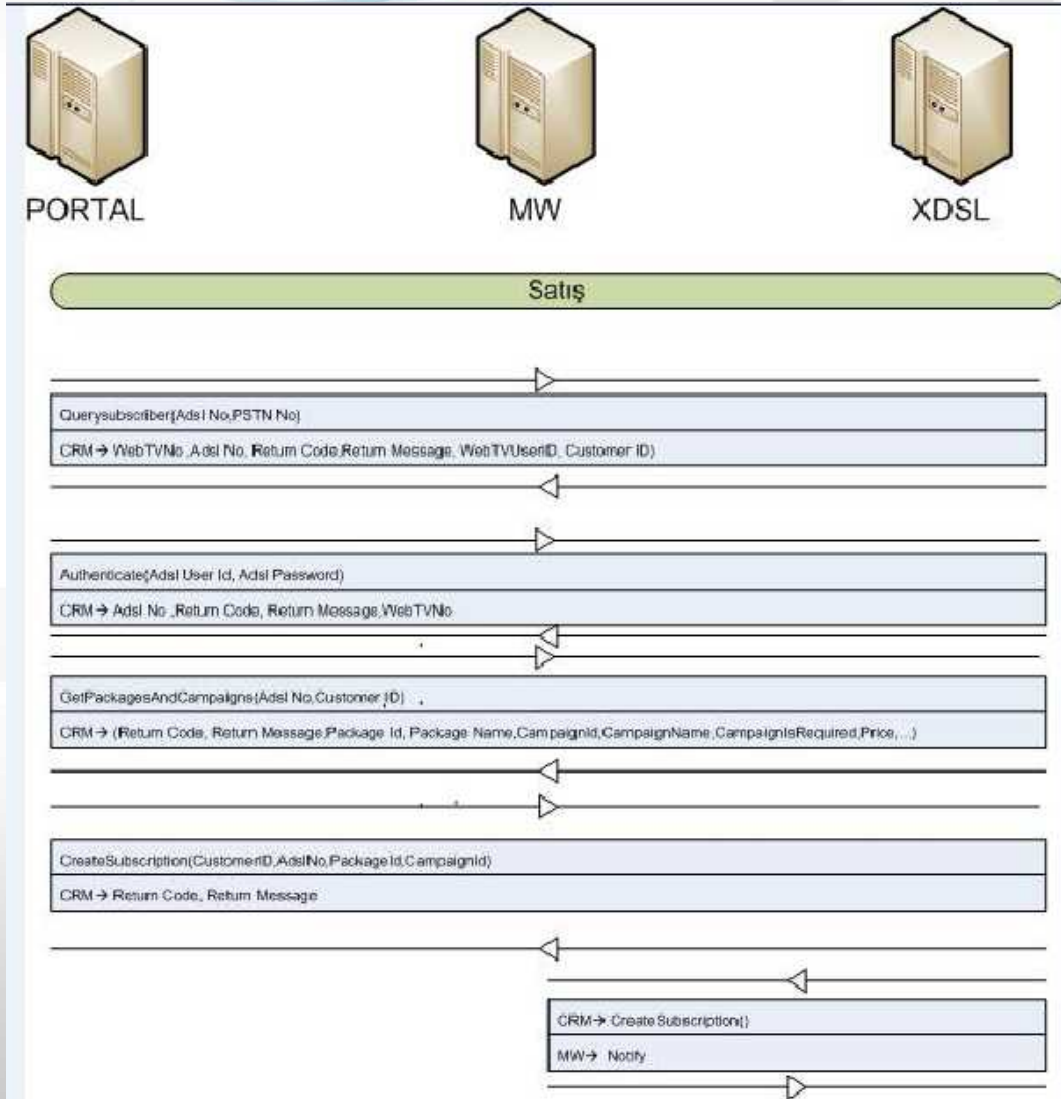
Acibadem Adana Antalya Atakoy Bursa Erzurum Gayrettepe Incesu Inkilap Izmir
Turkkonutl Kayseri Samsun Diyarbakir

CIKIS TRAFIGI

Acibadem Adana Antalya Atakoy Bursa Erzurum Gayrettepe Incesu Inkilap Izmir
Turkkonutl Kayseri Samsun Diyarbakir

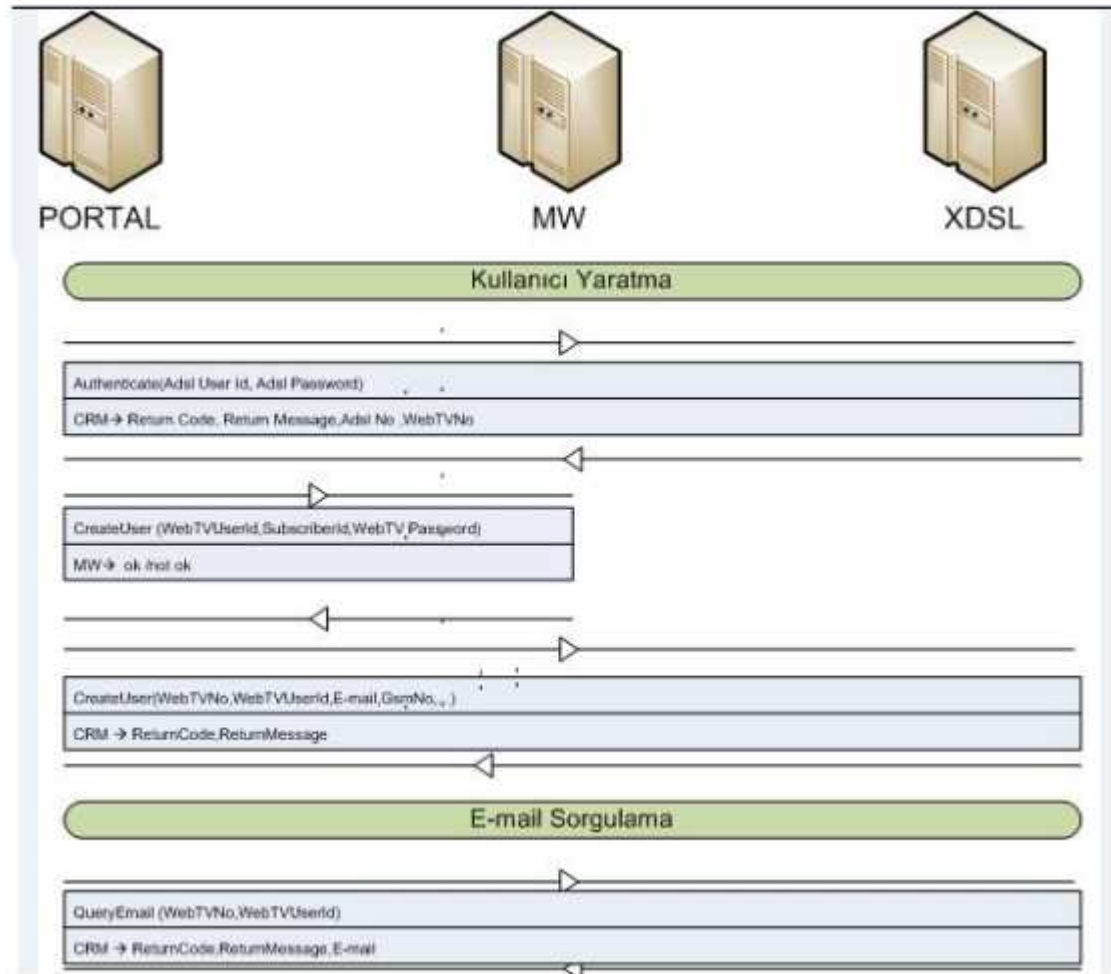
Grafik Saati :25/06/2010 11:48:00

Integrations I



24.02.2009

Integrations II

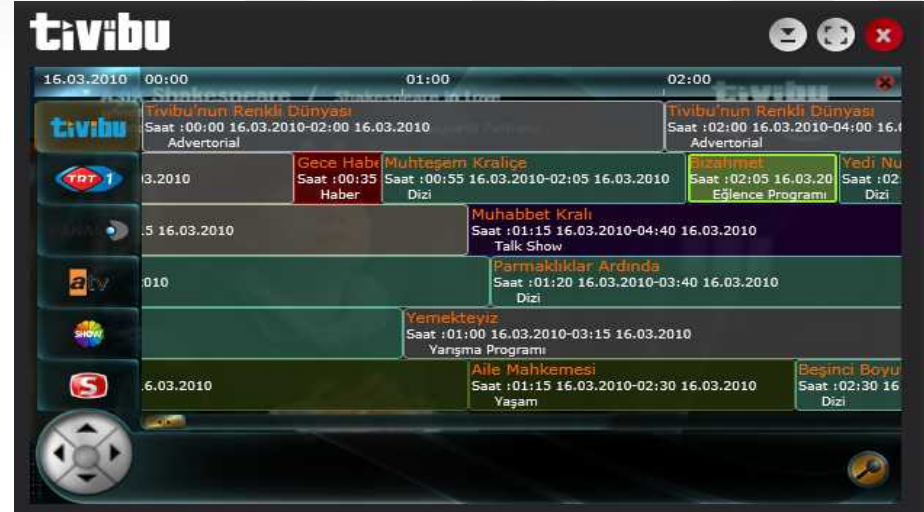


- Current 14 CDN Locations in Turkey's biggest cities.
- +5 CDN to provide 4,5Gbps end user bandwidth traffic per CDN.(All unicast traffic.)
- Launched with 45K Concurrent user at 14 CDN nodes, Upgrading to 100K Concurrent with total 19 CDN.

HeadEnd Infrastructure



Current User Interface



24.02.2009

Packages & Features



- **Standard** Package including 60+ Live Channels with Pause Live TV functions.

- **Standard+** Package including Live Channels + 1000

- Live Channel.
- Pause Live TV.
- Rewind/Forward.
- Catch-Up TV.
- VoD Service.
- PIP.
- Fast Zapping Time.
- Fast EPG.
- Smooth Streaming

- **60+** Turkish and International Channels.
- **1000+** VoD Catalog from Marvel, Warner, Disney, Paramounts, NBC and Lionsgate.
- **Catch-up** Content for 24 Channels.

Current Content –Live Channel



National	News	Movies	Series	Doc'ies	Sports	Music	Children	World	Lifestyle	Local
 	 	<p>4 movie channels (including 1 local movies channel)</p>	<p>2 foreign series channel</p>	 <p>+ 2 other channels</p>	 <p>2 other channels (including 1 horseracing channel)</p>	 	 <p>2 to 4 other channels</p>	 	 <p>2 to 4 other channels</p>	<p>2 to 4 local channels customized to each location</p>

If one of these channels is not available it must be replaced by a similar channel of equal quality

Current Content - VoD



INTERNATIONAL TVOD & SVOD CONTENT

AGREED ON

PARAMOUNT
WARNER BROS
NBC-UNIVERSAL
WALT DISNEY
MGM
LIONSGATE
DUKA
SHORTS
BBC
601
CONTENT
SONY MUSIC

IN PROGRESS

FOX
HBO
CBS
HIT
CLASSIC MEDIA
TANWEER
X-TREME
TARGET
SCREEN OPUS
BIR FILM
COMCAST
EMI
UNIVERSAL MUSIC

Signed Agreement with 12 Content Supplier for international content

Current Content – Catch-up



- **Catch-up TV is an “on demand” service** with a library of TV programs from recent days
- **Viewership of programs can be increased** by using catch-up TV as viewers can...
 - ... “catch up” with a program they missed
 - ... watch recommended programs after they were broadcasted
 - ... watch two programs which were broadcast simultaneously
 - ... re-watch a program they liked,

Catch-up TV is an attractive service for viewers and broadcasters...

... as it can increase the viewership of programs

- Vizyoner aims to include **4 to 7 channels** in catch-up TV service



Current Statistics



- **10Gbps** Total Unicats Traffic.

- **1Gbps** Traffic Per CDN.

- Max Concurrent user in busy hours(19:00-

- Daily **20K** Catch-up content watched.
- Daily **21K** SVOD content watched.
- Daily **1K** TVOD watched.

24.02.2009

23:00) **20K**

WebTV Quota Limit View



	4 GB	6 GB	15 GB
300 Kb	31 hr	47 hr	117 hr
500 Kb	19 hr	28 hr	70 hr
1000 Kb	9 hr	14 hr	35 hr

	4 GB	6 GB	15 GB
300 Kb	1,3 Day	1,9 Day	4,9 Day
500 Kb	0,8 Day	1,2 Day	2,9 Day
1000 Kb	0,4 Day	0,6 Day	1,5 Day

	4 GB	6 GB	15 GB
Up to 8 (As is)	29 TL	39 TL	49 TL
Maximum Usage	123,75 TL		QoE degradation (512Kb)

- Targeted Advertising.
- Recommending Engine.
- MobilTV.
- Advance VoD Searching Mechanism.
- Browser embedded client.
- Social Network Integrations(Facebook, Flickr etc.)
- Remote Control on Mobil Handsets.

WebClient



tivibu

Hoşgeldin barışpolat

X Çıkış

Televizyon v

Film / Video v

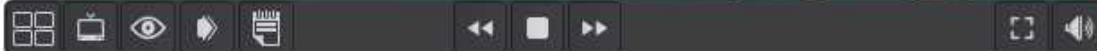
Servisler v

Günlük Yayın Akışı

- <  >
-  İstanbul'dan (Min)
17:40 - 18:40
-  Akşam Yemeğine
18:40 - 19:55
-  Tarihte Bugün
19:55 - 20:00
-  Haberler (El Ahbar)
20:00 - 20:45
-  İkinci Bahar
20:45 - 21:45
-  Seyyah (Rahhal)
21:45 - 00:05
-  Türk-Arap Eko
00:05 - 00:40
-  Yeditepe İstanbul
00:40 - 01:40



Son Gezilen Videolar



WebClient



tivibu

Hoşgeldin barispolat

Çıkış

Televizyon

Film / Video

Servisler

Tivibu Öneriyor



Bir Rüya İçin Ağıt

102 dk



Blair Cadısı

80 dk



Günah Şehri

119 dk



Parlayan Hançerler

115 dk



Prenses Gelin

98 dk



Rezervuar Köpekleri

95 dk



Wonderland

104 dk



Film

Müzik

TV

Klasikler

Tivibu Öneriyor

Türk Sineması

Türler

Yeniler

Bir R

Blair Cadısı



Blair Witch Project

Süresi : 80

Fiyatı : 0,00 TL



İzle



Son Gezilen Videolar



- **Iphone** (3G-3GS)
- **IPAD** (With 3G)
- **Android** (Huawei Android Phone)
- **Wap Browsing** (Wap supported handsets)

Mobil Tivibu Sample Clients



Mobil Tivibu Encoder Profiles



iphone	WiFi	400
iphone	WiFi	200
iphone	3G	150
iphone	3G	100
iphone	Edge/GPRS	60

Mobil TV in Türkiye



Operatör	Servis	Paket	Ücretlendirme (KDV,ÖİV dahil)	Kota	Kota Aşımı Ücreti	Satış Kanalı	Hizmetler
Turkcell	Mobil TV	Günlük	2 TL	4 sa	13 krş/dk	SMS (MOBILTV-->2222) WAP üzerinden (http://wap.mobiltv.turkcell.com.tr)	Kalan kota (saat) sorgulama * SMS * CC İnternet/data ücreti fiyatlara dahil
		Aylık	9,90 TL	20 sa	13 krş/dk		
		Video	0,49 - 0,99 krş				
	Lig TV	Günlük	9,90 TL	8 sa	13 krş/dk	wap.uzmantv.com (wap'tan izleniyor)	İnternet/data ücreti fiyatlara dahil
		Aylık	14,99 TL	20 sa	13 krş/dk		
	Uzman TV	Tek Video	1,20 TL		1,6 TL/video	wap.uzmantv.com (wap'tan izleniyor)	İnternet/data ücreti fiyatlara dahil
		Haftalık	2,40 TL	50 dk	1,6 TL/video	wap.uzmantv.com (wap'tan izleniyor)	İnternet/data ücreti fiyatlara dahil
Vodafone	Standart	Aylık	5 TL			SMS (MTV STANDART -->3636)	İnternet/data ücreti fiyatlara dahil
	Spor ve Eğlence Paketi	Aylık	5 TL			SMS (MTV SPOREGLANCE-->3636)	İnternet/data ücreti fiyatlara dahil
	Süper Paket	Aylık	7,5 TL			SMS (MTV SUPER -->3636)	İnternet/data ücreti fiyatlara dahil
	D-Smart Spor Paketi	Aylık	5 TL			SMS (MTV FUTBOL -->3636)	İnternet/data ücreti fiyatlara dahil
	Kurtlar Vadisi Pusu Paketi	Aylık	5 TL			SMS (MTV VADI -->3636)	İnternet/data ücreti fiyatlara dahil
	Aşk-ı Memnu Paketi	Aylık	5 TL			SMS (MTV ASK-->3636) -->3636)	İnternet/data ücreti fiyatlara dahil
	Yaprak Dökümü Paketi	Aylık	5 TL			SMS (MTV YAPRAK -->3636)	İnternet/data ücreti fiyatlara dahil
	Çok Güzel Hareketler Bunlar Paketi	Aylık	5 TL			SMS (MTV CGHB -->3636)	İnternet/data ücreti fiyatlara dahil
Avea	Mobilvizyon	Günlük	2,49 TL	5 sa	0,146 krş/kb		İnternet/data ücreti fiyatlara dahil
		Aylık	4,99 TL	35 sa	0,146 krş/kb		İnternet/data ücreti fiyatlara dahil