

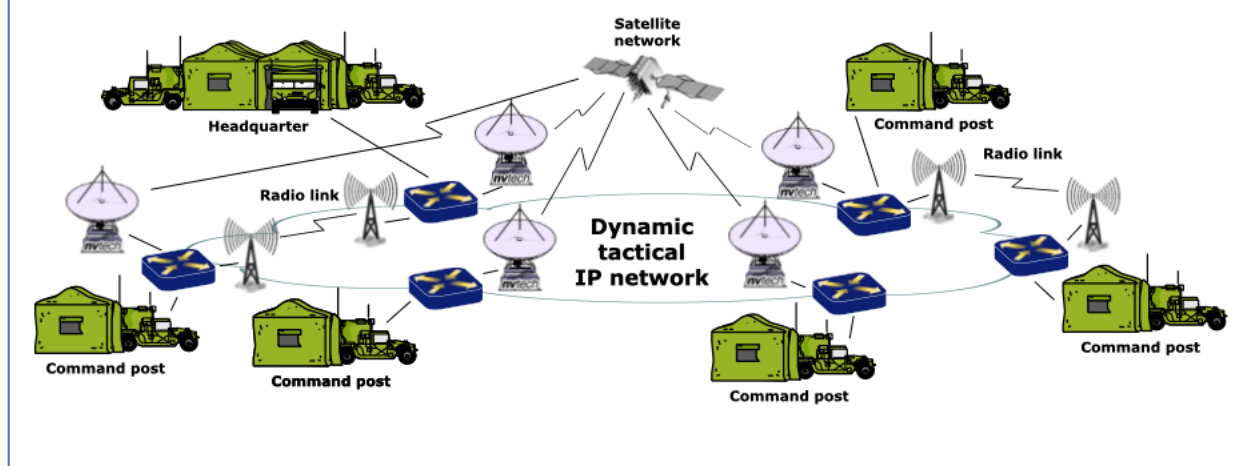
DECLARATION OF OLOV SCHELÉN

I, Olov Schelén, declare and state as follows:

1. I am an individual residing in Piteå, Sweden.
2. This declaration is based upon my personal knowledge of the facts stated herein.
If called as a witness, I could and would testify to the statements made herein.
3. I am one of the named inventors of United States Patent No. 7,616,601.
4. I am one of the co-founders of a Swedish company, Operax AB, which formerly owned US patent application 10/250,702, which eventually issued as United States Patent No. 7,616,601.
5. As a part of my employment for Operax AB, I along with other Operax AB employees developed technologies related to United States Patent No. 7,616,601.
6. One such project was the development of a product known as the RC 5500, which was sold by Operax AB to the Royal Netherlands Army.
7. The RC 5500 was a network resource manager/radio resource manager, which among other things:
 - a. handled radio resources within a radio access network, such as in the backhaul, when wireless and satellite links were used;
 - b. controlled IP network resources using a resource map in order to provide end-to-end QoS, estimate routes, and log provisionend and booked resources end-to-end;

- c. performed path-sensitive call admission control based on setup requests coming from another entity (*e.g.*, call manager/gatekeeper), because that entity was not aware of network paths and link resources;
 - d. checked resource availability along a communication path, because it had an understanding of routes that would be used, of link capacities, and of other approved bookings;
 - e. pre-allocated resource requests in an IP network, in order to provide needed resources throughout mission critical calls;
 - f. scheduled resources over time by introducing start and stop times in a resource requests, to accommodate pre-planned mission critical calls;
 - g. communicated resource information among at least network and radio resource managers to monitor booking status and to plan network capacity and/or provisioning upgrades; and
 - h. reserved IP network resources along the communication path to fulfill end-to-end QoS and ensure end-to-end call quality.
8. The RC 5500 was implemented by the Royal Netherlands Army within its TITAAN Project (“Theatre Independent Tactical Army and Airforce Network”).
9. A conceptual representation of how the RC 5500 was deployed by the Royal Neetherlands Army is provided below:

Dynamic Tactical Network Architecture



10. It is my understanding that the Royal Netherlands Army utilized the RC 5500 as a resource manager to control and manage wireless communication bandwidth in their TITAAN networks via mobile phones, IP call managers/gatekeepers and satellite equipment.
11. Due in part to Operax's contribution to the TITAAN Project, the Royal Netherlands Army was awarded the best new Network Centric Warfare ("NCW") Programme within a NATO Coalition Nation by the United States NCW community.¹
12. The success of Operax's contribution to the TITAAN Project is evidenced in part by the Royal Netherlands Army's decisions to extend its involvement with Operax over time.²

¹ See e.g., <https://apps.dtic.mil/sti/tr/pdf/ADA469709.pdf>.

² See e.g., <https://www.lightreading.com/cable-technology/dutch-army-deploys-operax#close-modal>.

13. The success of Operax's RC 5500 product is further evidenced by the InfoVision Award granted by the International Engineering Consortium and the Broadband World Forum Asia 2007 team. The InfoVision Award recognized Operax's RC 5500 being among "the most unique and beneficial to the telecommunications industry."³
14. The RC 5500 was additionally recognized as a "new and imaginative product[]" by the European Council of Applied Sciences, Technologies and Engineering, with the sponsorship and support of the European Commission, through its award of the 2007 European ICT Prize at CeBIT, Hannover.⁴
15. The RC 5500 and the inventions disclosed in United States Patent No. 7,616,601 solved a long-felt but unsolved problem in the field of networking, since there was a need for path aware admission control and the call managers/gatekeepers at the time of the invention did not have the required network awareness to perform such control. Additionally, at that time, technologies such as RSVP were not used for per-call admission control in general, or in radio access networks. Moreover, at the time RSVP didn't support admission control for advance scheduling of call resources.
16. These limitations of the technologies that existed at the time of the invention led to problems such as network link overload and/or inefficient over-dimensioning of network resources. The RC 5500 was able to overcome these persistent and long-

³ See e.g., <https://www.ossnewsreview.com/operax-wins-iec-infovision-award-1265>.

⁴ See e.g., <https://www.ossnewsreview.com/operax-awarded-2007-european-ict-prize-1147>.

existing problems, which is why it was recognized for its ingenuity in the field of networking.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed this the 8th day of January 2024 in Piteå, Sweden.

A handwritten signature in cursive script, reading "Olov Schelén", positioned above a horizontal line.

Olov Schelén