



Increasing Customer Satisfaction through Visitor Based Networks

A n IDC White Paper Sponsored by Novell Inc.

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Summary

The world is on the move and so are its workers. In Europe we are seeing an increasing number of employees spending large amounts of time away from their office while conducting business, and this mobile workforce needs access to critical business information regardless of location. IDC predicts that the number of mobile workers in Europe will grow from approximately 8 million in 2001 to over 20 million in 2005. Today, for example, there are approximately 450,000 mobile workers in Sweden, representing 12% of the total workforce. In 2005, IDC forecasts that this number will double and represent 23% of the Swedish workforce. This is creating a new business opportunity to those organizations and locations through which mobile workers pass.

Through the provision of a Visitor Based Network or VBN, which is the network infrastructure that can deliver high-speed access services to the mobile workforce, location owners have the opportunity to increase customer satisfaction, average length of stay, and revenue per customer. In order to successfully implement a VBN it needs to have specific characteristics that go beyond the provisioning of basic connectivity.

This white paper, written by IDC and commissioned by Novell Inc., discusses the growing opportunity for locations like hotels, airports, airlines, convention centers and railway stations, among others, to deliver high speed Internet access services to their customers. It also provides a case study example of how Hilton Group is taking advantage of this new market opportunity.

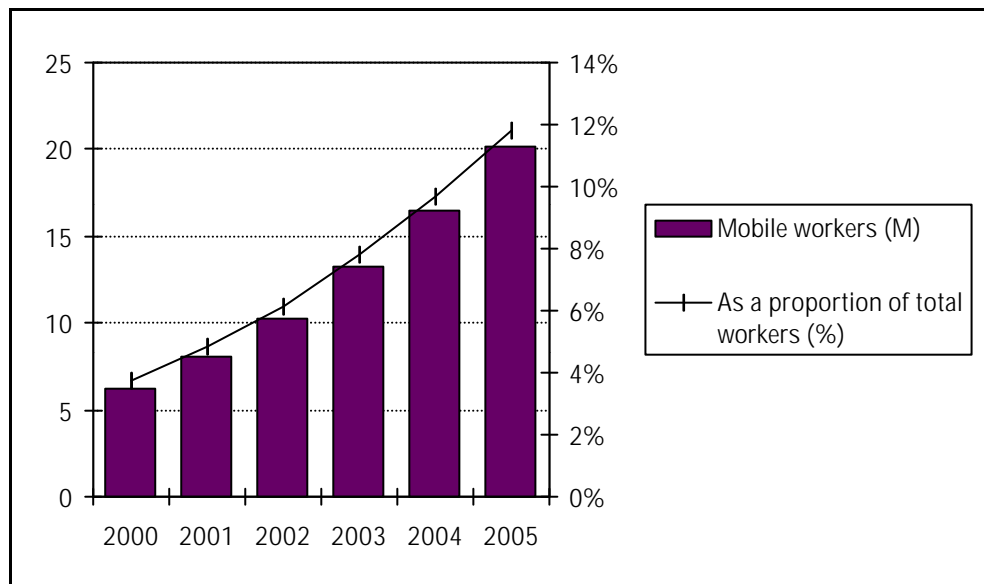
The Changing Nature of Work

In the increasingly global economy, the lines between home and workplace, between occupation and recreation, between time zones and international borders, are fading. Your work is no longer where you are. Your work is what you do.

Work is being liberated from the workplace. The nine-to-five weekday is becoming less attractive. No longer is the office in the city the definition of the working environment. Now, your work is wherever you are. Your workplace is wherever you want to be.

As a result, there are more mobile workers today than ever and it is likely that the number of mobile workers will continue to grow at a rapid pace. Figure 1 depicts the development of the mobile workforce in Europe as predicted by IDC.

Figure 1
European Mobile Worker Development, 2000–2005



Source: IDC, 2001

IDC defines mobile workers as individuals who spend at least 20% of their annual working hours away from home, their main place of work, or both — an average of one full day every working week (assuming a five-day working week) or the equivalent. Mobile workers access the corporate network or Intranet using telecommunication technologies such as portable PCs with data communication devices (e.g., PC Card modems).

IDC predicts that the number of mobile workers in Europe will grow from approximately 8 million in 2001 to over 20 million in 2005. Every country in Europe will see its mobile workforce grow during this period. The Northern part of Europe, with countries like Sweden, The Netherlands, or Norway, has the highest penetration of mobile workers today. Currently, there are approximately 450,000 mobile workers in Sweden, representing 12% of the total workforce. In 2005, there will be more than 900,000 mobile workers in Sweden, representing 23% of the workforce. In the Southern part of Europe, with countries like France, Italy, and Spain, there are less mobile workers as a percentage of the total workforce. For the whole of Western Europe IDC expects that 12% of the total workforce will be mobile workers as defined above — today, that figure is 5%.

Table 1
European Mobile Workforce by Selected Country

Country	Mobile Workforce (M)		Percentage of Total Workforce	
	2001	2005	2001	2005
UK	2.3	4.8	8%	17%
France	0.9	2.4	3%	9%
Germany	1.5	4.1	4%	11%
Italy	0.6	2.1	3%	9%
Spain	0.4	1.2	2%	7%
Netherlands	0.7	1.4	10%	20%
Sweden	0.5	0.9	12%	23%

Source: IDC, 2001

What is a Visitor-Based Network (VBN)?

Mobile workers will frequent several locations when travelling between offices, home, remote sites, and customer sites — hotels, airports, railway stations, convention centers, airplanes, and trains, to name just a few. At these locations, mobile workers increasingly demand services that will enable them to conduct business in the same way they are used to in the office.

The fact is that many of the services that are being taken for granted at the office, are very hard to acquire on the road. Email access, printing services, access to business databases, Internet access, all in a secure environment, are not readily available. Having access to these services would enhance both job satisfaction and productivity.

To support the increasingly mobile workforce in Europe, many location owners are offering services on-site to their visitors. The term visitor based network or VBN refers to the infrastructure and services supporting mobile workers.

A VBN is the network infrastructure that delivers high-speed access services to mobile users in hotels, airports, convention centers, kiosks, and other areas. IDC includes both wired and

wireless solutions within this definition. In addition, these high-speed networks can be deployed in several ways such as through existing phone lines, ethernet, cable infrastructure, fixed wireless networks, or through a wireless LAN.

Although not the purpose of this white paper, the term VBN can even be seen in a broader context. Consider mobile workers who do not frequently use hotels, but who frequently travel between office locations. Corporate networks should be able to provide instant connectivity to an employee, no matter where he or she is located within the worldwide enterprise.

What is meant by "high speed access"? At location sites a connection point is provided where a visitor can hook up their computer with a modem and dial out to the Internet or the corporate network.

Previously, visitors were limited in speed either by the location infrastructure and equipment or by their own modem. Modems are limited to speeds of 56Kbps. Today, many visitors may have computers at home or in their office that are connected to cable or DSL, which may provide for speeds up to 1Mbps. Other visitors will be coming from a corporate environment where they are connected to an ethernet, which provides speeds up to 10Mbps or higher. High-speed access refers to technologies, such as ethernet, cable, or DSL that enable visitors to access the Internet at speeds starting from 300Kbps.

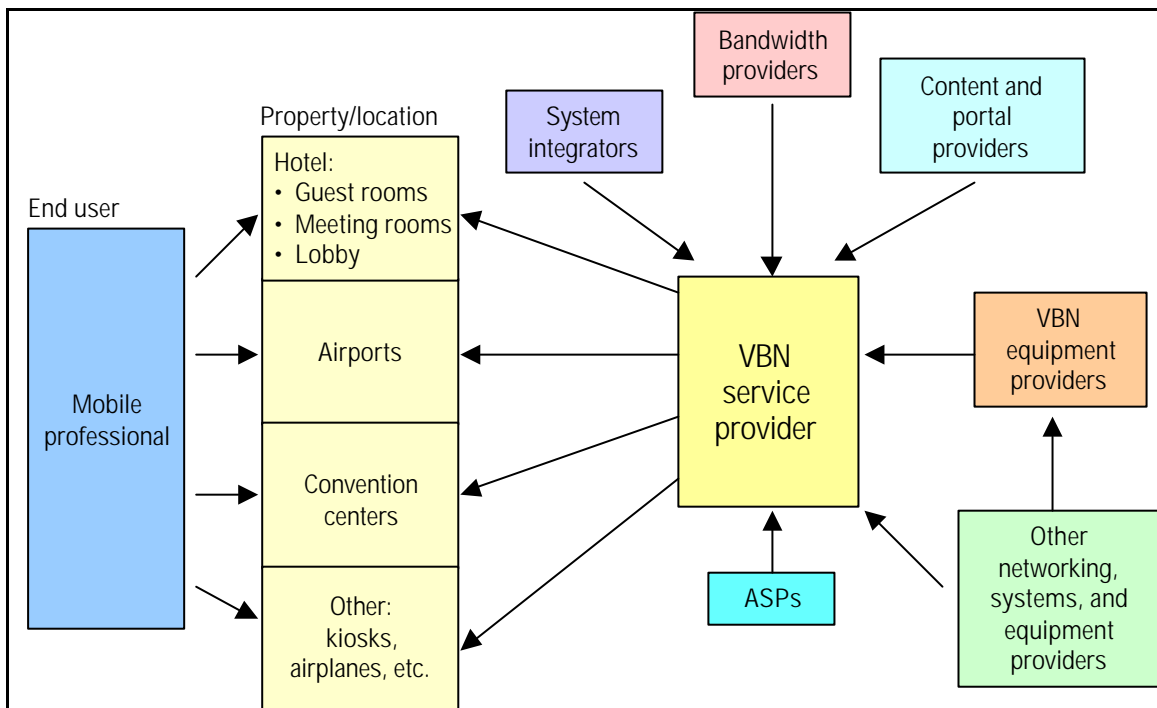
Although high-speed access is an important aspect of VBNs, the number one objective of the VBN is to deliver connectivity services to visitors. These services include, but are not limited to, Internet access, corporate access through Virtual Private Networks (VPN), entertainment services such as games and video, location specific information such as proximity services, printing and fax services, application access, ecommerce, and portals. For the corporate worker, email access ranks as the number one service, followed by VPN and printing services.

It is likely that most VBNs will complement the many other connectivity services that are about to be launched for the business traveler. Consider high-speed mobile data services like GPRS and UMTS. Despite the negative press surrounding these new services, mobile operators will deploy these services.

A mobile worker would be able to roam between different networks and remain connected to the office, no matter where they may be. In fact, many mobile operators are studying the feasibility of becoming a VBN service provider themselves.

Figure 2 provides insight into the companies that need to be involved to build such a VBN. The VBN is centered on the location, for example, a hotel or an airport. The mobile professional is the prime user of the VBN services. The VBN service provider is a specialized company that caters exclusively to the location owner community. The role of the VBN service provider is to serve as an integrator. The components that need to be integrated to deliver an effective VBN solution include, among others, bandwidth provisioning, content and portals, VBN equipment and infrastructure, and applications.

Figure 2
Visitor Based Network (VBN) Value Chain



Source: IDC, 2001

In addition, the VBN service provider might take care of the service billing, installation, and maintenance of the VBN solution. A location owner could actually take the role of the VBN, although most location owners do not have the IT expertise and do not want to take on the task of installing a VBN.

What can a VBN do for the (Business) User?

There are several important benefits that a VBN will have to deliver to your business visitor. VBNs need to deliver more than just basic connectivity services. Some of the most important criteria for VBNs are listed below.

Simplicity and Ease of Use

Although business users are getting more mobile, they are not getting more technical. An important aspect of the whole VBN

concept will therefore be user-friendliness. Providing services that subsequently will not be used because they are too difficult to understand does not help anybody.

Connectivity Where and When you Need It

Users in general have come to expect that they can get access to any information they need, when they need it. Mobile workers are now accustomed to instant access to information that is highly relevant and personal to them, in a convenient and portable form. The VBN will supply wired or wireless high-speed connectivity services to visitors.

Access to Documents When Away From Your Desk

People now travel to more places, towing technology in every briefcase and coat pocket. But no matter how much technology people carry with them, they always need something else — sooner or later, they always need the files and information they left behind. The VBN will enable mobile workers to gain access to vital company and customer information.

Authentication: the Importance of Single Sign-on

Mobile workers are likely to log into several applications and databases each day in order to do their job. Managing all the passwords and account names can be a major headache for both the mobile user and the corporate IT support staff, not to mention the costs associated with calls to the help desk regarding lost or forgotten passwords. Single sign-on technology allows access through the VBN to several applications and databases via a single form of authentication.

High Security

Corporations increasingly view security as a positive infrastructure element, not just an insurance policy. This infrastructure issue is driven by the need to expand “trusted relationships” with customers, partners, suppliers, and channels. These trusted relationships will produce higher transaction rates with greater scalability, lower costs per transaction, and high-value personalized services. The VBN will have to supply security to enable the mobile worker to continue to do expand these relationships on the move. Also, security is necessary to make sure that visitors are not allowed to tap into each other's accounts.

Printing on the Go

Printing is another service that many visitors could really use. While many travelers cope by using their laptops to fax documents to themselves at the location, a better solution would be to send a print job over the location's VBN to the business center for pick-up later. Ideally, it makes most sense to have a few printers (or multi-function fax/copier/printer units) available for use directly from their chosen workspace. The VBN needs to be able to direct the printing job to the printer nearest to the location of the visitor. Print drivers are also a major headache for

most travelers. When you have finally located a printer, it turns out that you don't have the necessary driver software available. Self-provisioning of printer drivers through the VBN is the most effective solution here.

User Profiles and Directory Management

Inside an enterprise, all employees need to access business critical information stored in a multitude of databases. Outside the enterprise, companies are establishing network-based relationships with customers and suppliers. To achieve this, user profiles that are used to allow appropriate access need to be created and managed. This can be achieved through an ebusiness directory, where profile information on customers and ebusiness partners, can be managed. Key elements to this include identity, community, and personalization. This calls for secure — and simplified — storage and management of identities in order to allow interoperability across a multitude of networks. The VBN needs to be able to manage the identity of the — often rapidly changing — visitor community on the location network.

Business Opportunities Presented by VBNs

Most location owners consider the business traveler to be an important target group. Through offering a broad range of additional services, they try to keep them at their location, create a better image, and create new revenue streams. If you are a location owner you probably already offer some sort of conference and office facilities at your premises, or are in the process of developing this concept. Have you ever asked yourself the following questions:

- How often is my business center being used?
- Do I know what services my business users want?
- Are they willing to pay for it?
- Would I open up a new revenue stream if I make my business services more accessible?

Do not be afraid if you do not know the answers. Many location owners have very limited visibility of the effectiveness and profitability of the business services they deliver to visitors.

IDC believes that VBNs present a business opportunity for location owners and that over the next few years the VBN concept will be further developed and high-speed Internet access will become an important part of it.

For location owners there are three important business considerations to providing VBNs at their location:

- Increase the average length of stay of the business visitor at the location, and thus increase the revenue per visitor. If a visitor stays longer at a location, he or she will spend more money on business, entertainment, and food services. Also, visitor churn will be reduced which will decrease the average handling costs per customer.
- Attract new customers that will decide their choice of location on the availability of high-speed Internet access. Location owners can increase the number of visitors to their facility and maximize the revenue potential of their business.
- Create new revenue and profit from delivering VBN based services. Apart from enhancing and maximizing the core revenues of the location owner, VBNs can also be managed as a separate line of business. Location owners can make money with VBNs in the same way they make money with telephone or food and beverage services.

An important decision to be made up-front is whether to charge or not to charge for VBN-based services. IDC believes this depends on the type of location and the type of visitors that you are catering for. If you have many repeat visitors and are offering loyalty-based incentive programs it might make sense to offer VBN services for free. Airlines are an example of this. If you do not have frequent visitors, it makes more sense to manage the VBN as a separate profit and loss item. Cyber cafes are an example of this. Whatever the situation, VBN's can be a revenue generator and location providers should consider the implementation of a VBN as with any other investment and track return on investment.

Table 2
Business Reasons for Implementing a VBN

Result	Benefit
1. Increase average length of stay	Increase revenue and profit Reduce churn Reduce handling costs
2. Attract new customers	Maximize revenue potential
3. Create new line of business	Increase revenue and profit

Source: IDC, 2001

Table 3
Charging for VBN Access

Visitor profile	Charge	Example
Many repeat visitors, customer loyalty programs in place	No	Airline
One-off visitors, no loyalty programs	Yes	Cyber café

Source: IDC, 2001

Services for the Mobile Worker

VBN services include, but are not limited to, Internet access, corporate access through Virtual Private Networks (VPN), entertainment services such as games and video, location specific information such as proximity services, printing and fax services, application access, ecommerce, and portals. Most location owners have no expertise in marketing and delivering these kinds of services and therefore might consider making use of the services of a VBN service provider.

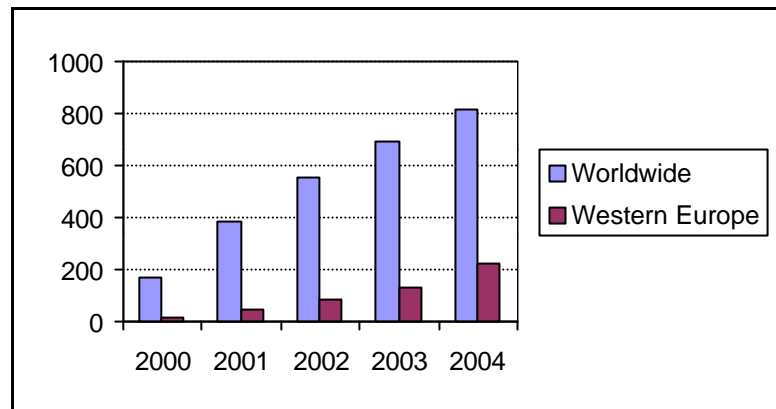
Service Providers

Most location owners do not have IT expertise and do not want to take on the task of installing a VBN. In addition, they want to outsource the day to day operation and maintenance and possibly customer billing to a VBN service provider. This is a specialized company that caters exclusively to the location owner community. The role of the VBN service provider is to serve as an integrator. The components that need to be integrated to deliver an effective VBN solution include bandwidth provisioning, content and portals, VBN equipment and infrastructure, applications, etc. Most VBN service providers are open to discussing revenue and risk sharing models with location owners.

VBN service provider revenue in Europe is expected to increase from EUR17 million in 2000 to EUR220 million in 2004. The revenue opportunity presented by VBNs for location owners is

higher because some locations will manage their own VBN. In addition, locations will be able to attract new customers and increase the average stay of their visitors. This will increase their core revenues. Worldwide VBN service provider revenue is set to grow to EUR817 million by 2004.

Figure 3
European VBN Service Provider Revenue, (Euro M)



Source: IDC, 2001

Pricing Models

Revenue is often shared between service provider and location owner or franchisee, and end-user costs range from EUR10–EUR30 per day for hotel rooms and starting at EUR100 per day for meeting rooms. In addition, some hotel properties use this service as a free amenity for their premium-level clients. The emerging wireless VBN services in hotels and airports deliver per-day or monthly subscriptions with a range of options for wireless NIC purchases, including highly subsidized or free cards for longer-term subscriptions as well as purchase and one-time use options.

There is a convergence of providers coming into play in the VBN service provider market. With the rise of the Internet almost every application vendor is migrating its products and services to the Internet. The market is seeing that Content and Portal providers are being joined by traditional vendors as the number of providers in this space grows daily. With this, there is a rise in the number of agreements between players as they strive to deliver additional services to end-user customers. By providing a wider selection of services, from email access and financial news flashes to access to corporate databases and files, the revenue opportunity will grow. IDC expects future announcements from other service providers, yielding new agreements with content providers that allow additional revenue streams for VBN service providers and location owners.

Case Study: Hilton Hotels

Hilton Group is a global company operating in the hospitality and gaming markets with the brand names Hilton and

Ladbroke's. IDC talked to Julian Daniel, IT Standards Manager for Hilton International. Daniel covers both the back-end IT infrastructure and a subset of the guestroom technologies.

An important part of his job is to ensure that Hilton is using the available guestroom technologies to its fullest potential.

IDC asked Daniel what Hilton is doing to cater for the increasingly mobile workforce in Europe. "A guest should feel as comfortable in a Hilton hotel room as in his or her own home environment", Daniel explains. "This means, among other things, that the communication and entertainment facilities that you take for granted at home should also be available in your hotel room. To achieve this Hilton offers Internet access, radio and television, fax, telephone, and printing facilities to its guests. Nearly every Hilton hotel today has Web-enabled television sets in the rooms to provide hotel guests with Internet access. Hilton is currently in the process of upgrading this to broadband, high-speed Internet access, starting with hotels in key business locations".

IDC prompted Daniel about the importance of service providers in VBN solutions. "One of the things we are looking at now is partnering with a service provider that has global coverage," says Daniel. "We want a total managed service that enables our guests to plug in and go."

When IDC queried Daniel on the possibility of partnering with content providers, Daniel replied that Hilton is already developing the concept of a guest portal. This portal has the potential to generate new revenue streams for Hilton. As Daniel explained to IDC, the portal has the ability, for instance, to link the business customer to a color printer that is located in the business lounge. The advantage for the user is the in-room access. There is no need to go to the business lounge, which can be tiresome if you are located on the 14th floor. Other, concierge-like, services will also be developed.

When asked about the wants and needs of the business traveler, Daniel replied that business travelers say to Hilton that they really appreciate the fact that we give them Internet access, but what they would really want is access to the corporate LAN. As a result, Hilton is now looking into the possibility of providing this service to guests but there are a number of issues that have to be solved first. Security, compatibility with the current IT infrastructure, and service level agreements, to mention a few, have not been sorted yet.

Methodology

This white paper is based on published IDC data. The case studies were developed through in-depth interviews conducted by IDC with organizations that were provided by Novell Inc.

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