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Resource Body Guard

Resource Security

http://dsl.cs.technion.ac.il/projects/gozal/project_pages/sandbox/sandbox.html

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Resource protection - “Resource Body Guard”



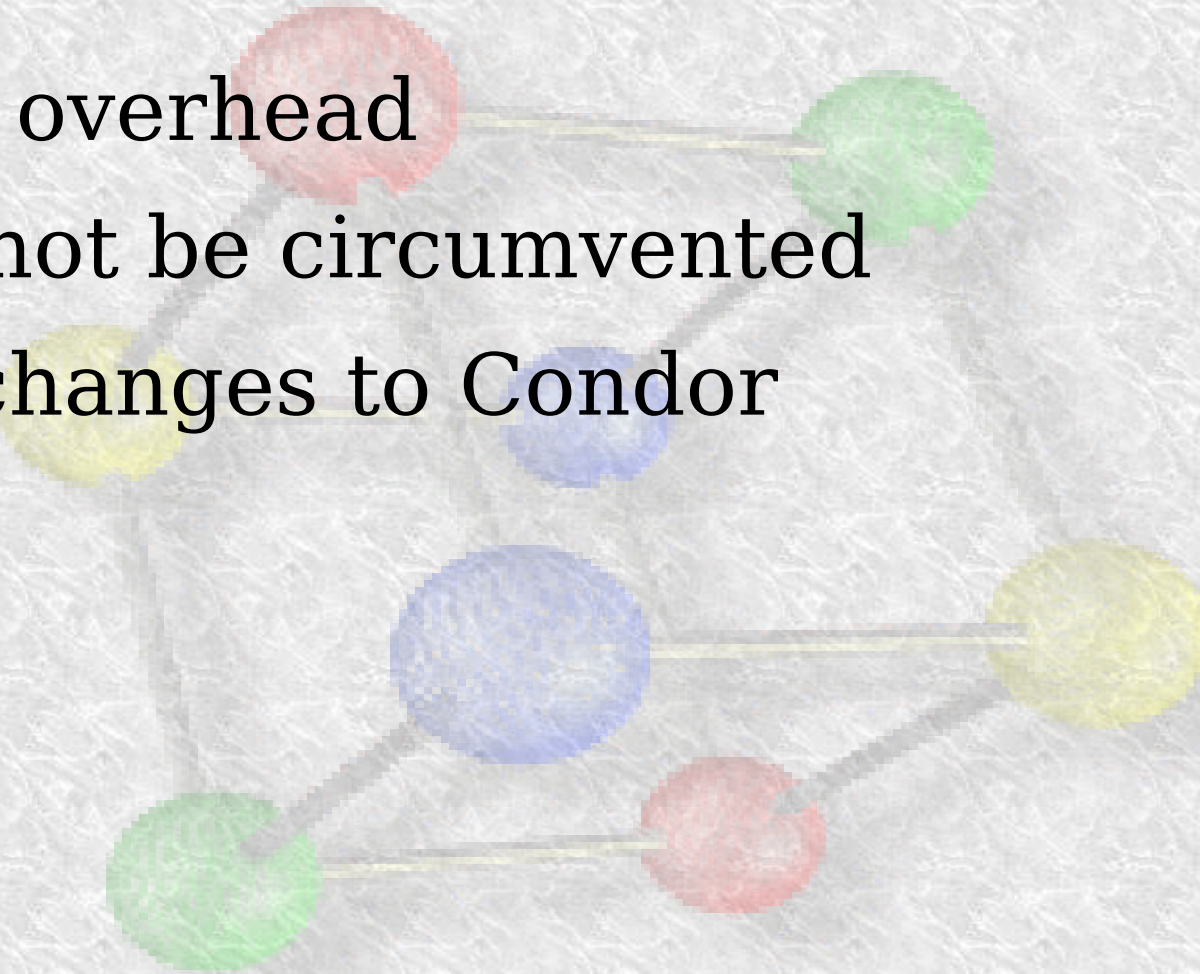
- The problem we want to solve
 - **Malicious job** can render a resource unusable or obtain private information
 - Condor can be exploited for distributed attacks on other systems
- Solution – resource body guard
 - **Auditing of file system** and network access, OS resources



Challenges



- Low overhead
- Cannot be circumvented
- No changes to Condor





Design alternatives for File System RBG



- Using local FS ACL
 - Problem: requires local administrator to work hard, static
- Linking executable to special library
 - Problem: we want to run any job
- Interception of all system calls
 - Problem: too high overhead



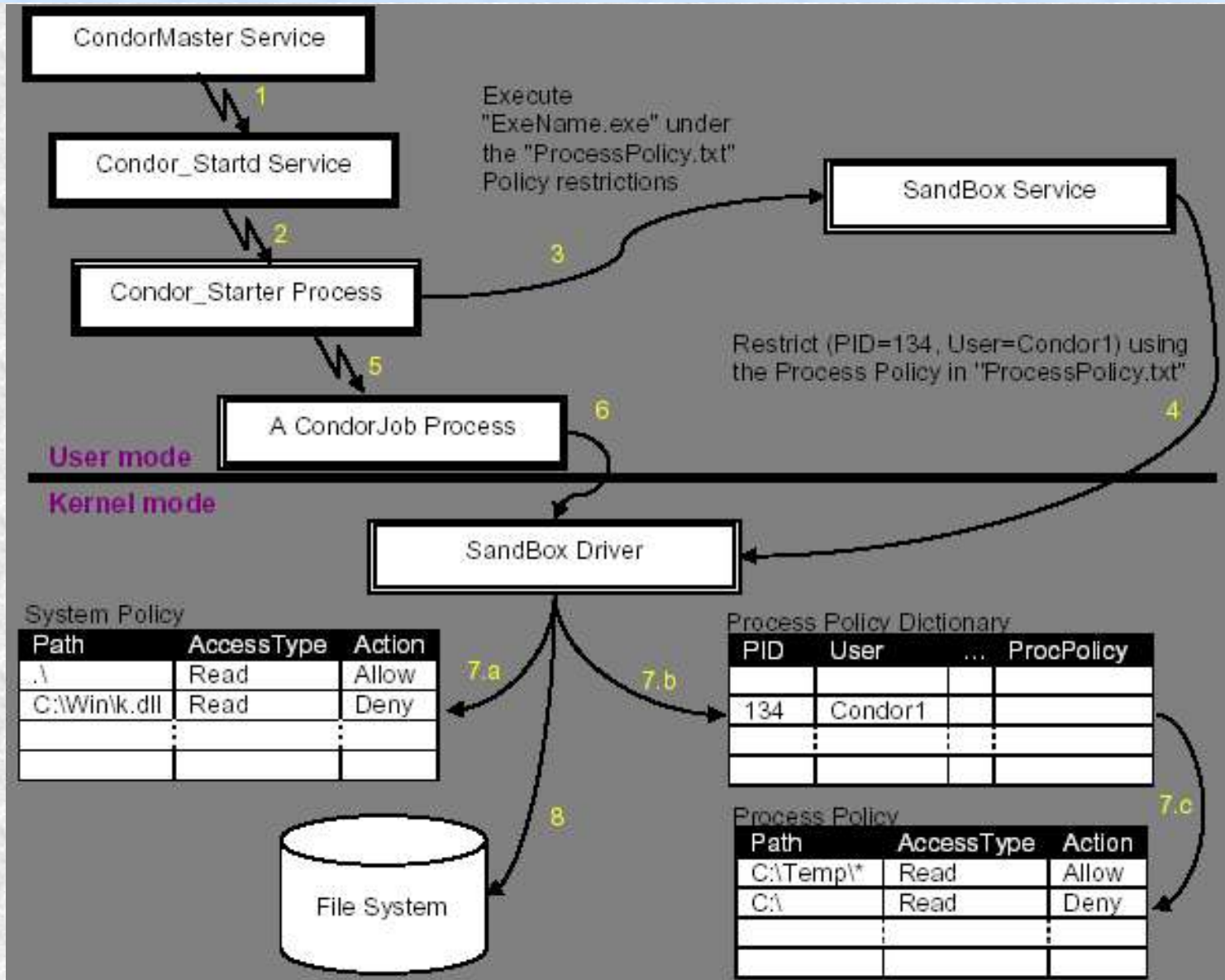
MS Windows FS RBG design overview



- Implemented as **standard FS driver**
- **Intercepts** all low level **accesses** to the **hard drive** [\sim no overhead]
- Normally lets all accesses through
- When Condor invokes a job – reliably loads “firewall” and **denies unauthorized accesses** to FS performed by the job
- When Condor job completes – reliably **unloads** the “firewall”



How it works





Status and road map



- Today
 - FS driver coding done
 - Integration with Condor and extensive testing pending
- Expected release of beta – Spring, 2005 (check our website)
- Further directions
 - Maximum throughput restrictions and quotas
 - Network RBG



Do you want to try it?



- More information at http://dsl.cs.technion.ac.il/projects/gozal/project_pages/sandbox/sandbox.html
- Contact: marks@tx.technion.ac.il

THANK YOU