



Remote Isolation and Test Using IEC 61850

PS2/Q6: ROD HUGHES (Australia)

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Rod Hughes Consulting





At 3 am in the morning need to ...

From home:



Gain access

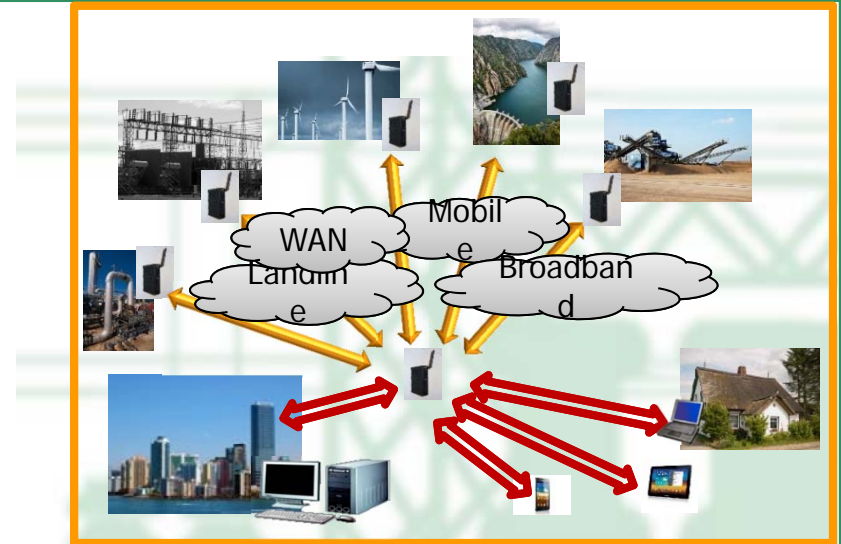
Isolate a function

- in the right sequence for that Bay
- Independent of the SAS IEDs
- Independent of which vendor's IEDs
 - Block GOOSE
 - Change a Beh mode
 - Change to SIM mode
 -
- Pre-engineered Operator & Test Interface
 - Patent Registered 2009

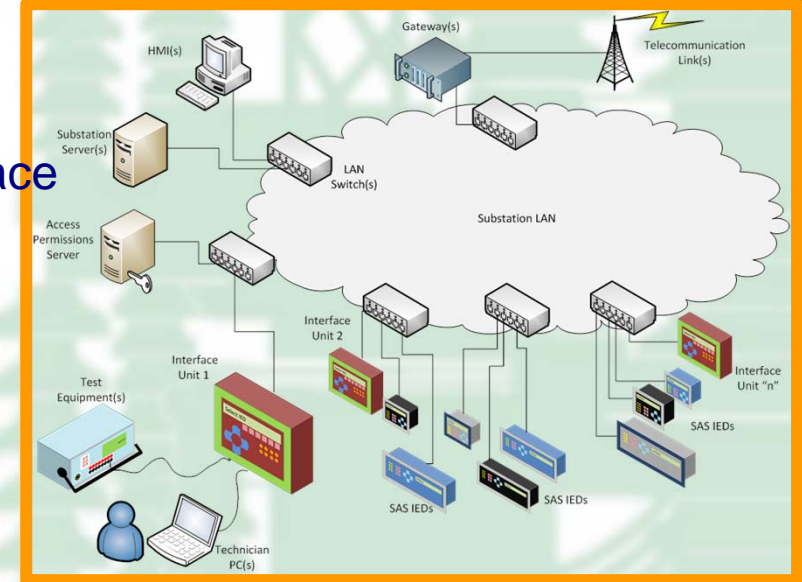
Control remotely operated test equipment

Disable faulty equipment

Still keep the system working!!!!



<http://rodhughesconsulting.com/innovationandsolutions/>



In Service System

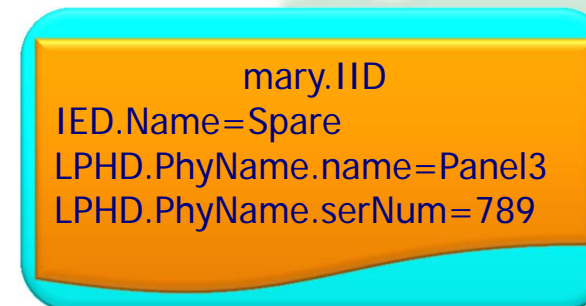
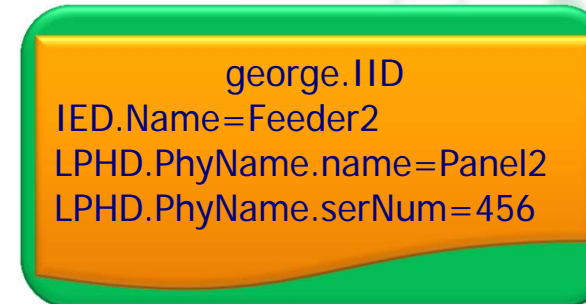
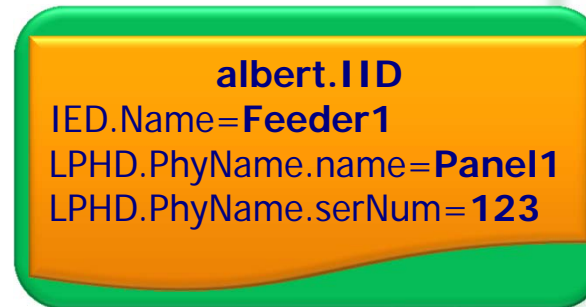
Two Feeder Panels
One Spare Panel

IEC 61850 System
Top-Down Engineering

- SSD=>SCD=>CID/IID

Process Bus
Station Bus

02:59am



In Service System

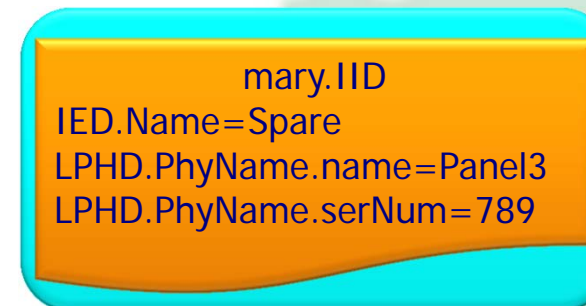
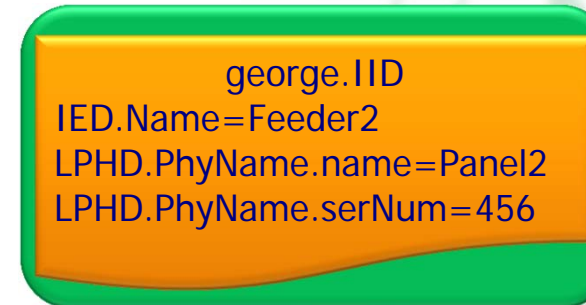
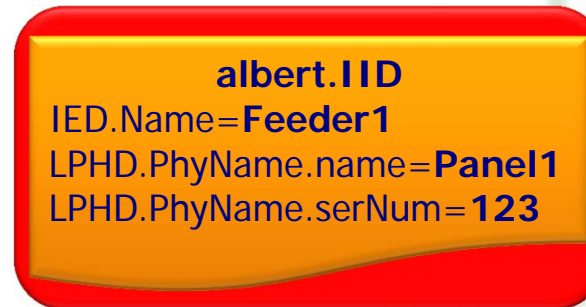
Two Feeder Panels
One Spare Panel

IEC 61850 System
Top-Down Engineering

- SSD=>SCD=>CID/IID

Process Bus
Station Bus

03:00am



GOOSE/SV



Reconfiguring the System

03:03am

albert.IIDIED.Name=**Feeder1**LPHD.PhyName.name=**Panel1**LPHD.PhyName.serNum=**123****george.IID**

IED.Name=Feeder2

LPHD.PhyName.name=Panel2

LPHD.PhyName.serNum=456

mary.IID

IED.Name=Spare

LPHD.PhyName.name=Panel3

LPHD.PhyName.serNum=789

GOOSE/SV



Reconfiguring the System

03:03am

albert.IID
IED.Name=Feeder1
LPHD.PhyName.name=Panel1
LPHD.PhyName.serNum=123

albert.IID
IED.Name=**Feeder1**
LPHD.PhyName.name=**Panel1**
LPHD.PhyName.serNum=**123**

george.IID
IED.Name=Feeder2
LPHD.PhyName.name=Panel2
LPHD.PhyName.serNum=456

mary.IID
IED.Name=Spare
LPHD.PhyName.name=Panel3
LPHD.PhyName.serNum=789



Reconfiguring the System

03:03am

albert.IID
IED.Name=Feeder1
LPHD.PhyName.name=Panel1
LPHD.PhyName.serNum=123

Re-configure
Spare with
proven
configuration
file

albert.IID
IED.Name=**Feeder1**
LPHD.PhyName.name=**Panel1**
LPHD.PhyName.serNum=**123**

george.IID
IED.Name=Feeder2
LPHD.PhyName.name=Panel2
LPHD.PhyName.serNum=456

albert.IID
IED.Name=**Feeder1**
LPHD.PhyName.name=Panel3
LPHD.PhyName.serNum=789

GOOSE/SV



Reconfiguring the System

03:03am

albert.IID
 IED.Name=Feeder1
 LPHD.PhyName.name=Panel1
 LPHD.PhyName.serNum=123

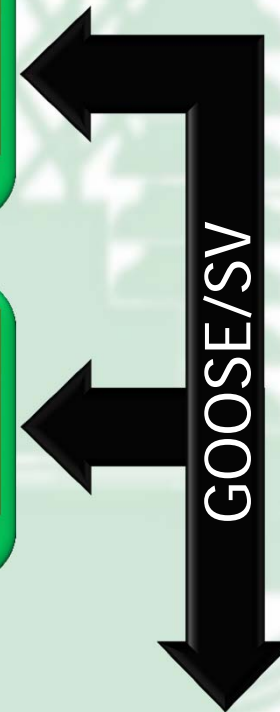
Re-configure Spare with proven configuration file

Comms restart

albert.IID
 IED.Name=**Feeder1**
 LPHD.PhyName.name=**Panel1**
 LPHD.PhyName.serNum=**123**

george.IID
 IED.Name=Feeder2
 LPHD.PhyName.name=Panel2
 LPHD.PhyName.serNum=456

albert.IID
 IED.Name=**Feeder1**
 LPHD.PhyName.name=Panel3
 LPHD.PhyName.serNum=789



Reconfiguring the System

03:05am

albert.IID
 IED.Name=Feeder1
 LPHD.PhyName.name=Panel1
 LPHD.PhyName.serNum=123

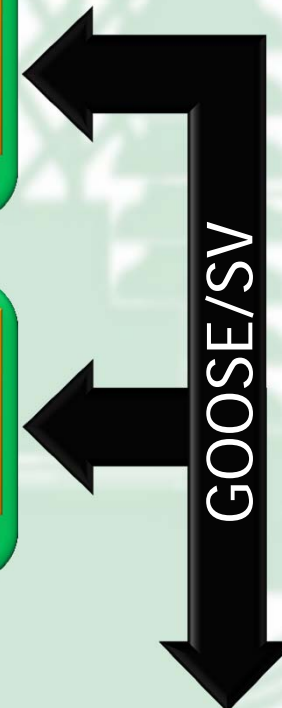
Re-configure Spare with proven configuration file

Comms restart

albert.IID
 IED.Name=**Feeder1**
 LPHD.PhyName.name=**Panel1**
 LPHD.PhyName.serNum=**123**

george.IID
 IED.Name=Feeder2
 LPHD.PhyName.name=Panel2
 LPHD.PhyName.serNum=456

albert.IID
 IED.Name=**Feeder1**
 LPHD.PhyName.name=Panel3
 LPHD.PhyName.serNum=789



Report changes:
configRev revision to the device model
paramRev changes of setting groups and settings
valRev changes of any particular attribute of a Logical Node.