

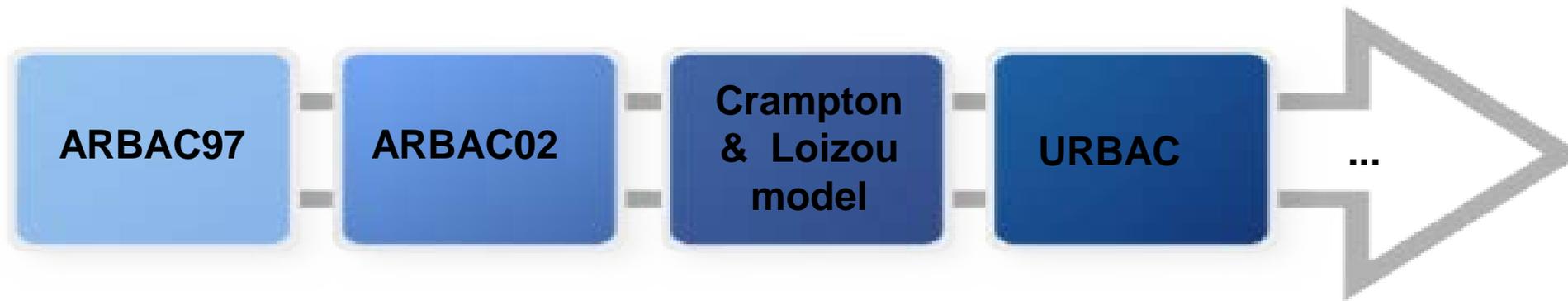
Uni-ARBAC: A Unified Administrative Model for Role-Based Access Control

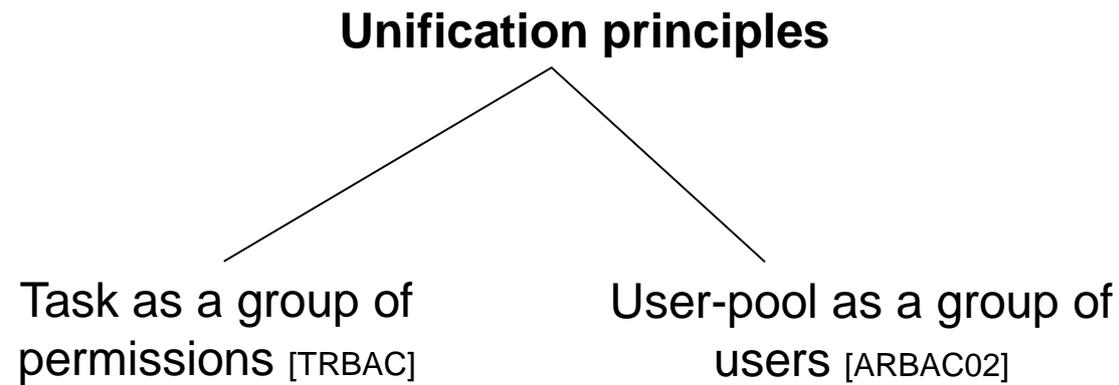
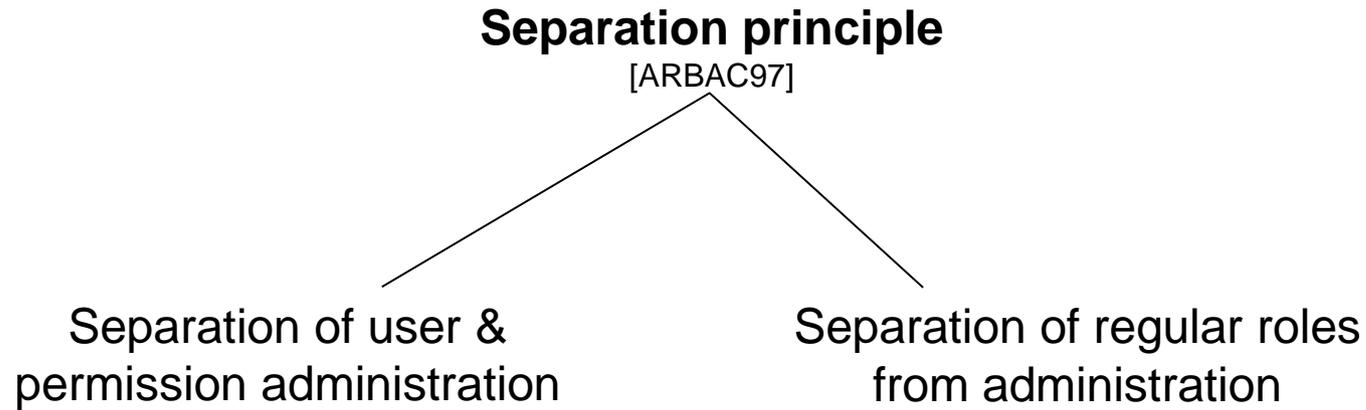
Prosunjit Biswas, Ravi Sandhu and Ram Krishnan
Department of Computer Science
Department of Electrical and Computer Engineering

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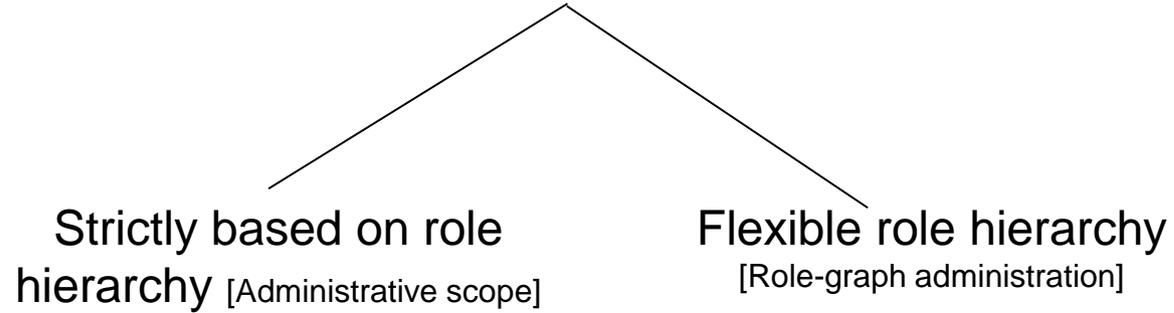
- **Summary**
- **Motivation**
- **Existing concepts and principles**
- **The Uni-ARBAC model**
- **Variations of Uni-ARBAC**
- **Engineering Administrative Units**
- **Conclusion**

- We have presented a unified model (Uni-ARBAC) for administering user-role and permission-role assignments by combining many of the existing administrative principles.**

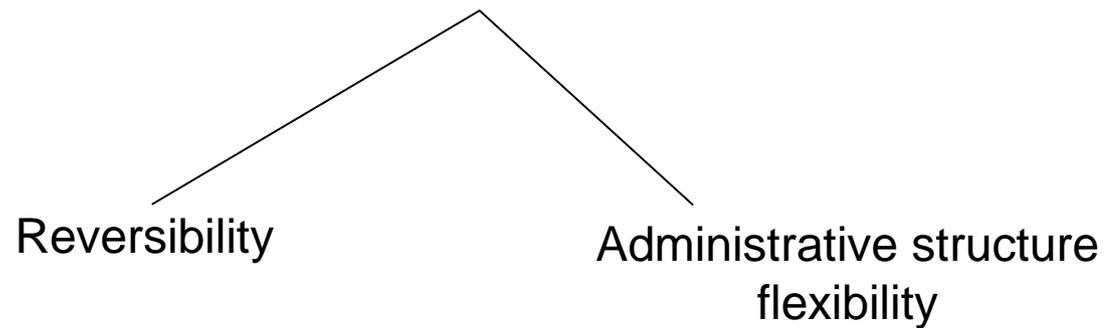




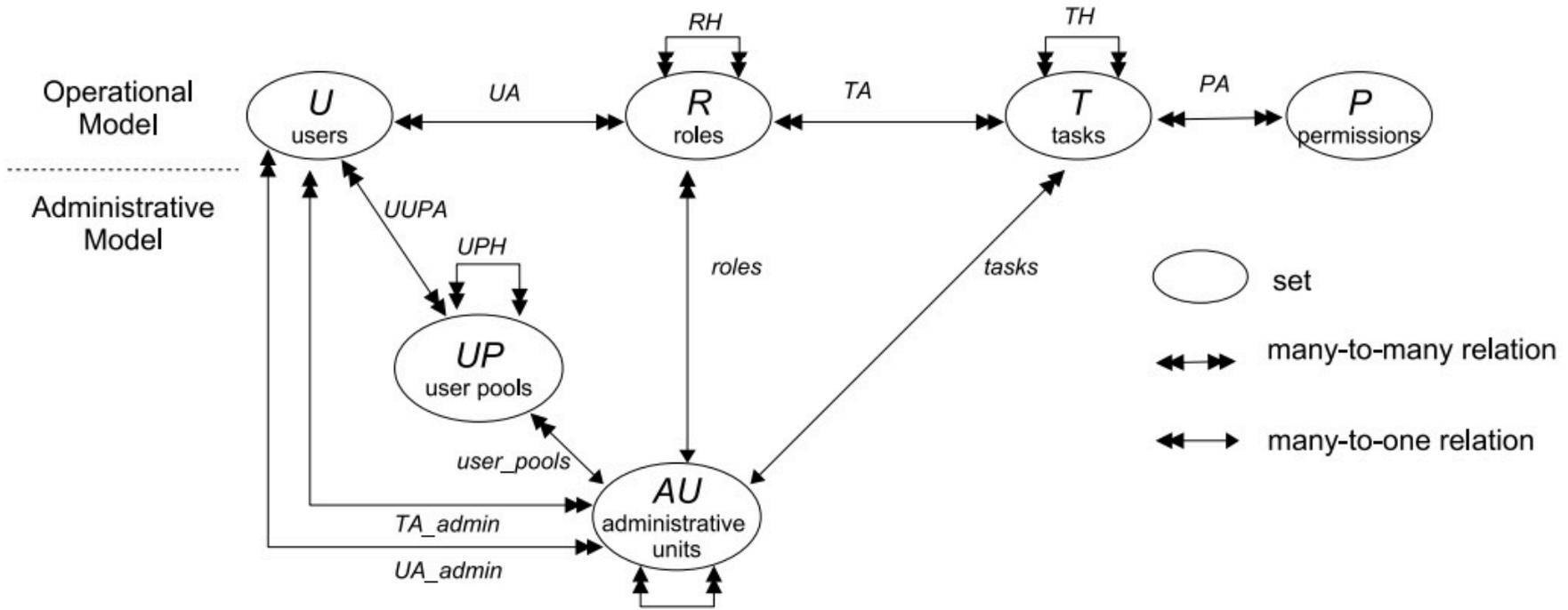
Design of administrative structure

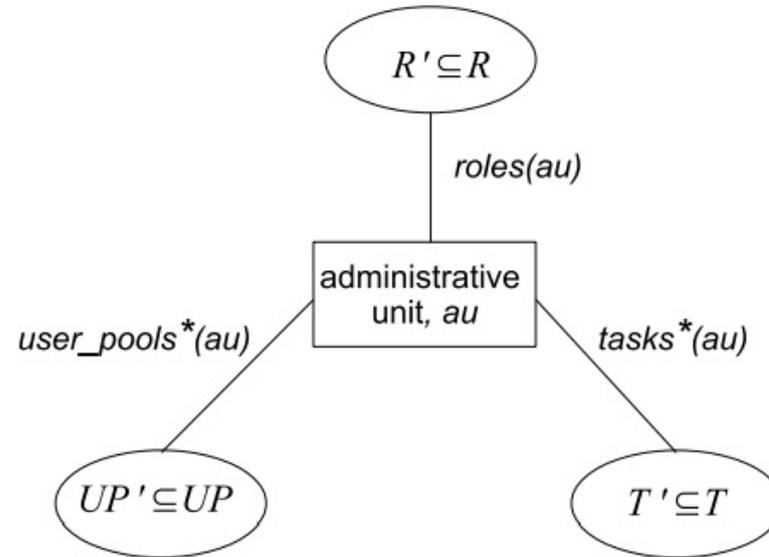


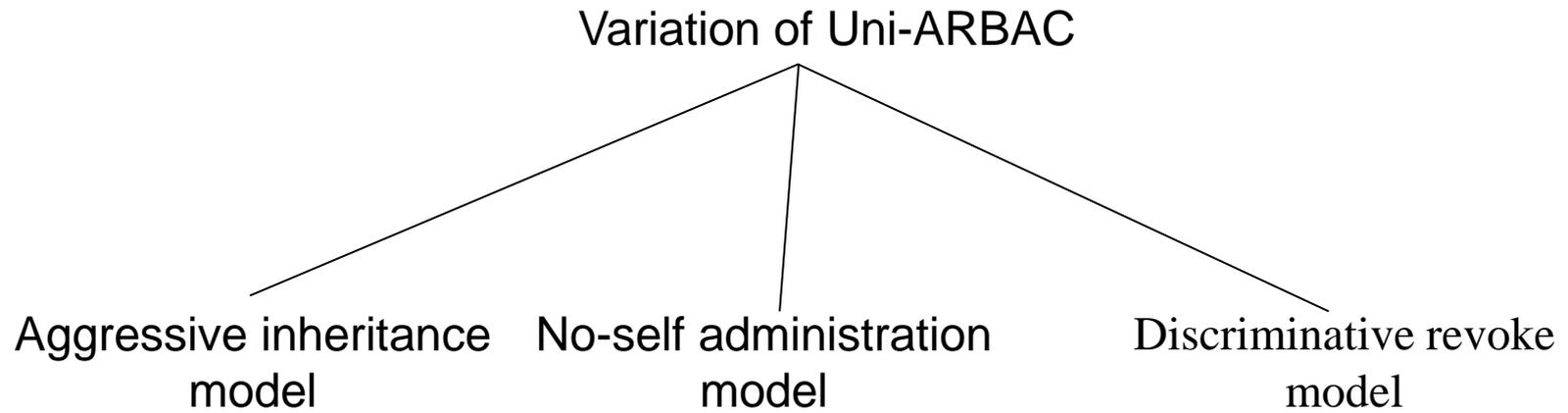
Principles of role administration [UARBAC]

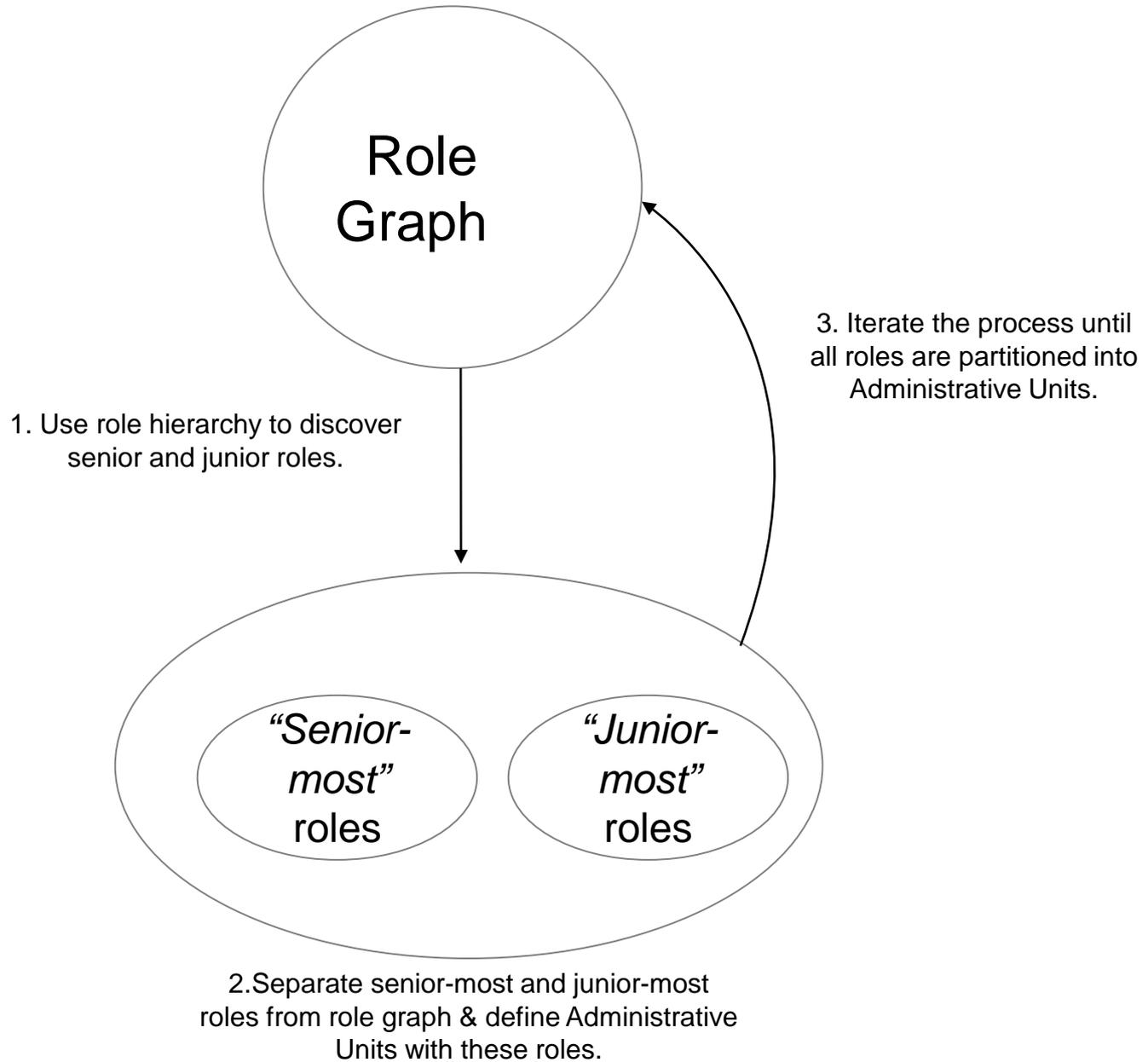


Concepts & Principles	ARBAC97 [15]	ARBAC02 [13]	SARBAC [4], [5]	UARBAC [10]	Role graph model [18]	Uni- ARBAC
<i>Task & task hierarchy</i>						✓
<i>Separation of user & permission administration</i>	✓*	✓	✓		✓	✓
<i>Separation of regular roles from administration</i>	✓*	✓			✓	✓
<i>User pools & user pool hierarchy</i>		✓*				✓
<i>Administrative structure design</i>			✓*		✓	✓
<i>Reversibility & administrative structure flexibility</i>				✓*		✓
<i>Senior most administrators</i>					✓*	✓









(a) Role Hierarchy

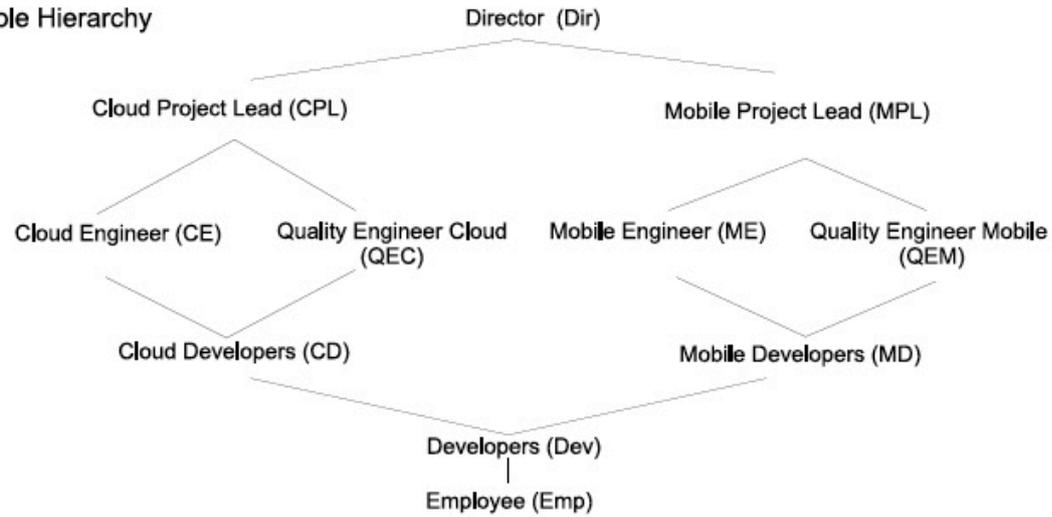


Fig1: Role hierarchy

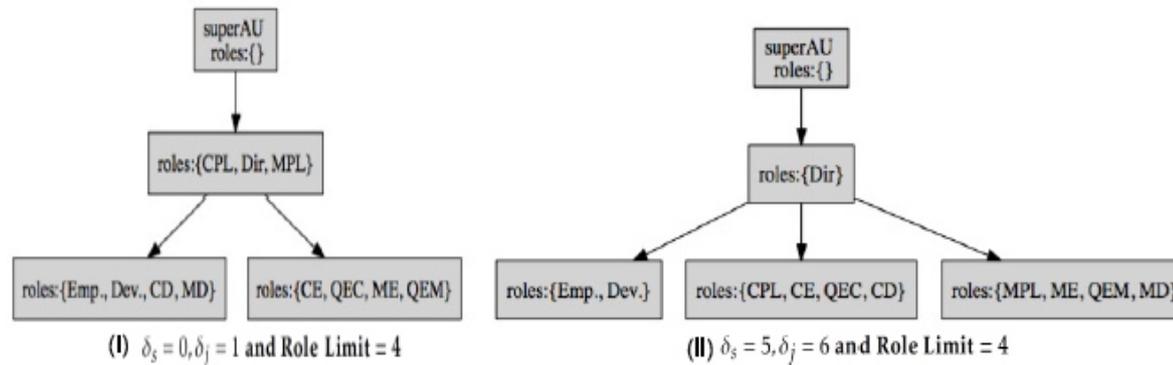


Fig2: Generated Administrative Units

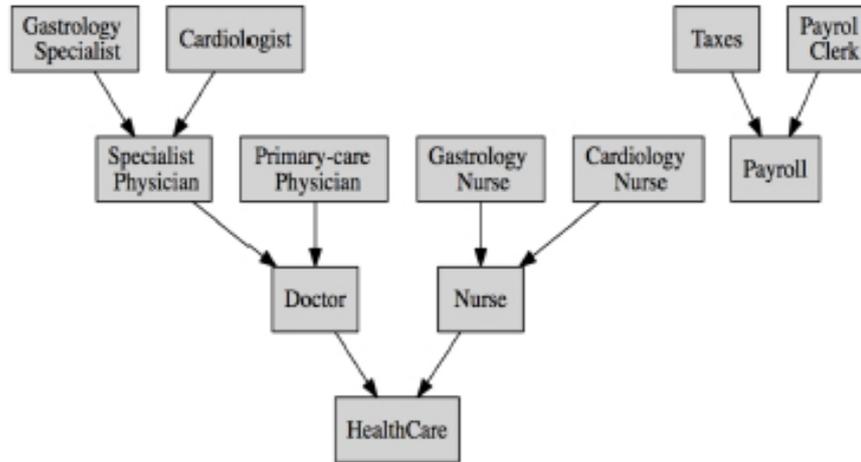


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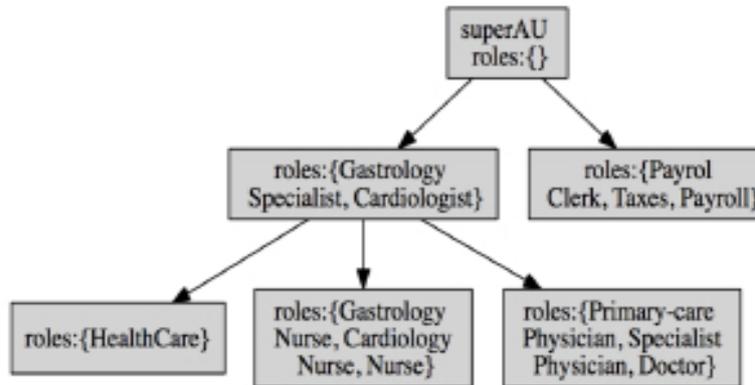


Fig2: Generated Administrative Units

Uni-ARBAC unifies different role administrative principles into a single model. It addresses different concerns raised in the literatures of role-based administration.



