

# **Master Planned Community (MPC) marketplace summary**

## **Solutions marketing**

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## Executive summary

A Master-Planned Community (MPC) is one with higher-end new homes that promotes a life style through features such as community entries, parks, recreational areas, schools and community shopping. Nortel Networks provides state-of-the-art communication solutions, which enable service providers to deliver local community information, broadband access and home automation services to MPC homeowners.

The MPC solutions are designed for service providers to capture the large blocks of homeowners looking for convenience and ease of lifestyle. Service Providers can now offer service, flexibility and functionality close to these residents and can even tailor service bundles to the needs of the residents within a particular community. In the US market alone, there have been more than 1.1 million new homes built every year since 1998.<sup>1</sup> Among those over 375,000 are new MPC homes.<sup>2</sup> An IDC survey indicates that 23% of homeowners have interest in high-speed access.<sup>3</sup> The total addressable market is \$625 million for data services only.<sup>4</sup>

## Definition

### MPC—Master Planned Community

MPCs are large new home communities that typically feature community entries, parks, recreational areas, schools and community shopping. Within a planned community there are smaller communities offering a variety of home styles and price levels to choose from.

## Introduction

The Master Planned Community (MPC) is a direct result of a change in attitudes among the population. It reflects a desire among a growing portion of the population to return to small town every day life, away from big impersonal cities. The result is a small town with homes, businesses, a golf course or other community facilities all planned in advance. The planning typically includes the entire acreage that is being developed, such that even the first residents have detailed knowledge about how their community will appear when completed. MPCs are typically managed through Home Owners Association (HOA). The number of

HOAs is the on the rise, currently more than 27% of new home properties pay dues to an HOA.<sup>5</sup>

Convenience and accessibility are the important characteristics of the MPC lifestyle. Many planned communities involve golf courses, tennis courts, lakes, theaters, schools, childcare service, dry cleaners and grocery stores in the community. With the hectic pace of work, residents look forward to the luxury and convenience of a community offering acres of land set aside for recreation, extraordinary amenities, and many community events and organizations. MPC homeowners will expect nothing less than the best in communication technology with superior customer service.

A growing number of these developments are created each year, and it is expected to continue to grow in the future. As such, this MPC market represents a significant opportunity for service providers and equipment manufacturers in creating a truly wired community with telecommunication and high-speed data communication access along with value added local community services for everyone.

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<sup>1</sup> US Census '96

<sup>2</sup> Nortel Networks (20% of homes assumed to be MPC)

<sup>3</sup> IDC Oct '99, Preparing for Liftoff, pg 12

<sup>4</sup> Nortel Networks (based on average data solution price)

<sup>5</sup> Housing Economics, August 1997, HOAs and Gated Communities, pg 9

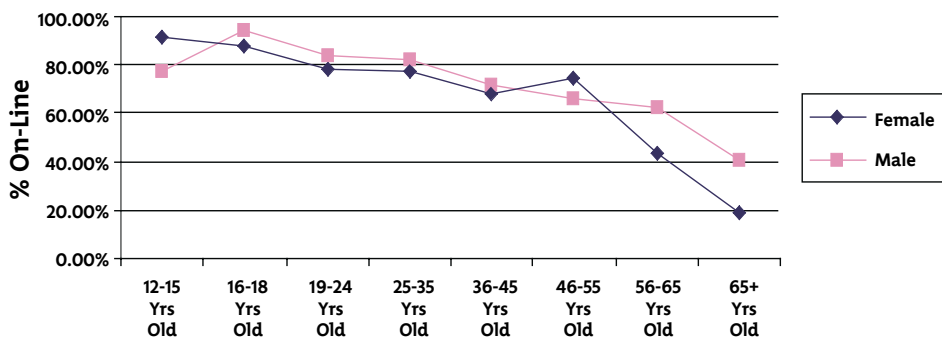


Figure 1. Accessing the Internet by age and sex

## Market research

The two key broadband market drivers behind MPCs are the residential MPC homeowner and Work at Home (WAH) MPC homeowner.

### Residential MPC

The residential MPC homeowner is best defined by the following demographic.<sup>6</sup>

- Dual incomes working professionals—greater than \$75,000
- Typical ages range from 35 to 45
- Over half are college educated—10% having advanced degrees
- More than 30% have at least one child under 18—educational needs as well gaming

This group represents the upper one third of US wage earners. Over 54% own a PC, 33% have internet access, an additional 31% plan to get internet access in the next 12 months and over one third of them are online at least once a day for 1.25 hours—checking Email is the number one reason.<sup>7</sup>

According to the US Census report, homes with children are nearly twice as likely to own a PC and have access to the Internet. Children today believe that access to the Internet is birth-right much like children in the 1980s and 1990's believed Cable TV was. Children under

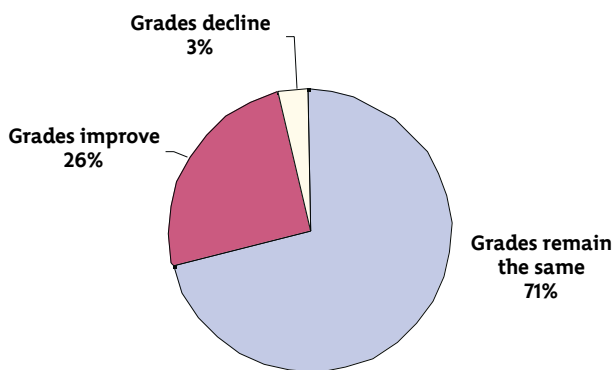


Figure 2. Impact of Internet access on children's grades

<sup>6</sup> IDC, May 2000, Homeward Bound, pg 10

<sup>7</sup> IDC, 1999, Home Sweet Home, pg 1, 2, 5, 8

the age of 18 make up the largest demographic of persons accessing the Internet from home (see Figure 1).<sup>8</sup>

Those children who are on the Internet do so to communicate with friends, classmates and family and search for information on hobbies. However, not all this time is spent playing games. Children with access to the Internet are seven times as likely to improve their grades (see Figure 2).<sup>9</sup> These types of statistics are not lost on schools and parents, education/learning applications will more than likely grow over the next few years.

The parents of these children are tech-savvy as well, and will continue to keep pace with the growth of new technological advances (see Figure 3).<sup>10</sup>

Over the course of the next few years household Internet access will just as likely to be driven by non-PC peripherals and more likely by standalone devices. These devices will range from TVs/HDTV, security systems, games and kitchen appliances, and very likely to have their own IP address for Internet access. IDC has forecasted the number of non-PC Internet devices to nearly converge with the number of PCs used for Internet access by 2003, surpassing the number by 2004 (see Figure 4).<sup>11</sup>

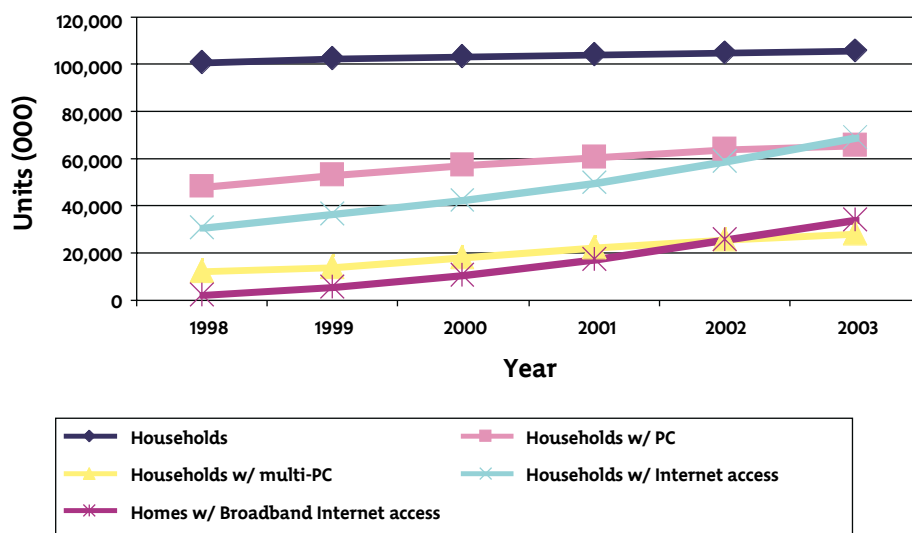


Figure 3. Number of households with PCs and Internet access

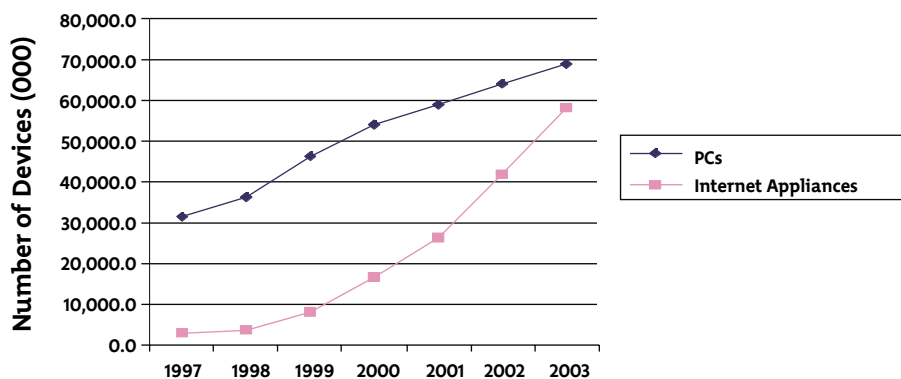


Figure 4. Internet access device types

<sup>8</sup> UCLA, Oct 2000, Surveying the Digital Future, pg 13

<sup>9</sup> UCLA, Oct 2000, Surveying the Digital Future, pg 27

<sup>10</sup> IDC, May 2000, Homeward Bound, pg 10

<sup>11</sup> IDC, Nov 1999, Internet Access

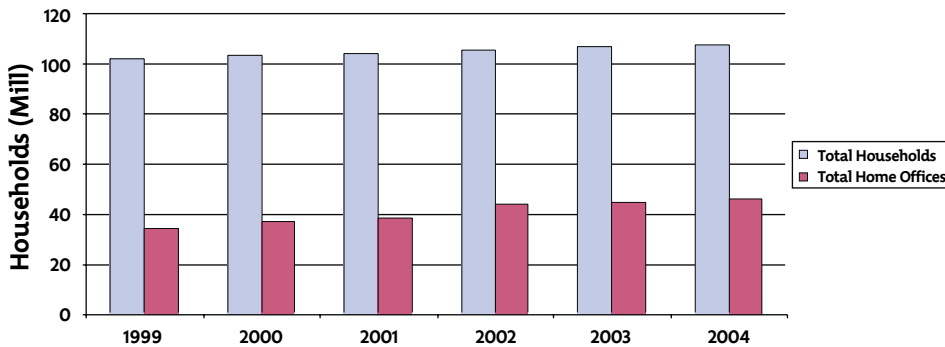


Figure 5. Total households and home offices

This plethora of new devices will be met by changes in attitudes to the Internet. Soon, E-mail could be replaced as the number one application, challenged by home banking and Investing. Jupiter Research forecasts that of the 80.5 million homes on the Internet by 2005; 43 million will do their banking and 34 million will do their investing<sup>12</sup>. In these same homes IDC forecasts that the number of Internet games will grow from 7 million today to over 85 million.<sup>13</sup> The need for broadband access is clear.

### Work-at-Home MPC

The second major market driver is the Work-at-Home (WAH) MPC resident. The WAH segment is a compilation of several factors; those being the telecommuters, small home offices and residents that represent a large growing number of after-hour-workers. This segment constitutes one the single largest growing segments with in the new home market (see Figure 5).<sup>14</sup>

Today, over 81% of WAH offices have at least one PC (over 30% have multiple PCs), 80% rely on the Internet to do business and greater than 40% have two phone lines, 21% have three or more.<sup>15</sup>

The interest in broadband access is being fueled more by it's growth in the work space, and the individuals desire

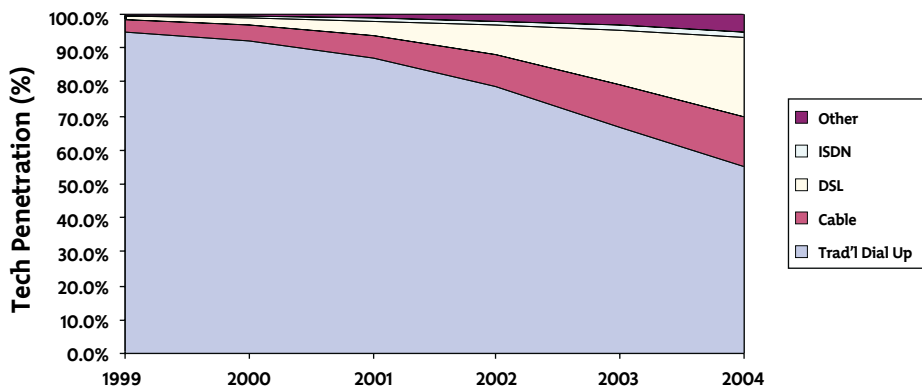


Figure 6. Internet access technology forecast

<sup>13</sup> IDC, 1/15/10, Interactive Week reference, pg 24

<sup>14</sup> IDC, June 2000, Home Offices on the Internet, pg 1,3

<sup>15</sup> IDC, Oct 2000, Home Office Communications, pg 1, 2, 15, 16, 19, 23

to have that same touch-and-feel of the office at home. However, acceptance of new Internet applications such as; home banking, internet gaming, IP telephony and new video applications will push the aggregate home bandwidth well beyond the capabilities of traditional 56kbps analog modems. This trend bears out when looking at the forecast for broadband technologies such as, DSL, Cable modems, wireless and optical (see Figure 6).<sup>16</sup>

The home of the future will clearly outpace the demands it puts today on their traditional dial-up service provider. With new video applications requiring 1.5 to 10 Mbps, data applications requiring .05 to 1 Mbps and HDTV requiring a minimum of 3 Mbps (compressed) per channel. Next generation homes will require at least 10 Mbps.

Today only about 4.7% or just under five million US households have subscribed to broadband Internet access.<sup>17</sup> This is not to say that interest is waning. To the contrary, there is much pent up market demand. The primary hurdle remains availability of broadband services. Less than one third of all US homes even have access to broadband services.<sup>18</sup> These demands are being addressed in many ways. The Cable companies are updating their head-ends to support

2-way digital data traffic, the ILEC/CLEC/DLECs are remoting DSLAMs to overcome distance and central office constraints of DSL. To further help overcome distance and bandwidth constraints, Optical Ethernet is quickly gaining attention in the marketplace. With Optical Ethernet service providers can have the advantages of a fiber backbone and the benefits of a mature high speed access technology like Ethernet. Thus eliminating distance and media constraints while delivering up to 100 Mbps to the home.

### **Business approach & alliances**

Each MPC is planned, marketed and sold by a large land developer. The developer will bring in commercial builders and homebuilders to perform the actual construction of the homes and businesses on the project. The developer can market the community as a smart community and require that all homebuilders install a structured wiring system into the home (the developer may specify which manufacturer must be used). Thus the community homeowners will have broadband capability throughout their home while enabling the service provider to provide value added services such as home auto-

mation, energy management, web access, online tee time arrangement, video conferencing, online gaming and others.

The most compelling business proposition involves an agreement between a developer and a service provider in which the service provider is the exclusive voice, data and video provider for the entire community. Service providers can be cable companies, ILECs, CLECs or DLECs. In some instances the service may be provided by a combination of companies. As an example a DLEC or Cable company might provide the data solution and video, but a CLEC may provide voice and lifeline services. This agreement may be through an interconnection agreement and sharing of facilities by the providers or may be on separate infrastructures. Sharing of facilities is the most efficient for both installation and operation, but requires close operation between the service providers.

The large-scale concentration of customers, such as MPCs, is low-hanging fruit for service providers. There is also a benefit for the developer who can leverage the availability of broadband access to increase the velocity of sales. Due to regulatory and legal concerns with the infrastructure in existing communities, the initial MPC

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<sup>16</sup> IDC, June 2000, Home Office on the Internet, pg 35

<sup>17</sup> IDC, May 2000, Homeward Bound, pg 1

<sup>18</sup> IDC, June 2000, Additional Telephone Line Market, pg 5

target market for service providers should be new construction communities.

## Global view

The concept of an MPC is primarily a North American play. However, there is anecdotal evidence of a potential market in both Europe, Asia and Australia.

## Potential solutions

Homeowners can be offered a choice of broadband access technologies. Since it is an entirely green field market, there is a lot of flexibility in terms of solution approaches. The solution largely depends on the size and the requirements of the community. Network architectures will include options for any combinations of data, voice and video over an infrastructure of fiber, coax, HFC and/or CAT 5. Here are some examples:

- DSL services over unshielded twisted pair wiring can support up to 6 Mbps. An integrated access device at the home provides an “always on” connection for voice, data, and video—ideal for small to mid-sized communities.
- Optical Ethernet combines the reach and reliability of optical networking with the simplicity and cost-effectiveness of Ethernet to deliver higher bandwidth at lower cost.
- Hybrid fiber-coax solutions bring up to 10 Mbps to each home through a combination of coaxial

cable from the home to a curbside transceiver, and optical fiber to the community POP- or up to 100 Mbps directly to a fiber port at home.

- Copper- or fiber-based Ethernet connections offer the lowest cost per bit of any competing data solution. Nortel Networks offers a complete portfolio of carrier-grade Ethernet technologies for high-speed Internet access and transparent connection of community networks to wide area networks (WANs).
- Wireless local area networks (LANs) based on the IEEE 802.11 industry standard transmit data up to 1000 feet over the air-through walls and other non-metal barriers-on an unlicensed frequency.

## Conclusions

The MPC market is a compelling, high profit opportunity for service providers. It brings together groups of people with similar interest, economic backgrounds and style of living, which provides tremendous opportunities for technology service providers to capture blocks of subscriber with ease. The majority of the population in the MPC environment are Internet aware and recognize the benefit of being connected to the electronic community in which they live. The demand for networking solutions for the MPC market has increased dramatically and will continue to increase in the future.

MPC solutions will provide significant revenue and profit to service providers. Nortel Networks is leading the industry and has been actively participating in delivering best-in-class services to the Master Planned Community homeowners.





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