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Best Practices for VoIP in the Contact Center

Part 1: Planning a Successful Transition

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Voice over Internet Protocol (VoIP) has reached a new level of maturity in the contact center industry. We can now shift the conversation from “Why should I do VoIP?” to “When and how should I move to VoIP?”

Because VoIP is such a rich, deep and complex topic, defining best practices for planning, implementation and support requires more than one article. Therefore, this article is the first in a series to help those that are on their way to VoIP — or anticipate they soon will be — to prepare for a successful transition that has lasting business value for the company and the center.

START A VOIP PLANNING PROCESS

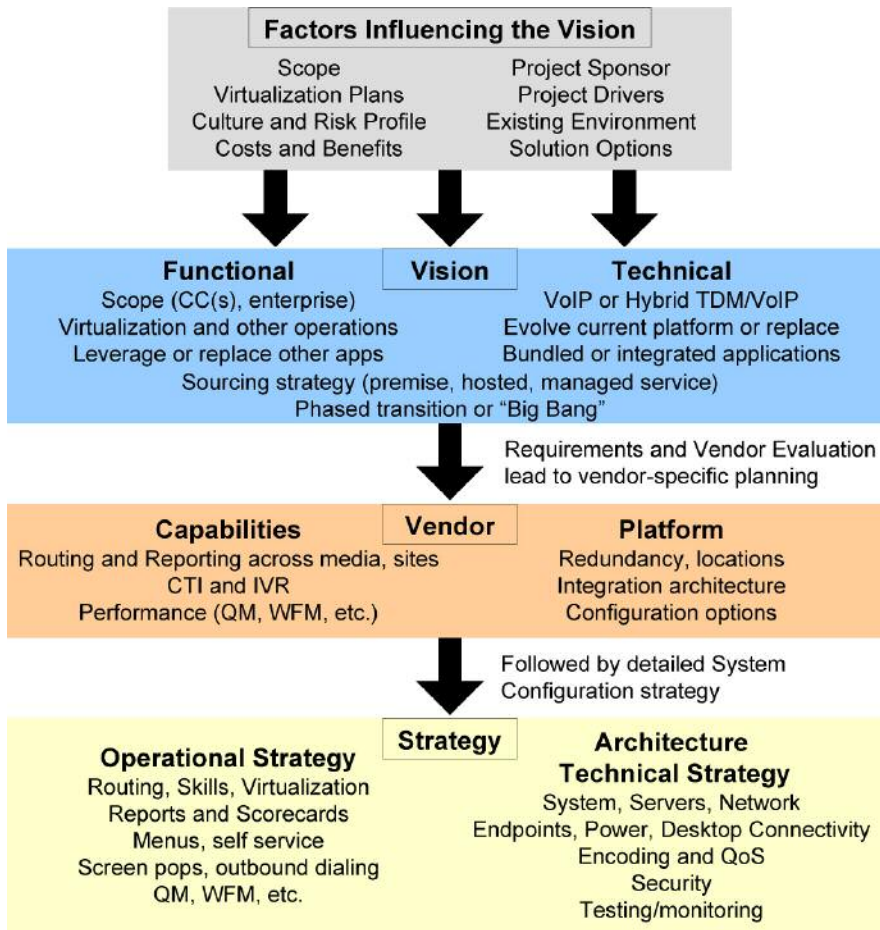
VoIP offers many opportunities for delivering business value. While the multisite is the “killer application” for VoIP, single-site environments can also find business value in this new system, including pseudo-multisite configurations for remote agents in satellite

Once you’ve decided to implement VoIP, you’ll need a plan that will help you decide what you want to gain, who can help guide the process, how you will communicate your vision internally, and how to evaluate your options.

Table 1. Crossfunctional Team Members and Their Roles

Team Member	Team Roles Can Include:
IT (including applications, systems and networking)	<ul style="list-style-type: none"> • Network upgrades (switches, routers) and management • Capacity expansion and/or network change (e.g., to MPLS) • Transition to voice on the data network • Server management • Applications management and integration • Database management • Security
Telecom	<ul style="list-style-type: none"> • Capacity expansion and/or network change (e.g., to MPLS) • Transition to voice on the data network • Transition from proprietary hardware to software solutions installed on standard servers • Integration or transition of call center applications • Network interfaces (e.g., CSU/DSU)
Business Operations (Contact Centers and supporting areas)	<ul style="list-style-type: none"> • Operational changes • Business value • Training

Figure 1. VoIP Planning



vendors and architectures, and generally will lead to a path to VoIP — whether through gradual transition of a hybrid platform or outright conversion to VoIP. Some of the triggers that prompt the transformation include:

- > Out of support technology or other reason for considering upgrade or replacement
 - > Major growth
 - > New site, facility or move
 - > Merger or acquisition
 - > Leadership change, cultural change, power shift or other organizational event
 - > Replacing or pursuing adjunct applications such as CTI, QM, WFM
 - > Reorganization or other operational change that tears down silos by site or group
 - > Vendor dissatisfaction
- Companies find many reasons to move to VoIP. Then the real planning can begin.

BUILD A CROSSFUNCTIONAL TEAM

Implementing VoIP in the contact center impacts several areas of the organization. It is essential that a team made up of representatives from contact center operations, IT and Telecom coordinates the VoIP project. Table 1 on the previous page lists the minimum required team and purpose of each player's involvement.

The primary project sponsor will likely come from IT or the contact center(s). However, the project has limited possibilities for success without all of these departments involved as stakeholders in the transition. Some projects also include analysts, training representatives, human resources, change management and others, at least for specific meetings dealing with issues pertinent to them.

offices or homes, and business continuity and multimedia contact center operations.

What value do you expect to derive from VoIP? Most find reducing costs and adding flexibility and agility to adapt to changing business needs are two of the main drivers. Others include:

- > Agent efficiency and a common routing and reporting engine across all sites through virtualization
- > Reduced technology costs through centralized intelligence for a distributed network of sites
- > IT operations, administration and maintenance efficiency through multisite centralization
- > Operating efficiencies considering aggressive growth or

acquisitions, or the need for more distributed staff

- > Operating efficiencies for multimedia contact handling (e.g., email, text chat, Web collaboration, fax in addition to voice calls), including a common routing and reporting engine for all media
 - > Enhanced disaster recovery/business continuity strategies
 - > Peak call-handling flexibility/agility
 - > Readily tap escalation resources across the enterprise
 - > Facilitate home agents or satellite offices for an expanded, flexible labor pool

When is a good time to transition? There are many events likely to force discussions on platforms,

Table 2. Key Considerations for Adjunct Applications

CTI	<ul style="list-style-type: none"> • Generally part of the core (not a separate application) • Architecture depends on the vendor • Key decisions to make: <ul style="list-style-type: none"> > Define the role CTI will play — screen pops or more > Determine where the routing and reporting will reside for each media
IVR	<ul style="list-style-type: none"> • Potentially bundled into core solution • Consider IP IVR or where gateways are required given TDM and IP choices • IP IVR at the hub(s) offers potential advantages for multisite environments
WFM	<ul style="list-style-type: none"> • WFM at the hub serves hub and spokes • Virtual scheduling creates a virtual view across sites • May want to centralize some functions (e.g., forecasting and overall staff needs, trending) and localize some (e.g., scheduling individuals) • May change where WFM gets data depending on routing approach
QM	<ul style="list-style-type: none"> • Options for TDM or IP depending on the solution • Consider vendor's architecture and impact on the network • Lower cost so more affordable for small to medium centers • More bundling with total call center suite

DEVELOP A VISION

With the team in place, the next step in VoIP planning is to develop a clear vision that is communicated and understood throughout IT and call center operations leadership. Everyone must see how VoIP will help the center achieve the defined business goals, what it will look like in the organization, why it makes sense, and the path to get there.

It is also important that IT understand how the new system architecture fits in its overall goals and strategic directions, and how it will successfully implement and support the new environment. Because there is more than one way to implement VoIP, you will need to develop a VoIP technology strategy and transition plan as part

of the vision. The technology strategy and plan lead to architectural decisions for IT and functional capabilities for the center.

CONSIDER OPTIONS, CHOICES AND DESIGN DECISIONS

One of the primary responsibilities of the team and one of the key components of the technology plan is to decide what VoIP really means in the organization, given the variety of ways to implement it. The choices depend on many factors, including the current infrastructure (investment, configuration, age, support, vendor, network readiness, etc.), the business goals and the triggering events pointing to VoIP. The approach will differ for an enterprise versus a contact center focus, and

for evolving the current platform with the existing vendor versus replacing the current system.

A good starting point in considering all the options, choices and design decisions the team must make is to take stock of the factors and influences in the current environment. Then you can proceed through the planning phases shown in Figure 1 on the previous page.

VoIP can primarily be for call management (agent availability and routing decisions), delivering the call to the desktop as TDM or VoIP — as data packets over the network. You will need to address the strategy for phone replacement and many other questions about the desktop: Gradually evolve to IP phones when TDM phones are at end-of-life (an option only when evolving the current vendor's platform)? Move to IP on a standards-based phone based on Session Initiation Protocol (SIP) or a vendor's own flavor of IP? Place phone controls on the PC (soft phone)? Put the voice path through the PC? Connect the PC to the phone and use the phone as a switch, or have two jacks and data paths to the desktop? Plug the IP phone in or use PoE (power over Ethernet)?

While these are just some of the design decisions faced when transitioning to VoIP, the following are others you'll want to consider:

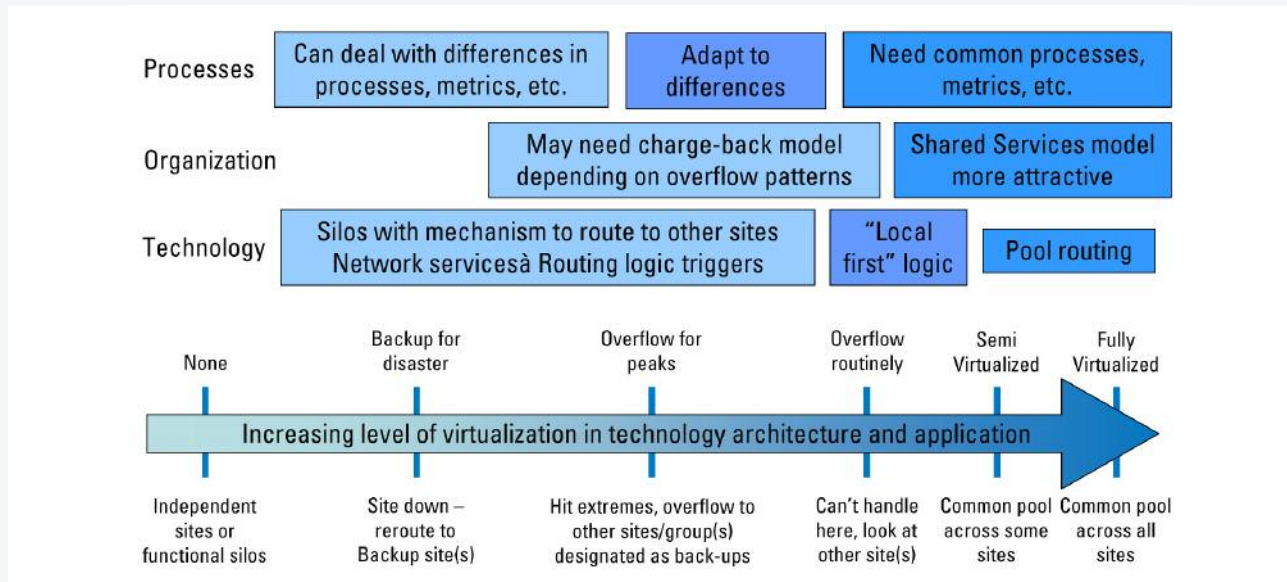
- > **SCOPE** — enterprise or contact center(s) only
- > **VENDOR** — evolve current vendor or choose new vendor
- > **OVERALL ARCHITECTURE** — hybrid/transition from TDM, full VoIP
- > **SOURCING** — premise-based solution or hosted or managed services
- > **OTHER CONTACT CENTER APPLICATIONS**

► The Virtualization Opportunity

One of the primary drivers for VoIP is the cost savings through virtualization. This can be a result of agent virtualization and server/application virtualization across sites. The potential for agent efficiency through virtualization depends on the contact cen-

ter's virtualization readiness, and the degree of virtualization sought. The figure below shows varying degrees of virtualization, with greater change but also potential benefit on the far right end of the spectrum.

Figure 2: Virtualization Continuum



The maximum value from virtualization occurs for multisite or multiple, smaller functional groups that transition to any agent, any time routing schemes. However, this is often difficult to achieve in practice. Is every agent capable of handling every call? Can every agent access the required applications? Is it possible to train every agent to process every call type? Are there any licensing or other regional issues? Can processes be standardized across all sites/functions? In most centers, the answer to

these questions is "not completely," but there is usually some potential for cross-training, skills consolidation and process standardization. Many will start modestly and continue moving in the virtual direction. Define the process changes, application changes, training or technology such as Knowledge Management required to get the benefits of full virtualization. This decision and vision is a key part of planning for virtualization in a VoIP environment.

TIONS — leveraging current or seeking new applications beyond routing and reporting — e.g., CTI, IVR, QM, WFM

> **SERVER ARCHITECTURE** — redundancy, locations for applications and media servers, gateways and interface devices

> **NETWORK ARCHITECTURE** — termi-

nation locations and dial plan strategy for toll free and local, MPLS or other network protocol between sites, converged voice and data or separate voice network

> **ENDPOINTS** — TDM or IP, soft phones and/or hard phones, SIP or proprietary if IP

> **DESKTOP POWER STRATEGY** — PoE

or local power, backup

> **DESKTOP CONNECTIVITY STRATEGY** — two jacks/network access, or single jack with PC connected to phone

> **ENCODING STRATEGY** — compression across WAN, or full G.711 throughout network

> **QUALITY OF SERVICE STRATEGY** — what methods at what layers

> **SECURITY STRATEGY** — consistent with data networks and applications, or any differences for voice

> **TESTING AND RETESTING/MONITORING STRATEGY** — for jitter, latency and packet loss, at a minimum

A key decision is whether to integrate or replace other current applications. Many contact center VoIP vendors have other applications already integrated with their solutions. In fact, ACD, CTI and even IVR can be part of the core solution. Some vendors bundle quality monitoring and call recording, and even workforce management. Current investments, current use and the vendor solutions in play all impact these decisions. Table 2 above summarizes considerations for key adjunct applications.

One of the benefits in a multisite environment is the ability to install the primary hardware/software in one or two hubs — reducing cost and facilitating business continuity/disaster recovery. Now more decisions arise: how many hubs, where will they be, and what gets installed at each location? With the data-like architectures of today's voice systems, these hubs may reside in a data center rather than a call center location.

There are also some interesting blended options available that again depend on the current investment and architecture. Some companies with multiple sites and various, up-to-date PBXs at each site will use IP (not Voice over IP) for

agent availability and routing decisions for pseudo-virtualization. Virtualization depends on tie-lines for call movement. Business value comes from agent efficiency through virtualization but not the IT/telephony benefit of VoIP with hubs and centralization. This can be a more complex and expensive environment to maintain and support. See Figure 2 on the previous page.

COMPLETE THE VOIP PLANNING PROCESS

With a vision, key decisions regarding options, and a common plan for virtualization in a multisite environment, you are nearly ready to move on to implementation. Of course, standard best practices in project management apply. Document decisions and issues, and prepare a project plan that defines not only the technology steps but the related organizational, process and operations changes that will accompany the VoIP project. Prepare to involve the staff in the trenches — both in IT/telecom and the call center — if not already engaged.

Our next article in the series will provide best practices for implementation, covering the key steps for network preparation, design, configuration and development, testing, pilot, and rollout. Part 3 will provide the critical elements of supporting and effectively applying the new VoIP environment. ●



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