

Broadband Internet Strategy For Hospitality Properties

How Property Managers Can Create A Broadband Internet Infrastructure That Serves Their Long Term Interests

Owners and managers of commercial properties are today implementing property-based network infrastructures driven by the first generation marketing and bundling decisions of broadband technology vendors. This strategic planning paper describes a shift from network planning based on today's vertically integrated one-stop vendor solutions and toward planning by horizontal integration of three convergent technology layers; network transport, network provisioning and management devices, and communications accounting and billing systems. It illuminates several strategic and tactical implications of this view and establishes a framework from which property managers might set internet strategy, consider vendor offerings, and establish priorities.

Sam Considers His Guest Communications Revenue Strategy In 2003.

Sam's hotel properties are technologically advanced here in late 2003. His property team has implemented high-speed internet access to guest and meeting rooms. Voice over internet from fancy LCD phones is available in his premium rooms. Video on demand is available. And wisely, Sam avoided the strategic risks of external vendor-owned guest travel portals and instead he's operating his own micro-portal on the property. Sam is living large (technologically anyway). Sam's phone rings. It's Mary, the leader of the hotel group's management committee. We plan to establish a dynamic "our guest" program where pricing for guest services will be managed in an integrated and dynamic way", she says. "There will be an integrated guest experience for all amenities including digital guest amenities and their pricing", she elaborates. "Great move!" says Sam.

Will Sam's assumptions about on-property internet architecture actually provide a manageable guest network for the long term?

Sam returns to his day and begins to ponder what an integrated guest experience means to his technology infrastructure. "Hmmm, to support integrated digital amenity billing I will need to integrate the billing systems of my various digital services and communications vendors. But they are all competitors (or at least they act like it). And to provide dynamic and guest centric digital amenities pricing, I will need to update each billing engine for each service specific to each property on each day (assuming of course that each vendor billing engine supports or even wants to support our emerging clever billing strategies)." Hmmm. Sam has begun to reconsider the assumptions underlying his technology and network architecture.

Back to The Beginning.

The hype in year 2000 was wrong. You remember it: “If you don’t put high speed guest internet into your hotel rooms, then you will not compete effectively for guests.” Most conceded this point in the long run (consider electricity, telephone, and television). But it turned out to not be true in the near term.

Hospitality seems to have confused a great idea (high speed bandwidth in the guest room) with the need to provide it immediately. Meanwhile, hospitality technology vendors confused this great idea with near term returns on investment. If you need convincing, check with your friends about internet “take rates” and about internet revenues. More importantly, the rush to implementation pushed hoteliers and their vendors to make choices rapidly. To illustrate:

Fast Deals

Deals were created in a hurry. Revenue shares and total turnkey solutions were developed for accelerated deployment. Now your high-speed internet provider is bankrupt. Or worse yet, your provider lingers on financial life-support: <http://www.sddsystems.com/whitepages.html> The provider has scaled back implementations, is trying to make what currently exists work, and/or is asking you for capital to extend implementation. Profitability and stability for your vendor is a long way off. And you, the hotelier, seem destined for an internet vendor contract characterized by limited service with marginal capacity for new investment in your guest network infrastructure. Worse, some of these high speeds internet deals could in the long run actually zero-out a hoteliers telephone, movie, and e-commerce revenues, and actually fund a competing brand at the same time. (If you can’t imagine how that could happen, consult the white papers referenced within the inset)

Free Lunches Proven To Not Be Free (Again)

Other white papers available on guest internet strategy.

- **How High Speed Internet Deteriorated The Hoteliers Brand**
- **How High Speed Internet Eliminated Hotel Amenities Revenue.**
- **How Everyone Makes Money But the Hotelier (op ed. piece)**

Located under “white papers” at:
www.communicationsaccounting.com

Quick Technology Decisions

Meanwhile, technology solutions and architectures were also created in a hurry. Vendors focused on bundling technology to maximize their speed to market and rapid deployment. Today, some solutions don't work. Or worse for technologists, they work some of the time. But most subtly, the wisdom of the solution architectures is unclear. Were the unstated technology architectural decisions of these vendor solutions in the interest of property owners and managers? Will the technology decisions underlying high-speed internet offerings provide a manageable and integrated guest communications experience in the longer term?

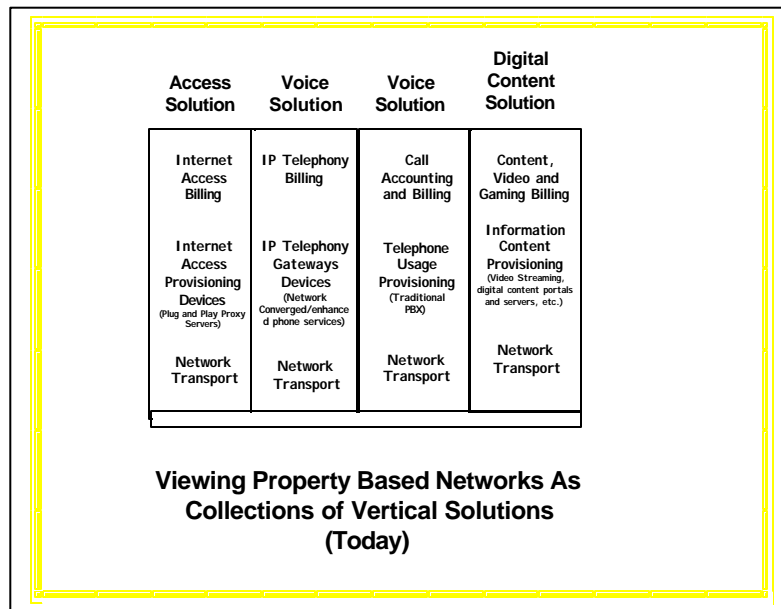
Reflecting on Today's Network Planning Assumptions

With guests not "demanding" internet access and instead maybe just now warming to the idea, property technologists have a moment to reflect on their internet strategies. Any maybe even take a longer-term architectural view before making critical decisions.

There are a bunch of possible network-enabled services deliverable to guests. They include telephone, television, video, information content, and e-commerce. Should you have a telephony strategy, a video strategy, a gaming strategy, and an internet access strategy? No. These services are converging in the long term onto one network infrastructure. That network is based on the native internet protocol TCP/IP. They represent a package of digital amenities that can be assembled for guests and tenants in an integrated way to create a unique experience or value. An internet architecture is reasonably developed to consider the totality of network-based services provided to guests.

The Big Assumption: Vertical Solutions As Network Strategy

Hoteliers have made a tacit assumption about network architecture. High-speed internet vendors today sell multi-layer vertically integrated solutions for these services. Typically, their provisioning devices are bundled with billing functions. Their network transport may be bundled with billing and provisioning.



These solutions collectively create a network infrastructure viewed vertically as a collection of parallel services (see diagram). Vertical integration is fine. But what are the limitations of this vertical architecture in the long term? (And by understanding these limitations what should a future architecture look like?). Imagine that you are operating from vertically driven network services strategy with multiple vendors' solutions for various specific content and services. Consider the following:

1. Proliferation of billing management points. In this vertical world, each vertically integrated digital guest amenity you provide today creates a billing management point with distinct billing policy support requirements, and potentially different billing system technology (i.e. your telephone billing system is different than your high speed internet billing since each vendor supplies its own billing functions). By the way, each billing management point reflects yet another property management system interface.
2. Business model and pricing flexibility. Imagine you have multiple vertical vendors for various internet content services (your digital video vendor is different than your telephone vendor which is different than your high speed internet access vendor).
Imagine this is multiplied across your diverse property holdings. Now you seek to establish some creative pricing packages combining video and telephone. But can all your vendor's solutions support the price change? Even more likely, can you bundle digital services for sale across more than one vendor? What incentive will a vertically integrated solution provider have to assist your billing of non-vendor content and services?
3. Vendor and technological change. Imagine you just got a great deal on a new video streaming service (to the disappointment of your current vendor). In a vertical solutions world, will you be changing provisioning devices, billing, and bandwidth technology? More subtly, will changes in high-speed guest internet technology vendors require changes in billing policy because of differences in system capability? Also, what are the (re-) integration costs of video into your front and back office systems? Also, if you have invested in customization of your billing methods, will those investments be lost or simply rebuilt? Your switching costs for technology are high while the open architecture and interoperability of the Internet is driving such costs lower elsewhere. Have you limited your flexibility to offer services by having service specific vendor specific infrastructure?
4. Profit Control. Imagine that you wanted to shift your pricing to differentiate yourself from folks up the street. This is easy if you own the billing system since if you own the billing system then you own the customer and have direct margin control. But what if you don't directly own the pricing system? And what if revenue flows through your internet services vendor then to you? What is your strategic risk if your vendor owns or controls billing or provisioning? If you don't directly own/control your billings do you really own/control the customer? Can you ever actually differentiate your digital guest pricing strategies in the marketplace without systems control?
5. Vendor Strategic Alignment. You acquire technology partly because of its capabilities today; but also on the promise of what it will accomplish tomorrow. This requires vendor re-investment into its installed base. But if your vendor's growth plans are larger than hospitality, will your solutions capabilities grow in areas strategic to your serving guests and tenants? Which vertical solution components are most sensitive to "divergent" market segment investment?

(Answer: it's usually the business and accounting systems since they tend to be industry specific).

6. **Best-of-Breed Application.** Technologies have design points, which represent the intended application of the technology. A great plug-play proxy provisioning server may not represent the optimal platform for a data base intensive application like a billing and accounting systems (and vice versa). Are the right technologies being applied for the right purpose?

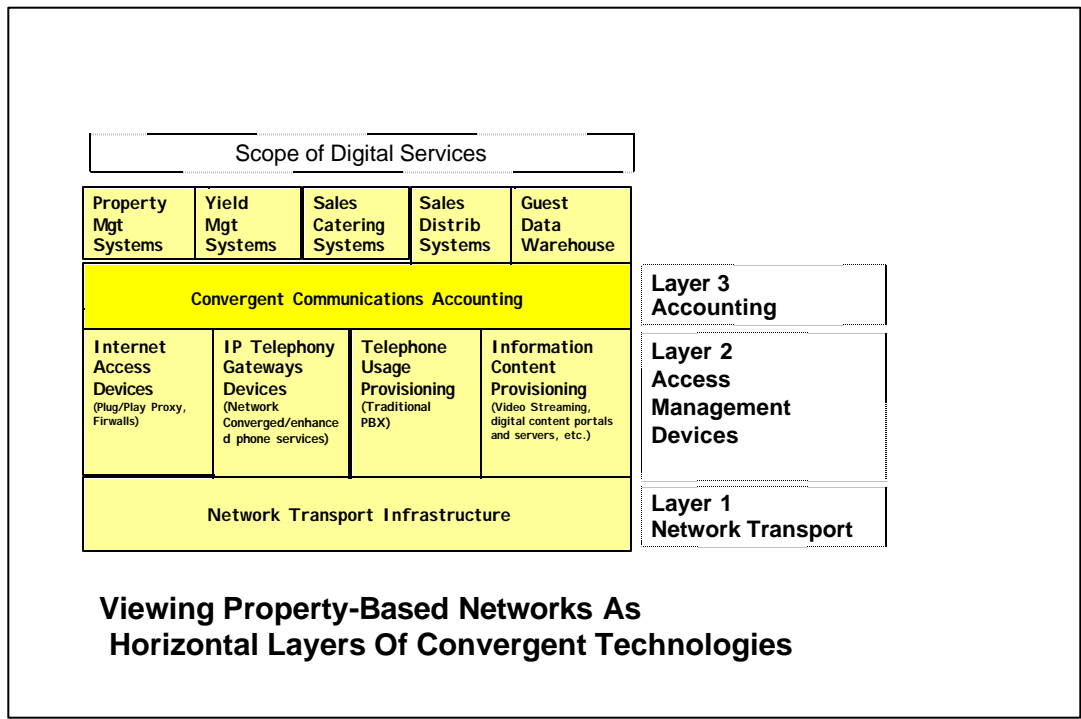
How do you mitigate these issues? Possibly these issues suggest a different view of network architecture!

Turn your network planning sideways!

Instead of planning aggregations of independent vertical solutions, view your network as horizontal layers of distinct technology components.

Constructing A Guest Architecture From the Ground Up (And Horizontally)

Consider a guest network planning process and architecture viewed from a different angle. Turn your guest network planning on its side. Instead of constructing a network infrastructure of vertical solutions, view your network solution components as horizontal layers.



A horizontal view of a property network architecture might, like the OSI model for the Internet, have layers. In the property case, you need a network transport architecture to provide bandwidth. You need provisioning devices to allocate and direct people's use of the network. And you need a business system functions to apply business policy and pricing to that network activity.

These layers reasonably categorize vendor technology today. Interestingly, they also capture the strategic direction of vendors implementing digital voice and data convergence. Digital convergence of voice and data is happening laterally not vertically! A horizontal view of network infrastructure is a convergent view. Consider each layer.

Layer 1 Network Transport. Network transport represents a distinct decision about how to cost effectively deliver bandwidth to endpoints within a building. It's relatively easy to get bandwidth to the backdoor of your property. However this is about getting network bandwidth to the guest room and it represents a different challenge. Network transport represents cabling and control devices that enable Ethernet over Category 5 or 6 wiring, or DSL (Digital Subscriber Link) over Category 3 (telephone) wiring, or wireless in bypassing existing cable infrastructure. These devices include hubs, routers, DSLAM's and wireless access points.

Layer 2 Access Management. Access management represents devices and functionality, which establish, direct, manage and terminate network sessions. Network management solutions include specialized servers for establishing and managing network sessions including capabilities for plug and play proxy, firewall protection, VPN, and streaming voice and media servers that move and direct digital content at the request of a guest. In the traditional telephone world the provisioning device is a PBX. The various web portals and content web sites available to guests also represent provisioning sources in that they direct guests to resources.

Layer 3 Convergent Communications Accounting. A communications accounting layer represents systems that apply pricing and accounting rules to all forms of network activity. A communications accounting system layer enables the financial packaging and integrated accounting of digital guest services. In a world of diverse network technologies and network-enabled services, communications accounting provides establishes business and billing policy independent of the possibly diverse choices for provisioning and network transport vendors.

Three Strategic Technologies

For Property -Based Broadband

1. **Network Transport Technology**
2. **Network Access Management Device(s)**
3. **Communications Accounting**

Applying a Horizontal Network 3-Tier Strategy

A horizontally driven strategy enables you to shift how you construct visitor based network structures. Each layer of your architecture represents an independent convergent technology decision. A convergent communications accounting system, for example, is considered independently of a plug and go proxy server. A decision about ethernet, wireless, or DSL infrastructure is considered independently of the provisioning and billing solution.

Each network layer also represents a distinct set of independent strategic decisions. The basis for such decisions include:

1. Best of breed technology at each level. Each network layer represents a technology choice. For example: a communications accounting systems may provide you the business support you seek while the high speed guest provisioning of another vendor seems more scalable.
2. Vendor intent to span your architecture horizontally (convergence). Vendors are today already expanding horizontally. Some major vendors envision layer 2 “communications controllers” for provisioning multiple forms of services. Communications accounting systems like SDD’s JAZZ Enterprise are expanding to handle billing for a range of digital such services.
3. Vertical vendor interoperability. Your choice of DSL transport should not determine your choice in provisioning systems. Your choice of either of those technologies should not require selection of specific billing systems. The boundaries between architectural layers represent technology interfaces. Look for vendors with an “open” strategy for integration.
4. Vendor strategic focuses on each layer. At what layer is your vendor’s real strategic focus and core competence? Example: will general network components providers really be able to justify and sustain investment in narrow market billing systems in times of industry downturns?
5. Strategic ownership/control at each layer. There are some parts of any technology total solution that warrant more or less ownership and control. Specifically assess your strategic ownership and management responsibilities at each layer.

What is Communications Accounting system?

A three-tier property network architecture creates a new category of hospitality billing software solution called a communications accounting system. **JAZZ Enterprise from SDD** represents this new category of software products for the property manager. These emerging products seek flexible and integrated billing for the range of network based services provided to guests and tenants.

Integrated Guest Connectivity Billing For Hoteliers

Communications accounting products are designed to help hoteliers independently consolidate the internet content and services billing of their guests and tenants. They provide real time local control of pricing and analysis of network services.

Open Platform For Content And Service Providers.

Communications accounting products also represent an open billing platform for property focused content and services providers who are attempting to provide services into guest and tenant properties while avoiding property management system, and billing policy issues.

You might choose to outsource management of your transport or provisioning layer but tightly own or control billing and profit margins since control of billing (a typical scenario since control billing control implies control of pricing, margins, and customer relationships).

Preserving Strategic Options By Thinking Horizontally

A horizontal approach to network planning preserves choices. While a vertical network strategy enables service providers to better manage their business, it may strategically narrow a hotelier's choices longer term by locking in technology. A horizontal strategy design enables a property owner or manager to selectively establish technology platforms. Those platform decisions can reflect a property's interest in controlling revenues, profits, and the guest experiences. In the titles of the industry, it preserves a property managers ability to choose at some time in the future, to operate as a "building service provider (BSP), or an "on-premise service provider" (OSP)?

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