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Digital Era Fuels Cable Broadband Shift

The arrival of the broadband era is opening up a brave new world for cable operators.

The industry has already over-

hauled entire networks as traditional cable service grows to include the delivery of voice, data and video. Many large cable operators are rolling out cable modem

service in major markets to satisfy consumer demand for high-speed Internet access. Today, more than 3.5 million Americans are spending upwards of \$40 a month to access the Net through cable lines.

As the number of cable subscribers continues to increase, cable operators are rushing to deliver quality differentiated service options to meet customer needs. Services such as bundling, true voice/fax capabilities and lifeline telephony are key concerns for cable providers.

A handful of operators have even deployed circuit-switched telephony, and still more await the day when IP technology will be widely adopted.

With cable's bulked-up hybrid fiber-coaxial plant in place, still other new

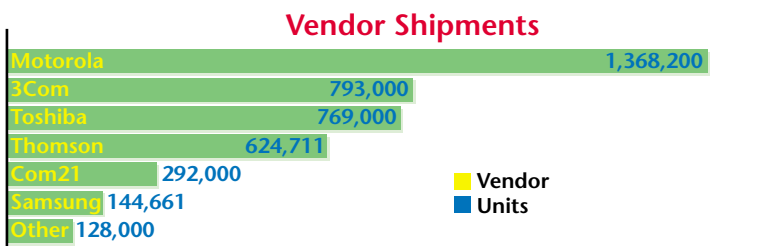
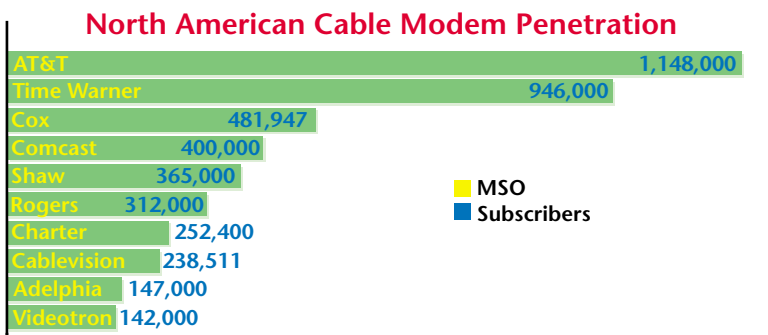
services dance tantalizingly on the horizon: video on demand, interactive television, tiered high-speed data bandwidth services and home networking. Add to that cable's seemingly recession-proof business, and it's easy to see why operators are cautiously optimistic about the future amid a sea of bad economic news.

In order to win in this new world order, cable operators require several key competencies from silicon vendors:

- End-to-end solutions
- Flexible, scalable offerings that provide the Quality of Service (QoS) demanded by industry standards
- Real time processing power for streaming media
- Robust, proven voice software
- Low power consumption for lifeline telephony

The deployment of voice services for cable operators is com-

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Source: Kinetic Strategies, December 2000

TI Ready For Cable Future

Exciting times lie ahead for the cable broadband industry. While traditional cable service remains at the heart of MSO offerings, we are about to witness an accelerated focus on delivery of enhanced digital services as consumers become more familiar with the features and applications that broadband enables.

High-speed data was just the beginning. We are already seeing VoIP field trials in action. And numerous industry players are experimenting with full IP-based

video and Video on Demand services. TI believes this will happen. TI also believes we will see the deployment of these services over a unified IP network, enabling additional cost savings for MSOs.

Another exciting development is that home networking, while still in its infancy, is taking off. And MSOs will now need to manage the delivery of these services not just to the home but throughout the home. Wireless home networking solutions offer a distinct advantage. Although this will be a difficult technical chal-

lenge, it offers new opportunities for services and revenues to an industry that hasn't changed this dramatically since its inception.

Of course, all of this opens up tremendous opportunities for the bottom line. Not only will this offer additional incremental revenues from each household but also will reduce customer churn.

As a provider to this industry, TI sees exciting opportunities because we are providing increasing performance, we have the system level understanding to help our customers succeed by quickly delivering the newest products and we have the tech-

nology to carry the industry into the future. **BB**



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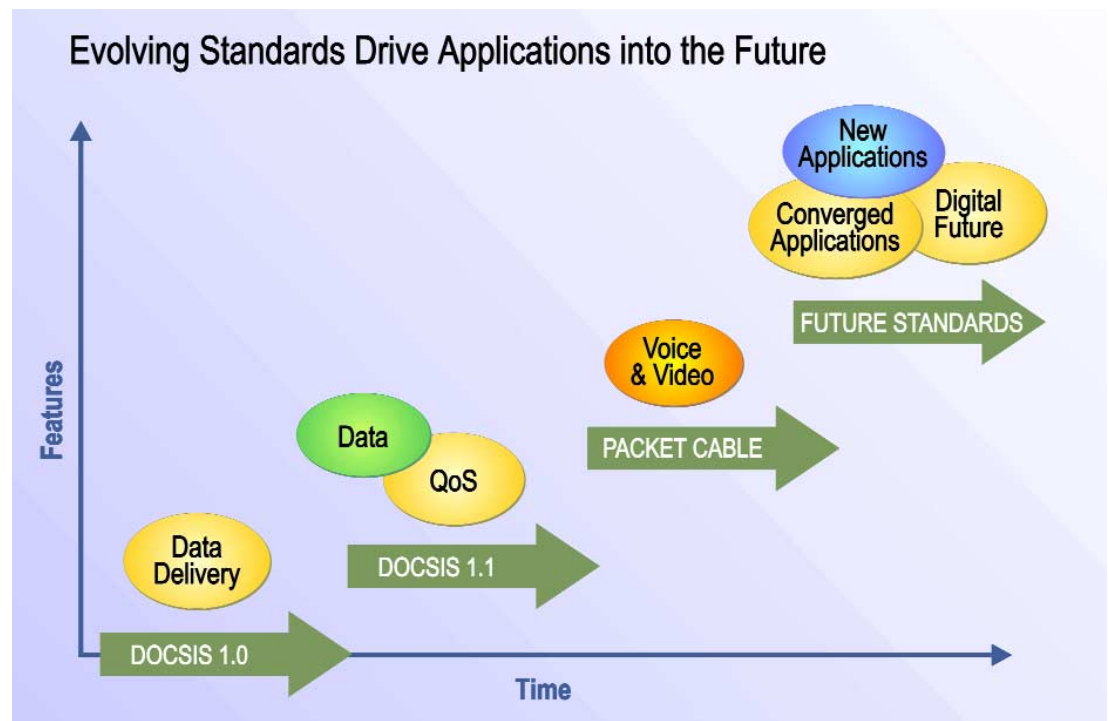
plex, which is why they prefer end-to-end solutions. Quality of service issues also will be key to the development of new services because it will allow cable operators to offer different pricing levels for data and voice services, giving them the ability to maximize market penetration. And QoS is critical for voice communications because consumers demand high quality voice services. Cable operators, as new players in the market, can ill afford to disappoint them.

Through cable modems, cable operators enable consumers to view and hear streaming video and audio content. Therefore, real-time processing power for streaming media is critical to give consumers the full, vibrant broadband experience they expect.

Silicon Vendors Must Offer Complete Solutions and System Knowledge

To date, silicon providers have focused on offering the technology needed to deliver high-speed data to consumers. Now, some vendors, including TI, are paving the way for future voice and video applications by developing and offering solutions that meet advanced standards such as Data Over Cable Service Interface Specification (DOCSIS) 1.1 and PacketCable.

Vendors that provide complete system-level solutions and expertise are critical to cable providers' success in this market. TI has adopted a unique approach by partitioning its system solution, giving cable providers the maximum flexibility and scalability they need to meet existing and future standards, and to accommodate any home networking protocol.



Additionally, future upgrades can be done seamlessly, inexpensively and without additional truck rolls.

As the market moves toward voice deployment, cable providers will need the horsepower of strong voice processing engines and software to meet the QoS standards set forth in PacketCable. TI was the first to deliver a DOCSIS 1.1 ready solution and is among the vendors that are in CableLabs™ certification testing trials today.

TI has introduced a line of voice-enabled cable modem solutions as operators look to add IP voice services to current IP data offerings. This solution also allows for easy upgrades to accommodate future standards and features. TI's enhanced peripheral set allows manufacturers to support all residential distribution standards including Bluetooth,

IEEE 802.11b, Ethernet, IEEE 1394 and HPNA.

Home networking

The prospect of home networking exemplifies how far cable has come from the days of video-only service. The Internet revolution has changed all that and has allowed cable operators to redefine their role in the telecommunications world.

As cable operators roll out cable modems in consumer homes that have multiple PCs, there is a growing need to connect those PCs together. Couple that with cable's gradual movement to IP-based delivery of voice and potentially video services, multiple TVs could be connected to a consumer's multiple PCs.

To speed adoption and deployment, technology standardization has become commonplace throughout the industry. With

increasingly complex and rapid changes, TI works with standards groups such as CableLabs to ensure all current and future standard specifications are met. TI technology is helping numerous cable modem manufacturers win DOCSIS and EuroDOCSIS certifications, establishing TI as the global leader in cable technology development.

Cable operators have built broadband platforms to deliver new voice, video and data services. TI, as a key silicon provider, offers certified, low-cost, high-performance solutions and knowledge that will help operators generate new revenue from new services their customers will demand.

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