Device and Software Settings

Wireless Internet,

Wireless Internet Express,

& Data Connect

(WAP and ISP)

REVISION 2.2

Solutions Engineering

Technology and Product Realization

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Feedback to improve the quality of this document should be made to the Cingular Wireless Application Developer Support Program at developerForum@cingular.com for investigation. Required corrections will be made when this document is revised.

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REVISION HISTORY

Revision	Date	Revision
1.0	07-12-02	Draft Created: Device & Software Settings Document. Mike Grinn, Paul Smith, Art Shand, Tasso Kefalas, Jay Rector
2.0	03-20-2003	Edits to docs by Mike Grinn
2.1	1-21-2004	Reformatted to Application Developer Program template Changed email contact information. Removed blank FAQ section Added MMS settings
2.2	5-21-2004	Updated data connect network information – per Mike Grinn

GENERAL INFORMATION

OVERVIEW

The purpose of this document is to provide an easy to read and understand guide that defines the subscriber settings to gain access to Cingular's TDMA and GSM CSD (Circuit Switched Data), and GPRS (General Packet Radio Service) networks in conjunction with the Wireless Internet, Wireless Internet Express, and Data Connect offerings.

To gain access to the Cingular network customers or developers must first subscribe to Wireless Internet or Wireless Internet Express and be using Cingular authorized radio equipment. For a general description of Cingular's Wireless Internet or Wireless Internet Express services visit the www.mywirelesswindow.com web site.

DEFINITIONS

APN	**Access Point Name**
CSD	**Circuit Switched Data**. Cingular operates at 9.6kb on TDMA networks and a 14.4kb on GSM network. Cingular's product name for CSD is Wireless Internet.
Data Connect	Data Connect is Cingular's service that provides CSD and GPRS network access to the Internet or to an ISP of the user's choice via PSTN dial-up. Data Connect is included in the Wireless Internet or Wireless Internet Express offerings.

GPRS	**General Packet Radio Service.** General Packet Radio Service (GPRS) is the packet data transmission or bearer service for GSM networks. Cingular runs its GPRS in parallel with its existing GSM networks. It uses the same basic radio station infrastructure as the GSM network and compliments, not replaces, existing WAP, SMS, and CSD technologies. Benefits of GPRS include the following: An "Always Registered" platform is provided for a large range of new applications. Potential access speeds can provide up to 10 times faster connections than the current CSD methods. A subscriber can connect to the network in roughly 6 seconds compared to the 15 to 25 second CSD modem connect time. GPRS speeds generally vary between 10 and 30 kilobits per second, depending upon network conditions. Subscribers can seamlessly toggle between voice and data without losing their data connections. Cingular's product name for GPRS is Wireless Internet Express.
ISP	**Internet Service Provider**
PDP	**Packet Data Protocol.** A PDP context link is used by the GPRS network to establish the wireless network connection between the GPRS handset or radio device and the GPRS network.
GGSN	**GPRS Gateway Serving Node**
Interactive Messaging	Cingular product offering using TDMA or GSM SMS for text and email application mobile originated and mobile terminated.
MMS	**Multi-Media Messaging Service**
MO	**Mobile Originated.** MO or outbound data or SMS calls that are made from the wireless terminal.
MT	**Mobile Terminate.** MT or inbound data or SMS calls to a wireless terminal are made from a host computer.
NAT	**Network Address Translation**. An IETF standard that allows an organization to present itself to the Internet with one address. NAT converts the address of each LAN node into one IP address for the Internet and vice versa. It also serves as a firewall by keeping individual IP addresses hidden from the outside world.

PAT	**Port Address Translation.**
PPP	**Point-to-Point Protocol.** The communications protocol used to dial up the Internet over a serial link. In a TDMA or GSM CSD call the PPP link extends from the data device to the Cingular Radius Server. In a GPRS call the PPP link extends from the data device to the GPRS handset or radio, and a PDP session is made over the GPRS network to IP.
PSTN	**Public Switched Telephone Network.**
SGSN	**Serving GPRS Service Node**
SMS	**Short Messaging Service.** Cingular's product name for SMS is **Interactive Messaging.**
TCP	**Transmission Control Protocol**. TCP ensures that a message is sent accurately and in its entirety.
UDP	**User Datagram Protocol.** A protocol within the TCP/IP protocol suite that is used in place of TCP when a reliable delivery is not required.
URL	**Universal Resource Locator.** The Internet address that defines the route to a file on the Web or any other Internet application.
WAP	**Wireless Application Protocol**
Wireless Internet	Cingular's offering name for TDMA and CSD networks to use WAP and Data Connect services
Wireless Internet Express	Cingular's offering name for GPRS networks to use WAP and Data Connect services

NETWORK OUTAGE AND PROBLEM NOTIFICATIONS TO CINGULAR

As a Cingular subscriber to Wireless Internet or Wireless Internet Express you can report network outages or problems with the Data Connect software to the Cingular Customer Service organization during normal hours at 866-246-4852.

Developers using the network settings with their own applications or devices can post help questions in the developerForum discussion forum.

CINGULAR DATA NETWORK SPEEDS

CSD DATA SPEEDS

The Cingular TDMA CSD network operates at a raw data speed of 9.6kbps. Modems to the PSTN are accessible from the wireless network for Mobile Originate data calls only.

The Cingular GSM CSD network operates at a raw data speed of 9.6kbps also. GSM Wireless Internet subscribers are assigned a unique GSM data number for Mobile Originate data. Mobile terminate data is not supported.

GPRS DATA SPEEDS AND TIME SLOT DEDICATION

The Cingular GPRS network will generally provide connectivity for users at data rates between 10-30 kbps. The GPRS network supports two dedicated timeslots (downlink) on the airlink in all markets, with up to 4 additional timeslots dynamically available based on voice congestion and market configuration. One timeslot is dedicated for uplink.

WAP NETWORK INFORMATION

The Cingular WAP network is based on the Openwave MAG server. The MAG supports HDML, WML and HTML content.

WAP CSD INACTIVITY TIMER

The Cingular WAP CSD network is designed with a 180 second time out for calls that don't continue to transmit or receive data.

DYNAMIC IP ALLOCATION FOR WAP

IP addresses are dynamically assigned by the Cingular CSD and GPRS networks for Wireless Internet or Wireless Internet Express WAP users.

WAP NETWORK ACCESS SETTINGS

WAP SETTINGS FOR TDMA CSD PROFILE

Function	Setting
Settings Name	Cingular Wireless Internet
Home Page	http://device:home or http://device.home
Connection Security	On
Session Mode	Permanent

Dial-up Number	18472549271
Gateway IP address	66.209.11.61
Authentication Type	Secure
Login Type	Automatic
User Name	WAP@CINGULAR.COM (All upper case)
Password	CINGULAR1 (All upper case)

WAP SETTINGS FOR GSM CSD PROFILE

Function	Setting
Settings Name	Cingular Wireless Internet
Home Page	http://device:home or http://device.home
Session Mode	Permanent
Connection Security	On
Dial-up Number	14152441012
Gateway IP Address	66.209.11.61
Authentication Type	Secure
Dial Type	ISDN (on network) Analogue (off network)
Login Type	Automatic
User Name	WAP@CINGULAR.COM (All upper case)
Password	CINGULAR1 (All upper case)

WAP SETTINGS FOR GPRS PROFILE

Function	Setting
Settings Name	Cingular Wireless Internet Express

Home Page	http://device:home or http://device.home
Session Mode	Permanent
Connection Security	On
APN wap.cingular (lowercase)	
PDP_Type	IP
Gateway IP Address	66.209.11.61
Authentication Type	Secure
Login Type	Automatic
User Name	WAP@CINGULARGPRS.COM (All upper case)
Password	CINGULAR1 (All upper case)

WAP SETTINGS FOR MMS PROFILE

Setting	Usage	Value
MMSC Address	URL of Cingular's MMSC	http://mmsc.cingular.com
WAP Gateway IP	IP address of WAP gateway used for MMS	66.209.11.61
WAP Gateway Port	Port number of WAP gateway used for MMS	9201
WAP Security	Whether WAP traffic is sent over a secure connection	Off
GPRS APN	APN used for MMS service	wap.cingular
GPRS Username	Username for APN	WAP@CINGULARGPRS.COM
GPRS Password	Password for APN	CINGULAR1

DATA CONNECT NETWORK INFORMATION

DYNAMIC IP ALLOCATION FOR DATA CONNECT

IP addresses are dynamically assigned by the Cingular CSD and GPRS/EDGE networks for Data Connect users via IPCP during their PPP or PDP session initiations. Starting 4/ 19 /04, publicly routable IP addresses will be assigned to all Data Connect mobiles. This will allow

Data Connect subscribers to use VPN client software to connect to their corporate Intranets without the problems previously associated with VPN use through a NAT firewall. All types of VPN clients should now work correctly, including Microsoft PPTP VPN connections. The Cingular Wireless firewall will not perform any network address translation (NAT) for Data Connect sessions. The firewall will continue to block unsolicited inbound connections to mobile addresses unless the mobile has first initiated an access to that Internet host in order to protect mobile users from Internet attacks of various types.

BINDING TIME FOR DATA CONNECT

Once a mobile device accesses a remote Internet host, that Internet host will be able to send packets back to the mobile device for a specified period of time. Any traffic in either direction between the mobile and the host using the same protocol and/or TCP/UDP ports will reset this timer and keep the binding open. Any return (or unsolicited) traffic from this host that arrives addressed to a mobile after the this binding has expired will be discarded by the CIngular Wireless firewall. The binding idle-timeout periods are 300 seconds for UDP traffic, 3600 seconds for TCP traffic, 600 seconds for IPsec ESP traffic, and 10 seconds for ICMP traffic. IKE (UDP port 500) traffic is allowed in through the firewall without any binding time constraints.

DNS SERVICES FOR DATA CONNECT

DNS servers are also dynamically assigned to Data Connect users via IPCP during their PPP session initiation. The DNS servers are 66.209.10.201 and 66.209.10.202.

DATA ACCELERATION

Beginning on 2/19/03 the Data Connect service provides Data Acceleration (DA) for all web (HTTP) and email (POP3, IMAP) download traffic. This acceleration provides higher effective network speed for Data Connect users, on the order of 2x or more improvement over the un-accelerated raw network speeds described above in this document. This means that a GPRS user will typically experience an effective network throughput of approximately 60Kbps, which is comparable to 56K dial-up speeds achieved by AOL, Earthlink, MSN, and other dial-up ISP service providers. This acceleration is accomplished by compressing the HTTP and email (for email messages or attachments larger than 8Kbytes) content before sending it over the air to the mobile. This content is then de-compressed by the user's internet browser or by the user's operating system (in the case of compressed email attachments in .cab format). HTTP content is only compressed if the user's browser signals that it can receive compressed content. If your application can not tolerate this type of compression you should use the "Non-DA" usernames listed below since these sessions will not be accelerated. Otherwise you should use the normal Data Connect usernames below which do receive this data acceleration benefit.

DATA CONNECT NETWORK ACCESS SETTINGS

DATA CONNECT SETTINGS FOR TDMA CSD PROFILE

Function	Setting
Dial-up Number	18472549270
User Name*	ISPDA@CINGULAR.COM
Password*	CINGULAR1 (uppercase)
Non-DA User Name	ISP@CINGULAR.COM
Non-DA Password	CINGULAR1 (uppercase)
Data Call Type	Analog
Data Call Speed	9600

*note: the legacy username (WIDC0001@W4.MYCINGULAR.COM) and password (ZXY203DC9K0402) are also still supported, and receive data acceleration service.

DATA CONNECT SETTINGS FOR GSM CSD PROFILE

Function	Setting
Dial-up Number	18472549270
User Name*	ISPDA@CINGULAR.COM
Password*	CINGULAR1 (uppercase)
Non-DA User Name	ISP@CINGULAR.COM
Non-DA Password	CINGULAR1 (uppercase)
Data Call Type	ISDN
Data Call Speed	9600

*note: the legacy username (WIDC0001@W4.MYCINGULAR.COM) and password (ZXY203DC9K0402) are also still supported, and receive data acceleration service.

DATA CONNECT SETTINGS FOR GPRS PROFILE

Function	Setting
APN	ISP.CINGULAR (case insensitive from the network, some devices may require lower case or upper case)

PDP_Type	IP
Dial-up Number	*99# (some phones may require a context id number (cid) added "*99***N#" where "N" is assumed to be the cid, usually 1, 2 or 3).
User Name*	ISPDA@CINGULARGPRS.COM
Password*	CINGULAR1 (uppercase)
Non-DA User Name	ISP@CINGULALRGPRS.COM
Non-DA Password	CINGULAR1 (uppercase)

*note: the legacy username (WIXDC001@W5.MYCINGULAR.COM) and password (ZXY203DC9K0402) are also still supported, and receive data acceleration service.

DATA CONNECT SETTINGS FOR MMS

Setting	Usage	Value
MMSC Address	URL of Cingular's MMSC	http://mmsc.cingular.com
HTTP proxy Gateway IP	IP address of WAP gateway used for MMS	wireless.cingular.com
GPRS APN	APN used for MMS service	wap.cingular
GPRS Username	Username for APN	WAP@CINGULARGPRS.COM
GPRS Password	Password for APN	CINGULAR1

TROUBLE SHOOTING PROCEDURES

WAP

1) Make sure that the mobile account is properly provisioned by contacting customer service and having the service representative verify that Wireless Internet or Wireless Internet Express is activated on the account.
2) If the phone was purchased with Cingular settings the Customer Service Representative can perform additional troubleshooting for handset connectivity challenges.
3) If the handset does not have the Cingular settings installed from the OEM, Cingular can not support the troubleshooting of the handset configuration.

DATA CONNECT

1) Make sure that the mobile account is properly provisioned by contacting customer service and having the service representative verify that Wireless Internet or Wireless Internet Express is activated on the account.

2) If the problem is with Cingular's Data Connect software then our Customer Service Representatives can perform additional software troubleshooting.
3) For all third party software, Cingular can not troubleshoot the software configuration.