NITMUS®

Nitmus Credential

e-Marketing Soulution Company

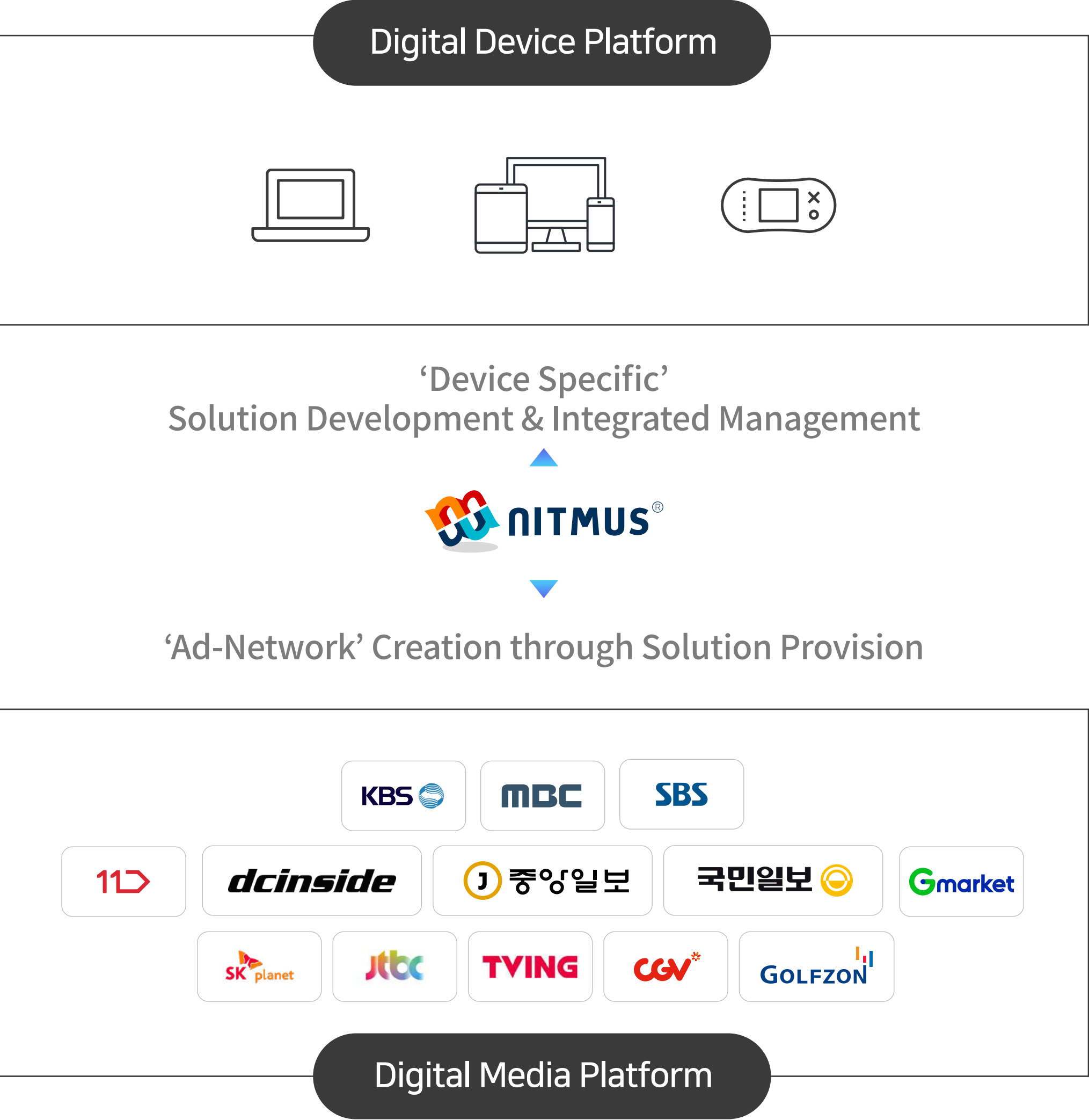nitmus@nitmus.com

Index

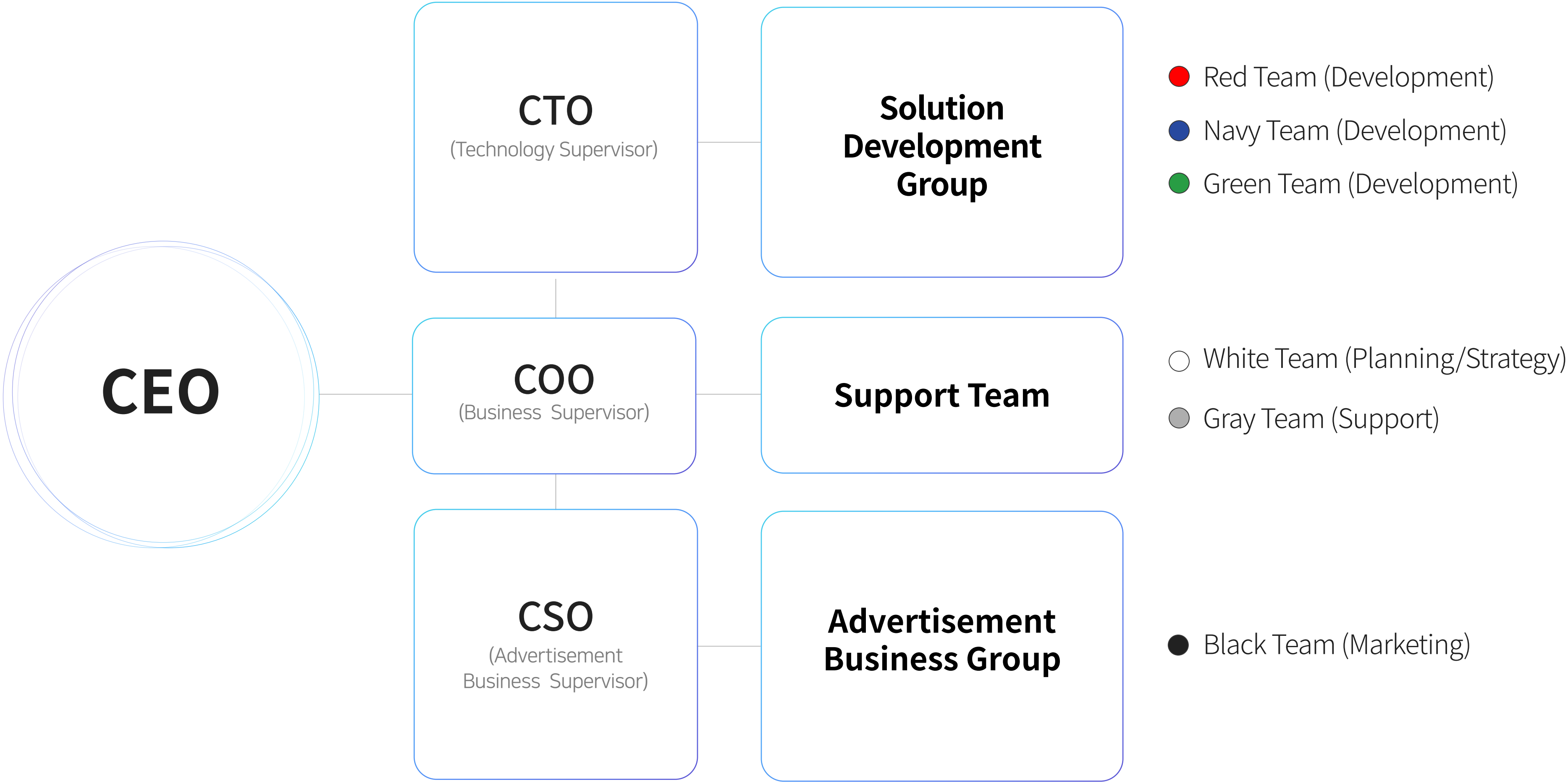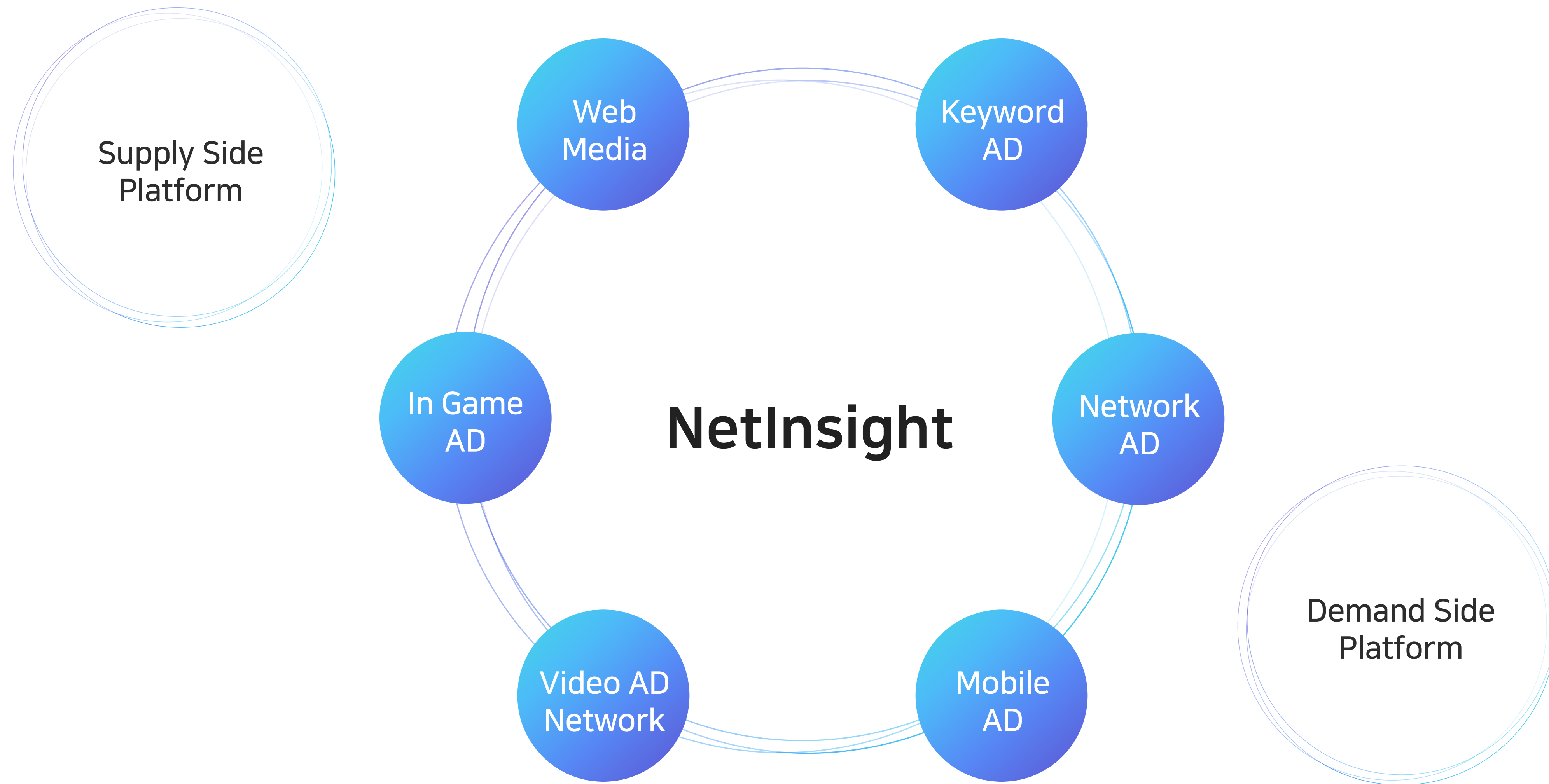|	
COMPANY	NITMUS Inc. / ㈜ 니트머스
ESTABLISHED	1 / December / 2004
CEO	Yong Jae Kim
BUSINESS	Total Digital Marketing Solution Provider by Adserver Technology
FEATURE PLATFORMS	NetInsight ™ Web Adserver NetInsight ™ In-game Adserver NetInsight ™ Keyword Adserver NetInsight ™ Video AdServer NetInsight ™ RON AdServer NetInsight ™ SSP NetInsight ™ DSP
EMPLOYEE	22 people

Digital Device Platform

'Device Specific'
Solution Development & Integrated Management

NITMUS®

'Ad-Network' Creation through Solution Provision

Digital Media Platform

Total
Digital Marketing
Platform Provider

2 Groups , 6 Teams

CEO

CTO
(Technology Supervisor)

Solution Development Group

🔴 Red Team (Development)

🔵 Navy Team (Development)

🟢 Green Team (Development)

COO
(Business Supervisor)

Support Team

⚪ White Team (Planning/Strategy)

⚫ Gray Team (Support)

CSO
(Advertisement Business Supervisor)

Advertisement Business Group

⚫ Black Team (Marketing)

Nitmus is a solution company that develops and improves stable platforms with advanced technology in the rapidly changing online advertising market.

Stage 1
2002-2007

First Development of TargetGraph TM Ad Server (in KT Internet)
Digital TV Ad Platform Development (in KT Internet)
Foundation of Nitmus Inc. (Spin off from KT Internet)
First Development of In-Game Ad Server ('Kart Rider', Nexon Inc.)
Ad Server Delivery to Nate.com and other 11 firms
SEM Convergence Platform Development
Campaign Tracking Server Establishment (HSBC)
Delivery of Ad Server to '파란닷컴' and other 11 firms
Mobile Ad Server Development (SK Telecomm)
Attract Investment of Nexon Inc.

Stage 2
2008-2011

Ad Marketplace Merchandising Platform Development (SK M&C)
SEM Convergence Platform's Universal-Service Initiation
In-Game Ad Server Service Extension (NEOWIZ, KTH)
In-Game(Arcade) Ad Platform Development (Golfzon)
CPC Network Ad Platform Development (J Cube)
SEM Convergence Platform Delivery (EZ Care, Namu)
In Store Ad Platform Development (Kyobo book)

Stage 3
2012-2015

Mobile Ad Platform Development (Syrup Ad, SK Planet)
Supply Side Platform Service Initiation (Google ADX Partner)
Smart TV In-App Platform Development (LG Electronics)
PC-Mobile Integrated Video-Ad Platform Development (SMR)
Integrated OLS Ad Platform Development (EDN+, ebay)
HOT-Click Outer Extension Ad Platform Development (11st)
Smartphone Lock Screen Ad Platform Development (Pointplus, 11st)

Stage 4
2016 ~

Ad Exchange Development (ACE Exchange, NHN Ent.)
App/Web-Combined Ad Platform (Pikicast)
Integrated Video Ad Platform (everyonTV)
CJ CGV Offline Ad Subscription
Media Integrated Ad Platform (Medialink)
DMP Development (LOTTE Members)
Nitmus Integrated Ad Platform Devleopmet (DSP+SSP)
DSP Platform (SKStoa)
Video Ad Platform (SBS I&M)
CJ TVING Integrated Ad Platform Establishment
'Mother Brain' Ad Platform Delivery

'TOKTOK TV' Ad Platform Delivery / XC Affiliate Videos DSP Service Initiation
Golfzon IGA Ad Platform Enhancement
Video Ad Platform Establishment (KBS Media)
Game Richmedia Ad Platform Establishment (GOUGOI)
SEM Convergence Platform 4.0 Enhancement (Digital Trinity)
NVP (Network Video Ad Partner) Video Ad Product Release
Keyword Management Platform Service 4.0 Initiation
Platform Reposition Ad Platform Establishment (Yonhap News)

Supply Side Platform

Web Media

Keyword AD

In Game AD

NetInsight

Network AD

Video AD Network

Mobile AD

Demand Side Platform

Web Adserver

NATE · CJ CGV · 국민일보 · KT · 11 · WOW한국경제TV · OhmyNews · hankook.com · NewDaily · 티켓링크 · MEDIA LINK

서울신문 · DANAWA · MEGABOX · GOM & COMPANY · SCOUT · Bonus 365 · ZUM · TOAST · 남양 · Maeil · JO!NS

dcinside · ESTsoft · 중앙일보 · mother brain · ebay · 디지털데일리 · gretech · SayClub · 맘스다이어리 · Jcube

In-game Adserver

GOLFZON ENTERTAINMENT · KARTRIDER · Crazy Arcade · COUNTER STRIKE · 메이플스토리 · WindUp · 슬러거 · Rock

Video Adserver

TVING · jtbc · SBS · KBS · SMR · SK 스토아 · JJANG LIVE · DioDeo · free egg · mgoon · EVERY ON TV · 똑똑TV

Mobile Adserver

11 · SK telecom · SK planet · MABLE · Pikicast · LIVEPOINT · entaz

Keyword Adserver

DIGITAL TRINITY · eMFORCE · overture · EPROAD 이프로에드 · IN2B · AKD · Jcube · HM · GIOM

HANAAd · STONE & MAPLE · namu · YEJI SOLUTION · JASON · searchM · INTERPOS · misocharm

Network Partner

Google · CRITEO · kakaomoment · NHN ACE · MezzoMedia · in+cross · interworks · Tapzin

- Capable of supporting every Ad exposure which are distributed in the Web
- Provides optimized solution for each media/network
- Exposes custom creatives based on users' actions (Retargeting, Audience targeting)

Transmits Ad to Web Browser

NetInsight ™ Web Adserver
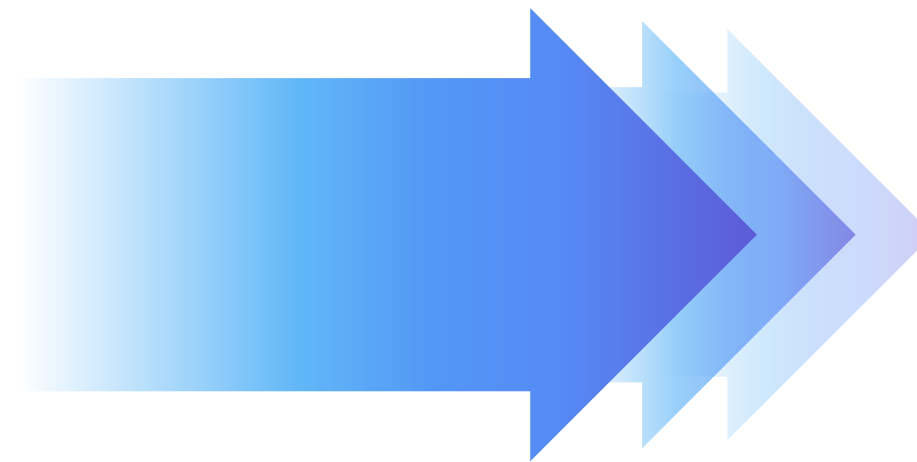
HTTP(S)
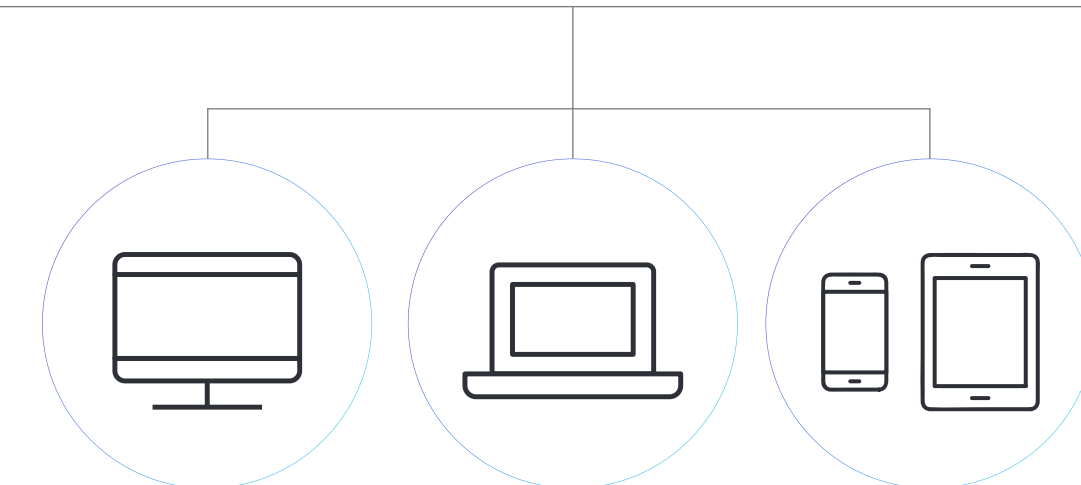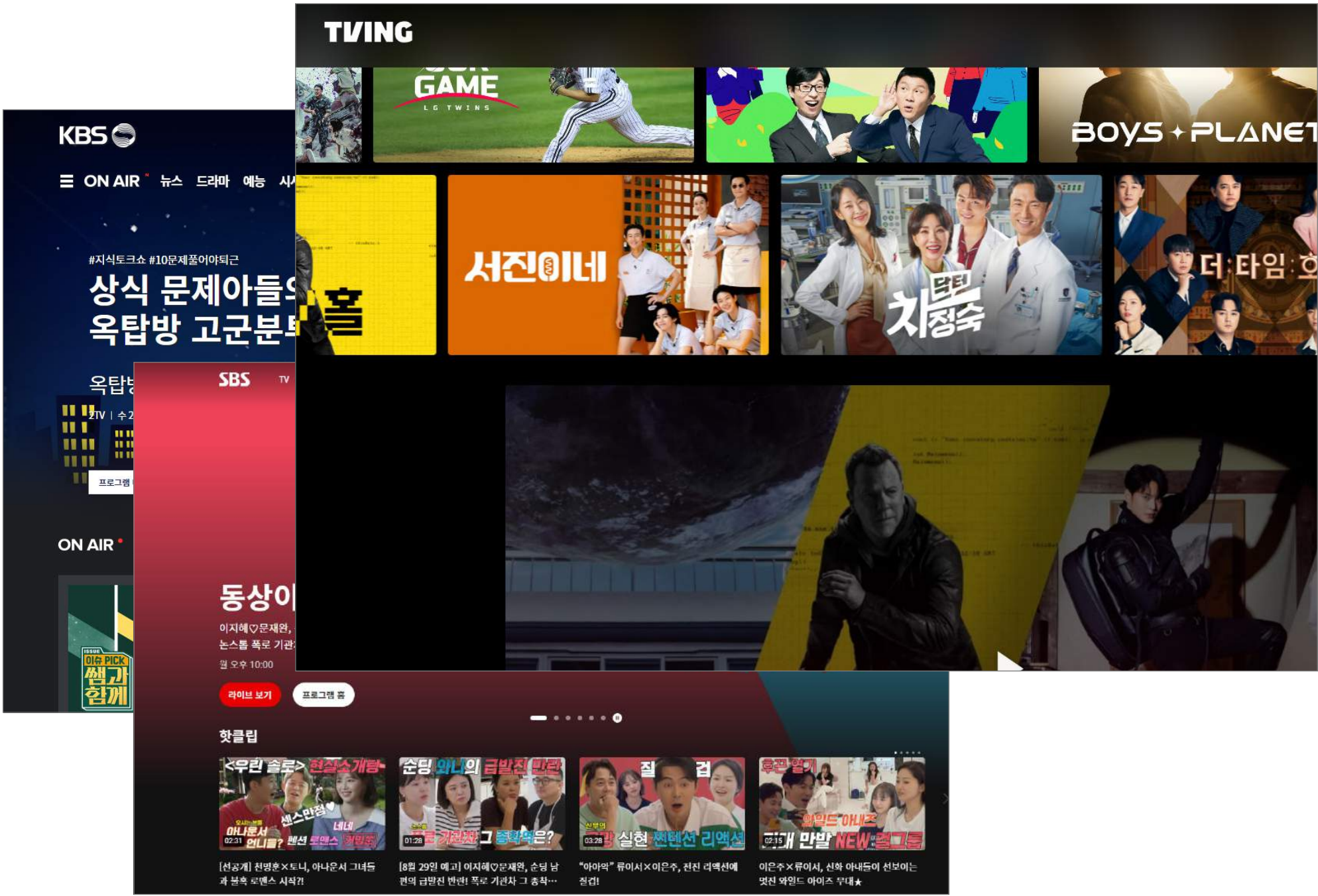
General Media
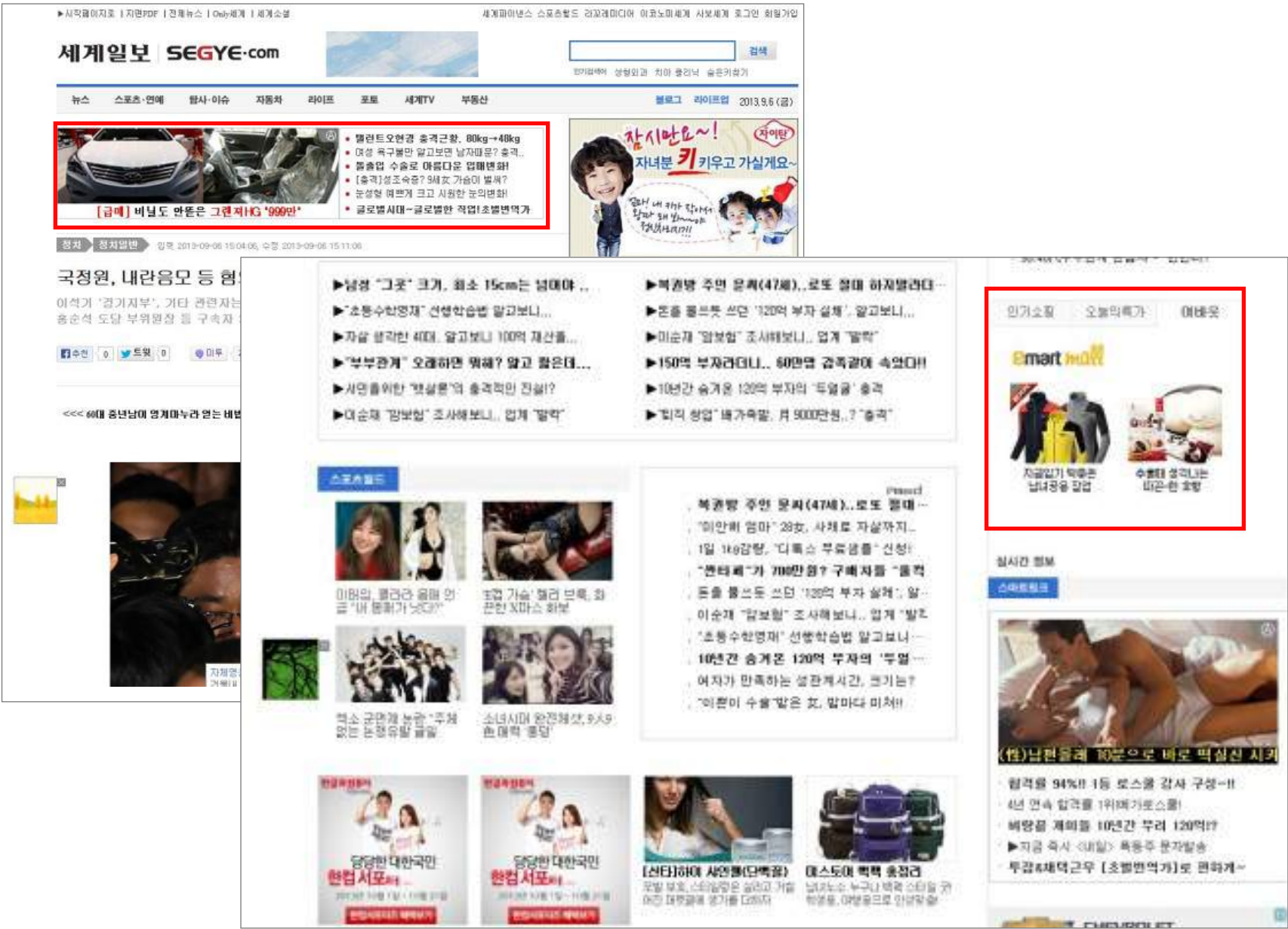
Network Ads
(Image + Text, Shopping Box)

Capable to transmit Ad to Web/Arcade/Console games which networking are possible
Supports SDK for exposing In-game PPL Ad (2D & 3D Ads, Area-based Report if 3D Ad)
Pre-load Ad exposure before playing game (Loading Page, Item Shop, etc.)

NetInsight ™ In-game Adserver

Transmits Ad to In-Game Screen

SDK
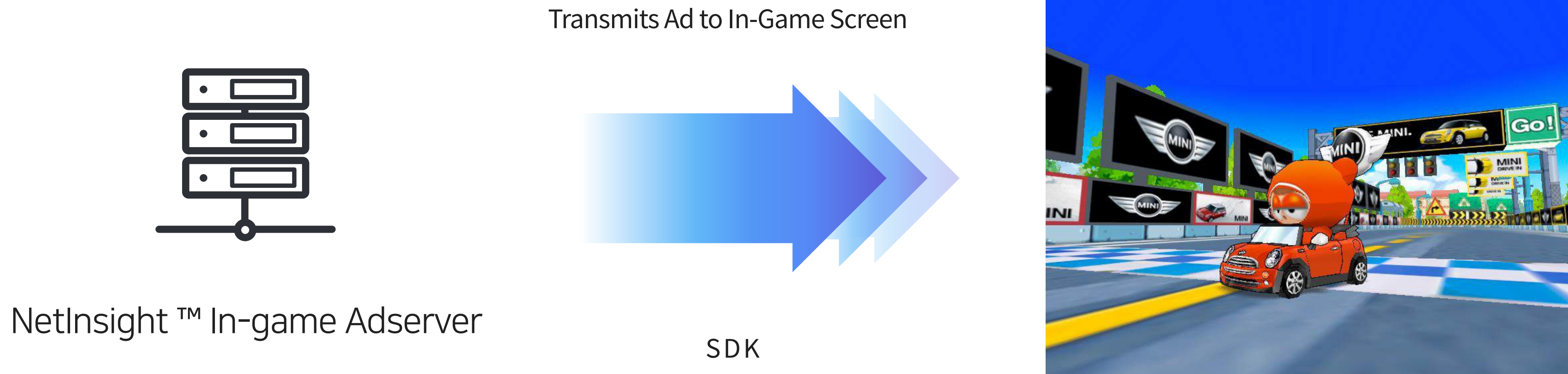
PC Game, 'Kart Rider'

Arcade Game, 'Golfzon'

Provides API that communicates with video player
Provides 'action reports' that are appropriate for Video Ad (exposure, clicks, etc.)

- Reporting actual viewed time of Video Ad

- Reporting clicked points in video

Sending Video Ad

NetInsight ™ Video Adserver
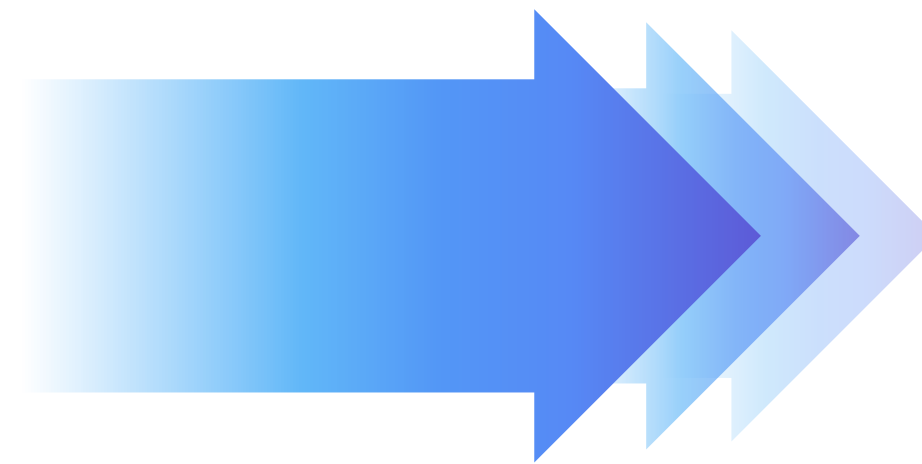
API
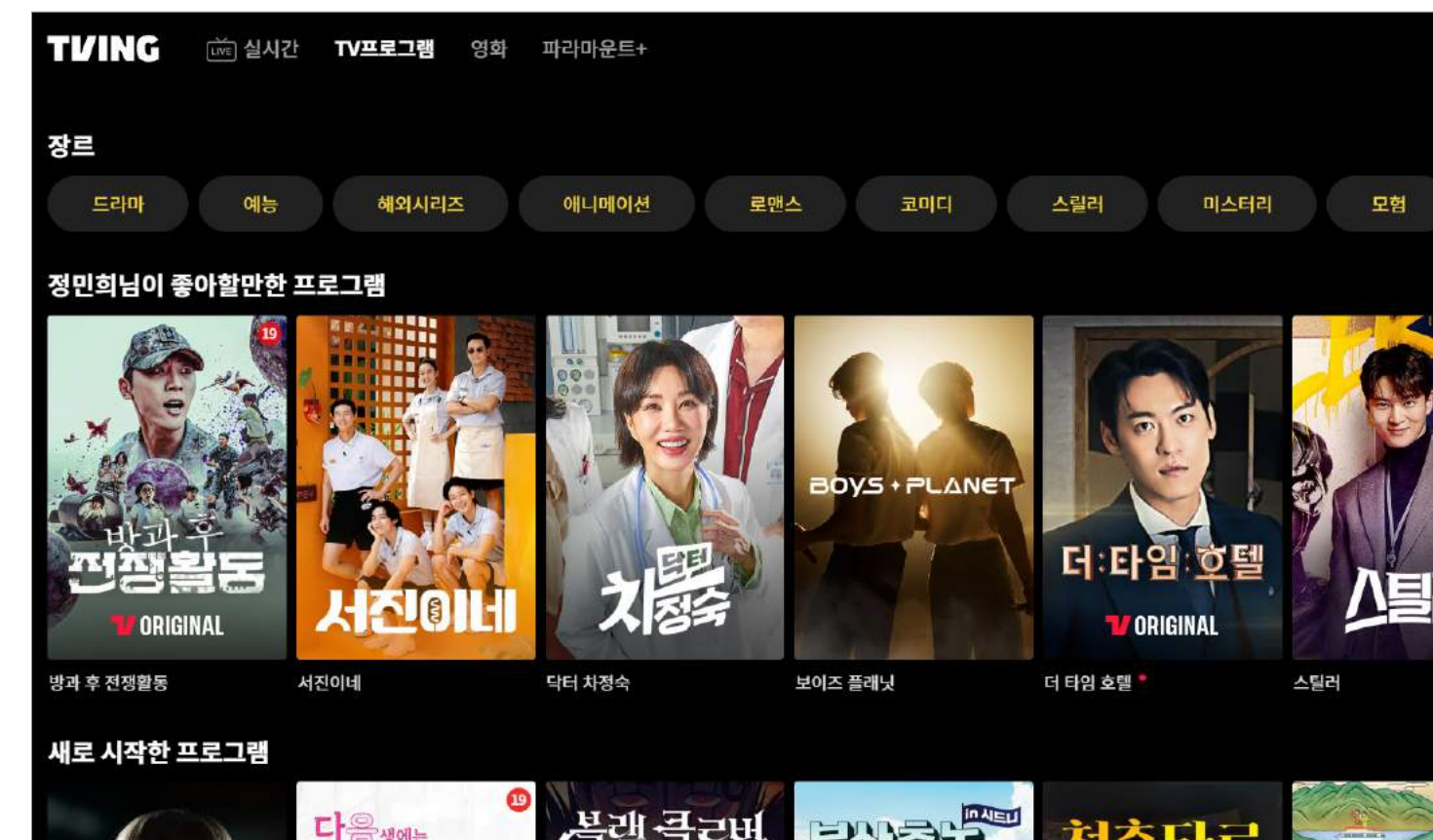
Pre/ Instream (Only Video)
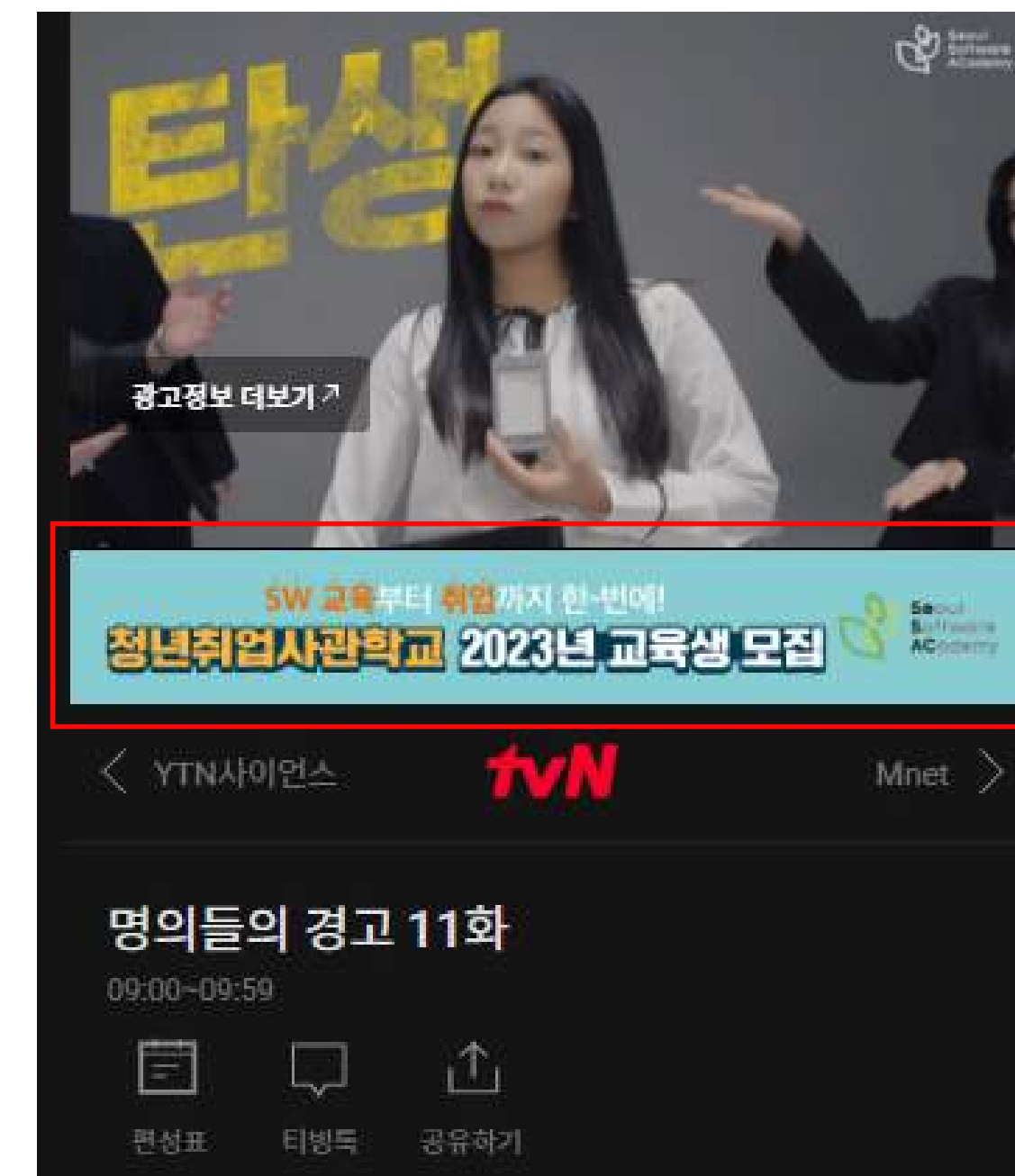
Pre/ Instream (Companion Banner)
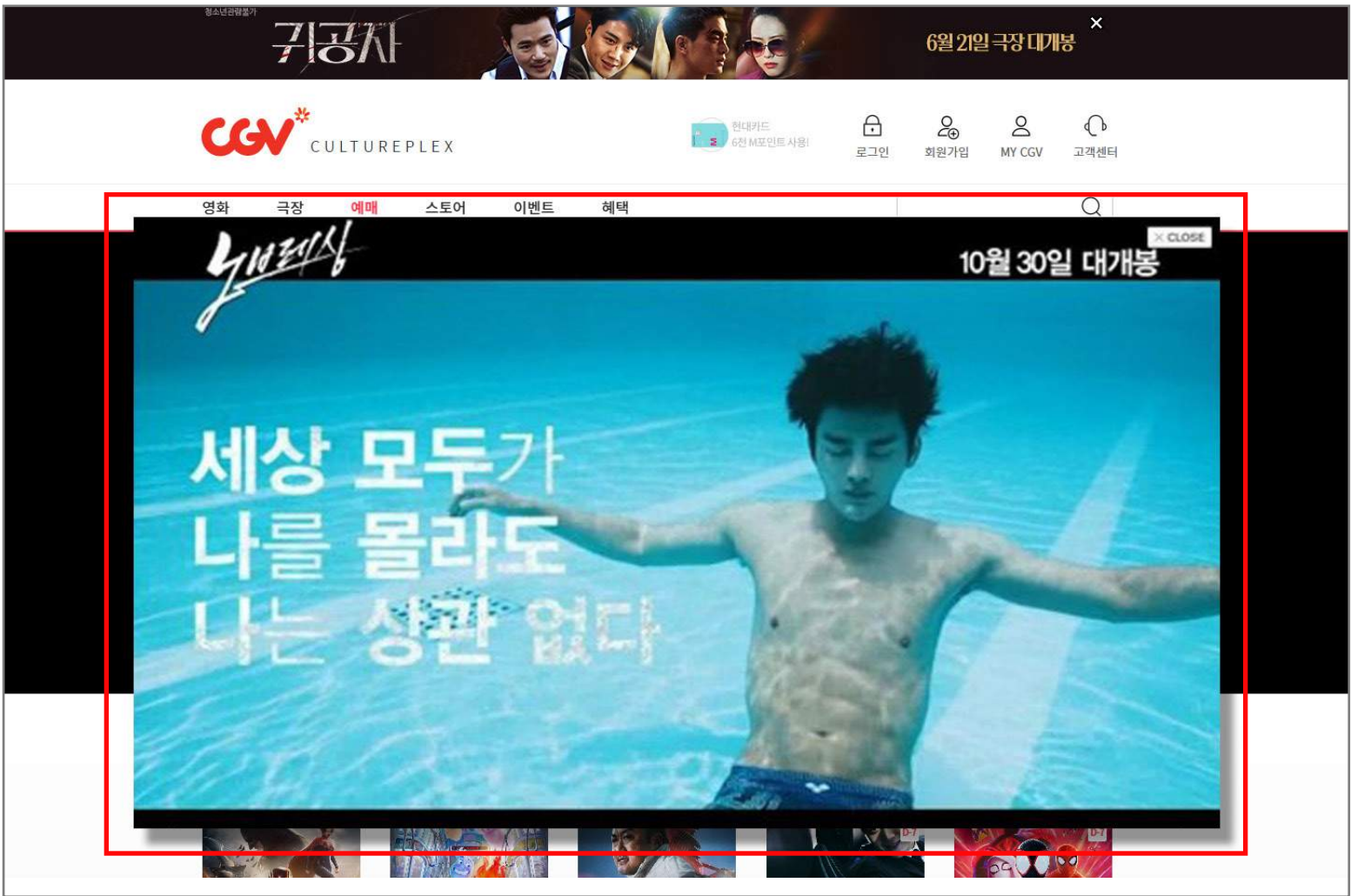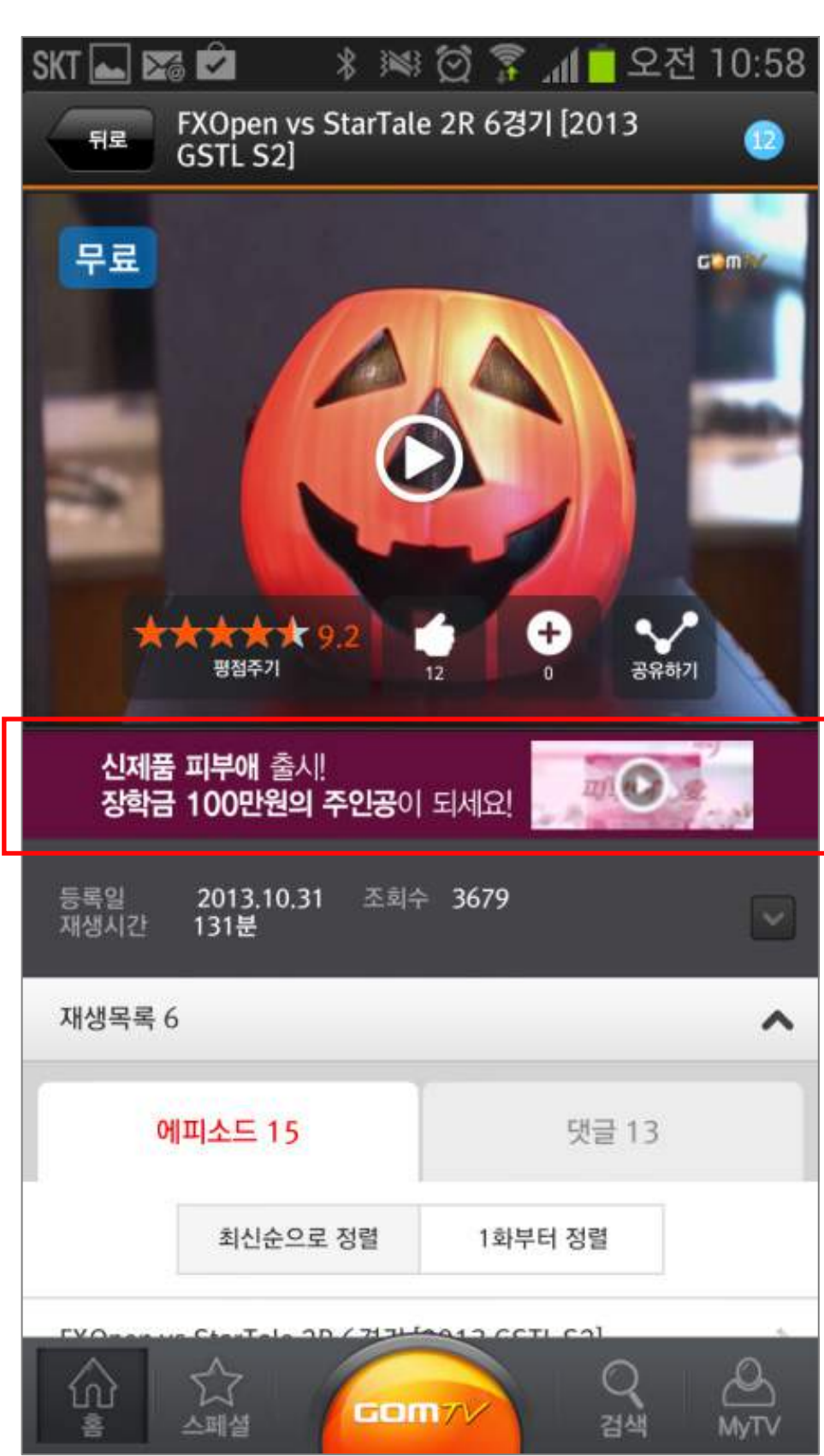
Floating Video
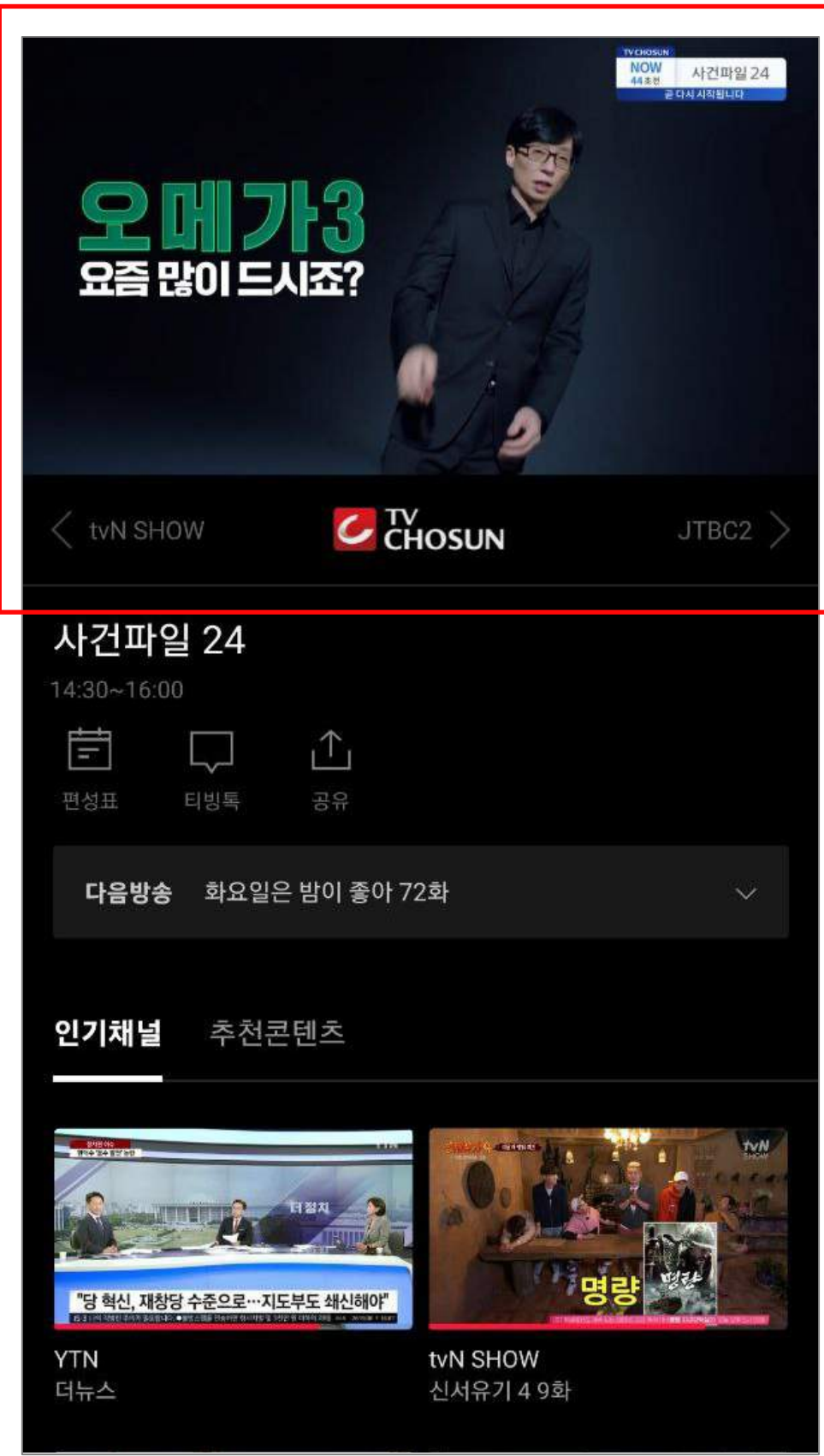
Outstream
In Banner Inventory

API support if In-App Ad (iOS, Android)
Provides report based on actions towards Ads
(Moving to webpage, App store, In-App connection, etc.)

Mobile Media

NetInsight ™ Mobile Adserver

HTTP(S)/API

Mobile App / Web Banner   Mobile Video   Network

Provides 'Smart TV Apps - Ads' Linkage API and ads
Supports detailed targeting using information from Smart TV system
Possible to have various form of actions when clicking ads

(Smart TV browser activation)

Smart TV Apps

NetInsight ™ SmartTV Adserver

HTTP(S)/API
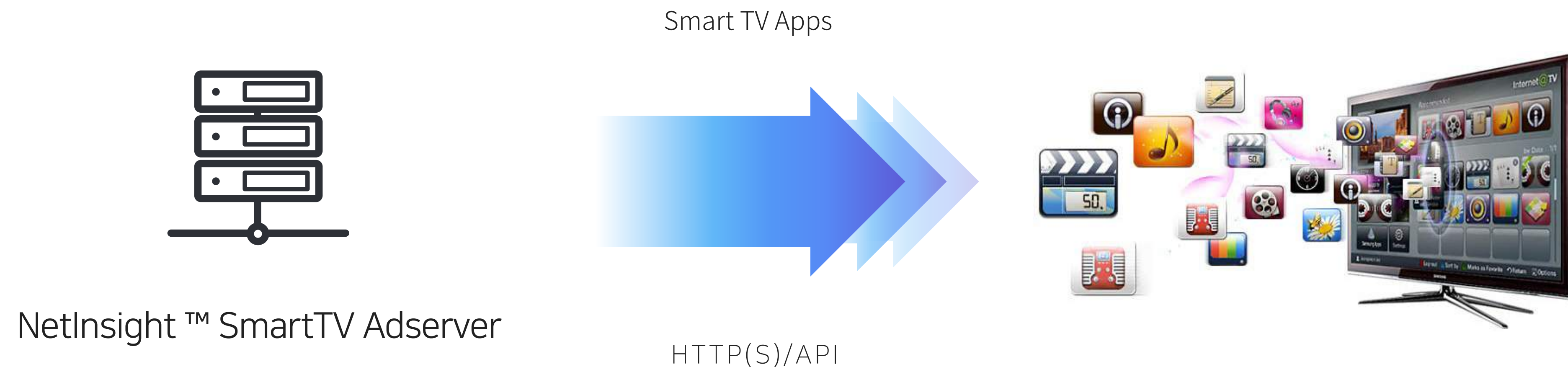
CTV

Banner in TV App

Click

Redirect to
Advertiser's Website

Full Size Ads
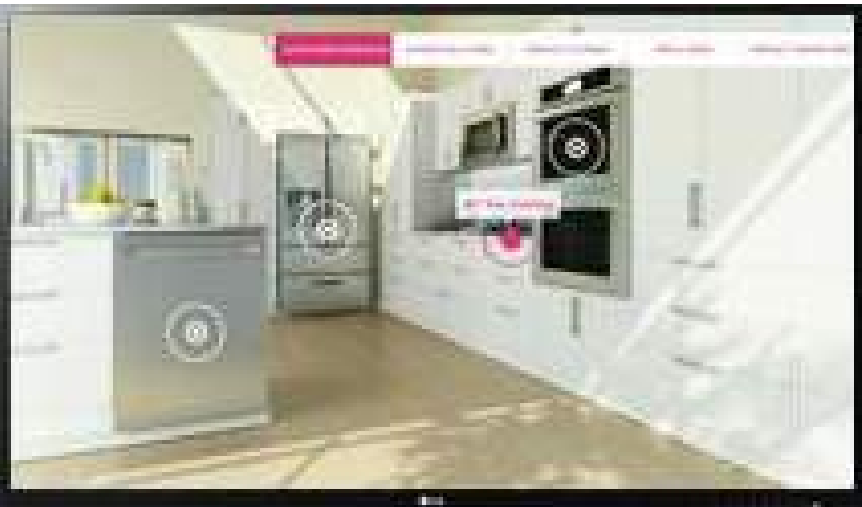
Open Brand App

Play Video

Integrated Search-Ad accounts management system

for agencies using APIs from Naver, Daum, Google, etc.

Campaign Management

- Provides UI for integrated media management
- Campaign/Ad Group/Keyword-based schedule control
- Auto-bidding feature for each keywords
  (developed management algorithm for each media)
- Auto-sends optimized reports for each advertisers

Agency

Clients

Web
Interface

API **NAVER**

API **Daum**

API **Google**

API overture
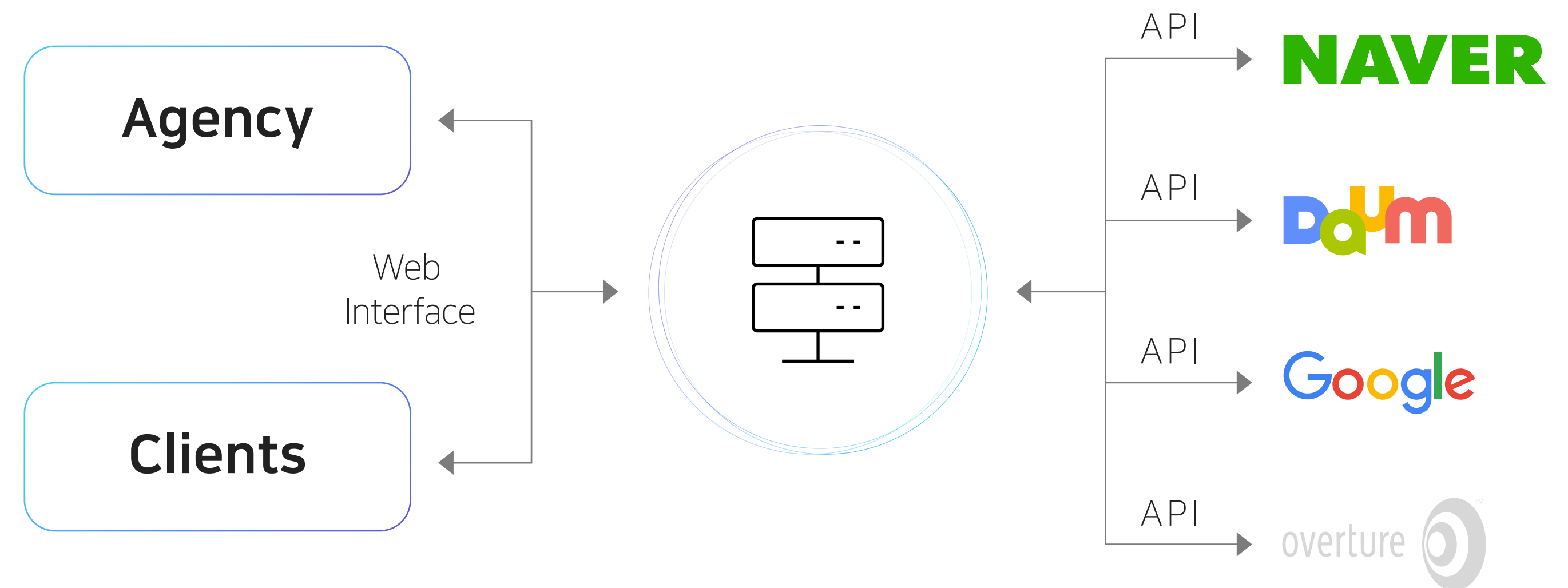
NetInsight ™ Keyword Adserver

Master View
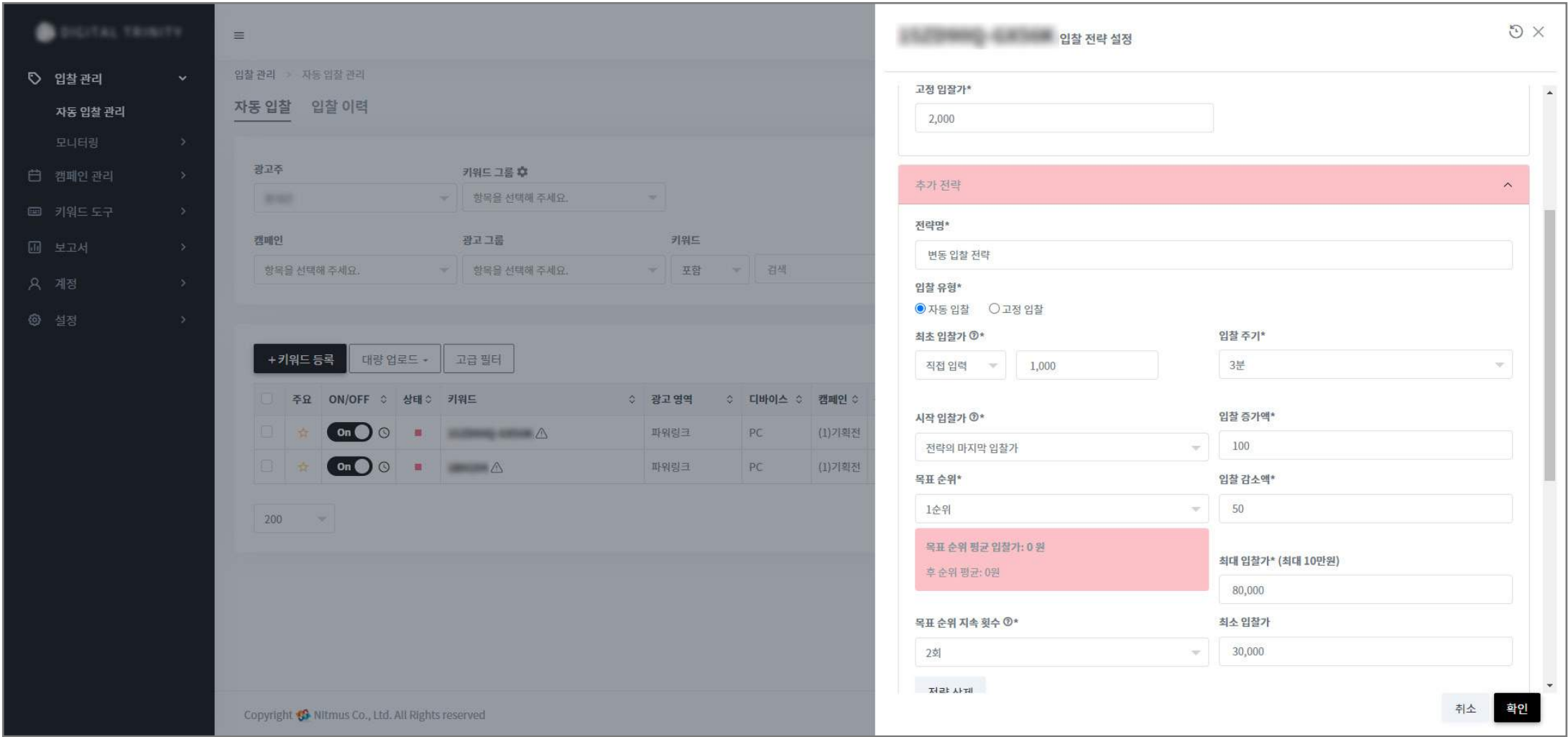
Auto-bid Settings

Account Scheduling (Campaign, Ad Group, Keyword)

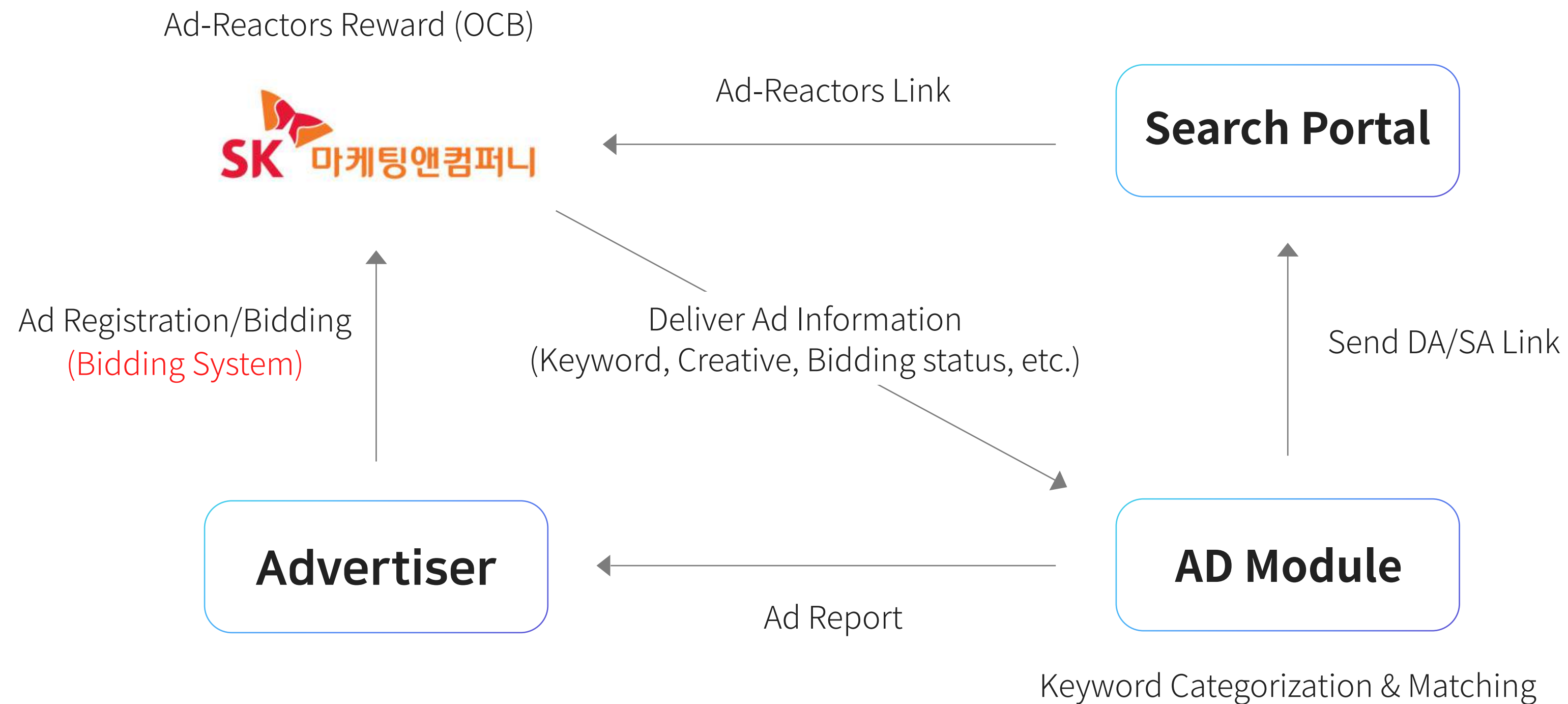Platform Introduction

Global In-Game Ad Platform

Enhancement of efficiency in management and reduction of sending
risk through 'In-game Ad platform' development
which operates Ad services to US, Japan, and China

Headquarters in Korea

Nexon US

Nexon Japan

Managing Campaign

Nexon China

Send and analyze ads

Ads in overseas games
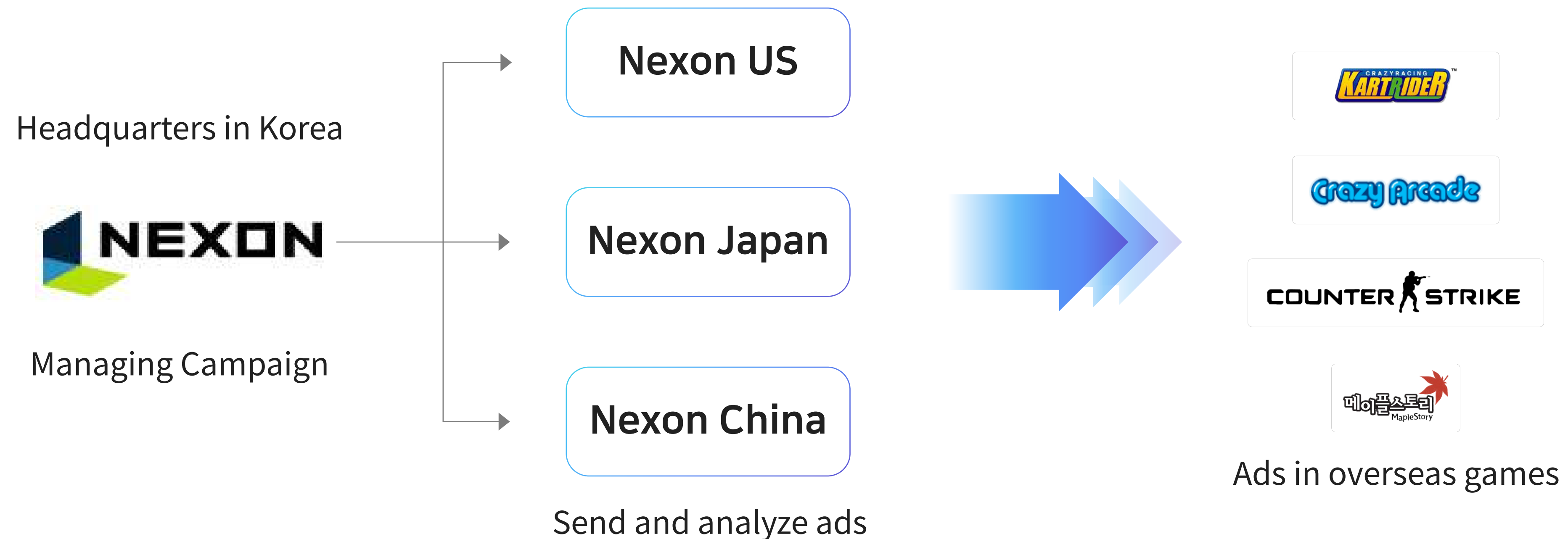
Platform Introduction

Ad Marketplace Platform

Integrated Platform which links OCB customers/points and DA/SA

Ad-Reactors Reward (OCB)

Ad-Reactors Link

SK 마케팅앤컴퍼니

Search Portal

Ad Registration/Bidding
(Bidding System)

Deliver Ad Information
(Keyword, Creative, Bidding status, etc.)

Send DA/SA Link

Advertiser

Ad Report

AD Module

Keyword Categorization & Matching

Platform Introduction

In-Store Ad Platform

Ad Platform for sellers in a mall (Interlinking Ad registration and shopping process)

Register publication at Ad center (Self Service UI)
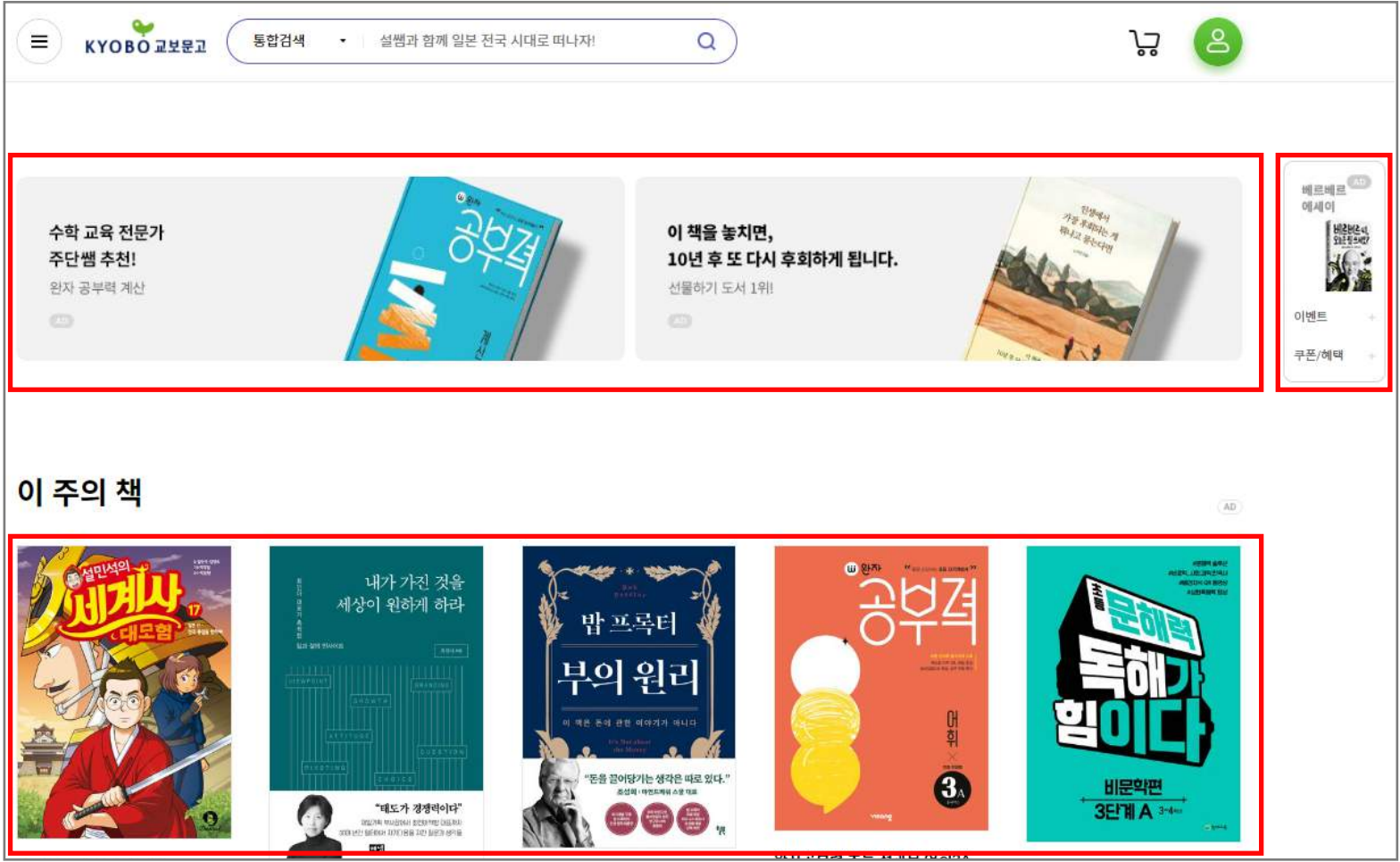
Expose at Ad inventory

Ad - Purchase Process

Advertiser's direct purchase of Ad products (similar as shopping process at malls)
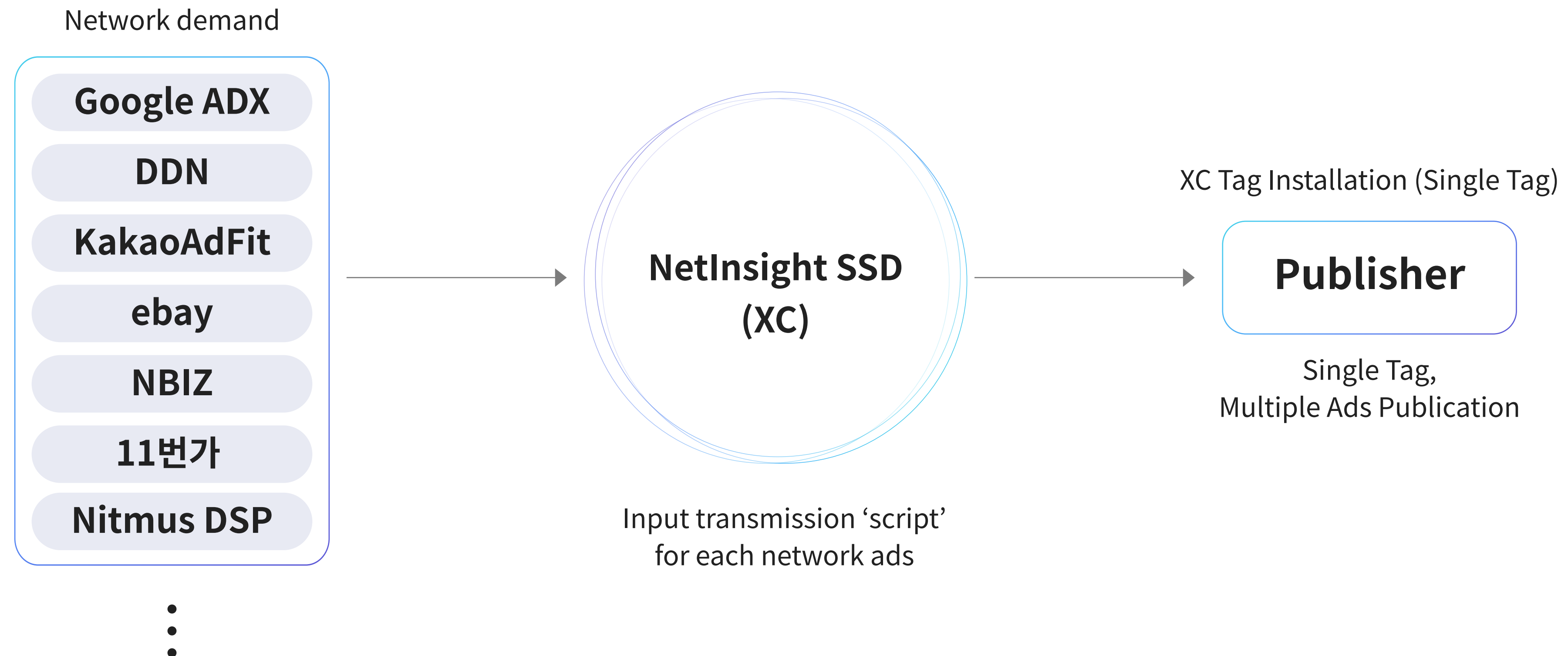
Campaign Registration → Ad product Inquiry → Add to Wishlist → Payment Method Selection

Add to 'Shopping Cart'

Payment Deduction, Online Deposit

Advertiser ← PG

Tax Receipt Delivery

Register Ad product to Campaign

Select / Reserve at Shopping Cart
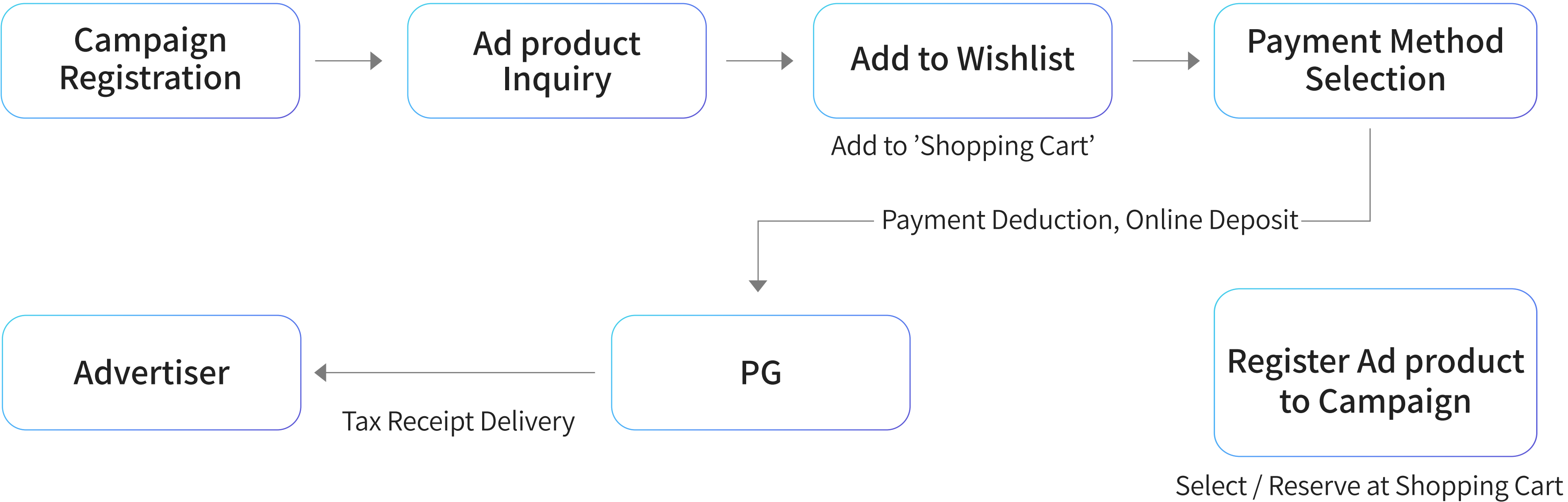
Platform Introduction

Retargeting Ad Platform

Ad transmission system based on users' action (Re-Targeting, Creative Optimization)

about

Network
Ad plaform

Re-Targeting
Ad Transmission

Media A
Media B
Media C

Media D
Media E
Media F

Mobile Web Network

User

Cookie Data
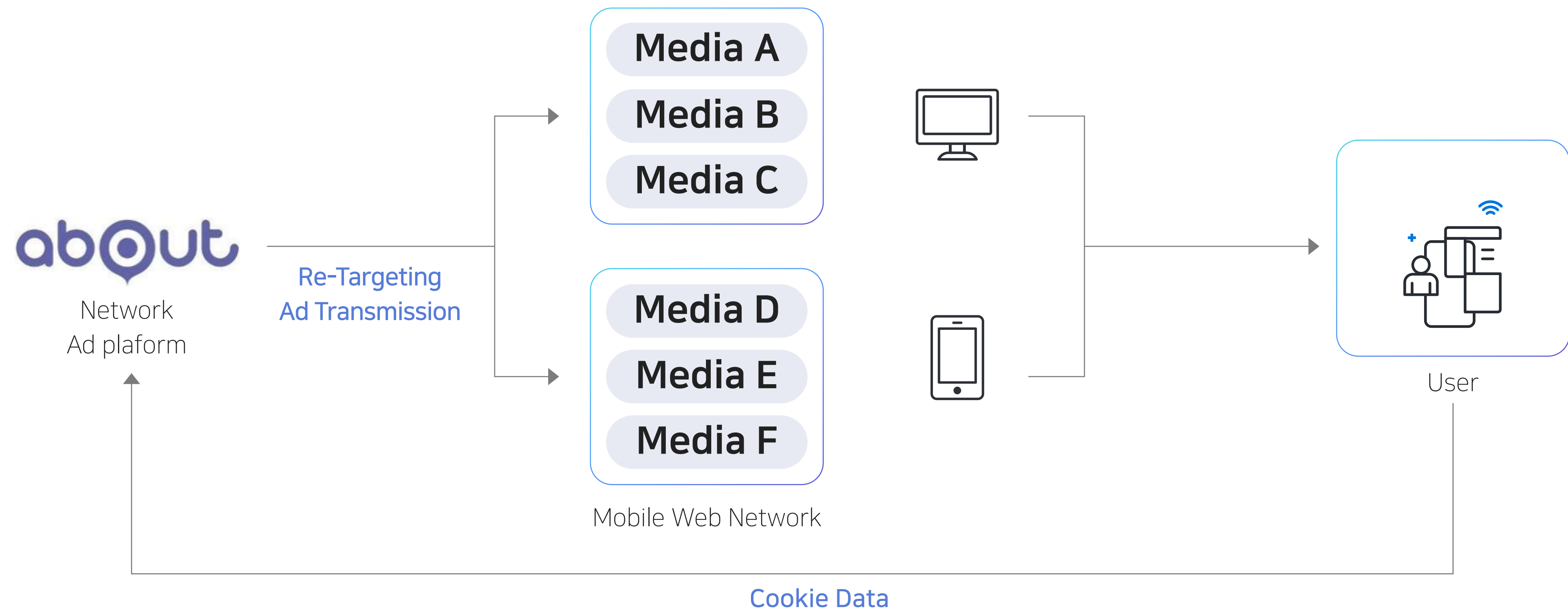
Platform Introduction

Supply Side Platform (SSP)

Supply Side Platform for publisher's profit maximization

Network demand

Google ADX

DDN

KakaoAdFit

ebay

NBIZ

11번가

Nitmus DSP

NetInsight SSD
(XC)

XC Tag Installation (Single Tag)

Publisher

Single Tag,
Multiple Ads Publication

Input transmission 'script'
for each network ads

Platform Introduction

Mobile Ad-integrated Platform (SK Planet)

Largest 'Mobile Ad Network' in Korea

Advertiser

Self Service UI (Source: SDK)
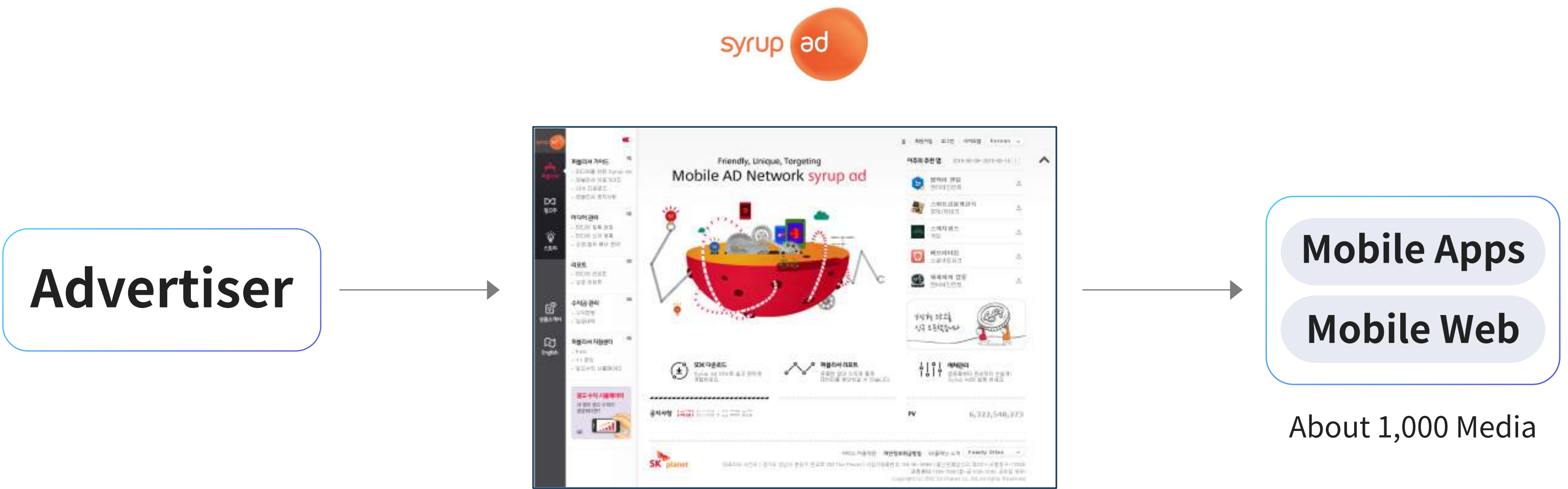
Mobile Apps

Mobile Web

About 1,000 Media

Platform Introduction

Mobile Ad-integrated Platform (Mable)

Real-time bidding platform through media/ad size/unit cost analysis using impression as a unit

Mobile Apps

ADpacker adlib INMOBI — Ad Exchange / Network

Request Bid

Tracking Clicks Ads

Win
Notification

Router

Request Ads

iab.

OpenRTB Protocol
Compatible

AD SCREEN

**Post Click
Service**

**AdServer
Connector**

**NetInsight
DSP**

NetInsight
ADX Bidder

**Account
Bank**

**Bidding
Agent**

Logger
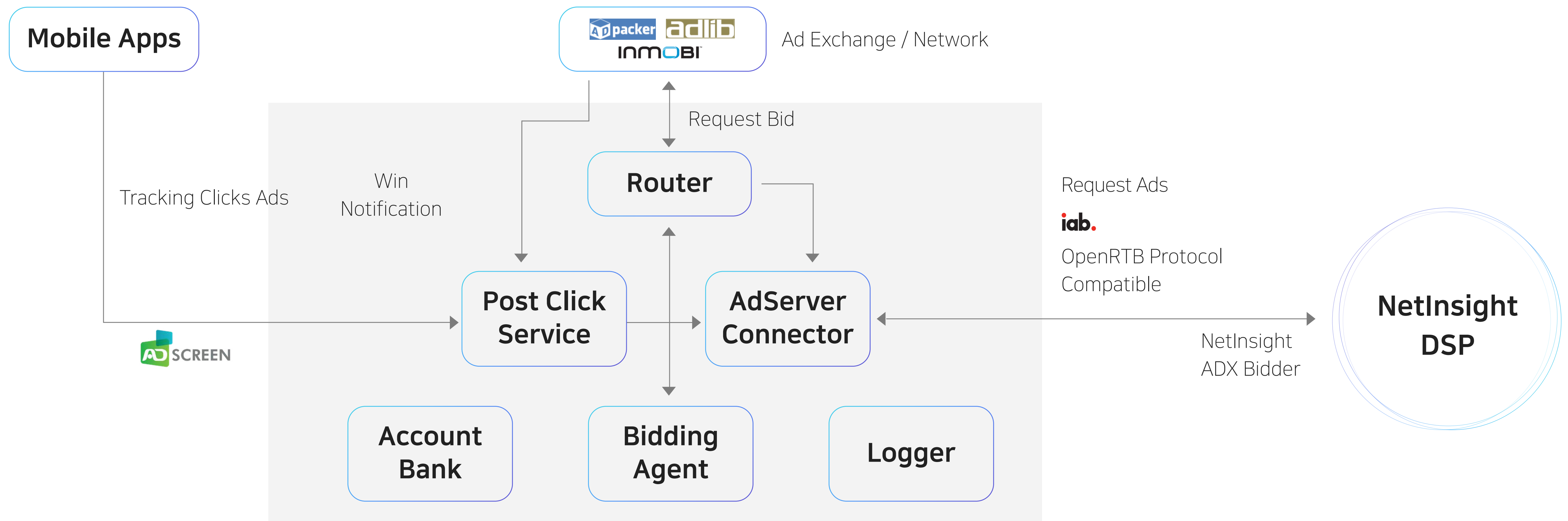
Platform Introduction

Platform Overview

Developing an external media network advertising platform for sellers on 11번가(*Client)

Clients Center

Seller

Seller over 110,000~
Products over 30,000,000~

HOT클릭
Network
Ads Paltform

Re-Targeting
Creative Optimization

Tracking activity inside the site
(search, browsing, shopping cart, etc.)

11번가
Web/Mobile

News / Media

Portal / Vertical

Mobile Network

External Extended Network
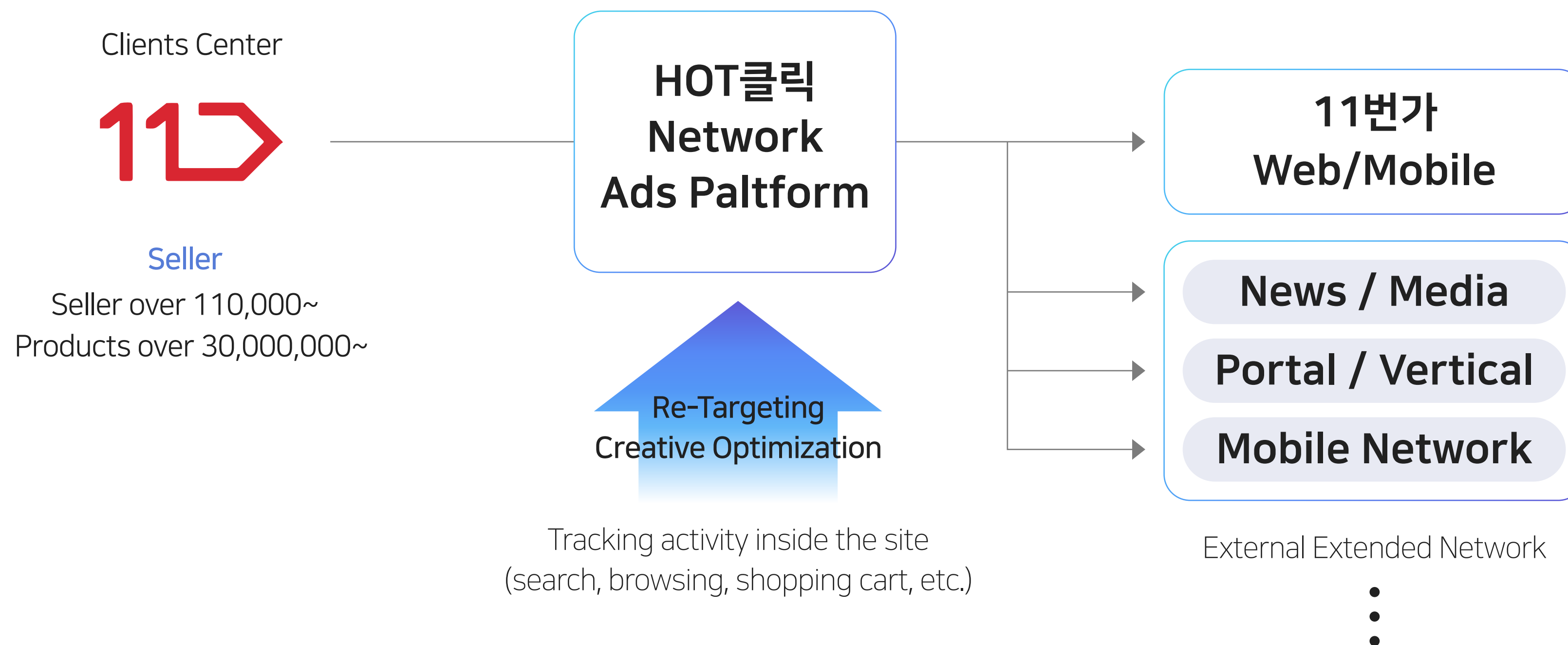
Platform Introduction

Channel-Integrated Digital Video Ad Platform

Multiple-channeled Web TV/Mobile/TV - integrated Video Ad platform

3 Public TVs, 4 Cable Channels, CJ Channel

Direct subscription (partial OLS)
with major 10 clients

Integrated Video Ad Platform
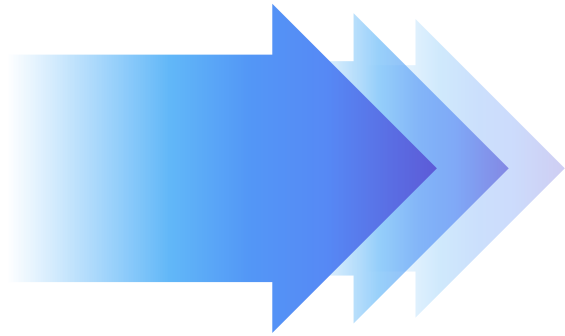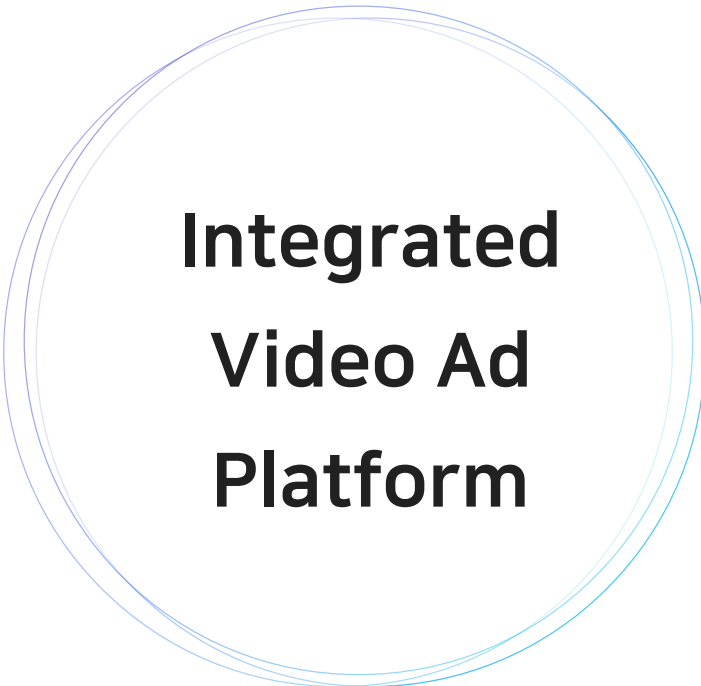
VOD Pre-roll Ad Transmission
(TV program targeting applied)

MBC JTBC
SBS POOQ
KBS kakao tv
NAVER TV
GOMTV TVING
Samsung
SMART TV wavve

Platform Introduction

Integrated Retargeting OLS Platform

OLS integrated platform at retargeting network platform
Extended Ad Ecosystem Basis

Re-targeting
User Targeting
Category Targeting

OLS Platform (Self Service UI)

User Cookie

Advertiser ⟷ **EDN Plus**⊕ ⟷ **Media**

Campaign Generation/Management

Tag Generation/Management

Ad Agency   **Media Rep**   **Media Agency**
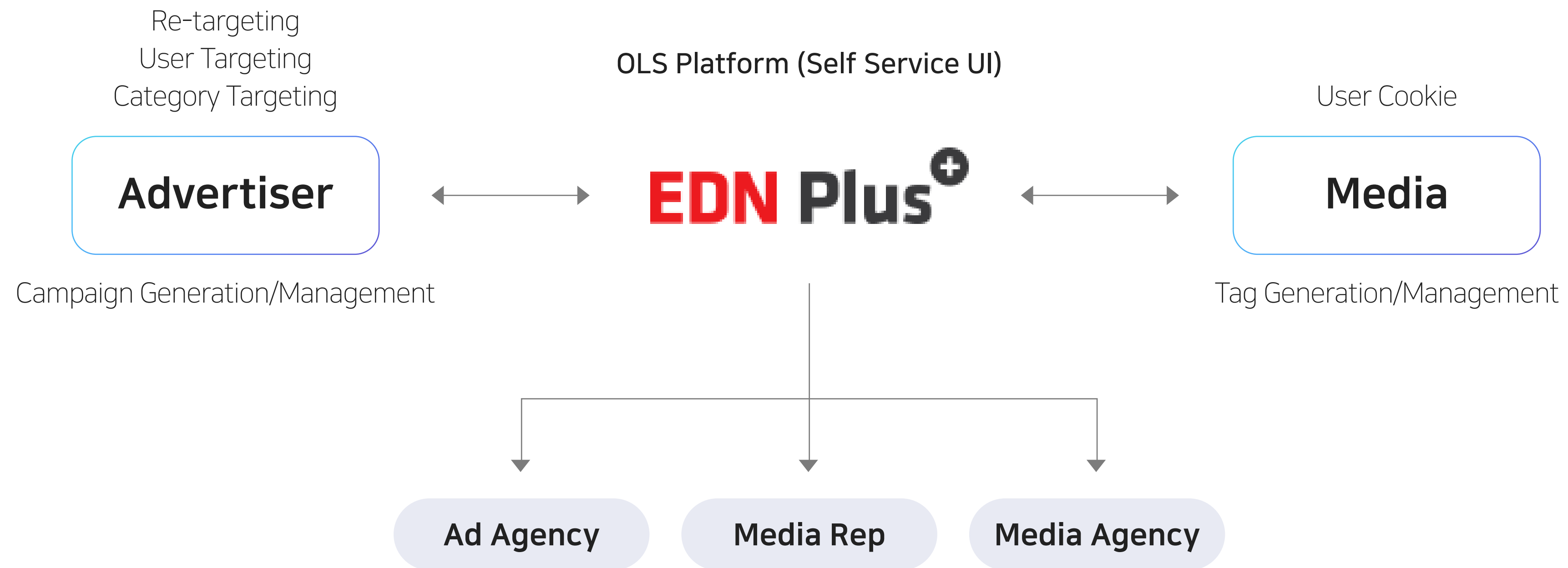
Bidding Proces

Uniform price or custom price (for each category) setting for 'biddable' Ad product

Campaig Registration → Ad Registration → Ad Cost Charge (in advance)

Ad Product Selection

Bidding Off → Non-Bidding Ad

Applies ad product's fixed price

Bidding On → Bidding Ad → Category Bidding Off → Uniform Price Bidding

Uniform Price for All Categories

Category-Based Bidding

Bidding Category Selection

Non account Credit Card

Advertiser

Print Tax Receipt

PG

Ad Cost Exhaustion

Platform Introduction

Smartphone Lock Screen Ad Platform

Reward-based Ad platform for Smartphone lock screen linked with shopping point

Points saving information

Sending Ads Tracking

Ads results

Ads Platform

Sending Ads

Create Ads/Contents, Reporting

Sending Ads Tracking

Lock screen

Ads   Contents

Charging

Ads
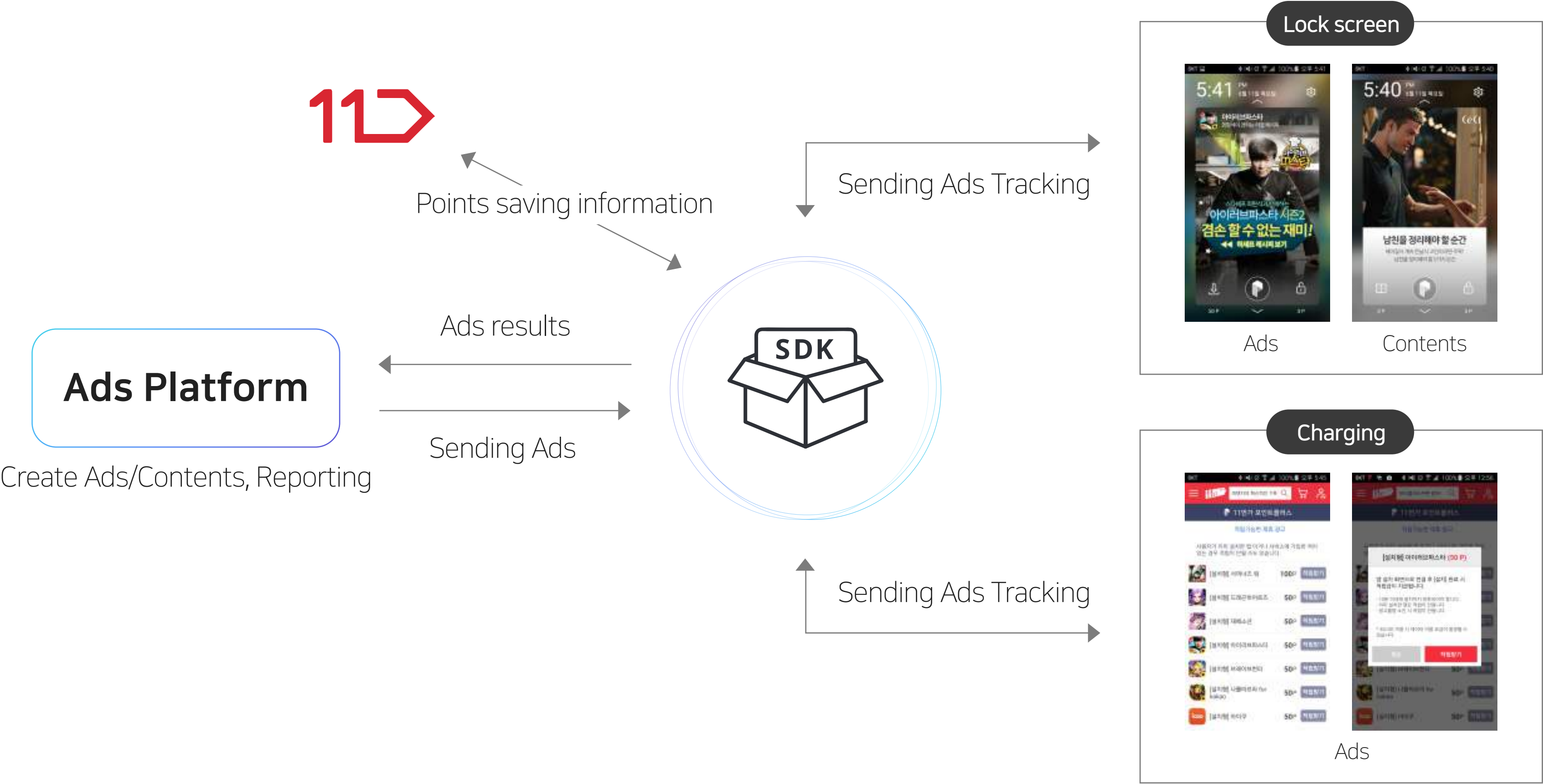
Platform Introduction

Ad Exchange Platform

Ad Exchange platform which allows RTB

ACE Exchange Direct Clients

ACE DSP

Final Competition

ACE Partner

RTB/Cookie interlocking

RTB   RTA   Passback

ACE Exchange Direct Clients

RTB

ACE Exchange

RTB

Publisher

Publisher

Publisher
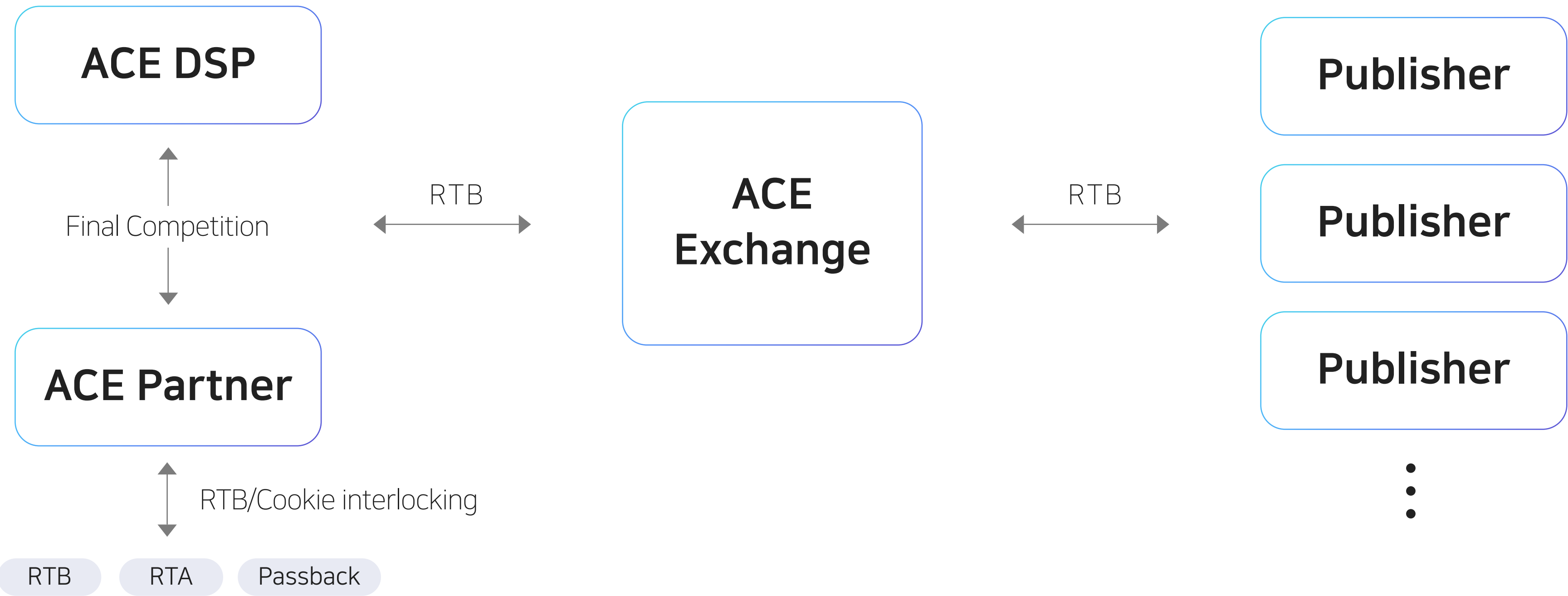
'In-link' formed Native AD Platform

Ad Master

Campaign/Ad product management

Ad Platform

Copyright Fee Adjustment

CP

Ad Transmission (Card Ad, Video, etc.)

Contents Source Provision

Pikicast

In-Content Card Ad

Click

Advertiser Contents Page in Pikicast
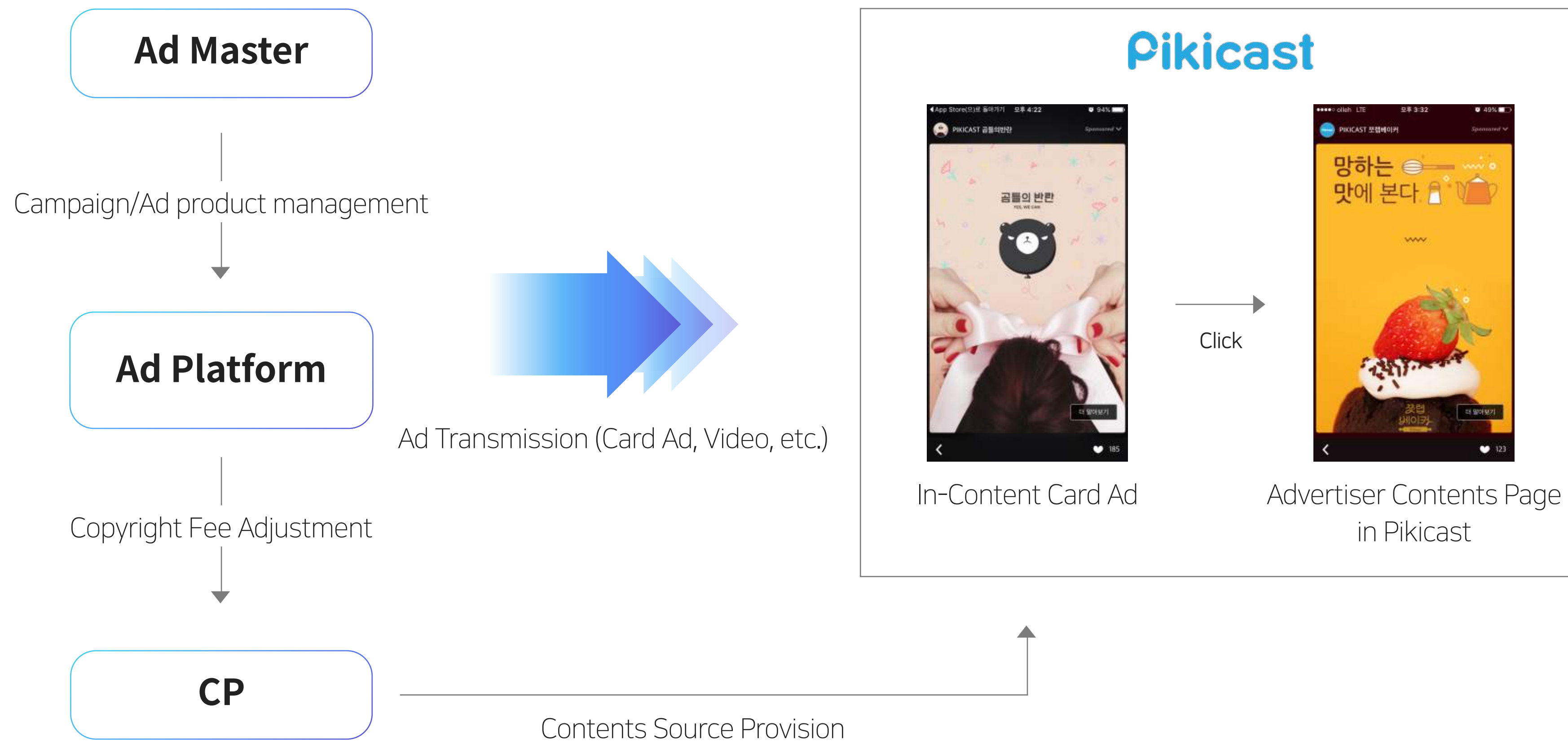
One Platform(SSO),Multiple Channel/Device Ad Management

PC Web (Pre-roll)

Integrated Ads Platform
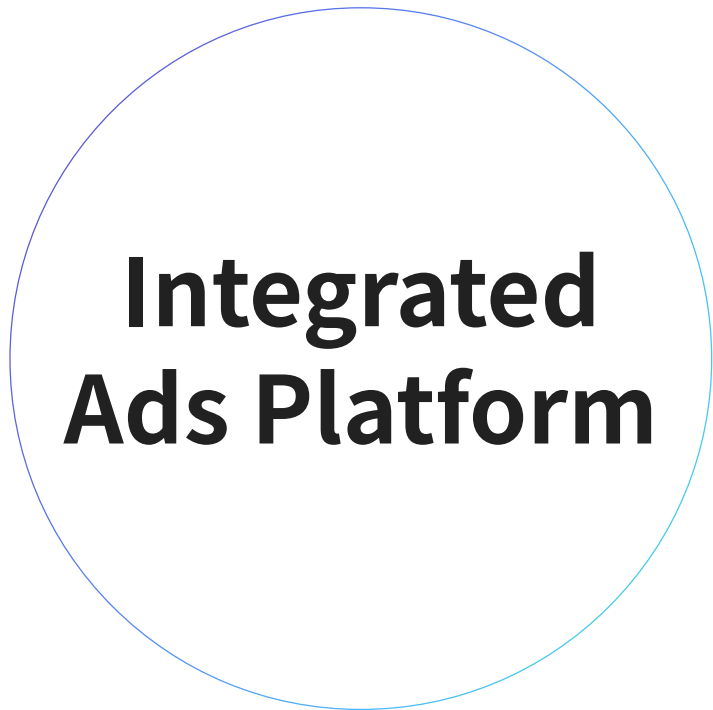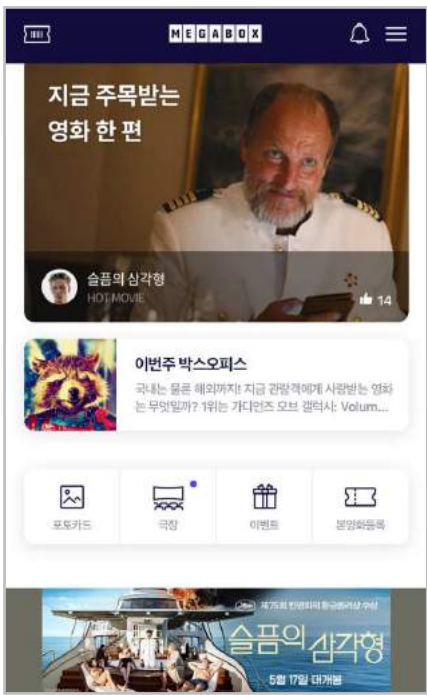
Mobile App.
(banner)

Mobile Web
(Pre-roll)

Various Analysis Service Provision

Trend Report, Pre-generation Report, Signal EDA, Segment-based Comparative/Cross Analysis

Trends Report
• Analysis Data Trends

Pre-Set Report
• Analyze in Diverse Segments Characteristics

Cross & Comparative Analysis
• Analysis segment

Signal EDA
• Analysis data in Multiple Angles

Ad Registration & Management

**Mother Brain
Management Team**

Advertisement Service

Report Provision

Manager Server

MySQL
Database

Schedule Server

Log Analysis

Analytics Server

Forward Landing Page
Transition trid

Advertiser

Client

Advertisement
Schedule

Log
Collection

Check Ads

Media Firm

Pass Event-Ad Click
& Ad information/Event Key

Mediation
Service

trid Key
Generation

POSTBACK & MEDIATION SERVER

Postback Service

Reward-Grant Request

Forward Postback Request trid

Appendix

Introduction toNitmus Solution

Stability

| System | Diverse media categories
System Stability (Proven for 20 years) |

H/W Load — Minimized hardware load by employing appropriate programming language

Security — Enhanced security management through separating Admin and Front

Extension

Media — "One Platform, Multi Media"
Multi Media management through interlinking various Nitmus solutions

System — System extension facilitated by complete Parallel Structure Design
Performance extension in proportion to 'scaling-out' a server

Global — Feasibility of global extension through Multi-Module Architecture

Simplicity

Ad Tags — "One Tag, Multi Ad" Concise page source – Enhanced efficiency in Ad management
(Improvement in processing speed, Reduction in errors)

Advanced Inventory Control & Demand Prediction

- Real-time Impression-per-minute calculation
- Scheduling, Frequency control features
- Baseline for Setting Budget
- Anomaly Detection: Snapshot

Flexible & Precise Targeting

- System Targeting
- IP Targeting
- Database Targeting
- Keyword Targeting
- Audience Targeting
- Category Targeting
- Retargeting

Exact & Detailed De - Facto - Standard Report

- Real-time hourly reporting offer
- Using Execution Result's evaluation standard
- CTR, CPR, Reach, ROI Reporting (for each site/ad)
- Automated Notification based on Campaign Progress
- Video-based Reporting

Response to Diverse SFX Advertisements & Anomaly Detection

- Flexible response to every local & international SFX Advertisements
- Multi-Click feature
- Multiple creatives & banner designation
- Complete re-enaction & analysis with "Snapshot" tracking in case of anomalies

Scheduling

"Impression-per-minute" Calculation Method (Korea-First)
Considers Weighted Factors (Day/Inventory Basis)

Constant Impression during Campaign Execution Period
Reaches to Target Impression stably

Formula : $\dfrac{\text{Target Impression} - \text{Sent Impression}}{\text{Campaign Duration (Converted in Minutes)}}$ X Weighted Value (Inventory) X Weighted Value (Day)

Weighted Value (Inventory) : Proportional value of each inventory's impression
(Impression statistics for each inventory in recent 1 month)

Weighted Value (Day) : Proportional Value of each pages' daily impression
(Impression statistics for each page in recent 1 month)

Reporting

Various Reports

- Diverse data extraction (CTR, CPR, Reach, ROI, etc.)

- Media, Ads based reports

- Campaign, Agency based reports

- Various period-based reports

- Contents based view reports (for video)

Hourly Reports

- Report offer for previous 1 hour

- Advertisement execution control through
  report data and real-time impression / CTR
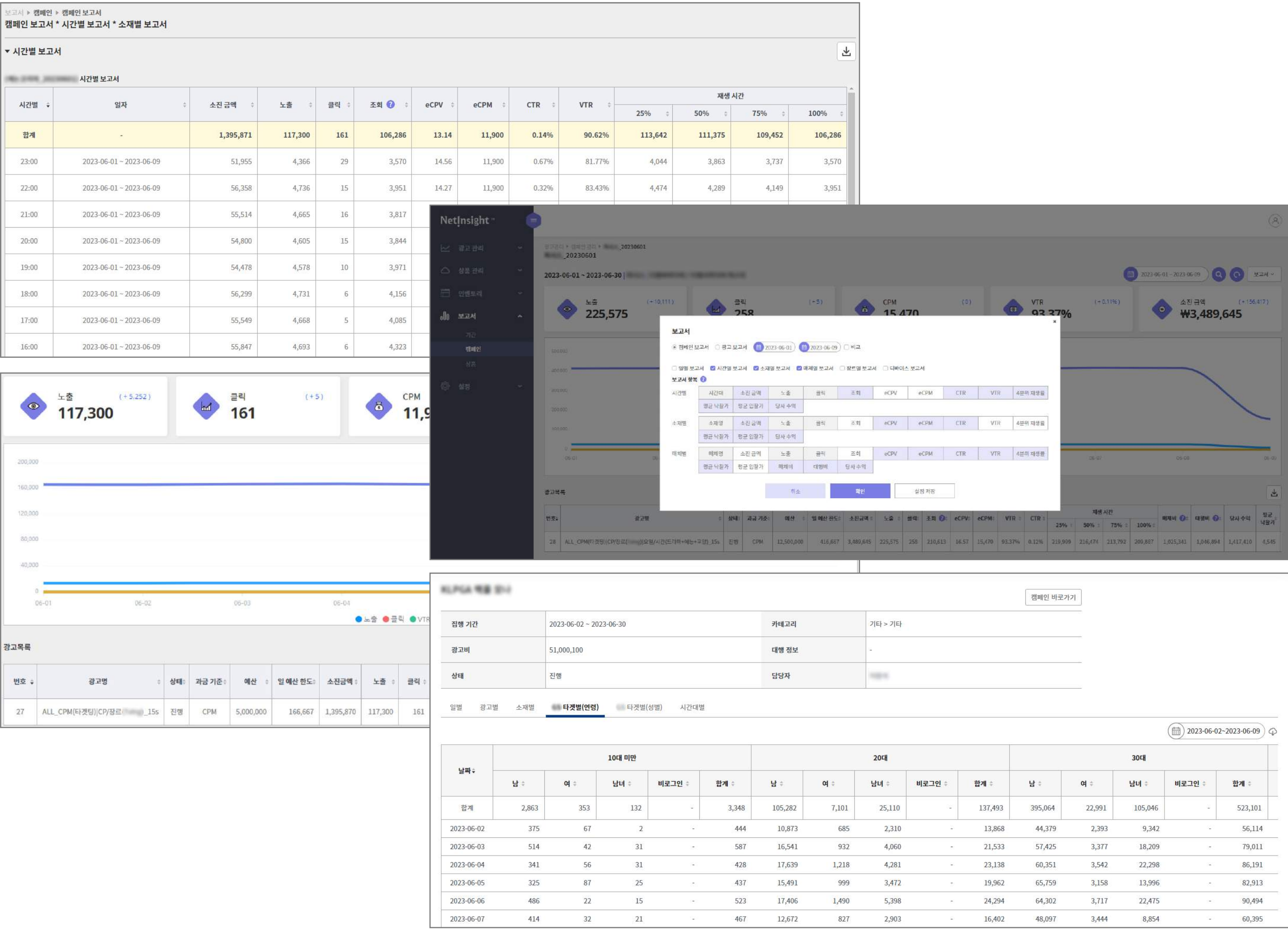
Targeting

Targeting Type

- System Targeting : Browser, OS, Language, Day-of-the-Week, Time Range

- IP Targeting : ISP based on KRNIC data, Geo-Targeting

- Designated IP Targeting: Designated IP Range

- DB Targeting : Age / Gender / Region Targeting through syncing media user DB by cookie

- DMP Sync : Audience Targeting, Category Targeting

Targeting Option Re-Usage

- Re-using used option values into other campaigns

('Customized option setup' feature)

Ad-Fee Charging

Charging System

- Various charging system available
- CPM : Cost per 'Miles' (Impressions)
- CPC : Cost per 'Click'
- CPP : Cost per 'Period'
- CPV : Cost per 'View'
- CPA : Cost per 'Achievement'

Sales Management

- Performance management based on media / context
- Daily/Monthly performance review
- Automated performance report
  generation & download

Monitoring

Impression Forecast System

- Compares Current & Target Impression
- Provides Reach Prediction for designated / closing Date
- Provides over & under impression status

Auto Alert

- Auto notification in case of target attainment failure threats
- Email notification from scheduler server

Auto Modification of Impression Status

- AJAX deployment
- Automatic renewal without refreshing
(like billboards in stock markets)

Creative

Impression Forecast System

- Supports every existing SFX Ads
- Simple addition of new SFX Ads by employing templates
- Interquartile rate report (for videos)

Multi-Click

- Allows control for multiple click elements
  in Ad Creatives (Click Control, Click URL)
- Supports Multi-Click Reporting

Multiple Ads Placement

- Flexible response based on creative's changes
- Automatic shift of creatives in order based on schedule
- Maximum 10 multiple advertisement management
  (extension available)

Manager

Web Interface

- Provides same GUI in every web browsers

(Adopts Web Standards technology)

- Takes advantages of CSS

Shortened loading time by less HTML markup amount)

- Provides 'pull-down menu' system

(Data overview at one-look)

- Minimizes website refresh through AJAX adoption
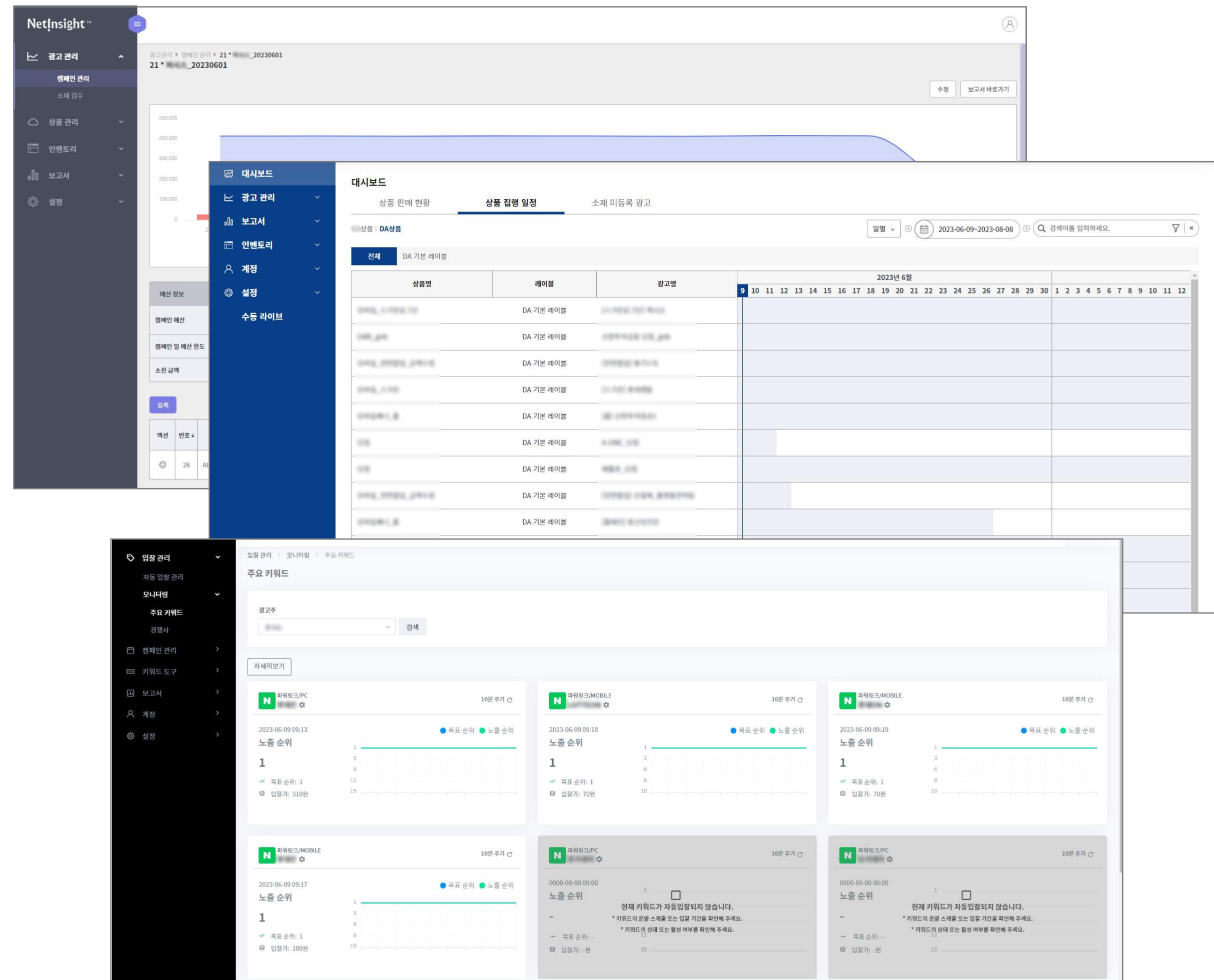
Others

Data Synchronization

- Scheduler Server – Walker Server
Data sync in every 10 minutes
- Instant sync to Walker (less than 1 minute)
if modification event occurs

Authorization based on Accounts

- Breaking individual authorization / supervision system
- Overall supervision by 'manager'
- Allows access authorization control for each ID

Frequency Control

- Ad frequency customization with designated dates
- Allows designation based on 'Ads'
(subgroup of campaign)
- Maximum Frequency = 60
(Unable to expose ads if Frequency > 60)

Task Processing Every Task in 3% of CPU Time

Capacity (TPS)	Completion Rate (%)	Response Time		Concurrent Users	System Load (CPU / Memory)				
		In 3 sec	In 10 sec		Server1	Server2	Server3	Server4	Server5
3,300	100.00%	100.00%			Adbanner5	adbanner6	adbanner7	adbanner8	
					3	3	3	3	

Test Information

Test Target	Company S's Integrated Advertisement Platform
Test Tool	Load Runner (Mercury Interactive/HP)
Test Method	Load Test by directly contacting a switch
Hardware Specifications	Redhat Enterprise 64bit, Xeon 4Core, 8G Ram, Giga Network Interface

Thank you :)

Contact Us nitmus@nitmus.com