

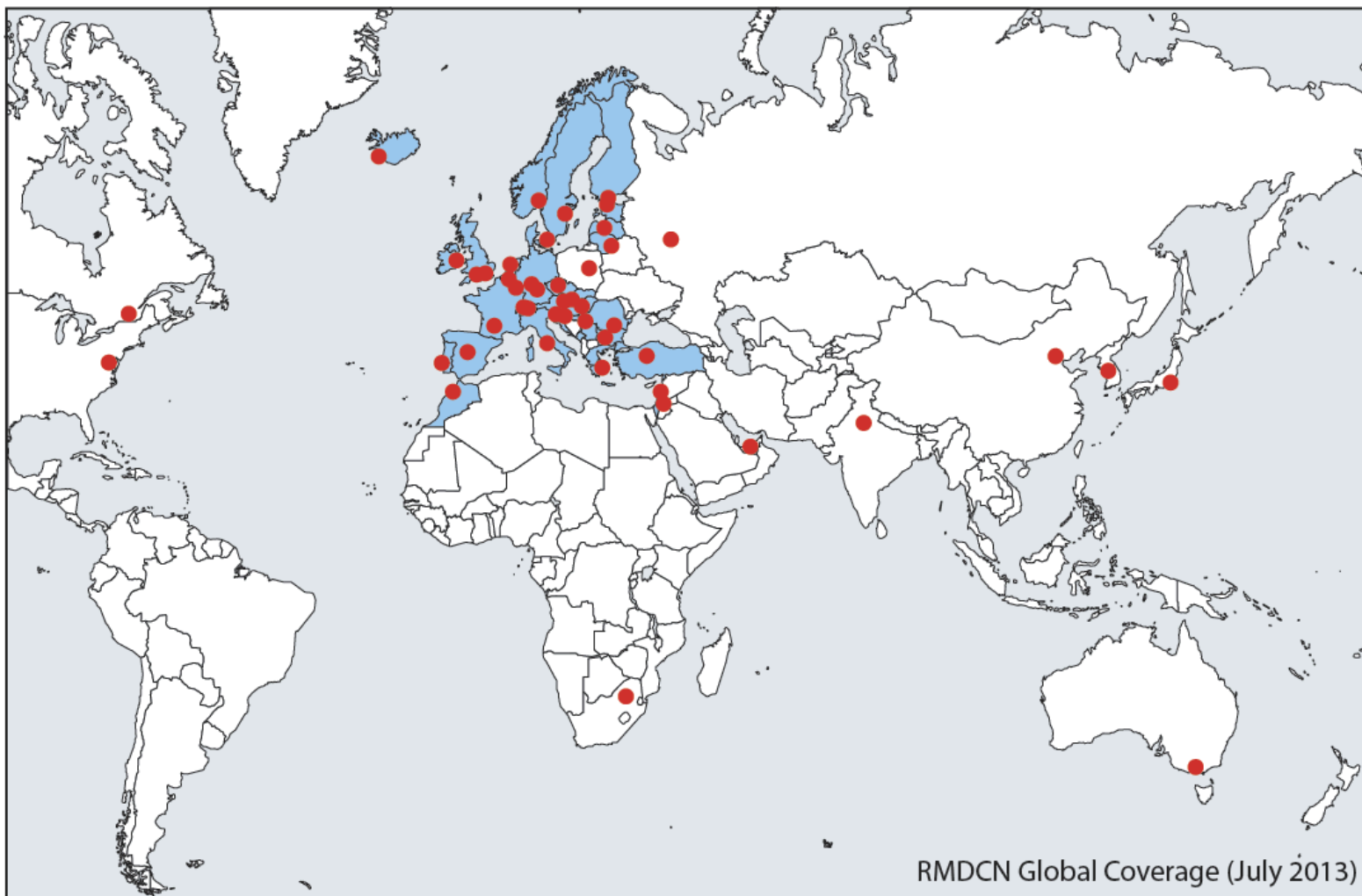


ET-CTS 2014 Brasilia

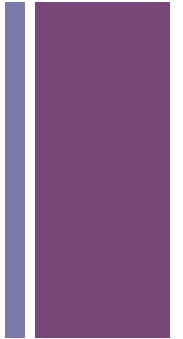
RMDCN Next Generation

Oliver Gorwits, ECMWF

+ RMDCN



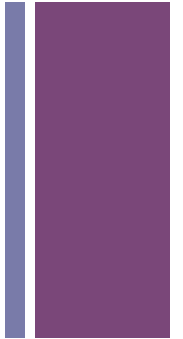
+ Background



- WMO Memorandum of Understanding signed 1998
- Initial term of five years with OBS (Equant)
- Several contract extensions and service upgrades
- ECMWF TAC subgroup to plan beyond 2010
- Three-phases:



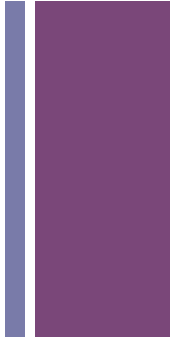
+ Benefits



- Requirements on the RMDCN are changing
 - Increased volumes of product dissemination
 - Evolution of the GTS towards the WIS
- Outcome of the Invitation to Tender (ITT)
 - Interoute Communications Ltd offered best value for money
 - Higher bandwidth for ECMWF Member States
 - Competitive pricing for preferred configurations of all countries

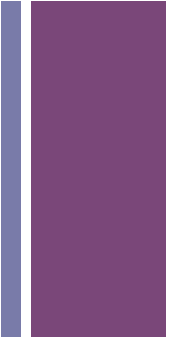


Project Objectives



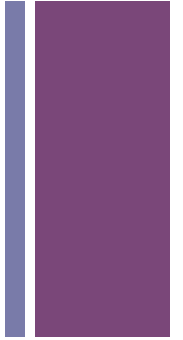
- To “realise the migration of the RMDCN from the current provider (OBS) to the new provider (Interoute)...
- “without a break in operational service to currently connected user sites.
- “To migrate as many of the currently connected sites as possible...
- “and to connect as many GISCs as possible.”

+ Project Team



- Tony Bakker
- Ahmed Benallegue
- Rémy Giraud
- Oliver Gorwits
- Alan Radford

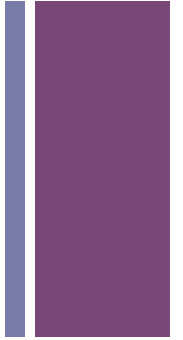
+ Contract Milestones



- Contract Schedule 5 lists a set of 14 Project Events
- Four Milestones
 - Liquidated damages if missed
- Three Key Milestones
 - Right to terminate if missed
- Good news: all key milestones were achieved



Contract Process



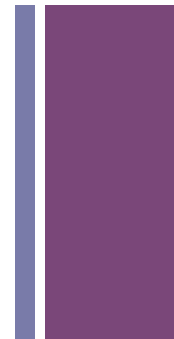
- Four months of contract selection and negotiation with the selected tenderer(s)
 - Process (service delivery, management, etc)
 - Technical Implementation
 - Service Level Agreement (SLA)
- Interoute selected and recommended to ECMWF committees
- Contract signature on 11 December 2012

+ Timeline

| Planned timeline of the ITT and the implementation of the RMDCN Next Generation | | 2012 | | | | | | | | | | | | 2013 | | | | | | | | | | | | 2014 | | |
|---|-------------------------------------|------|----|----|----|---|---|----|---|---|----|---|---|------|---|---|----|---|---|----|---|---|----|---|---|------|---|---|
| | | Q1 | | | Q2 | | | Q3 | | | Q4 | | | Q1 | | | Q2 | | | Q3 | | | Q4 | | | Q1 | | |
| | | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M |
| ITT | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Publication of the documents | | 15 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Closing date | | | 16 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Evaluation of the tenders | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Contract discussions | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ECMWF Committees | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Contract signature | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Implementation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Project kick-off | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Pilot Network | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Configurations agreement | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Accession Agreement (if needed) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Delivery, installation and handover | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Functional and reliability tests | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Pilot Acceptance Tests | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestone = Operational Service | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | AIM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | Global Network Acceptance Tests | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestone = Global Network Acceptance | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

1 July 2013
Initial Deployment Cutoff

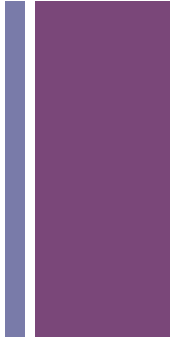
+ Pilot Network



- Six pilot sites (*thank you!*)
 - Austria
 - Belgium
 - Bulgaria
 - ECMWF
 - Japan
 - Sweden
- Orders placed by 13 February 2013
- Interoute handover by 26 May 2013



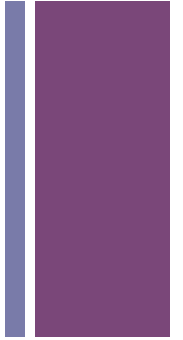
Pilot Network Acceptance



- Successful Pilot Network acceptance by 30 June 2013
- However... several issues found
 - Process of ordering
 - Communication of technical specifications (DCF)
 - Router installation
 - Router configurations
- Lessons Learned meeting in July 2013
 - Open, honest communication from both sides
 - *Extremely valuable for the Initial Deployment!*



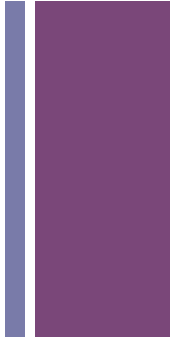
Initial Deployment



- Orders for 32 ECMWF States submitted by 1 July 2013
- Additional nine Acceding Parties submitted by 12 July
- This becomes the “Initial Deployment”
 - Guaranteed to be migrated with ECMWF
 - Other sites can order, but at a greater risk of gap in service between OBS and Interoute
- 29 sites handed over by 21 November 2013



Global Network Acceptance



- 60% of Initial Deployment pass Reliability Tests by 19th December 2013
- ECMWF accepts the RMDCN-NG and is contractually committed

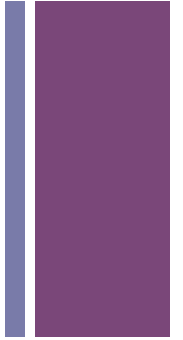
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1 July 2013
Initial Deployment Cutoff



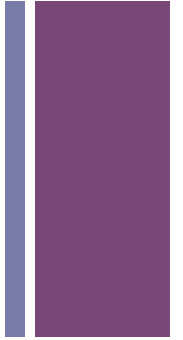
Accelerated Incremental Migration



- January 6th 2014 – one month migration begins
- February 6th 2014 – migration ends
- Each user site is assigned a day for cut-over of service from OBS to Interoute.
- Several unallocated days at the end of the window
- Each site assigned one member of ECMWF RMDCN team to manage and assist with the migration
- Two sites did not migrate when scheduled, but will be migrated before ECMWF is disconnected from OBS



Current Status



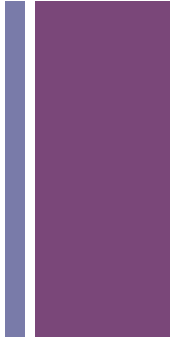
- All OBS sites are now migrated to Interoute service
- Except for:
 - Australia – Circuit delivery now in progress
 - Lebanon – Still deciding technical configuration
 - Saudi Arabia – Order placed with Interoute
 - UAE – Order placed with Interoute
 - USA – Waiting on local contractor to complete cabling
- ECMWF will disconnect from OBS on 8 May 2014

| ECMWF Member States | | | ECMWF Co-operating States | | |
|---------------------|-----|----------|----------------------------|-----|----------|
| Austria | 8 | Gold | Bulgaria | 10 | Silver |
| Belgium | 10 | Platinum | Croatia | 1 | Gold |
| Denmark | 50 | Platinum | Czech Republic | 7 | Gold |
| Finland | 5 | Platinum | Estonia | 2 | Silver |
| France | 50 | Platinum | EUMETSAT | 20 | Platinum |
| Germany | 50 | Platinum | Hungary | 1 | Platinum |
| Greece | 4 | Platinum | Israel | 10 | Platinum |
| Iceland | 2 | Platinum | Latvia | 1 | Silver |
| Ireland | 10 | Platinum | Lithuania | 1 | Silver |
| Italy | 10 | Gold | Macedonia (FYR of) | N/A | Iron B |
| Luxembourg | 8 | Platinum | Morocco | 2 | Bronze |
| Netherlands | 4 | Platinum | Romania | 10 | Platinum |
| Netherlands-DR | 3 | Copper | Serbia | 1 | Gold |
| Norway | 20 | Platinum | Slovakia | 1 | Gold |
| Portugal | 4 | Platinum | Other RMDCN Members | | |
| Slovenia | 4 | Platinum | Australia * | 4 | Platinum |
| Spain | 4 | Platinum | Canada | 2 | Copper |
| Sweden | 10 | Platinum | China | 8 | Platinum |
| Switzerland-CSCS | 4 | Platinum | India | 4 | Platinum |
| Switzerland | 4 | Platinum | Japan | 10 | Platinum |
| Turkey | 8 | Platinum | Jordan | 1 | Iron A |
| United Kingdom | 20 | Platinum | Lebanon * | 1 | Copper |
| ECMWF | 500 | Platinum | Poland | 1 | Silver |
| | | | Russian Federation | 10 | Platinum |
| | | | Saudi Arabia * | 2 | Bronze |
| | | | South Africa | 2 | Bronze |
| | | | South Korea | 4 | Platinum |
| | | | United Arab Emirates * | N/A | Iron B |
| | | | United States of America * | 50 | Platinum |

* Currently in planning or deployment

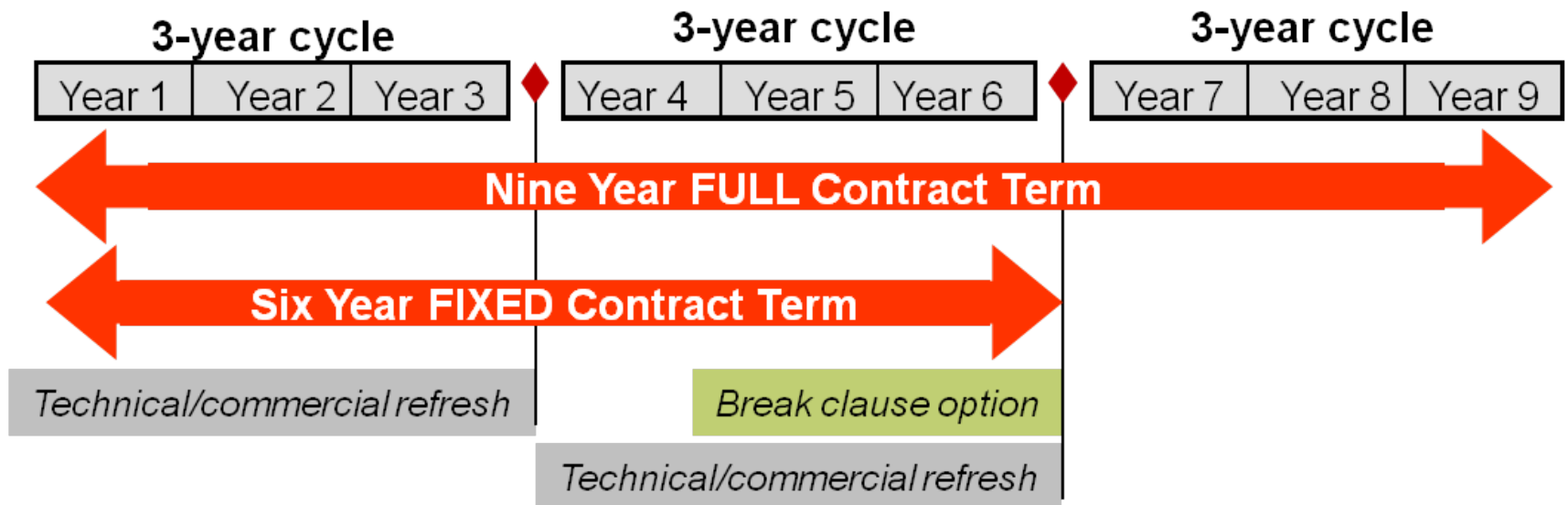


Lessons Learned



- **Pilot Network**
 - Essential to the eventual success of the Initial Deployment and Accelerated Incremental Migration
- **Team Meetings**
 - Weekly internal meeting at ECMWF
- **Supplier Meetings**
 - Weekly video conference with Interoute
- **Action Tracking**
 - Track correspondence with user sites, recent activity, order and deployment status
- **User Site Communications**
 - Minor issues with culture, language, funding, technical infrastructure
 - Having dedicated ECMWF RMDCN team member per site helped

+ Next Steps for RMDCN





Thank You

Any Questions?