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Datasheet for the decision of 28 April 2017

Case Number: T 1591/11 - 3.5.06

Application Number: 05396006.8

Publication Number: 1691284

IPC: G06F9/46, H04L12/24

Language of the proceedings: EN

Title of invention:
Method, system and computer program product for providing access policies for services

Applicant:
Comptel Corporation

Headword:
Providing access policies for services/COMPTEL

Relevant legal provisions:
EPC 1973 Art. 56

Keyword:
Inventive step - (no)

Decisions cited:

Catchword:

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Case Number: T 1591/11 - 3.5.06

D E C I S I O N
of Technical Board of Appeal 3.5.06
of 28 April 2017

Appellant: (Applicant)	Comptel Corporation Salmisaarenaukio 1 00180 Helsinki (FI)
Representative:	Berggren Oy, Helsinki & Oulu P.O. Box 16 Eteläinen Rautatiekatu 10A 00101 Helsinki (FI)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 25 February 2011 refusing European patent application No. 05396006.8 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	W. Sekretaruk
Members:	A. Teale
	M. Müller

Summary of Facts and Submissions

I. This is an appeal against the decision, dispatched with reasons on 25 February 2011, to refuse European patent application No. 05 396 006.8 on the basis that the subject-matter of the independent claims according to a main and an auxiliary request (referred to below as the "first auxiliary request"), received on 1 December 2008, lacked novelty, Article 54 EPC, in view of the document

D1: US 2003/0110262 A1.

The decision also mentioned the document

D2: Frank Buschmann, et al.: "Pattern-Oriented Software Architecture: A System of Patterns", 1996, John Wiley & Sons Ltd., Balfins Lane, Chichester, West Sussex, P019 1UD, England, XP002330494.

II. On 20 April 2011 a notice of appeal was received, requesting that the decision be cancelled in its entirety and that a patent be granted. The appeal fee was paid on the same day. The appellant also requested oral proceedings if the appeal could not be allowed.

III. On 17 June 2011 a statement of grounds of appeal was received together with amended claims according to a new request, referred to below as the "second auxiliary request". The appellant made the following requests: grant of a patent on the basis of the main request upon which the decision was based, remittal with the order that the main request fulfilled Articles 54 and 56 EPC, grant of a patent on the basis of the auxiliary request

upon which the decision was based, referred to below as the "first auxiliary request", remittal with the order that the first auxiliary request fulfilled Articles 54 and 56 EPC, grant of a patent on the basis of the new request (referred to below as the "second auxiliary request"), remittal with the order that the second auxiliary request fulfilled Articles 54 and 56 EPC, a "written communication and an opportunity to comment and rectify the requests" and, if the board envisaged rejecting the appeal, oral proceedings. If the board considered it necessary to raise an objection based on any ground other than Articles 54 and 56 EPC then the appellant requested an opportunity to comment before the board or remittal to the first instance.

IV. In an annex to a summons to oral proceedings the board set out its preliminary opinion that the subject-matter of the claims according to the main and first and second auxiliary requests lacked inventive step, Article 56 EPC 1973, in view of the combination of D1 and D2. The board also expressed doubts as to the clarity of the claims, Article 84 EPC 1973.

V. With a submission received on 28 March 2017 the appellant submitted amended claims according to a third auxiliary request and requested grant of a patent based on this request or remittal to the first instance with the order that the request satisfied Articles 54 and 56 EPC. The appellant also requested a preliminary opinion on the admissibility and, preferably, the allowability of the new request.

VI. In a communication of the registry on behalf of the board on 6 April 2017 the board stated that it was inclined to admit the third auxiliary request, but that the amendments to the claims seemed not to overcome the

inventive step objection set out in the annex to the summons. For this reason, and because the higher-ranking requests had been maintained, the oral proceedings would still take place as scheduled.

VII. In a letter received on 27 April 2017, the day before the oral proceedings, the appellant stated that "We hereby respectfully inform the BoA that the neither the applicant nor their representative will physically attend the oral proceedings on April 28, 2017. In favor of procedural efficiency, we cancel the main request as well as first and second auxiliary requests so that only the third auxiliary request will remain on file to be decided by the BoA. We apologize for the late notice."

VIII. Oral proceedings were held on 28 April 2017 in the absence of the appellant, as announced in advance. At the end of the oral proceedings the board announced its decision.

IX. The application is being considered in the following form:

Description:
pages 1 and 3 to 31, as originally filed.
Page 2, received on 25 September 2007.

Claims:
Third auxiliary request: 1 to 15, received on 28 March 2017.

Drawings:
Pages: 1/3 to 3/3, as originally filed.

X. The claims according to the third auxiliary request comprise three independent claims, claim 1 reading as follows:

"A method for automated service provisioning in a physical mobile telecommunications network (1) of a network operator (1, 2), the method comprising steps for
- receiving at least one provisioning request from a client system (11, 30) of a service operator (3, 4) through an Application Program Interface (API, 12, 13) to a provisioning system (15) hosted by the network operator (1, 2), for defining measures relating to end-users (5, 6) of service offered by the service operator (3, 4), said measures including at least activation of network services in the physical mobile telecommunications network (1),
- processing (14) each provisioning request in functional layers (80, 81, 82, 83) of the provisioning system (15) hosted by the network operator (1, 2),
- executing tasks according to the results of the processing step in a number of network elements (18, 19, 20, 21, 72) of the physical mobile telecommunications network (1), and
- reporting the results to the requesting entity,
characterized in
- allowing multiple service operators (3, 4) to use the provisioning system (15) through an authenticated Application Program Interface API (40, 50), and a Management User Interface (48, 49, 58, 59, 93) and an authorization function (43, 53) after the provisioning rules processing (94), where the rights for the use of the network elements (18, 19, 20, 21, 72) of the physical mobile telecommunications network (1) are controlled by the network operator (1, 2), whereby the network operator (1, 2) is able to present and utilize

said physical mobile telecommunications network (1) in many logical views (45, 46, 47, 55, 56, 57), each representing the portion accessible to one of said multiple service operators (3, 4), and in this way controllable by the network operator (1, 2) with limitations, authentication and authorization rules."

Claim 9 sets out a corresponding system for automated service provisioning in a physical mobile telecommunications network of a network operator, and claim 15 sets out a computer program product comprising program code means which, when the program is run on a computer, cause the executing computer to carry out the method of claim 1.

Reasons for the Decision

1. Admissibility of the appeal

In view of the facts set out at points I to III above, the appeal fulfils the admissibility criteria under the EPC and is therefore admissible.

2. Summary of the invention

2.1 The application is concerned with the sharing of a physical mobile telecommunications network, owned and administered by a "network operator", by various "service operators" who provide network services to end-users but do not have their own physical network; see paragraph bridging pages 4 and 5. A provisioning system partitions the physical network into logical segments (see page 3, lines 1 to 2), each being allocated to a different service operator. Authentication and authorization are carried out to ensure the necessary data protection and

confidentiality between the end-users of the various service providers; see page 5, lines 15 to 20.

2.2 The application uses the term "provisioning" to mean, "for example creation, modification, activation and/or deactivation of subscribers, services, service providers, network elements, network devices, business support systems, customer care systems and/or billing systems with computer, computers, computer program, computer programs and/or suchlike logic systems in communication network in any combination mentioned above."; see page 13, lines 16 to 21.

2.3 In the past, service operators could not access the network operator's provisioning system, and provisioning requests were managed via the network operator's OSS (Operational Support System) or BSS (Business support system); see page 5, lines 5 to 12. The invention allows the service operators to make requests via an API (Application Programming Interface) to the provisioning system and thus, within limits defined by the network operator, control the services provided by the network, for instance activating services for end-users.

2.4 Figure 1 illustrates an embodiment of the invention in which service operators A (3) and B (4) provide services via a physical network (1) to their respective subscribers or end-users (5, 6). Each service operator has a client system (30, 11) for sending provisioning requests via an API (12, 13; see page 22, line 15, to page 23, line 3) to a provisioning system (15) hosted by the network operator.

2.5 Figures 2 and 3 illustrate embodiments of the provisioning system (15) having either separate or

combined processing elements, respectively, for each of the service operators. The provisioning system processes each provisioning request, executes tasks and reports the results to the requesting entity. The service operators access the provisioning system via the API, a Management User Interface (48,49), an authentication function (40,50) and an authorization function (43, 53); see page 18, lines 19 to 24, and page 19, lines 19 to 20. The network operator defines the rights, authentication rules and authorization rules of the service operators and can obtain and utilize a logical view of the portion of the physical network accessible to each service operator. As shown in figure 3, the provisioning system is divided into different layers (see page 25, lines 3 to 25): the client system layer (80) for receiving provisioning requests via the API and for communicating with the network operator's operation support system (OSS), the request processing layer (81), the service module (82) and the task execution layer (83), which includes the authorization function (43, 53) for each service operator.

3. The prior art on file

3.1 Document D1

3.1.1 D1 relates to a data centre which provides computing services to paying customers, termed "subscribers", meaning companies that have outsourced their computing services. As shown in figure 4, the data centre is controlled by a Network Management Server (NMS, 200) which is controlled by administrators either in the data centre or at the subscriber (see paragraph [0046]) using a Graphical User Interface (GUI); see figures 6b

and 8. Various views of the data centre can be presented, depending on the role of the administrator.

3.1.2 Hence, in terms of claim 1, D1 discloses a method for service provisioning in a network of a network operator, the method comprising steps for receiving at least one provisioning request from a client system of a service operator ("subscriber"; see paragraph [0085], lines 5 to 13, listing numerous request types) through an API to a provisioning system (figures 4 and 7: NMS Server 200) hosted by network operator (the hosting provider) for defining measures relating to end-users of service offered by the service operator, said measures including at least the activation of network services in the network (see paragraph [0085], lines 10 to 12), processing each provisioning request (see paragraph [0085]) in the provisioning system (200) hosted by the network operator, executing tasks according to the results of the processing step in a number of network elements (see paragraph [0076]), and reporting the results to the requesting entity (implicit in the GUI), allowing multiple service operators to use the provisioning system (see paragraph [0018], lines 7 to 13) through an authenticated (see figure 7; authentication manager 254 and paragraph [0087]) API (implicit) and Management User Interface (see paragraph [0040], lines 3 to 7) and authorization function (see paragraph [0086], lines 1 to 3) after the provisioning rules processing, where the rights for the use of the network elements are controlled by the network operator (see paragraph [0086], lines 3 to 7), whereby the network operator is able to present and utilize said network in many logical views (see paragraph [0065], each representing the portion accessible to one of said multiple service operators (see paragraph [0058] and figure 6b), and in this way

controllable by the network operator with limitations, authentication and authorization rules.

3.2 Document D2

D2 is an extract from a text book relating to the structuring of applications into groups of sub-tasks which can each be regarded as a layer in a model involving layers having increasing levels of abstraction. The first page (page 31) cites the OSI 7-layer network communication model as an example of a layered architectural model. Each layer deals with a specific aspect of communication and uses the services of the next lower layer. According to page 32, separating different issues in this way aids development by teams, the exchange of individual parts of the code and the reuse of layer code in other contexts; see lines 1 to 13. The board takes the view that the person skilled in the art of computer and communication networks would be aware of such multi-layer models as a matter of general technical knowledge.

4. The third auxiliary request

4.1 Clarity, Article 84 EPC 1973

The claims are sufficiently clear for the purposes of assessing inventive step.

4.2 The appealed decision

According to the appealed decision, the claimed subject-matter lacked novelty in view of the network management system known from D1. D2 was also cited as

evidence that organising functionalities in layers was a fundamental paradigm in software development.

4.3 The grounds of appeal

4.3.1 The appellant argued that the invention related to a system containing at least three parties: ("party 1") the **network operator** performing the steps of claim 1, ("party 2") the **service operator** sending provisioning requests to the network operator, and ("party 3") **customers of the service operator** (emphasis by the board). D1 disclosed parties 1 and 2, namely a network operator ("data network operator") and service operators ("subscribers"), but did not disclose how the customers of the service operators ("party 3") were handled. D1 did not disclose "provisioning", in the sense of the "creation of subscribers and activation of services in the telecommunications network". The invention solved the technical problem of creating a system that enabled offering customer provisioning services for multiple service operators. In D1 the subscribers, i.e. firms or business units renting computing capacity from a hosting company, could partially configure the system. There was however no hint in D1 at the subscribers reselling this capacity to individual customers or at customer provisioning.

4.3.2 Since claim 1 is not restricted by any method steps directly relating to end-users, and this is not implied by the definition of provisioning given in the description, the board is not persuaded by the appellant's argument that a difference between the subject-matter of claim 1 and the disclosure of D1 lies in the fact that D1 does not disclose how the customers of the service operators (end-users/"party 3") are handled or subscribers reselling capacity to individual

customers. The board agrees with the appellant that the administrator in D1 is to be regarded as "party 2" rather than as the end-user (party 3). The board also understands the interactions in D1 between the service operator and subscribers and in the application between the network operator and service operators to be, in both cases, invisible to end-users.

4.3.3 The appellant has also argued that D1 does not disclose "provisioning", in the sense of the "creation of subscribers and activation of services in the telecommunications network". The board regards "provisioning" as forming part of the system administration known from D1; see, for instance, the request to change subscriber information in paragraph [0085], lines 11 to 12.

4.4 The appellant's submission received on 28 March 2017

4.4.1 The appellant argued that the skilled person would not even consider D1 as a promising starting point as it did not concern end-user service provisioning including service activation in a mobile telecommunications network. The board regards this argument as using an *ex post facto* approach, which is to be avoided. For the purposes of assessing inventive step, the question to be decided is not "would the skilled person start from D1 to arrive at the claimed subject-matter" (which implies prior knowledge of the invention), but instead "would the skilled person starting from D1 and making obvious modifications arrive at subject-matter falling within claim 1?" Since any document is appropriate as a starting point for assessing inventive step,the board finds that D1 is an appropriate starting point for assessing inventive step.

4.4.2 The appellant has also argued that D2 relates to pattern-oriented software architectures and thus does not concern the use of functional layering in the processing of provisioning requests, which would not have been a matter of common general knowledge for the skilled person starting from D1. The board does not agree, since it has not alleged that D2 mentions the specific case of processing provisioning requests. D2 has instead been cited as evidence that layered architectures and their structural advantages, for instance (see the first page) the OSI 7-layer network protocol model, would have been known to the skilled person starting from D1 at the priority date.

4.4.3 The appellant has argued that the claimed provisioning activities are service operator and end-user specific, whilst in D1 the subscriber entities (enterprises) just configure resources (application content services) for themselves in general. The board notes that claim 1 refers to the provisioning requests defining measures "relating to end-users". This general formulation is not limited to a specific end-user and covers more general provisioning requests. Hence the board finds that the provisioning requests set out in claim 1 are not limited to being end-user specific, so that this cannot constitute a difference between the subject-matter of claim 1 and the disclosure of D1.

4.5 The limitative effect of the references in claim 1 to a "physical mobile telecommunications network"

4.5.1 Claim 1 sets out a method for automated service provisioning in a "physical mobile telecommunications network" and refers to the activation of network services and the processing of provisioning requests in a number of network elements in the "physical mobile

telecommunications network". Claim 1 also refers to the "network elements" of the "physical mobile telecommunications network" and the network operator being able to present and utilize the "physical mobile telecommunications network" in many logical views.

4.5.2 The board finds that, in view of the definition of "provisioning" given in the description on page 13, lines 16 to 21, provisioning requests are not limited to end-user mobile services, for instance supporting roaming using the HLR and VLR registers, as argued by the appellant, but can be understood more generally as relating to computing services within the network. Hence the method steps set out in claim 1 are not restricted to mobile telecommunication functions and instead cover the activation of network computer services. Consequently claim 1 is understood as setting out a method whose steps relate to a network comprising computer elements, the network also comprising further "physical mobile telecommunications" elements whose role in the method is unspecified.

4.6 The difference features between the subject-matter of claim 1 and the disclosure of D1

4.6.1 The board takes the view that the subject-matter of claim 1 differs from the disclosure of D1 in the following features:

i. the service provisioning is automated,

ii. the network is a physical mobile telecommunications network and

iii. the provisioning requests are processed in functional layers of the provisioning system.

4.6.2 These difference features are technically unrelated and have no synergistic effect. Their contributions to inventive step must therefore be considered separately.

4.7 Inventive step, Article 56 EPC 1973

4.7.1 It is established case law of the boards of appeal of the EPO that the skilled person would always seek to automate an activity. Hence the board regards the automation of service provisioning, set out in feature "a", as a matter of usual design not involving an inventive step.

4.7.2 In view of the board's construction of claim 1, set out above, feature "b" is understood as setting out that the network also comprises further "physical mobile telecommunications" elements whose role in the method is unspecified. D1 relates to the management of a computer network. The skilled person would consider adding some element of mobile telecommunication as a usual extension of the computer network. This would, for example, cover the addition of mobile devices linked to the network by a wireless LAN, a usual matter for the skilled person at the priority date. Hence feature "b" cannot lend inventive step to claim 1.

4.7.3 Contrary to the appellant's argument, the board takes the view that it would have been common general knowledge, as exemplified by D2, for the skilled person starting from D1 to adopt a layered structure for a data processing operation, such as the processing of provisioning requests. Consequently the board finds that feature "c" does not involve an inventive step either.

4.7.4 Hence the board finds that the subject-matter of claim 1 does not involve an inventive step, Article 56 EPC 1973. Consequently none of the appellant's substantive requests is allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

B. Atienza Vivancos W. Sekretaruk

Decision electronically authenticated