Bulletin No.: 128_iDCS100_R2 **April 4, 2005**

The New iDCS100 RELEASE 2 IP-Enabled System

Samsung Telecommunications America is pleased to announce the general availability of the iDCS100 Release 2 system with new Voice Over IP (VoIP) hardware and applications. This new IP-enabled system supports powerful new features such as **IP Keysets, IP networking** with new enhanced networking features, **Softphone**, and a suite of new **OfficeServ CTI** applications. This new product release introduces the following hardware and software components. The new software adds some new features and enhancements described later in this document.

NEW iDCS 100 RELEASE 2 SOFTWARE

- Version 2.44 SMCP-1 and 1.04 SCP software (Integrated built-in SCP). This software version supports both single node systems and networking to other systems.
- The New OfficeServ Launchpad version 1.03 includes an OfficeServ Manager Module for the new iDCS100 R2. This new iDCS 100 R2 OSM module is version 1.04.

NEW RELEASE 2 HARDWARE

The new hardware listed below is only compatible with Release 2 software and will ***not*** work on iDCS 100 R1 systems.

SMCP-1

Main software version 2.44 is pre-loaded on the SMCP-1 from the factory.

- Performs the role of the MEM-3 and MEM-4
- More powerful processor (32-Bit MPC855T 50 MHz)/more memory (32MB SD RAM)
- Integrated secondary Processor (SP) MC68EC000 16MHz
- 16 MB on-board FLASH MEMORY (for program storage and customer database)
- On-board Ethernet connector (RJ-45, 10/100 Base-T) for remote or local OSM connections, VoIP, and CTI applications
- 1 SIO port (DB9 RS232C connector)
- Software upgrade using new OSM 100 R2 module via LAN (remote upgrades)
- Goes in the MEM slot of base cabinet

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SMGI3

The SMGI3 is a Voice over IP (VoIP) media gateway card that supports IP key sets, IP trunking (H.323 or SIP), and IP networking to other R2 100 and 500 systems. IP key sets are deployed locally on the private LAN or remotely across the public Internet and can traverse NAT routers and firewalls.

Important points for the SMGI3 are as follows:

- Installed only in the base cabinet. Does **not** work in the expansion cabinet
- Maximum 3 SMGI3 units per system
- 8 VoIP channels per card. Additional 8 channels provided by MGI3-D daughter card
- Maximum 48 VoIP channels per system
- Uses the same MGI3-D daughter card as the iDCS 500 MGI3 card
- Supports G.711, G.729, G.729A, G.723.1 voice codecs
- Supports T.38 FAX over IP
- In-Band and Out-of-Band Signaling
- Maximum 16 IP networking trunks per system for networking to other nodes
- *The ITM-C from the iDCS 100 R1 does not work in the iDCS 100 R2 system*

SMISC-3 and SMISC-4

The new SMISC3 and SMISC4 cards provide the same functionality as the older R1 100's MISC1 and MISC2 plus Caller ID to Single Line ports. The new SMISC3 and SMISC4 cards also support the new iDCS500 modem daughter cards.

- Replaces the MISC1 and MISC2 respectively
- 1 BGM, 1 PAGE, 3 common purpose relays, CID receiver/sender, 1 Alarm port
- SMISC3 and SMISC4 contain DSP to reproduce CID FSK signaling to analog ports
- SMISC4: Same as the SMISC3 but has added 4 port Auto Attendant functionality
- Cannot use MISC1/2 in R2 100 systems
- Cannot use SMISC3/4 in R1 100 systems
- CID pass through to analog port is not available on KDb-SLI

Note: All other hardware such as KSU, trunk cards, station cards, SVMi cards, and keysets are the same as the iDCS 100 R1.

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SAMSUNG VOIP KEYSETS

The Samsung OfficeServ ITP 5000 series IP key sets provide full iDCS key phone functionality locally or remotely on IP networks. The unique ITP key phone instruments communicate with the R2 iDCS 100 system in a proprietary IP message format to emulate full key phone functionality. Working in conjunction with the SMCP1 and an SMGI3 card the ITP key phone accesses all station features and trunk facilities on the R2 iDCS 100 system. The ITP key phone functions on private networks (Intranet) or public IP networks (Internet). ITP key phones support DHCP services and also function behind NAT (Network Address Translation) routers. ITP 5000 Series phone supports PoE (Power over Ethernet IEEE 802.3af). The ITP phones draw power from a PoE compliant data switch, thus eliminating the need for the local AC adaptor.

- ITP 5021D: IP keyset with 21 buttons, 2 line x 16 character LCD, 3 softkeys, navigation key, and full speakerphone capabilities
- ITP 5012L: IP keyset with a large 3"x 2.25" LCD, 12 softkeys, navigation key, and full speakerphone capabilities

NEW RELEASE 2 VOIP AND CTI APPLICATIONS

- IP keysets are deployed remotely or locally over a WAN/LAN.
- Network multiple iDCS 100 R2 systems over an IP network (Q-Sig over IP Networking). The iDCS100 R2 systems can be networked to other R2 iDCS 100 or R2 iDCS 500 systems. ***Systems can also be networked using QSig/PRI networking***. (NOTE: The new R2 iDCS 100 system cannot be networked to any Release 1 system)
- IP (Qsig over IP) networking now offers all the same new Enhanced Features found in the new R2 iDCS 500 2.4x release. New Enhanced Networking includes features such as DSS/BLF across the network, Network Paging, and much more.
- The New PC-based Softphone application is supported so your laptop or desktop computer can now be your phone. Samsung's OfficeServ Softphone is a Voice over IP application that enables iDCS 500 R2 or iDCS100 R2 users to communicate over the LAN and WAN from their PCs. It is a software-based solution that loads directly onto a laptop or desktop PC running Microsoft Windows® 2000 or XP Professional/Home Edition operating systems. Once a USB headset or a USB handset is connected, the Softphone delivers virtually identical functionality as a corded keyset. Refer to the Softphone product bulletin for more details.
- OfficeServ CTI suite of applications: OfficeServ Link, OfficeServ Call, OfficeServ Operator, and OfficeServ EasySet. Refer to the new CTI Product Bulletin for more details.

ENHANCEMENTS NETWORKING FEATURES—SPNET

The iDCS 100 R2 includes Samsung's latest enhanced networking called SPNet, (Samsung Proprietary Networking) to provide a higher degree of feature transparency between nodes. The following networking features have been added to the existing networking features available in iDCS 100 & iDCS 500 networking. See the new General Description for the complete list of features supported in SPNet.

Network Trunk Ring Destination

This enhancement provides analog or digital trunks the capability to ring at any station or group destination anywhere in the network. Trunk facilities terminating at the main office location can be assigned to ring directly to stations, station groups, or single line ports in the branch offices. This feature provides great flexibility for networking customers to share incoming trunk facilities across the corporate network.

Centralized Attendant

This feature allows an Attendant position the capability to handle second level recalls (hold/e-hold/transfer) from local operators of other nodes within the network. Transferred and held calls are initially recalled to the station that performed the transfer or placed the call on hold. After the preset timer expires (transfer recall or hold recall timer), the transfer/held calls are recalled to the central attendant instead of recalling to the local operator.

Another option available for centralized attendant allows the remote attendant recall destination to be determined by time of day. This option requires a pre determined setup that specifies the remote attendant destination and the ring plan for the attendant recalls. For example, during normal working hours, transfer and hold recalls from stations in the branch office will recall to the main attendant at the main office location. When the attendant at the main office leaves at 5:00 pm, the recalls from the branch office are automatically rerouted to a local attendant or local station within the branch office that is still on duty after 5:00 pm.

Centralized Automated Attendant Across the Network

The Automated Attendant (AA) feature has been enhanced to include stations (physical and virtual) of other network nodes in the Centralized Automated attendant numbering plan. The Automated Attendant answers and transfers local exchange or internal calls to any station number or virtual number in the iDCS network. The Automated Attendant hardware (SMISC 4) can be located in any node within the network. Customers can use a single SMISC4 card for all station users in the network. For example, an incoming caller calls the main business number to order parts. The automated attendant at the main office answers the call and plays an announcement "for sales press 1, for service press 2, for parts press 3". The caller presses 3 for parts and the caller is transferred to a Customer Service group (remote node) at the branch office.

AA/UCD Final/Invalid Destination Network Routing

This feature enhancements allows Automated Attendant groups and UCD groups to reroute overflow unanswered calls to other stations or station groups anywhere in the network. For example, a call arriving at the branch office rings to an UCD group. If the call goes unanswered for a predetermined time period, the call reroutes and rings at the final destination. The final destination can be programmed as a station number or group number in the main office or any other station or station group in the network. When an incoming call is answered by the Automated Attendant, and an invalid extension number is entered, the Automated Attendant rejects the call and reroutes it to an invalid destination after a predetermined number of invalid inputs. This invalid destination can be assigned to a station or station group anywhere in the network.

Group Overflow Across the Network

This feature allows the overflow destination for a station group to exist in the same node or a remote node within the network. For example, if incoming calls to the branch office are not answered by any member of the branch office group within a preset time period, the calls are rerouted from the branch office to a station group in the main office.

Centralized Voicemail with Soft Key Functionality

This enhancement allows all users within the network that are using the SVMi-4E or SVMi-8E centralized voicemail to use the softkey options to navigate through the voicemail functions. For example, when a user calls voicemail to retrieve messages, softkey options such as FAST FORWARD, REVIEW, PLAY, SAVE, DELETE are displayed to the keyset users. These softkey options offer a new level of flexibility to centralized voicemail. Stations in branch offices that do not have an SVMi-4E, or SVMi-8E card installed can experience the same functionality of the main office voicemail. Station users in remote offices using centralized voicemail do not require additional training because voicemail operation is the same for local and remote users.

Voicemail Transfer (VT) Across the Network

The VT key function enhancements allow a remote station user to program a VT key with the group number of the centralized voicemail, which resides in a different node. This enhancement allows stations in the main or branch offices to transfer calls across the network directly into personal mailboxes of users anywhere in the network, regardless of where the centralized SVMi voicemail card resides. The operation remains the same as a standalone node. The user with a call in progress presses the network VT key, then dials a mailbox number. The caller is transferred directly to the specified user's personal greeting.

Networking Message key with LED Indications

This feature permits station users to set a message wait indication to a remote station in the network. When calling a remote station and receiving busy or no answer condition, the caller can press the MSG softkey in the display (or dial the MSG access code) and leave a message waiting indicator. The message key will flash red at the remote station receiving the message

notification. The remote station user can press the message key to see which station left the message. The remote station user can press reply to return the call to the station that set the message.

Network Paging

The feature allows station users to assign and page other page zones in other nodes in the network. This feature requires that each node be programmed with a unique network page access code or a network page (NP) key. For example, a Network page key is programmed as NP023. When a user presses this key, a internal zone page is sent to all members of zone 3 in node 02.

Remote Hold Across the Network

The remote hold feature allows a user to receive a call and place it on exclusive hold at another station within another node. For example, a station user talking on a CO line initiates a transfer to another station in the network. While the destination station is ringing, the transferring user presses the HOLD key, which places the CO call on hold at the remote destination station. Another way to use this feature is as a park, page, and pickup. For example, station 201 can answer a call and perform a remote hold to station 301 in a different node. Then the station user at 201 can page across to the other node and announce the caller is holding on station or virtual extension 301. Station 301 can go off hook and take the call off of hold. Another option is call pickup. To pick the call up, any station in the node can dial the pickup code (default=12) plus the station number (301) to pickup the call from remote hold.

Call Pickup Across the Network

This feature enhancement allows ringing calls, recalls and held calls to be picked-up by other stations across the network. A station user in the main office can use the directed pick-up, hold pickup or page/park pickup codes to answer calls from the main or branch offices. For example, a call is answered at the branch office and parked. The station user performs an internal page to all members in the main office and announces that the call is parked for pickup. Any user can respond to the page by going to any station in the main office and dialing the page pickup access code to remove the caller from hold in the branch office location.

Network Selection and Busy Lamp Field Indication Across the Network

Programmable keys can be assigned as NS/BLF keys that will function across the network. A station can be programmed with NS/BLF keys for stations in other nodes. The NS/BLF keys provide a visual status indication to the associated station. The NS/BLF key is off when that associated station is idle, red when the station is in use, and flashing when the station is in DND. The station user can press a programmed Network Selection key to call or transfer to a station user in other nodes in the network. *This feature is only available on IP networking and not available on QSig over PRI networking.*

OTHER FEATURE ENHANCEMENTS

Call Coverage Key

The call coverage key (CC key) is a feature where one station can visually and/or audibly monitor the call status of another station, or several other stations, and serve as a backup answering position for other station users. An administrative assistant can monitor (and answer) the call status of several executives. For example, an incoming call begins to ring at the executive's telephone. After a pre-programmed time period, the call continues to ring the executive, but also delay rings to a programmed Call Coverage key on the assistant's station. The assistant can press the associated Call Coverage key to answer the call for the executive. The Call Coverage key will not flash or ring at the secondary (assistant) station when the primary station (executive) is off-hook. Call coverage is a single node feature and is not supported across the network.

Priority Call Routing

This new feature allows certain calls queuing to station groups to be given a higher priority over other calls already in the queue. This feature is a very useful enhancement to customer service organizations. Business owners can offer improved customer service and reduced hold times for their most preferred customers. For example, six calls are holding in a queue. The seventh call arrives into queue. The DID information from the telco identifies this caller as a preferred customer. This preferred customer has been assigned a higher priority than the other customers. This priority customer is removed from the seventh spot in the queue and moved to the first position in queue. Another example of priority call routing is when a call to the branch office is queued to a busy station group. After a predetermined time, the call is overflowed from the branch office station group to the main office. When the call arrives at the station group in the main office, it is designated a higher priority because it has already been in queue at the branch office for a long time. The higher priority overflow from the branch office is now moved up in the queue and answered immediately. The next available agent receives the priority call from the preferred customer. Priority routing is assigned by the incoming DID number, the Caller ID, or on a per trunk basis.

Distinctive Ringing

This existing feature enhancement allows each station or trunk to assign and send a distinct ring tone to any station receiving an incoming call. When specified trunks or stations are assigned a distinctive ring tone, a different audible tone and cadence is heard at the station receiving the incoming call. This ring tone allows the receiving station users to identify one incoming caller from another by the audible sound. For example, the receptionist answers many incoming calls and transfers the calls to other stations. She is expecting a call from the boss. When the boss calls using a mobile phone, the system recognizes the boss's caller ID and provides a unique audible tone and ring pattern. The receptionist can positively identify the boss's call and answer the call immediately with a personalized greeting. This feature is set on a per node basis.

Group Conferencing

The feature allows 5012L or OfficeServ Softphone users to press the group conference button to call all members of the group at the same time. Users can have from 1 to 5 conference groups per station. Each 5012L and Softphone user must be enabled in MMC 612 (Conference Station). Each conference group has up to 4 internal or external parties assigned to one conference group. Softkeys for each member indicate their status and each member can be dropped or called individually.

CID Pass through to Single Line Telephones

This enhancement allows the CID information (name and number) received from the telephone company to be passed through to any single line telephones supporting Caller ID. Caller ID pass through is not supported on the KdB-SLI daughterboard. The new SMISC3 or SMISC4 is required to support this feature.

OTHER SUPPORTED FEATURES

SPNET Digit Sending

A new option is added in MMC 825 (Network Options) called SPNET. There are two settings, 1)MGI signaling, and 2)MCP signaling. Selecting the MGI option sends DTMF signaling as IP packets over IP networking from one MGI card to the other MGI card. Selecting the MCP option sends IPC messages between the MCP card to the other MCP card, signaling it to reproduce the DTMF tones at the distant end. The MCP signaling option improves sending DTMF signals over a less than ideal IP network environment. MCP signaling is the preferred method in IP networking.

Note: DTMF from an analog device is always sent across the network using MGI signaling regardless of the SPNET setting.

Paired Station Ring-Off

This added feature prevents the second or paired phone from ringing when a second call arrives on the primary phone. This new option is added to MMC 210 (Tenant On & OFF).

NAT/Firewall Traversal

The NAT/Firewall traversal capabilities for remote IP keysets have greatly improved with the addition of the new “Public with Firewall” option. The new setting is located in MMC 840.

OfficeServ Applications (CTI)

This version of software supports the new Samsung Suite of OfficeServ (CTI) applications. Refer to the OfficeServ Applications (CTI) Product Bulletin 129_OfficeServ_Apps for more details.

Softphone

This version software supports the OfficeServ Softphone application. Samsung OfficeServ Softphone is a Voice over IP (VoIP) application that enables iDCS 500 R2 or iDCS100 R2 users to communicate over the LAN and WAN from their PCs. It is a software-based solution that loads directly onto a laptop or desktop PC running Microsoft Windows® 2000 or XP operating systems. Once a USB headset or a USB handset is connected, the Softphone delivers virtually identical functionality as the ITP-5012L IP keyset. OfficeServ Softphone is a complementary product to the existing iDCS ITP phones. Refer to the Softphone Product Bulletin 125_Softphone for more details.

NEW RELEASE 2 iDCS 100 DOCUMENTATION

A new iDCS 100 Release 2 Product Documentation CD (Part Number: iDCS121) containing the following documents is available for ordering through Customer Service.

- iDCS 100 Release 2 General Description
- iDCS 100 Release 2 Programming Section
- iDCS 100 Release 2 Installation Section
- iDCS 100 Release 2 Special Applications Section
- iDCS 100 Release 2 User Instructions Section
- iDCS 100 Release 2 iDCS Keyset User Guide with SVM
- iDCS 100 Release 2 System Administration/Special Features Guide
- iDCS 100 Release 2 Standard Telephone Users Guide
- OfficeServ 5021D User Guide with SVM
- OfficeServ 5012L User Guide with SVM

A printed copy of these documents is also available for ordering from the Samsung FedEx Kinko's website (https://psg.kinkos.com/samsung/). For questions regarding the FedEx Kinko's web site or how to access this site, contact Samsung Customer Service.

OFFICESERV MANAGER

A compatible version of the OfficeServ Launch Pad (PCMMC) software version 1.03 (2005.03.29) and OfficeServ Manager version 1.04 (2005.02.23) is also available for programming the iDCS 100 R2 via a PC. This version of OfficeServ Manager is backwards compatible with earlier versions of iDCS 100 system software.

When using OfficeServ Manager software, some MMCs may display on the PC screen that do not apply to the version of software that is running in the iDCS system. These MMC entries are reserved for future use. When this occurs, an error message of: "NO CORRESPONDING DATA" appears on the PC screen.

How do I Upgrade an iDCS 100 R1 to a iDCS 100 R2?

1) Download your database from your R1 system using R1 100 OSM module.
2) Using R2 100 OSM module, perform a database conversion from R1 to R2.
3) Remove the MEM3 or MEM4 and replace with the SMCP-1.
4) Remove the MISC1 or MISC2 and replace with SMISC3 or SMISC4, respectively.
5) Replace ITM-C with SMGI-3 (or add SMGI-3 if VoIP features are needed).
6) All other hardware is the same for R1 and R2.
7) Upload the converted database to your new R2 system.
8) Program the new features in R2.

System main software upgrades are installed using OfficeServ Manager remotely or locally using the LAN connector on the SMCP-1. Contact Samsung Technical Support for details when upgrades are required.

NOTE: Samsung requires that all dealers have a spare SMCP-1 card when performing any type of software upgrade. In case of an error, a spare SMCP-1 card is needed to restore system operation.

TRAINING / CERTIFICATIONS

Contact your local RSM to find out the latest training and certifications requirements for iDCS100 Release 2 products.

For questions regarding this notice, contact your Regional Sales Manager or your Customer Service Representative at the number provided below or via email at BCS.Sales@samsung.com.

iDCS 100 Release 2 System Capacities

Station Groups	20	CID Name Translation Entries	500
Trunk Groups	11	Call Buttons per Station	8
UCD Groups	10	Call Log Entries	1000
Station Group Members	32	Call Log per Station (max)	50
Unconditional Group Members	32	Tenant Groups	1
Trunk Group Members	40	Ring Plans	6
Internal Page Members	40 members x 5 zones	Programmed Messages	20 (15+5)
External Page Members	5 members x 4 zones	AOM Pairs per Station	2
Toll Restriction Entries	250	Call Cost Digit Entries	500
Toll Allowance Entries	250	Call Cost Rate Tables	8
DID Translation Entries	500	PBX Access Code Entries	5
Authorization Code Entries	250	Special Code Entries	10
Account Code Entries	500	Emergency/Override Code Entries	8
LCR Digit Entries	500	Holiday Entries	60
LCR Modify Digit Tables	100	Class of Service	30
LCR Time Tables	4	LCR Classes	8
LCR Time Bands	4	Message Waiting per Station	5
LCR Route Tables	16	Conference Groups	6
Alarm Reminder Buffers	3	Conference Group Members	5
Speed Dial Entries	1500	Pickup Groups	20
System Speed Buffers (MAX)	500/950	Internal/External Page Zones	5/4
Station Speed Buffers (MAX)	50	Redial & External FWD Dial Digits	18
AA Plan Tables	12	IP Keysets	64
AA Translation Tables	12	Virtual Extensions	32
AA Translation Entries	100 x 12	Text Messages	10/20
CID Review Buffers	1000	IP Networking Trunks	16
CID Abandon Lists	50		