



HiPath 4000 Conversion Guide

You made a good investment when you bought your Hicom® 300 system.

The Hicom 300 / E / H has a world-wide reputation for quality and reliability. More than 75,000 systems and 20 million lines are now installed in over 70 countries around the world.

For many years, Hicom 300 / E / H communications offerings have enhanced classic voice telephony and networking, paving the way for innovative business solutions. This proven environment is typified with ISDN, dedicated CTI applications, optimized networking and network management. These applications have brought both competitive advantage and reduced costs to Hicom 300 / E / H customers.

SIEMENS

Global network of innovation

Real Time IP System – HiPath 4000

Open route to the future

Investing huge amounts in research and development and using proven technologies as a basis, Siemens has been committed to the continuous development of Hicom 300 / E / H in line with ever changing market requirements in new technology, applications and enhanced telephony features.

Due to globalization of the economy, a growing diversity in business transactions and increased competition, companies are changing the way they communicate. New processes must be implemented to sharpen business performance.

The evolution of communication technology is governed by converged networks with integrated services and applications. The convergence of information and communications infrastructures is an important trend influencing current and emerging technologies. The biggest challenge facing Siemens is how exactly to identify these new trends and the paradigm shifts in converging markets, industry and technology, so it can offer future-orientated, convergent solutions whilst protecting existing customer investment.

The new Real Time IP System, HiPath 4000, represents the consistent evolution and integration of Hicom 300 / E / H in the new HiPath Siemens Enterprise convergence architecture.

HiPath 4000 enables a soft migration from traditional, voice-based communication to converged communication. It provides the most effective options for evolution to network-based IP solutions that support voice and data convergence, taking advantage of new technologies and cost-saving applications, tailored to meet the individual needs of the customer.

HiPath 4000 (SW Version 1.0) and HiPath applications together fuse end-to-end solutions, enabling the integration of voice, data, fax and image over IP-based networks as well as conventional ISDN/TDM and ATM networks.

By means of a soft migration to future IP-based architectures, HiPath 4000 secures investment protection. Open interfaces and standard solutions provide the foundation for the integration of communication and data applications.

New technology deployment enables the delivery of converged networks, applications and services that offer real value and additional benefits to the customer.

Your information and communications infrastructure is both protected and developed with innovation and evolution, rather than revolution.

We refer to the technical upgrade of existing Hicom 300 / E / H systems as conversion.

Conversion is a cost-effective process that protects existing Hicom investment. In addition, full advantage can be taken of the latest software version with distributed architectures over IP infrastructure and networking as well as an extensive telephony feature set.

Conversion is usually carried out during off-peak hours and customized to your requirements. Quick availability of the communication technology installed can therefore also be expected in the future with minimal disruption to your business processes. Your users continue to benefit from the usual high performance levels and the extensive range of functions and features available on your desktop telephone in a familiar applications environment. Furthermore, users can take full advantage of these functions without incurring costly training and conversion expenses.

Important features at a glance

- IPDA = IP Distributed Architecture
- Desktop productivity with new optiPoint telephones
- State-of-the-art hardware technology
- Enhanced serviceability
- High-speed LAN access
- Integrated voice compression
- CorNet NQ/QSIG enhancements
- Network-wide team functions
- Integrated key system
- Enhanced operator functionality
- Workstation protocol (CorNet WP)
- Solutions for more personal mobility with HiPath Cordless, HiPath Teleworking and HiPath Xpressions
- HiPath Assistant - integrated web-based administration
- HiPath management productivity
- Enhanced management information for billing systems
- New performance management
- Customer relationship management solution with HiPath ProCenter
- HiPath SimplyPhone
- HiPath common application platform with standard CSTA Phase 3
- HiPath DAKS (digital alarm and communication server)

Using existing user interfaces, avoiding increased costs for training users and high availability (even for system conversion) all enable a soft migration based on existing HiPath technology without radical replacement of hardware.

By using the available cards and telephones (if technically possible and useful) as well as the available cost-effective upgrade software package, upgrading to HiPath 4000 can protect up to 80% of your existing investment. Protection of your investments was, is and will be one of the most important aspects of the HiPath strategy for innovative development.

This guide explains the benefits of and provisions for conversion to HiPath 4000, with new features and functionalities that will improve your business performance and further differentiate your business from your competition.

Overview

How your business will benefit:

- Increased growth opportunities in the future

Conversion options

- Conversion for Hicom 300 / E / H systems
- Cabinet Conversion for Hicom 300 systems
- HiPath networking

Improved communications performance

- IP convergence
- Network performance
- Access to staff
- Desktop productivity
- Customer relationship management
- Serviceability

Conversion process in detail

How Your Business Will Benefit

HiPath 4000 - the latest IP convergence platform provides cost-effective, world-wide communication with the highest levels of functionality for your corporate communication infrastructure. HiPath 4000 delivers a competitive edge by providing the following facilities and services:

- Increased productivity through enhanced telephony features
- Reduced costs through IP distributed architecture, networking, network integration and central HiPath Management
- Investment protection with open standards-based platform and a more flexible conversion
- Increased efficiency with best-in-class solutions for developments in Customer Relationship Management (CRM), Unified Messaging and mobility
- Scalable solutions and customized workflows that streamline business processes
- Enhanced service quality with innovative applications and high-speed access
- Very high service reliability and availability

HiPath 4000 makes converting your Hicom system a measurable process that protects and enhances your original investment with an extensive range of cost-saving features and functionality.

Examples of how you can cut costs with HiPath 4000

At the desktop

- Integrated key functions, network-wide call pickup groups and the missed calls list on the optiPoint telephone enhance availability
- CorNet WP provides key functionality on PC telephone workstations on a standardized TAPI-software interface
- DS-Win directory package makes telephoning easier
- Implements and provides access to a Meta directory for a **single** up-to-date and valid communications directory company-wide

In networking and administration

- Transmission of voice and data can be carried out using technology over IP distributed architecture
- Extensive integrated least cost routing reduces telecoms call charges both in networking and call-by-call
- Integrated voice compression partly reduces call costs
- Components for virtual networking reduces the need for additional PVCs (Permanent Virtual Circuits) in different applications

With applications

- Network-wide mobility and teleworking solutions ensure availability for employees on the move
- New, innovative customer care solutions such as HiPath ProCenter increase customer satisfaction
- Adjustable, process-orientated HiPath ProCenter applications optimize business processes including all communication media

Investment Protection

- HiPath 4000 offers state-of-the-art technology and applications with open interfaces and standards that together with an evolutionary conversion path, protect your investment.

Increased Growth Opportunities in the Future

Conversion is the key to the future

HiPath 4000 provides a cost-effective, pragmatic approach for future enhancements, with which your business can also benefit from new market opportunities. With the support of multimedia communication, HiPath 4000 provides a unique infrastructure for integrated voice and data applications and the use of more innovative developments such as:

- Multimedia Customer Relationship Management
- Intranet telephony
- Mobility solutions
- Messaging applications
- E-business

Conversion Options

Each available system provides you with the following options:

- Conversion for Hicom 300 E/H systems
- Cabinet conversion for Hicom 300 systems
- HiPath networking

Conversion for Hicom 300 E/H Systems

In the course of the **conversion** of a Hicom 300 E/H system, existing company software is upgraded to HiPath 4000 software while existing processor cards (ADP & SWU) are replaced with higher performance Power Pentium processor cards.

System memory, hard disk and magneto optical disk are also adjusted to meet the new requirements.

Cards that are no longer supported must be deleted from the system and replaced with new ones.

Existing applications such as the available HDMS are upgraded to the latest version or replaced if possible.

Cabinet Conversion for Hicom 300 Systems

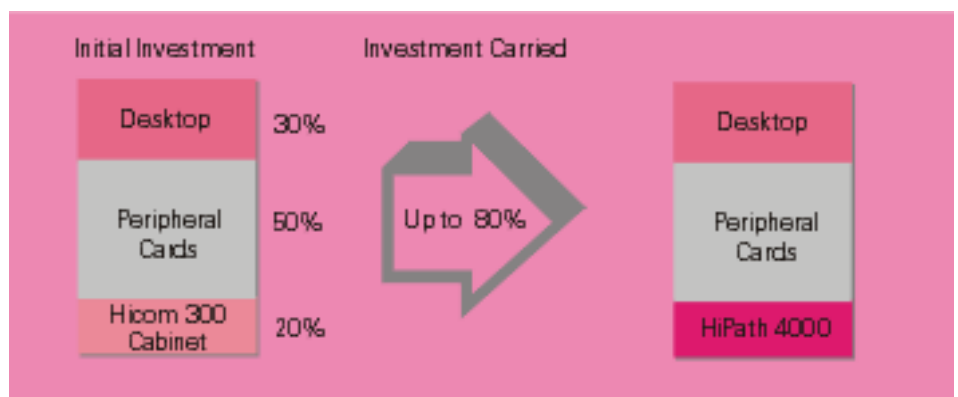
In the case of **cabinet conversion**, several existing interface cards and peripheral modules can be moved into the new HiPath 4000 hardware shell. Many of the existing cards and interfaces, available analogs and digital (optiset) telephones, adapters, operators, consoles as well as the existing cable infrastructure are retained, not forgetting investments in user training and the associated know-how.

All of these items represent up to 80% of the original investment.

You should however check or have checked to what extent investments in new state-of-the-art interfaces, terminals and applications can improve the overall performance of the implemented solutions.

Cards that are no longer supported must be deleted from the system and replaced with new ones.

Existing applications such as the available HDMS are upgraded to the latest version or replaced if this is not possible.



HiPath 4000 product series	Maximum size of expansion for basic systems		Maximum size of expansion for IPDA systems	Maximum no. per distributed systems
	Access Points	Ports	Access Points	Digital telephones
HiPath 4300	3	1392	3 + 40 IPDA	2.000
HiPath 4500	15	5760	15 + 83 IPDA	12.000

The system shell and processing control are replaced with state-of-the-art technology. The new stack concept with modular shelves using distributed architecture over IP networks offers greater flexibility in planning extensions. The new processing power of the HiPath 4000 V 1.0 greatly increases system performance allowing the system to be receptive to future innovations.

Existing software is converted to HiPath 4000 software. Depending on the current system version you have, you will be charged for cabinet conversion only 22 % to 32 % of the price of a new system licence.

HiPath 4000 provides the right platform solution to meet all capacity requirements. With the provision of HiPath 4300 and HiPath 4500, you can choose the platform that will provide a highly flexible and cost-effective solution that has the ability to grow with your future requirements.

HiPath Networking

Networking allows both Hicom 300 and Hicom 300 E/H to temporarily co-exist with HiPath 4000 systems in networks. A Hicom 300 V 3.4 system cannot be directly connected to a HiPath 4000 system. This is however possible for all Hicom 300 V 3.5 versions and later, whereby upgrading can be carried out gradually and in parallel. This method of upgrading safeguards your investment for applications, terminals and peripheral modules and facilitates the conversion process.

HiPath 4000 Manager supports heterogeneous networks up to Hicom 300 V 3.4.

Access to new features and applications, such as IPDA or HiPath ProCenter, is only possible with HiPath 4000 systems.

The Conversion Process

The conversion process is **straightforward** and comprises seven key stages:

- discuss requirements with your Siemens Account Manager
- establish hardware and software specifications
- obtain a copy of the existing configuration
- generate the customized hardware or software
- deliver and install the new hardware
- user training for new applications
- start planning new functionality requirements for convergent solutions

Options available with the HiPath 4000

- IPDA (IP Distributed Architecture)
- HiPath 4000 feature access over IP networks
- Networking of HiPath 4000 systems over IP networks
- Voice compression
- ATM networking
- LAN access

- Teleworking with HiPath hotdesking/shared desking
- New QSIG and CorNet NQ features
- Network-wide hunt/call pickup groups
- HiPath ProCenter Suite
- HiPath Common Application Platform
- DPNSS features
- Integrated key functionality
- Missed calls list for optiPoint/optiset E
- Improved serviceability
- Enhanced console functionality
- HiPath Assistant/Manager
- State-of-the-art technology
- Increased performance

Improved Communications Performance

Converting to HiPath 4000 opens up a range of features and applications which include:

- IP convergence
- Network performance
- Access to staff
- Desktop productivity
- Customer Relationship Management
- Serviceability

IP Convergence

HiPath 4000 is the latest IP convergence platform to allow Enterprise customers with medium and large configurations optimize the benefits of IP while maintaining the performance scope and availability of current systems. The following integrated HiPath gateways from the HG 3500 family are used for this.

HiPath HG 3500 Family of Integrated IP Gateways

The HiPath HG 3500 family consists of 3 integrated IP gateways with varying functionality:

- HiPath HG 3530 – HiPath 4000 feature access for IP Workpoints
- HiPath HG 3550 – IP trunking
- HiPath HG 3570 – IP distributed architecture

HiPath Gateway HG 3530 –
HiPath 4000 Feature Access for
IP Workpoints

The HiPath gateway HG 3530 allows optiset and optiPoint telephones to be connected over the existing intranet (internal IP network of a company), thereby supporting all of the usual HiPath 4000 features. As a result, IP networks can be used more efficiently.

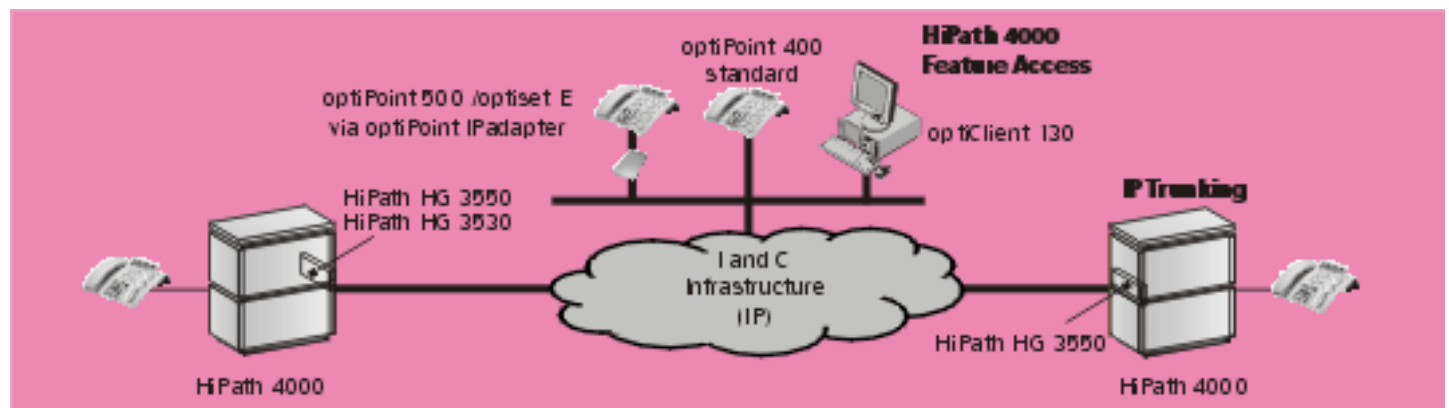
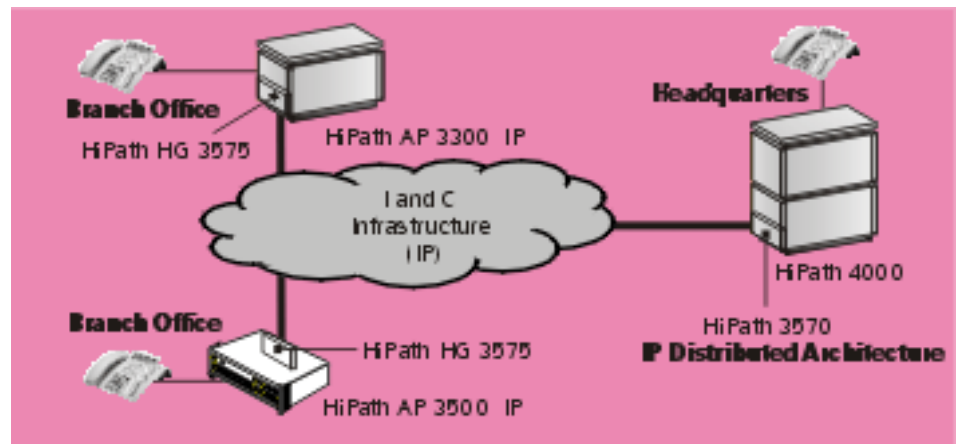
HiPath Gateway HG 3550 – IP Trunking

The HiPath gateway HG 3550 supports the cost-effective transmission of telephone and fax communication between HiPath 4000 systems over the existing intranet (internal IP network of a company), therefore supporting all network-wide HiPath features.

The ability to transmit telephone calls and faxes over an IP network considerably reduces communications costs, which until now, were incurred for fixed line and switched connections. It also makes more efficient use of existing IP networks.

HiPath Gateway HG 3570 –
IP Distributed Architecture

HiPath 4000 enables the distribution of access points over IP. By using the IP infrastructure switching facility, a single system is distributed over IP from HiPath 4000 and/or the IP access points and proven survivability options for the distributed access points are made available. Applications, such as HiPath ProCenter, can be implemented in the distributed architecture. The corresponding applications server is only required in the exchange.



Implementation Scenario HG 3500 Family

Network Performance

Integrated Voice Compression

Connection fees for ISDN leased lines represent the largest cost element in network operation. With HiPath 4000, massive savings in the order of 75% can be achieved through voice compression.

Integrated compression modules enable voice compression. With IPDA, compression is implemented in stages (8, 16, 32 kbit/s) while voice compression to 16 kbit/s is possible over digital connections (ISDN). Increased loads on the existing connection cables or the loss of available leased lines reduces connection costs.

ATM (Asynchronous Transfer Mode)

ATM-based networks provide cost-effective technology for building high performance communications infrastructures in view of the guaranteed quality-of-service for contemporary applications, such as those used for voice transmission.

HiPath 4000 provides an integrated ATM interface for networking HiPath 4000 systems and facilitates direct connection to ATM switches using ATM fixed lines (PVC - Permanent Virtual Connections) and ATM switched connections (SVC - Switched Virtual Connections) with CorNet NQ.

For PVCs, the bandwidth in the ATM network is permanently assigned to telephony while for SVCs, the bandwidth for each individual connection is only assigned as required.

QSIG Enhancements

QSIG is the global standard for networking heterogeneous communications systems. HiPath 4000 supports open interfaces as they are the required basis for flexible, network-orientated solutions. Siemens has enhanced the functions of this standard to the latest specifications. These enhancements improve internal communication between sites whilst increasing cost control. Virtual Private Networking with QSIG offers cost-optimized transport of CorNet NQ features via public ISDN (where offered) or separate backbone networks. HiPath 4000 leads the global market with its support and implementation of QSIG function and features.

High-Performance Network Administration with HiPath 4000 Assistant and HiPath 4000 Manager

Aside from procurement costs, operational costs are also a significant factor in determining the profitability of a HiPath 4000 communications network. The more convenient, efficient and extensive systems and networks are, the more complex they are to administer. Network services and features can only be utilized effectively with centralized network management.

The communications infrastructure is always prone to change, be it for in-house relocation, authorization access changes, work place expansion or new employees. The quicker the execution of necessary changes, the less disruption is caused to internal and external communication. There is nothing more annoying than an out-of-date phone number, an incorrect fax number, or a missing e-mail address.

With HiPath 4000, Siemens is offering you universal instruments for managing and administering more complex networks and standalone systems. With this management and administration service, operations tasks can be performed quickly and easily with a high degree of security.

HiPath 4000 Assistant is available as an integrated user-friendly management solution in every HiPath 4000 system, enabling the administration of standalone systems. This management package simplifies moves, adds and changes as well as administration tasks, e.g. least cost routing tables and cordless E handsets.

HiPath 4000 Manager, with enhanced management and administration features, is also available from Siemens on an external server platform as a user-friendly management system for administering networks.

With **HiPath 4000 Manager**, all management tasks can be accessed from a single point.

This provides faster response, lowers operating costs and increases network availability.

HiPath 4000 Manager also improves the quality of customer service with shorter response times to network failures and configuration changes with synchronized network data.

HiPath 4000 Assistant & HiPath 4000 Manager are web-based and provide an intelligent user interface. Centralized data entry allows all database information to be updated in a direct and timesaving manner.

Siemens provides a corresponding upgrade package for hardware and software for each available version for upgrading existing HDMS systems to HiPath 4000 Manager.

Access to Staff

CorNet Enhancements

CorNet is Siemens' standards-based signaling protocol for private network solutions. The latest version for networking, CorNet NQ, is aligned with the new international QSIG private network standard for all features that are common between the two protocols. In addition, CorNet NQ supports additional functionality e.g. network-wide hunt/pickup groups and network-wide team tasks and mobility.

Such features enhance intra-site communication, improve customer service and allow flexible working teams. For example, the feature for increasing mobility gives an employee the freedom to log on to the system from any point within the network. In this way, not only are incoming calls automatically transferred to the new destination address, but customers can contact staff anywhere within the organization. CorNet NQ can be tunneled through virtual private networks (VPN) based on QSIG signaling (DPNSS in selected countries) and provides additional feature transparency between HiPath 4000 nodes in heterogeneous system environments.

HiPath 4000 Assistant & HiPath 4000 Manager SERVICE OPTIONS		
Services	Assistant	Manager
Configuration Management	x	x
Least Cost Routing Management	x	x
Switch Diagnoses Support	x	
HiPath Fault Management		x
Performance Management Basic	x	
Performance Management Network		x
Performance Management Enhanced		x
Collecting Agent	x	
Collecting Agent (network)		x
HiPath Account Management	optional	optional
API (Application Program Interface)		x
SNMP (Simple Network Management Protocol)		x

HiPath Cordless

HiPath Cordless V 2.3 is the integrated mobile switching solution for HiPath 4000 that enables mobile, wireless communication with user-friendly features. The flexible system architecture and digital radio transmission in accordance with the DECT standard form the basis for a high level of mobility and availability in buildings and on sprawling company premises.

User-friendly cordless telephones with dialog-driven user interfaces and excellent voice quality achieve a high level of acceptance at mobile cordless stations and increase productivity in the workplace through increased availability and more flexible communication.

Mobility with HiPath Cordless

- Ensures that staff can be contacted wherever they are on site
- Improves efficiency by ensuring that employees are accessible
- Contributes to customer satisfaction as the caller can be immediately transferred (DID, call forwarding)
- Cuts costs by reducing the number of calls that have to be returned
- Simple operation by means of menu-driven user-friendly interfaces

Desktop Productivity

optiset E/optiPoint 500 Telephones

The award-winning Hicom optiset E range of digital terminals and the new optiPoint 500 telephone family with its flexible adapter concept provides digital telephony with a wide range of models boasting various features. These telephones allow you to get the best out of the features and applications of the communications platform. With the intelligent user prompting system, OptiGuide, operation could not be simpler - no instructions needed.

The display suggests the right action for every situation. This can be activated by pressing the OK key or using the Next or Back key to select a different function from the menu. Callers can be included in your conversation or calls transferred on to someone else - and all without memorizing a complicated sequence of buttons or access codes. Each function is as simple as the next.



optiPoint 500 Telephones

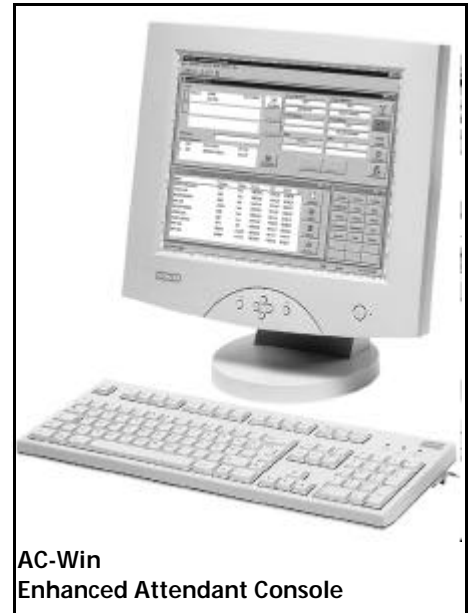
HiPath 4000 allows each member of staff to benefit from the full scope of the telephone system which improves customer relations and saves both time and money. In addition, optiset E/optiPoint 500 telephones can be linked up to other information and communication terminals, for instance a PC, for computer-aided telephony, with video communications equipment or a second telephone. Simply plug an adapter into the phone. A missed calls list displaying the last 12 incoming and 6 outgoing calls can also be configured (optional).

Integrated Key Functionality

Integrated key functionality provides multiline appearance, simultaneous hold, manual and exclusive hold, toggling and LED signaling. Key functionality enhances team interworking by improving call handling within the work group, therefore providing a new level of functionality in team-oriented work environments.

AC-Win

AC-Win provides a familiar, easy-to-use Windows interface for the attendant console. Operator productivity and customer satisfaction are significantly enhanced with improved call handling. Timer-based overflow and extended priority classes (for which different priority classes can be assigned to all call types) improves external accessibility to the console.



**AC-Win
Enhanced Attendant Console**

Desktop CTI - Computer Telephony Integration for all Workstations

Telephone and PC - our two most important office tools are becoming more efficient every day. The only thing missing now is an intelligent cooperation between the two desktop units, which would enhance the features of both systems and provide a multitude of services.

Siemens supports and optimizes desktop workflows using CTI server applications which are ideal for both users who are active predominantly on the web and those who organize their workflows using groupware programs.

HiPath SimplyPhone for Web – CTI for the Intranet and WAP

HiPath SimplyPhone for Web is an innovative browser-based application with enhanced features for telephony, central journaling and access to company-wide address books from every PC with intranet access via an LDAP interface.

HiPath SimplyPhone for Web data and configuration setups can also be accessed via WAP.

HiPath SimplyPhone for Web Features

- Access to a personal call journal via a WEB/WAP browser
- Notification by e-mail or SMS (integration with Xpressions 450)
- LDAP interface for paging in available directories
- Call forwarding and One Number Service (via intranet/WAP)

Customer Benefits

In comparison to current applications in this area, HiPath SimplyPhone for Web clearly has many advantages, e.g.:

- No local software installation required on client PC, therefore setup is very cost-effective
- Design adjustments such as integration with existing Web/Wap applications in the customer environment can be carried out easily thanks to the HTML/WML-based interface
- One Number Service i.e. the user only has one phone number and calls are automatically routed from this number to the telephone being used, where the user can make calls as if from his/her "own" phone

- The personal call journal is still active even when the client PC is switched off
- The user can receive information about unanswered incoming calls by e-mail or SMS. This guarantees a high individual response time, even if the user is not at his/her own workstation.

HiPath SimplyPhone for Outlook 3.1 – CTI for Groupware

HiPath SimplyPhone for Outlook 3.1 is a CTI application for workstations, which Outlook 2000 uses as a universal communications and organizations tool. Outlook 2000 is now enhanced to include user-friendly CTI features.

Essential features/benefits of HiPath SimplyPhone for Outlook 3.1 include:

- Call and caller ID based on the personal contact file and Exchange address book
- Enhanced telephony (toggling, callback, conference, etc.)
- Logging of calls in the Outlook journal
- Call planning and callback list in the Outlook tasks list
- Telephone messages by e-mail (via call pickup)
- Similar use of the familiar MS Outlook features (journal, contacts, telephone messages per e-mail (via call pickup)
- Tasks for telephone communication (call journal, telephone book, etc.)
- Integrated command line in Outlook 2000

This provides the most convenient, homogenous features for messaging and telephony within the Outlook interfaces.

HiPath SimplyPhone for Lotus Notes V3.1 is available with similar features for integration with Lotus Notes.

DS-Win

The Directory Service for Windows (DS-Win) is a database application which can be used to locate users according to different criteria in one or more databases. It can also be used to establish a network-wide telephone connection or to transfer calls on hold to the user.

The automatic synchronization of the telephone book database with the HiPath 4000 Manager central database provides a consistent and continuously updated call number directory network-wide.

This contributes considerably to improving the quality of communication within the company. The DS-Win database and entry fields can be updated on site, thus optimizing customer satisfaction.

HiPath DAKS (Digital Alarm and Communications Server)

HiPath DAKS enables easy alerting, conferencing and notification over a wide area as well as speedy access to users by using the company's existing telephone infrastructures as well as the public fixed and mobile network.

- The DAKS broadcasting and alerting facility enables the distribution of urgent or safety information quickly and reliably to large numbers of people simultaneously
- Teleconferencing can be defined and set up quickly and easily everywhere and by everyone via the Internet, thus speeding up communication, improving team collaboration and accelerating the decision-making process
- Voice and text messages can be distributed to mobile and stationary HiPath telephones: e-mails, fault messages from production monitoring and building systems, from emergency systems, etc.

HiPath Display Telephone Book DTB

The HiPath Display Telephone Book DTB application provides telephone book and call journal features on the display of corded (optiset E, optiPoint 500) and cordless (Gigaset 2000 C/3000 C) digital telephones on HiPath 4000 systems. Users can run name searches network-wide in the company telephone book (central directory) or in their own personal directory via the telephone keyboard in accordance with the T9 standard and dial the user number listed on the display by pressing any key. Each user also has a separate call journal for incoming and outgoing calls (optional), which can also be called up network-wide. A callback can be performed by pressing any key.

The automatic synchronization of the central DTB telephone directory with the HiPath 4000 Manager database provides a consistent and up-to-date telephone book network-wide.

CTI with CorNet WP

The CorNet WP workstation protocol provides additional user options for PC telephone workstations. In addition to direct outgoing dialing from PC address directories, using HiPath features with a simple mouse click, PC file activation for incoming calls with incoming call number evaluation, CorNet WP also supports phone-centric call center features such as evaluation of the call number dialed (DNIS) and redirecting/redirected. The key functionality on the TAPI interface of PCs can only be used with CorNet WP. The key feature range can thus be customized to suit the PC interface on a workstation-specific basis. The TAPI Service Provider CallBridge TA can be downloaded from the Internet free of charge.

HiPath Teleworking

Mobility solutions with HiPath 4000 Teleworking offer a range of communications possibilities.

HiPath Teleworking provides employees (whether at home, on the road or at a remote site) with the same voice and data features that they would expect in the office environment via ISDN, mobile telephones or analog connections.

A teleworker can either use a PC with the ComManager client application, a PC connected to the optiset E teleworking adapter, an analog telephone or a mobile phone. Either PC option supports both voice and data access, e.g. the user can access office LAN services via their remote PC.

Teleworking allows users to administer their mobile profile from anywhere via a web browser. Desksharing is a special HiPath Teleworking solution with which remote users can share an office infrastructure and thus cut costs considerably.

Teleworking offers a number of benefits:

- One call number - anytime, anywhere. With HiPath Teleworking you can take your number home with you or use it when off site
- Access to the usual HiPath features no matter where you are
- Saves time and reduces stress - no more commuting to and from work
- Improved internal and external communication, as mobile workers are always accessible via the corporate network - regardless of whether they are at home or in the office

- Improved human resource management by allowing the introduction of part-time workers
- Increased efficiency and productivity with a uniform communications infrastructure
- Saves money thanks to desksharing

Customer Relationship Management

HiPath ProCenter Entry/Standard/Advanced V5.1 Customer Care solutions from Siemens provide extremely powerful and competitive applications for HiPath 4000.

HiPath ProCenter can be used to provide a better service to your customers and at the same time control costs. HiPath ProCenter ensures that all calls are answered promptly and efficiently according to varying criteria. Either the Entry, Standard or Advanced solution is selected depending on the individual customer requirements. These solutions, which are all based on the same platform, are specially tailored to meet customer requirements, i.e. you can begin with the Entry solution and upgrade to Standard or Advanced at any time as customer requirements increase.

The routing function, which intelligently searches for the best possible assignment for every single call between the caller and the agent, is at the core of the solution. Based on caller requirements, the function looks for an available agent that is best suited to the caller's profile, basing its search on personal skills and expertise. Caller requirements are classified using network information (ANI and call number ID), information from databases, responses to voice prompts in a voice dialog system or using voice-driven applications.

HiPath ProCenter comprises an extensive range of client/server products, which provide flexible planning, forecasts, monitoring and management of the existing call center.

ProCenter Standard/Advanced V5.1 provides for multimedia routing. All media that is integrated with ProCenter V5.1 form a shared queue, i.e. there is one queue for telephone calls, e-mails, callbacks, etc.

As a solutions provider, Siemens can supply the corresponding client server hardware and provide you with full service support, from the recording and input of configuration data to training of agents and supervisors.

HiPath ProCenter Entry V5.1

This solution serves as a cost-effective basis for establishing your call center. ProCenter Entry V5.1 provides basic call center facilities as well as the following features:

- Telephone agents
- Supervisors
- Graphic reports for analyzing statistics
- MessageStream for activating message boards or sending messages to freely configurable destinations if defined threshold values are exceeded

HiPath ProCenter Standard V5.1

HiPath ProCenter Standard V5.1 enhances the Entry solution with:

- Agent desktops: PC interfaces for agents
- Call-by-call reporting: recording/evaluation of every single call
- ProCenter Call Director: integrated IVR functionality
- ProCenter Networking: networking several ProCenter systems
- ProCenter e-mail: thanks to e-mail integration, e-mails and telephone calls can be dealt with and the most suitable agents can be provided. Selection is based on the user or specific terms used in the e-mail.
- Simple skill-based routing

HiPath ProCenter Advanced V5.1:

HiPath ProCenter Advanced V5.1 enhances the Standard solution with:

- ProCenter Web Collaboration: integration of Web-chat in ProCenter V5.1 - the agent has the option of chatting to the customer
- ProCenter Outbound: Callbacks can be performed with this feature via the Internet, by means of an IVR, manually by agents/supervisors or automatically for interrupted calls. Call campaigns can also be performed with this feature (importing call lists with automatic processing).
- CRM Ready Integration: As call centers often need to be integrated into the customer environment, HiPath ProCenter Advanced V5.1 offers the option of integrating existing CRM applications with HiPath ProCenter (e.g. SAP, Siebel).
- Advanced skill-based routing

Serviceability

One of the most important factors when considering customer satisfaction is the serviceability of the solution for installation, maintenance and operation.

The hardware available with the HiPath 4000 IP communications platform provides best-in-class performance through state-of-the-art processors. This secures the future evolution and innovation of the hardware. HiPath 4000 hardware offers scalable configuration, whilst at the same time retaining the flexibility to expand.

HiPath 4000 also addresses service-specific system features such as improved remote access and remote software supply, inventory management as well as optimized administration and maintenance.

A LAN card integrated in the control processor also supports high-speed access for HiPath services.

Service processes are automated as much as possible by means of intelligent service features on an open platform.

HiPath 4000 forms the basis of a service strategy, which reduces life cycle costs and increases reliability and availability of HiPath solutions.

New service facilities built on a web-based user-interface simplify the future service-ability of the HiPath 4000 IP communications platform.

Effective communications applications and services that were transparently designed for underlying infrastructures, are the key to the future success of your business. HiPath 4000 provides a range of features and applications that will take your business into the new millennium. The convergence of voice, fax, images and data opens up new possibilities for business communication and increases the need to extend existing communications infrastructures.

The Conversion Process In Detail

Converting Systems and Networks to HiPath 4000

This section provides general information on converting Hicom 300 / Hicom300E/H systems and deals with both networked and standalone systems. It also outlines what should be taken into account before you carry out the conversion. For example:

- How is the network used?
 - as a business network
e.g. for trade fair organizers, in airports, etc.
 - as a corporate network
- What demands will be made on the network in the future regarding:
 - the numbering scheme
 - using features in the network
 - integrating IP infrastructure
 - new transmission technologies (e.g. LAN, ATM, SDH)
- What boundary conditions are there?
 - additional software/applications
 - system components from other manufacturers

The conversion process is also illustrated using graphics. The procedure described applies to Hicom 300 E / H and Hicom 300 systems. The hardware platform for Hicom 300 should however be considered. Notes on the platform-specific dependencies can be found in this guide.

Before You Begin Conversion

How will the Communications Network be Used?

Many of our customers lease telephone connections to other companies. These users are usually guaranteed a failure tolerance or a specific performance scope through special contracts. It must therefore be stated if such contracts exist and how exactly individual contracts are set out. If the network is only used by the provider, it is the responsibility of that provider to inform users about the conversion and the new performance scope.

What Demands will be made on the Network in the Future?

Upgrading networked systems also provides the possibility to adjust the network to meet future requirements. The following should be considered for this:

- Should the numbering scheme be optimized?
- Which features should be used network-wide?
- What type of infrastructure/transmission technologies can be implemented?

Numbering Scheme

Upgrading a network to a new version is the perfect opportunity for you to think about the numbering scheme in the network. The E.164 numbering plan can then be usefully implemented for larger networks, for example. Extending numbering, for example, from 3-digits to 4-digits may also be considered, if it is foreseen that the existing numbering scheme is no longer sufficient. Achieving complete call number homogeneity should be a priority.

Application of Recommended Standards

By converting to HiPath 4000, you will be in a position to introduce standards for digit analysis (DPLN groups), classes of service (COS) and circuit configuration (COT and COP parameters), if they have not already been introduced. These standards facilitate system administration for user-performed maintenance and service and prevents defect sources.

Network-Wide Use of Features

Stations from one system can be distributed over several systems (e.g. when upgrading the Hicom model 392 to HiPath 4500 for performance or safety reasons), so that the following features are available network-wide:

- Call pickup groups (PU)
- Hunt groups
- Executive/secretary functionality based on Key 300 E
- Team features

Distributed architectures should also be considered when implementing distribution, because user groups (at one system) support random geographic distribution.

Implement New Distributed Architectures/ transmission technologies

The implementation of new distributed architectures (IP, optical fiber) and transmission technologies, such as LAN, SDH-ring, ATM, PNE or voice compression for example, not only saves costs but also increases performance and security in a network. Implementation of these technologies should be considered when carrying out a conversion.

Network analysis of the existing IP network is necessary to implement distributed architecture over IP networks (IPDA). Restrictions regarding specific parameters (delay, jitter, packet loss) must be checked. Siemens provides this service.

Boundary Conditions

The following boundary conditions must be taken into account before carrying out the conversion:

- Are third-party software/applications implemented?
- Are third-party system components implemented?

Third-Party Software/Applications

If additional software or applications are implemented in your communications network, their upgradability must be tested. This test is usually carried out by Siemens certification lab.

Third-Party System Components

If third-party system components are used (heterogeneous network), they must be certified for conversion. Certification can be obtained from Siemens certifications lab.

Third-party products that have not been certified for conversion, can seriously disrupt network operation.

Further information on the Certification of Third-Party Products can be obtained from your sales representatives/Service Department.

General Information on the Conversion Process

Upgrading Network Management Systems

Before converting the first system, the existing network management system (HDMS) must be upgraded to the latest version of HiPath 4000 Manager. A hardware conversion is also necessary for this, depending on the current system.

Maintaining Network Homogeneity when Converting

Simultaneous conversion of all systems in the network is very costly. To avoid such costs, you should upgrade your system gradually.

Observe the following recommendations in order to maintain the homogeneity of the network when upgrading a system gradually:

As long as there are different versions of the system in the entire network, the new versions cannot have more network function features than the smaller version in the network.

Converted systems must therefore be separated using corresponding parameters (COT, ZAND, etc.).

The network functions of the new software can only be released network-wide when all systems integrated in the network have been converted. Otherwise the partner system must be regenerated every time a system is converted. The more extensive the networks, the more costly and error-prone the conversions.

Providing the Hard Disk with the Necessary Data

For conversion, the corresponding hard disk should be provided with the most up-to-date customer database and the necessary firmware.

Conversion is carried out by exchanging the hard disk. System downtime can therefore be ideally reduced to less than 30 minutes.

Updating the Database

All changes made in between dumping the Hicom database and carrying out the actual conversion must be gathered and stored in a separate file (V 3.4 or later in the log book). For systems earlier than V 3.4, an individual file (COMTES CMD file) must be used instead of the log book.

This data must be read out, edited and implemented with the PCDAICON tool before conversion. The file must be entered as a command batch in the new version once the system has been upgraded.

Fallback

Should a fallback to the old version be necessary, this can be done by following the points described below and exchanging the hard disk. Firmware is usually downward-compatible. As no parameters need to be changed in the partner system to begin with, there should be no problems in the network. HiPath 4000 Manager is however downward-compatible, so that there are no restrictions in terms of functions.

Notes on Platform-Specific Dependencies for Hicom 300 Systems

The following platform-specific dependencies should be taken into account when converting Hicom 300 systems:

- Hicom 300 V 3.4
runs on cabinet and compact systems
- Hicom 300 V 3.5
runs on compact systems
- Hicom 300 V 3.6
runs on compact systems with the exception of the Hicom 392 model.

Glossary

ACD	Automatic Call Distribution
ADP	Administration and Data Processor
ATM	Asynchronous Transfer Mode
PU	Call Pickup Group
CheSe	Exekutive/Secretary Functions
COS	Class of Service
CAP	Common Application Platform
CTI	Computer Telephony Integration
DAKS	Digital Alarm and Communications Server
DMS	Domain Management Service
DTB	Display Telephone Book
eCRM	Electronic Customer Relationship Management
HDMS	Hicom Domain Management Service
HG	HiPath Gateway
IP	Internet Protocol
IPDA	IP Distributed Architecture
ISDN	Integrated Services Digital Network
LAN	Local Area Network
MUX	Multiplexer
SDH	Synchronous Digital Hierarchy
SWU	Switching Unit
TCP/IP	Transmission Control Protocol/Internet Protocol
TDM	Time Division Multiplexing
VPN	Virtual Private Networks
WAN	Wide Area Network
WP	Workstation Protocol/ CorNet WP

Our strengths - Your advantages

Siemens is known worldwide as a trailblazer in the advancement of information and communication technologies. No other company offers such a comprehensive and innovative product portfolio.

With Siemens' unique HiPath Convergence Architecture, customers can migrate securely and flexibly into the world of innovative IP convergence solutions.

www.hipath.com

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