



LCG/GDB

Security Issues and Planning

or Report from the Security Group
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Authentication - Trust

- Two main issues
 - Who defines the list of trusted CA's?
 - LCG or other Grid projects?
 - How to introduce new types of CA (online)?
 - E.g. Kerberos CA at FNAL
- LCG-1 and EDG Application testbed
 - closely linked
 - Common approach desirable (for this year)
- For Jan 2004 onwards
 - Need to consider when fate of EGEE proposal known



Background

- EDG WP6 CA managers group
 - DataGrid, CrossGrid, US (DOE), Canada
 - Growing to include new LCG-1 CA's
 - So now really a joint EDG/LCG group
 - Taiwan, Tokyo, Belgium, Israel, ...
- <http://marianne.in2p3.fr/datagrid/ca/>
- CA's must meet minimum requirements
 - Operational and Policy (CP/CPS)
- “Catch-all” CA operated by CNRS (France)
 - With appropriate registration procedures
- CA RPM's distributed with EDG software
- Sites still free to decide their own trust list
 - Not generally used.
- Scaling problems – GGF looking into this area (PMA)
 - EDG Acceptance Matrix tools could help



Application Testbed Users

| VO | Users |
|-----------------|-------|
| CMS | 106 |
| WP6 | 87 |
| ALICE | 63 |
| ATLAS | 55 |
| Earth Obs. | 29 |
| BaBar | 29 |
| LHCb | 28 |
| ITeam | 22 |
| Genomic | 22 |
| TSTG | 16 |
| Medical Img. | 6 |
| DO | 3 |

Certificate Authorities Group

- Evaluates & approves new CAs
- 16 currently approved.
- Collaborating w/ other grid proj.
- More on the way...
 - Cyprus
 - US FNAL (KCA)
 - Belgium
 - Taiwan



Virtual Organizations

- Also for Storage Elements
 - Guidelines (EDG rules)
- Course-grained
Authorization.



| CA | Users |
|--------------|------------|
| INFN (IT) | 113 |
| CNRS (FR) | 71 |
| UK | 58 |
| CERN (CH) | 44 |
| NIKHEF (NL) | 19 |
| Russia | 15 |
| US DOE | 10 |
| Spain | 8 |
| FZK (D) | 5 |
| Czech Rep. | 3 |
| Portugal | 3 |
| NorduGrid | 2 |
| Poland | 1 |
| Canada | 0 |
| Greece | 0 |
| Slovakia | 0 |
| TOTAL | 352 |



Issues

- FNAL propose Kerberos CA (KCA) (CERN also interested)
 - User authenticates via Kerberos mechanisms
 - KCA issues short-lived certificate for Grid
- Key Management Concerns
 - User-held private keys – security concerns
- MyProxy online Certificate repository
 - Concerns over key management
- VSC proposal from SLAC (holds user private keys)
- EDG CA min requirements say
 - CA must be offline or have a secure disk module (HSM)
 - Why should KCA follow this?
 - short-lived certs only



LCG Security Group Proposals

- Consider Long-lived (12 months) certificates and short-lived (12 hours or few days) certificates separately
- Long-lived certs (traditional CA's)
 - More severe consequences of compromise
 - Continue with strong minimum requirements
 - Recommend the EDG/LCG group continues in its current form during 2003 (chaired by DPK)
 - Appropriate membership of new LCG-1 CA's
 - LCG inputs its requirements
 - This process defines the list of trusted CA's
 - Plan for 2004 – strong input from LCG
 - Need to work with EGEE



LCG Security Group Proposals (2)

- Short-Lived certificates (max life – few days, 2 weeks?)
 - User generated proxy certificates
 - KCA's
 - MyProxy online credential repository
 - VSC? (will this be used in 2003?)
 - And indeed AuthZ services (VOMS)
 - VO membership, Groups/roles in attribute cert
- Less severe implications on compromise
- Don't require HSM during 2003 (at least)
- The certificate of the short-lived service should be signed by a trusted traditional CA (to ease revocation)
- Work with EDG, US projects to
 - Document and evaluate risk
 - Propose the way forward for 2004



Recommendations to GDB

GDB is asked to agree (at June meeting?) for LCG-1 operations during 2003 that...

1. The list of trusted traditional CA's (long-lived certificates, i.e. more than 2 weeks) is defined by the joint EDG/LCG CA group
2. The list of trusted online (short-lived certificates, i.e. less than 2 weeks) authentication and authorization services and servers is defined by the LCG-1 Security Group
3. That all LCG-1 sites install and trust the 2 lists.