UCAIug CIGRÉ Interoperability Demo

Planning Meeting of 10 August 2016, 10:00 EDT/15:00 CET

Attendees: from GoToWebinar

|  |  |
| --- | --- |
| **Name** | **Email Address** |
| GoToWebinar Report Site is down. Will update later with attendees. |  |
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Call to Order by Ralph Mackiewicz

# FINAL Participant List:

|  |  |  |
| --- | --- | --- |
| **Organization** | **Level** |  |
| RTDS Technologies Inc. | Platinum | PAID |
| Triangle MicroWorks, Inc. | Platinum | PAID |
| DNV GL | Platinum |  |
| SISCO | Platinum | PAID |
| SEL | Platinum | PAID |
| Meinberg | Silver | PAID |
| Cisco | Platinum | PAID |
| Doble Engineering Company | Platinum | PAID |
| KERI | Gold | PAID |
| SUBNET Solutions Inc. | Platinum | PAID |
| SoC-e | Silver | PAID |
| Moxa Inc. | Silver | PAID |
| EFACEC | Platinum | PAID |
| NR Electric | Platinum |  |

Participation is closed.

Mailing Lists have been established for actual participants:

[CIGRE2016-IOP@ucaiug.org](mailto:CIGRE2016-IOP@ucaiug.org) for coordination of the IOP demo involving Platinum sponsors

[CIGRE2016-Sponsors@ucaiug.org](mailto:CIGRE2016-Sponsors@ucaiug.org) for all CIGRÉ 2016 sponsors.

Please notify [ralph@sisconet.com](mailto:ralph@sisconet.com) if additional people need to be added.

**Action Item Everyone:** Update your email addresses on the UCAIug web site and ensure they match with the email address used for the GotoWebinar registration for the planning meetings. Permissions to the meeting coordination site on SharePoint are going to be set based on UCAIug log ins.

Booth Logistics:

Henny van de Bovenkamp ([henny@lakeviewgroup.com](mailto:henny@lakeviewgroup.com)) will be handling the booth logistics.

## Budget/Finance

Reviewed Budget. Based on 14 platinum participants. Budget posted to site under Booth Logistics

<http://www.ucaiug.org/Meetings/CIGRE2016/Booth%20Logistics%20Documents/Forms/AllItems.aspx>

## Logistics

* 20KW of 24 hour electricity ordered. A little more than 1KW per pod is the average allocation. Many participants require much less than (typical client booth will require no more than 300W) that so that pods with lots of equipment should be able to expect significantly more than 1KW.
* Cisco: Network cable status update: Cables are in the hands of the booth builder.
* Power will be routed underneath the wall to come up in the very bottom compartment of the pod.
* REMINDER: Power connection is a single 240VAC 50Hz using a standard CEE 7/3 socket. There is a hole for cables at the top of the demo pod.
* Participants must bring their own multiple outlet strip if they have a need for multiple outlets. Be sure that any surge protection is rated for a 240VAC 50Hz line.
* One wired internet connection will be ordered. Kay will provide a WiFi access point for participants to connect for email, etc.
* Tables: all low round tables
* Stand will be ready on Sat. 20 August approx at 2 pm.
* Monitor on demo pod: 40cm max. height
* One person from the booth builder, IG Events, will be at the stand on Sunday 21/8 to assist as needed.
* Security has been ordered.
* Catering has been ordered.
* LCD Rentals: LCDs have been ordered.
* **NOTE TO PARTICIPANTS:** There will be a security checkpoint at the Palais de Congres, including a metal detector, that everyone will have to go through to enter the exhibit hall.
* Exhibitor Badges delivered electronically by CIGRÉ already. Just a reminder: Each Platinum sponsor should have only one person in the booth at any given time whenever the show is open. The idea is to keep the booth open for visitors. Silver and Gold sponsors are not allowed a permanent presence in the booth during show hours.

## Booth Layout

* Booth Layout will be planned for 10 Platinum Participants. Layout with 10 pods here: <http://www.ucaiug.org/Meetings/CIGRE2016/Booth%20Logistics%20Documents/UT%20lay-out%20version%204%2007072016.pdf>
* Booth positions have been set. See: <http://www.ucaiug.org/Meetings/CIGRE2016/Booth%20Logistics%20Documents/Booth_Positions.pdf>

## Marketing Activities

* **Action: Ralph:** Lead tracking configured so that we can capture contacts for participants.
* Presentation literature is posted to: [Promotional Documents](http://www.ucaiug.org/Meetings/CIGRE2016/Promotional%20Documents/Forms/AllItems.aspx)
* Ralph sent introductory letter to Alex Apostolov and Motaz Elshafi offering to assist on an article in PAC World. No response yet. Will need to meet at CIGRÉ.
* The email addresses on their UCAIug account have to match when logging in to ensure access.
* **Action: Ralph** will setup a public page for promotional purposes. In Process
* **Action: Kay** will work with Lakeview to get a press release put together. Distribution Completed.
* **ACTION ITEM FOR EVERYONE:** Publicize our event. One idea: Go To LinkedIn 61850 Group and post your own message about the CIGRÉ 2016 Interoperability Demonstration. Let everyone know about your post on the CIGRÉ mailing lists so other can “Like” and contribute.

## Event Details

* ENTSO-E will be offered 2 time slots for a presentation similar to what was done in 2014. **ENTSO-E accepted.**
* Presentation Schedule: TBD. Time slot selection will be done by lottery. Presentation Schedule was posted to:  
    
  <http://www.ucaiug.org/Meetings/CIGRE2016/Booth%20Presentation%20Schedule/CIGRE2016_Booth_Presentation_Schedule-V1.docx>
* PLEASE NOTE: Abstracts should be submitted ASAP so that a promotional page can be set up for public viewing no later than 15 July. Please post abstracts here: [http://www.ucaiug.org/Meetings/CIGRE2016/Booth%20Presentations/Forms/AllItems.aspx?RootFolder=%2fMeetings%2fCIGRE2016%2fBooth%20Presentations%2fAbstracts&FolderCTID=&View=%7b3F05E1D8%2d512E%2d43A1%2d8310%2d4D1B8D0D7DCD%7d](http://www.ucaiug.org/Meetings/CIGRE2016/Booth%20Presentations/Forms/AllItems.aspx)
* Presentation template has been uploaded for the individual pod signs. It is the same template as 2014. Template is posted here:  
   <http://www.ucaiug.org/Meetings/CIGRE2016/Booth%20Logistics%20Documents/Participant%20Signs/CIGRE_UCA-Company_Poster_Template_2016.pptx>   
    
  This template has 2 slides in it: the first slide is a blank slide that you need to use to design your graphics. The 2nd slide is an example of a finished design. Please delete the 2nd slide before posting your final design.
* Presentation Guidelines posted here:   
    
  [http://www.ucaiug.org/Meetings/CIGRE2016/Booth%20Presentations/Presentation%20Guidelines%20for%20the%20UCAIug%20display%20at%20CIGRE%202016.docx](http://www.ucaiug.org/Meetings/CIGRE2016/Booth%20Presentations/Presentation%20Guidelines%20for%20the%20UCAIug%20display%20at%20CIGRE%202018.docx)
* Schedule posted with participants’ deadlines prior to the next meeting. Interoperability demo deadlines are in the IED Configuration Guidelines here under Booth Logistics Documents:   
    
  <http://www.ucaiug.org/Meetings/CIGRE2016/Booth%20Logistics%20Documents/CIGRE2016-Schedule.docx>

Demo Planning

## Network

Cisco Systems (Motaz) will take the lead in network design and support.

* Only RSTP will be used
* One physical LAN with a one switch will used for both Process Bus and Station bus. VLANs will be used to logically separate the traffic.
* Doble will bring a master clock and will pass PTP and SNTP signaling across the network for participants to use. RTDS will receive the PTP and generate IRIG-B for any participants that need it.
* A separate network will be used for the Cisco Cyber Security demonstration.
* Network addressing is included in the detailed configuration document that Joe is creating. Current Version: <http://www.ucaiug.org/Meetings/CIGRE2016/Interoperability%20Demo/IED%20Configuration%20Guidelines%20-%2061850%20Breaker%20Failure%20Demo%20-%20V1%20-%20June%2021%202016.docx>
* Cabling discussion: Cisco is trying to work on the cabling logistics. Cables will need to be run during basic booth setup on Saturday. Presumably, because all the pods are along the wall, the cabling will be done along the floor behind the walls and the cables will be routed beneath the wall to come up in the pod lowest level.
* Participant matrix has been updated to identify # of connections to process bus and station bus that each participant requires.
* For Booth Logistics: Need to number/identify both ends of each cable prior to installation so that we can have a reasonable way to identify the physical connections after installation.
* Drawing of the pod posted to: <http://www.ucaiug.org/Meetings/CIGRE2016/Booth%20Logistics%20Documents/Dimensions%20of%20the%20Demo%20Pod.pdf>

## Full Transient Simulation using Process Bus, GOOSE and Client/Server:

Lead: Joe Stevens of TMW

* Will use ENTSO-E Use Case: Breaker Fail Demo as we did in 2014 is the suggested use case.
* RTDS (Dean) and Doble (Jun) will demonstrate a full simulation of the breaker failure that will interface to relays using process bus.
* All process bus signaling will use 9-2 LE only.
* Because of the complexity of doing the power system simulation for triggering the fault we will not be demonstrating any testing/simulation GOOSE bit processing in the demo this year.
* LGOS GOOSE subscription supervision will be demonstrated for devices that can support it.
* Individual participants who have implemented other advanced features can conduct a multilateral demonstration of those features within the breaker failure demo even if not all the participants can support those advanced features. As long as any such auxiliary demonstration is open to anyone that can participate, there is nothing to prevent participants from demonstrating whatever capabilities they have.
* Diagram illustrating the demo is posted here: <http://www.ucaiug.org/Meetings/CIGRE2016/Interoperability%20Demo/CIGRE%202016%20-%20UCA%20-%20IEC%2061850%20Demonstration%20-%20June%2014.pdf>
* Participant Matrix posted here: <http://www.ucaiug.org/Meetings/CIGRE2016/Interoperability%20Demo/Cigre%202016%20-%20Demo%20Participation%20Matrix%20-%20V10%20-%20Combined.xlsx>
* Participants need to start posting ICD files here: [http://www.ucaiug.org/Meetings/CIGRE2016/Interoperability%20Demo/Forms/AllItems.aspx?RootFolder=%2fMeetings%2fCIGRE2016%2fInteroperability%20Demo%2fSCL%2dFiles%2fICD%2dFiles](http://www.ucaiug.org/Meetings/CIGRE2016/Interoperability%20Demo/Forms/AllItems.aspx)
* Schedule and other details of the demo are included in the IED Configuration Guidelines document here: <http://www.ucaiug.org/Meetings/CIGRE2016/Interoperability%20Demo/IED%20Configuration%20Guidelines%20-%2061850%20Breaker%20Failure%20Demo%20-%20V9%20-%20July%2026.docx>
* Non Process Bus IEDs can cause RBRF (such as a simulated IED) that has a CSWI associated to a breaker that fails to operate when a client or front panel operation tries to issue a control command to it.
* There is an issue about how to reset the demo: The Doble would need to do a timed reset vs. using the CSWI.OpCls GOOSE message. Doble test set can only have one subscription to start the test or reset. Either Doble or SISCO can combine signals from all the participants into a single GOOSE message that can be used to reset the Doble. This will be done as needed.
* Joe added a section for voltage level in the IED Configuration guidelines. 220KVAC, 50Hz, 250A nominal rating.
* Device Details:
  + Tim Tibbals of SEL indicated that they will be bringing an SEL 411L relay capable of receiving process bus signals via 9-2 LE to participate in the transient simulation demo.
  + EFACEC device identified: EFA L500. Will be a SV subscriber.
  + **NR Electric device identified:** PCS-902. Will be a SV subscriber
* Joe Stevens reviewed the Demonstration during the call:
  + The use of the X, Y and Z parameters were reviewed as follows:
    - X and Y are used for IP addresses
    - X and Z are used for SV and GOOSE multicast addressing
    - Table in IED Guidelines will be updated to reflect this.
  + After much discussion it was decided that the multi-vendor demonstration will proceed with the Breaker Failure scenario Joe documented in the existing [IED Guidelines document](http://www.ucaiug.org/Meetings/CIGRE2016/Interoperability%20Demo/IED%20Configuration%20Guidelines%20-%2061850%20Breaker%20Failure%20Demo%20-%20V6%20-%20July%2012.docx). Any participants who want to support any other scenarios (e.g. breaker operates successfully) are free to do so within their pod. If interaction with other participants takes place that is OK as well. But the primary interoperability demonstration will be confined to the Breaker Failure Scenario defined in Section 4, Option 1 and Option 2 in the IED Guidelines document.
* Claudio: Client file transfer may not be supported through Proxy. Participants need to respond to the previous email so that Efacec can do the engineering necessary to produce the SCD for SUBNET and then produce the final SCD for everyone. ANYONE WANTING TO SUPPORT FILE TRANSFER IN THE DEMO MUST RESPOND WITH DETAILS.
* Proxy Status: SUBNET to configure the proxy. If not successful DNV-GL will not be able to talk to Efacec or SEL and SUBNET will not be able to talk to Efacec.
* Final SCD by 17 August. 2 versions: one with proxy one without.
* Need one extra cable between the Cisco pod and the TMW and SISCO pods.
* Efacec was able to test their device successfully with a MU using the ICDs provided.
* NR Electric requires all GOOSE data to which it must subscribe to use datasets using daName (FCDA) elements, not just doName (FCD).

**Cyber Security**

* Based on the review of the Cisco plans, the IEC 62351 demo that is planned and based on suitable input from Subnet Ralph suggested that “Secure Substation Communications” could be made a highlight of our demo in addition to the full transient simulation aspect that is also new this year.
* CISCO is planning a demo involving NERC CIP architecture using a separate security appliance. Cisco submitted this to Ralph and will be posted to the site for review by all: <http://www.ucaiug.org/Meetings/CIGRE2016/Interoperability%20Demo/CIGRE%202016%20-%20UCA%20-%20Cyber%20Security%20Demo%20Abstract%20-%20V1%20-%20May%2025.pdf>
* Ralph will organize a demonstration of IEC 62351-4 in cooperation with the client/server portion of the breaker failure demonstration. TMW, Cisco and SISCO (and any other interested parties) will have a separate off-line discussion on how to demonstrate some of these security functions. Meeting held. Work proceeding. Still need to determine if additional connectivity is needed for the Cisco security demo. 62351-4 demo diagram uploaded to SharePoint. TMW and SISCO still testing. Vacations make it problematic.

# SCL Engineering Process

* EFACEC will handle the SCD engineering for the demonstration itself. The drawing used to illustrate the interoperability booth demo for public distribution will identify EFACEC as the source for the file used to configure the booth devices.

Schedule

This schedule is updated continuously here:

<http://www.ucaiug.org/Meetings/CIGRE2016/Booth%20Logistics%20Documents/CIGRE2016-Schedule.docx>

| # | Date | Status | Applies To | Description |
| --- | --- | --- | --- | --- |
|  | 15 June 2016 | DONE | Kay | Order Electricity. 20KW for 24hr service. |
|  | 8 July 2016 | DONE | All Platinum | Preliminary ICD Files due for each device taking part in the interoperability demonstration. [See latest IED Configuration Guidelines Document.](http://www.ucaiug.org/Meetings/CIGRE2016/Interoperability%20Demo/Forms/AllItems.aspx) |
|  | 8 July 2016 | NOT DONE | All Platinum All Gold | Presentation titles, abstracts, author name and author titles due for use in public information page on the interoperability demonstration. Post [HERE](http://www.ucaiug.org/Meetings/CIGRE2016/Booth%20Presentations/Forms/AllItems.aspx). Missing DNV-GL, SUBNET. Deadline pasted and long gone. |
|  | 8 July 2016 | DONE | ALL SPONSORS | Corporate logos uploaded to SharePoint site [HERE](http://www.ucaiug.org/Meetings/CIGRE2016/Booth%20Logistics%20Documents/Forms/AllItems.aspx). |
|  | 8 July 2016 | DONE | Ralph | Post presentation schedule |
|  | 14 July 2016 | DONE | All Platinum  All Gold | Platinum and Gold sponsors submit their presentation slot preferences to [ralph@sisconet.com](mailto:ralph@sisconet.com) |
|  | 15 July 2016 | DONE | Ralph and Kay | Public information page on-line |
|  | 18 July 2016 | DONE | EFACEC | Preliminary SCD files for import into ICT. |
|  | 22 July 2016 | DONE | Ralph | Execute lottery and assign presentation slots |
|  | 22 July 2016 | DONE | Ralph | Identify booth layout positions for simulators, networking equipment, etc. |
|  | 22 July 2016 | DONE | All Platinum  All Gold  All | Participant Sign Graphics submitted to SharePoint site [HERE](http://www.ucaiug.org/Meetings/CIGRE2016/Booth%20Logistics%20Documents/Forms/AllItems.aspx). |
|  | 22 July 2016 | DONE | Ralph, Henny  & Interested Sponsors | Complete booth graphic design |
|  | 25 July 2016 | DONE | All Platinum | Final ICD Files Due for each device taking part in the interoperability demonstration. . [See latest IED Configuration Guidelines Document.](http://www.ucaiug.org/Meetings/CIGRE2016/Interoperability%20Demo/Forms/AllItems.aspx) |
|  | 12 August | DONE | ALL SPONSORS | Submit USB Stick contents to the appropriate folder on SharePoint Site [HERE](http://www.ucaiug.org/Meetings/CIGRE2016/USB%20Promo%20Content/Forms/AllItems.aspx). |
|  | 27 July 2016 | Done | Henny | Sign and booth graphics submitted for production. Booth position assignments finalized and submitted to I&G. |
|  | 12 August 2016 | DONE | Kay/Henny | Order USB Sticks |
|  | **17 August 2016** | **In Process** | **EFACEC** | **Final SCD file available for testing and demonstration.** |
|  | 8 August 2016 | DONE | Henny and Kay | Order food and beverage service |
|  | 8 August 2016 | DONE | Henny and Kay | Order security service |
|  | 15 August 2016 | DONE | Henny and Kay | Order lead tracking |
|  | 8 August 2016 | DONE | All Platinum | Order LCD Screen Rentals via UCAIug shopping cart |
|  | 8 August 2016 | DONE | All Platinum | Enter up to 2 names for exhibitor badges to the web site at the [Exhibitor Badge List](http://www.ucaiug.org/Meetings/CIGRE2016/Lists/Exhibit%20Badge%20Registration/AllItems.aspx). |
|  | 18 August 2016 | DONE | Ralph and Kay | Finish Literature (presentation and demo) and UCAIug screens for looping presentation. |
|  | **12 August 2016** | **In Process** | **All Sponsors** | **Submit slides for looping presentation to the** [**SharePoint site**](http://www.ucaiug.org/Meetings/CIGRE2016/Looping%20Presentation%20Files/Forms/AllItems.aspx)**.** |
|  | 20 August 2016 |  | Henny, Kay, Ralph and I&G Events | Complete booth construction by 14:00 CEST |
|  | 21 August 2016 |  | All Platinum | Complete Interoperability Demonstration Startup by 17:00 CEST |
|  | 22 August 2016 |  | ALL | Show Opens |
|  | 26 August 2016 |  | All Platinum, Kay and Ralph | Show Closes. Tear Down Begins at 16:00 CEST |
|  | TBD |  | Ralph plus interested parties | Develop article on the demonstration |
|  | 30 September 2016 |  | Ralph | Post pictures and update site for historical archive |