Roll-Out of Web-based, Beamline-Initiated, Steering Request System

Louis Emery and Greg Fystro
AOP
ASD

TWG Meeting
Jan 21st, 2016
Motivation

- Web-based steering requests reduce wait times and errors in communicating beamline steering requests
- Previously, numbers were orally passed on twice. Now they are typed in once.
Tests before Rolling Out Web-based Steering Requests

- System tested on several beamlines of the Beam Stability Working Group since summer: 23 CU, 24 CU, 13 ID, 27 ID
Steering Request Web Page

Individual beamline Names will be displayed here

Type number of microradians here

Increment buttons

Formatted commands appear here

Press button

Note: This is a request for steering only. The actual amount steered will be dictated by detector beam position limits.
4 Microradian Outboard for 3ID

1. UP
   0
   5
   3
   1

2. IN
   0
   5
   3
   1

3. DN
   0
   5

4. Note: Gap scans will not be performed during the first day of the User Run.

Pending Command: 4 OB

Buttons:
- CLEAR
- SEND REQ
- OPTIMIZE
- GAP SCAN

Note: This is a request for steering only. The actual amount steered will be dictated by electron beam position limits.
Canted Sector 23: 5 microradian inboard

Note: This is a request for steering only. The actual amount steered will be dictated by electron beam position limits.

Note: Gap scans will not be performed during the first day of the User Run.
3ID: Optimize!

Note: This is a request for steering only. The actual amount steered will be dictated by electron beam position limits.

Note: Gap scans will not be performed during the first day of the User Run.

Feeding Command: OPTIMIZE
Expect Confirmation After Sending a Request

Your request has been submitted.
Beamline: 23US
Steering request: 5 IB

Click OK to continue.
Steering Queue: After Confirmation

Not yet acknowledged by MCR operators. Operators acknowledge by clicking the green check button. Replaced by a Time stamp.
Operators schedule the steering by selecting a time window value.
After Several Requests: MCR and FC view

At this point the operator will effect the steering.
(BTW steering process is faster since Dec. 2015, and no longer suffer from micron-size transients)

The view from each beamline workstation would show only their own requests

<table>
<thead>
<tr>
<th>Beamline</th>
<th>Request</th>
<th>Time Sent</th>
<th>Time Acknowledged</th>
<th>Time Scheduled</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:ID</td>
<td>OPTIMIZE</td>
<td>Jan 15 18:18</td>
<td></td>
<td></td>
<td>Requested</td>
</tr>
<tr>
<td>02:ID</td>
<td>3 IB</td>
<td>Jan 15 19:17</td>
<td></td>
<td></td>
<td>Requested</td>
</tr>
<tr>
<td>01:ID</td>
<td>5 OB</td>
<td>Jan 15 18:17</td>
<td></td>
<td></td>
<td>Requested</td>
</tr>
</tbody>
</table>

Cancel buttons

Time stamps viewable by beamline
Steering Request Queue: Completed Steering for 23US

<table>
<thead>
<tr>
<th>Beamline</th>
<th>Request</th>
<th>Time Sent</th>
<th>Time Acknowledged</th>
<th>Time Scheduled</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>131D</td>
<td>OPTIMIZE</td>
<td>Jan 15 10:18</td>
<td>✔️</td>
<td>✔️</td>
<td>Requested</td>
</tr>
<tr>
<td>021D</td>
<td>3 IB</td>
<td>Jan 15 10:17</td>
<td>Jan 15 10:18</td>
<td>✔️</td>
<td>Pending</td>
</tr>
<tr>
<td>011D</td>
<td>5 OB</td>
<td>Jan 15 10:17</td>
<td>Jan 15 10:18</td>
<td>Jan 15 10:28</td>
<td>Pending</td>
</tr>
</tbody>
</table>
Steering Request Details

- MCR gets audible notification, like an alarm
- Acknowledgment of request is sent from MCR for all to see
- Expected time to steering is sent back from MCR for all to see
- When steering is done, a “completed” status is sent for all to see
- Web page address will be given out
- Beamlines must be registered with their workstation IP so that they can be allowed to send request (authentication)
  - Web page for registration will be given out
  - Canted undulator sector with possible multiple IP is handled in a special way. Other exceptions can be allowed
  - FC can also send any request for all beamlines
- Request data are stored in a web server. Can do statistics on requests.
- ID, BM, steering, optimization and x-ray bpm gap scan are possible.
Mandatory Sign-up (can ask FC for help)


Web-based Steering Request Sign-up

Beamline(s): 1BM, 1ID, 1US, 1DS, 2BM

Phone Number: 

Contact Name: 

E-mail address: (optional)

Submit Request

Steering requests for a specific beamline may only be made if the computer on which the request is being made is registered. The above form is a request to register a specific computer in the system.
Web-based Steering Request Sign-up

Beamline(s):  
- 1BM
- 1ID
- 1US
- 1DS
- 2BM

Phone Number:  

Contact Name:  

E-mail address (optional):  

Submit Request

Steering requests for a specific beamline may only be made if the computer on which the request is being made is registered. The above form is a request to register a specific computer in the system.

Each individual computer that you wish to make steering requests from must be registered in the system. You may select one or more beamlines for each computer. If you want to be able to steer for multiple beamlines on a single machine, make sure to control-click on all desired beamlines when you request your registration.

The contact phone number that you enter should be the number for the phone which you would want the Control Room to call should they have any questions concerning a steering request.

The contact name should be a person that is able to authorize steering requests for the specified beamlines. This person will be confirmed by the Floor Coordinator during the registration process.

The e-mail address is optional and will only be used to send a confirmation e-mail once the sign-up request has been completed and the steering request web page has been made available for use.