



Security @ the EBU

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EBU Practical implementation:

Rebuilding of the EVC in 2004

General Aspects:

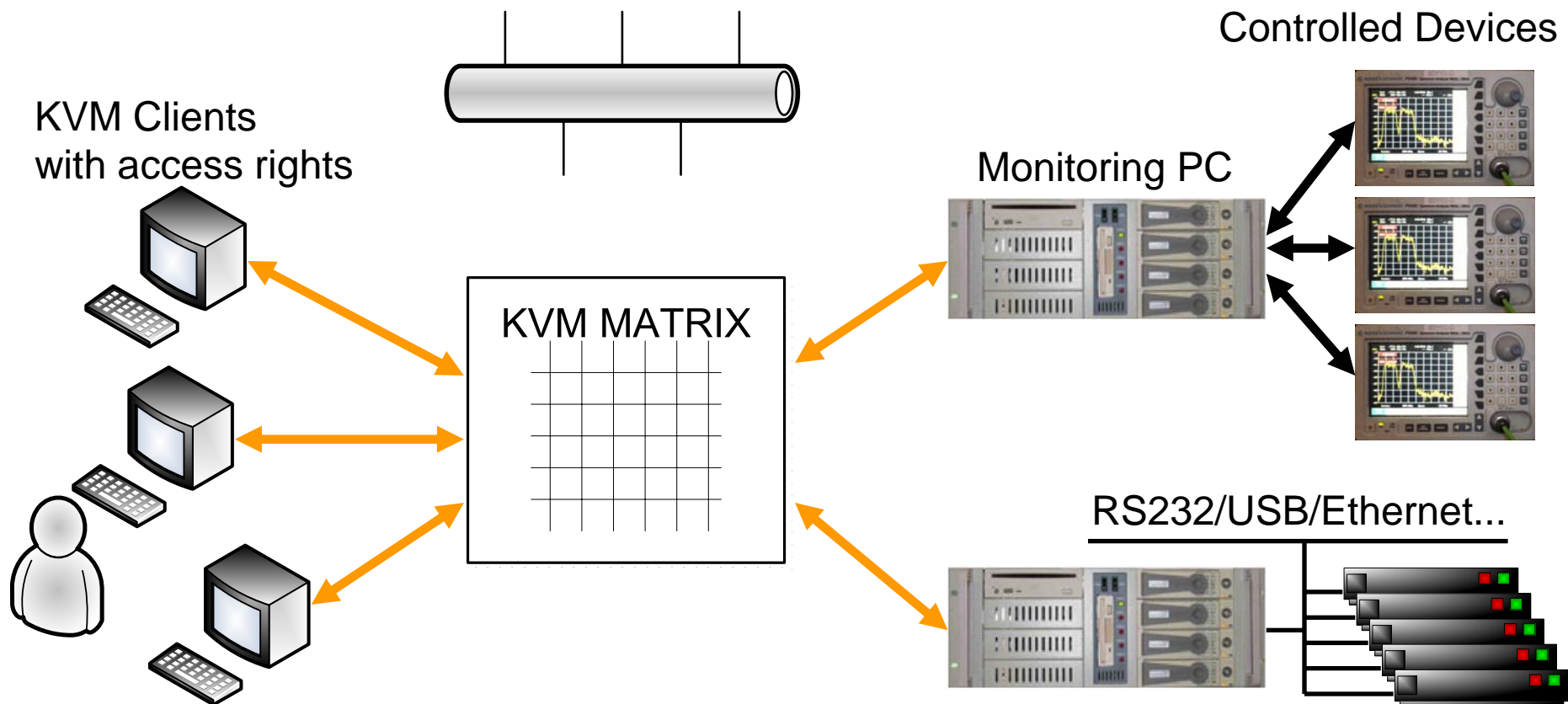
- IT systems are taking over the broadcast environment
 - production (file transfer, video server, editing)
 - monitor and control of broadcast equipment
- Multi Clients access
 - is now a common request
 - allows scalable working environment (extend, delocalize, ...)
 - is challenging IT securities policies
- IT security policies should not interfere with day to day operational tasks !

3 ways to control:

1. One fully isolated PC from the IP network (KVM)
2. Dedicated server bridging more than 1 subnet
 - ☐ Monitored equipments network
 - ☐ Clients networks
3. Equipments with own (web) built-in server controller

Fully isolated systems

- Only Keyboard/Video/Mouse signals are handled

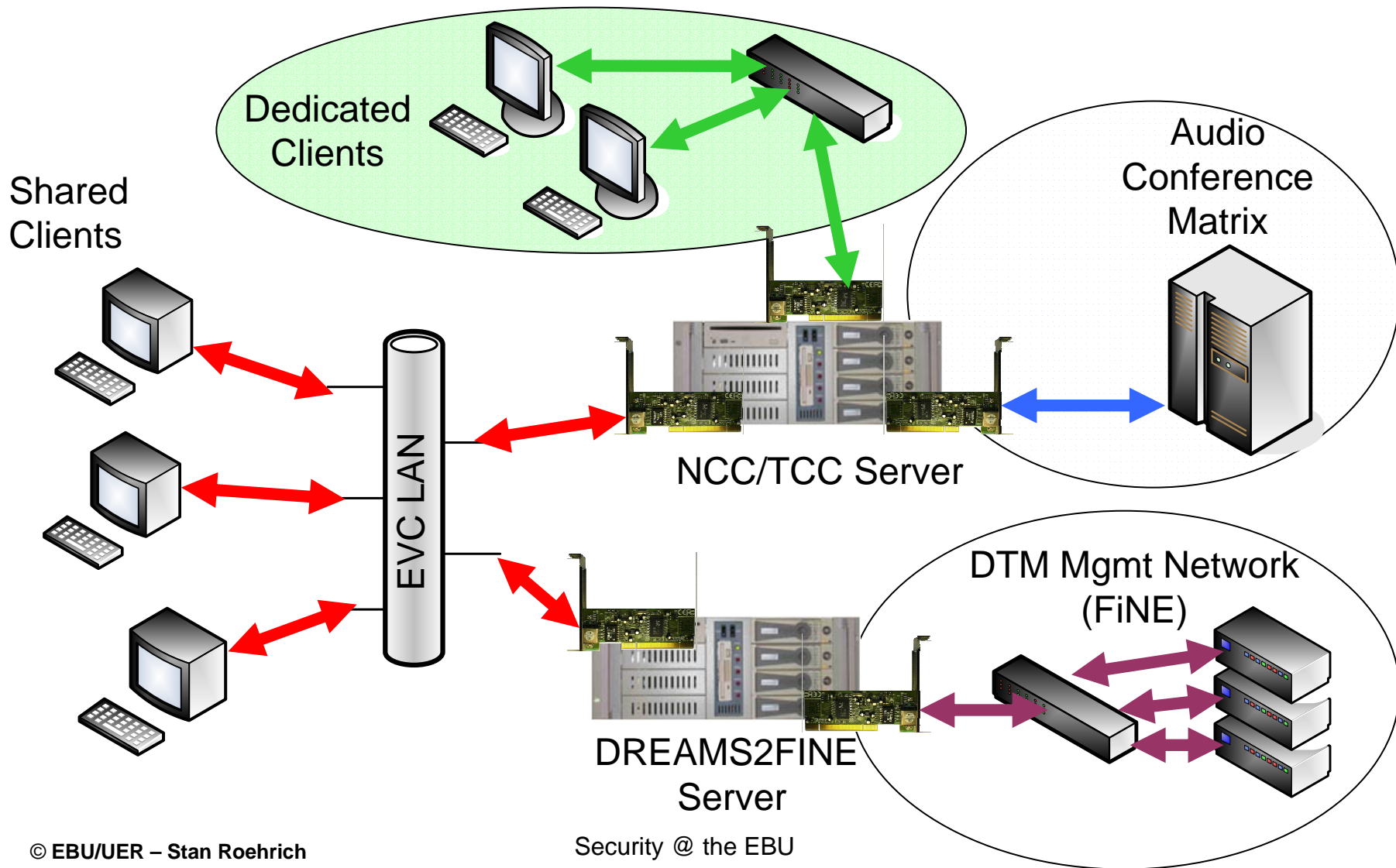


The KVM matrix

Advantages :

- critical systems kept isolated from the outside world (no hard wiring with the IP network)
- Multiple level of user rights access
- Shared access to multiple users
- Systems behind the matrix are generally difficult to update (new patch, service pack, security update).
- Application running on the machine don't works with O.S. updates.

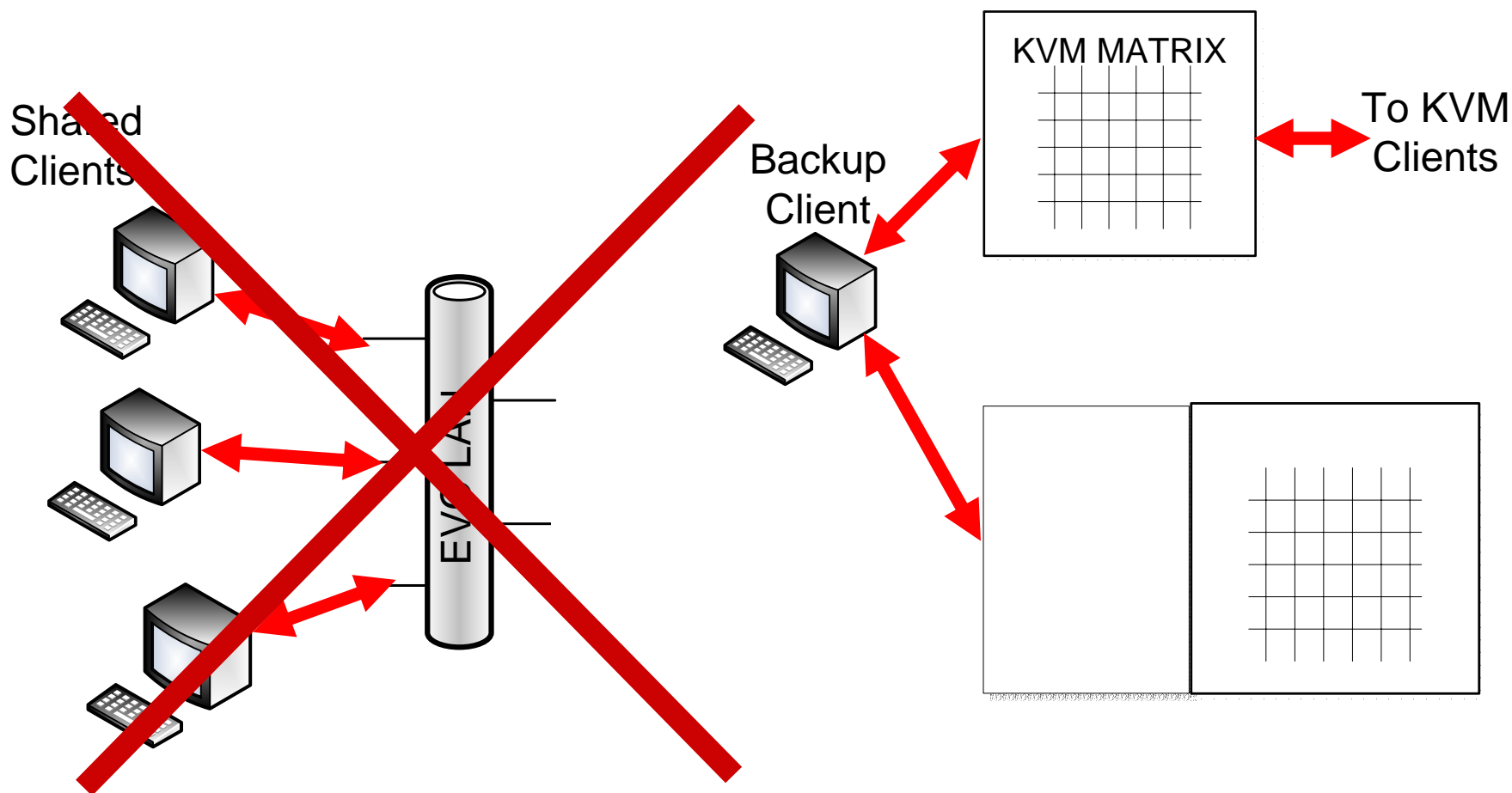
Dedicated Server



Dedicated Server

- On the server :
 - use of several network cards
 - avoids direct traffic between the client and control subnets.
 - let the server to be the only one to link subnets (no route are defined on the server)
 - Linux Operating system is installed
 - Software Firewall are locally used to track events
- PC clients :
 - are connected to the EVC VLAN
 - provides more flexibility and availability compared to the KVM case
 - Security policies are handle by our IT department

Directly Connected To EVC LAN



Directly Connected To EVC LAN

- Broadcast equipment with built in microcontroller acting as server for remote control
 - are directly connected to EVC LAN
 - are less sensitive to external attacks (if append)
 - they also required less intervention (very few update)

Directly Connected To EVC VLAN

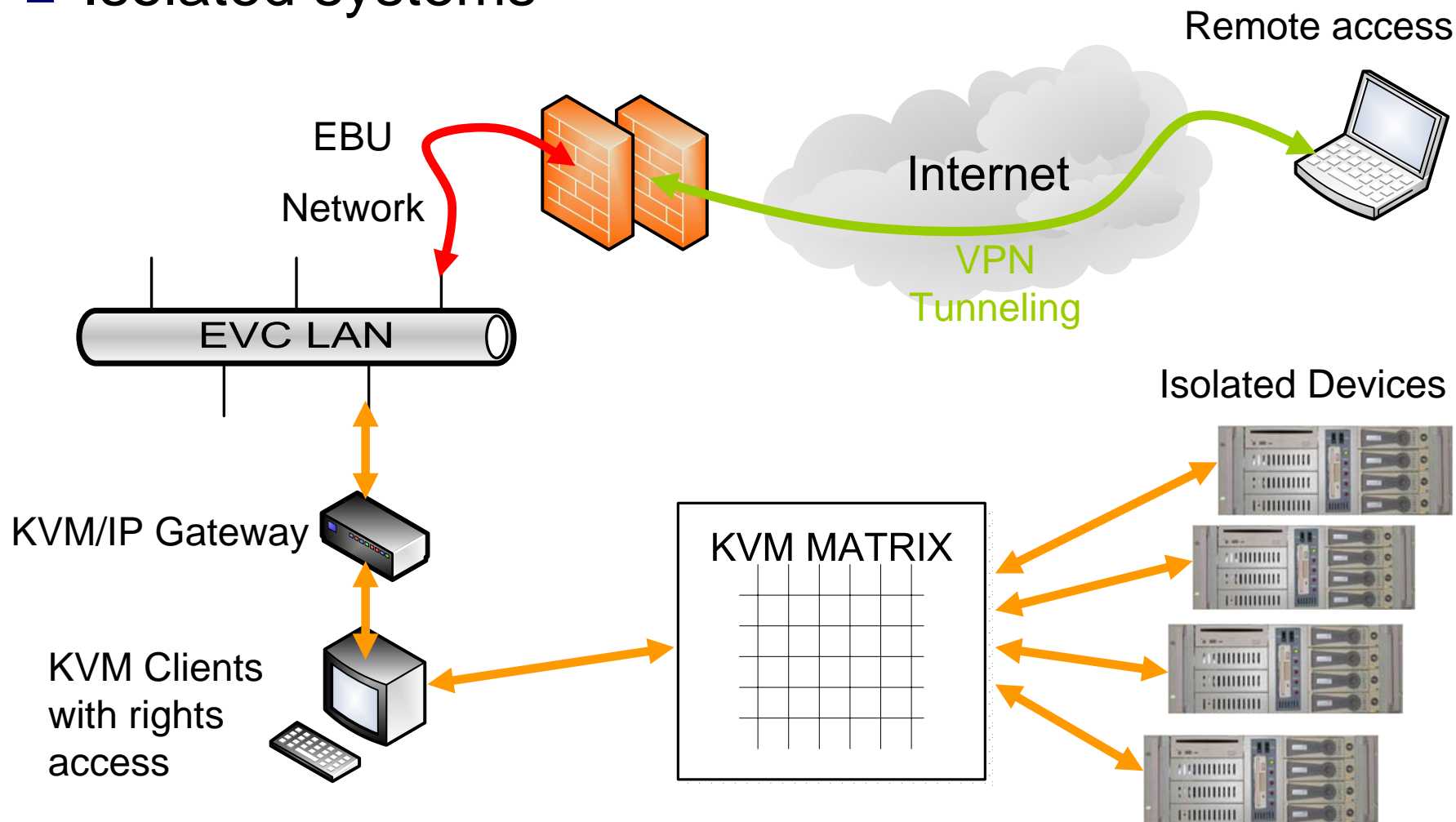
- Backup access is provided by a dedicated, isolated client acting as a gateway with the KVM matrix
- 2 Controllers for each equipment ensure redundancy.
- In case of a freeze of the equipment controller, a reset can be done without stopping the operational functions.

Remote Access

- Equipments connected to the EVC LAN can be access through a VPN application.
- For isolated equipments (On KVM) specific procedures are established for temporary remote access.

Remote Access

■ Isolated systems



Thanks for your attention

Q & A