

# Democratizing (certified) video conferencing

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## Keywords

Video conferencing decentralization, modernization, optimization, regulatory compliance.

## 1. Summary

An overly expansive view of legal/regulatory restrictions, coupled with an outdated perception of the cost and complexity of modern video conferencing implementations, have for some time prevented our institution from taking full advantage of video conferencing in its academic and administrative functions.

Addressing this, we have created a framework to further the deployment of small-to-moderate scale video conferencing services, i.e. with sessions involving 3-6 points of up to ten persons each, in a coordinated, decentralized and cost-effective way. We have seen substantial positive results while gaining insights that may be of use to institutions facing similar scenarios.

## 2. CONTEXT

Since 2011, Greek law grants collective bodies of Greek academic institutions the ability to conduct their official meetings via video conference, provided that the infrastructure exists to ensure participants' identity as well as data confidentiality and integrity.

This provision, along with a concurrent change in the composition of a particular class of collective bodies (faculty election and advancement committees) created an immediate need for compliant ("CVC" - certified video conferencing) solutions to facilitate both hosting and participating in Greek academic institutions' official meetings.

Initially, only one CVC capable installation was fully operational in our institution, with two more on limited availability. Unsurprisingly, demand surged and was poised to reach unsustainable levels, despite our scrambling to setup additional video conferencing points in our central facilities. In response, a goal was set to decentralize the CVC service, ideally setting up an independently operated installation at each department of our university.

We faced several challenges pursuing that goal; this is an outline of those that may be of interest to non-Greek institutions. The term CVC may hereafter be interpreted as "**Video conferencing involving 3-6 points of up to ten persons each**".

## 3. CHALLENGES

### 3.1. Clearly define your aim

Video conferencing encompasses a broad range of scenarios and corresponding implementations, making it easy to lose sight of your target. Clearly defining and prioritizing your aims can save deployment time, effort and cost.

In our case, the focus was a baseline implementation that each of our institutions' departments could deploy swiftly and at minimal cost to address their CVC needs. At the same time we pursued versatile and expandable implementations with an eye towards eventually addressing other video conferencing scenarios.

Affordability (including the ability to repurpose existing hardware), versatility and expandability made personal computers the most compelling platform to build around. Our baseline was nothing fancier than pc + projector + speakerphone + PTZ "pan-tilt-zoom" camera (we actually had to wait for the market to provide performance pc video conferencing equipment at a comfortable price-point before proceeding). We have since complemented this implementation with more sophisticated ones (always pc-based), to accommodate a broader spectrum of use-cases.

### **3.2. Develop comprehensive and tailor-made propositions**

To be convincing, our proposition had to leave no blind spots and be able to stand up to minute examination. A clear road map to implementation with time and cost estimates has been essential. We found that, even if they were not strictly our responsibility, leaving pertinent aspects unaccounted for made our proposition significantly less compelling. Items we had to consider include:

- Technical and administrative workflow design
- Law and regulatory compliance (and misinterpretations thereof)
- Room configuration, including furnishing, lighting and soundproofing
- Equipment specifications, suggestions and possible vendors
- Equipment testing and setup
- Additional tools for scheduling and coordination
- Staff training
- Support and backup

At the same time, while based on a template, our approach had to be flexible enough to accommodate (and, where possible, take advantage of) the specific situation and needs of every department. As an example, we came across six separate instances where departments had invested in dedicated video conferencing equipment but never came around to deploying it. In four of them, it was possible to incorporate this equipment in our implementation and help them recover their investment.

### **3.3. Practice what you preach**

Initially, our central video conferencing facilities operated dedicated video conferencing (H.323) equipment and we soon found that advocating for one platform while using another weakened our argument. Also, faculty and administrative staff were often biased against a personal computer based setup, usually from personal experience with sub-par equipment.

In response, we procured and deployed our proposed baseline personal computer based implementation as the primary/default in our central facilities (pre-existing equipment was kept online as backup, as well as for psychological reasons).

Further, we visibly adopted our proposed tools and workflow, so organizers and participants of every meeting would experience a live functioning demonstration of our complete proposal. These participants often included people holding key positions in the decision making of their respective departments.

Feedback from daily interaction has shown that this has been a very effective way to clear misconceptions about the adequateness and efficiency of our proposal. Additionally, it has

encouraged the administrative staff de-mystify and engage in the CVC organization process, making it easier for them to eventually take over and operate independently.

### 3.4. Do not antagonize peripheral operators

This is especially important if you intend to offer your central facilities as backup for peripheral CVC points. By cultivating your services to an ever-higher standard, you may be discouraging efforts to replicate and decentralize them. In extreme cases this may even result in departments reverting from their already established CVC points, to yours.

To encourage decentralization, focus on a consistent level of service across every CVC point, (including your own) and always seek to propagate any improvements you introduce.

### 3.5. Keep everyone in the loop

Open lines for communication with CVC points' operators present you with an opportunity to benefit from their feedback and help towards consistent CVC operations throughout your institution. This is also valid for inter-institutional cooperation.

## 4. RESULTS

Table 1: Active CVC installations at the Aristotle University of Thessaloniki

	2012	2015
H.323 based	3	7
Personal computer based	0	9
Total	3	16

The additional four H.323 implementations operating in 2015 are formerly inactive equipment which has since been activated. All CVC equipment procured since 2012 has been personal computer based.

Table 2: CVC decentralization

	2012	2015
Schools with access to an active local installation capable of hosting a certified video conference	3/41 (7.3%)	22/41 (53.7%)

While far from complete, the level of decentralization we have reached has eased the pressure on our central facilities, which are at the moment (and, barring dramatic regulation changes, for the foreseeable future), operating under a sustainable load.

## 5. AUTHORS' BIOGRAPHIES



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