

CGSI-gSOAP plugin

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JRA1 All Hands Meeting
Prague, Nov. 08*

- **Grid services use the httpg protocol**
 - the 'g' stands for GSI (?)
 - httpg = http + GSS
- **The goal is credentials delegation**
 - obtained through GSI implementation of GSSAPI

- **Necessary to handle the httpg protocol**
- **Replaces the network send and receive functions**
- **All packets are sent and received through the GSS API**
- **Used by:**
 - DPM
 - CAStor SRM
 - FTS
 - GFAL / lcg_util
 - Hydra client

- **Need to change the Makefiles**
- **Additional flags required for wsdl2h tool**
 - Include path
 - -z (“generate pointer based arrays for backward compatibility”)

```

if USE_GSOAP_2_7_10
    $(WSDL2H) -z -I$(GSOAP_LOCATION)/include -t typemap.dat ...
else
    $(WSDL2H) -t typemap.dat ...
endif

```

- **Create a new version of the cgsi-gsoap plugin and change all the dependencies**
- **~ 1 month for all the DM components...**

```
// 2.7.6b
struct soap{
    short version;
    ...
}
```

```
// 2.7.10
struct soap{
    short state;
    short version;
    ...
}
```

- No interoperability among versions
- Rebuild everything and make sure that each component uses the same version of gSOAP
- New fields (and not at the end)
- Changed order of existing fields

```
struct soap{  
    // new in 2.7.10  
    #ifdef __cplusplus  
        virtual ~soap();  
    #endif  
}
```

- From 2.7.10, no interoperability among c and c++ modules compiled with the same version
- ~ 1 week to find out, and then we decided not to upgrade

- **The transition from 2.7.6b to 2.7.10 meant a lot of work**
 - And since we didn't upgrade, it has just been a waste of time
- **Each upgrade introduces major changes**
 - Even if version numbers don't change accordingly
- **gSOAP is very unstable with the versions**
 - What if we need to adopt a new version quickly because of a critical bug?

- **Why using GSS/httpg instead of SSL/https?**
 - https protocol would allow using standard libraries, also for other languages (e.g. python with ZSI)
- **What are the services that still need httpg?**
 - SRM services because of srmCopy
 - Can we get rid of srmCopy?
- **Delegation handled in the protocol layer**
 - Other services (FTS, CREAM) handle delegation in the application layer

- **Plain SSL**
 - with some small changes, e.g. to handle the signing policy in the root of the certificate chain
- **Probably we still need to maintain an httpg plugin**
 - but at least we would like to avoid gSOAP
- **Axis2c:**
 - possibly more stable
 - c++ support is not better (possibly even worse)