

The background of the cover is a photograph of a tall skyscraper with a glass facade, viewed from a low angle looking up. The image is faded and has a pink grid border.

# **IntelliCom Market Dashboard Advisory**

## *Mainstream Voice Solutions*

**Siemens HiPath 4000**

**October 2007**

## IP Telephony Adoption Accelerates as New Benefits Emerge

---

Enterprise Communications has reached an inflection point as new capabilities are emerging to take advantage of IP Telephony (IPT) voice infrastructures that customers are now overwhelmingly embracing. According to the latest research findings from IntelliCom Analytics, less than 25% of current market shipments are accounted for by purely traditional PBX solutions. However, many customers are following a phased approach that allows them to maintain certain elements of their existing installed voice infrastructure as they migrate to IPT, rather than implementing a complete forklift replacement. These customers are adopting mainstream Hybrid solutions that support a mix of TDM and IPT today, while also providing a pathway to next-generation architectures and applications.

At the same time, Unified Communications (UC) has emerged as a new class of personal productivity-driven applications providing individualization of features and functionality to specific end user needs and preferences. UC allows individuals to control how, when, and through what mode of communication that they are accessible by others, while also making their preferences and status more transparent to enterprise organizations as a whole. Enterprise decision makers expecting IPT to provide new capabilities beyond infrastructure convergence have compelling new options to consider.

The *IntelliCom Market Dashboard<sup>SM</sup>* was developed to track the market-level evolution of Enterprise Communications, while also assessing how individual providers are positioned in the context of emerging market dynamics. Providers are scored on a series of six indexes covering a range of traditional and forward-looking considerations. Two of these indexes specifically address the performance and flexibility of current mainstream enterprise telephony solutions, the Current Functional Performance and Deployment Flexibility indexes respectively.

## The Siemens Approach for Mainstream Customers

---

Enterprises in the market for a new voice solution today fall into three basic camps – those with entirely traditional communication needs, those looking to migrate to current mainstream capabilities, and those who want to be among the first to deploy next-generation solutions. Individual factors play a significant role in where customers sit along this spectrum, as do deployment patterns common in their particular region of the world. As a global provider with significant presence in all key regions, Siemens provides customers in all three categories with options to serve their specific needs.

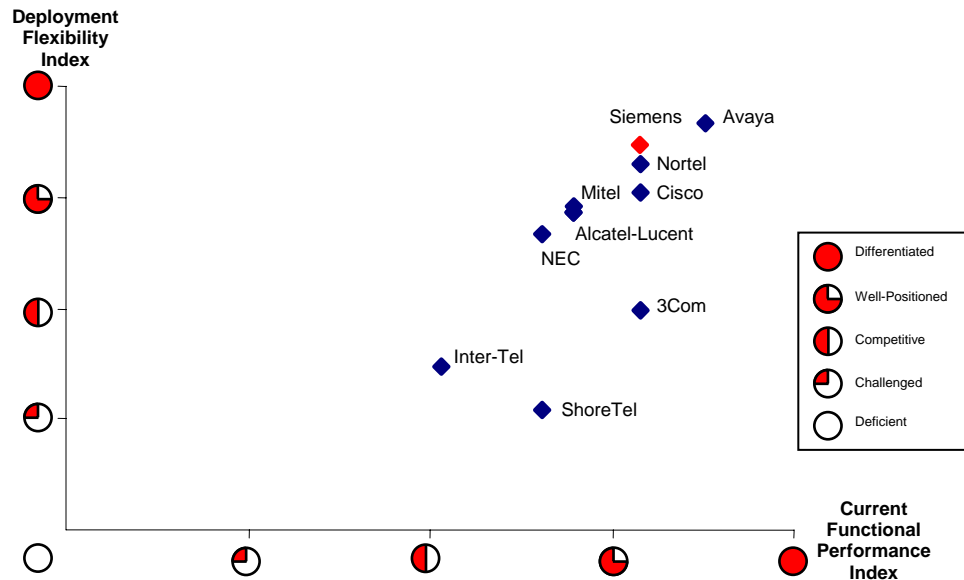
While Siemens is aggressively pursuing a next-generation approach with the *HiPath 8000* softswitch, mainstream customers requiring a converged system that supports both TDM and VoIP are served by the *HiPath 4000*, which has been significantly enhanced in the just-introduced *Version V4* software. Improved capabilities include a new line of TDM and IP phones, the *HiPath OpenStage*, which are a leap forward from prior offerings and feature a unique user interface in addition to other differentiating capabilities. Linking the *HiPath 4000* with *HiPath MobileConnect* solutions now provides additional device options by enabling dual-mode (WLAN/GSM) handsets to function as internal extensions while mobile workers are physically in the office.

Siemens was an early proponent of UC with its *OpenScape* solution suite, and continues to innovate with ongoing development of the portfolio. While end users are presently being confronted by a variety of marketing messages from different providers about how their UC roadmap will potentially benefit them in the future, *OpenScape* is delivering tangible value to customers today and can integrate with the *HiPath 4000*, as well as, current mainstream voice platforms from a variety of competitors. Siemens also has advanced UC and business application integration initiatives in place with a number of third party providers including IBM and Microsoft.

In our view, Siemens provides customers flexible options to meet current performance expectations, while also supporting a migration path to next-generation delivery and value models and their associated benefits. According to the latest *IntelliCom Market Dashboard* findings which incorporate the

*HiPath 4000 V4* enhancements, Siemens is among just three vendors that achieved Well-Positioned or higher overall scores on both the Current Functional Performance and Deployment Flexibility indexes in the enterprise user segment. *Figure 1* demonstrates Siemens' strong positioning in these areas. The specific factors driving this performance are explained in the two sections that follow.

**Figure 1: IntelliCom Market Dashboard Mainstream Voice Solution Index Scores\***



\* Scores are specific to the Enterprise user segment (1,000+ users).

Source: *IntelliCom Market Dashboard, October 2007*

## Meeting or Exceeding Current Market Requirements

The IntelliCom Market Dashboard's **Current Functional Performance Index** assesses the ability of the provider's voice platforms to meet or exceed current market expectations with respect to performance. All rated vendors are individually scored on five attributes: *Scalability*, *Survivability*, *Security*, *Management and Serviceability*, and *Interoperability*. Siemens' areas of differentiation contributing to their overall score are highlighted below:

### Scalability

Large enterprise customers require an IPT solution with the scalability to address the needs of a variety of location sizes, while also leaving room for future growth or restructuring. The *HiPath 4000* can effectively address a full range of medium and large customer configurations from 500 users up through a maximum capacity of 12,000 users per system whether they choose to deploy TDM, IP, or a mix of stations. Multiple *HiPath 4000* systems can be networked to support a combined maximum exceeding 100,000 ports. These large, multi-location *HiPath 4000* networks have the added option of internetworking with a centralized *HiPath 8000* solution, which is built on carrier-grade scalability and resiliency. *HiPath 4000* branch locations can be addressed with a number of edge solutions to meet their particular size requirements; the *Access Point (AP) 3700* for large branches (up to 250 users), the *HiPath 3300* from small and medium branches (20-40 users), and the *HiPath 2000* for small Pure IP branches (under 20 users).

### Survivability

Customers in the market for an enterprise voice solution today require options to reduce or eliminate single points of failure in both day-to-day business and disaster recovery scenarios. Siemens supports a fully-redundant call processor option on the *HiPath 4000* platform. This

second CPU, which is housed in a common shelf with the primary processor, provides hot-standby failover capabilities for all voice features, minimizing the possibility of disruption and downtime.

Multi-site customers requiring geographic redundancy have several options to consider for their branch locations. *AP 3700* solutions deployed at medium-sized remote sites can be equipped with an internal local call processor to function as a survivable remote when networked to a centralized *HiPath 4000*. In the event of a major failure or destruction of the central *HiPath 4000*, these units can take over call control for all surviving networked sites. Additionally, *HiPath 3300* and *2000* solutions provide local survivability options for specific small and medium branch locations, but not other networked sites.

### Security

Security of voice applications is a key concern as customers migrate to IPT. Siemens has enhanced the capabilities of the *HiPath 4000* in this area as part of *Version V4*. End-to-end encryption is now supported for both voice traffic and signaling leveraging the PKI, TLS and SRTP security standards. In addition to inherent security capabilities that are built in at the platform level, Siemens offers enterprise customers a full portfolio of security services under its *HiPath Security Solutions* umbrella. Consulting services provide detailed risk assessments, which are utilized to develop a customized security framework. This framework may recommend the deployment of a variety of security applications including firewall, VPN, intrusion detection and prevention, antivirus, and content security. Additionally, Siemens offers identity and access management solutions that dynamically control access to IT and communication systems by restricting it to the right people at the right time.

### Management and Serviceability

Managing the complexity of an IPT network is a significant challenge for both enterprises and providers which initially served as a barrier to widespread adoption. Through the *HiPath MetaManagement* architecture, Siemens provides comprehensive solutions to manage complex converged networks that can be accessed from any location via a Web-based user interface. *HiPath MetaManagement* also integrates with third party management systems including IBM *Tivoli NetView* and HP *OpenView*, based on the needs of specific customers.

Individually, each *HiPath* voice platform has its own management and administration interface, defined as an element manager. Each element manager is integrated with the *HiPath MetaManagement* application at the time of initial installation and configuration. Once completed, the customer's system administrators are able to manage the full network from any location utilizing a common interface.

### Interoperability

The *HiPath 4000* provides interfaces for both SIP trunking and stations enabling interoperability with a range of applications and devices. This includes Siemens' differentiated UC portfolio, *HiPath OpenScape*. It also enables customers to potentially take advantage of low-cost broadband network access options from service providers supporting the standard. Given that the *HiPath 2000*, *3000*, and *8000* support SIP connectivity as well, networked environments with mixed call control can be deployed with full access to a common applications portfolio including *HiPath OpenScape*, *HiPath Xpressions* (messaging) and *HiPath ProCenter* (contact center) solutions. SIP internetworking also provides options for integrating with the voice platforms of other vendors supporting the standard, as well as, third party UC platforms from IBM and Microsoft.

Customer networks including various *Hicom* and *HiPath* solutions also have the option of internetworking via the proprietary *CorNet* protocol, which is a superset of QSIG offering greater feature transparency in all-Siemens networks. Additionally, QSIG provides basic feature transparency with networked voice platforms from other vendors supporting the standard.

## Providing Customers with a Range of Deployment Options

---

The **Deployment Flexibility Index** assesses the ease with which a vendor's voice platform can be integrated into a variety of customer deployment scenarios. All rated vendors are individually scored on five attributes: *IP vs. TDM*, *Distributed vs. Centralized*, *Device and Mobility Options*, *Hosted vs. CPE*, and *Migration Strategy*. Siemens' areas of differentiation contributing to their overall score are highlighted below:

### [IP vs. TDM](#)

Siemens refers to its proprietary call control feature set as *HiPath ComScendo*, which is common to the *HiPath 4000* and any networked *HiPath 2000*, *3000*, and *AP 3700* solutions deployed at branch facilities. There is no difference in this core feature set whether customers choose to deploy TDM or IP devices running the proprietary Siemens protocol. IP devices running in SIP mode have a more limited set of features based on the standard. Individually, both the *HiPath 4000* and *3000* solutions can be deployed in TDM, IP or mixed hybrid configurations based on existing installed infrastructure and customer requirements. Very small branches requiring a Pure IP deployment scenario are supported by the *HiPath 2000*.

### [Distributed vs. Centralized](#)

Siemens can support a fully distributed, fully centralized, or mixed call control environment based on the requirements and existing installed infrastructure of specific customers. Customers preferring a distributed approach in a multi-location network have the option of deploying *HiPath 2000* and *3000* solutions as distributed local call processors networked to a *HiPath 4000* solution at the main site. Alternatively, call control can be centralized in the same *HiPath 4000* solution serving *AP 3700* survivable remote gateways deployed at the edge. As **Derek Fink, assistant vice president of telecommunications and budget planning at Educational Management Corporation** states, "One of the real advantages of this approach is that it gives us economies of scale by using remote gateways to distribute high-cost features such as call centers and IP integration to smaller centers, where we can't afford to deploy a large stand-alone system."

### [Device and Mobility Options](#)

Customers purchasing a mainstream voice solution today expect advanced endpoints and mobility options not previously found in the traditional TDM world. Siemens has made great strides in this area coinciding with the launch of *Version V4* of the *HiPath 4000*. This includes the introduction of an innovative new line of desktop phones, the *OpenStage* portfolio, providing four models ranging from a two-line display unit to large color-screen executive models. All utilize a similar keyboard design including an *iPod*-like interface to access core voice features, corporate directories with user presence status, personal contact databases that synchronize with Microsoft *Outlook* or Lotus *Notes*, and XML-based integration with business and Web applications. Other differentiating features include Gigabit Ethernet connectivity, and Bluetooth, WLAN, and USB interfaces.

The *HiPath 4000* now also supports Siemens' mobility initiatives, which are positioned as providing customers with Fixed-Mobile Convenience (FMC). *HiPath MobileConnect* solutions allow customers to use dual-mode wireless devices in or out of the office, providing individual users with one number access and a single mailbox. This appliance performs a seamless handoff between the office WLAN and public wireless network that is transparent to the individual user as they cross this threshold. This added convenience for the user also has tangible benefits for enterprises, as it makes employees more reachable and productive.

### [Hosted vs. CPE](#)

Siemens provides enterprise customers with a full spectrum of options for deploying premise- or network-based voice solutions. The *HiPath 4000* supports mainstream customers in a

customary CPE scenario, while the *HiPath 8000* softswitch can be utilized by service providers offering hosted telephony services. In between is a concept that Siemens refers to as *Communications as a Service (CaaS)*. Essentially *CaaS* is an on-demand type of deployment approach that allows customers to “host” call control for their various networked sites via *HiPath 8000* solutions centralized in their own data centers. The *CaaS* model can be overlaid on top of existing deployed *HiPath 4000* networks providing customers with the flexibility to migrate from traditional site-based provisioning.

#### Migration Strategy

Today’s customers expect that providers of enterprise telephony solutions will offer them a range of choices to consider based on how rapidly they intend to migrate their existing voice infrastructure. Siemens provides a full range of migration options through the *HiPath OpenPath* initiatives. Legacy *Hicom 300E* PBX systems can migrate to a contemporary *HiPath 4000* Hybrid architecture through a software and processor upgrade. The *HiPath 4000 Passport Program* protects much of the customer’s existing investment in installed voice infrastructure, while also providing additional financial incentives based on the age of the existing deployment. Since the *HiPath 4000* retains the *ComScendo* feature set utilized by the *Hicom 300*, existing employees do not need to be retrained in many cases.

Customers ultimately wishing to migrate to the open approach of the *HiPath 8000* can do so by overlaying the architecture on top of existing *HiPath 4000* solutions reconfigured as remote gateways. Existing installed IP devices can be retained and then readily reloaded with SIP firmware, providing additional investment protection. *HiPath OpenPath* essentially allows Siemens to take a TDM customer into mainstream IPT and ultimately a next-generation architecture based on the pace dictated by their specific requirements. And this is not restricted to homogenous Siemens networks, as *HiPath OpenPath* can leverage the open approach of the *HiPath 8000* and *OpenScape* solutions to interoperate with a variety of competitive voice platforms.

## Customer Adoption Ramping Up

---

Customers currently in the market for a mainstream voice solution appear to be resonating strongly to the value proposition of the *HiPath 4000*. According to the latest data from the **IntelliCom Market Performance Dashboard<sup>SM</sup>**, global user license shipments have increased 18% so far this year, with some local markets exceeding 50%. And this is in an established segment representing the bulk of current market activity. In our view, Siemens provides a strong pathway to next-generation capabilities, while also meeting the requirements of mainstream customers today. With the latest enhancements to the *HiPath 4000*, Siemens is clearly committed to doing both.

**Peter Jones, telecoms manager at the University of Manchester** agrees, "When you are running a communications system of this size the most important question is: are you going to get a solution that you know you can rely on? Siemens matched all the criteria that we set, plus the product itself did everything we needed it to do and made it easier for us to do more than what we wanted at a later stage."

## About IntelliCom Analytics

---

IntelliCom Analytics provides expert market research, in-depth field intelligence, and custom consulting services on virtually all aspects of the Enterprise Communications industry, including the market transformations occurring in Technology, End User Applications, Services, and Go-to-Market models.

IntelliCom's *Market Dashboard* and *Market Performance Dashboard* programs provide continuous client access to global research findings, market performance results and projections, expert analysis, and competitive assessments focused on Software Centricity, Traditional and Unified Communications Applications Attachment, Converged Infrastructure, Endpoints, and Services evolution.

IntelliCom's research is conducted through use of its Enterprise, SMB, and Distribution Channel research panels as well as through global partner affiliations.

For further information, please visit [www.intellicom-analytics.com](http://www.intellicom-analytics.com). **Specific questions may be referred to Frank Stinson [fstinson@intellicom-analytics.com](mailto:fstinson@intellicom-analytics.com) (908)-686-4066.**

*The content of this report contains analysis and assessments based on primary research conducted by IntelliCom Analytics, as well as of information generally available to the public or released by responsible individuals in the industry. While all reasonable efforts have been made to ensure the accuracy and completeness of the information, analysis and assessments provided, IntelliCom Analytics offers no warranty, either express or implied, on the contents of this document, and disclaims any responsibility or liability for its subsequent use. Reproduction of this material, in whole or in part, requires prior written approval from IntelliCom Analytics.*