Wherever possible
RSUPPORT

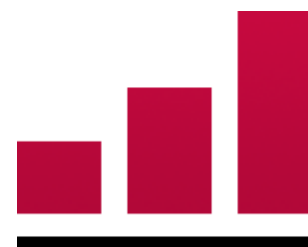# Assist Customer's Smartphone Remotely

Introduction

NOV. 5th 2010
Written by RSUPPORT MKT division

Carbonless Support

Microsoft
GOLD CERTIFIED
Partner

Compatible with
Windows 7

(intel)

Index

1. Overview
2. RemoteCall?
3. Strong Point
4. about RSUPPORT

1. Overview

- Market Trends
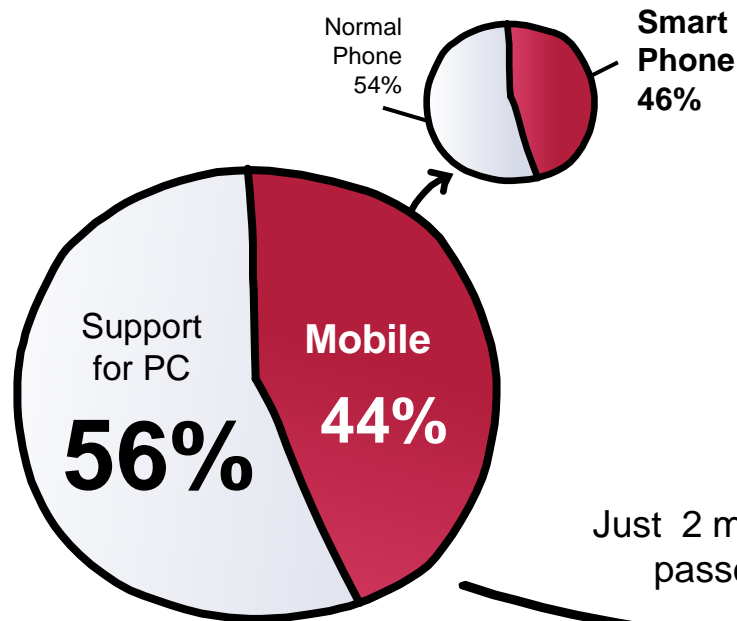- MDM
- Control Remote Smartphone
  : Practical usage

63M Smartphones were sold in the 2nd quarter of 2010 - 50% increase over the previous year
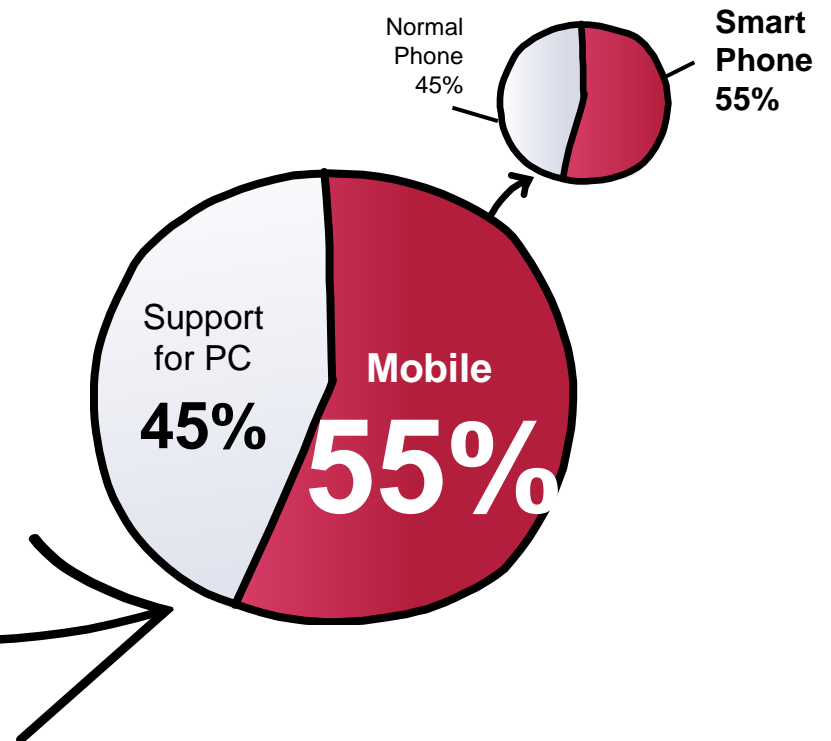
Vendor	Q2 2010 Shipment Volumes	Q2 2010 Market Share	Q2 2009 Shipment Volumes	Q2 2009 Market Share	Q2 2010/ Q2 2009 Change
Nokia	24.0	38.1%	16.9	40.3%	42.0%
RIM	11.2	17.8%	8.0	19.1%	40.0%
Apple	8.4	13.3%	5.2	12.4%	61.5%
HTC	4.8	7.6%	2.1	5.0%	**128.6%**
Samsung	3.0	4.8%	1.1	2.6%	**172.7%**
Others	11.6	18.4%	8.6	20.5%	34.9%
Total	63.0	100.0%	41.9	100.0%	**50.4%**

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Trouble Maker : Smartphone vs. PC

2010. 08.

Normal Phone 54%

Smart Phone 46%

Support for PC
56%

Mobile 44%

Just 2 months passed

2010. 10.

Normal Phone 45%

Smart Phone 55%

Support for PC
45%

Mobile 55%

* SOURCE : a very global electronic service company

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More efficient solution for Mobile Devices

ETC
30%

**Upgrade
20%**

General
30%

**System
22%**

**Program
11%**

53%

" We can solve these problems
REMOTELY "

* SOURCE : a very global electronic service company

Mobile Device Management

Inventory /User	Configuration	Security
Software /Application	Backup /Recovery	Data /Documents
Remote Control		Lost Phone

Practical Usage

Phone Manufacturer   **Telco**   **Enterprise**

Trouble Shoot
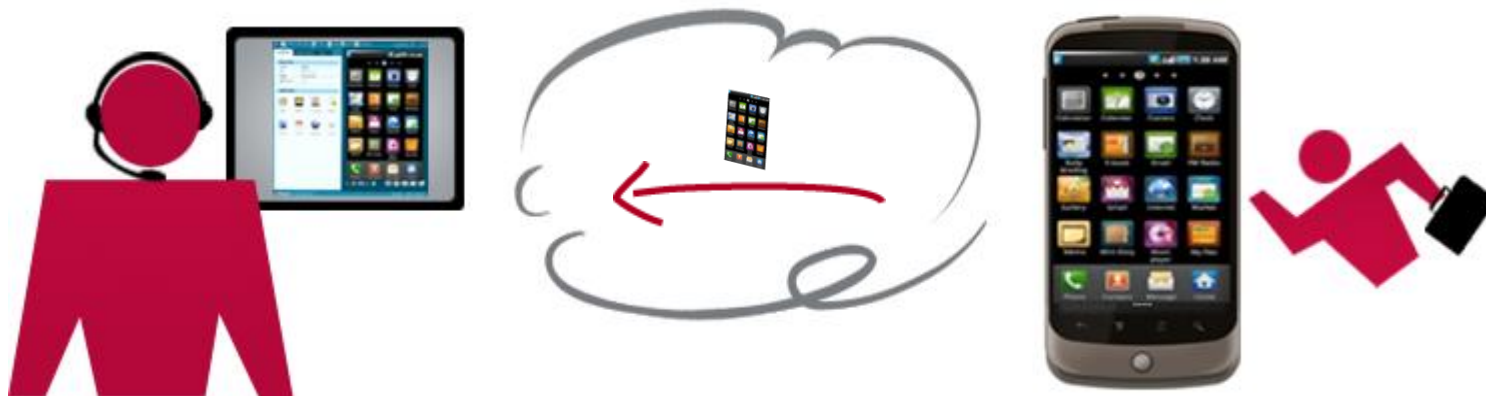
Device Management

Security Management

2. RemoteCall?

- What is RemoteCall?

- Key Map

- Key Features

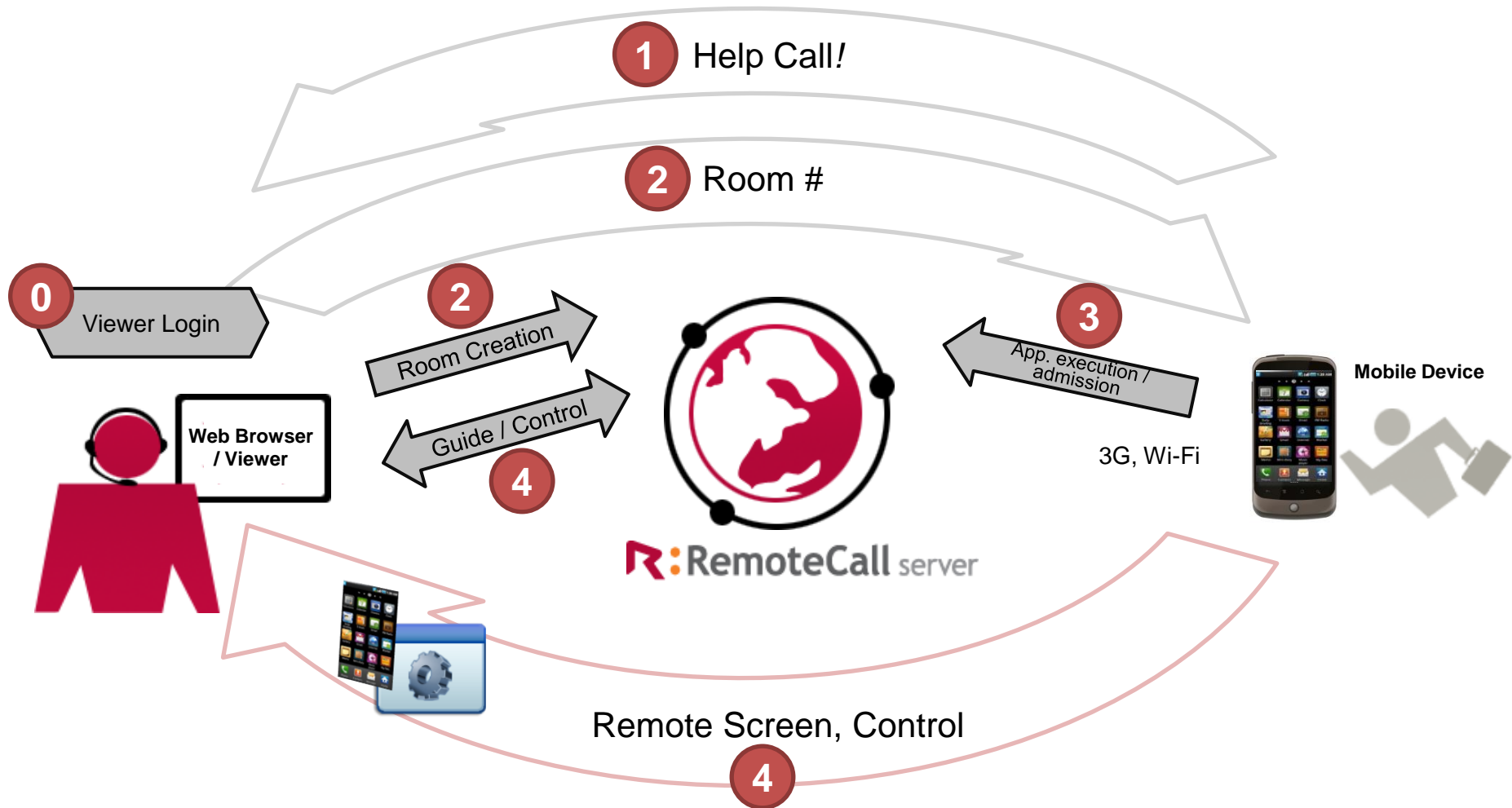- Platforms

- Management / Operation

What is RemoteCall?
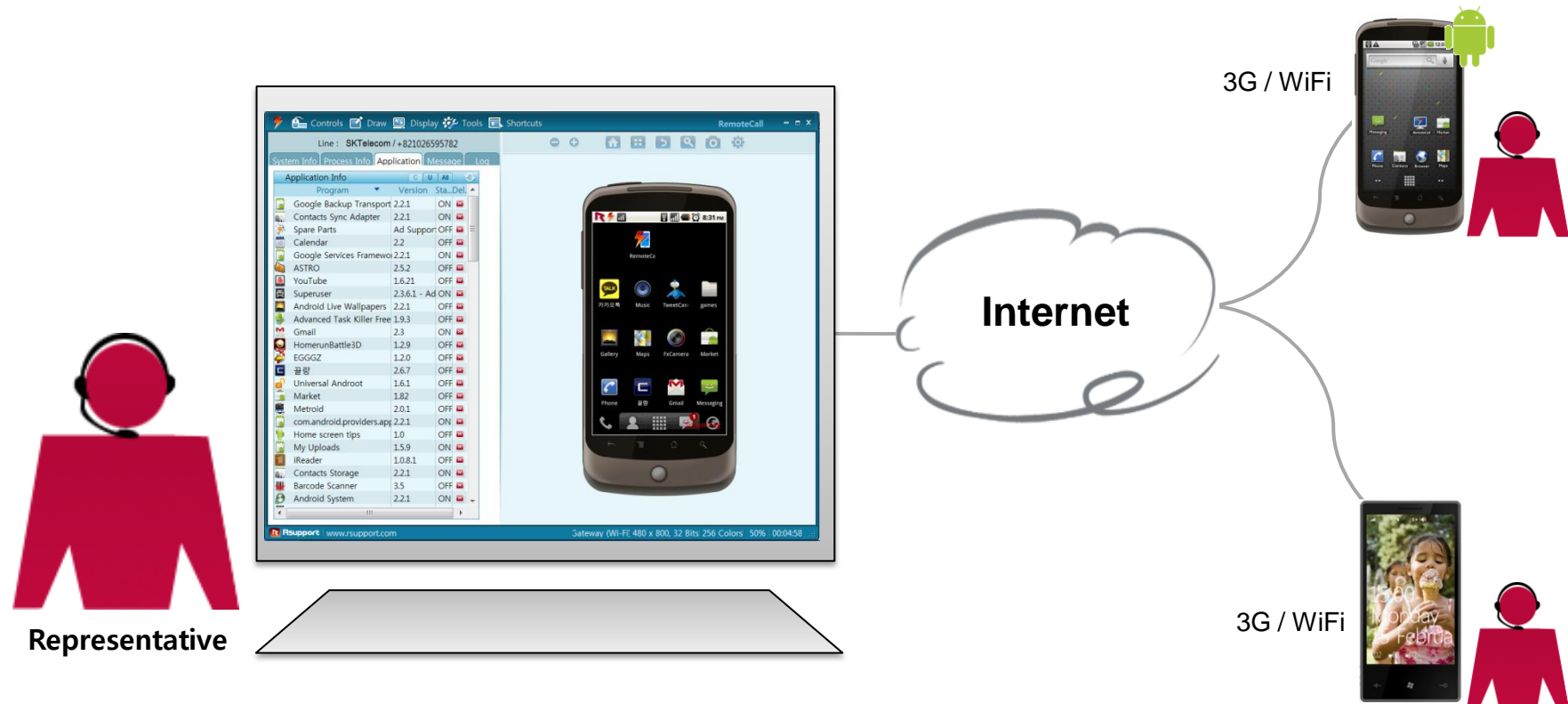
Real time support remote Smartphone, PC, TV …

- Screen sharing
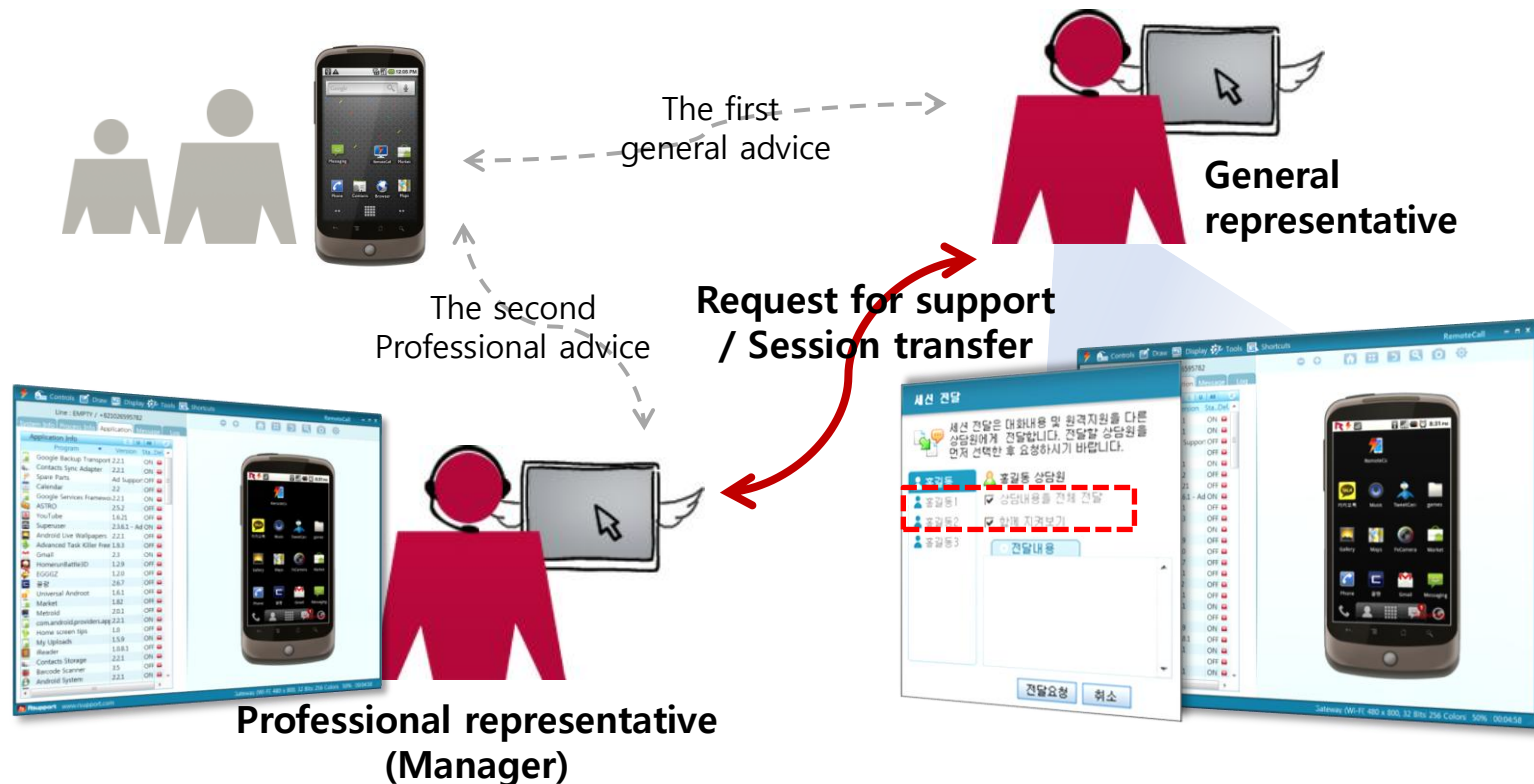- Input (Touch, Button) control
- File transfers

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Key Map

1 Help Call*!*

2 Room #

0 Viewer Login

2 Room Creation

3 App. execution / admission

Mobile Device

Web Browser / Viewer

Guide / Control

4

R: RemoteCall server

3G, Wi-Fi

Remote Screen, Control

4

Screen Sharing

Session Transfer

Forward a session to another representative while it is connected with a customer : Professional advice, Multilateral collaboration and Education

The first general advice

General representative

The second Professional advice

Request for support / Session transfer

Professional representative (Manager)

Device Information

Input Control

- Click, Drag
- Main buttons
  - Home, Menu,
  - Back, Search,
  - Volume Up/Down
- Skin is applicable

Guide

Guide customers by drawing on their screen without direct control the customer's device

Setting

Settings to Improve the performance

Recording (optional)

- Reserved Recording server
- A central control
- All the screen change
- Reserved format
- Dispute prevention
- Educational use

Recording Server

Play

Recording …

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RemoteCall is ready for various platforms

Customer

Android 2.1/2.2

Windows Mobile 6.x

Windows Phone 7

Representative

Windows

Mac OS X

Planned

Linux

System Configuration

- Authentication and Relay server.
- Relay server can be distributed in different places to improve the performance.

3. Strong Points

- Key Issues
- Installation
- Performance
- Connection
- More

Key Issues

- Mobile App Install
- Traffic
- Connection
- Load
- Session

How to install our app to Smartphone

- **Embedding – Factory Installation**
  - Pre Porting
  - OS Upgrade

- **App Download***
  - Signed APK by System Key
  - SMS Linker
  - Market
  - Mobile Web

* Requires OS Acceptance

Engine

▪ **Mirror Video Driver Type**

OS Kernel Layer

| OS Kernel | Video Driver | Rsupport VRVD
Screen Capture Engine | Rsupport
Encoding Compressing Casing Scrolling Engine |

Network →

Rsupport Viewer
Decoding Uncompressing Caching → Remote Display

▪ **Advanced Polling Screen Type**

Application Layer

| OS Kernel | Video Driver | Rsupport
Screen Capture Engine | Rsupport
Encoding Compressing Engine |

Network →

Rsupport Viewer
Decoding Uncompressing Caching → Remote Display

▪ **System Hooking Type**

Application Layer

| OS Kernel | Video Driver | Rsupport
API Hook Engine | **Rsupport**
Global Message Hook Engine | Rsupport
Screen Capture Engine | **Rsupport**
Encoding Compressing Engine |

Network →

Rsupport Viewer
Decoding Uncompressing Caching → Remote Display

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Engine

Type	Minimum CPU Spec	CPU Usage	Data Packet Size	Extracting Data Process	DirectX 3D	Programming	Control Speed
Mirror Driver	Low	Low	Low	Short	None	High Skilled	High
Polling Screen	Medium	Low & Medium	Medium	Short	Yes	Very Simple	Medium
Hooking	High	Medium	High	Long	Yes	High Skilled	Medium

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Process

Process

Transferred screen

Actual screen

Item	Description
1	- Screen image compression/ transfer - True Color -> 256/64/4 Color Change
2	- Texts and images on the screen are transferred separately.
3	- Only changed areas on the screen are transferred
4	- Rapid return to current display : Image cashing - 10KB >

Process

Low Bandwidth(3G) Packet reduction Algorithm

4 Color

256 Color

**Screen is changed
in less than 2 sec.**

**Omit
Unnecessary
screen
components**

**Move to 'Set up' via
'Home' screen**

**Move to
'Set up'
directly**

Automatic color adjustment	Unnecessary screen is not transferred	Move to 'Set up' immediately
Automatic color adjustment (256/64/4) as Network speeds	The screen which is changed in less than 2 sec. would be omitted during the screen transfer	After the connection, you can see the main screen directly without any unnecessary screen

Benchmark

Scenario of screen changing

1. Main screen → 2. Program → 3. E-Mail

Test phone : Galaxy S
Original resolution : 800*480
Color: 16 bit

Normal 256Color :
Data size is reduced by about 27 times

1) Customer moves lateral three screens 1 time (Kbyte)

Class.	True	256	64	4
Original	2250			
Transferred	473	145	82	41
Reduced	**79%**	**93.6%**	**96.4%**	**98.1%**

2) Expected speed of Data transfer as the above result (sec.)

Uploading	True	256	64	4
50Kbps	75	23.2	13.1	6.5
500kbps	7.5	2.3	1.3	0.6
1Mbps	3.25	1	0.7	0.3

3) If customer repeats above action of "1)" 3 times (Kbyte)

Class.	True	256	64	4
Original	6750			
Transferred	572	250	142	61
Reduced	**91.5%**	**96.3%**	**98.9%**	**99.1%**

* Reduced data packet size : 11 (True) ~ Max. 110 times (4color)

Type

- 3G
- WiFi
- USB Cable through PC
  - No Install
  - No Rooting

through PC

Customer

Internet

USB Cable

3G

WiFi

Representative
(Viewer)

Process

- Pin Code
  - 6 digit code

- One Click
  - Customer's Phone No.
  - A patent application Feature

Pin Code

Internet

One Click

Keep Session

Low Bandwidth(3G) Packet reduction Algorithm

Wi-Fi automatic re-connection

3G automatic re-connection

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Light Load

Item	Content	Remarks
Minimum requirement for the device	**Android 1.6 and high**	
Network	**Internet accessibility**	3G, Wi-Fi, USB
Device client size	**1 Mbytes plus**	
RAM Size for operation	**300 Kbytes plus**	
Device client operation time	**About 1~2 seconds**	Depends on a device
Remote connection time	**About 10 seconds**	Depends on Internet environments
Device's CPU usage	**2~30%**	Depends on a device
Transferred data size between client devices to server	**About 2,731 bps**	Depends on screen contents
Communications protocol	**TCP/IP**	

4. about RSUPPORT

- Overview

- Present condition

- Patents and Certifications

- History

- External evaluation

- Major business and service area

- Best Practice on Mobile

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RSUPPORT is the world leader in remote solutions purpose-built for the call center and helpdesk of business, education, government and service providers. Our reliably engineered, easy-to-use products service over 5,000 companies to assist the remote users all around the world.

Offices : Korea, Japan, US, China
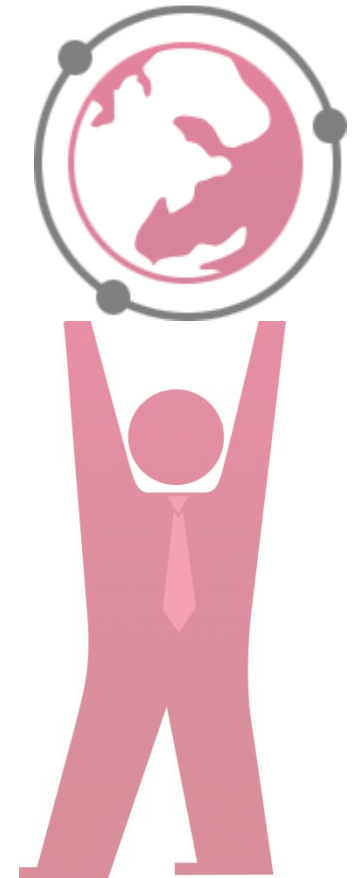Contact : +82.70.7011.0590

Established in 2001

Employees: 98

Specialized in Remote Solutions only

No. 1 in Korea

No. 1 in Japan

No. 1 in Asia
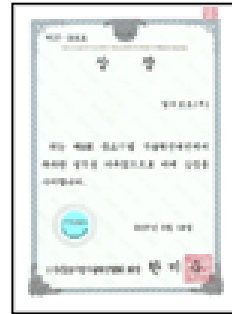
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2005 Korea Software Award
- Minister Award
- Organization MIC
- 2004 Dec.

100 Excellent Patent software
- Minister Award
- Hankook News Award
- 2004 Jul.

Innovative Technology
- SMB Technology Association
- Organization SMBA
- 2007 Sep.

Venture Company Award
- SMB Committee
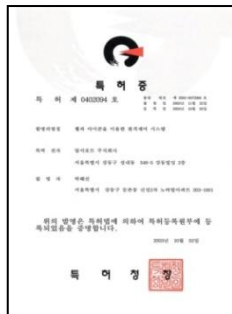- Organization MKE, KOVA
- 2007 Oct.

the $1 Million Export Award
- Organization KITA
- 2006 Nov.

New Software
- Minister Award
- 2004 Jul.

Prospected Export Company
- Organization SMBA
- 2003 Dec.

Venture Company
- Remote Support Technology
- Oraganization SMBA
- 2003 Dec.

Transparency Management
- Organization KIBO
- 2005 Aug.

R&D Center Certificate
- Organization KIAT
- 2007 Jul.

Patent No. 0402094
- Remote Control System
  using Web and Icon
- Issued : 2002.11.22

JP Patent No. 4038684
- Remote Control System
  Using Web and Icon
- Issued : 2003.11.19

Patent No. 0014773
- File transfer System
  though gateway server
- Issued : 2002.3.19

Patent No. 10-0676865
- Computer Remote
  Control Method using
  ARS and Internet
- Filing : 2005.12.15

Patent No. 10-0817767
- Authentication Method
  using icon code
- Issued : 2008.01.14

Certificate of Software Quality
- Number : 04-0044
- Program : RemoteCall v3.1
- Date : 2004.12

Certificate of Software Quality
- Number : 06-0034
- Program: RemoteCall v4.0
- Date : 2006.02

**Certificate of Superior
Technology Company**
- Date : 2002. 12.26
- Korea Technology Credit
  Guarantee Fund

Works with Windows Vista
- Program : RemoteCall
- Date : 2007.04

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History of RSUPPORT

Establishment of RSUPPORT Co., Ltd.

Patent : Remote control system using web and icon in Japan
Supply RemoteHelp to US army

Supply Kidscare service to NTT, Japan
Launch SK Telecom MyPC service
Establish US office (in New York)
Establish China office (in Beijing)
Launch RemoteView 5.0 Server

Launch RemoteCall v3.0 Service
Patent : Remote control using web and icon
Supply remote support service to HANARO Telecom, Korea

Supply RemoteCall + mobile pack service to POSCO
Supply RemoteCall + mobile pack service to NTT-DoCoMo
Supply RemoteCall + mobile pack service to Samsung Electronics
Supply RemoteCall + mobile pack service to LG Electronics
Supply RemoteCall + mobile pack service to KT

Launch RemoteCall v4.0 Service
Supply RemoteCall to Toshiba, Japan
Supply RemoteCall to NTT Data as OEM

No. 1 Remote Support KOREA   JAPAN   ASIA   No. 1 Remote Support Mobile

| 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |

PC   Mobile   iPhone Android

Launch Web based remote support service
Venture Company certification (SMBA)
Supply Remote Support Service to ANNET, Japan

Launch RemoteView Mobile 2.0
Patent : Authentication method using icon code
Launch RemoteCall 5.0
Launch RemoteView 2.0 for PDA.

Silver Award in Top 100 good patent (KIPO)
Patent : File transfer system through gateway server

Establish Japan office (in Tokyo)
Supply RemoteCall service to SONY, Japan
Supply RemoteCall service to FUJITSU, Japan
Supply RemoteCall service to RICOH, Japan
Supply RC Helper and distributor contract with NEC
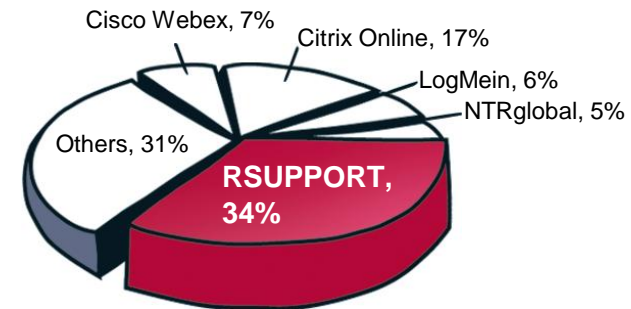Launch RemoteView Mobile Service
Win the million-dollar-exportation award

Launch remote support for Mobile (Android Phone)
Supply RemoteCall + mobile pack service to SK Telecom(Galaxy S)
Launch RemoteView for iPhone
Venture Corporate Award : Prime minister citation
WRI(World Resources Institute) MOU
Supply RemoteCall service to LENOVO, China

RSUPPORT is one of the leading companies in the remote access and remote support market. Global research firms, IDC, Frost & Sullivan, and MIC Economic Research Center reported that RSUPPORT's remote support solutions are "No.1" in the Asian market.

Japan Market Sales (in Million dollar)

Web-based Clientless Remote Support Software : Market Shares by Revenues(APAC),2008

Note : All figures are rounded Source : Frost & Sullivan

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- SK telecom Smartphone remote support service
- November, 2010
- SK telecom Android Smartphone
- Support remote Smartphone as a customer service by SK telecom's call center

Function	Description
Device information	Display the device and user information to a representative
Program information	Display all applications which are installed and running on the smartphone, and the Representative can remove or end them
RF information	Information on the base station of customer's current location and performance quality are displayed
Firmware upgrade	By Device Management server
Remote support	Representatives solve customer's problem by seeing the Smartphone directly

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For more information about RSUPPORT, please visit http://www.rsupport.com

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