Changes in Pattern Matching

(authZ recommendations)

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- **Pattern matching:**
  - Modified rules, common library, debugging tools (rec. 1,2,3)
  - Most significant match in lcmaps (rec. 5)
  - VOView should publish all ACBR information relevant for match-making in the WMS (rec 7)

- **User shall be able to specify specify the FQAN used in the job submission (rec 4)**
  - Will be introduced once CREAM has been deployed

- **WMS considers only one VOView per CE (rec 9)**

- **Decoupling FQAN - shares (rec 8)**
  - Deferred (needs further clarification on need and acceptance of sites)

- **authZ Service - see previous talks (rec 10,11)**

- **DPM model should be adopted by other storage solutions (rec 12)**

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- **Security command line tools**
  - Previous talk

- **Pattern matching rules**
  - 1. New pattern matching rules
  - 2. Most significant match in LCMAPS
  - 3. Deployment strategy

- **For more detailed info: see talk at EGEE08 http://indico.cern.ch/contributionDisplay.py?contribId=183&sessionId=40&confId=32220**

1. New Pattern Matching Rules

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- **FQAN patterns:**
  - Only * wildchar allowed and it must be at the end of the group/role substring after the trailing /
  - Allowed characters: **: [0-9a-zA-Z-_.]**

- **Allowed FQAN patterns**
  - /vo1/analysis
  - /vo1/analysis/*/Role=production
  - /vo1/*/Role=*

- **Not allowed FQAN patterns**
  - /vo1/*/higgs
  - /vo1/*/*
  - /vo1/ana*/higgs
  - /vo1/*/Role=pro*

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- **Two possible interpretation of ***

  1. Object substitution

     – /vo1/* does not match /vo1

     – /vo1/Role=* does not match /vo

  2. Semantic substitution

     – /vo1/* matches /vo1

     – /vo1/Role=* matches /vo1

  – **Semantic substitution chosen**

Pattern	FQAN	
/vo1/analysis/*/Role=pro	/vo1/analysis/higgs/Role=pro	**Yes**
	/vo1/analysis	**No**
	/vo1/analysis/Role=pro	**Yes**
/vo1/an*si?	**Invalid pattern**	
/vo1/*	/vo1	**Yes**
	/vo1/analysis	**Yes**
	/vo1/analysis/higgs	**Yes**
/vo1/*/Role=pro	/vo1/Role=pro	**Yes**
/vo1/Role=*	/vo1	**Yes**
/vo1/*/Role=*	/vo1	**Yes**

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Note:

1. /vo1/* matches /vo1

2. /vo1/Role=* matches /vo1

3. In order to match all groups of an entire VO, you use one pattern

    1. /vo1/*

4. In order to match all groups and all roles of an entire VO, you use one pattern

    1. /vo1/*/Role=*

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- **Changes approved by TMB**

- **Library in**
  - C written and tested within SWITCH
    - Ready to be used
  - Java: not yet done
    - who uses pattern matching in Java?

- **Documentation: https://edms.cern.ch/document/975443/1**

2. Most Significant Match in LCMAPS

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- **Current rule:**
  - LCMAPS takes first match
    - Consequence: Ordering in gridmapfile matters
      - *FQAN = /vo1/analysis*
      - */vo1/**   .user1   *<-- takes first one*
      - */vo1/analysis*   .user2

- **New rule:**
  - LCMAPS takes most significant match
    - Consequence: Ordering in gridmapfile doesn't matter
      - *FQAN = /vo1/analysis*
      - */vo1/**   .user1
      - */vo1/analysis*   .user2   *<-- takes first one*

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- **Question:**
  - What is more significant:
    - /vo1/analysis/*/Role=production
    - /vo1/analysis/higgs/Role=*

  - Answer:
    - Group is more significant

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- **Changes approved by TMB**

- **Code:**
  - Modified LCMAPS plug-in written and tested internally at SWITCH
  - Submitted to NIKEHF for external check

- **Documentation:**
  https://edms.cern.ch/document/975676/1

3. Deployment Strategy

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- **Limit ourselves first to only CE - WMS use-case**
  - If other services use pattern matching and/or LCMAPS, they don't need to change (*unless* they use the same mapfile!)
  - Question: Is that ok?

- **First verify functionality in a CE - WMS test-bed between more than one institution**
  - Before certification
  - Check that deployment strategy on next slide holds
  - Participating institutions TBD

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- **Don't assume that we will switch all CEs at the same day**
  - Step 1: deploy a CE with the modified rules
    - Note: format of mapfile will change!
      - *Will have to be automated*
    - Set a deadline for upgrading at the sites
  - Step 2: Deploy modified WMS (after step1)

- **First in the PPS, then the production system**

- **What can go wrong?**
  - Step 1: VOView as selected by CE doesn't match WMS selected VOView
    - "Unfortunate" but unavoidable - note: this is the situation we have today!
  - Step 2: Match-making takes too much time
    - Has to be tested

- **Please send me your feedback by November 18, 2008**