

Control System Integration SC-4

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DESY

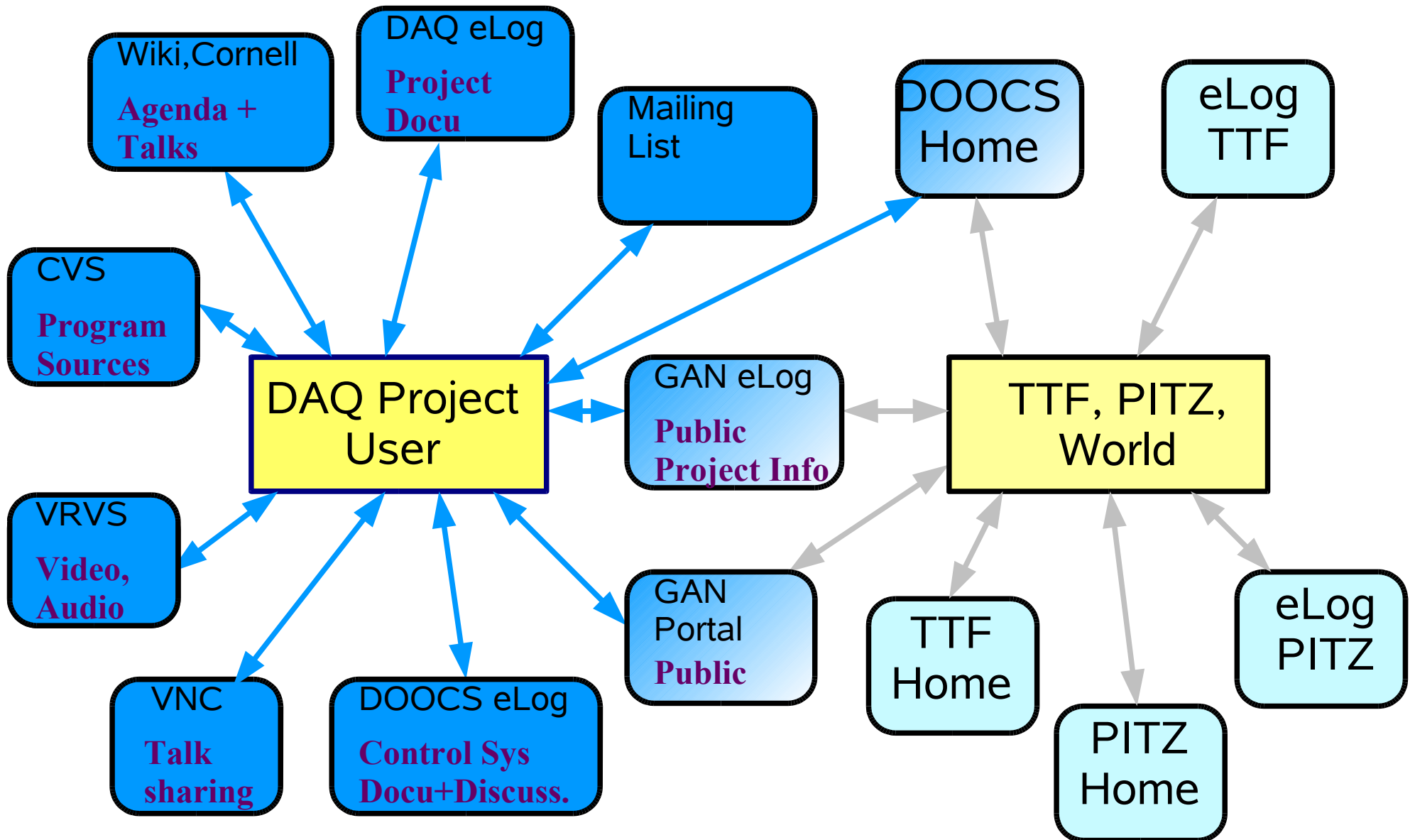
11. 2. 2005

- Requirements
- Possible Architecture
- ToDo

Requirements

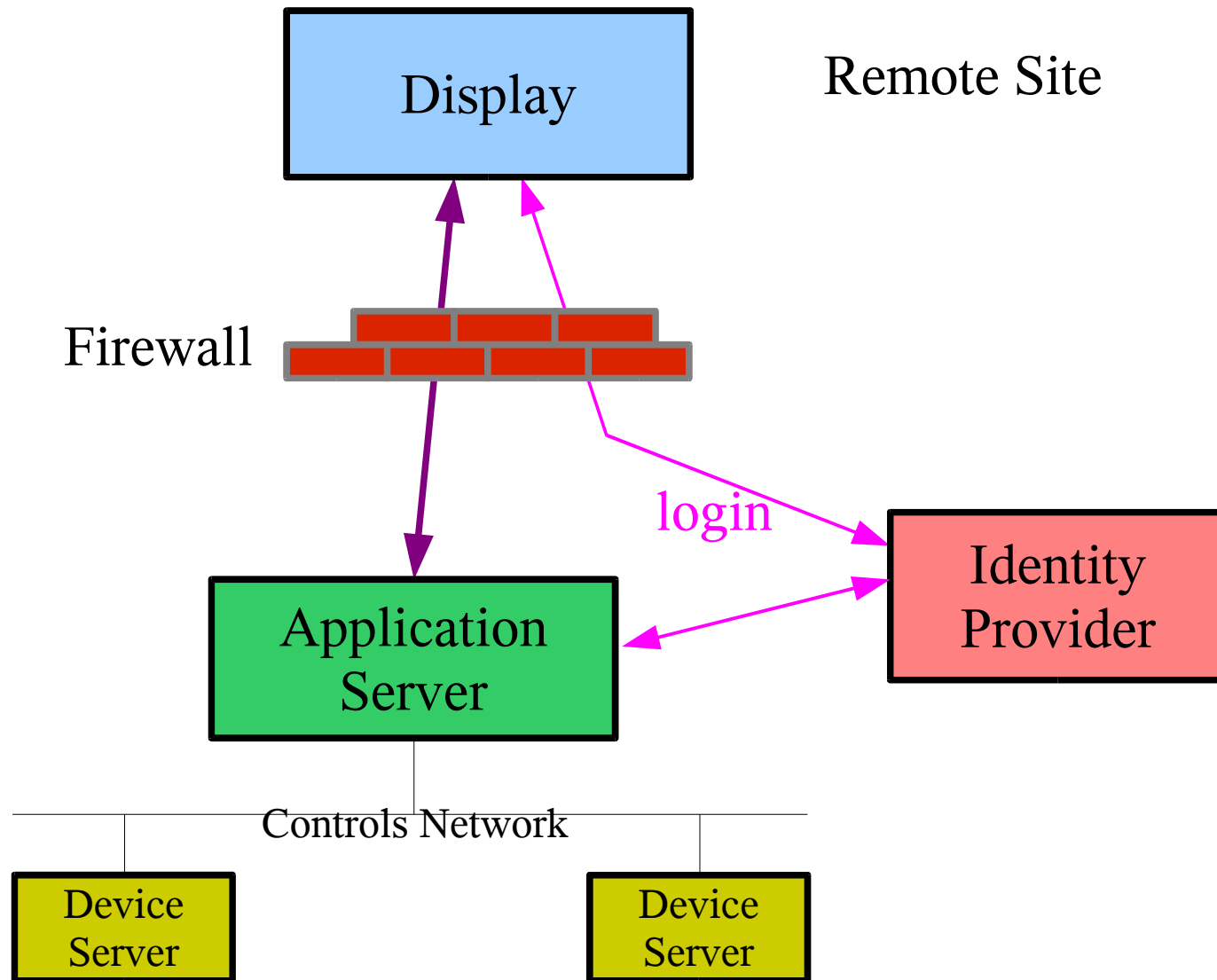
- Has to be integrated with other GANMVL parts
 - video/audio system
 - virtual instruments
- Access to all parameters of the control system (r/w)
- Has to use existing control system applications
- Access control for different users
 - Remote maintenance
 - Remote operation
 - Remote observation
 - Local users
- 'Some' independence of the underlying control system

Web Services used for the TTF DAQ Project

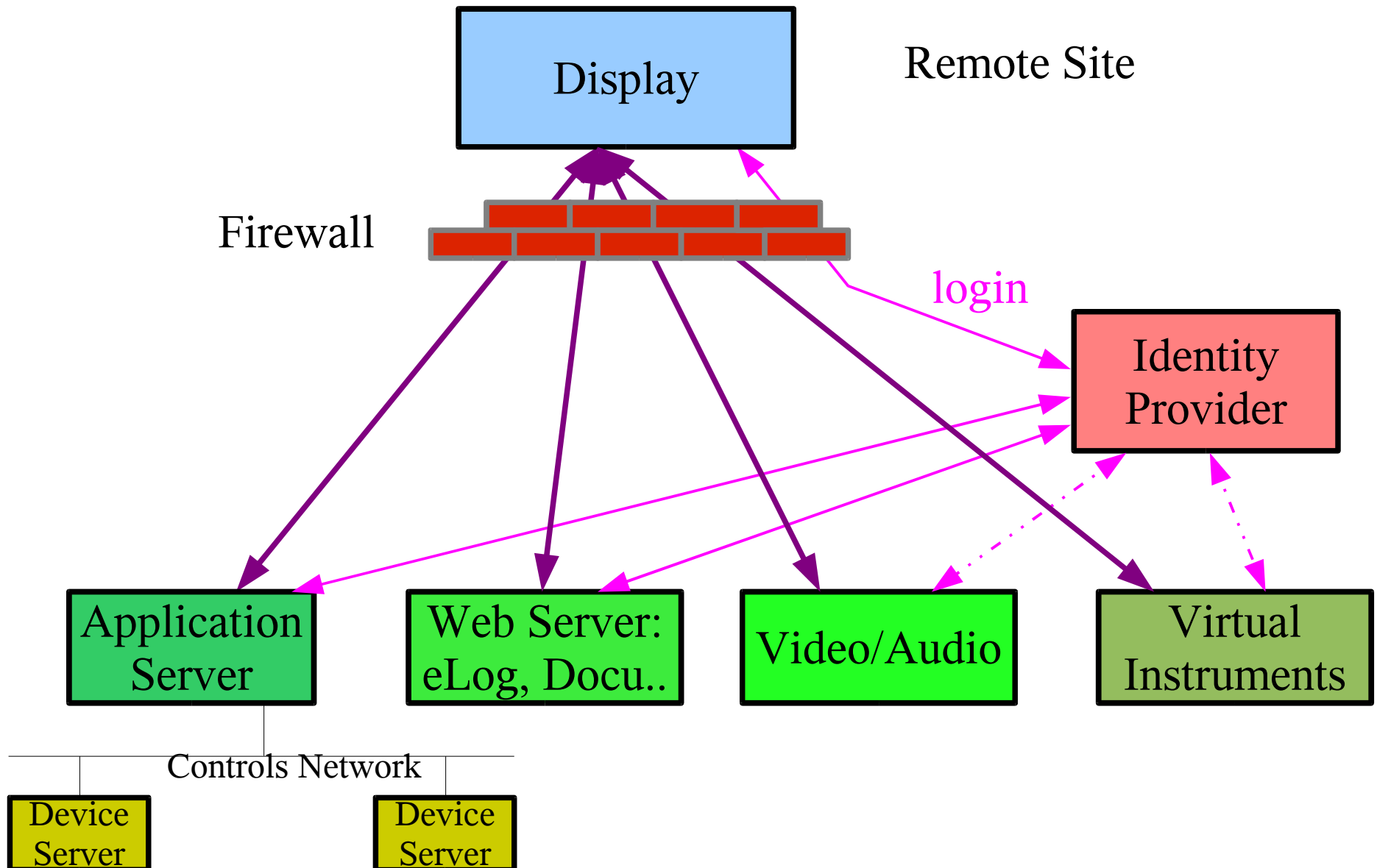


- Experience from the TTF DAQ project:
at lot of Web services on different servers
- **GAN-MVL and international projects have to integrate a lot of different Web services**
- Advantages of a Web-based system:
 - Good user navigation
 - A few open ports to the internet
 - Single sign-on possible
 - Platform independent
 - Simple porting to other sites

Possible Architecture



Possible Architecture (2)



- Transport alternatives:
 - X11
 - ▶ A lot of experience @ TTF
 - ▶ Natural for UNIX, was designed for remote displays
 - ▶ Slow for JAVA applications
 - VNC
 - ▶ Viewer and server for all platforms
 - ▶ Hard to integrate
 - JAVA VNC [[demo](#)]
 - ▶ Can be integrated in Web pages
 - ▶ Good experience @ TTF (video conferences)
 - ... ?

- Should run on a server at the accelerator site
 - Use the same programs as the operators
 - ▶ No special program development required
 - ▶ Minimal installation on clients
 - Single connection through firewall
 - ▶ Minimum administration
 - ▶ SSH with authentication
 - ▶ Can be restricted to IP addresses
 - Standard access control of the control system can be used

- Single Sign-On
 - Login once – use all services
 - 'Liberty Alliance' provides the concepts
 - ▶ Wide industrial support (160 organizations)
 - ▶ Allows a user to sign-on once at a Liberty enabled site and stays signed in when navigating to another site
 - ▶ Circle of trust of independent sites, does not require the users personal data to be stored centrally
 - ▶ SAML (Security Assertion Markup Language) protocol (SOAP/XML based)

- VNC
 - JAVA version?
 - Tests required
- Single Sign-On
 - Needs to be understood
 - Test setup
- Access control of the control system
 - Define a structure that can be managed
 - Workout an implementation
- Integrate with other parts of the project
- Provide a final product

- 'Control Systems Integration':
 - N.N.
 - Gerhard Grygiel
 - Raimund Kammering
 - Kay Rehlich