Cisco 7921G Competitive Brief

July 3, 2007

Company Summary

Cisco Systems, Inc. designs, manufactures and sells IP-based networking solutions and other products relating to the communications and information technology industry worldwide. They are widely known for their IP routers and switches, and have quickly risen to a market leadership position in IP telephony with their CallManager solution. Cisco's IP communications business unit (IPCBU) competes with the traditional enterprise PBX vendors such as Avaya and Nortel, offering integrated voice and data networking solutions.

Cisco is also a leader in the enterprise wireless market with more than 50% market share. Cisco's wireless networking business unit (WNBU) has a long-time cooperative relationship with Polycom/SpectraLink. The WNBU maintains a focus on interoperability with third-party wireless devices and encourages vendors to incorporate Cisco-specific extensions to improve performance in a Cisco wireless environment. Cisco's WNBU competes with other Wi-Fi infrastructure providers such as Aruba, Motorola, and Trapeze.

The company offers its products and services through its direct sales force, systems integrators, service providers, other resellers, distributors, and retail partners. For more corporate information about Cisco, please refer to: www.cisco.com

Product Summary

- Model: Unified Wireless IP Phone 7921G
- Radio Type: 802.11a/b/g
- VoIP Protocol: Skinny Client Control Protocol (SCCP), aka "Cisco Skinny"
- User Interface: Color LCD display, standard telephone keypad
- Battery Life: Standard 10 hr talk, 80 hr standby

Note: This analysis compares the Cisco 7921G to the Polycom SpectraLink 8000 Series (8020/8030) handsets. It is specifically limited to these models. For addition information or questions about this analysis, contact Matt Vawter matt.vawter@polycom.com

Overview of Respective Product Strengths

Polycom SpectraLink 8000 Series	Cisco 7921G
• Interoperability • Durability • Voice quality • Company focus, experience, and commitment	• Color display • Graphics-based application support • Standard battery life • Cisco network integration

Selling the Strengths of the SpectraLink 8000 Series

	SpectraLink 8000 Series	Cisco 7921G
Interoperability	SpectraLink 8000 Series handsets are interoperable with most enterprise-grade WLAN and telephony platforms. Please refer to the *NetLink Wireless Telephone WLAN Compatibility List* and the *SpectraLink Telephone Switch Interface Matrix* for a complete listing of these integrations. Polycom's VIEW Certification Program tests to ensure WLAN interoperability and high performance with enterprise-grade Wi-Fi access points (APs), including those from Cisco. In addition, Polycom maintains close relationships with AP vendors to quickly deal with interoperability issues that may come up and to share product development roadmaps for future interoperability. This interoperability provides a strong value proposition for both legacy and greenfield installations. For customers who have built a wireless infrastructure around wireless data applications and who are adopting Wi-Fi telephony, the SpectraLink 8000 Series offers them investment protection by eliminating the need to "rip and replace" their existing WLAN, and allows them to leverage their existing PBX system without requiring an IP upgrade or replacement. For greenfield installations, Polycom offers customers freedom of choice and flexibility to choose the Wi-Fi and telephony solutions that best suit their needs. Ultimately, this freedom of choice puts the negotiation power in the hands of the customer to select the most cost effective solution rather than be locked-in to a single solution. ***Polycom is dedicated to network interoperability, giving customers the freedom to choose best of breed solutions based on their business needs.***	Cisco's 7921G is designed to work with Cisco Wi-Fi and IP telephony solutions. Although the 7921G meets general Wi-Fi standards, Cisco does not certify third-party Wi-Fi APs for interoperability. Customers can not expect Cisco to provide support for interoperability issues with non-Cisco networks. The 7921G works only with the Cisco Unified Communications Manager (formerly CallManager) or UCM Express using Cisco's proprietary Skinny Client Control Protocol (SCCP). The 7921G cannot integrate to legacy TDM PBX systems unless a Cisco UCM is installed to serve as a gateway to the legacy PBX, significantly increasing cost and complexity. The bottom line is that the Cisco 7921G does not provide the freedom of choice, flexibility or investment protection available with the SpectraLink 8000 Series handsets.

Durability	The SpectraLink 8000 Series Wireless Telephones are specifically designed for multiple-shift, heavy duty environments such as healthcare, retail and manufacturing. SpectraLink 8000 Series handsets use a more durable plastic construction and more durable mechanical design in order to stand up to the frequent drops and bumps that are everyday occurrences in those environments. The handsets comply with the industry durability standard MIL-STD-810F. In this rigorous test, handsets are dropped on each face, edge and corner for a total of 26 drops from a height of 122 cm (4 ft). Furthermore, SpectraLink 8000 Series handsets meet IP-53 specifications for protection from dust and water spray. This level of protection is critical for dusty industrial environments and applications where frequent cleaning and disinfecting of the handset is required. ***Polycom's focus on durability increases reliability and lowers total cost of ownership (TCO) by minimizing repair and replacement costs.***	Cisco does not claim any enhanced durability or dust and liquid protection for the 7921G handset. Instead Cisco offers various carrying cases for more hostile environments. The 7921G is a consumer-grade design for general office environments.
Voice Quality	SpectraLink 8000 Series handsets incorporate unique technology specifically to provide the highest voice quality available in a Wi-Fi handset. SpectraLink 8000 Series handsets support Polycom's SpectraLink Voice Priority (SVP) quality of service (QoS) mechanism which is supported by nearly all enterprise-grade AP vendors, including Cisco. SVP is field-proven to provide excellent voice quality consistently in any kind of enterprise Wi-Fi deployment. SVP guarantees priority for voice packets over all other Wi-Fi traffic in all conditions while also improving call capacity and battery life. SVP also includes an admission control capability to allow AP bandwidth to be reserved for data traffic. In addition, Polycom supports emerging 802.11e standards for customers that require QoS solutions for devices that can't support SVP.	Cisco supports WMM QoS on the 7921G. WMM is a Wi-Fi Alliance specification based on 802.11e standards that provides basic prioritization of voice and video applications on the Wi-Fi network. Additional QoS mechanisms such as admission control are provided through Cisco-proprietary solutions, requiring Cisco APs for 7921G deployments. The 7921G appears to rely on Cisco-proprietary protocols to facilitate AP handoff as well.

	Polycom utilizes a proactive roaming algorithm developed through many years of experience with workplace wireless voice applications. The SpectraLink 8000 Series handsets intelligently determine the optimal AP to associate with and when to hand-off to another AP. This ensures seamless transitions between APs as users roam throughout the workplace with no perceptible interrupts from handoffs. ***Polycom is dedicated to providing the industry's best voice quality in any enterprise Wi-Fi environment through innovative solutions without sacrificing interoperability.***	
Company Focus	Polycom has more than 15 years of experience with enterprise wireless telephony. We have an established track record of bringing innovative wireless telephony solutions to market to address customer needs, including digital PBX integration, durable handsets, application integration, and voice QoS. Polycom is uniquely positioned as an independent manufacturer of Wi-Fi handsets. Polycom has established strategic relationships with a long list of enterprise telephony and Wi-Fi providers, including Cisco. Polycom remains dedicated to enterprise wireless solutions as it represents a significant portion of the company's business.	Wireless telephones represent a very small part of Cisco's overall business. As a provider of a wide range of enterprise data and voice networking equipment, Cisco is focused on internet protocol (IP) products in general, with approximately 70% of their revenues coming from routers and switches in FY2006. Sales of wireless phones are a tiny fraction of their business. It is more than likely that wireless phones are enablers to Cisco's core interests in unified communications, selling lucrative service contracts and locking customers into Cisco IT and telephony platforms.

Countering the Cisco 7921 product strengths:

Graphics Application Support

The Cisco 7921G supports graphical applications such as displaying waveforms from patient monitoring systems. This particular application seems to have strong initial appeal within the healthcare vertical and it does provide an attractive demonstration. However, this type of application has value to only a limited number of caregivers, and furthermore hospitals already have devices and well-established procedures for patient monitoring that do not require displaying waveform snapshots on handheld devices.

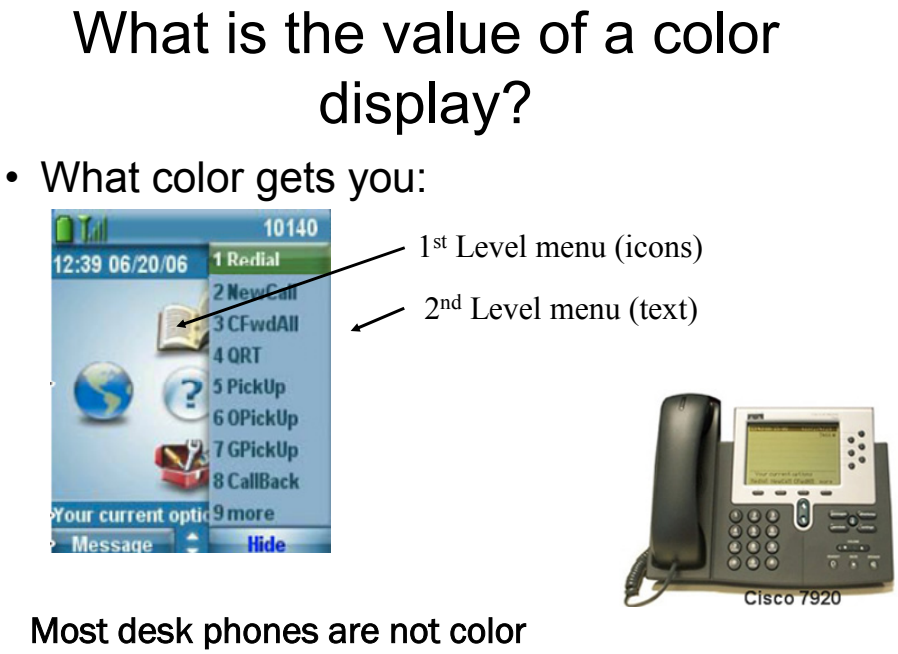
Note that the 7921G with this application is not approved by the FDA as a "clinical patient monitoring system". Cisco includes the following disclaimer on page 9 of their most recent data sheet: "*This product is not intended for use with patient monitoring devices or other patient care devices, and should not be*

used as a primary communications tool in healthcare environments". The bottom line here is that 7921G users cannot and should not rely on the waveform display for patient diagnosis. When the diagnostic capabilities are heavily discounted, all that remains of the waveform display on the 7921G is a sizzling demo with very limited value to the targeted end-users.

Polycom has supported text messaging on its handsets for more than 10 years. The SpectraLink 8000 Series has broad industry support from application and middleware providers, including Emergin and Globestar. SpectraLink 8000 Series Wireless Telephones support text messaging applications such as nurse call, paging, alarming, and patient monitoring through Polycom's Open Application Interface (OAI). Our event notification through this OAI interface has been proven useful and reliable for many years and is one of many reasons why SpectraLink 8000 Series Wireless Telephones are adopted widely in the healthcare vertical.

Color Screen/Size of Display

By far, the most common feature cited when comparing a Cisco 7921G to a SpectraLink 8000 Series handset is the display. In particular, the color screen and the size of the display are often noted during demonstrations. However, without the presence of useful graphics and graphically oriented applications, one must be mindful of the purpose of the color screen. *What does it really do?* If the end user realizes that a color screen does not really provide any added functionality, then the color screen rapidly loses its initial appeal. It is worth noting that from a user interface standpoint, once the user has navigated past the first level menu and into lower level menus, there are no more icons or graphical displays. Simply put, there is only colored text (Please see graphic below).



Another observation is that end-users are instinctively comparing the wireless IP phone to a cell phone rather than its more logical counterpart – the desk phone. Use your sales acumen to orient decision-makers and influencers toward the desk phone which are predominately monochrome displays. Color screen displays for desk phones, as a percentage of overall deployments, are still in the single digits.

Also note that the display of the Cisco 7921 is particularly difficult to see outside. This is likely to be a result of both battery consumption and LCD screen display. It is been noted here in case there are users considering a 7921G who might need to use the phone outdoors.

With regard to the size of the screen, Cisco has added more menu items to its larger color screen user interface because it has fewer softkeys and therefore requires more menu options. You'll notice from the feature matrix above that the 7921G only has two softkeys versus four on the SpectraLink 8000 Series. By offering additional softkeys, Polycom does not need the slightly larger screen. In the short and medium term, the softkeys are how Polycom should respond to the larger screen size on the 7921G.

Side by Side

Longer Battery Life

The 7921G is available with a standard battery with 10-hour talk-time or an extended battery with 12-hour talk-time, while the SpectraLink 8000 Series handsets have a maximum of eight-hour talk-time with the Ultra-extended Battery Pack. While Cisco's 7921G has a longer talk time than the SpectraLink 8000 Series, the 8000 Series handsets actually have 20% longer standby time on the Extended Battery Pack and 60% longer on the Ultra-extended Battery Pack.

Based on our experience with enterprise wireless telephone usage, there is little incremental benefit with supporting talk-time beyond four hours for the vast majority of applications. However, offering the option of up to eight hours of talk time addresses the needs of unique applications and "power users".

Security Features

The 7921G supports a number of security options that are not available on the SpectraLink 8000 Series handsets. However, these security options require operation on a Cisco Wi-Fi network and take advantage of Cisco proprietary protocols and features. The SpectraLink 8000 Series handsets support standard WPA/WPA2 security using pre-shared key (PSK) authentication which is suitable for commercial applications such as healthcare and retail. The Series 8000 handsets also support Cisco-proprietary CCKM security, also referred to as "Fast Secure

Roaming", for customers using Cisco Wi-Fi networks that want to take advantage of Cisco-specific security features.

Responding to Potential Traps from Cisco

Cisco has been known to leave the following traps:

- *The 7921G has a color display*

What actual value does the color display add? Very little. *What applications on the phone leverage these graphics or the color?* None. *Are there graphics past the first level of the user interface?* No.

- *The 7921G has a larger screen/display*

What benefit does this display provide? Does this make the phone easier to use? Yes, it probably does! If so, then having four softkeys makes it even easier to use. Orient the user toward the four softkeys on the SpectraLink 8000 Series handsets. *Does the larger display size compromise handset durability?* It's very likely.

- *The 7921G has longer talk time*

How often is do you continuously talk on your phone without charging it? How long are your work shifts? Perhaps standby time is even more valuable? If so, the SpectraLink 8000 Series handsets offer between 20% and 60% more standby time than the Cisco 7921G.

- *The 7921G has more robust security features*

If a customer is locked into Cisco's proprietary extensions, then it's unlikely that you can make a case for standards-based security implementations and network interoperability. *Do the SpectraLink 8000 Series handsets meet enterprise-grade security standards?* Yes.

- *The 7921G does not require an SVP Server*

It is true that the 7921G does not require an SVP Server, but then again, as noted above, the Cisco 7921G cannot achieve the same level of QoS, voice priority and roaming as the SpectraLink 8000 Series handsets. *How important is voice priority for your business? How important is roaming for your wireless phones?* When the WMM standards, including WMM – Power Save and Admission Control, from the Wi-Fi Alliance is on par with the QoS features of SVP and the standard becomes finalized, Polycom will support it in its SpectraLink 8000 Series Wireless Telephones. Until that time, the SVP is the only way to guarantee the prioritization of voice traffic over wireless networks and attain our high standards for QoS.

- *The SVP Server is a single point of failure*

Polycom now offers a self-healing automatic reconfiguration feature on the SVP Server, eliminating the issue of a single SVP Server failing and bring down all the wireless telephones. The SVP Server is a very reliable device requiring minimal maintenance and administration, but delivering guaranteed voice prioritization and better bandwidth utilization for enterprise applications.

- *Cisco is a market leader in networking*

Is Cisco a leader in wireless telephony? How long have they been in the wireless IP phone business? Yes, there is no doubt that Cisco is the undisputed market leader in networking. They are best of breed when it comes to IP routers and switches. However, wireless IP phones are not the sole focus of Cisco. *Is the Cisco name top of mind when you think of wireless IP phones?* In fact, Cisco is a generalist when it comes to wireless telephony while Polycom is a specialist in wireless IP phones with more than 15 years of experience in wireless telephony for the enterprise.

- *The 7921G can display waveforms for diagnosis*

How useful are these waveforms? Will this application allow you to save money by eliminating other monitoring systems or staff? What can you actually do with them at their displayed resolution? Can you truly rely on these waveforms for patient monitoring? Are you truly relying on the phone as a patient monitoring system? If so, the FDA has not approved the use of the 7921G for these purposes. In fact, Cisco is pulling back from this use formally in their own data sheet: "*This product is not intended for use with patient monitoring devices or other patient care devices, and should not be used as a primary communications tool in healthcare environments"*. Cisco 7921G users cannot and should not rely on the waveform display for patient diagnosis.

- *Cisco is throwing in the handsets or the Unified Call Manager for free. This purchase is actually cheaper than the SpectraLink 8000 Series solution.*

Where are they making their money? Cisco is known for giving away portions of the solution away for free in order to obtain lucrative portions of the deal such as service contracts or the Unified Call Manager (UCM). Buyer beware! Upon being locked in, the customer's negotiating power erodes and the price for subsequent purchases increases over time because the end-user's ability to mix and match with other vendors (*see Interoperability section above)* is extremely limited. It is for this reason many buyers deliberately adopt a diversification strategy.

- *Is Cisco's Push-to-Talk feature comparable to that of the SpectraLink 8000 Series?*

Cisco does support the popular push-to-talk (PTT) feature. However, what is not readily apparent is that this application requires a separate integration. The separate application is in fact from Berbee. https://www.berbee.com/public/berbeesoftware/PTT_SellSheet.pdf *Is the cost for the PTT application included in the price for the 7921G phones?* Since this application is an optional module, there is a separate cost for it. There is also additional installation/configuration required and the deployment requires a server/host. This also represents yet another third party application in the IT environment to maintain.

Polycom's PTT feature is integrated in the SpectraLink 8030 handset. It requires no additional server configuration or deployment. After configuring the phone group(s), PTT operation on a SpectraLink 8030 phone is very simple and easy, hence its widespread acceptance in markets with traditional two-way radio use.

Appendix 1: Feature Comparison

Legend	
Shaded Cell with Bold Text	**Product Advantage**

		Cisco 7921G	SpectraLink 8020/8030
Data Source		**Cisco Unified Wireless IP Phone 7921G Data Sheet, 3/07**	**NetLink 8000 datasheet v3.1 1/07**
Display	Size	2 in (5 cm)	42mm x 35mm
	Resolution	**176 x 220**	128 x 96
	Type	**Color**	Monochrome
	Backlit	Backlit	Backlit
	Graphics	y	y
Buttons	Softkeys	2	**4**
	Speakerphone	y	y
	Navigation	5 way	5 way
Application I/F	XML - standards-based, graphically oriented	**y**	n
	OAI - proprietary, text based	n	y
Network Standards	802.11a	y	y
	802.11b	y	y
	802.11g	y	y
Security	802.1x	**y**	n
	LEAP with CCKM (Fast Secure Roaming)	y	y
	EAP-FAST	**y**	n
	802.11i	y	y
	WEP	40/128 bit	40/128 bit
	TKIP/MIC	y	y
	AES	y	y
QoS	802.11e/WMM	y	y
	SVP	n	y
Power Save	U-APSD	y	In progress
	SVP	n	y
IP PBX/PBX Protocols	Cisco Unified Call Mgr	y	n
	SIP	n	**planned**
	Avaya/CCMS	n	**y**
	Nortel/Unistem	n	**y**
	Alcatel	n	**y**
Non- IP (TDM) PBX (require gateway)	Avaya	n	**y**
	ComDial	n	**y**
	Executone	n	**y**
	Fujitsu	n	**y**
	Inter-Tel	n	**y**
	Mitel	n	**y**
	NEC	n	**y**

		Cisco 7921G	SpectraLink 8020/8030
	Nortel	n	**y**
	Panasonic	n	**y**
	Siemens/Rolm	n	**y**
	Toshiba	n	**y**
Access Points	Cisco	y	y
	Aruba	n	**y**
	Meru	n	**y**
	Trapeze	n	**y**
	3Com	n	**y**
	Alcatel-Lucent	n	**y**
	BelAir	n	**y**
	Bluesocket	n	**y**
	Colubris	n	**y**
	Extreme	n	**y**
	Nortel	n	**y**
	Xirrus	n	**y**
	Siemens	n	**y**
	Motorola (Symbol)	n	**In progress**
	Other	n	**In progress**
Durability	Drop	n	**MIL-STD-810F, method 516.5 procedure IV**
	Dust/Water	n	**IP53**
Battery Life	Standard Talk Time	**10**	4
	Standard Standby Time	80	80
	Extended Talk Time	**12**	6
	Extended Standby Time	100	**120**
	Ultra Talk Time		8
	Ultra Standby Time	na	**160**
Provisioning / Configuration	Web server	**y**	n
	In cradle	y	y
	Over the air	?	y
	DHCP	y	y
	TFTP	y	y
	DNS	y	y
Management	Phone statistics	y	y
	Capability to disable local phone settings	y	n
	QoS reporting	y	y
	RTCP support & monitoring	**y**	n
	Syslog	y	y
Deployment Tools	Integrated site survey tool	y	y
Accessories	Desktop charger	with speakerphone	y
	Multi-charger	multi-charger (6)	dual/quad
	Headset	2.5mm Plantronics	2.5mm Plantronics
	Leather carry case	y	y
	Holster carry case	y	y
	Zcover/silicone	y	y
	Heavy duty polymer	y	no
	Lock set	y	?

Appendix 2: *Warranty* and Support

Polycom offers four tiers of warranties on the SpectraLink 8000 Series handsets.

1. **Standard Warranty**-One year warranty on Wireless Telephones.
2. **Priority Warranty Upgrade---** Upgrade of standard warranty coverage. Includes one business day repair. (Price is per Wireless Telephone and all Wireless Telephones must be covered.)
3. **Advance Warranty Upgrade--**Upgrade of standard warranty coverage. Includes advanced replacement repair. (Price is per Wireless Telephone and all Wireless Telephones must be covered.)
4. **Premier Warranty Upgrade--**Upgrade of standard warranty coverage. Includes onsite infrastructure support and advanced replacement of Wireless Telephones. Premier Warranty Upgrade is available only at the time of system order with system certification performed by Polycom.

Cisco Unified IP Phones are covered by a Cisco Systems standard one-year replacement warranty. A Cisco SMARTnet optional service agreement is available for the Cisco Unified Wireless IP Phone 7921G hardware, Desktop Charger, and Multi-Charger only, not for other accessories, such as batteries.