

**CASE STUDY**

**Troubleshoot Skype for Business Incidents Faster**  
with ServicePilot

**Note:** Due to the nature of the information presented in this document, the client has asked that the data be anonymized.

## CHALLENGE

Our client is an industry leader in digital security with offices in 44 countries and 12,000 employees. Its clients include more than 30 governments, 400 mobile operators and 3,000 banks and financial companies.

With a network on this scale, ensuring the smooth operation of all VoIP communication is a challenge.

In fact, despite QoS policies applied by the company on its wide area network (WAN), many users still had voice quality problems during phone and conference calls.

Unfortunately, the IT teams could not pinpoint the root causes of their voice quality problems.

## SOLUTION

By choosing ServicePilot, our client's IT team managed to locate and understand the cause of these problems; improving the VoIP experience of their many users.

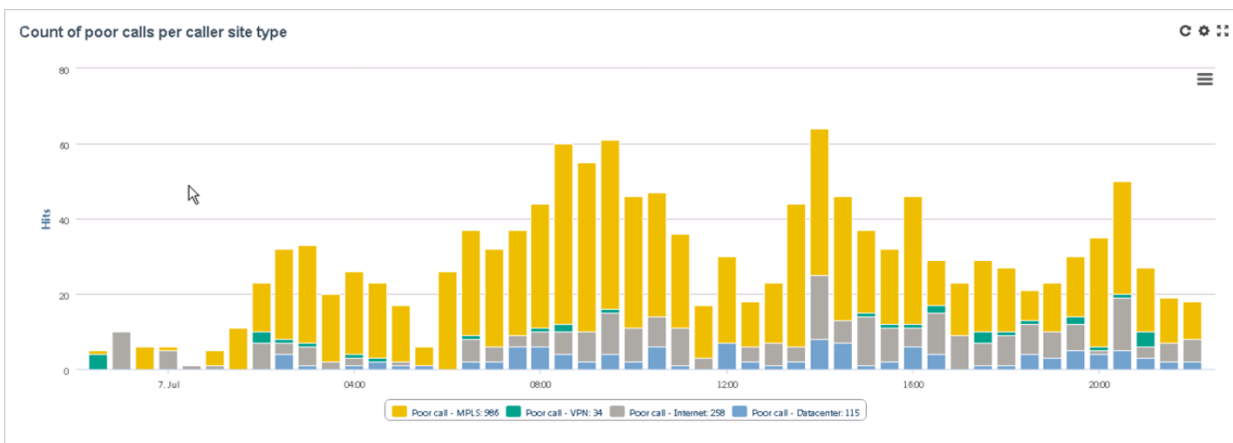
The ServicePilot solution offered is comprised of three key elements:

- Service: Analysis of call quality per site
- Technology: Overseeing the Skype for Business architecture and infrastructure per site
- Correlation: Diagnose VoIP service degradation by correlating call quality and technology

### 1) Service: Analyzing call quality per site

ServicePilot continuously collects Skype for Business Server QoE monitoring data and information for each call, obtaining (amongst other things): MOS (Mean Opinion Score, between 0 and 5); jitter (ms); latency (ms); packet loss rate; codec and other location, connectivity, extension and headset information.

The first four indicators in particular are used by ServicePilot to assess call quality and classify calls as good, average or bad for each company site. ServicePilot then presents these results in clear and simple interfaces to the operations teams. With the histogram below, they can analyze the distribution of poor quality calls by site type and time.



## 2) Technology: Overseeing the Skype for Business architecture and infrastructure per site

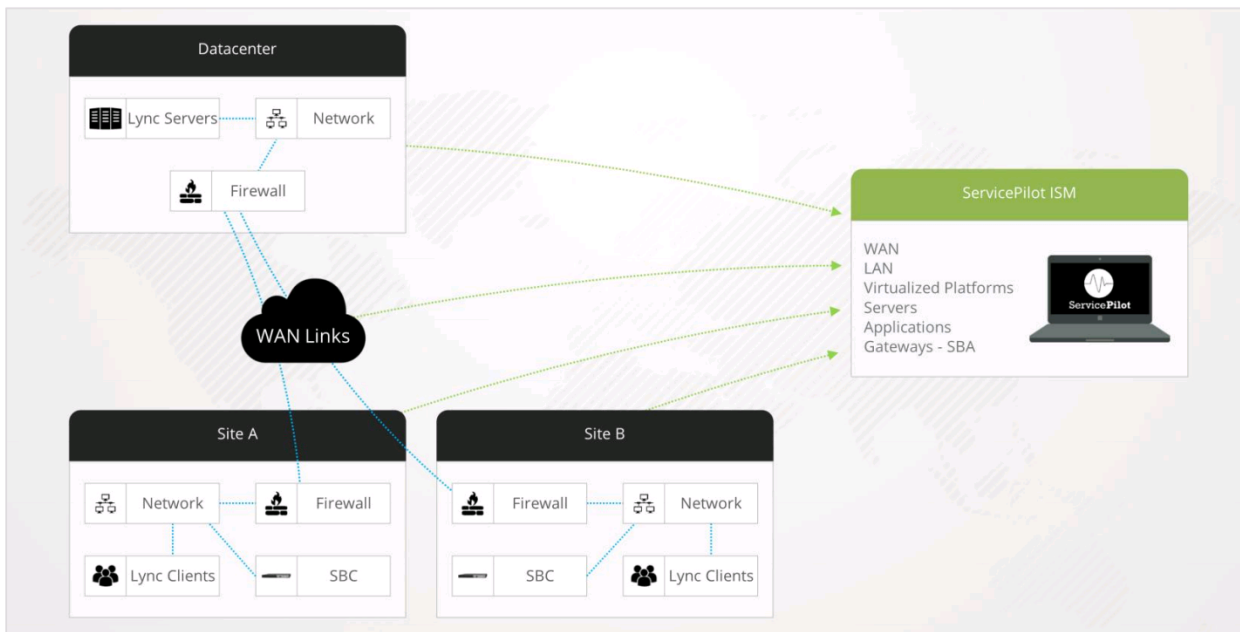
While analyzing VoIP communication quality, ServicePilot monitors the performance of the Skype for Business infrastructure and all company site network infrastructures.

To do this, the monitoring software collects WMI indicators from each Skype for Business server in the deployment, and takes into account the Key Health Indicators (KHI) recommended by Microsoft.

The Skype for Business architecture contains several kinds of server roles. Each server running a Skype for Business instance can play several roles at once. ServicePilot therefore collects key performance indicators from the following different Skype for Business roles:

- Front End Server
- A/V Conferencing Server
- Edge Server
- Mediation Server
- Monitoring Server
- Archiving Server
- Director Server

In addition, ServicePilot gives the teams the ability to view network infrastructure on all sites in geographical or technical views (60 WAN optimization probes, 300 switches and firewalls).



## 3) Correlation: Diagnosing VoIP service degradation by correlating call quality and technology

Finally, ServicePilot allows operations managers to correlate quality of service and infrastructure performance.

As shown below, they can see that when the Call Detail Records (CDRs) and call quality indicators for Site 1 becomes problematic, the associated switch interfaces appear to be saturated.

Daily Availability/Performance																									
VIEW	AVAIL. PERF.	00H	01H	02H	03H	04H	05H	06H	07H	08H	09H	10H	11H	12H	13H	14H	15H	16H	17H	18H	19H	20H	21H	22H	23H
Site1-CA1030-RG-10	100% 99.319%	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
StelytUJDDD8K2	100% 100%	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Site1-CA1030-RG-12	100% 100%	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Site1-CA1030-RG-08	100% 100%	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Site1-CA1030-RG-11	100% 100%	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Site1-CA1030-RG-13	100% 100%	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Site1-CA1030-RG-15	100% 100%	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Site1-CA1030-RG-10-Gi8-22	100% 99.319%	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Lync-Call-Quality-Site1	100% 99.319%	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

## BENEFITS

With a ServicePilot solution, it is now possible for our client's teams to quickly diagnose the cause of call quality problems, and thus ensure a better quality of service for users of their VoIP ecosystem.

The company quickly discovered that their conference calls voice quality problems stemmed from Skype for Business front-end server CPU saturation and the saturation of critical switch interfaces.

Also, to prevent future service degradation, Skype for Business solution activity reports were put in place to enable the management team to analyze the services provided:

- Analysis of audio calls
- Analysis of conference calls
- Top sites by indicator: peak call usage, number of degraded quality calls, call duration
- Measurement of WAN, LAN, servers and gateways performance

You too can diagnose VoIP performance problems faster with ServicePilot.