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Cisco Desk Phone Refresh

Compelling reasons to refresh your 1st & 2nd Gen desk phones

A Wainhouse Research eBook

WAINHOUSE Research

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Topic Overview and Methodology

What you'll get out of reading this eBook: This eBook explores how the needs of the users, improved security measures, and requirements for compliance are driving organizations to evaluate their installed base of Cisco 1st & 2nd generation IP desk phones and are now considering a refresh to the current generation of phones.

How we researched: Our goal is to provide a summary of the critical considerations in upgrading to the current generation and to expose the risk that older generation phones pose to your organization. As such, Wainhouse conducted the following research for this eBook:

Market Discovery – Wainhouse Research (WR) conducted research to identify key changes over the last 5-7 years including changes in the workforce and their communication preferences and requirements, security vulnerabilities and associated improvements in security protocols and cryptography, and the emergence of new compliance regulations and the cost of non-compliance. WR used its own database, leveraged 3rd party insight, and interviewed the Cisco desk phone product team.

Full disclosure: Cisco has sponsored this eBook. However, we want to reinforce that this is an objective, research-oriented work, and we are not endorsing any specific Cisco product. We encourage the reader to evaluate potential benefits and target solutions against their own unique enterprise requirements, environment, and user preferences.

Introduction | Technology Evolves

All things age, and items you purchased 5-7 years ago – think an automobile, clothing, or television – often require replacement because they have become outdated, newer items offer greater benefit, or your needs changed.

And we all know that technology apps and devices age at a much faster rate than other items. Today's modern technology devices provide vast improvements over prior versions. They provide greater functionality for today's demanding workforce and enable essential security and compliance requirements.

This eBook presents the business case for upgrading 1st & 2nd generation Cisco IP desk phones (6900, 7900, 8900, 9900 series) to the current generation of phones (6800, 7800, 8800 series) based on a change in use cases by your users, dramatic improvements in features over prior generation phones, and a significant and compelling requirement for new security and compliance measures.

Introduction

When your organization made the decision to move from TDM to IP for voice services there were a lot of good reasons for that decision, including:

- Lower telephony network costs.

- Ease of deployment and provisioning (reduced burden of moves, add, changes).

- Better security.

- Integration of telephony with business applications, e.g. like quickly linking customer accounts with incoming calls to enable more personalized communications.

- If these weren't reason enough, most PBX makers were well on the path of phasing out TDM support.

And the 1st & 2nd generation desk phones that were deployed with Cisco Unified Call Manager enabled:

- Local phones to be connected to office ethernet or remote phones to the internet – reducing separate wiring costs and easing local and remote deployment.

- Pre-programed for Cisco Unified Communications Manager - eliminating workloads from IT.

- Integrated switch for PC connectivity – reducing cabling to the desktop.

- Lower upfront costs and lower TCO – often lower CAPEX and OPEX versus traditional TDM PBXs.

But don't be caught off guard. Technology has vastly improved and today's desk phones are more than just audio.

Ask yourself:
- Are you able to support today's modern desk workers and **the convergence of mobility, video and high bandwidth audio**?

- Do your phones enable your IT departments to support your company's **real estate strategy** or **path to the cloud**?

- Will your next phone installation align with your business's needs around **security, compliance**, or even **OPEX vs. CAPEX strategy**?

Early Generation IP Desk Phone Features

For the most part, early generation phones were in a 'steady-state,' primarily providing voice communications, but not many other features.

1st & 2nd generation phones included most of the core use case features but were not as holistic or fully evolved to meet today's users needs.

Many use cases were not even fully realized when your 1st & 2nd generation phones were purchased. Uses cases such as:

- Teleworkers
- Deskless workers
- Mobile first workers

Moreover, end of sale notifications on many of these phones means they cannot be updated to add these new use cases.

Included integrated switch for data connectivity for PC **BUT DID NOT** support Gigabit support, only 10/100 (applies to 7800 series, except 7841).

Supported single connection from closet to the desk **BUT DID NOT** support integration of telephony into business processes (enabled through Call Manager/Webex).

Included 5 " VGA resolution screen, 24-bit color depth **BUT DID NOT** support full HD video.

Early Generation IP Desk Phone Security

1st & 2nd generation phones provided security elements that were up-to-date at that time, including SSL, TLS, and SHA-1.

However, many security elements have been updated or deprecated, e.g. there are no fixes or patches for SSL or early TLS, SHA-1 has been deprecated in favor of stronger cryptographic properties in SHA-2, and the latest implementation of VPN cannot be supported in earlier generation phones.

The risk of not maintaining current security protocols cannot be over emphasized. The cost to the workplace not underestimated.

A Ponemon Institute survey of 2,200 IT data, and compliance professionals at 477 companies estimated that the average cost of a data breach in 2018 was $3.9M globally, however, in the US, the cost averaged $7.9M.

Early Generation IP Desk Phone Compliance

- When the 1st & 2nd generation Cisco phones were introduced in the late 1990's, GDPR did not exist, HIPAA had just been enacted in 1996, GLBA (Gramm-Leach-Bliley Act) enacted in 1999, and Sarbanes-Oxley (SOX) was passed in 2002.

- Based on your industry and organization – operations in the EU (GDPR), transmission of patient information in healthcare (HIPAA), and activities in the financial community (SOX & GLBA), these government compliance initiatives are now table stakes for workplace communications.

Confidential

Confidential

Confidential
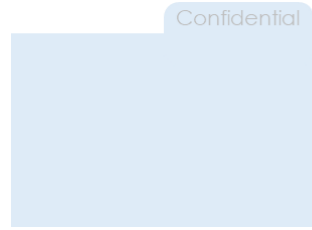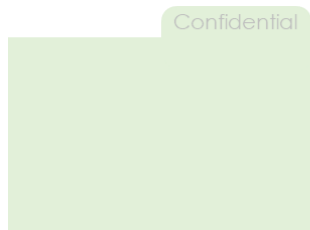
Fines for non-compliance can be high, but suspension of business operations due to non-compliance can be enormous.

- GDPR fines as high as 20M Euros or 4% of an organization's total worldwide annual revenue, as well as damage to your brand and reputation.

- GLB non-compliance can cost 5 years in prison, $100k for each violation, and officers and directors can be fined $10k for each violation.

- SOX non-compliance can mean 10 years in prison and $1M for CEO's and CFO's who submit inaccurate certificates, and corporate officers can suffer 20 years in prison and fines up to $20M for purposely submitting wrong certificates – and include removal of company from public listings.

- HIPAA violations carry $50k fine per violation up to a maximum $1.5M per violation year (4 tiers of violations from unaware to willful neglect).

Current Situation

Unlike earlier generation phones relative steady-state, today's phones operate in a dynamic environment where feature, firmware, security, and compliance capabilities require regular updates.

The days of "sweating the assets" of desk phones for 5-7 years are over. Besides the demand of modern workers for better tools and services, the requirement for security and regulatory compliance are critical to the continuing operation of your business. And the use cases have changed too. Fewer PBX features are used, there are fewer peer-to-peer calls as everyone are in more meetings.

Risks of doing nothing?

- 1st & 2nd generation phones are at end of sales – you won't be able to replace them.
- 1st & 2nd generation phones are at end of support – you won't be able to repair or update them.
- End Of Support doesn't just mean the old phones can't be updated, but Cisco TAC may not support other devices in your network with old EOS phones connected to the environment.
- BYOD – if current desk phones don't keep up with user needs, they will bypass workplace programs and policy and bring their own devices – risking loss of control, opening security concerns, and bypassing compliance measures.
- Inability to keep up with security requirements – older generation just won't support newer protection.
- Inability to conform to government compliance requirements.

63%
join meetings from an IP desk phone

25-50%
of all calls are conference calls, according to SME staff

50-75%
of all calls are conference calls, in Large Enterprises

Today's Phones Meet User & IT Needs

Companies should not have to forego support of newer use cases that today's workers require because of hardware limitations. Collaboration "friendly" phones can enhance end user's productivity while still enabling exceptional levels of IT control.

- **High-performance audio conferencing**
  - Expanded support for newer audio codecs including wideband OPUS.
- **720p high-definition (HD) video**
  - Enjoy high definition video conferencing and content sharing, enabling better employee communications and increasing productivity.
- **Gigabit ethernet**
  - Delivers high bandwidth not only to the phone, but to the employee's workspace through an integrated ethernet switch. Better support for applications and more devices.
- **Bluetooth connectivity**
  - Enable more devices options from handsets to headsets to better suit your work environments.
- **Cisco's Intelligent Proximity for Mobile Voice**
  - Move the mobile call to desk phone for better sound quality.
  - Import contacts and call history.
- **Wireless connectivity**
  - In-campus mobile communications over WLAN.
- **Cloud readiness and expanded uses cases when paired with Cisco Webex**
  - Escalate Cisco Webex member exchanges within Webex virtual team rooms to Webex voice or video calls.
  - Webex desktop for sharing/video and desk phone for superior audio quality.
  - Better management features & control.

- **More handset and headset options**
  - Cisco Headset 500 series devices.
  - In-campus mobile support/devices.
  - Group audio/conference phones.
  - Improved key expansion models.
- **Administration Control Policies**
  - Device control – enable/disable/restrict access.
  - Peripheral control - enable/disable/ USB, Bluetooth, PC ports.

Today's Phones Meet New Critical Security Requirements

Today's phones add TLS 1.2 - as TLS 1.1 is no longer adequate for preventing attacks (remember POODLE & BEAST exploits?) and Secure Hash Algorithm (SHA-2) replaces SHA-1 – which is less suspectable to forged digital signatures.

Consider 6 elements that comprehensively ensure desk phone security from device-to-network-to-call manager:

- **System Security** - secure signed firmware images & boots – verifies & authenticates firmware before it runs on phone.
- **Cryptography** - ID certificates for authentication, Cryptographic algorithms for encrypting data, Ciphers for signaling & media encryption, FIPS – required for phones used in government agencies and regulated industries.
- **Data Protection & Encryption** TLS 1.2 to authenticate & encrypt SIP signaling between phone and call manager, and secure Extension Mobility – ensures that when a user's phone services are used with another phone or app, communications are secured via HTTP protocol.
- **Remote Connectivity** - securing external network access with latest VPN which safeguards IP addresses, masks locations, and encrypts data.
- **Network Security** - Wired & wireless: 802.1x for network authentication.
- **Administration Control Policies** - Device control to enable/disable/restrict access & Peripheral control to enable/disable/ USB, Bluetooth, and PC ports.

Today's Phone's Meet Gov't Compliance Requirements

Today's compliance issues are more complex and comprehensive than 5-7 years ago, and while the concerns are similar – access to emergency services, toll fraud, eavesdropping, and corporate espionage – the threat and stakes are higher. And while requirements differ depending on your industry or location, your phone system will need to be compliant in a larger orchestration of control and reporting for your organization. Today's phones meet compliance requirements, including:

- 911 direct dialing & E-911.
- PCI, HIPPA, SOX, GDPR.
- GLBA - Federal Deposit Insurance Corporation (FDIC) has published specific VoIP guideline to protect customer data traveling in IP voice networks in accordance with Graham-Leach-Bliley regulation - as mandated by section 501(b) of the Gramm-Leach-Bliley Act (GLBA).

Industry / Location	Requirement
Healthcare	HIPPA
Financial	SOX, GLBA
Retail / Any organization that accepts, transmits, or stores credit cards	PCI
Any organization that stores personal data in the EU	GDPR

Cisco Value Proposition and Differentiators

As mentioned at the outset of this eBook, we all recognize that technology innovation moves and improves at a rapid pace. New features have been developed that align to today's modern worker use cases, preferences, and needs. Bad actors and their methods demand stronger and more agile security measures. And government compliance requirements dictate that organizations operating with personal and sensitive data align to specific protocols.

Features   Security   Compliance

In accordance with these end user, IT, and business requirements, Cisco has developed the current generation of 6800, 7800 and 8800 desk phones in alignment with the modern worker, to ensure IT meets or exceeds its obligations to protect company data, conversations, and connections; and to meet government compliance regulations.

And acknowledging that the legacy cycle of 5-7 years depreciation for desk phones no longer satisfies the needs of todays modern enterprise, Cisco now offers the 6800, 7800 and 8800 phones in their Hardware as a Service program (HaaS).   What does HaaS offer?

- Enables 3-year device upgrade cycle.
- Extends Warranty Level Service – extends warranty from 1 year to   3-year term of subscription.
    - Includes: TAC access, L1-3 troubleshooting, SW Center access, SW maintenance releases, and return-to-factory 10-day replacement.
- Eliminates capital budgeting, outlay, and depreciation.
- Provides regular, affordable payments.
- Encourages more regular upgrades to keep pace with today's dynamic HW environment.
- Ensures users and organization have the latest experience for communication and collaboration.
- Eliminates the pitfalls of falling out of alignment with government compliance.
- Ensures all security elements are up to date and secure – locally and in transit.

Why Refresh Your Desk Phones? - End User Benefits

End-User Benefits
Features that increase end user's productivity and enable a higher quality experience

Mobile Lifestyle	As a worker on the go, I want to be able to support my mobile lifestyle, seamlessly blending my personal to professional experiences as I choose.	• Seamlessly connect to Cisco IP Phones 8845, 8851, 8861, 8865 and DX Series endpoints via Intelligent Proximity for Mobile Voice. • Easily import contacts and call history. Move mobile calls to Cisco endpoints for superior sound or back to your mobile when you leave your office. • Charge your mobile while at your desk (Cisco IP phones 8851, 8845), or your iPad (Cisco IP phones 8861, 8865).
Video Ubiquity	As an end user who is often in video/web conferencing meetings, I'd like the option of using my desk phone for audio, video, content, or any combination.	• Use 720p high-definition (HD) video communications to video-enable your entire organization. • Escalate Webex Teams interactions to Webex Calling or Webex Meetings via your Cisco IP Phone. • Pair a laptop or mobile running Cisco Webex with a desk phone and use the laptop for content/video and the desk phone for superior audio.
Audio for Today's Worker	As a frequent phone end user, I want a phone that supports a reliable, high quality calling experience that I expect at work.	• Answer incoming calls on a handset, mobile, or Cisco Headset 500 series with wideband audio. • Support for the latest audio codecs including Opus which is fast becoming the preferred audio codec for many narrow to wide band audio applications, including VOIP, video conferencing, and remote live music.

Why Refresh your Desk Phones? – IT and Business Benefits

IT Benefits
Features that make phones easier to deploy and manage

Real Estate Strategy	As an IT administrator, I want phones that are easy to keep instep with our real estate changes/volatility.	• Easier to deploy and relocate. • Better wireless options for mobile workers or open office spaces. • Newer Gigabit ports for easy connectivity of workstations and other IP devices.
Ready for the cloud	Purchases today are ready for cloud-based calling services.	• Improved out-of-the-box experience that is more in line with consumer expectations. • New support for Webex calling.

Business Benefits
Features that reduce risk and align with regulatory requirements

|		
Maximum ROI	As a BDM, I want an affordable plan, but I don't want to be tied into the same phones forever.	• New Hardware as a Service program provides predictable path to device upgrades.
Security	As a frequent end user, I want a phone that supports a reliable, high quality calling experience that is expected in my work environment.	• Greater memory and modern firmware in today's phones enable upgrades to stronger and better cryptography – verifying, encrypting, and securing calls, data, and signaling.

Conclusions & Next Steps

You can't know where you need to go until you know where you are. WR encourages you to consider the following next steps:

1) **Assessment** – determine what you have today – obtain an accounting of your current devices by model.

2) **Requirements** – determine your current user needs, security, and compliance requirements.

3) **Fill the gaps** – understand which features and capabilities of the current generation of 6800, 8800 and 7800 desk phones can fill the gaps in needs and requirements.

4) **Consider a new approach** – new thinking around use and ownership of hardware devices have opened new opportunities to stay current, safe, and in compliance through a hardware subscription model (OPEX) versus a capital purchase (CAPEX).
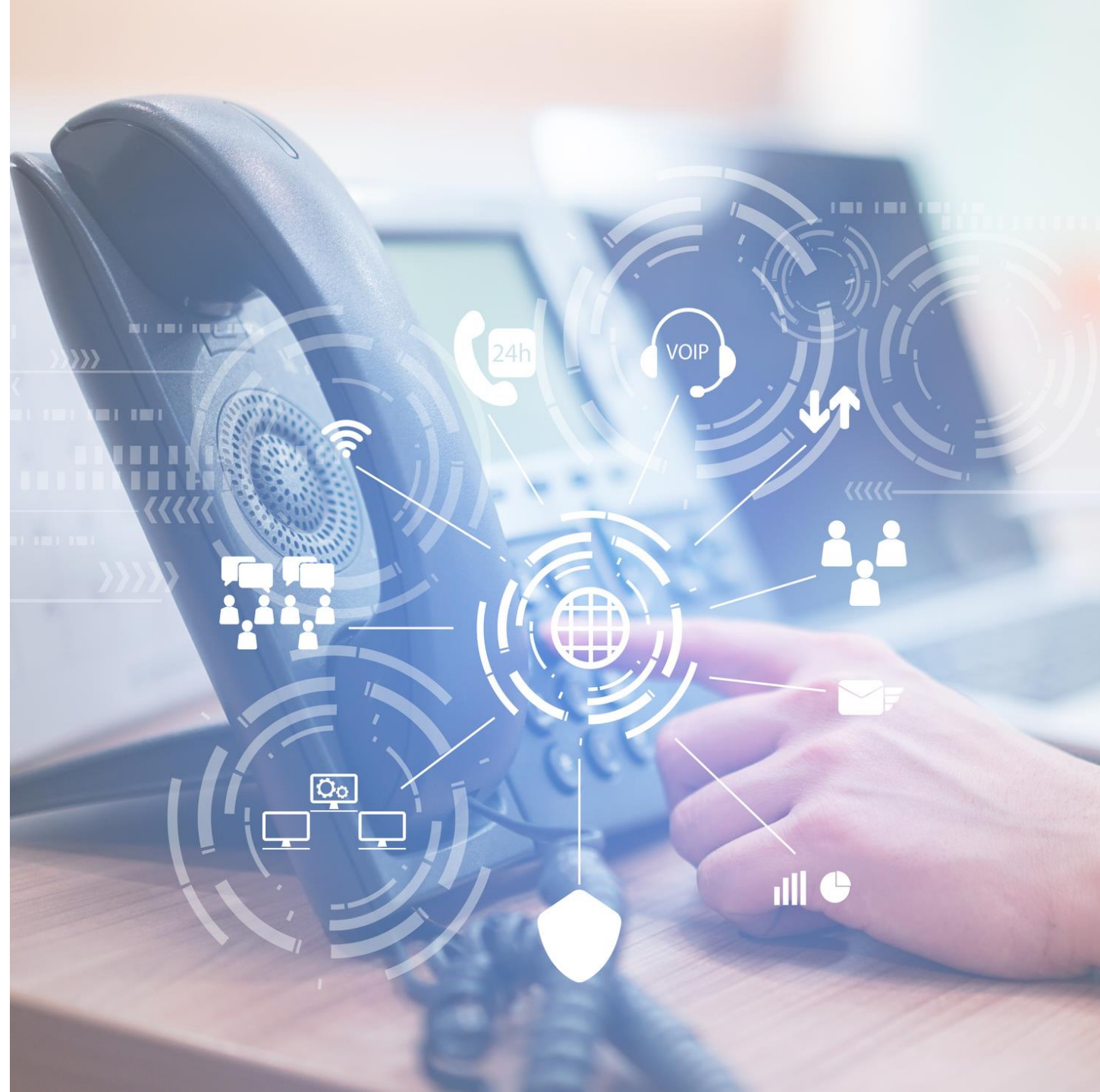
About Wainhouse Research

Wainhouse Research (http://www.wainhouse.com) provides research and strategic guidance on products and services for workplace communications and collaboration. Our global client base includes established and new technology suppliers and service providers, as well as enterprise users of voice, video, streaming, and web collaboration solutions.

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