

PREREQUISITE GUIDE

FOR A SUCCESSFUL MIGRATION

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ARCHITECTURE

1.1 INTERNET CONNECTIVITY PREREQUISITES

In terms of speed, it is important to allocate 100 Kbps for each simultaneous communication within the company. If the client plans on having 10 simultaneous communications, the Internet connection must have a capacity of at least 1 Mps megabit per second (mbps), both upstream and downstream.

To achieve optimum quality, we recommend validating that the Internet communications have a relatively consistent “latency” not exceeding 250 milliseconds (ms).

1.2 VOICE PRIORITIZATION

- ✓ The QoS (standardized term for Quality of Service) programming within the network equipment (e.g. routers and network switches) is crucial in situations where the Internet connection is shared with the company’s computers and data network.
- ✓ The QoS configuration allows voice prioritization over a computer network which avoids having interruption problems when someone is online or having a jerky communication.
- ✓ We always recommend the QoS configuration unless the company has separate networks for voice and data.
- ✓ In all cases, it is important to validate the available QoS mechanisms depending on the type of equipment used in the organization.



1.3 ROBUSTNESS AND HIGH AVAILABILITY (best practices, although not essential)

- ✓ To ensure a high degree of availability and an improved robustness level, we recommend installing two Internet connections. In this manner, an Internet link will be “in robustness” vis-à-vis the other.

In the context where two Internet connections are implemented, Ubity recommends connections from different carriers and two different technologies in order to ensure maximum robustness and avoid single points of failure (e.g. fibre and cable)

- ✓ If the company already has two Internet connections or plans to have an additional connection installed soon, it is recommended to possess equipment that allows automatic link balancing in the event of failures or congestion. This equipment can either be a router or a “load balancer”.

1.4 TELEWORKERS

- ✓ In the context of teleworking, it is important to ensure that the home Internet connectivity offers minimum quality Internet bandwidth. We recommend “high-speed” links to achieve the best possible experience (100 kbps per call).
- ✓ If teleworkers can configure voice prioritization (QoS) themselves in their residential equipment, this is a practice we recommend.
- ✓ As for teleworkers who use public WiFi terminals, one should realize that it may not be possible to assure optimum quality service.



USING WIFI, 3G, LTE OR SATELLITE

WiFi, 3G, LTE or satellite networks are particularly useful when a company wants to provide mobility to its employees or cover hard-to-access areas normally reached by satellite. In all such cases, it is important that proper validations be made before adding a telephone service that uses these types of networks. The following are the prerequisites to be considered :

2.1 WIFI

Works in WiFi but it is difficult to assure a guaranteed service level. Companies that possess a high quality infrastructure with advanced configurations and advanced equipment can attain a very high quality level. A standard WiFi does not guarantee service quality, but offers accessibility.

2.2 3G ET LTE

When using 3G or LTE technology, it is important to understand that you will be using your data plan to place calls. The second is about the call quality level: it does not guarantee service quality, but it does offer accessibility.

2.3 SATELLITE

Satellite navigation can be highly practical for hard to reach geographic locations with other technologies. Satellite services can also provide more than sufficient bandwidth. In this context, it is important to have your provider confirm that it will be able to configure QoS on the link in order to achieve Voice priority. We also recommend functional testing with a phone to ensure that the latency, i.e. the transmission delay, does not adversely impact communications. Barring a few exceptions, one can expect satellite telephony to have an average latency of 500 milliseconds (ms) and, consequently, some communication lag.



CABLING

The network cabling is an essential precondition for a properly operating telephony service. It is important to identify the locations where you want to install telephones knowing that each location will require networking cables such as CAT5, CAT5e, or CAT6. These locations include the courtesy phones, conference room, cafeteria and others. If additional cabling is required, it should be installed before migrating your telephony to external IP.

3.1 INSTALLING TWO CABLES AT EACH LOCATION

In the event your company has had two cables installed at each location, it will be possible to use one cable for the computer and the second cable for the telephone. Each cable must lead to a network terminal switch or router that connects to the network. This double cabling facilitates the network configuration and helps ensuring the service availability, but is more onerous.

3.2 INSTALLING ONE CABLE AT EACH LOCATION

Where the telephony and computer installation uses the same cable, cost optimization can be achieved. The telephone will thus provide the plugged-in computer with access to the network. In this context, it is important to ensure that the cables are CAT5/5e/6 compliant and fully functional, and that the existing cables are long enough to position the phone at the desired location.

3.3 DEPENDENCY

If the phone needs to restart or be moved while disconnected from its power source, the computer will be disconnected from the network and the Internet the time it takes for the phone to reboot.



ELECTRICITY

4.1 ELECTRICAL POWER SWITCHES

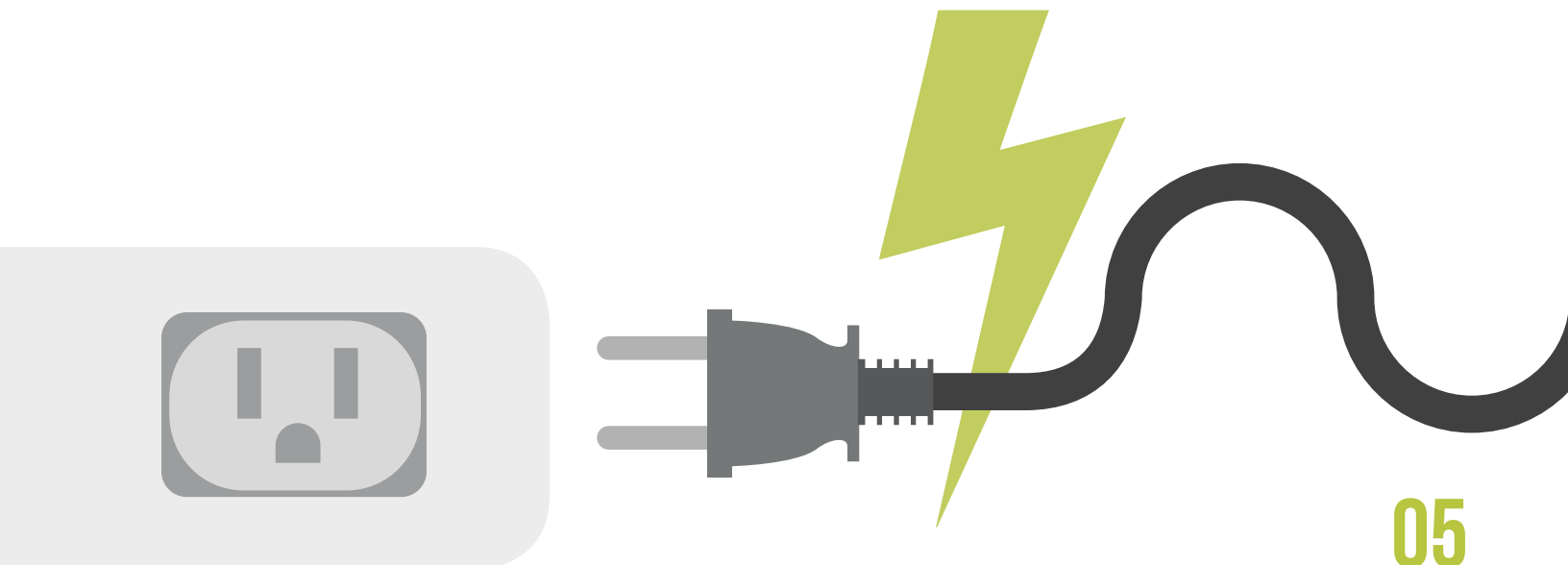
We strongly recommend having in-line power switches or PoE (Power over Ethernet) which provide electrical power to the phones via the network cable. This method avoids having power supply adapters attached to each phone, thus reducing the risks of potential incidents. Moreover, the power capacity is in this manner centralized. This approach may call for the purchase of a PoE switch the price of which may vary considerably depending on the manufacturer (Cisco, Juniper, HP, Netgear, etc.).

4.2 ELECTRICAL PROTECTION

Thanks to the centralization of power distribution on PoE switches, the possibility exists of adding an extra level of assurance by installing an Uninterruptible Power Supply (UPS) to reduce the risks in case of power failure. The UPS will bear the load of the PoE switch and ensure continuity of service for a period of time.

4.3 PHONE POWER SUPPLY

If power is used over a telephone (by electrical power cube), it is very important to evaluate the number of electrical outlets, the availability of power bars and the residual capacity.



FAX, ALARM SYSTEMS AND OTHER ANALOG DEVICES

5.1 FAX PREREQUISITES

If you want to install a fax line in VoIP (Voice over IP) but prefer to keep a facsimile apparatus, you need to ensure that a network connection is nearby. In effect, you will need to acquire an Analog Telephone Adapter (ATA) in order to connect the analog facsimile apparatus to the company local area network.

It is important to identify that the faxes sent from our “Studio” Web platform are subject to certain formatting restrictions. Among other things, it is not possible to transmit legal-sized pages.

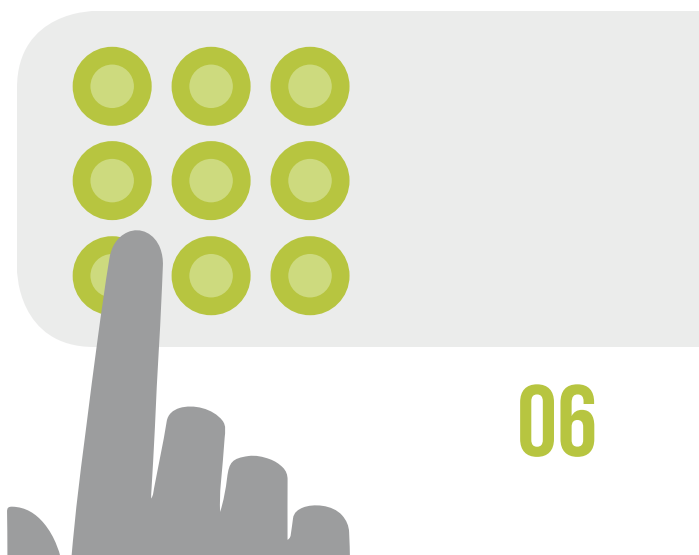
5.2 ALARM SYSTEMS PREREQUISITES

It is essential to maintain traditional or analog phone lines for alarm systems. We advise against transferring these systems on the Hosted Phone System. Alarm companies require that you maintain a dedicated line and have you retain an “1FL”. Standard costs can range between \$15/month and \$30 per month depending on the region. Some alarm companies offer the cellular alternative. We strongly recommend that you speak directly with your supplier and your insurance company. Note that alarm systems are not part of Ubiety’s portfolio of products and services.

5.3 OTHER ANALOG DEVICES PREREQUISITES

In our survey section, you will be asked to identify the analog devices used by your company. Once we have this information, we will be able to target the best strategy for these components. For example:

- ✓ Stamp machine
- ✓ Interac or other Point of Sales devices (some POS machines can now use IP instead of analog)
- ✓ Door opening systems
- ✓ Paging and speakerphone



LEGAL SERVICE, TRANSFER OF RESPONSIBILITY AND DOCUMENTATION

6.1 EXISTING CLIENT CONTRACTS

Upon signing the contract, we recommend that clients index their telecommunications invoices, i.e. have their telephone numbers and their 1-800 numbers within easy reach. For the transferability of telephone numbers. Invoices are a prerequisite to migrating to Ubyty for telephone number portability. Ubyty's Project Manager will indicate the end date by which you must provide us with the documents, so that we can achieve portability within the specified time frame.

