

FAST FORWARD»»

***Visionary
Services***

September 2005

FORWARD

This is a new edition to our original Vizionary Services book issued in 2004. In this new edition, we have added new testimonials from our growing list of customers and partners and updated our services and capabilities - including our new services around IMS and our full set of services offered by tekVizion Labs™.

This book is intended for virtually anyone who has responsibility for, or an interest in, the process of rolling out services that generate new revenues, increase productivity, or otherwise enhance the lifestyles of enterprise or consumer users.

In this book, we are sharing 99 innovative services ideas spanning a multitude of markets and consumer needs. We've included a small section on our company and how we are setting a new standard for systems integrators. Our testimonial section helps you understand how we are viewed by industry analysts, our customers, and our partners. We have also included a section on the industry's first VoIP independent testing and certification facility, tekVizion Labs™. And lastly, we have included a reference section for your convenience.

We think the many ideas presented here attest to the fact that the sky is the limit when it comes to thinking up new, exciting and useful services. However, as you well know, the process of actually creating, implementing, testing, integrating and supporting new applications can be a complex undertaking.

The good news is there is help available. Our proven practices and methodologies, refined over the course of the creation, implementation and support of numerous revenue-generating services, have put our customers on the fast track to service deployment. Read this book, then give us a call to see how we can help you **FastForward>>**SM your Vizion for new services and accelerate your return on investment.

- The tekVizion Team



***Visionary
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99 Innovative Service Ideas

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TEK VIZION OVERVIEW

tekVizion Core Services:

- Consulting
- Custom Applications
- Integration and Support
- Testing

tekVizion has set the new standard for systems integration in the telecommunications industry. As long-time telecom veterans, we are committed to helping service providers **FastForward>>**SM the introduction of new, innovative and integrated services.

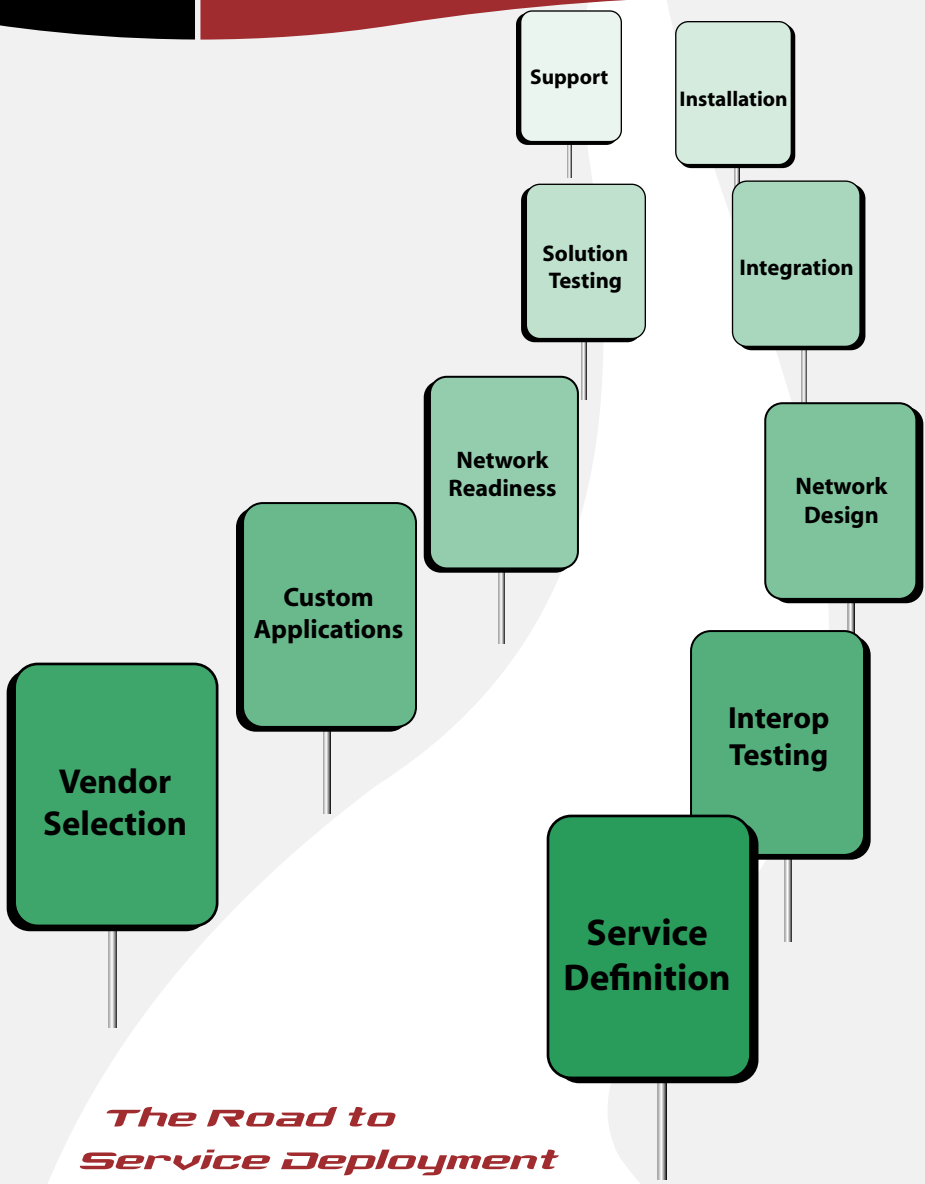
tekVizion's core services include consulting, custom applications, integration and support, and testing through tekVizion LabsTM-- the first interoperability certification lab of its kind. tekVizion Labs offers a full suite of testing services including interoperability, solution, conformance, product assessment and outsourced testing. tekVizion helps service providers achieve a smooth transition to packet-voice networks, speeding delivery of integrated services. Leveraging real-world, multi-vendor integration and test experience and proven processes, tekVizion provides solutions that meld legacy and next-generation resources.

The tekVizion team brings together experience from the leading vendors and service providers in telecom. Our unique expertise includes unparalleled experience on a vast array of VoIP, IMS and other next-generation products and technologies, as well as, legacy switching services and platforms. We rely on this combined experience to do what we do best: help our clients leverage their existing assets, while introducing new network elements and applications to advance the rollout of services that excite customers and result in new revenues for the bottom line.

Leveraging this experience and following our proven processes and methodologies, tekVizion offers services to service providers, large enterprises, product vendors and other professional services firms. Let us help you **FastForward>>**SM the generation of new revenues through the introduction of exciting new services!

Target Market:

- Service Providers
- Vendors
- Professional Service Organizations
- Large Enterprises
- Standards Bodies and Consortiums



The Road to Service Deployment

The road to service deployment can be a very complex and expensive undertaking. The process requires careful planning, execution and management, along with expertise covering a multitude of products, protocols and technologies. tekVizion provides services specifically designed to help service providers lower the risks and costs associated with service deployment, as well as get to market faster with new revenue-generating services.

CONSULTING

tekVizion is uniquely qualified to offer consultative services addressing both business and technology issues surrounding legacy and next generation networks. tekVizion has expertise surrounding next-generation networks including VoIP and IMS. Listed below are some of the consulting and solution design services tekVizion offers.

Service Planning and Requirements Definition tekVizion can offer innovative ideas to address a service provider's specific market needs. Working with these ideas and the service provider's Vision for their network, tekVizion can help with the development of a services roadmap, business cases and requirements definitions.

Vendor Selection tekVizion can help cut through the confusion surrounding the Request for Information (RFI) process. tekVizion can author or review RFIs prior to being issued by the service provider, review responses and provide testing against a service provider's "short list" to validate vendor claims.

Solution Design During the solution design process, tekVizion works with the service provider's key stakeholders and engineers to collect and assess input such as feature and service requirements, expected subscriber and traffic numbers, component and network vendors, and any known limitations or risks. tekVizion then uses the collected information to design the solution. The solution design includes:

- Component recommendations, where applicable
- Server design to meet capacity requirements
- Redundancy design
- Call flows
- IP network connections
- PSTN network connections
- Services integration
- BSS and OSS interfaces
- VoIP security recommendations

Network Readiness Audit Successful implementation of a new service into an existing IP network depends on many factors. These factors can affect the voice quality of service, the resiliency and reliability of the network, the security of the network as a whole and the ability to expand and grow the network in the future. tekVizion can perform a Network Readiness Audit to assess the service provider's existing IP network and recommend changes, upgrades, or addition of components, configurations and/or policies and procedures.

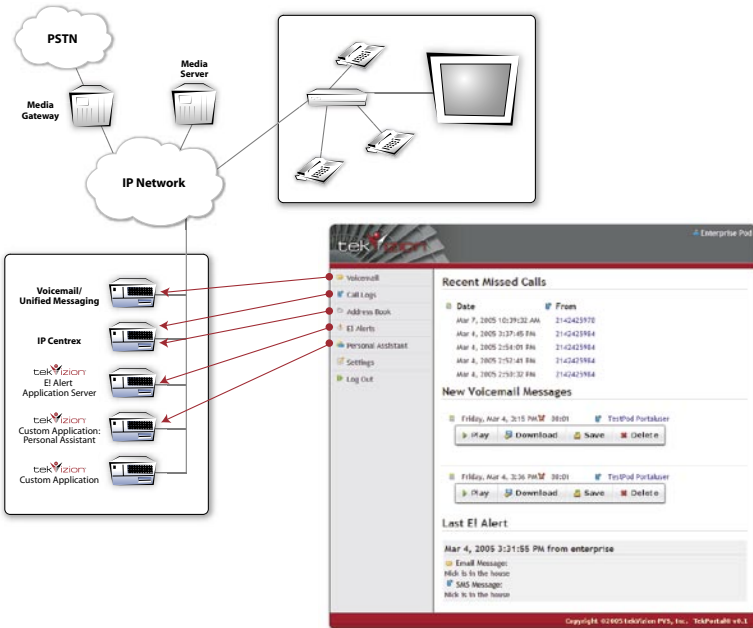
Dial and Routing Plans tekVizion assists service providers with the design and implementation of dial and routing plans including network translations and routing, emergency services, enterprise dial plans, call screening and blocking, SAC translations and other service numbers.

CUSTOM APPLICATIONS

Applications tekVizion has helped many vendors and service providers create innovative, integrated services on converged networks. tekVizion can develop services for many different operating environments, and has specialized expertise developing, integrating and deploying services on today's network-independent service delivery platforms which allow services to be written once for deployment over wireless, wireline and VoIP networks. tekVizion development engineers have extensive experience with open telephony standards such as JAIN and SIP, Parlay/OSA, IMS architectures and the latest service creation tools and environments.

Integrated Communication Portals Leveraging unparalleled expertise in integration and interoperability testing, as well as extensive experience in custom software development and APIs from market-leading vendors, tekVizion is able to design and develop integrated, end-user portals that incorporate applications from multiple vendors as well as custom-built applications.

tekVizion takes a modular approach to portal design which allows vendors and service providers to customize portals to different target markets using a common point of integration to back-office and network elements. This approach also minimizes the modifications needed to the portal when making changes in the network or back-office elements. In addition, an integrated portal improves the end user's experience by providing a single point of access and integrated data, leading to increased service usage and subscriber retention.



INTEGRATION AND SUPPORT SERVICES

tekVizion provides integration and support of multi-vendor, next-generation solutions including solutions for IMS and VoIP networks. tekVizion can help with all stages of the installation, integration and support process.

Installation tekVizion can provide remote staging and on-site installation of all hardware and software for multi-vendor solutions. tekVizion will work with the customer to perform a site survey, and will coordinate with the customer or a partner to provide the rack and cabling infrastructure prior to installation.

Configuration tekVizion will perform basic configuration of the hardware and software installed. This typically includes configuration of:

- Connectivity between solution components
- Inbound and outbound network connectivity (IP and/or TDM integration)
- Installation of dial and routing plans
- B/OSS integration

Functional Validation tekVizion will verify that the hardware and software installed is working properly, and perform some basic functional verification tests. The areas of validation typically include:

- Ensure network connectivity
- Demonstrate call flow integration between the solution components
- CPE and endpoint registration
- Demonstrate inbound and outbound call flow integration with other networks
- Verify basic feature operation according to predetermined test plan
- Verify administrative and user portal operation
- Validate remote management capability

Adaptor Development tekVizion can develop any adaptors that may be needed for integration including protocol and B/OSS element adaptors.

Remote Multi-Vendor Support tekVizion provides remote, multi-vendor solution support services. tekVizion provides the interface and coordination with vendor(s) for problem resolution that requires software updates. Typically first-line support is provided by the service provider. However, tekVizion has a NOC partner that can be used to provide a complete support solution.

Monitoring & Preventive Maintenance tekVizion provides multi-vendor monitoring and on-going maintenance services. Monitoring helps prevent down-time or system degradation by proactively monitoring hardware and software alarms, logs, buffers, system usage statistics, possible security issues, etc.

On-going maintenance includes installation of patches and minor upgrades to applications and/or operating systems. tekVizion can also provide support for remote or on-site upgrades to new software releases.

Testing Services

tekVizion offers testing services through tekVizion Labs (www.tekVizionlabs.com). tekVizion Labs is the first independent test lab to offer third-party interoperability certification of VoIP products and applications. tekVizion Labs' engineers were responsible for founding one of the most well-known and successful partner interoperability programs originally created in the packet voice industry. In addition, since inception, tekVizion engineers have been integrating and testing multi-vendor solutions for service providers, making tekVizion uniquely qualified to perform certification testing. Leveraging this extensive interoperability test experience and hands-on expertise with more than 150 next-generation products, combined with tekVizion's experience integrating and testing multi-vendor solutions for service providers, tekVizion is able to streamline the process leading to successful and repeatable product certification testing.



tekVizion Labs' Services Overview

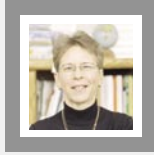
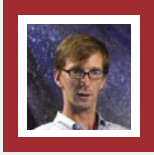
tekVizion Labs offers several services including but not limited to the following:

- tekVizion Interoperability Certification Testing
- Third-Party Certification/Validation Testing
- Solution Testing
- Remote Testing
- IMS Conformance/Interoperability Testing
- PBX/IP PBX Interoperability Testing
- Product/Compliance Assessments
- Open Testing

All of these services are described in more detail in the tekVizion Labs section of this services booklet starting on page 49.

Testimonials





TESTIMONIALS

Our success is based upon our performance and our reputation. This has proven to be successful as our customers keep coming back to us for new projects as well as recommending tekVizion to their colleagues. But don't just take our word for it! Over the next few pages, see what our customers, partners and key industry analysts are saying about us: what we do best, why they chose tekVizion or would recommend us to others, and how we help **FastForward>>**SM the deployment of new services to their customers and end-users. Then give us a call.

Let us help you jump on the fast track to increasing your revenues through the deployment of new, innovative and integrated services.





"VarTec's association with tekVizion dates back several years. Over the life of our association with tekVizion, we have relied on their professional services to develop and enhance several core network offerings which to this day continue to provide a differentiator to our competition. We have utilized tekVizion to integrate our legacy and next generation intelligent network systems into one unified services platform from which VarTec continues to seamlessly add new features and functionality at a quickened pace. tekVizion's value added services really speak for themselves in name. The company's technical expertise is second to none, and their understanding of core network services and next generation technologies provides the basis for their ever expanding vision of the marketplace and service offerings. Simply put tekVizion never shies away from a challenge and always delivers. tekVizion is number one in my book."



Kevin Hausler
CTO
VarTec Telecom

"tekVizion was a key partner to Sun for our iForce Telecommunications Service Delivery Solution, which enables network operators to leverage their existing, as well as next generation resources, to rapidly deliver new revenue-generating applications and services. Our solution brings together best-of-breed products from Sun, as well as from some of our partners. tekVizion has broad expertise with both legacy and packet technologies and products, but they take a product agnostic approach to solutions. Because of this, they were able to assist us with the architecture of the solution, provide integration and testing, and have even supported our demonstrations of the product for our customers and at major tradeshow."



John Galluzzo
Manager, Service Delivery Platforms
Sun Microsystems, Inc.



"The complexity of VoIP networks is immense and it requires a huge amount of experience and know-how. It's the expertise and the understanding of signaling and platforms that determines the winners and losers in VoIP. Having access to the vast wealth of expertise that tekVizion brings to the table allowed us to get to market faster. It allowed us to have a more complete and robust service, and it allows us to do things that our competitors can't do. tekVizion has been a critical part of our go-to-market strategy and has enabled us to launch some innovative, very new VoIP services in half the time it would have taken us to do it ourselves."



Tom Kershaw
Vice President of VoIP
VeriSign

"As the worldwide service provider market segment migrates to IMS networks, firms like tekVizion are offering the type of applications innovation that the industry is seeking out. Within our Modular Communications programs, Intel is working with its program participants, including innovative firms such as tekVizion for the IMS, Digital Home, Digital Office, and Digital Mobility market segments, enabling the kinds of session-based services that will provide scale to the worldwide market in IMS."



Dan Steingas
WW IMS Market Development Manager
Communications Infrastructure Group
Intel

"With their unique approach to the development and deployment of services, tekVizion really is setting the new standard for systems integration in the telecom industry. They have expertise with both legacy and packet voice service environments. This experience, along with their proven methodologies, helps put their carrier and enterprise customers on the fast track to the roll out of integrated applications."

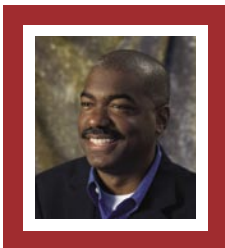
TREILLAGE



Deb Mielke
Principal
Treillage Network Strategies, Inc.

"IBM has designed our line of servers to better address the needs of our telecommunications clients to reduce cost, reduce time-to-market, accelerate the transition to NGN, and to improve customer retention and loyalty. IBM recently worked alongside tekVizion to deploy a high-volume network service, currently supporting millions of transactions per day, on IBM BladeCenter and Linux. IBM's BladeCenter products' use of COTS technology and Linux can deliver open, high-performance platforms which are cost effective and scalable. tekVizion shares IBM's belief that open standards will help accelerate the adoption of Next Generation Networks. IBM is very pleased to be able to work with firms such as tekVizion to address the needs of the telecommunications industry."

IBM



Al Brodie
Sr. Marketing Manager
Systems and Technology Group
IBM



"Sylantro is the worldwide leader in commercial deployments for hosted business and consumer VoIP services. Our service providers continue to experience unprecedented growth and deployment on a global scale. Sylantro selected tekVizion as a strategic partner for independent interoperability testing services that offer providers a valuable resource to reduce time to market with a comprehensive portfolio of communication devices. tekVizion has demonstrated rapid responsiveness to service provider requirements, resulting in proven, scalable best-in-class solutions being available in the market."



Bernard Gutnick
Vice President of Product Marketing
Sylantro Systems Corporation

"As the leader in session border control, Acme Packet needs to interoperate with many different elements in the next generation network. tekVizion offers the benefit of experienced first rate testing resources who are knowledgeable about an extensive set of products and vendors. Their services give service providers and partners alike the confidence they need in their VoIP network solutions. Acme Packet is pleased to be a Premier Tenant in tekVizion Labs where we have access to some of the best expertise in the industry."



Seamus Hourihan
Vice President, Product Management and Marketing
Acme Packet

"U4EA Technologies supplies OEM partners with today's most advanced integrated VoIP routers, which support multiple standards in wireline and wireless configurations. Verifying the readiness of our devices for converged networks provides added confidence to our customers. It's vital for us to have an advanced independent facility with the expertise to perform interoperability and certification services, and we view tekVizion as the benchmark for excellence in this field."



Perry Teevens
Vice President Sales & Business Development
U4EA Technologies

"Demand for the BroadWorks hosted VoIP platform is skyrocketing as service providers recognize the operational savings and enhanced features it enables.



At the same time, however, the hosted voice model represents a paradigm shift away from legacy systems. We needed a partner that could help our customers move forward with deploying BroadWorks by providing both pre- and post-sale consulting and professional services to help our customers design, support, and customize their networks. tekVizion meets the requirements for us due to their wide-ranging experience, both with BroadWorks and the infrastructure involved in delivering a VoIP service."



Mike Tessler
CEO
BroadSoft



"Tekelec's partnership with tekVizion helps our VoIP customers test and add new IP devices and systems to their networks faster and more effectively. It's a great way to meet end user demands and win new business."

Rex Harris
Director of Partner Management
Tekelec



"We are experiencing great success in the IMS market with our CCE serviceBROKER which provides powerful opportunities for service providers to increase the range of services they can deploy. By leveraging tekVizion's extensive IMS-related expertise, we are able to integrate applications from multiple vendors on a much more rapid basis. As we add new customers, tekVizion is critical in helping us scale our deployment capabilities and enabling our customers to keep pace with the demand for new and enhanced services."

Leapstone



Paul W. Shaneck
Senior Vice President Sales & Marketing
Leapstone

"tekVizion is raising the bar on the creation of services that take full advantage of today's voice and multimedia technologies. Their experience with interoperability and integration of next generation network elements has allowed them to create some very innovative applications for service providers, many involving our CMS family of media servers. We are pleased to be a part of these efforts to move the industry forward with new services."



Grant Henderson
Executive Vice President Marketing & Strategy
Convedia



"Now more than ever, time to market with new services is paramount to a carrier's success. tekVizion built and deployed a new service for a large carrier based on our service delivery platform. They delivered the service in record time with high quality; the service has been running millions of calls a day for over a year now, providing a lucrative revenue stream for the carrier. By teaming with tekVizion we are able to help service providers quickly move forward with new, content-rich applications which benefit the carrier, the end user, and the industry in general."

Tom Martinson
CEO
jNETx

"We are experiencing great success with our award-winning Ekahau Positioning Engine (EPE) which provides location tracking over standard WiFi networks. Now we can leverage tekVizion's extensive VoIP development, integration and deployment expertise to bring location-aware services, including location tracking for emergency services, intelligent call routing, and many more, to the wireless VoIP market."



Tuomo Rutanen
Vice President of Business Development
Ekahau

Service Ideas



Services Key



Residential Services

- 1 Enhanced Single Number Service
- 2 Alarm Me First
- 3 Wireless Babysitter
- 4 Coaches List
- 5 Coaches List with Confirmation
- 6 List by Subscription
- 7 Teen Talk Time
- 8 Teen Talk Time Plus
- 9 Voice of Authority
- 10 Nap Time
- 11 Privacy Patrol Always-On Service
- 12 Privacy Patrol with Call Screening/
Distinctive Ring
- 13 Unique Text Display
- 14 Put It on My Tab
- 15 Put It on My Tab with Voice PIN
- 16 Family Butler
- 17 Family Butler with Location Tracking
- 18 Personal Assistant Wake-Up Service
- 19 Customized Ring-back
- 24 Unlisted but not Unreachable
- 25 Traffic Control
- 26 Dynamic Traffic Control
- 27 Visual Voicemail
- 28 Transaction Verification
- 29 More For the Money Line
- 30 ATM Locator
- 31 Tell Me More
- 32 Targeted News Briefs
- 33 Do You Want To Play
- 34 I'm Over Here
- 35 Party Blaster
- 36 My Page
- 37 IT Alerts
- 38 Meeting Notes
- 42 Personal Assistant
- 79 Student Tracker
- 80 Student Tracker Plus

- 81 Parent Proof
- 82 Homework Helper
- 85 Virtual PTA Meetings
- 86 I Second That
- 87 Conference Call Conferences
- 89 PDA with Panic Button
- 91 Health Monitor
- 92 Enhanced Medical Alert
- 93 On Demand Advisory



Enterprise Services

- 1 Enhanced Single Number Service
- 9 Voice of Authority
- 11 Privacy Patrol Always-On Service
- 12 Privacy Patrol with Call Screening/
Distinctive Ring
- 19 Customized Ring-back
- 27 Visual Voicemail
- 28 Transaction Verification
- 37 IT Alerts
- 38 Meeting Notes
- 39 CRM Me
- 40 Voice PIN for Conferencing
- 41 Voice PIN VPN
- 42 Personal Assistant
- 43 Courteous Call Center
- 47 Wherever Workstation
- 48 Where Can I Find A...
- 49 Punch-In
- 73 Security Announcements
- 74 Enhanced Security
Announcements
- 76 Resource RSVP
- 90 Equipment Tracking



Commercial Services

- 3 Wireless Babysitter
- 11 Privacy Patrol Always-On Service
- 14 Put It on My Tab
- 15 Put It on My Tab with Voice PIN
- 19 Customized Ring-back
- 20 Classy Classifieds
- 21 Premium Classifieds
- 22 Meter Reader
- 23 Direct from Directory Services
- 24 Unlisted but not Unreachable
- 25 Traffic Control
- 26 Dynamic Traffic Control
- 27 Visual Voicemail
- 28 Transaction Verification
- 36 My Page
- 37 IT Alerts
- 38 Meeting Notes
- 43 Courteous Call Center
- 44 Put a Face to Your Customer Rep
- 45 Telemarket Me
- 46 Scheduling Application
- 49 Punch-In
- 50 Delivery Alert
- 51 Mobile Realtor
- 52 Specialist Locator Service
- 53 Direct to the Manufacturer
- 54 Price and Inventory Check
- 55 Merchant Pages
- 56 Advertise the Unadvertised Special
- 57 Patron Adviser
- 58 Mall Maps
- 59 Targeted Mall Maps
- 60 Gift Reminder
- 61 Meet Your Party
- 62 Wait Time Is It
- 63 Luggage Phone Home
- 64 Cab Finder
- 65 Community Commerce
- 66 Personalized Commerce
- 67 Parking Attendant
- 68 Call Me Concierge
- 69 Line Monitor
- 70 History Notes
- 71 History Notes for Real Buffs
- 72 Museum Media
- 73 Security Announcements
- 74 Enhanced Security Announcements
- 75 Call 211 for Missing Pets
- 76 Resource RSVP
- 77 Candid Candidates
- 78 Candid Candidates with Polling
- 79 Student Tracker
- 80 Student Tracker Plus
- 81 Parent Proof
- 82 Homework Helper
- 83 High-Tech Hall Pass
- 84 Location Tracking Hall Pass
- 85 Virtual PTA Meetings
- 86 I Second That
- 87 Conference Call Conferences
- 88 Pay Attention PDA
- 89 PDA with Panic Button
- 90 Equipment Tracking
- 93 On Demand Advisory
- 94 Pencil Me In
- 95 Nurse Call
- 96 Secure Prescriptions
- 97 Is the Dr. In?
- 98 Virtual Waiting Room
- 99 Virtual Waiting Room with Personalized Announcements

INNOVATIVE SERVICE IDEAS

For years, everyone has been looking for the elusive "Killer App". But what makes a Killer App? The truth is, it's different for everyone. For the road warrior it might be "CRM Me" [page 28]. For the manager of tech support at a product development shop it might be "IT Alerts" [page 28]. For the busy parent and part-time coach it might be "Coaches List" [page 17]. A Killer App is a service that helps an individual work more efficiently, better manage their communications, and make staying in touch a seamless part of their every day so they can spend more time on what matters most.

In this section you will find several innovative ideas (99 to be exact!) for targeted services. These ideas are not intended to provide a definitive description or a blueprint for implementation. Rather, they are intended to incite the imagination. You know your customers best - their business, their pain points, their communication modes.

Use this book as a guide to help you envision services that fit your market segments. Then call tekVizion and let us help you *FastForward*>>SM the roll out of your own Killer Apps.

1 **Enhanced Single Number Service**

This feature allows a caller to be reached, at multiple locations, using a single number. A virtual number is assigned to the subscriber. Subscribers can use a touch-tone phone, or web page with a calendar format, to manage the many ways they prefer to be contacted - home phone, cell phone, pager, office phone, voicemail, email - as well as a schedule defining the times when different methods are used. This service allows the subscriber to set up pre-defined and on-the-fly lists where calls are automatically routed to the primary mode of communication most likely to reach the subscriber at that time of day. This service may also be combined with features such as call screening and privacy management.



2 **Alarm Me First**

This service, integrated with an alarm system, would allow homeowners to set preferences that allow themselves to be notified (via phone, email, SMS, etc.) when an alarm is triggered. The preferences could include many options such as giving the homeowner a small window of time to respond prior to police being called (to avoid false alarms), and preferences could change based on parameters such as time-of-day.

3 **Wireless Babysitter**

A discreet, wearable device (such as a wristwatch-like device) equipped with GPS and integrated with a cellular network, could be used to track children's locations. Parents could call into the service to find the location of their kids, or the system could be set up to notify parents automatically if the child strays from a particular perimeter. This service may also be used to keep track of elderly or Alzheimer's patients.

4 ***Coaches List***

This broadcast service allows a user to enter a list of phone numbers and send a message to the list all at once (for example “Soccer practice is cancelled today”).

5 ***Coaches List with Confirmation***

With this enhancement to Coaches List, the subscriber is prompted to enter a digit (i.e., “1”) to confirm the message was received. The service automatically retries delivery of the message to a particular caller a set number of times until confirmation is received.

6 ***List by Subscription***

This service builds on the Coaches List, however it allows individuals to subscribe to lists via phone or website; and also set their preferences as to how they want to be notified (phone call, voicemail, email, SMS, etc.). For interactive messages (i.e., phone call announcements), the end of the announcement would include an opportunity for the individual to unsubscribe to the list or change preferences.



7 ***Teen Talk Time***

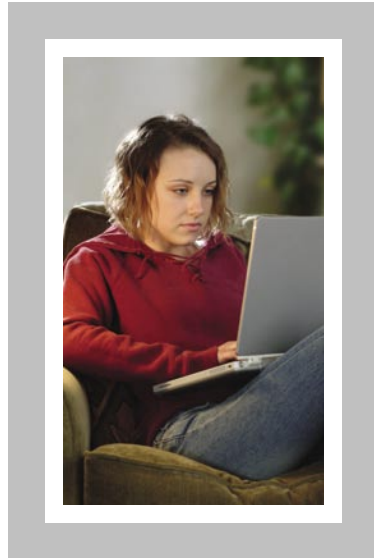
Through this easy-to-use graphical interface, parents can control their teenager's phone usage including setting access times, temporarily disabling incoming or outgoing calls and setting restrictions against long distance usage.

8 ***Teen Talk Time Plus***

With this extension to Teen Talk Time, the graphical interface can also be used to control the teen's internet access, wireless calls and even video. This provides an incentive for the subscriber to buy all their services (wireline, wireless, internet, video) from a single service provider.

9 ***Voice of Authority***

As an alternative to the web interface, or to easily enforce restrictions on a shared line, voice authentication can be used. With this feature, each member of the household can have their own profile including time-of-day settings and routing restrictions, with authorization based on their voice print.



10 ***Nap Time***

Several service providers already offer a Do Not Disturb feature, which allows subscribers to block all calls for a period of time. This enhanced version of Do Not Disturb is easy for subscribers to use, and works for both the wireline and wireless phones (if the subscriber has both with the carrier offering the service). The service supports several interfaces: a subscriber portal where the feature can be set on demand or for scheduled periods of time, and an access code that turns it on and off which can be dialed from either the wireline or wireless line. Subscribers can also set it so that callers have the option to request the call to ring through if it is an emergency.

**11** ***Privacy Patrol Always-On Service***

Some service providers have introduced an Anonymous Call Screening feature that allows subscribers to block calls that come in as “anonymous” in order to avoid telemarketer calls. However, telemarketers have discovered that by not blocking their Caller ID and by inserting a false phone number, the Anonymous Call Screening service can be bypassed. Instead of screening on calls that have no name or number, or have deliberately blocked their Caller ID, with this service screening is invoked for every call which is not already authorized. Subscribers create one or more “white lists” of automatically authorized callers, allowing them to bypass the screening service and ring straight through to the subscriber. Callers that are not pre-authorized are asked to record their name, and then the call is offered to the subscriber who has the option to accept the call, send it to voicemail, or send it to an announcement.

12 ***Privacy Patrol with Call Screening/Distinctive Ring***

This option combines several popular residential line features, including call blocking and unique ring tones. However, instead of having just one list, this service allows the subscriber to manage numbers in various lists (Friends, Family, Business, Blocked). When a call is received, the calling party number is compared to these lists. If blocked, the call is terminated. If on another list, the call is sent, bypassing the privacy service completely. In addition, lists can be provided with their own distinct ringing cadence (e.g. 3 short rings and a long one for business numbers).

13 ***Unique Text Display***

This feature allows a subscriber to use the web to enter a unique, personal identifier for a particular caller that can be sent to their Caller ID display. The system sends this identifier instead of the standard Caller ID provided by the network.

14 ***Put It On My Tab***

This feature can be used in a variety of situations, such as ordering from area restaurants, to allow ease of payment by having items billed to the customer's phone bill. A PIN is used to provide security for the callers. A percentage of the sale is assigned to the carrier.



15 ***Put It On My Tab With Voice PIN***

This service adds voice authentication to the Put It On My Tab service. Instead of needing to use a PIN, the caller is authenticated with voice print authentication. This allows only authorized users to order items to be billed their phone, but eliminates the need for yet another PIN to be memorized.

16 ***Family Butler***

Best described as a digital whiteboard/sticky notepad with concierge capabilities, this intelligent application helps the busy parent coordinate family activities and schedules, by sending family broadcasts of important information as well as directed messages to family members (grocery lists, reminders, etc.).

17 ***Family Butler with Location Tracking***

This enhancement to the Family Butler adds location tracking for enhanced convenience and efficiency. For example, the service could be set to send a list of reminders to a family member as soon as they leave work, or send a grocery list once they enter a grocery store.

**18** ***Personal Assistant Wake-Up Service***

This is a wake-up service with an added touch. Subscribers populate their calendar not only with what time they would like to be awakened each morning, but also a list of reminders. At the appointed wake-up time, the service calls the subscriber and reads the list of reminders (for example, "Today is Mom's birthday") using text-to-speech.

19

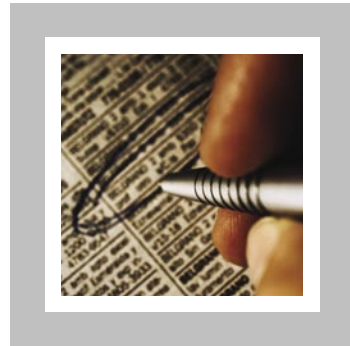
Customized Ring-back

Customized ring tones have already proven to be a hit on mobile phones, now some carriers are offering customized ring-back. Instead of generating the typical ringing tone to let callers know the phone on the other end is being alerted, carriers can play a customized tone or announcement. Subscribers can pay to have callers hear a certain ring tone when calling the subscriber, or the carrier or third party could sponsor an announcement in place of the ring tone.

20

Classy Classifieds

This service brings classified ads into the next generation. Some people don't like to place classified ads for a couple of reasons; first they are concerned about privacy, and second they don't want to be deluged with calls at odd hours and after the item is sold. This service eliminates both concerns. Instead of dialing the seller's number directly, the would-be buyer calls into the service and enters an item code identifier. The caller is then forwarded to the selling party. Once the item sells, callers are redirected to an announcement stating that.



21

Premium Classifieds

This service can be sold as an option to Classy Classifieds. With this option, sellers can record a message to be played prior to the call being routed to them. When the caller calls the service and enters the item code identifier, a message is played; for example "This vehicle is in excellent condition, has never been in an accident, and I have all the service records. It is available for a test drive evenings after 7pm or weekends." Callers are then given the option to hang up or be routed to the seller or voicemail.

22 ***Meter Reader***

With this service, the various utilities in a household (i.e., electricity, gas, water) send input to a central server. The information can be used to send a message to the resident when usage of a particular utility exceeds a set threshold, to automatically report an outage to the utility service provider or to generate reports based on usage patterns. The server can also be the source of input for billing, eliminating manual meter reads at the residence.

**23** ***Direct from Directory Services***

Service providers can gain new revenues from their Directory Services division. With this service, when a caller calls Directory Services for a phone number, the service provider can optionally push additional information, such as an address, map, business hours, etc., to a wireless phone, PDA or computer. The additional service may be paid for by the subscriber, or sponsored by the business whose information is pushed.

24 ***Unlisted But Not Unreachable***

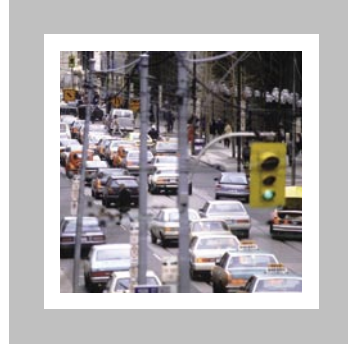
Subscribers who have their number unlisted often miss calls from people they would have liked to connect with. With this service, when a subscriber calls Directory Services and is told a number is unlisted, they can opt to pay a small charge to have the Directory Services platform connect them to the unlisted party, without revealing the called party's number. The platform would then give the called party the option to accept or decline the call.

25

Traffic Control

A source of frustration for many drivers is the inability to find and use timely and accurate traffic information. Accidents frequently clear well before the announcement is made. Subscribers to this service would have a calendar and route map on their profile, showing usual driving patterns and routes taken during their week, or are able to set up routes on demand for a trip.

When accidents are reported to the reporting agency, an alert is sent to all users on that route for the current time frame, and updated maps or text route changes can be pushed to enable the driver to smoothly detour around the traffic congestion.



26

Dynamic Traffic Control

Another option to the Traffic Control service uses location tracking to send (via push or pull) traffic information to drivers based on location.

27

Visual Voicemail

Wireless subscribers today are usually faced with voicemail platforms that are cumbersome to use. Subscribers often have to play through several voicemails in order to find the one they are looking for. With this service, the voicemail interface is similar to an email interface. Subscribers are given a list of voicemail headers including the date, time, calling number, and voicemail length. Subscribers can then go directly to a voice message, delete a message, or forward a message on to another phone number or an email address, all without having to listen to the various messages. With speech-to-text capabilities, the service goes a step further and displays the first few lines of the message along with the header.

28 ***Transaction Verification***

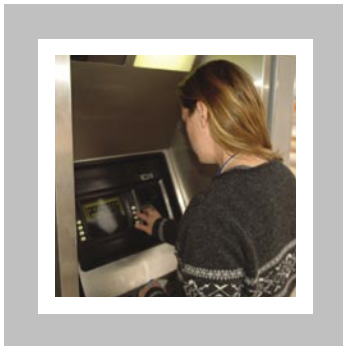
Security-conscious consumers may wish to have notification of every transaction enacted on their credit card, or of transactions above a certain dollar amount. With this service, a consumer is notified of transactions and given the opportunity to verify or deny them in real-time, using their choice of medium such as through a voice interface, SMS, or PDA application.

29 ***More For The Money Line***

Most banks today offer an access line which customers can use to access their account balances, lists of recent transactions, transfer money between accounts, and more. Many banks also offer this over the web. With this enhanced access line, customers can call the access line, and optionally opt to have information pushed to their wireless phone or PDA. For example, after hearing a list of recent transactions, the caller can enter a menu option to have that list pushed to their device. Other information, such as bank hours and locations, current loan rates or a schedule of fees may also be pushed.

30 ***ATM Locator***

ATMs seem to be everywhere, except when you need one. With this service, callers dial their bank access line, and using location information, the caller is given a list of the closest ATMs. The list could include only the bank's own ATMs or all that are on the same network as the bank (which usually charge an additional fee).



31 ***Tell Me More***

Several wireless services already offer access to stock quotes, sports scores and news headlines. Usually just the highlights are given due to the limitations of downloading and reading lengthy articles on the cell phone screen. Sometimes, however, the user sees something that piques their interest. With this service, the subscriber is given an option while reading a news brief or quote to call for more info. The user simply replies to a prompt on screen and the platform calls their number and, using text-to-speech, the user is able to listen to the complete story.

32 ***Targeted News Briefs***

With this service subscribers set rules-based preferences via a web browser as to which news briefs or alerts they would like to receive. The rules may be triggered based on time, day-of-week, location, or other parameters. For example, the subscriber may set the rule “push the ski report to my PDA only if it is Friday, Saturday, or Sunday AND there has been at least 10 inches of new snow”.

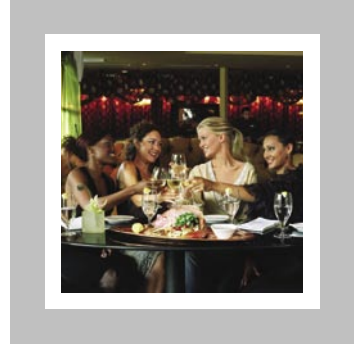
33 ***Do You Want To Play***

Multi-player online games are immensely popular. With this service, subscribers can be notified (using the method they prefer such as Instant Messaging, phone message or SMS) when a new game is about to begin or when other players are interested in starting one. By setting their preferences, they can be notified only when players on their buddy list are playing, or when anyone wishes to start a game.



34 *I'm Over Here*

This service works like a social networking service with a real-time location twist. Individuals sign up to the service and import their list of buddies, along with contact info. When they are out somewhere (such as a mall or night club) and wish to hook-up with their friends that may be nearby, they send a request to the service, along with their location (entered manually or through using location based services); the service sends a broadcast message to friends in their network currently located within a certain distance.

**35** *Party Blaster*

This option to the I'm Over Here service lets people get the word out in advance. Subscribers record messages saying where they will be ("There will be a happy hour for Suzie Jones, after work Friday at Bennie's"), which other subscribers may wish to access via a push (letting them know immediately when a new message is recorded) or a pull (by listening to the messages only when they choose to).

36 *My Page*

This service allows consumers to push personal pages including pictures and lists of likes, dislikes, a personal message or any other personalized information. This service may be especially popular among singles, teens and social networkers.

37 ***IT Alerts***

When a network resource such as email or a web server goes down, the IT department is often inundated with calls. With this service, IT can use one application to push a notice about the outage to users' desktop IP phones, WiFi phones, cellular phone or PDA. Notices can be automatically sent to all numbers in the corporate directory or based on region or site location, and users can also add their own numbers they would like to be notified on (i.e., a personal cell phone). Using text-to-speech, the same application can push the notice over regular voice lines rather than as a text message. In addition to outages, IT Alerts can also be used to notify users of scheduled maintenance windows, virus warnings, and more.

38 ***Meeting Notes***

How many times have you had a call while driving or otherwise away from your desk, only to forget important details before you have a chance to write them down? With this service, as soon as a call ends the subscriber simply dials an access code, is connected to the service and can record notes while they are still fresh in their mind. The service then sends the notes as a .wav file to the subscriber's email, along with the date, time, call duration, and other party's number. This service can be especially useful to attorneys or other professionals who must keep track of all time spent on a particular client.

39 ***CRM Me***

Especially useful for sales professionals, this option integrates the Meeting Notes service with a CRM or sales lead database. Anytime the sales professional connects with someone in the database, the service makes an entry into the database noting the date, time and call duration. The service also prompts the subscriber to enter additional notes. For example, if the subscriber is logged into their desktop (and present), the application is opened to that entry. If the subscriber is not logged in and takes the call on their mobile phone, they are connected to the Meeting Notes platform at the end of the call at which point they can enter a voice message to be sent as a .wav file to the database application.



40 ***Voice PIN for Conferencing***

Especially useful while not at your desk, this service eliminates the need to remember or look up conferencing PINs. The user simply calls into the conferencing bridge (often this number is memorized or programmed on speed dial if the same conferencing platform is used often), and uses voice authentication to verify their identity. Upon voice print authentication, the user is passed to the conferencing application which then finds the conference for that date and time to which the user is invited and bridges them into the conference.

41 ***Voice PIN VPN***

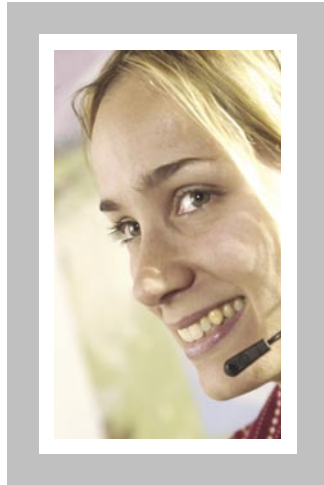
Voice authentication can also be used to verify identity for remote access to the enterprise voice virtual private network (VPN), or to override call restrictions such as allowing international or after-hours calling.

**42** ***Personal Assistant***

Especially useful for highly mobile professionals, this service eliminates the need to remember the times and numbers for conference calls or other scheduled phone calls. At the designated time, the platform calls the subscriber to inform them that they have a call scheduled. The subscriber can accept the call (in which case the platform sets up the call with the other party), choose to send a voice message to the other party, or do nothing. For conference calls, the platform sets up the call including the conference passcode. The subscriber may also choose to have an SMS reminder sent to them a few minutes prior to the call.

43 ***Courteous Call Center***

It's frustrating for customers to have to wait on hold in a call center queue for any period longer than a few (2-3) minutes. With this service, if the call center queue is long, the caller is instructed to enter a callback number. The customer then hangs up, but stays in the call center queue. When the customer advances in the queue to within approximately two minutes of speaking to an agent, the platform initiates a callback to the customer. The agents at the call center can still take calls continuously (the next customer is always waiting in the queue) but the customer's time waiting on the phone is limited.



44 ***Put a Face to Your Customer Rep***

The web can be used to add customer-friendly experience to call centers, with can seem very far-away and impersonal. When customers use click-to-call to contact a customer service representative, this services pushes a picture (or even live video) of the customer service rep to the subscribers computer, as well as information such as verifications of orders, account history and product information. The content can also be pushed to an IP phone, wireless phone or PDA.

45 ***Telemarket Me***

Where is that pesky aluminum siding salesman when you actually want to buy aluminum siding? Telemarketers will pay a premium for this service; subscribers mark on their web portal things they are actually interested in and days and times when they are available for sales calls. For example, a subscriber can state that they are interested in setting up an appointment for carpet cleaning, and will be available to set the appointment Saturday afternoon between noon and 3pm.

46 ***Scheduling Application***

The task of scheduling hourly employees is a complex task. A web-based application, which can be accessed via a browser or phone, can cut down on the complexity as well as uncovered shifts. Employees can access schedules via text, or over the phone using a text-to-speech application. The service also allows employees to initiate a message to other employees (delivered via web, phone or SMS) requesting a shift swap, or to the scheduler with special requests.

47 ***Wherever Workstation***

Using location-based services over an enterprise's wireless LAN, users can access their desktop automatically from anywhere on a campus. The user simply sits down at an available workstation, and the location of the user and the workstation signals the service to automatically present the user with their personal desktop. The user then enters their desktop password to access it.

48 ***Where Can I Find A...***

Location-based services over an enterprise's wireless LAN can help users find resources on large campuses, or when visiting another location. For example, users can request the location of the nearest copy machine or break room. This service can also be used to locate conference rooms, and to call for services such as catering, security, or facility repairs.

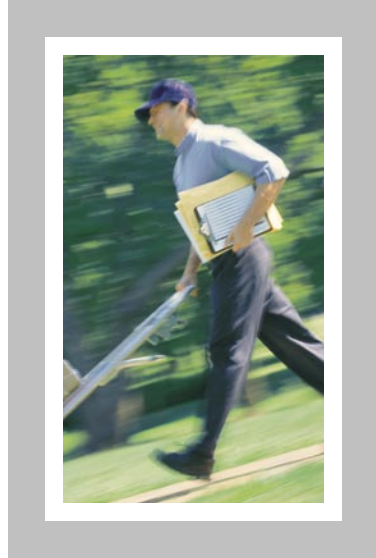


49 ***Punch-In***

Workers in the field are unable to punch a traditional time clock. With this service, a worker calls into the application, enters their unique PIN and is able to clock-in ("press 1") or clock-out ("press 2).

50 ***Delivery Alert***

Many package delivery services quote a 4-8 hour delivery timeframe, which is frequently inconvenient to the recipient and often results in missed deliveries or delivery retries. Since the truck/package is usually tracked at identifiable points via communication system or GPS tracking, a service could be set up to send an automated alert to a customer based on the location and other information number, giving an approximate ETA for the package delivery.

**51** ***Mobile Realtor***

Especially useful when looking for a home in a different city or when web access is not available, the Mobile Realtor pushes photos of houses, along with details about the property and maps to busy house hunters, representing a significant timesaver to both the realtor and buyer.

52 ***Specialist Locator Service***

Customers to specialty retail chains often need a specialists of one kind or another to help them with questions and product selection (for example, a customer at a home improvement warehouse may need to consult with someone knowledgeable in plumbing, or a customer at an electronics store may wish to speak to an expert on printers). Large chains can better utilize their specialist employees, as well as improve sales, by offering this service. With this service, a customer can access a kiosk in the store and touch the screen to locate the type of specialist they are looking for. If the specialist is in the store, they will be notified of the kiosk location; if not, a specialist from any other location that is available will be notified and can conduct a video conference with the customer via the kiosk.

53 ***Direct to the Manufacturer***

The kiosk used in the Specialist Locator Service can also be integrated with the product code database to supply more information on a product. The consumer simply scans the item at the kiosk (or the RFID tag is read) and detailed product information is displayed on the screen. For additional help, the consumer has the option to initiate a call direct to the customer service department of the product manufacturer.

54 ***Price and Inventory Check***

Integrating this application with an inventory database allows employees to use the phone to enter a product code and receive pricing and inventory information. For out-of-stock products, the application would provide the option to automatically call other store locations to check availability for the customer.



55 *Merchant Pages*

This wireless service allows retailers to provide better customer service and increased sales by pushing information to callers on phones supporting content. They can push store location or a map, product details and coupons.

56 *Advertise the Unadvertised Special*

Store Managers often authorize special, unadvertised sales to manage overstock or pass along a price break to their regular customers. Often these sales are great deals, but with limited quantities that go fast. Customers can sign up to this service to receive notice of unadvertised specials via voice message or SMS. By setting preferences they can manage the messages they receive based on product types, brands, or the depth of the discount.



57 *Patron Adviser*

This service keeps a list of all previous patrons to a restaurant based on voluntary survey by the customer. The patron can receive special text messages or email from the restaurant for special events taking place, pricing, new menus, etc.

58 ***Mall Maps***

Using location-based services over a wireless LAN, customers can use their wireless phone or PDA to download a map of the mall to assist with locating stores. Once a customer is in the mall, a real-time map constantly shows the shopper where each store is in relation to their position. The service can also send promotions from specific stores as the shopper passes them by.

59 ***Targeted Mall Maps***

This enhancement to Mall Maps uses the subscriber's shopping list to highlight stores where the items can be found. A version of this service is particularly useful in grocery stores where a map of the store shows the particular aisles where items on the grocery list are located.

60 ***Gift Reminder***

Businesses such as florists, restaurants and gift boutiques sponsor this service. Consumers populate the service with dates they want to remember such as holidays, anniversaries and birthdays, as well as with some information on the recipient. The service delivers a message to the subscriber a few days in advance along with gift options. For example, the message may say "Anne Brown's birthday is on Friday. To be connected to City Florist, press 1, to be connected to Luxury Dining, press 2, to be connected to Taylor Dresses, press 3."



61 *Meet Your Party*

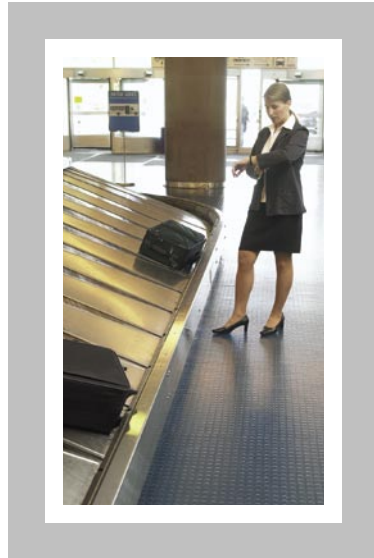
Many airlines today allow frequent flyers to sign up to be notified (via phone, email, SMS, etc.) of gate number changes. By extending this service, flyers can supply additional numbers of family and friends to be notified of flight arrival times and gates.

62 *Wait Time Is It*

This service allows travelers to be notified of security wait times at the airport. This can be accomplished by tracking passenger lines at checkpoints (line stacking at certain locations). This would give an approximate wait time, and alert the passenger how soon to be in line in order to catch their flight. The service could be accessed by entering by calling a number (hosted by the airport or the airlines) and entering a gate number. The wait time given would be for the nearest security checkpoint to the given gate number; alternatively the average checkpoint time for the terminal could be given.

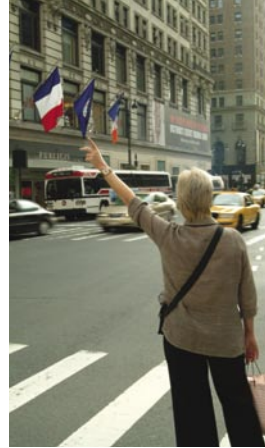
63 *Luggage Phone Home*

Using the barcode tag normally attached to luggage, or RFID technology, baggage handling systems could be integrated with communications to better inform passengers of their luggage location. Especially useful for lost luggage, the service could send messages to subscribers indicating baggage location and arrival times.



64 ***Cab Finder***

This service can be used to locate a taxi, even if you are in a strange city or don't know your location. The traveler simply calls into the nationwide number, which uses a location server to locate them and dispatch a taxi. The caller may be automatically forwarded to the mobile phone of the dispatched cab driver for confirmation and ETA.

**65** ***Community Commerce***

By outfitting guest rooms with IP phones supporting text and/or pictorial display, local businesses can push coupons, menus and other information on local services to hotel guests. Guests would access the information either by direct dial, or by preprogrammed buttons on the phone.

66 ***Personalized Commerce***

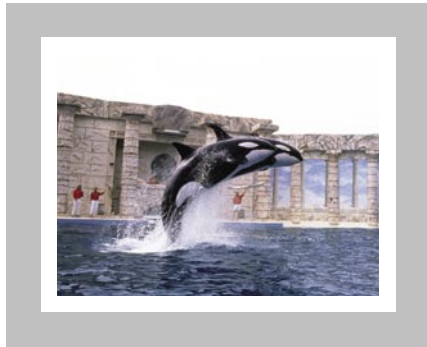
An extension to the Community Commerce service, this service ties in the preferences of their frequent travelers (i.e., members of the hotel loyalty programs), in order to provide more targeted advertising.

67 ***Parking Attendant***

It often happens that a motorist finds themselves in need of parking but without the cash on hand. With this application, already in service in some Latin American countries, the motorist calls the number advertised at the lot and is issued a confirmation via SMS. They then give the confirmation number to the attendant who authorizes them to park. The parking charge (along with a small surcharge) is billed through the customer's phone bill, with revenue divided between the lot owner and wireless provider.

68 ***Call Me Concierge***

This service, useful in entertainment and hospitality settings such as amusement parks, large resort hotels and cruise ships, helps guests make the most of their visits and not miss any important events. At the beginning of the stay, guests select events they would like to be reminded of (show times, meals and other attractions) and how they would like to be notified (i.e., phone call or SMS). The service sends out the reminder prior to the event.

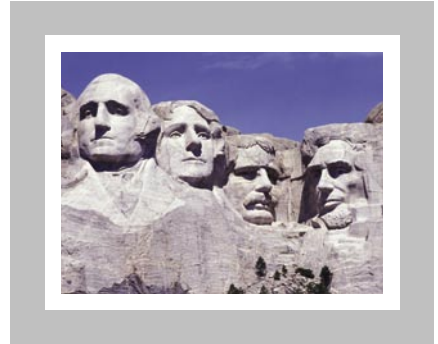


69 ***Line Monitor***

Guests to amusement parks sign up for this service when they enter the park, indicating the categories of rides they are interested in. At periodical intervals, the service broadcasts a message of rides on their list with the shortest waiting times.

70 *History Notes*

States, Historical Societies and other municipalities can enhance the tourist experience by providing narratives by phone of local landmarks. Landmarks, typically marked with an identifying plaque, include a telephone number and landmark identifier. A traveler calls the number and enters the identifier to hear a brief narrative on the landmark. The narrative may be sponsored by businesses close to the landmark. The service may also offer the caller the option to get a list of other landmarks nearby.

**71** *History Notes for Real Buffs*

By adding the element of location tracking, history buffs can sign on to a service that allows them to be notified when they are within a certain distance of a local landmark or place of interest.

72 *Museum Media*

Location-based services over a wireless LAN can be used to enhance the learning experience and enjoyment of a visitor to a museum. As the patron passes a specific display case at the museum, they can use their wireless phone or PDA to download voice and even video information describing the contents of the display.

73 ***Security Announcements***

This broadcast service provides a way to record an announcement such as a description of a missing child, a security or weather warning, and send the message simultaneously to a list of phone numbers. The service may be set up with individual phone numbers in the list, or sent to all in a particular area code.

74 ***Enhanced Security Announcements***

This enhancement to Security Announcements adds multi-media content for additional information. For example, information such as a picture of the missing child or a list of evacuation routes can be supplied with the announcement.

75 ***Call 211 for Missing Pets***

Several communities have implemented 2-1-1 service for community information and referral services. For pet-friendly communities, an added service helps reunite lost pets with their owners and cuts down on strays at the pound. Owners of lost pets can record descriptions of their

missing pets, and people who find strays can call the service to see if the found pet has been reported as lost. The system uses voice recognition to intelligently filter announcements based on criteria such as breed and zip code.

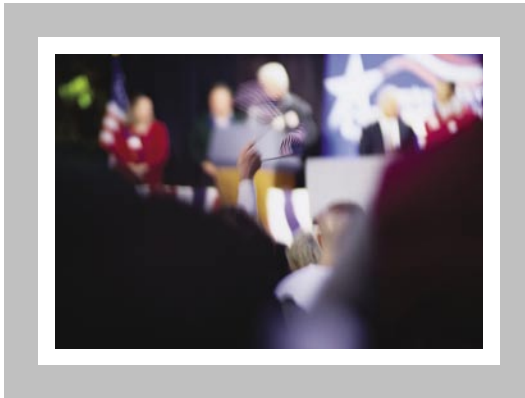


76 *Resource RSVP*

This service could be used in a variety of settings to reserve resources such as conference rooms, meeting halls, recreation facilities, etc. Subscribers register their contact info (and authorization to reserve) and receive a PIN. Using the PIN, the subscriber would then be allowed to use an automated web or voice-based system to reserve various resources. The PIN could also be used to cancel or modify reservations, or order additional services.

77 *Candid Candidates*

Even with the deluge of 24-hour news stations, talk shows and the web, voters may often feel they have a hard time determining where candidates stand on certain issues. This service, paid for by the candidate campaigns, gives easy to access information via the phone. The caller calls the platform, and speaks keywords into the phone such as



“education” or “environment”. The platform uses speech recognition to find and playback pre-recorded messages from the candidate concerning their stance on the given issue.

78 *Candid Candidates with Polling*

This extension to the Candid Candidates service allows the campaign to collect polling information. For example, when voters call in to access information on the candidate, the platform can also use speech recognition (or IVR) to ask candidates whether they agree with certain positions or how they are likely to vote in the election.

79 ***Student Tracker***

With this service, each student is assigned a name badge equipped with a smart chip or security strip that students must use to enter/exit the school, classrooms, lunchroom, etc. Integrated with the school attendance system, parents who have not called to report a student absent will be notified if the child is not in school when they should be.

80 ***Student Tracker Plus***

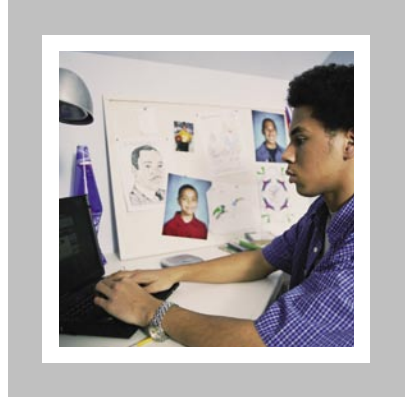
This service uses the same card used for student tracking to also track a student's prepaid account balance and expenditures. For example, the parent can load the card with money in advance to pay for items such as lunch, school supplies and school spirit items, field trips, school pictures, and just about anything else that requires a fee at school. Parents can indicate the types of items that the student is allowed to use the card for (for example, the parent may want to restrict the card from being used at school vending machines). Parents also get a monthly report detailing charges.

**81** ***Parent Proof***

Voice authentication can be used to ensure that only parents can call in to report a student absence. However, by deploying a voice authentication platform, schools can offer many more benefits than just foiling a student's plans to skip class. Once a parent's identity has been verified, the information can be passed off to a text-to-speech application to access the student's grades or other personal information.

82 ***Homework Helper***

Many schools now provide some kind of homework line or a webpage listing homework for each class each day. This service makes it easy to support both methods for maximum effectiveness. Teachers enter the homework into a form which is posted on the homework website. That same form can be accessed (using text-to-speech) over the phone. The platform also supports other options, such as being routed to a volunteer or teacher manning the homework helpline, or leaving a message for a teacher.

**83** ***High-Tech Hall Pass***

This ultimate hall pass is not easy to fake or reuse. It's not just a matter of kids out of class when they shouldn't be; most schools have become very security conscious, however anyone with a stick-on name tag can look like they are supposed to be there. By sending visitor's names via SMS or text to the WiFi phones, teachers or security guards on hall duty will have up-to-date information as to which visitors are legitimately supposed to be there.

84 ***Location Tracking Hall Pass***

As another option, schools equipped with WiFi networks can use location tracking via the network to keep track of visitors. With this service the visitor is given a wireless device such as a PDA which acts as a campus map, an authorization for the visitor to be in the school, and also tracks the places they go on campus. It works equally well as a student's hall pass.

85 *Virtual PTA Meetings*

Many parents would like to attend PTA meetings but find it difficult due to travel, small children at home and other obligations. By providing the PTA meeting as a tele-, video or web conference, more parents could attend or replay the meeting at a more convenient time.

86 *I Second That*

Integrated with televoting via phone or web, parents viewing the Virtual PTA meeting in real-time could participate in voting on issues brought up at the meeting.

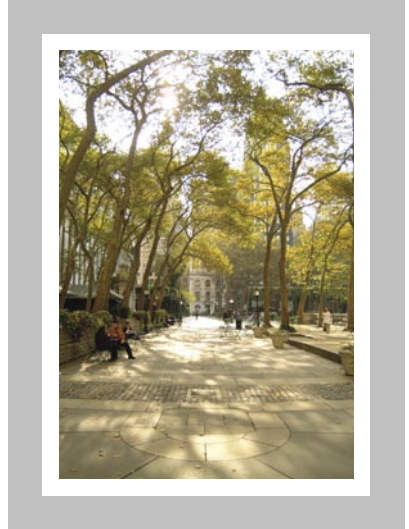
87 *Conference Call Conferences*

Parents often find it difficult to make onsite parent/teacher conferences due to work schedules, travel, etc. Schools that offer conferences via conference calls with collaboration can increase parent involvement and awareness without sacrificing the ability to see work samples or other information usually presented at the conference.



88 ***Pay Attention PDA***

Most universities today have a WiFi network throughout the campus, and some progressive institutions are even issuing each student a PDA or laptop with wireless access. However, the devices can be a distraction with students accessing Instant Messaging or the Internet during class time. This service adds a policy server application to the WiFi network which restricts access to the network during the students' scheduled class periods. A PDA with voice capabilities or softphone application allows the students unlimited VoIP calls within the campus, and free or deeply discounted long distance calls home.

**89** ***PDA With Panic Button***

Building on the Pay Attention PDA service, this service adds location tracking capabilities and allow the student to push a "panic button" or emergency number on the device to notify security in case of an emergency on campus.

90 ***Equipment Tracking***

Location-based services over a wireless LAN can help teachers track down equipment which is not available in every room. For example, if a room needs a specific projector the teacher can download the location of it over their wireless PDA.

91 ***Health Monitor***

Several devices today can provide remote health-related monitoring with limited capabilities. This service adds cellular capability to the monitoring equipment so that it can send text messages/alerts to health care givers, and can receive calls or other messages from the health care worker to the patient if problems are detected.

**92** ***Enhanced Medical Alert***

The traditional medical alert system provides a panic button connected to a phone system. As an enhancement, the capability to send an alert to a list of nearby neighbors (ringing phones or sending pages to multiple locations) could add indispensable life-saving capabilities.

93 ***On Demand Advisory***

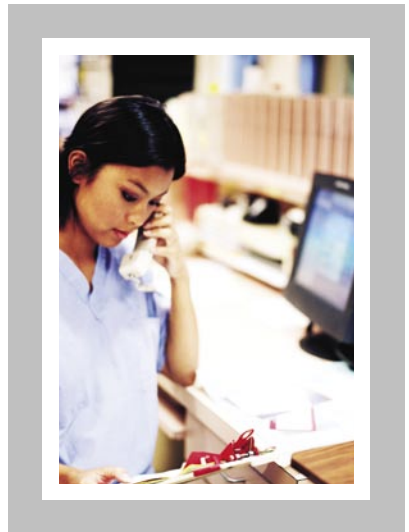
For routine health issues, medical advice is readily available online. As an additional service, doctors can promote better health for their patients, as well as reducing calls to the nurse by providing access to advice over the mobile phone or PDA. For example, at the park a mother can call the line to hear what to do for a bee sting or poison ivy.

94 *Pencil Me In*

Doctor's offices can provide convenience for their patients by allowing them to schedule appointment times online or via a phone or PDA. This is especially useful for routine appointments that occur frequently and for which the appointment length is readily known (i.e., routine lab tests, allergy shots, teeth cleaning). Patients are issued an identifying patient number to access the system, requesting an appointment of a certain type and a target date. The system would respond with a list of three appointment times and the option to select one of those times or to list an additional three times.

95 *Nurse Call*

Nurses in a busy doctor's office can use this service to better manage their calls while attending to patients. A call dialed directly or transferred to a nurse's extension is answered by the service which asks the caller to state their name. The nurse can then accept the call or send it to voicemail depending on who is calling (i.e., a doctor or pharmacist calling back, a patient with a question, a personal call, etc.).

**96** *Secure Prescriptions*

This service provides an added level of security against prescription fraud. Rather than just providing the doctor's identification number, voice authentication ensures that only authorized medical personnel can phone in prescriptions to the pharmacy.

97

Is the Dr. In?

Doctors are notified via pager or SMS of a call waiting on the platform. The doctor then calls into the platform, enters their PIN and is connected to the call. If the doctor does not answer after a set amount of time, the caller is given the option to go to voicemail or try again later.

98

Virtual Waiting Room

Family and friends of surgery, critical care or maternity patients are issued a PIN. By calling a special number and entering the PIN they are routed to an announcement ("The patient you are inquiring about is still in surgery; please call back later," "It's a boy! Everyone is doing well, but exhausted. Please call back tomorrow.", etc.), or the nurse's station or patient's room. A simple GUI screen makes it easy to administer this quickly and easily as the patient's status changes.



99

Virtual Waiting Room with Personalized Announcements

This enhancement to Virtual Waiting Room allows an individual to record a special message "We are the proud parents of a beautiful, 8 pound baby girl, whom we have named Marianne. We expect to be home on Tuesday. Please call us then."





An Independent Certification and Testing Facility

tekVizion Labs™ - Independent Certification/Test Facility

tekVizion Labs is the first independent test lab to offer third-party interoperability certification of VoIP products and applications and it addresses the growing demand for interoperability testing in the VoIP Industry. Since inception, tekVizion engineers have been integrating and testing multi-vendor solutions for service providers, making tekVizion uniquely qualified to perform certification testing. Leveraging this extensive interoperability test experience and hands-on expertise with more than 150 next-generation products, combined with tekVizion's experience integrating and testing multi-vendor solutions for service providers, tekVizion is able to streamline the process leading to successful and repeatable product certification testing.

Growing Demand for Interoperability Testing in the VoIP Industry

With a wide variety of equipment already available and new components being introduced at a rapid rate, service providers are evolving their core networks to leverage the flexibility of IP-based platforms to offer differentiated services to their target markets. However, today's multi-vendor, multi-protocol networks are not plug-and-play. Even a network offering a few basic services from a small number of vendors can pose considerable interoperability challenges given they often use different protocols or exhibit differences in protocol implementation. Further, stability of service provider networks is threatened as these relatively new product platforms undergo expected software revisions in the normal course of product maturity.

To date, most vendors have dealt with interoperability challenges by aligning with a small number of strategic partners. Interoperability testing with additional vendors is difficult to accommodate as vendors necessarily focus on their own product development and support. This results in missed sales opportunity or lengthened sales cycles as service providers are forced to deal with multi-vendor interoperability issues in protracted test deployments. Even when initial interoperability has been achieved, any revision of a software load necessitates re-testing, or else the reliability of the service provider's network is at risk. Even a network offering a few basic services from a small number of vendors can pose considerable interoperability challenges given they often use different protocols or exhibit differences in protocol implementation. tekVizion Labs helps both service providers and vendors address these challenges.

tekVizion Labs' Services

- tekVizion Interoperability Certification Testing
- Third-Party Certification/ Validation Testing
- Solution Testing
- Remote Testing
- IMS Conformance/ Interoperability Testing
- PBX/IP PBX Interoperability Testing
- Product/Compliance Assessments
- Open Testing

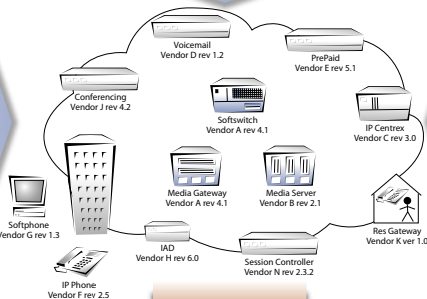
www.tekVizionlabs.com

Today's Networks:

- Multi-vendor
- Multi-protocol
- Not plug-n-play

Vendors:

- Engineering resources diverted to interop issues
- Demand for loaner equipment exceeds availability
- Limited expertise on other vendors' products
- Interop labs/staff costly to build and maintain
- Sometimes forced to forgo opportunities due to lack of proven interoperability



Service Providers:

- Every network is unique
- Need to get new apps to market quickly
- Prefer 3rd party verification
- Don't want to be limited on product choices
- Interop labs/staff costly to build and maintain
- Forgoing adequate testing creates less reliable networks

Solution



An Independent Certification and Testing Facility

tekVizion Labs' Services

- tekVizion Interoperability Certification Testing
- Third Party Certification/Validation Testing
- Solution Testing
- Remote Testing
- IMS Conformance/Interoperability Testing
- PBX/IP PBX Interoperability Testing
- Product/Compliance Assessments
- Open Testing

tekVizion Labs Services Overview

tekVizion Labs offers several services including but not limited to the following:



tekVizion Certification Testing:

tekVizion offers product interoperability certification of one product to another and offers multi-vendor solution certification. Certification testing is performed on-site at tekVizion Labs by tekVizion engineers. Certification testing uses tekVizion Labs' Standard Test Plans. We understand that often in the testing process, a vendor may need to modify their software to facilitate interoperability. tekVizion will accommodate re-testing of two additional configurations to

allow vendors to incorporate lessons learned and complete Certification Testing. Upon completion, tekVizion Labs will deliver a final test report. If the testing is successful, a Statement of Certification will be provided. Pricing for Certification Testing is provided as a fixed fee based on the types of products being tested.

Third-Party Certification/Validation Testing:

Many companies or organizations have already implemented their own certification or validation programs with their own test plans, procedures or processes yet need resources or additional lab space to implement or maintain them. tekVizion Labs is equipped to implement this type of testing on behalf of another company or organization. In many cases, we can build or assist in building a new program from the ground up.

Solution Testing:

Solution Testing of a specific multi-vendor configuration can also be provided by tekVizion Labs. This can be performed within tekVizion Labs or at another company's testing facility.

tekVizion Solution Certification can be achieved when tekVizion Labs' test plans are used and the solution passes all test criteria. Pricing for solution testing or solution certification is provided as a custom quote. tekVizion Labs makes this service available to vendors as well as service providers who do not currently have their own lab in which to test their solutions prior to deploying into a live network.

Remote Testing:

tekVizion offers secure remote access to certain products in our lab for a specified amount of testing time. A fixed number of consulting hours are also provided as part of this service based upon the remote access time contracted. Pricing is provided as a fixed fee for the initial time requested. Additional testing time and consulting hours can be provided as needed for an additional fee. tekVizion Labs can also perform remote testing to products in another company's lab.

PBX/IP PBX Interoperability Testing:

tekVizion Labs has a variety of PBX and IP PBX systems available for testing. With these systems, we provide interoperability testing between legacy or IP PBXs and VoIP networks.

IMS Conformance/Interoperability Testing:

tekVizion Labs can verify products designed for IMS networks including testing to the IMS specifications, testing interoperability among IMS components and certification of third-party applications into trusted IMS networks. For example, tekVizion Labs can provide ISC Interface Certification to certify the interoperability of a specific AS to SCIMs/S-CSCFs, SCIMs to S-CSCFs, etc.

Product/Compliance Assessment:

Leveraging extensive interoperability test experience, broad knowledge and hands-on expertise of over 150 next-generation products, tekVizion can provide vendors with an objective product assessment. A product assessment may include verification of product functionality, interface usability, assessment of differentiating features, stress and performance testing, and protocol conformance and implementation. Compliance assessments test a product for compliance with a particular industry specification.

Open Testing

In addition to the categories listed above, tekVizion Labs can help with just about any type of testing including testing against customer-provided test plans, system level testing, systems integration or regression testing.

Benefits

tekVizion Labs provides many benefits to product vendors and service providers.

Benefits to Service Providers:

As an independent test lab, tekVizion Labs provides many benefits to service providers:

- Provides independent verification of vendor claims
- Increases product choices through enhanced confidence of interoperability
- Provides capital and operational savings over in-house testing
- Improves network reliability through more thorough testing
- Accelerates time-to-market

Benefits to Vendors:

tekVizion Labs benefits vendors in the following ways:

- Speeds up interoperability testing between two vendors when there are resource or time constraints
- Offers a place for a vendor's overflow testing when their own labs have reached testing capacity
- Reduces or eliminates cost and time required to create or expand their own interoperability labs
- Frees up critical engineering resources
- Enables new sales by expanding product interoperability
- Allows for objective, independent testing of a vendor's products for service providers
- Reduces demand for loaner equipment and support
- Accelerates deployments of vendor's product into revenue generating solutions

Premier Tenants

tekVizion Labs also offers vendors the ability to become a Premier Tenant in our lab. Premier Tenants are vendors who authorize tekVizion Labs to perform testing with or to their products. A Premier Tenant's product(s) reside in tekVizion Labs on an on-going basis and are readily available to allow other vendors and service providers to remote test or contract tekVizion Labs to perform product

Premier Tenant

interoperability or solution testing using the Premier Tenant's product(s). A Premier Tenant also agrees to refer other vendors and service providers to tekVizion Labs for testing to their product. This augments the Premier Tenant's test capacity in a number of ways:

- Allows any third-party vendor to perform remote pre-certification testing to the Premier Tenant's product without needing access to Premier Tenant's lab and resources
- Allows any third-party vendor's products to become Certified to the Premier Tenant's product
- Allows service providers and other vendors remote or on-site access to Premier Tenant's product for product or solution testing
- Offers a place for Premier Tenant's overflow testing when their own labs have reached testing capacity

Additional Benefits for Premier Tenants:

In addition to the benefits listed above which are applicable to all participants, Premier Tenants enjoy the following additional advantages:

- Product installed and maintained in tekVizion Labs allows for faster turn-around time for testing
- Authorized Test Lab for the Premier Tenant to redirect some or all of Premier Tenant's third-party interoperability testing which offloads demands on the vendor's labs and resources
- Testing for Premier Tenants is prioritized over non-Premier Tenants
- tekVizion offers notification of products passing certification to their product(s)
- Finder's Fee paid to Premier Tenant
- Preferred pricing for testing in tekVizion Labs

For the full details on becoming a Premier Tenant, please request a Premier Tenant Agreement.

Products Available to Test With

In addition to the Premier Tenant products tekVizion Labs also offers access to many other non-Premier Tenant products (over 60 different products) for testing including IP PBXs, media gateways, session border controllers, softswitches, endpoints, etc.



REFERENCE SECTION

Throughout this book we have gathered a host of new service ideas that combine traditional voice services with multimedia capabilities to create new integrated services that enhance the lifestyle of the end user and generate new revenue for the service provider. We have also presented information on tekVizion's core services and tekVizion Labs, which incorporate a product-agnostic approach and a commitment to open standards.

In this Reference Section we have listed several consortiums and standards relevant to today's packet voice networks and integrated services. We hope you find this section useful and keep it handy.

Remember when you are ready to *FastForward*>>SM your own network of integrated services, give us a call (U.S. 1-877-9VIZION), send us an email (sales@tekvizion.com) or visit us on our web at www.tekvizion.com.

3G Americas (www.3gamericas.org) is an organization of wireless operators and vendors which support the five popular wireless technologies - TDMA, GSM, GPRS, EDGE, and UMTS (WCDMA). The organization addresses the need to create a global, seamless integration of converging operator networks, in order to permit all five current wireless technologies to make a smooth transition to 3G services.

Bluetooth Sig (www.bluetooth.com) is a trade association that promotes products based on Bluetooth wireless technology. Radios that comply with the Bluetooth wireless specification operate in the unlicensed 2.4 GHz radio spectrum, and enable links between mobile computers, mobile phones, portable handheld devices, and connectivity to the Internet.

BCD Forum (www.bcdforum.org) promotes the commercial value and adoption of “end to end” broadband delivery of content and services to both businesses and consumers, across both wireline and wireless networks. Members include content providers, network service providers, hardware and software developers, and content delivery service providers.

Cable Television Laboratories (CableLabs®) (www.cablelabs.com) is a research and development consortium which seeks to enable interoperability among different cable systems, facilitating retail availability of cable modems and advanced services, and helping cable operators deploy innovative broadband technologies. All members are cable television system operators (as defined by the Cable Act).

Digital Video Broadcasting Project (DVB) (www.dvb.org) is an industry-led consortium of broadcasters, manufacturers, network operators, software developers, regulatory bodies and others committed to designing global standards for the global delivery of digital television and data services.

DSL Forum (DSL Forum) (www.dslforum.org) promotes the acceptance and implementation of Digital Subscriber Line technologies, based on national and international standards, over existing copper telephone wire infrastructures. The DSL Forum works to streamline processes, develop specifications and share best practices. The Forum has achieved global standardization of ADSL, SHDSL, VDSL and has plans for additional standardization efforts.

European Telecommunications Standards Institute (ETSI) (www.etsi.org) develops standards and other technical documentation for telecommunications, broadcasting and information technology. While its prime objective is to provide a forum for the industry, it also collaborates with other organizations through various partnership projects.

GSM Association (GSMA) (www.gsmworld.com) is the global trade association that exists to promote, protect and enhance the interests of GSM mobile operators throughout the world. Current technologies supported by the organization are GSM, GPRS, EDGE and 3GSM. The GSM Association membership includes more than 660 second and third generation wireless network operators and manufacturers and suppliers to the wireless industry, serving customers in over 190 countries.

International Multimedia Telecommunications Consortium (IMTC) (www.imtc.org) focuses on promoting standards that enable real-time, rich-media communications; identifying obstacles to utilization of multimedia products and services; developing and submitting interoperability recommendations to official standards bodies; initiating scheduled interoperability test sessions; and educating and promoting the benefits and implementation of multimedia products.

International Packet Communications Consortium (IPCC) (www.packetcomm.org), which evolved from the International Softswitch Consortium (ISC), advocates packet-based network technologies and markets. Its primary objective is to develop the market for all products, services, applications and solutions utilizing packet-based voice, data and video communications technologies available today, regardless of transport medium - wireless, copper, broadband, fiber optics, or others.

International Telecommunication Union (ITU) (www.itu.int) membership encompasses telecommunication policy-makers and regulators, network operators, equipment manufacturers, hardware and software developers, regional standards-making organizations and financing institutions. The activities of the Union's three main sectors – Radio Communication (ITU-R), Telecommunication Standardization (ITU-T), and Telecommunication Development (ITU-D) - cover all aspects of telecommunication from setting interoperability standards to adopting operational procedures for wireless services and designing programs to improve telecommunication infrastructure in the developing world.

Mobile Electronic Transactions Limited (MeT) (www.mobiletransaction.org) works to ensure that interoperable mobile transaction solutions are developed around the world - enabling consumers to access goods and services seamlessly wherever they may be with consistent user experience.

Mobile Payment Forum (www.mobilepaymentforum.org) was launched to create a framework for standardized, secure and authenticated mobile payments, based on payment card accounts. Member companies include organizations involved in initiating, processing and delivering mobile payments: telecommunications operators, payment card companies, financial institutions, device manufacturers, merchants, content providers and software and hardware infrastructure vendors.

Multiservice Switching Forum (MSF) (www.msforum.org) is an association of telecommunications service providers and system suppliers, which develops and promotes open-architecture, multiservice switching systems. Its activities include developing implementation agreements, promoting worldwide compatibility and interoperability, and encouraging input to appropriate national and international standards bodies.

Near Field Communication Forum (NFC Forum) (www.nfc-forum.org) is a standards development and advocacy group dedicated to advancing near field communication technology, educating the public about the technology, and furthering its implementation. The NFC Forum will promote implementation and standardization of NFC technology to ensure interoperability between devices and services.

Open Mobile Alliance (OMA) (www.openmobilealliance.org) defines specifications designed for mobile communications industry interoperability and the development and adoption of services and applications relating to mobile information, communication and entertainment. The OMA technical working groups are responsible for the delivery of technical specifications for application and service frameworks with certifiable interoperability.

Open GIS (OGC) (www.opengis.org) is a consortium of companies, government agencies and universities participating in a consensus process to develop publicly available geoprocessing specifications. Open interfaces and protocols defined by OpenGIS® Specifications support interoperable solutions that “geo-enable” the Web, wireless and location-based services, and mainstream IT, and enable technology developers to make spatial information and services accessible with all kinds of applications.

OSGi Alliance (formerly Open Services Gateway Initiative) (www.osgi.org) works to enable and promote the delivery of managed broadband services to networks in homes, cars and other environments by identifying requirements for interoperability and general usability; adopting standards meeting those requirements; educating the business and consumer communities about the value, benefits and applications of OSGi products and services; supporting the creation and implementation of uniform conformance test procedures and processes which promote interoperability; and maintaining relationships and liaisons with appropriate partners.

PayCircle® (www.paycircle.org) focuses on accelerating the use of payment technology, developing or adopting open payment APIs (uniform Application Programming Interfaces) based on XML, SOAP, Java and other Internet languages.

The Parlay Group (www.parlay.org) develops open, technology-independent application programming interfaces (APIs) that enable the development of applications that operate across multiple, networking-platform environments. The Parlay APIs allow third-party applications to be hosted within a telecom operator's own network and allow applications running on external application servers to offer their services to the operator's subscriber base via a secure gateway. In addition to providing secure, manageable access to capabilities in the service provider's network, the Parlay gateway also links third-party applications to the operator's business environment via the Parlay framework.

Speech Application Language Tags (SALT) Forum (www.saltforum.org) was formed to develop a royalty-free, platform-independent standard to provide multimodal and telephony-enabled access to information, applications, and Web services from PCs, telephones, and wireless PDAs. Speech Application Language Tags are intended to extend existing mark-up languages such as HTML, XHTML, and XML. In pursuit of these goals, Version 1.0 of the SALT specification, was developed by Forum members and contributed to the World Wide Web Consortium (W3C).

Third Generation Partnership Project 2 (3GPP2) (www.3gpp2.org) was born out of the International Telecommunication Union's (ITU) International Mobile Telecommunications "IMT-2000" initiative, covering high speed, broadband, and IP-based mobile systems featuring network-to-network interconnection, feature/service transparency, global roaming and seamless services independent of location. IMT-2000 is intended to bring high-quality mobile multimedia telecommunications to a worldwide mass market by achieving the goals of increasing the speed and ease of wireless communications, responding to the problems faced by the increased demand to pass data via telecommunications, and providing "anytime, anywhere" services.

VoiceXML Forum (www.voicexml.org) is chartered with establishing and promoting the Voice Extensible Markup Language (VoiceXML), a specification which makes Internet content and information accessible via voice and phone. Using VoiceXML, phone service providers can make Web services available to customers using voice interfaces, such as the telephone, and developers can build automated voice services using visual Web site technologies, significantly reducing the cost of construction and delivery of new capabilities for the traditional phone customer.

Web Services Interoperability Organization (WS-I) (www.ws-i.org) promotes Web services interoperability across platforms, operating systems, and programming languages, and creates and supports generic protocols for the interoperable exchange of messages between services.

WiMAX Forum™ (www.wimaxforum.org) is working to facilitate the deployment of broadband wireless networks based on the IEEE 802.16 standard by helping to ensure the compatibility and interoperability of broadband wireless access equipment. WiMax initiatives include supporting the IEEE 802.16 standard; proposing and promoting access profiles for the IEEE 802.16 standard; certifying interoperability levels both in network and the cell; and promoting use of broadband wireless access overall.

Wi-Fi Alliance (www.wi-fi.org) certifies interoperability of wireless Local Area Network products based on the IEEE 802.11 specification. Wi-Fi certified products include: access points, compact flash, embedded clients, Ethernet client devices, external and internal cards, USB client devices, and wireless printers and print servers.

ZigBee Alliance (www.zigbee.org) is an association of companies working to enable low-power, wirelessly networked, monitoring and control products based on an open global standard. The alliance is working to define the network, security and application software layers; provide interoperability and conformance testing specifications and manage the evolution of the technology. The initial markets for the ZigBee Alliance include home control; building automation; and industrial automation.

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