CANARIE

PerfSONAR demo detail
GLIF meeting, Seattle
Oct 1 & 2, 2008

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CANARIE

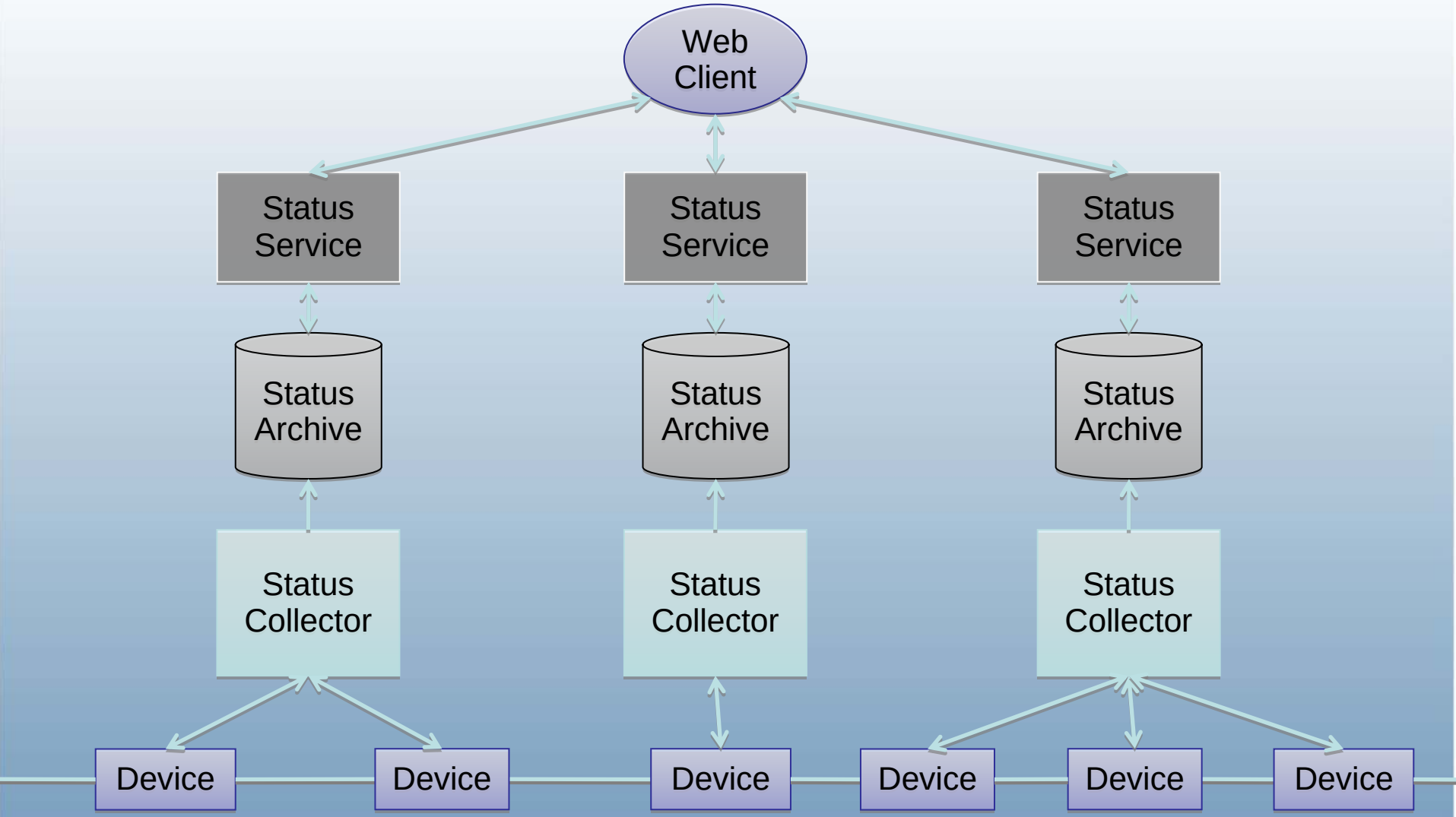
Outlines

- perfSONAR circuits monitoring – Jeff Boote
- perfSONAR lightpath monitoring detail
- A quick demo

perfSONAR Circuit Monitoring GLIF 2008

Aaron Brown
Jeff W. Boote
Internet2

Distributed Status Architecture



Circuit Status Monitoring

- Each site setup a collector for its segment of the circuit
  - Some sites used scripts
  - Some sites used the SNMP backend
  - Some sites used the TL1 backend
- Each site configured the status service to describe and name their portion of the circuit along with their ingress/egress points
- Two sites installed E2EMon instances and configured them to contact all the Status Services from the other sites

Circuit Status Monitoring

- Status Collector
  - Polling daemon
  - Supported backend collectors
    - Scripts
    - SNMP
    - TL1
      - HDXc, OME, Ciena
      - Uses primary state, but expanding to use alarms as well
  - Can store into a local MySQL or SQLite Database or remote Status Service

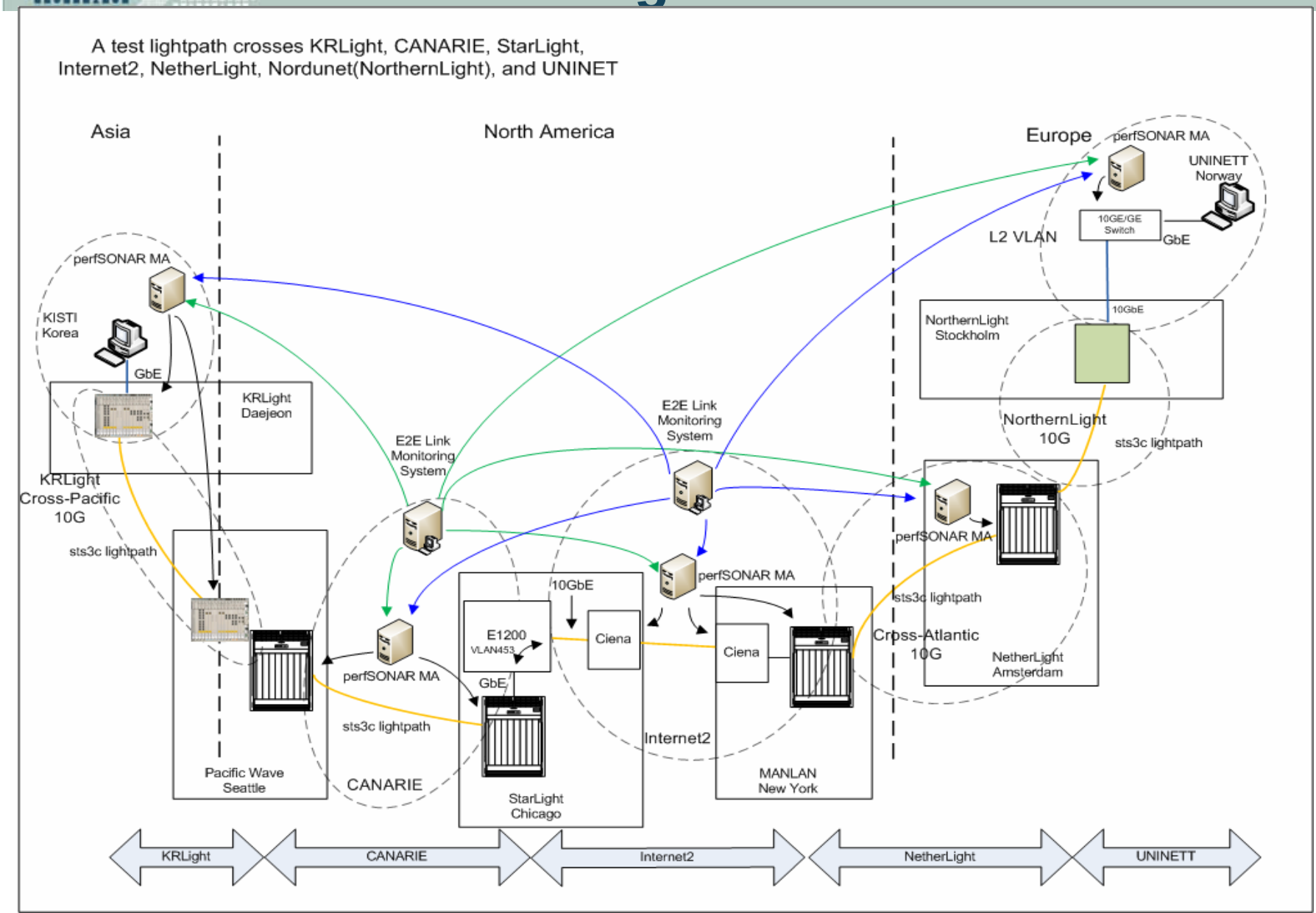
Circuit Status Monitoring

- Status Service
  - Provides a standardized way for clients to obtain Status information
  - Clients can retrieve both current and historical information

Circuit Status Monitoring

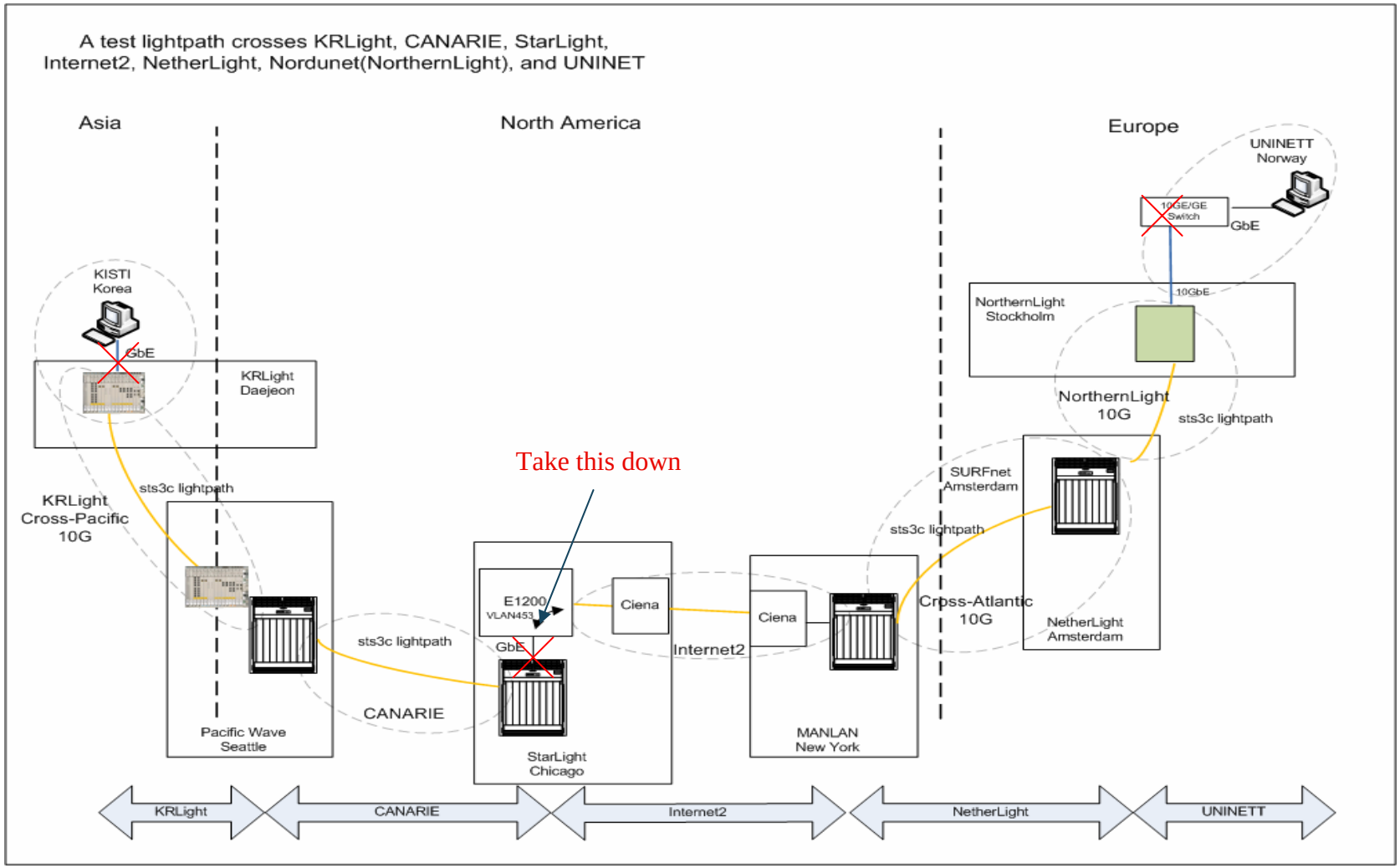
- E2EMon Web Client
  - Provides a GUI to show off the status of end-to-end circuits
  - Displays each domain's segment of the circuit
  - Can be configured to trigger alarms on circuit failures

The perfSONAR ligtpath monitoring detail



Live demo – injecting a fault into the lightpath

1: Setup a continuous ping
2: Inject a fault into the lightpath
3: Wait and verify the link status on the two E2E Link Monitoring Systems



Collecting links status

- **Collecting links status**
  - KRLight - collect link status through TL1
  - CANARIE – collect link status through TL1/script
  - Internet2 – collect link status through TL1
  - Netherlight - collect link status through TL1/script
  - UNINETT – collect link status through snmp

Ingress/egress points, service URI

Institution	Ingress Point	Egress Point	Service URI
KRLight	KRLight-Endhost	KRLight-SeattleOME6500	http://perfsonar.kisti.re.kr:8080/perfSONAR_PS/services/status
CANARIE	CANARIE-StarLightHDXc	CANARIE-PwaveHDXc	http://ackbar.canet4.net:8000/perfSONAR_PS/services/CANARIE_perfSONAR
Internet2	INTERNET2-CHICCIENA	INTERNET2-MANLANHDXC	http://packrat.internet2.edu:7788/perfSONAR_PS/services/status
NetherLight	NETHERLIGHT-ASD001ATDM3	NETHERLIGHT-ASD001ATDM3	http://toolbox2.sara.nl:8082/perfSONAR_PS/services/SERVICE_NAME
UNINETT	UNIENTT-OSLOG2SW	UNIENTT-STOLAV	http://trd-mp2.uninett.no:8080/perfSONAR_PS/status

perfSONAR configuration

- **elements.conf**

```
<config>
<element knowledge="partial">
        <id>urn:ogf:network:domain=canarie.ca:path=KISTI-UNINETT-GLIF-001-1</id>

        <agent  type="constant"  status_type="admin">
            <constant>normaloperation</constant>
        </agent>
        <agent  type="script" status_type="oper">
            <script_name>/opt/perfsonar/utils/poll3.pl</script_name>
        </agent>
    </element>

    <element knowledge="full">
        <id>urn:ogf:network:domain=canarie.ca:path=KISTI-UNINETT-GLIF-001-2</id>

        <agent  type="constant"  status_type="admin">
            <constant>normaloperation</constant>
        </agent>
        <agent  type="script" status_type="oper">
            <script_name>/opt/perfsonar/utils/poll2.pl</script_name>
        </agent>
    </element>

    <element knowledge="partial">
        <id>urn:ogf:network:domain=canarie.ca:path=KISTI-UNINETT-GLIF-001-3</id>

        <agent  type="constant"  status_type="admin">
            <constant>normaloperation</constant>
        </agent>
        <agent  type="script" status_type="oper">
            <script_name>/opt/perfsonar/utils/poll1.pl</script_name>
        </agent>
    </element>
</config>
```

perfSONAR configuration

- **e2emon_compat.conf**

```
<config>
<node name="PwaveHDXc">
    <city>Seattle</city>
    <country>USA</country>
 </node>
 <node name="StarlightHDXc">
   <city>Chicago</city>
   <country>USA</country>
 </node>

<circuit knowledge="partial">
   <globalName>KISTI-UNINETT-GLIF-001</globalName>
   <localName>KISTI-UNINETT-perfSONAR-001-1</localName>
   <segmentID>urn:ogf:network:domain=canarie.ca:path=KISTI-UNINETT-GLIF-001-1</segmentID>
   <endpoint type="demarcpoint" name="KRLight-SeattleOME6500" />
   <endpoint type="demarcpoint" name="PwaveHDXc" />
 </circuit>

 <circuit knowledge="full">
   <globalName>KISTI-UNINETT-GLIF-001</globalName>
   <localName>KISTI-UNINETT-perfSONAR-001-2</localName>
   <segmentID>urn:ogf:network:domain=canarie.ca:path=KISTI-UNINETT-GLIF-001-2</segmentID>
   <endpoint type="demarcpoint" name="PwaveHDXc" />
   <endpoint type="demarcpoint" name="StarlightHDXc" />
 </circuit>

 <circuit knowledge="partial">
   <globalName>KISTI-UNINETT-GLIF-001</globalName>
   <localName>KISTI-UNINETT-perfSONAR-001-3</localName>
   <segmentID>urn:ogf:network:domain=canarie.ca:path=KISTI-UNINETT-GLIF-001-3</segmentID>
   <endpoint type="demarcpoint" name="StarlightHDXc" />
   <endpoint type="demarcpoint" name="INTERNET2-CHICCIENA" />
 </circuit>

</config>
```