

网络、通信与安全

细粒度的基于角色的访问控制模型

廖俊国^{1,2}, 洪帆¹, 肖海军¹, 张昭理¹

1. 华中科技大学 计算机科学与技术学院, 武汉 430074
2. 湖南科技大学 计算机科学与工程学院, 湖南 湘潭 411201

收稿日期 修回日期 网络版发布日期 2007-11-19 接受日期

摘要 RBAC模型是一种被广泛应用的访问控制模型。但是, RBAC模型是在角色级管理和控制权限, 不能满足用户获得角色的部分权限和角色权限的部分继承等安全需求。针对这个问题, 在RBAC模型中增加权限的重要程度要素, 提出了FGRBAC模型(Fine-Grained Role-Based Access Control Model—细粒度的基于角色的访问控制模型), 并给出了在FGRBAC模型中求用户权限和角色权限的算法。FGRBAC模型不仅可以使用户获得角色的部分权限、父角色可以继承子角色的部分权限, 而且RBAC模型可被看成是FGRBAC模型的一种特例。因此, FGRBAC模型不仅具有RBAC模型的所有优点, 而且比RBAC模型具有更好的灵活性和实用性。

关键词 [RBAC](#) [FGRBAC](#) [权限的重要程度](#)

分类号

Fine-grained role-based access control model

LIAO Jun-guo^{1,2}, HONG Fan¹, XIAO Hai-jun¹, ZHANG Zhao-li¹

1. College of Computer Science & Technology, Huazhong University of Science & Technology, Wuhan 430074, China
2. School of Computer Science & Engineering, Hunan University of Science & Technology, Xiangtan, Hunan 411201, China

Abstract

RBAC model is an access control model which is widely used. However, in RBAC model, privileges are administrated and controlled on role level. A user can not obtain part privileges of a role, and a role can not inherit part privileges of another role. To address the issue, by adding an element called as importance level of privilege in RBAC model, a fine-grained role-based access control model is presented, which is denoted as FGRBAC. The algorithm for solving the set of privileges belonged to a user or a role is discussed. In FGRBAC model, a user can obtain part privileges of a role, and a role can inherit part privileges of another role. RBAC model can be treated as a special case of FGRBAC model. So, the advantages of RBAC model are available in FGRBAC model, FGRBAC model is more flexible and practical than RBAC model.

Key words [RBAC](#) [FGRBAC](#) [importance level of privilege](#)

DOI:

通讯作者 廖俊国 liaojunguo@tom.com

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(482KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [参考文献](#)

服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [复制索引](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

相关信息

- ▶ [本刊中 包含“RBAC” 的相关文章](#)
- ▶ [本文作者相关文章](#)

- [廖俊国](#)
- [洪帆](#)
- [肖海军](#)
- [张昭理](#)