Achieving Agility with OSS/BSS

Rapid Service Deployment

Peter Kern
CEO, CROSS International

Thilo Bangert
GlobalConnect
INTRODUCTIONS

Who are we?
Peter and Thilo

Peter Kern – CROSS Project Manager
Thilo Bangert – GC Technical Lead

What is the Topic?
A study on the implementation of CROSS at a Danish company that offers network and fibre solutions – called GlobalConnect.

• Focus is Rapid Service Deployment
AGENDA

• Introducing GlobalConnect
• Customer’s Problems
• The Chosen Solution
• Project Plan and Rapid Deployment
• Benefits Delivered
Introducing GlobalConnect
GlobalConnect is a Danish company that offers telecommunications and outsourcing solutions.

- 16,000 km of fibre cables spanning all of Denmark and Northern Germany.
GlobalConnect

Transmission capacity
SDH/Ethernet/Wave lengths
Denmark, Sweden & Germany

Internet
Access and Internet Transit
DDoS Protection

Data Centre
Housing and Co-location
Denmark and Germany

Voice Services
SDH/Ethernet/Wave lengths
Denmark, Sweden & Germany

IT Outsourcing solutions
Infrastructure as a Service
Fully Managed Services
Infrastructure as a Service
Hosted Firewall
Storage
Disaster Recovery
Backup & Restore
Fully Managed Services
GlobalConnect

Wholesale Customers

[Logos and company names]
Customer’s Problems
CHALLENGES

• Heterogeneous network – about 15 different platforms.
• Many of those are very small, ie. <50 devices in service.
• Lacking architectural planning – unmanaged growth.
• Fewer documentation systems than platforms (good!)
• But some systems are not documented at all (!)
• Many documentation “systems” involve spreadsheets and Visio drawings
CHALLENGES

• Improving response times on the documentation systems
  – Reducing the number of systems where things could be stored

• Improving the data quality in our documentation
  – Reducing the number of redundant systems
  – Enable more confidence in the stored data

• Demand for new features like graphing, automation and self-service

• Prepare for growth

*We need a single source of truth.*
We contemplated to build our own inventory
  – Spent 8 person months on a prototype.
  – Abandoned due to lack of personnel.
  – Gave key insights into what areas to focus on during the RFP.

Acquisition lifted budgetary constraints.

RFP process stressed implementation of company wide asset management within one year.

Due to the existing documentation system landscape, handling of incomplete data was a key requirement.
The Chosen Solution
Introducing CROSS

- **Consolidated view of Physical, Logical and Service Inventory**
- **Optimized Query (Top Down)**
  - All equipment supporting a service
  - Root Cause Analysis
- **Optimized Query (Bottom Up)**
  - Service routing from any level
  - Service Impact Analysis
  - Revenue Assurance
  - Capacity Management
  - Wholesale Sales Requests
Data Bridge

- **Network ↔ OSS ↔ BSS**
  - Connects OPEX and revenues

- **Auto inventory updates from NMS**

- **Standard data loaders**
  - Supports any data quality
  - Improve data as you work

- **Standard DB technologies & languages, browser-based**
  - No extra hidden costs
Summary: unique features and benefits

<table>
<thead>
<tr>
<th></th>
<th>Integrated and cross-connected records of all assets</th>
<th>Instant operational support, incl RCA, SIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Connects costs &amp; revenues</td>
<td>Opex optimization 5-15%</td>
</tr>
<tr>
<td>3</td>
<td>Integrate existing OSS data silos and self-discovery data from network</td>
<td>Ideal for OSS consolidation projects</td>
</tr>
<tr>
<td>4</td>
<td>Works with any data quality</td>
<td>Flexibility, usable with as-is data</td>
</tr>
<tr>
<td>5</td>
<td>Open and agnostic</td>
<td>Select your preferred database and OS</td>
</tr>
<tr>
<td>6</td>
<td>Configurable</td>
<td>Fast implementation</td>
</tr>
<tr>
<td>7</td>
<td>No corporate overhead</td>
<td>Best price / performance</td>
</tr>
</tbody>
</table>
Project Plan and Rapid Deployment
Time Pressure!

- When the RFP process started in May 2017 the aim was to have the solution implemented and live by May 2018.
- However – RFP processes are not always quick...
- Once the commercials were concluded in September, GlobalConnect still waited to aim for the May 2018 target.
- Task – deliver 600+ days in an 8-month window (inc Xmas!)
The project intuitively fell into 4 Phases

• **CROSS STANDARD** – Initial installation and configuration of the standard CROSS product.

• **LOGICAL RESOURCES** – Perform an analysis on all of the logical data sources and design how they will be “accessed” by CROSS.

• **PHYSICAL RESOURCES** – Perform an analysis on all of the physical data sources and design how they will be “accessed” by CROSS.

• **SERVICE PROVISIONING** – Finally bring in the service provisioning. Perform an analysis on all the different service technologies that needed to come in to CROSS.
Project Plan & Rapid Deployment – Project Teams

**Development Team**
- PM
- Technical Lead
- 3-Developers
- Tester

**GlobalConnect team**
- PM
- Technical Lead
- 6-8 SME’s
- Tester

- Logical SME
- VLAN SME
- Physical SME
- VRF SME
- Radio SME
- Alarms SME
- MPLS SME
- SDH SME
Project Plan & Rapid Deployment

Requirement definition process for each phase

1. F2F - Requirements Workshop
2. Compile the DRAFT HLD Document
3. Customer review of draft HLD
4. F2F - HLD Review Workshop
5. Compile the Detailed Design
6. Customer review of DD and sign-off
7. Completed over a 6-week period/process
Time Pressure!

• Then came a curveball!
• Let’s do MPLS first!
• At the very first requirements workshop GlobalConnect requested that the MPLS service modelling be brought forward from Phase-4 and delivered in Phase-1.
• We shuffled the pack & changed the plan.
Project Plan & Rapid Deployment

Time Pressure!

- **Progress Report**

<table>
<thead>
<tr>
<th></th>
<th>OCT</th>
<th>NOV</th>
<th>DEC</th>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td></td>
<td></td>
<td><strong>X</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Phase-1 was completed on-time, including the support for MPLS services and successfully deployed to production.
- Phases 1, 2 and 3 have all been through formal User Acceptance Testing.
- Development on Phase-4 is complete and currently in final UAT.
**Project Plan & Rapid Deployment**

### Time Pressure!

- **Current update**

  - **Phase-1** was completed on-time, including the support for MPLS services and successfully deployed to production.
  - Phases 1, 2 and 3 have all been through formal User Acceptance Testing.
  - Development on Phase-4 is complete and currently in final UAT.
  - **The solution will be deployed to production in JUNE 2018.**
Benefits Delivered
Benefits

• The CROSS project implemented a single source of truth
  – Helped us in understanding procedural challenges
  – Can easily be customized for future needs
  – Can manage and report on incomplete data sources
  – Enabled the following automation project

• Due to deep involvement in the project, many future changes can be implemented without the suppliers help
Summary

Final Summary

• A happy project with RAPID deployment
• Great data integration and consolidation
• Bringing together data from multiple sources
• Implementing a solution which truly bridges OSS and BSS
Questions – More Info

Visit CROSS @ Booth #320 – Level 3

Any questions?

MAY 14-16, 2018
We will exhibit at the
DIGITAL TRANSFORMATION WORLD

ACROPOLIS CONVENTION CENTER
NICE, FRANCE
Thank you
Track: OSS&BSS of the future
Achieving Agility with OSS/BSS
Rapid Service Deployment