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Product Assessment

Avaya IP Office

SME PBX

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Contents

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Avaya IP Office

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Product Class:
SME PBX in Enterprise Communictions

Summary

Current Perspective: Threatening

Avaya's IP Office is threatening to SME PBX competitors. The IP Office line is an IP migration path for Avaya's large base of U.S. key systems customers, as well as INDeX and Tenovis Integral in Europe. A highly scalable integrated communication platform, IP Office supports IP, digital, or analog lines in equal measure and utilizes a variety of handsets compatible with other Avaya systems. The IP Office family consists of the IP Office 412 and IP Office 500 platforms. The IP Office 406 and Small Office Edition models were retired in spring 2008, with IP Office effectively meeting scalability demands where these products stood. Introduced with software release 4.0, IP Office 500 brought a design allowing customers modular approaches to both scalability and migration to more advanced applications. Software updates, including SIP trunk support, improved integration with Avaya Modular Messaging, conferencing, mobility and monitoring, as well as compatibility with Microsoft's presence server, advanced the platform's applications capability and put pressure on competitors to keep pace. In its broad handset lineup, Avaya touts a set of low-cost IP phones tailored specifically to IP Office and its cost-conscious SME buyers.

A primary sticking point of the IP Office line – lack of modularity – has been partially but not entirely addressed with the IP500 platform. The architectures of the IP Office 412 do not support the modular growth options, nor do the retired IP Office 406 and Small Office Edition systems. In addition, these models do not support the Standard Edition, which allows customers to purchase basic applications functionality and implement the more complex Professional package as their needs change. The discontinued IP403 and IP406v1 systems also do not support 4.0 software and above. These shortcomings may be troublesome to customers that have deployed these models but are looking to move forward without replacing their main system components. For multi-site installations, IP Office can be networked with feature transparency for up to 500 users over 16 sites, but beyond this limit, feature transparency is compromised. While IP Office can be networked to Avaya Media Servers based on Avaya Communication Manager software, feature transparency remains limited. Though not uncommon for its class, IP Office lacks redundancy options that would have added appeal in highly distributed networks.

Product Strengths and Weaknesses

Product Strengths

• Scaling well for an ICP, IP Office is able to support up to 360 end stations, whether IP, digital, or analog phones. IP Office also supports a wider array of end stations than many competitors selling one-box communications platforms in the SME market, including a line of low-cost IP phones designed specifically for the platform.

• The IP Office 500 platform provides modularity previously lacking in Avaya's flagship SME product family. Customers can now incrementally add capacity without replacing their system base chassis, and the license required to do so also provides access to additional

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networking and applications options.

• IP Office 500 also simplified sales and marketing for Avaya, giving the company fewer platforms to develop and support while still serving SMB/SME customers of differing sizes and types. IP Office 500 effectively covers the user capacity requirements formerly met by the discontinued Small Office Edition and IP Office 406 systems. Supporting up to 270 users, IP Office 500 also filled the scalability gap that existed between the IP Office 406 (190 users) and IP Office 412 (360 extensions) platforms.

• Avaya has increased IP Office's flexibility to allow the system to play an increasingly important role within its SME catalog. The hybrid IP/TDM platform can serve as a standalone SME solution, can be networked with up to 16 other IP Office systems, or can serve as a remote site solution networked back to a centralized Communication Manager PBX.

• About 130,000 IP Office systems have shipped worldwide to provide ready upgrade opportunities to existing accounts. IP Office also serves as a VoIP migration path for a number of widely deployed legacy platforms, including 30,000 MAGIX and Legend systems, 1.2 million partner systems shipped in the U.S. and CALA, and 150,000 Tenovis Integral 5 units shipped in EMEA. Furthermore, the INDeX Media Gateway provides a direct VoIP migration path for Avaya's INDeX key systems in Europe.

• IP Office is available in two models and supported by a range of LAN/WAN interfaces to support the varying requirements of small and mid-sized customers. IP Office also delivers on support for a broad application portfolio, ranging from basic voicemail to providing presence, messaging, conferencing, mobility, and call center applications that are feature-rich for its targeted small and medium-size business customer demographic.

Product Weaknesses

• IP Office can be deployed in an Avaya Communication Manager network, but the software shares little in common with other Avaya systems. Its call features are not fully transparent with other Avaya systems, and IP Office is not managed from the same management platform used with systems based on Communication Manager.

• IP Office 412 is not based on the same modular architecture as the IP Office 500 platform, neither are the discontinued Small Office Edition or IP Office 406 models. In addition, the discontinued IP403 and IP406 V1 systems, though supported by Avaya, do not support software release 4.0 or above. Though preserving some software cards and endpoints, most existing IP Office customers must replace their main system components to take full advantage of the most recent advancements Avaya has made to the product line.

• Avaya's proprietary OS creates potential price disadvantages against solutions based on off-the-shelf standard operating systems (Unix or Linux), as well as being an environment less accessible to third-party application development and integration.

• Though Avaya claims that an unlimited number of IP Office controllers can be networked together, no more than 16 controllers can be linked together without losing feature transparency.

• There are no redundant system elements, such as hard drives and power supplies, for the IP Office platform. In addition, a limited feature set is available to IP Office users when in survivable mode.

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• Not all IP Office systems support the same optional peripherals and applications. For example, only IP Office 500 supports the Standard Edition package, which delivers basic applications initially with options to cost-effectively implement more advanced software later. IP Office 412 does not support the editions-based applications packaging and it does not support embedded voicemail that is standard with several alternatives in its class.

Point/Counterpoint

Point: Competitors should note that IP Office lacks redundant system elements for improved reliability.

Counterpoint: Avaya should point out that, because IP Office is based on a proprietary communications operating system, as opposed to Windows, it is a reliable communications platform that does not need to rely on a high degree of redundancy within the system. Additionally, the absence of redundant system components keeps IP Office priced competitively for SME customers, and this is not uncommon positioning for its class.

Point: Competitors should note that only IP Office 500 features a modular design and supports both the Professional and Standard Edition applications packages. Counterpoint

Counterpoint: Avaya should respond that all currently produced IP Office systems support software version 4.0 and above, which allows them to take advantage of new mobility, conferencing, networking, and other options. Existing IP Office customers looking to add scalability beyond base unit capacities can still do so via expansion cabinets. IP Office 500 also supports legacy cards, making migration from existing IP Office 403 and IP Office 406 inexpensive.

Point: Competitors should note that IP Office provides limited feature transparency when networked to a remote Avaya Definity PBX or Communication Manager system. Counterpoint

Counterpoint: Avaya should respond by saying that networking features using Q.SIG support make a number of basic calling features, as well as some messaging functionality, transparent between systems based on Avaya Communication Manager. Customers requiring a high degree of feature transparency are encouraged to deploy an Avaya Media Gateway at the remote site rather than IP Office.

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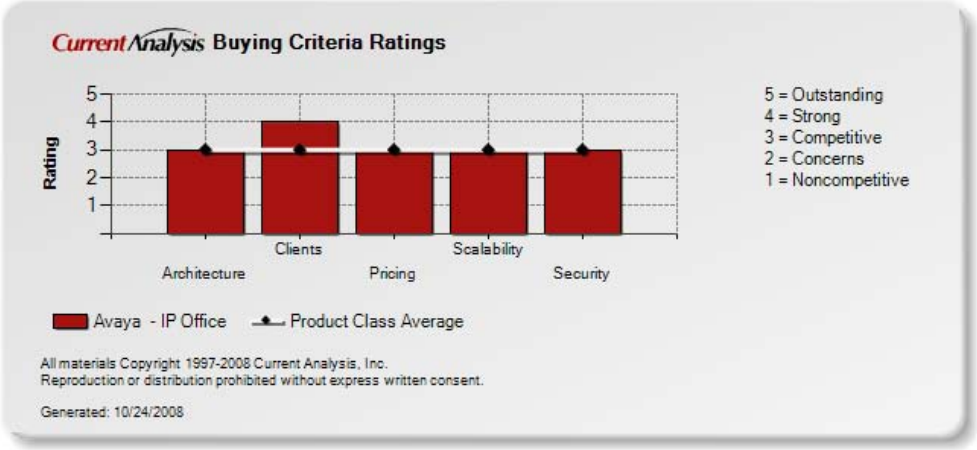
Product Buying Criteria



Architecture and Protocols: COMPETITIVE

• IP Office is an integrated communication platform that provides a variety of networking and applications capabilities on a single integrated platform. Integrated components include 64-party audio conference bridge, firewall, call accounting, voicemail, H.323 gatekeeper, router, DHCP server, remote access server, and WAN interface module. This makes it easier and more cost-effective for businesses to purchase and deploy the solution.

• Currently, there are two IP Office models available: IP Office 412 and IP Office 500. IP Office 412 is a discrete, rack-mountable system, rather than a modular unit supporting added scalability via expansion modules. IP Office 500 allows customers to license additional voice compression channels and supports expansion cabinets as well.

• IP Office utilizes SIP and H.323 for VoIP signaling, H.450 for call control (transfer, hold, park etc.), and QSIG for wide area networking and interoperability. Quality of service (QoS) is achieved through DiffServ for routing and 802.1p for traffic prioritization. TDM trunk connections are available for analog, T1/E1 CAS, and ISDN.

• IP Office runs on a proprietary Avaya operating system (IP Office OS). This differs from a variety of competing platforms that make use of VxWorks or those that are moving toward UNIX or Linux operating systems for their server-based SMB communications platforms.

• IP Office maintenance release 4.1 introduced support for the 3641 and 3645 WiFi phones, as well as VPN Phone for remote workers and telecommuters, and increased IP Office 500 capacity to support eight T1/E1 digital trunks (192 T1/PRI or 240 E1).

Clients: STRONG

• IP Office supports Avaya's 2400, 4400, and 6400 series digital handsets and Tenovis T3 digital phones, allowing customers with investments in legacy components to retain some of their value while migrating to IP. IP Office also supports Avaya's 4600 series IP phones. The three models of the 5400 digital phones and four models of the 5600 IP desk set series are designed for cost-conscious SMB buyers and for use only with the IP Office system.

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For teleworkers, IP Office supports Avaya's VPNremote software for the 4600 and 5600 IP phone series.

• IP Office can be outfitted with an optional support for wireless IP handsets developed by Polycom SpectraLink and modified as the 3641 and 3645 models to support Avaya communications platforms. This helps customers leverage their WiFi networking investments in deployment of IP telephony solutions. Avaya's WiFi solutions are available globally.

• IP Office supports the IP DECT wireless system, including the 3701 and 3711 telephones in both Europe and North America. In the U.S., Avaya offers single-line digital solutions, such as the Avaya 3810 digital wireless products.

• IP Office supports the Windows-based Phone Manager application for PC-based call control, history, and personal speed dial. In IP mode, Phone Manager Pro becomes the Phone Manager PC Softphone client and uses a PC sound card for voice conversations. All Phone Manager versions provide links to Microsoft Live Communications Server for presence information and instant messaging capabilities. Softphone for Communication Manager is not compatible with IP Office.

Pricing: COMPETITIVE

• The list price for PBX system and software in a 50-user configuration is $18,689 ($374 per user).

• The list price for PBX system and software in a 100-user configuration is $42,855 ($429 per user).

• The list price for PBX system and software in a 250-user configuration (or with the maximum number of users, if less than 250) is $106,420 ($426 per user).

Scalability and Performance: COMPETITIVE

• IP Office 412 supports up to 360 analog, digital, or IP devices. IP Office 500 scales to 270 stations (240 digital). Scalability to 360 IP end stations is a high number for an all-in-one SME PBX.

• Additional analog trunks can be provisioned using the Analog Trunk 16 module for all IP Office platforms. Up to eight T1/E1 trunks can be provisioned on IP Office 500, as well as up to 128 SIP trunks.

• IP Office can serve as a remote site solution networked back to a centralized Avaya Communication Manager PBX. Using Avaya Small Community Networking (SCN), up to 16 IP Office controllers can be linked together with full feature transparency between systems for up to 500 total users. However, feature transparency is compromised after the 16-controller threshold is surpassed. Further systems can be clustered together, creating their own SCN. These SCNs can be linked together with Q-SIG, offering basic call services between them.

Security and Reliability: COMPETITIVE

• IP Office runs on a proprietary Avaya operating system. While potentially less prone

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to malicious attack than more prevalent operating systems, such as Windows, Avaya's IP Office OS makes the system less accessible to third-parties for applications development and integration than competing platforms based on Unix or Linux.

• IP Office Manager can be used to administer all IP Office components and associated applications from a Windows-based interface. IP Office has no Web-based management console. IP Office systems deployed as remote-office solutions cannot be managed by a centralized Avaya Integrated Management system. Avaya Integrated Management for IP Office works with Avaya IP Office Manager to provide a complete management solution for enterprises with distributed IP Office deployments. The IP Office System Status Application for local and remote performance monitoring is available for customer and reseller use.

• IP Office configurations and user data utilize automated functions to archive the system to external PC stores. RAID devices for voicemail, contact center, and voice recording software are supported. Redundancy options and hot pluggable hardware components, including hard drives (IP Office has no hard drive) and power supplies (Small Office Edition, IP406v2, and IP412 run on external AC/DC power and IP500 has an internal power supply), are not supported. As a result, the replacement of a comparably greater number of IP Office hardware components requires disruptive system downtime.

• IP Office supports failover to public telephone network connections (including for IP lines). A failover feature allows IP phones on IP Office systems to re-register on a remote IP Office or Avaya Communication Manager in event of primary system failure. When connection to a central Avaya Communication Manager server is unavailable, the G150 Media Gateway switches to temporary standalone mode with a small subset of IP Office features available for remote sites.

• IP Office security features include VPN tunneling using IPSec (3DES), integrated firewall, and administrator pass code-protected access for system configuration.

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Product Metrics

Product: Avaya IP Office

Metric	Value
Max. No. of Stations Supported	360 on IP Office 412
Max. Number of IP Stations Supported	360 on IP Office 412
Max. Number of Digital Stations Supported	360 on IP Office 412
Max. Number of Analog Stations Supported	360 on IP Office 412
Maximum Number of Softphones per Server	360 on IP Office 412
Number of Controllers that can be Internetworked	16 for maximum feature transparency; Unlimited for simpler networking
Number IP Trunks Supported	256 on IP Office 412
Number Digital Trunks Supported	Eight 8 T1/E1 digital trunks (192 T1/PRI or 240 E1) on IP Office 500; four digital trunks (192 T1/PRI or 240 E1) on IP Office 412
Number Analog Trunks Supported	200 on IP Office 412
Maximum Number of Simultaneous Calls	Non-Blocking
Switch Type	IP Core
Switch Matrix Type	IP with Digital
Call Processor Operating System	Proprietary (IP Office OS)
Centralized or Distributed Call Processor	Centralized
Redundant Call Processor	Non-Blocking
Signaling Systems Supported	QSIG, ISDN-PRI, IP, Community Networking
Call Control and Messaging APIs	TAPI, H323, H450, SIP
Switch Interfaces Supported	IP, Frame, E1, T1
VoIP Protocols Supported	H.323 v1, v2; H.450, SIP
QoS Protocols Supported	DiffServ
Voice Mail Platform Support (standard/ optional)	Standard
Number Voice Mail Subscribers	Configuration-dependent; 256 on IP Office 412; 500 for centralized voice mail in Community Networking
Number Voice Mail Boxes	Configuration-dependent; one per user and group on system or small community network; up to 500 in total
Number Voice Mail Ports	30
Follow-me Forwarding	Yes
Unified Messaging Platform Support	Yes (fax via fax server)
E-mail Protocol Support	SMTP, MAPI, Microsoft Exchange for Integrated Messaging
Contact Database Support	Yes
Automatic Call Distribution Platform Support	Standard
Number of Agents Supported	75
Number of Supervisors Supported	21
Number of Simultaneous Conference Calls	42 on IP Office 412; 21 on IP Office 500

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Product Metrics

Product: Avaya IP Office *(Continued)*

Metric	Value
Maximum Participants per Session	64
Management Server Operating System	Windows
Web-based Management Console	No (Windows-based, which can be run over the Internet)
Built-in/Custom Reporting	All call logs are output in real time over the LAN
Real-Time Status Monitor	Yes, System Status application
Time-of-Day Policy Management	Yes
Hot-pluggable Hardware	No
RAID Support	Yes - on 3rd party server platform running IP Office voicemail, contact center or voice recording software
Automated Backup/Client Log-on	Yes
Call-detail Recording	Yes - IP Office Contact Store; also via Veramark, Proteus, and Oak
Accounting/Billing Platform Support	Via third parties, SMDR provided

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